

BUSHTRACKS

Bush Heritage Magazine — Spring 2023

*Features — Land, bird, smoke and man, Restoration and carbon capture,
A case for nature, The next chapter for the Night Parrot*

Bush Heritage acknowledges the Traditional Owners of the places in which we live, work and play. We recognise the enduring relationships they have with their lands and waters, and we pay our respects to Elders, past and present.

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for the Night Parrot**



The sharing of Night Parrot knowledge at Pullen Pullen Reserve, Maiawali Country, bolsters the species' protection.



The field is busy at this time of year, and we've been getting stuck in to prepare for the even hotter days ahead.

Optimal conditions allowed us to plant the first seeds of a 600-hectare restoration project at Ediegarrup Reserve in Western Australia, Koreng Noongar Country. This marks the beginning of a project with Greening Australia that is estimated to sequester approximately 85,000 tonnes of carbon over its lifetime.

With the shift from wetter La Niña conditions to El Niño, we are now experiencing the warmer, drier side of this cyclical weather pattern. We anticipated this change, and 12 months ago began the planning and work to prepare the lands we help protect.

We implemented an intensive fire-preparedness plan to mitigate the impacts of destructive bushfires that are typically more intense after La Niña years. This has included staff training, equipment resourcing, creating fire breaks and carrying out both planned and cultural burns. In 'Land, bird, smoke and man', you will read about our Fire team's work burning the spinifex-dotted sand dunes of Pilungah and Ethabuka on Wangkamadla Country, in preparation for bushfire season.

The protection of spinifex habitat is a common theme in this *Bushtracks*, as we return to the story of the Night Parrot at Pullen Pullen Reserve, Maiawali Country. Here, we are growing and sharing knowledge with Maiawali custodians and other Indigenous ranger groups to ensure the Night Parrot's survival.

This precious parrot set the wheels in motion for the Queensland Government to grant Pullen Pullen Special Wildlife Reserve status – the first of its kind and the highest form of statutory protection for private land in the country. 'A case for nature' takes you to Carnarvon Station Reserve, Bidjara Country, where vine thicket ecosystems and a few slimy species are helping the reserve's journey toward Special Wildlife Reserve status.

Across the organisation, we are embracing the transitional character of spring. Thank you for your support, trust and generosity that allows us to move with the seasons and continue protecting our irreplaceable bush.



Enjoy,
Rob Murphy
Executive Manager
Conservation Operations
& Co-interim Chief
Executive Officer

Photo Flower power! This undescribed species of Hoary Pea – Tephrosia sp. Glenormiston (RW Purdie 1362) – can be found on the dunes at Pilungah Reserve, Wangkamadla Country, Queensland. By Bee Stephens

Land, bird, smoke and man

Words by Bee Stephens

Location Wangkamadla Country, Queensland



Prescribed burns on Pilungah and Ethabuka reserves, Wangkamadla Country, prepare the landscape for bushfire season and enhance biodiversity.

*Photo Reserve Manager Corinna Clark moves fire from one tussock to the next, Wangkamadla Country, Queensland.
By Bee Stephens*

The night sky begins to sparkle, and a deep purple absorbs the day's glowing orange. A resident Magpie Lark calls piercing the vast quiet on Wangkamadla Country at Pilungah Reserve in south-west Queensland. Anticipation hangs in the cool July air.

Tomorrow – after much preparation – the Bush Heritage team will give parts of this Country the opportunity to burn. The following day, they will travel 65 kilometres south to Ethabuka Reserve and repeat the practice.

Gathered around the dinner table is Alistair Hartley, National Fire Program Officer, and Corinna Clark and Ingo Schomaker, Pilungah's reserve managers. Together, they discuss safety protocols and the plans for the prescribed burns, consult maps of the reserves and keep a close eye on the predicted weather conditions.

A prescribed burn involves the planned use of fire to manage land. A burn's outcome will depend on the varied conservation and cultural goals, weather conditions and make-up of a landscape. So too, will the burning techniques, which are devised through consultation with Traditional Owners and deep analysis of a region's unique flora, fauna, soil, climate, hydrological health, topography, burn history and accessibility.

“Fire is a natural part of our landscape. Fire is required for the improved health of Country and now can play a role in asset management in the catastrophic events leading to bushfire,” explains Vikki Parsley, Yuin Wiradjuri woman and Aboriginal and Torres Strait Islander Partnerships Manager, who works closely with the Fire team. Fire has been used by Aboriginal and Torres Strait Islander people to manage and shape the continent for over 60,000 years. In partnership with Traditional Owners, we share knowledge about best fire practices to inform

our approach to prescribed burns, and our support of partners' culturally led burns.

Located south-west of Mount Isa, Pilungah and Ethabuka border the Northern Territory. This is desert country, where Spinifex Hopping Mice bounce between grassy hummocks, belts of iron ore emerge from red sand and the seemingly never-ending dune's ecosystems thrive on less than 300 millimetres of average annual rainfall. Both burns will target spinifex grasses; however, the intended outcome for each reserve is different.

“Pilungah already has a good variety of age classes through the spinifex – age class refers to the time since vegetation was last burnt. At this reserve, we will burn to enhance the mosaic of age classes. In 2011, a bushfire moved through 90 percent of Ethabuka, reducing much of the vegetation to one age class. Here, we are trying to establish the mosaic of different age classes and break up the 12-year-old fuel,

which will help reduce the ability of bushfires to move through the landscape,” says Alistair.

Spinifex is fire prone and burns with intensity due to its structure and resinous nature. Connectivity between hummocks increases when a single age class area of spinifex matures. Following rain events, this connection is emphasised by the growth of other annual grasses. If left unmanaged, this poses a significant threat during the late dry season, when sparks from lightning storms combine with dry, south-west winds to meet a tinder box of connected spinifex: one susceptible to large and destructive fire.

“When working with spinifex, one of the key things you want to do is reduce the intensity of the fire. To do this, you try and burn at the coldest time of year and when the soil temperature is at its lowest. This takes the

“Fire is a natural part of our landscape. Fire is required for the improved health of Country and now can play a role in asset management in the catastrophic events leading to bushfire.”



Photo A Black Kite circles over Wangkamadla Country, Queensland. By Wayne Lawler

heat out of the fire and protects the rootstock of any spinifex around, or other grasses that you want to come back post-fire.”

“We’re also looking for the right winds. Now, we look for cool, southerly winds from the Antarctic. These will help the fire go out at night once we lose the heat from the sun. So, we’ll have low intensity fires that won’t go on for days.”

It’s not just a reduction in the risks imposed by large bushfire that these burns help to achieve. Spinifex grasslands thrive in arid areas and are notoriously competitive with their neighbours. As a faster-to-burn species, other plants such as mallee and acacia will capitalise on the scarce resources available during the post-fire period to grow and reproduce – adding greater diversity to the desert.

Over the following days, patches of white smoke rise from between the sand dune swales as strategically lit, small fires creep across the landscape. Black Kites circle above and dive bomb on the reptiles and insects that are making their escapes from the fire to close, unaffected refuges. The chirps of Zebra finches and other seed-eating birds return shortly after the flames cease and smoke lifts.

These burns are part of each reserve’s long-term fire management plan designed to: provide refuge for the diversity of life by establishing a pattern of different vegetation age and structure, protect key cultural values, and build climate change resilience into our landscapes.

Alistair reflects after the burns, “As the Paul Kelly song goes ‘from little things, big things grow’. We’re focused on the bigger picture, and we are just at the start. So, we plan to be back yearly, and progressively increase those patterns of different age classes through the landscape.”

It’s been busy period for the team. Optimal conditions across the country throughout June, July and August meant they were able to conduct a number of prescribed burns, and support cultural burns on partners’ lands. Now, bushfire season has arrived, and with the shift in cyclical weather patterns from the wetter La Niña to drier El Niño, they are continuing the work necessary to prevent and manage the threat of destructive, uncontrolled fire. •



Photo Aerial burning at Ethabuka Reserve, Wangkamadla Country, Queensland. *By* Bëe Stephens

Restoration and carbon capture

Words by Will Sacre

Location Koreng Noongar Country, Western Australia

The first seeds of a world-class restoration project are planted and set the bar for future carbon projects.

Carbon capture projects can be complex and often leave the devoted environmentalist perplexed. But what if there was a way to ensure biodiversity doesn't lose its seat at a project's table?

In partnership with Greening Australia, our restoration work at Ediegarrup Reserve is setting a new standard for carbon sequestration. Ediegarrup Reserve is 140 kilometres east of Albany on Koreng Noongar Country in south-west Western Australia and nestled between the Stirling Range and Fitzgerald River National Park.

Together, the plan is to restore bushland on 600 hectares of cleared, unproductive land, that will sequester an estimated 85,000 tonnes of carbon over the project's lifetime and expand the Gondwana Link: a natural corridor that connects the wet forests in Western Australia's south-west corner to the dry woodlands and mallee that borders the Nullarbor Plain.

"A typical carbon reforestation project only plants a limited number of tree species," says Healthy Landscapes Manager Alex Hams. "This project will

include around 150 species of local native plants. What we're doing is not just 'good for the climate', but also 'good for nature'."

This region is an internationally recognised biodiversity hotspot and has provided for the Koreng Noongar people for over 60,000 years. Despite changes to land management since European settlement, they have maintained their connection to Country.

Eugene Eades, a Noongar Elder and member of the Koreng Clan Group, reflects on the project's development: "It's been a wonderful journey to be a part of this along with the Noongar people, who were the first people connected to the Country. The land is in bad shape. There are rare species of animal life that are endangered – bird life, animal life, and vegetation life. We look at it from a cultural perspective. It's our food, fruit, and medicinal plants."

Standing on his ancestral lands, Eugene sees the broader picture. "This is the Gondwana Link story," he says. "Heal the land, and the land will heal us. Simple as that."

Photo Let the planting begin! Koreng Noongar Country, Western Australia. By Adrian Gaspari, Green Man Media



Planting with local Nowanup Rangers and Greening Australia has already begun, including eucalypt species commonly associated with carbon projects and supplemented with proteaceous species such as hakeas, banksias and other ground cover species. The mix of seeds in the ground is a step towards replicating the vegetation structure and function of nearby intact bushland, to attract even more wildlife, like Ngoolark (Carnaby’s Black Cockatoo) and Gnow (malleefowl). Rock and log structures will also be installed to create habitat and encourage the return of ground-dwelling animals.

Blair Parsons, General Manager of Science and Design at Greening Australia says, “We’re striving to build high-end restoration in an ecologically strategic location and make use of multiple environmental markets to support this work. Together, we’re going above and beyond in terms of design, implementation

and experimental trials that aim to enhance the quality of habitats being established.”

The team have done the research and planning to best restore the land to its precleared state, and underpinned the project through high-integrity third party standards and reporting frameworks to

ensure its environmental and carbon values can be clearly measured and communicated. These include standards and reporting set by Accounting for Nature (AfN), the Clean Energy Regulator (CER) for the generation of Australian

Carbon Credit Units (ACCUs), and the Society of Ecological Restoration Australasia (SERA).

Together with Greening Australia, we are on the way to demonstrating best practice carbon projects and biodiversity work well in tandem. •

“This project will include around 150 species of local native plants. What we’re doing is not just ‘good for the climate’, but also ‘good for nature.’”

A case for nature

Words by Eliza Herbert

Location Bidjara Country, Queensland

At Carnarvon, Bidjara Country, viny worlds of endemism and slimy species are smoothing the path to Special Wildlife Reserve status.

Photo The standstone cliffs of Carnarvon Station Reserve, Bidjara Country, Queensland. By Terry Cooke

In 2020, Queensland's first Special Wildlife Reserve was declared at our Pullen Pullen Reserve on Maiawali Country to recognise the significance of the reserve's Night Parrot population. Now, we are on a mission to achieve the status for five of our other Queensland reserves, granting the highest level of protection for privately owned property in Australia.

Special Wildlife Reserves are a relatively new conservation status in Queensland that see private land granted the same level of statutory protection as national parks, when they protect areas of exceptional natural and cultural value.

"Queensland has a long history of mining and timber harvesting, and currently has the lowest level of protected areas (approximately 8.2 percent) in the country," says Felicity Shapland, Bush Heritage Special Wildlife Reserve Project Officer. "Special Wildlife Reserves are an amazing opportunity, providing a far greater level of protection than conservation covenants such as Nature Refuges."

The applications involve a complex process of comparing historical data with Queensland's public records, on-ground surveys and orthomosaic maps with the goal of demonstrating the exceptional natural and cultural values of the landscape. This can include a species, group of species, regional ecosystem, vegetation community, as well as cultural significance.

At Carnarvon Station Reserve, Bidjara Country, Felicity's ecosystem of interest is semi-evergreen vine thickets. "They are found on steep, generally south-facing slopes and are an impenetrable maze of vines, thorns and spikiness. Specific to these little patches, they are islands of biodiversity and endemism."

Carnarvon is a 59,000-hectare reserve within the Brigalow Belt of Queensland that is full of fertile Bluegrass grasslands and Brigalow scrub, Bluegum forests, Poplar Box and Mountain Coolibah woodlands. It is an oasis that provides vital habitat for

a number of species, including the endangered Northern Quoll.

The vine thickets are home to a multitude of species including bugs, millipedes, flies and thrips. They also act as refuges for mammals when the temperature rises. "Carnarvon is significant in its resilience to climate change. It has a higher altitude and particularly high rainfall and is likely to be able to better cope with the impacts of a changing climate. In the scheme of things, this could mean the survival of many native animals."

Another unlikely hero at Carnarvon is the humble snail. Four species of snails only occur within these special patches of vine thicket: a large species of land snail, the *Pallidelix simonhudsonii*, and three species of pinwheel snail, two unnamed species and the iddy, biddy *Eddiea carnarvon*.

"Snails are fantastic biodiversity indicators. If you've got lots of species of snails you've got a pretty healthy ecosystem. And if you lose those, it means that your ecosystem is declining in health. So, it is not just: why is one species important? It's: why is the whole ecosystem important? They are a great indicator of whether we're doing a good job, or if we're managing to survive the impacts of climate change."

With each Special Wildlife Reserve application we seek to work with Traditional Owners and establish how involved they would like to be in the process. "Environmental values and cultural heritage values are inextricably linked," says Felicity. "This provides another opportunity to talk with Traditional Owners to find out their aspirations for these reserves, and to provide more opportunities for access to Country."

The outcome of these applications will be determined in the coming months, potentially saving us from future legal fees to fight mining or timber lease applications, and signify a step change in the approach to private protected areas in Queensland – enshrining them as truly special. •

"Snails are fantastic biodiversity indicators. If you've got lots of species of snails you've got a pretty healthy ecosystem."

Bush Heritage gratefully acknowledges Friends of the Australian Bush Heritage Fund and the Wyss Foundation for their support of Felicity Shapland's work to enhance the protection of Bush Heritage-managed Queensland reserves.

The next chapter for the Night Parrot

*Words by Coco McGrath
Location Maiawali Country, Queensland*



The sharing of Night Parrot knowledge at Pullen Pullen Reserve,
Maiawali Country, bolsters the species' protection.

Photo Maiawali custodians, other Indigenous rangers and groups walking through Night Parrot habitat, Maiawali Country, Queensland. By Lachlan Gardiner

The Night Parrot, an elusive ground-dwelling parrot, has long been shrouded in myth and legend. Dubbed the 'Thylacine of the air', the Night Parrot had been feared extinct for over 100 years.

In 2013, in the remote corners of western Queensland on Maiawali Country where spinifex grows in abundance – the perfect habitat for the bird – the Night Parrot was rediscovered by scientists. The news sent shockwaves through the birding community and beyond – there was a second chance to save the species.

Ornithologist Dr Steve Murphy set in motion a conservation program to safeguard the bird. This led to Bush Heritage's 2016 purchase of the land where the bird had been found, named Pullen Pullen Reserve after the Maiawali word for Night Parrot.

In the 10 years since the Night Parrot was rediscovered, Dr Murphy and Bush Heritage ecologist Dr Nick Leseberg have worked tirelessly to create a safe haven for the bird. They have collected data, including 100,000 hours of sound recordings, and tracked the bird through clumps of spiky spinifex and across vast floodplains to better understand its behaviour.

"We now know a fair bit about the ecology of the Night Parrot," says Nick who leads Night Parrot monitoring on Pullen Pullen. "We know how to detect them, and we know what threatens them."

Thanks to Nick's ongoing work in partnership with Maiawali custodians, Pullen Pullen has transformed into a research hub and a sanctuary for the Night Parrot.

Maiawali custodian and knowledge holder Judith Harrison explains, "The land is important because we never lost connection to Country. The Night

Parrot was used in Maiawali ceremonial practices in the old days, and so we are reconnecting with our cultural practice as we protect the bird."

In 2020, Bush Heritage succeeded in securing Special Wildlife Reserve status for the land, which means the reserve, despite being privately owned by Bush Heritage, has the same level of protection as a national park. The birds are not prolific breeders, usually only fledging one or two chicks each year, so increases in Night Parrot numbers are painfully gradual. With Special Wildlife Reserve status, the population is given a safe place to grow steadily and further protected by a concerted feral management program.

As management of the existing population continues, Nick is turning his attention to sharing research and knowledge with land managers, fellow ecologists and, importantly, with Indigenous rangers. Since 2017, Indigenous rangers in Western Australia have reported

hearing the distinctive call of the Night Parrot and some have been lucky enough to photograph the bird.

"Although the whole shebang started here in western Queensland, the truth is that we have a relatively small population of Night Parrots here. But where the birds are being found in Western Australia is across a much larger area and so the future of the Night Parrot rests largely in the hands of Indigenous rangers."

In May 2023, with support from the Indigenous Desert Alliance, Nick and Maiawali custodians invited six Indigenous ranger groups to Pullen Pullen to share knowledge of the Night Parrot. Welcomed to Pullen Pullen by Judith, the gathering included: Kiwirrkurra Rangers from the Gibson Desert; Ngurra Kayanta Rangers from the Great Sandy Desert; Kanyirninpa Jukurrpa Punmu Rangers from central Western

"We now know a fair bit about the ecology of the Night Parrot. We know how to detect them, and we know what threatens them."



*Photo Gathering for the Night Parrot, Maiawali Country, Queensland.
By Lachlan Gardiner*

Australia; and the Central Land Council Warlpiri Rangers from the Tanami Desert in the Northern Territory.

Some ranger groups had seen Night Parrots on their Country or heard the bird’s intriguing ‘dink-dink’ call. Other groups were yet to find birds but have suitable habitat on their Country.

“To be able to show them what the landscape looks like, and point to, you know, this is what long unburnt spinifex looks like, and this is what the parrots’ feeding habitat looks like – I think it’s really valuable for them to see that,” says Nick.

Judith agrees, “It’s wonderful for all ranger groups to share stories and knowledge so that we can continue to protect the Night Parrot. The Maiawali custodians are thankful for this opportunity, and for Bush Heritage’s on-going work and commitment to our partnership.”

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Clifford Sunfly from the Ngururrpa Rangers is one of the lucky few who has seen a Night Parrot on his Country.

“We were laying out sound recorders all around the spinifex and we thought we might wait after sunset for a bit to listen. And sure enough we heard the whistling. And then I heard wings, a flapping sound and I saw the outline of the bird through the stars flying across.”

“I was so happy and excited. And that got me thinking, I really want to see it again.”

With the best science, Traditional knowledge and sophisticated land management practices in the hands of a dedicated and growing collective, the future of the Night Parrot looks promising. •

My happy place

*Words by Davydd Shaw, devoted Bush Heritage supporter
Location Gunaikurnai & Boon Wurrung Country, Victoria*

In the bush, magic comes to you when you slow down and be very quiet. This can be the calm that sets in from listening to the breeze's gentle whoosh through the casuarina, the connection sparked while observing a curious fairy-wren, or the cheeky laughter that stirs when catching an unperturbed wombat waddle.

From a young age, I quickly recognised the power held by protected areas of bush. I grew up in a country town in northern Victoria, one that was surrounded by irrigated orchards and farms. It was after visits to our nearest national park, which brimmed with various eucalypt and acacia, that I was struck by the difference in my experience between the landscapes.

Arriving at my happy place, I am reminded of this feeling. The winding road slows you down, as you transition from the rolling farmland, to coastal heath and tall eucalypt forest. Located three hours from Melbourne, on the ancestral lands of the Gunaikurnai and Boon Wurrung people, is Wilsons

Prom National Park (The Prom), the continent's southernmost point and my happy place.

I'm lucky enough to have spent over 50 years visiting 'The Prom' and it never fails to enliven and inspire me. In my younger years, I spent many nights camping under canvas in The Prom's remote coves and beaches. Now though, the walk to Tidal Overlook is my pick of choice. At its vantage points you can catch views that stretch along the western coast, where granite headlands wrap around bays of turquoise water and sandy beaches.

It's a fantastic and largely intact environment to be in. A place where animals and nature can flow without obstruction. Bush Heritage's dedication to linking up our continent's fragmented areas of protected bush and whole-of-landscape approach, are the key reasons I became a supporter and will leave a gift in my Will to the organisation. Supporting Bush Heritage is a safe bet to allow the bush's magic to connect and continue. •

*Photo Davydd Shaw taking in the view at 'The Prom',
Gunaikurnai & Boon Wurrung Country, Victoria.*



Can you help us
return good fire to
our landscapes?

Donate today.

Bush Heritage is a unified force for nature, grounded in science and culture to nurture all land for life. The organisation works across millions of hectares and 42 reserves, protecting and building resilience in our landscapes for the almost 2,000 animals and plants on Australia's threatened species list.

Bush Heritage respects, listens and learns from working side-by-side with Traditional Owners, and by working in partnership with pastoralists and other organisations to have the most impact.

Our work would not be possible without the support of people like you. We gratefully acknowledge the estates of Henry Robert Thorne, Linda Knox, Barbara Praetz, Christina Roche, June Strykowski, Kristine Rodgers, Beryl Haile, Sally Stabback, Paula Clarke, Christine Jarrett, Kerry Kavney as well as the many other people who have recently donated to our work.

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Cover Photo Burn scars on spinifex country at Pilungah Reserve, Wangkamadla Country, Queensland. By Bee Stephens