

Bulletin of Environs Kimberley - Issue 92 / April 2020



www.environskimberley.org.au

Corymbia Coach Tour

Phil Docherty

Broome's Lotteries House was a hive of activity early Sunday morning, March 21, as

the Corymbia Coach Tour prepared to begin its inaugural trip. The tour was part of a week-long series of events to celebrate National Eucalypt Day. Held annually on 23 March, National Eucalypt Day aims to raise awareness of eucalypts and celebrate the important place that they hold in the hearts and lives of Australians.

Supplementary activities during the week included treeplanting at Broome North Botanical Park and a eucalypt display and seedling give-away at the Broome Library. These

activities, in conjunction with the Corymbia Coach Tour, are all intended to achieve Eucalypt Australia's primary objectives of education, conservation, and appreciation of Australia's most iconic tree.

Old Broome has about 30 species of mature Kimberley eucalypts in cultivation, and as the bus meandered through its streets the passengers were provided with an insight into each of the trees. Observed were some outstanding examples of the Northern Salmon Gum, Eucalyptus bigalerita, Swamp Bloodwood, Corymbia ptychocarpa and the Broome endemic, Cable Beach Gum, Corymbia paractia.

Australia has over 890 species in the genus Eucalypt, which include the sub-genera *Corymbia, Eucalyptus* and *Angophora*. Of these, the Kimberley has 65 species and sub-species, 21 of which are endemic to the region. With the support of Eucalypt Australia, SKIPA, Environs Kimberley and the Shire of Broome, we hope to get all 65 species into cultivation at the Broome North Botanic Park by 2022.

The Corymbia Coach Tour organisers would like to thank all those volunteers who contributed to its success. Thank you!



Phil and Glennie having a cup of tea

Phil Docherty talking about corymbs on the Corymbia Coach Tour



National Eucalypt Day Corymbia Coach Tour group



Report From The Chair

Kate Golson

Hello all.

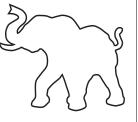
In the weeks before political sex scandals came to dominate the national news, a few reports appeared in early March about the Morrison Government's acknowledgement that Australia had lost another 13 endemic animal species, besides the 21 already recognised. These extinctions have occurred across many decades, and this belated official recognition is likely to have been the result of a government review of the historical extinction list, to ensure it accurately reflected the true state of this country's mammals. Of the extinctions, 12 are mammals, and the last — for the first time since white settlement — a reptile, the Christmas Island Forest Skink.

Most Australians are unlikely to be aware that our country is the global leader for extinctions, having killed off 34 mammals (that we know of) — significantly more than any other country in the world, wealthy or poor. The next on the list is Haiti, which has lost nine.

Species loss is one of many aspects of the unsustainable decline of Australia's natural environment that the Samuel review of the Environment Protection and Biodiversity Conservation Act (EPBC Act) shone a spotlight on last year.

BROOME CONVENTION,





12 Frederick Street, Broome • Phone: 9192 6222 Mob: 0418 938 724 • Email: broomeconvention@bigpond.com In June 2020, I reported in this newsletter on the once-in-adecade review of Australia's main nature protection laws, which started in 2019 but was delayed by the pandemic. It received over 30,000 submissions. It has now concluded its business.

The review recommends a complete overhaul of the EPBC Act, given its failure to protect Australia's natural environment from degradation and destruction to the point of extinction. There are 38 recommendations. The centrepiece of the proposed reforms is to develop strong, new, legally enforceable and binding national standards. To ensure these new standards are implemented consistently and effectively, it recommends the creation of two independent and strong regulatory agencies: an Environment Assurance Commissioner to oversee their implementation, and an Office of Compliance and Enforcement. Samuel made clear that extinction and environmental decline will continue without the full package of recommendations being adopted.

After sitting on the 100-page report for three months, the Morrison Government finally released it in January 2021. And, while it has not yet provided a detailed response, when the interim report came out in mid-2020, Minister Ley quickly ruled out the proposal to create independent watchdogs, as adding another layer of bureaucracy. The Coalition still holds to its long-standing view that federal environmental responsibilities devolve to the states and territories, and its main narrative around the Samuel review so far has been the need to cut 'green tape'. Along with all the other environmental bad news, this is, to say the least, disheartening.

All the best

Kate



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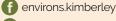
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Letters To The Editor

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

McGowan landslide – great opportunity to protect the Kimberley

The West Australian Labor Party just won the state election in the biggest landslide ever. The Liberal Party has two Members of Parliament in the lower house; they are no longer the Opposition, the Nationals are. The Greens have lost all four sitting members in the upper house (Robin Chapple retired) and only gained one seat.

In the Kimberley, the popularity of the McGowan Government and a new, hardworking candidate Divina D'Anna led to a 9% swing towards Labor and a comprehensive win with 53.9% of the vote. Geoff Haerewa, the Derby West Kimberley Shire President, came second with a 3.1% swing towards the Liberal Party. Naomi Pigram had the biggest swing to the Greens of any candidate in the state, with 5.8%, and gained 15% of the vote. Milli Hills for the Nationals suffered a 10% swing against. Notably, the Greens came second to Labor in all four Broome polling booths as well as the Fitzroy booth. Labor continued to dominate with a huge 75% of the vote in remote communities.

Our upper house member and former Minister for the Environment, Stephen Dawson, was easily re-elected with three other Labor candidates in the Mining and Pastoral seat (can we please rename this seat?). The Kimberley's Rosetta Sahanna will also represent us in the upper house as a Labor member and Neil Thomson as a Liberal member replacing Ken Baston.

What does this mean for the future protection of the world class Kimberley environment?

None of the political parties supports the damming of the Fitzroy River. After years of campaigning, this is a huge win. The Greens stated that the '...whole river and its catchment need legal protection...'. The Liberal Party said it believed taking surface water for irrigation is unlikely to be an economically viable development strategy, but was open to using other sources of water, such as groundwater.

The Labor Party retained its 2017 election commitments of no dams on the Fitzroy, protecting the river and developing a management plan for sustainable development.

Divina D'Anna's statement to the Martuwarra Council's film night audience:

"I am committed to the creation of a National Park along the river and its tributaries and to ensure the river will not be dammed. Using traditional knowledge and lessons learned from other jurisdictions, we can be very clear about ensuring the proposed Fitzroy River National Park creation provides real outcomes for the protection of cultural and environmental values.

"I remain committed to working with other Traditional Owner groups who may wish to advance a dialogue about the expansion of the National Park."

This provides us with a great opportunity to ensure the Fitzroy is protected in perpetuity, but we have much work to do.



Serpent's Tale film night at Broome Civic Centre

A new Environment Minister

Stephen Dawson has traded in the environment portfolio and is now the Minister for Aboriginal Affairs and of Mental Health and Industrial Relations. The new Minister for the Environment is Amber-Jade Sanderson. She comes from a background in the Union movement and was the Cabinet Secretary as well as the Parliamentary Secretary to the Premier in the previous McGowan Government; she's the member for Morley in Perth.

While we're yet to find out what the new Minister's views are on conservation in the Kimberley, it's important that she hears from as many people as possible that there are strong feelings about protecting the region.

Please ring or email Minister Sanderson and let her know you want the government to protect the Kimberley, and ask for a written reply with detail on how she will do that. Here are her contact details:

Hon. Amber-Jade Sanderson MLA, Minister for Environment: Climate Action; Commerce

Telephone: (08) 6552-5900

e-Mail: Minister.Sanderson@dpc.wa.gov.au

Congratulations Divina D'Anna as the new Member for the Kimberley

We are looking forward to working with Divina to protect the Kimberley and ensure there is support for sustainable industries. Former member Josie Farrer was passionate about protecting the Fitzroy River and stopping fracking. The previous Minister for the Environment, Stephen Dawson, presided over the first co-design of a marine park in the country, at the Buccaneer Archipelago, and worked towards setting up national parks along the upper reaches of the Fitzroy River and the Margaret River. We look forward to seeing these commitments fulfilled.



Living Green

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

Well, the Cash for Containers scheme is in full swing, just three years later than it was first promised. I was aware of much focussed activity at the beginning, when people were competing for areas to clear, and it was obvious from where they went collecting that not all cans and bottles that were picked up carried the '10 cents refund' printed on the side of eligible containers. Still, if the point of the scheme is to reduce refuse, it shouldn't matter how old the refuse might be. Ancient can-middens disappeared miraculously overnight.

I soon tired of carting bags bulging with containers to the depot and coming home with a few dollars, so I now contribute to a more dedicated collector's hoard, which supports SKIPA. One early morning, said dedicated collector, who will be nameless, was caught raiding his neighbour's recycled bin — first, by a passer-by who knew him, and then by the neighbour himself, who arrived midraid. It is rumoured that Living Green had tipped off the culprit about the bin's contents.

In our zeal for collecting cashable cans and bottles, it is easy to overlook the other refuse that pollutes our neighbourhoods — especially plastic rubbish, which cannot be retrieved once it breaks down, whether or not it first gets washed into the sea. Since I've started collecting cans, I find I'm more inclined to leave behind the rubbish I can't recycle, and have to make a point of picking up some of that as well. Lately, I've noticed some horrid little plastic containers in the shape of fruit such as pineapples or strawberries, discarded in the street or in my local park. I saw one of them in the local Bowerbird's display. I hope they disappear when 'single-use plastics' are at long last prohibited — as well as those impenetrable hard plastic bubbles in which assorted items are sold. They are impossible for most mortals to get into without profane words and the assistance of a pair of shears.

We are all so used to plastic that it is hard to imagine life without it — yet it has only been in prolific use for a few decades. What did we do before we had Tupperware-type containers? We used glass jam and coffee jars, we used tins — those Sunshine milk tins with airtight metal lids that kept the contents fresh, or larger tins for cakes and biscuits. Flour came in cloth bags (one brand still does), which could be repurposed as pillow-cases or shopping bags, or in drums that were strong enough, full or empty, to serve as camping stools.

Nowadays, there isn't much that doesn't come in plastic, so we might as well put it to good use rather than buy new. One-kg yoghurt containers are good for holding cereals or stewed fruit, and those sturdy Ziploc bags containing dog treats or flat bread are ideal for keeping green vegetables or biscuits sealed and fresh. Just don't put the Schmackos bag on the table when you have guests for afternoon tea.



THE YEAR OF THE OX

I have been on a lifelong search for a singular of the plural word 'cattle'. Cow, bull, bullock and steer are all gendered words. 'Calf' is gender neutral but only applies to the young. 'Beast' is sometimes used, but is not specific enough. Ox is the closest, but an ox is a beast that has been trained to work. I've been trained to work but not all of us have, so ox won't do.

All the Chinese Zodiac animals are gender neutral except for one: the Cock (Rooster to Americans and the fastidious). I think the Year of the Cock should alternate with the Year of the Hen.

But this is the Chinese Year of the Ox, who stands for strength, movement and patience. How does EK measure up?

Strength. This is our 25th year in harness, and we have had only two directors in that time — surely a record — and are blessed with a number of long-term staff, as well as some gifted newbies. Like the Ox, we have been trained to work, and we do — the evidence being in our many achievements — far too many to list here. Despite existing in a so-called remote part of the country, we have made our mark nationally — not only in the extending range of our work and the reach of our members and supporters, but in achievements like getting the Monsoon Vine Thickets listed as 'an endangered ecosystem' under the Commonwealth EPBC Act.

Movement. There is plenty of that at Environs Kimberley. Movement up and down stairs, movement near the coffee machine — and movement in the field. I am in awe when I see staff, attired in their full-body protective clothing and boots, cheerfully setting off on a fieldtrip to pull weeds or do survey work with rangers on hot and humid days, when most of us would prefer to wear nothing or go for a swim. Or both.

Patience. Don't you hate it when you have been fretting and fuming by your phone for an unconscionable length of time and then some cool, impersonal, nearly always female voice assures you that your call is important to her organization and thanks you for your patience? If only she could hear the invective that follows.

You do have to be patient to keep pulling weeds. One thorough sweep is not enough; the seeds lie dormant, waiting to spring back at the first drop of next season's rain. To really clear a weed zone takes several years — and ever afterwards you have to stay observant and alert to new infestations, and get them before they spread. The whole process seems very Zen — done for its own, and Nature's, sake.

While we may feel impatient for beneficial change to occur, the glacial rate at which our political and corporate leaders bestir themselves to do what seems blindingly necessary to us, forces us to keep calm, campaign, educate, work, and wait.



The burning question about Monsoon Vine Thickets

Hamsini Bijlani

Frequent hot fires are threatening the nationally endangered Monsoon Vine Thickets (MVTs) of the Dampier Peninsula. These ecosystems contain several fire-sensitive plant species and are typically not supposed to be burnt at all. The Bardi Jawi and Nyul Nyul Rangers, the Yawuru Country Managers and the DBCA are managing fire to protect the MVTs. They are doing this through fine-scale buffer burns around the boundaries of the MVT patches so that fires do not reach them, and through larger-scale landscape burning across the Peninsula.

In order to further understand fire patterns and impacts within the MVTs, Anna Lemon, an Honours student from Charles Darwin University, conducted fine-scale fire-scar mapping for all the MVT patches across the Dampier Peninsula, covering a 20-year period (2000–2019), using LandSat satellite imagery. Anna also used satellite imagery to produce an index of 'greenness' or canopy cover for each MVT patch, and calculated the change in vegetation cover of each patch from 1986 to 2019. She did this work over the course of nine months, with support from the NESP Threatened Species Hub, The Monsoon Vine Thicket Working Group, the Dampier Peninsula Fire Working Group and Environs Kimberley.

Anna presented her results to representatives of the Bardi Jawi and Nyul Nyul Rangers, the Yawuru Country Managers, the DBCA and Environs Kimberley during the Monsoon Vine Thicket Working Group meeting on the 16th and 17th February at Nyamba Buru Yawuru. The results of her research showed that there had been an overall increase in greenness or vegetation cover within the MVTs since 1986 and that vegetation cover is reduced by frequent high-severity fire. Anna's presentation resulted in a great discussion amongst the entire group and it was interesting to see how the rangers correlated Anna's data with their extensive knowledge of what is happening on the ground.

In the weeks after the meeting, we analysed the data produced from Anna's work to help us understand which patches are the most affected by fire and produce maps showing the fire frequency and area burnt within each MVT patch. These data are being used to inform fire management conducted by the rangers so that the worst affected areas are prioritised.

Later this year, the MVT Working Group will be conducting area mapping of all the Monsoon Vine Thickets on the Dampier Peninsula, using aerial imagery from the 1940s onwards. The change in area of the patches will be correlated with the fire data to help us understand if regular fires are reducing MVTs in size or slowing their growth.

This is a great example of scientific data being used to directly inform on-ground management. We hope to facilitate and conduct more research like this to optimise management and reduce the effect of threats such as inappropriate fire on MVTs.



Anna Lemon (Charles Darwin University) with EK staff and Zynal (Nyul Nyul Ranger) during MVT Working Group Meeting.



Yawuru Country Managers and EK staff showing the Bardi Jawi Aamba and Oorany rangers, Nyul Nyul Rangers and DBCA the revegetation work they had done in Minyirr Park, on a site visit during the MVT Working Group meeting.

Environs Kimberley's MVT work is funded by SNRM and Rangelands NRM through the National Landcare Program. Anna's work was funded by the NESP Threatened Species Research Hub.













Bunuba Weeds Workshop

Matt Macdonald

The explosion of life after the Man-gala wet-season rains never fails to impress.

In partnership with Bunuba elders and rangers, and Parks & Wildlife staff, EK recently took part in the Bunuba Weeds Workshop. The workshop was held over two days in Fitzroy Crossing. Despite the wet weather, and the closure of many local roads (as well as the Great Northern Highway) we were able to get down to the Fitzroy Crossing bridge on the second day and admire the weeds while the river was in full flow. Forty-seven weed species were assessed during the workshop and it seemed most of them were growing down at the river that day!

Because it is such a large task, weed management is inevitably about prioritisation – making sure our efforts are put to best use, as it is unrealistic to control every weed at every site across large areas. So firstly, workshop participants selected the most important cultural and environmental sites to protect from weeds. Then weeds were listed for each site and prioritised for management based on the threat they pose to each site. Threat ratings were based on potential distribution, impact and invasiveness. Current distribution and feasibility of control were incorporated to help identify appropriate management approaches for each species.

As weed management is most effective when integrated with other management actions, ways to combine approaches for a double whammy on weeds were discussed. Keeping native vegetation healthy through appropriate use of fire can reduce the abundance of weeds, while grazing and visitor management may also help reduce their spread and growth.

Some parts of Bunuba country were identified as knowledge gaps for weed management, and future field trips will aim to fill these gaps by visiting sites of cultural and environmental importance, recording their condition and assessing how they can be protected from threats such as weeds.



Participants in the Bunuba Weeds Workshop.

Another outcome of the workshop was to develop a more streamlined approach to capturing the weed control work undertaken by the Bunuba Rangers, through a smart phone app.

Surveillance for new weeds is also a high priority, as it is invariably easier to control weeds before they become too widespread and abundant. The smart phone app will also help in recording new weed infestations as they are encountered.

Weed prioritisation is an ongoing process. This weeds workshop is intended to provide direction for at least the next year, but priorities are expected to change over time as new weeds arrive and control methods are better understood. Therefore, the Bunuba Weeds Workshop is proposed to become an annual event, where the previous year's challenges can be discussed, successes celebrated and priorities revised so we can make the most of everyone's weed-management efforts.

The workshop was held at Fitzroy Crossing on 16 and 17 March. The event supports the targets, threats and strategies identified in *Jalangurru Muwayi*. Bunuba Health Country Plan. EK staff were able to attend through our contribution to the Bunuba State NRM *Jalangurru Muwayi*. Bunuba Health Country Plan project.



Volunteers Needed

Broome members of EK will have noticed, with regret, that we did not hold a market stall last year. The season started with Covid-19, and the markets were closed for a while. When they re-opened, we were short of volunteers. Some of our old stalwarts were hors de combat or had moved on.

This year, we plan to hold an invigorated market stall, but we can't do that without willing volunteers. Please consider joining the team, and maybe cajoling a friend into coming along with you.

It's not onerous: The Saturday morning shifts are from 7.30 to 10.00, and from 10.00 to 12.30. This year we hold our first stall at the beginning of May, and our last just before Christmas. Towards the end of the year, we reduce our attendance to once a fortnight. The more volunteers we have, the fewer shifts each volly has to do. On average, it's once a month for two and a half hours, with two stallholders on each shift. The early shift sets up the stall, the later one packs up. If you don't want to commit to a

regular shift, you could join the pool of back-ups, who fill in when there is a gap.

Newbies are offered training, and are paired with someone experienced to learn the ropes — how to set up, and how to answer questions from the public. It's not hard! Most volunteers find the experience enjoyable: meeting people, inviting them to sign petitions, selling things. The two stallholders can take turns looking around the market, buying food or fetching coffees. The time goes fast.

We also need drivers to pick up our trailer and bring it to the market at about 7am, to get a parking space near the stall, making it easy to unload and reload the sun-shelter, tables, chairs and stall items. The first driver helps set up the shelter and stall, and another driver comes back at midday or thereabouts to help take it down. If we have a pool of willing drivers, no one will have to do this every week. **Please consider lending a hand.** We can't do it without you.

Letters to the editor



Dear Editor,

Thank you for the wonderful efforts your members and organization make to preserve the wild Kimberley region. Without your work to protect the Kimberley, and that of other groups to save the Tarkine, the Great Barrier Reef and other natural treasures from destruction, our world would be in a far worse environmental situation.

I'm aware of the climate crisis and the damage our lifestyles are doing to the natural world, its habitats, animals and indigenous and disadvantaged peoples trying to eke out an existence. I was in the past actively involved in campaigns to change this and protect wild places. While my generation won some victories, our changing climate threatens these regions and the other ecosystems of our fragile planet.

Like many others I am alarmed at the inaction of the Australian Government on the world climate crisis and the other environmental dangers we face. I first read articles about Global Warming in the 1970's, yet 50 years later we still have people in power denying and avoiding tackling our changing climate and other crucial ecological problems. Despite seeing glaring evidence of the terrible effects of extreme weather, land-clearing, habitat loss, wildlife extinctions and threats to endangered species, we fight to get those in power to act.

The Earth provides all that is needed to sustain life for humans and every other living thing that resides on this bountiful planet. The Earth gives all its living creatures fresh air, water, food and shelter, and humanity the materials to clothe us and make the essential things of life. Its life-support systems have enabled humans and a wide diversity of plants and animals to thrive.

An array of wondrous natural environments, wild habitats and beautiful wildlife, inspire, uplift and enchant us. These precious places encourage our imaginations, spiritual welfare and creativity to make art works, crafts and writing. These encounters with nature, the sights, smells and sounds, stir our senses and deeply touch our hearts and souls. This is the miracle of life on Earth.

Making changes to our attitudes and practices is essential to halting the worst effects of climate change. This will allow the Earth to heal and restore the balance so that its myriad life forms can flourish. We must treat the Earth, other people and animals with genuine respect and bring about real, sustainable change. But we must act soon and do much more, as time is running out. One essential part is for people to continue to support organizations like Kimberley Environs in its valuable work.

While I'd like to retire to the garden and long walks in the bush, feel content and free in nature away from the worries of the world, it's not an option as those in power continue to destroy the natural world. We can't give up, but we must keep struggling to protect what's left of our wildest regions until life on earth is safe from environmental catastrophe.

Steven Katsineris, Hurstbridge.

Thank you for your heartfelt message, Steven — and for your support of EK. Ed.

Notices

Save the Date – Environs Kimberley Fundraising Art Auctions 2021

For 18 years the annual Art Auction has been Environs Kimberley's premier fundraising event and a highlight of Broome's social calendar. This year's auction will again be both live and online, so no one need miss out.

Online Art Auction: 5th August – 15th August, details online at www.environskimberley.org.au/events

Live Art Auction: 7th August at the Broome Convention Centre

Environs Kimberley Fundraising Raffle 2021

Thanks so much to everyone who bought a ticket in this year's Fundraising Raffle and congratulations to the lucky winners:

1st prize (\$5,000): Nina Peheim #150 2nd prize (\$2,000): Madison Robeson #28 3rd prize (\$1,000): Renae Williams #186 4th prize (\$200): Holly Sitters #152 5th prize (\$200): Jeff Murray #151 6th prize (\$200): Susan Hartley #160 7th prize (\$200): Robyn Devenish #81 8th prize (\$200): Roger Sands #180 9th prize (\$200): Stephen Muecke #74 10th prize (\$200): Petrus Poelina-Hunter 11th prize (\$200): Nandi Chinna #179 12th prize (\$200): Claire Kuvalja #57 13th prize (\$200): Sylvia Vander Peet #82

EK Merchandise

Looking for the perfect gift for yourself, or for someone you love? Check out the EK Shop for great ways to show you care – about the people you care for, and about the Kimberley. You will find:

- EK Gift Membership and Donation Gift Cards different cards to choose from, featuring Kimberley threatened species or ecosystems (donation gift cards are tax deductible)
- · A stunning selection of EK t-shirts, singlets and hats
- · books and other great gifts

For more details, visit: www.environskimberley.org.au







A Karajarri Bush Tucker Garden in the making

Ayesha Moss



On-site design session at Punturrpunturr with Karajarri Rangers and cultural advisors

Together with the Karajarri Traditional Lands Association (KTLA), we are developing a bush tucker garden at Punturrpunturr, Port Smith.

Formerly the Port Smith Bird Park, Punturrpunturr is to become a tourism hub and cultural base for Karajarri people. A bush tucker garden is a key feature within the masterplan for the site.

Through funding from a National Landcare Smart Farms Small Grant program, we are working with North Regional TAFE, the Society for Kimberley Indigenous Plants and Animals (SKIPA) and the KTLA to bring the bush tucker garden to fruition.

To date, the project has involved collecting seed with Karajarri Rangers and traditional owners, propagating the seeds and developing the site design with rangers and cultural advisors. In May we will be working with TAFE to deliver training in savannah enrichment. Savannah enrichment is a process of horticultural production of bush foods within bushland settings. This means that clearing of other species is avoided, while targeted irrigation and increased plantings enhance the production of the desired bush fruits or seeds. The training we are facilitating will involve setting up an irrigation system and planting out the sapling bush-fruit trees and shrubs.

We will be using established best practice for collecting seed and growing native plants. Rangers will be able to setup an irrigation system that will supply reliable and targeted water to the bush-food plants until they can establish themselves.

Seedlings to plant, which have been grown by TAFE and SKIPA, include: Kurlulu (*Hakea macrocarpa*), Ngalingmarr (*Sesbania formosa*), Jamparr (*Capparis umbonata*), Nilarrangka (*Acacia bivenosa*), Karnparrjiparrji (*Grevillea refracta*), Kumpaja (*Terminalia kumpaja*), Parlmangu (*Acacia stellaticeps*) and Mirta (*Gyrocarpus americanus*). In addition, some species such as Kuwal (*Flueggea virosa*), Jikal (*Bauhinia cunninghamii*), Lirringkin (*Acacia colei*) and Ranyja (*Ficus aculeata*) are already growing on the site.

The bush tucker garden will provide a concentrated sample of plants from Karajarri Country, from wintirri (the coast) to marrangurru (desert dunefields). We hope that the training, design and plantings will make good progress towards establishing a cultural and tourism resource for Karajarri people.







Drain champion is Broome senior citizen 2021

Ayesha Moss

There's a long list of volunteer work to Jan Lewis's name. It includes contributions to the Dinosaur Coast Management Group, Broome Bird Observatory, Environs Kimberley, Society for Kimberley Indigenous Plants and Animals, Feed the Little Children and St John of God Relationship Centre.

Jan's recent recognition as Broome's Senior Citizen of the Year 2021 is well deserved. Jan's neighbours and friends of Solway Loop nominated her because of her passion and tireless efforts in restoring the Solway Loop Drain. Over the past five years, Jan has lovingly raised local seedlings and planted them along the banks of the Solway Drain. She waters the plants twice a week by bucket (from a 1000L tank on the back of her ute) and continues this regime for two or three dry seasons, until the plants are established.

It's heartening to see the change not only in the drain, but also in the number of neighbours and support organisations that have come on board: a true ripple effect. When Jan first started, she was doing it on her own, having to negotiate with neighbours and the Shire Council to get them to avoid driving and mowing over newly planted seedlings. These days, it's all on board, with the Council donating plants, mulch and water, neighbours banding together to form the group 'Friends of Solway Loop Drain', collectively caring for the plants and expanding the work into nature strips and further along the drain and water catchment zone. They are even applying for a Shire Community Grant to buy a mower to undertake their own slashing.

The drains in this area are becoming more attractive and less weedy as a result of Jan's drive and commitment, with many trees planted and fifty self-sown plants nurtured and saved from mowing. People are now using and enjoying these public spaces more often, both recreationally and as walkways. Congratulations on your award Jan, and thank you for inspiring others by beautifying our neighbourhood and increasing its diversity of plants and animals.



Vale Claire Howard

We at EK were really sad to hear of Mrs Howard's recent passing. She played an important role in the community, as a dedicated teacher, a founder of the Broome Courthouse Markets, and a pioneer in organic farming at Twelve-mile. On behalf of the Board, staff, members and supporters of Environs Kimberley, I thank Mrs Howard's family for nominating Environs Kimberley as the organisation to receive donations in her memory. A big thank-you to the Broome Primary School students, parents and staff for their generous contributions, which will go towards our work to protect the Kimberley.

Martin Pritchard, Director

Queen of the Meadows

Victoria de Bruyn on behalf of the Broome Seagrass Community Monitoring Project

Great excitement took over the Roebuck Bay mudflats when it appeared humans were not the only creatures that got dressed up for the recent Broome Mardi Gras weekend. Our beautiful seagrass meadows of *Halodule uninervis* and *Halophila ovalis* are spectacular and fascinating in their own right, but this little crab, wearing a cloak of bright orange colonial ascidian, was voted Queen of the Meadows during the recent Feb/March Broome seagrass community monitoring surveys.

Although these bright orange ascidians are more conspicuous than the crab itself, the crab is no doubt taking advantage of the association its own predators have with the unpalatable ascidian. Having a poisonous outer coating is an important defence for sessile creatures. The temporary nature of the crab's adornment also allows the crab to drop its cloak to avoid predators, much like a skink dropping its tail. This is not a one-sided affair though; the filterfeeding colonial ascidian¹ also benefits from this relationship. The active omnivorous crab would provide a consistent nutrient-dense cloud for the ascidian to feed from. It also facilitates their asexual reproduction and dispersal, when it cuts up the colonial ascidians and carries them around.

Sponge crabs are true crabs, having five pairs of legs. While on first inspection it can appear to have only three pairs of legs it is the posterior two sets of legs, which aren't visible, that hold the ascidian cloak on the crab's back. The symbiotic relationship is initiated by the crab selecting and fashioning a colonial ascidian to fit. It takes a crab about half an hour to fashion the ascidian, including hollowing out a space underneath it big enough for the crab to fit inside. A new and larger cloak is sought as a crab grows and moults. However, the old cloak is only discarded once the new cloak is ready. Crabs are extremely vulnerable during their moulting phase, as it takes a number of days for their new shells to harden.

The resplendent specimen pictured below came to the attention of an astute seagrass volunteer, when the usually sessile, bright orange, colonial ascidian appeared to be moving. With curiosity taking the better of us we gently tipped over the ascidian, and its rather cross owner was exposed, to the delight of onlookers. This was a first for all the attending seagrass volunteers, perhaps mainly because they had never thought to look underneath a colonial ascidian for a crab. Beware the colonial ascidian that moves!



1x Colonial ascidian: but is that all? This bright orange colonial ascidian may be an *Aplidium* species, commonly known as 'sea pork (because of its appearance, not its tastel).



1x Sponge crab wearing a colonial ascidian! Andrew Hosie, curator of crustaceans and worms from WA Museum, suggests this sponge crab could be *Cryptodromia tumida*, based on its appearance and locality.

















¹Ascidians are also called sea squirts or tunicates. Colonial ascidians are individual organisms that function as a congregation and can reproduce both sexually and asexually.



New Tech for Conservation Part Two

Dr. Malcolm Lindsay

In 2018, EK and our partners the Karajarri Rangers and Walkes Services were Runners-up in the Australian Google.org Impact Challenge. In each Newsletter we tell you about new technology we are investigating through the Google.org project and others, and explain how we will apply it to conserving the Kimberley.

The Karajarri cultural immersion space

New technology can help Aboriginal rangers, not only in doing conservation land management work, but also in communicating with others about that work, their culture and their country.

Karajarri Traditional Lands Association recently acquired the old Bird Park at Punturrpunturr (Port Smith) and plans to turn it into the Karajarri Tourism Hub and Cultural Base. The hub will have storage and facilities for rangers' work, accommodation, research facilities, a cultural immersion performance space, a café and bush tucker garden (see article from EK's Ayesha

This ambitious plan provided a great opportunity to use new technology to communicate to tourists and the local Karajarri community through the cultural immersion space. The space is being designed by Laird Tran Studio and landscaped by Boab Landscapes and will have a range of functions.

For tourists, it will provide a space for Karajarri dance, music and other cultural performances. For the Karajarri community, the space can be used by the rangers to show footage and sounds from their work and locations across Karajarri country. This is important as most Karajarri people live in Bidyadanga or Broome, yet most of their country is Pirra, inland country east of the Northern Highway and deep in the Great Sandy Desert. It is difficult for many Karajarri people to get onto Pirra, especially elders, who miss country. It is hoped that this space will allow them to become immersed in the sights and sounds of important cultural sites from Pirra, maintaining that connection to country.

Groundworks have begun at the site, so we all look forward to the first performance in this exciting immersion space.

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









Image: an architectural model of what the Karajarri immersive space will look like, source: Laird Tran Studio.



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To the wonderful Environs Kimberley office and community



It has been a wonderful oneand-a-half years or so, but my time working as a project officer for the Kimberley Nature Project has come to an end.

Fortunately, (at least for me, I'm not so sure about the rest of the KNP team) I will still be working alongside the EK team, only now as

the Karajarri Ranger coordinator. EK and Karajarri share a number of different projects, so it is comforting to know that I will still have the opportunity to work closely with my colleagues and friends.

Not enough can be said about the effort that Martin, Mal and Lou make to create an office environment that is so welcoming and supportive, and seeks to bring out the best in each of its staff members. Thank you so much for the incredible opportunities you have all provided, and the trust and patience that have been offered time and time again. I have said to many people that I feel that EK will be the best office and organisation I will ever work in or for.

Thank you for everything you have provided for me. I am immensely proud to have worked for Environs Kimberley. Jesse Alai

And thanks to you, Jesse, for your great contribution to EK. It has been a pleasure working with you.

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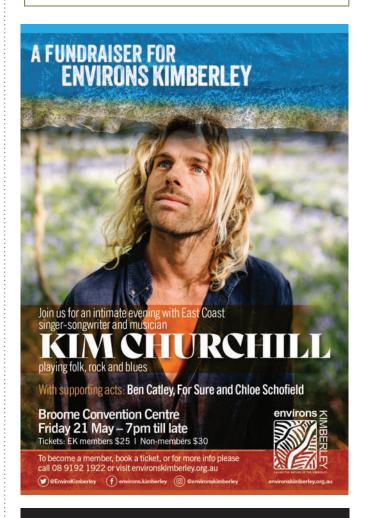
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