

WA'S PARKS, WILDLIFE AND CONSERVATION MAGAZINE

# LANDSCOPE

Volume 38 Number 2 Summer 2022-23 \$7.95

## A FOOTE IN THE HAND

Saving an iconic  
species

### Wildflower wonderland

Yonga Walk Trail

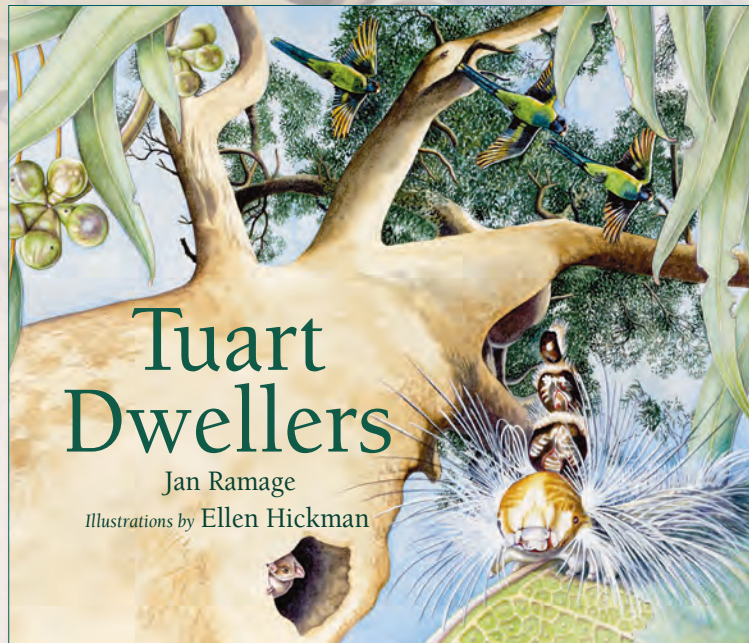
### Migration mysteries

Tracking the right  
whales

### Every Kid in a Park

Access for all ages





# Tuart Dwellers

Jan Ramage

Illustrations by Ellen Hickman

# Tuart Dwellers

Meet some of the incredible creatures that live in the Tuart Forest and learn some fascinating facts about their habits and environment.



Cicadas lay their eggs in cracks in tree trunks and see them hatch into nymphs. These nymphs burrow into the ground and live underground for years. They only come out to mate and lay eggs every 17 years.

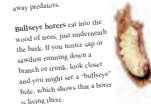


Pink and grey galahs are fast-flying, reaching speeds of 100 kilometres per hour. They can be seen in flocks of many hundreds, although they were rare when European settlers arrived in Western Australia. They usually mate for life and can live to a great age.



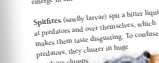
Rainbow lorikeets are an omnivorous species, being more aggressive. Lorikeets often win a fight with nearby other over animal territory.

Marbled geckos have very fine, patterned lines on their feet, which help them cling to trees. They can't blink their large eyes, but instead use their tongue to wipe them clean. One of their only "sounds" is a loud "squack" sound on lightning away predators.



Bullseye holers cut into the wood of trees, just underneath the bark. If you notice sap or wood rot coming down a branch or trunk, look close and you might see a "bullseye" hole, which shows that a holer is living there.

Wedge grass-skippers fly from flower to flower. They lay their eggs on spruce, which is common under trees. Adult butterflies emerge in autumn rather than spring.

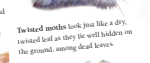


Sphincters (small leaf-eaters) are a tiny liquid at predators and over themselves, which makes them taste disgusting. To confuse predators, they cluster in large, repetitive clumps.



Sawfly grubs do not mate with a mate; they simply clone themselves. The female cuts into the leaf of a tuart tree and lays her eggs there. She protects the eggs with a silken web. The grubs are ready to hatch, if groundhogs or other burrowers dig up the tree.

Hairy caterpillars have very hairy bodies, which deter predators. The bright red stripe acts as a warning.

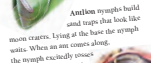


Twisted moths look just like a dry, twisted leaf as they lie well hidden on the ground, among dead leaves.



The caterpillar of the twisted moth looks like a new stem of a branch. It holds on tightly, using thin strands of silk, and feeds on tree foliage.

Crab spiders hold homes in hollow leaves. They stick the edges together and hide inside. When an unsuspecting bug walks past, the spider pounces and then pulls it into its home to feast in safety.



Antlion nymphs hold and trap the food like moss traps. Lying at the base of the nymph waits. When an ant comes along, the nymph quickly opens up and more sand, making sure the ant loses its footing. It then grabs the ant and sinks into the sand to eat its prey.



Stick insects are the largest insects in the world—some as long as 20 centimetres. They look just like a twig on a tuart branch.



See page 8-9

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Noisy black cockatoos arrive to announce the coming rain. They ribbon the sky with outstretched wings.

Hunting for grubs and insects, they rip off pieces of bark and break new shoots, before flocking away. Clouds gather. Insects buzz and ants scurry, hurrying to gather supplies before the wet. And a johnny hurrylegs scuttles out of sight.



A loud crack fills the sky, and thunder rolls across the valley. But tucked inside leaves or buried deep underground, other creatures continue to sleep.

Little hatterpillar is busy. Stretching and wriggling, he splits open his coat and slowly bulges out. Easing free, he slips off his old capsule and his skin falls away.

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Conservation and Attractions



ON THE COVER

**Front cover** Red wattlebird (*Anthochaera carunculata*) on a flame grevillea (*Grevillea eriostachya*).

Photo – Sallyanne Cousans

**Back cover** Ningaloo Reef near Coral Bay, Ningaloo Marine Park.

Photo – David Bettini

Aboriginal people have inhabited Western Australia for tens of thousands of years. To be able to work together to jointly manage their traditional lands is not just an aspiration but a reality for modern land managers at the Department of Biodiversity, Conservation and Attractions (DBCA).



The trust that has been built between Aboriginal groups and government to help care for these lands and waters is something that takes time. To be entrusted to hear their stories and be shown their most sacred of places is a true privilege (see '*Seasonal knowledge of Nynggulu coastal peoples*' on page 42).

Relationships and partnerships continue to be fostered and nurtured, and today more than five million hectares of conservation estate is jointly managed and 16 formal joint management partnerships have been established (see '*Bunuba Nations*' on page 12).

We continue to build on our partnerships with Traditional Owners and deliver meaningful environmental, social and economic outcomes for Aboriginal people.

The Aboriginal Ranger Program continues to gain traction, with the remainder of the program's initial \$20 million in funding distributed among 24 Aboriginal ranger groups and an additional \$50 million to be invested, expanding the program.

A three-year evaluation of social outcomes was completed and found the program has a significant positive impact on individuals and Aboriginal communities, particularly for women in remote areas. To date, the program has funded the employment of more than 600 Aboriginal rangers, almost half of whom are women. The program is delivering economic and social benefits for regional and remote areas by providing job and training opportunities for Aboriginal people and it has enabled rangers to build strong connections to land and their communities.

In addition, almost \$1.3 million has been invested in Aboriginal procurement contracts, supporting 30 Aboriginal business operators to deliver tourism products in conservation areas.

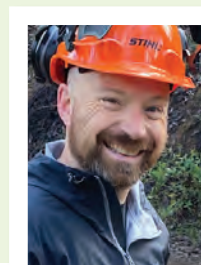
**Luke Bentley, Manager Aboriginal Engagement, Planning and Lands**  
Department of Biodiversity, Conservation and Attractions

**Contributing Leonie Monks** is a Research Scientist at DBCA working in threatened plant conservation. Based in Perth, she travels across much of south-western WA working with DBCA regional staff undertaking threatened plant translocations and conducting research to find ways to improve the survival and success of these



translocations. She is also working towards a PhD at Murdoch University, with her study aimed at understanding factors that influence the success of threatened plant translocations.

**Oliver Laing** is the Executive Officer of the Munda Biddi Trail Foundation. He is a passionate advocate for the iconic long-distance bikepacking trail. Over the last four years, he has learnt a lot about volunteer engagement and retention, trail maintenance, governance and marketing. Oliver has been heavily involved with mountain biking since the 1990s in Perth, the UK and Sydney, as an obsessive rider, an occasional racer, an occasional rider, a middling mechanic, and retailer who probably bought more product than he sold to customers.



**Nicole McNamara** is a qualified Event Manager with more than seven years' experience in delivering community events and activations to families throughout Western Australia including the south-west, Wheatbelt, Peel and Perth regions.

Nicole is proud to be leading the *Every Kid in a Park* project, combining her skills of project and event management to deliver accessible and inclusive trails, events and resources to families of all abilities.



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*LANDSCOPE is printed on recycled paper which contains 55 per cent recycled fibre and is made from pulp, which is derived from well-managed forests, controlled and recycled sources.*

**This page** The stunning geology of Danggu Geikie Gorge National Park.

Photo – Janine Guenther



Department of Biodiversity, Conservation and Attractions

## Features

- 8 **Parks for People: Mundy Regional Park**  
Waterfalls and rocky outcrops in the Perth Hills
- 12 **Connection to Country: Bunuba Nations**  
Culture in the heart of the Kimberley
- 18 **Safeguarding Foote's grevillea**  
Successful translocation of an iconic species
- 24 **Adventure out: Yonga Walk Trail**  
Walking in a wildflower wonderland
- 28 **Migration mysteries**  
Solving the puzzle of southern right whales' migration
- 34 **Every Kid in a Park**  
Children of varying abilities spending time in nature
- 42 **Seasonal knowledge of Nyینگgulu coastal peoples**  
The Baiyungu, Yiniguurdira and West Thalanyji, north-west Australia
- 48 **Rover Task Force**  
Improving riding and volunteering experiences on the Munda Biddi Trail

## Regulars

- 3 **From the desk of Luke Bentley**  
A foreword from the Manager, Aboriginal Engagement, Planning and Lands, Department of Biodiversity, Conservation and Attractions.
- 6 **Bush telegraph**  
Short stories from around the State, reader's pic and a guest word.
- 11 **In review**  
A collection of books and applications.
- 41 **Discovered**  
*Vaucheria*, a yellow-green seaweed.
- 53 **Kaleidoscope**  
Connecting kids with nature.
- 54 **Nature's pin-ups**  
*Grevillea pimeleoides*.



**Snap  
shot**



## READER'S PIC

**Southern emu-wren**  
(*Stipiturus malachurus westernensis*)

Photo and words by Mark Davidson

"The southern emu-wren is one of Australia's smallest birds, with a tail almost twice its body length. It occurs in southern coastal regions of Australia where it can be found in low heath such as peppermints. I continue to be in awe of this tiny bird that flourishes along WA's harsh coastline.

This male, distinguished by its blue bib, was one of a small group that popped up out of a peppermint beside the Bibbulmun Track east of Walpole when I was on a maintenance walk. That day was my birthday, literally and figuratively."

Have you got a fantastic nature photograph you would like to see published in **LANDSCOPE**? Send it, along with a 100-word description of the species or how and where you took the shot, to [landscape@dbca.wa.gov.au](mailto:landscape@dbca.wa.gov.au).

## Forest Management Plan 2024–2033

Development of the *Forest Management Plan 2024–2033* is underway following a two-month public comment period on the draft plan, which ran from 18 October to 18 December 2022. The plan covers 2.5 million hectares from Lancelin north of Perth, to Denmark on the south coast, and sets out management activities to improve the protection and health of south-west forests and balance the many ways south-west forests are used.

The public comment period on the draft plan provided an important opportunity for stakeholders and the community to provide feedback. The final *Forest Management Plan 2024–2033* will be prepared considering all submissions received during the public comment period.

The plan features a unique artwork by Noongar artist Linda Lee Loo (Linlelu Arts) representing the Noongar seasons of Western Australia's south-west. The original artwork, titled *Noongar Seasons*, was commissioned by the Department of Biodiversity, Conservation and Attractions, specifically for use in the plan to honour the Noongar people as Traditional Owners of the south-west region and the Forest Management Plan area.

To read the story of the artwork or find out more about the Forest Management Plan, visit [dbca.wa.gov.au/forest-management-plan](http://dbca.wa.gov.au/forest-management-plan).

Left Noongar artist Linda Lee Loo.  
Photo – DBCA



## New field guide for Kings Park

Kings Park launched its annual festival program in September 2022, with the theme being 'Resilience', to showcase WA's wildflower phenomenon and celebrate the adaptations and strengths of WA's wildflowers.

It was only fitting that the event included the launch of a new field guide created by Kings Park volunteer guides (see *In review* on page 11). The fold-out, pocket-sized field guide features more than 100 bushland wildflowers that can be found in and around Kings Park.

*Kings Park Bushland Wildflowers* was developed and funded by the volunteers themselves and created in honour of late former volunteer Pamela. *Kings Park Bushland Wildflowers* can be purchased for \$6.95 from Aspects of Kings Park.

## Total solar eclipse in Cape Range

Did you know that Cape Range National Park is going to be the top spot to view the 2023 total solar eclipse?

At about 11:27am on Thursday 20 April 2023, the sun, moon and the Earth will align for this significant one-minute-and-16-second event.



Most of the eclipse track lies over water, so Exmouth's North West Cape will be the only region on mainland Australia on the path of the April 2023 solar eclipse. After which, the eclipse can be viewed from some Indonesian islands and East Timor.

The next eclipse of this kind is expected to be in 2031.

Left Yardie Creek, Cape Range National Park.

Photo – Jennifer Eliot/DBCA

## *New online system for beekeeping*

A new online apiary system enables beekeepers to more efficiently apply for, manage and share sites, adding value for Western Australia's globally significant apiary industry.

The new system was developed by the Department of Biodiversity, Conservation and Attractions (DBCA) and provides approvals for apiary sites in WA's national parks and conservation reserves, as well as on pastoral leases, mining tenements and unallocated Crown land.

To complement the online system, DBCA's Apiary General Conditions in WA have been updated and now beekeepers must be trained on procedures to avoid the spread of *Phytophthora* dieback. DBCA has provided *Phytophthora* dieback Green Card training to beekeepers over the past year, which was positively received by the industry.

Apiculture is a significant industry in WA with a farm gate value of \$50 million and it provides pollination services to the horticulture industry with a value of approximately \$1.1 billion.



Blue-banded bee (*Amegilla* sp).

Photo – Mark Berkley

## Guest column



**Kelsie Prabawa-Sear**  
CEO, Nature Play WA

A nature-inspired childhood is a happier and healthier childhood, but it doesn't end there. The latest research demonstrates how a childhood with time spent in nature builds

the foundations that prepare us physically and psychologically for a happier and healthier adult life.

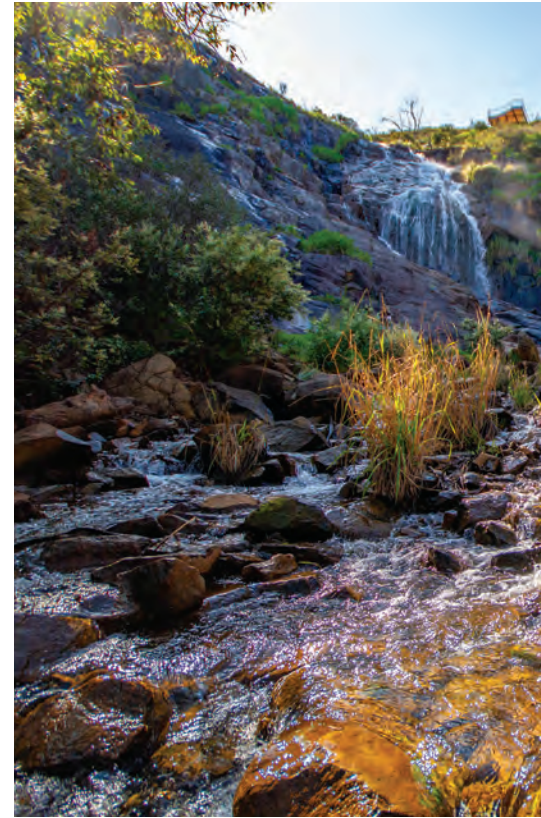
Some new research at University of Kent's Durrell Institute of Conservation and Ecology explores the role of nature, smells, and human wellbeing. The research highlights the long-accepted understanding of the connection between smell and memories, and shares new learnings about the positive impact of the smells of nature on wellbeing. Perhaps most interesting to the Nature Play WA team was the revelation that smells of nature for adults brought about positive feelings most often when they were connected to childhood memories. This research shows that to be able to access these strong positive experiences as an adult, we need to have had positive experiences in nature as children.

My job is to demonstrate to adults—policy makers, healthcare professionals, educators, community leaders, parents, and all care givers—the many varied benefits of letting kids play outside and have time in nature. My approach isn't very complicated: share the scientific research and remind them of the joy of a nature-filled childhood.

In recent years, we have seen a growing appreciation for the importance of time in nature for our kids, but as a community we haven't been as inclusive as we could be. EVERY kid and every family benefits from time in nature and this includes kids of all abilities and backgrounds. Nature Play WA has various projects underway to try to broaden the opportunities for all kids to have positive nature-based experiences more often. We are working with kids and families from diverse communities to deliver on this. The largest project—*Every Kid in a Park*—and one we are so very proud of, is in partnership with DBCA.

You can read more about *Every Kid in a Park* on page 34 and how we're supporting families of children of all abilities in accessing and enjoying the outdoors around Western Australia.





## Mundy Regional Park

*The 56-hectare Mundy Regional Park has commanding views of the Swan Coastal Plain as well as the Perth city skyline. Located on the western edge of the Darling Scarp, the park has an extensive network of walk trails for all abilities.*

**T**he name of Mundy Regional Park (pronounced mun-dee) commemorates Mundy (or Munday), a leader of the Beelu Aboriginal people at the time of European settlement.

During the early days of settlement, Mundy was one of the most important and successful negotiators for Perth's Whadjuk community. The Beelu people hunted tortoises in the Mundy Swamp area, carrying them to higher ground in the east for cooking and eating.

The regional park is located approximately 22 kilometres east of Perth, and while adjacent to Lesmurdie Falls National Park, it is home to the famous Lesmurdie Falls, one of the more spectacular waterfalls on the Darling Range escarpment.

### PICNIKER'S PARADISE

Mundy Regional Park is a treasure hunt of picnic areas. Throughout the network of small walk trails there is a plethora of

picturesque, seemingly hidden, picnic spots. Some areas have established picnic tables such as the Lower Lesmurdie Falls picnic area and plenty of resting spots as nature provides an array of rocky outcrops or fallen logs running alongside flowing streams.

The mid-way turnaround point at the popular Whistlepipe Gully Walk provides stunning views at a granite outcrop perfect for a picnic blanket. Classic Darling Scarp country.

Or after hiking down to the base of Lesmurdie Falls, visitors can hike back up the steep but narrow karri-hazel-lined trail. The surrounding valley and the falls down below can be admired from the lookout before kicking on to explore the beautiful wandoo woodlands.

**Above** New Holland honeyeater (*Phylidonyris novaehollandiae*).

Photo – Cliff Winfield

**Above right** Lesmurdie Falls

Photo – Andy Milner/DBCA



“Mundy Regional Park has an extensive network of short walk trails with panoramic views for people of all abilities.”



Discover more about Mundy Regional Park

Scan this QR code or visit Parks and Wildlife Service's 'LANDSCOPE' playlist on YouTube.



**Top left** View of Perth CBD from Whistlepipe Gully.  
Photo – Andy Milner/DBCA

**Top** Lemon-scented darwinia (*Darwinia citriodora*).  
Photo – Cliff Winfield

**Left (clockwise from top left)** Sheltered picnic table facilities. Photo – Marie Lochman; Foot of the falls. Photo – Andy Milner/DBCA; Whistlepipe Gully near Lewis Road. Photo – Cliff Winfield; Pink-flowered myrtle (*Hypocalymma robustum*); Walk trail directional signage.

Next page

**Left** Dog walking is popular at Lesmurdie Falls.

**Right** A variety of walk trails is on offer in the park.

Photos – Andy Milner/DBCA

## WALK TRAILS

Mundy Regional Park has an extensive network of short walk trails with panoramic views for people of varying abilities. Picturesque views of the Perth city skyline, Swan Coastal Plain and surrounding valley can be seen from multiple vantage points.

The five-kilometre Xanthorrhoea Trail is surrounded by native grass trees, or balga with a mix of challenging climbs and descents.

As you reach Whistlepipe Gully, the blooming wattle will greet you and you'll be immediately immersed in natural beauty. Following the gully's edge past cascades and small waterfalls, the scenery on this trail is spectacular and made all the more better by the ambience of the trickling water, paper-bark trees and wildflowers. The short walk is popular for dog walking and can get busy on weekends.



## HOLLOWED OUT?

Perth Hills local and well-known environmentalist, naturalist, educator and filmmaker Simon Cherriman has self-published his first book, *Hollowed Out?*

It is a beautiful and weighty story of tree hollows and hollow-dependant wildlife, habitat loss, and how nest boxes can support wildlife in WA's south-west.

The book contains more than 500 beautiful photographs of wood and wildlife, and habitats and hollows, and contains extensive information about the types of hollows different species of wildlife require and how you can design, install, monitor and maintain nest-boxes.

Cherriman constructed his first nest box at age 10 to re-home a possum that had taken up residence in his family's roof and has been making nesting boxes and educating the community on their benefits ever since.

His knowledge and passion are evident and immense, and this book would suit anyone with an interest in southern WA's nature and wildlife, or in constructing and installing durable and appropriate nest-boxes to house wildlife in their backyards.

*Hollowed Out?* is available for \$45 from the Mundaring Visitor's Centre.



## EVERY KID IN A PARK

The *Every Kid in a Park* project led by Nature Play WA, supports families with children of all abilities to access, enjoy and play in Western Australia's stunning and expansive outdoors and the app has everything you need to know about the program in one handy, accessible location (see page 34).

Each month, *Every Kid in a Park* showcases a different national park across the State. Information, photos and resources are available on the app for each park of the month, including details and information about sites and attractions, cultural recognition and safety.

The app also links to the general resources available on the Nature Play WA website, which include downloadable activity sheets to help inspire outdoor play activities in various settings.

There are audio versions of most key sections of the app and the resources have been designed in an accessible format to make sure they're as inclusive as possible.

*Every Kid in a Park* participants are eligible for a 50 per cent discount on annual Park Passes, which allow unlimited entry to all WA parks and reserves.

*Every Kid in a Park* can be downloaded for free from the Apple Store and Google Play.



## KINGS PARK BUSHLAND WILDFLOWERS

The *Kings Park Bushland Wildflowers* field guide identifies more than 100 native plant species found in Kings Park.

The 12-panel, foldout guide depicts each species with a photograph of its flower, followed by the plant's common and scientific names, and flowering months. Noongar names are included for some species.

Flowers are grouped predominantly by colour, making it easy for people less familiar with WA's wildflowers to find and identify them.

The guide is durable enough to permanently live in your glovebox or hiking bag and, with most of the wildflowers and plants featured found throughout WA's south-west, could be useful on many bushwalks and adventures.

*Kings Park Bushland Wildflowers* can be purchased from Aspects of Kings Park for \$6.95.



*Connection to Country*



*Connection to Country*

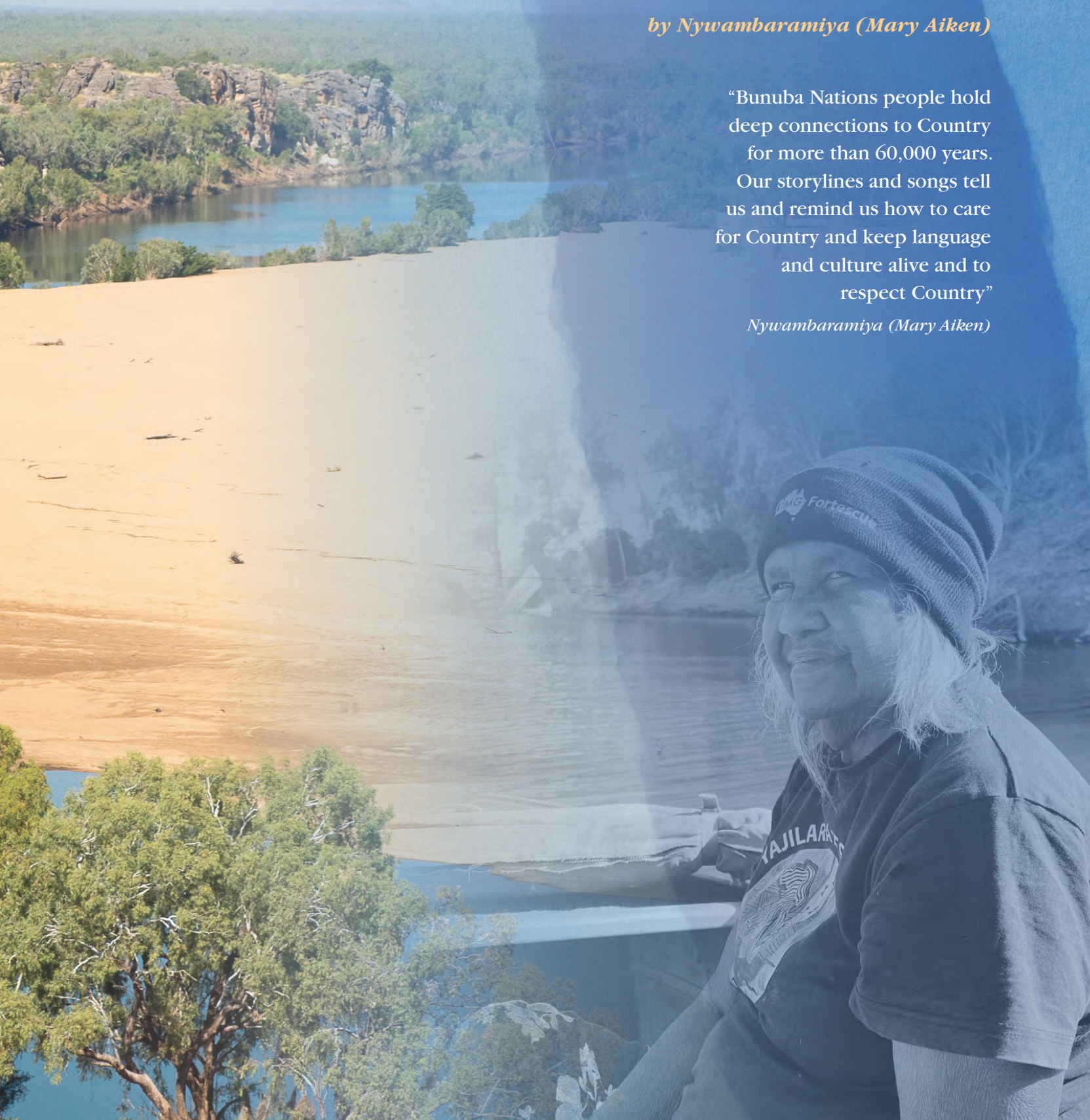


# *Bunuba Nations*

*by Nywambaramiya (Mary Aiken)*

“Bunuba Nations people hold deep connections to Country for more than 60,000 years. Our storylines and songs tell us and remind us how to care for Country and keep language and culture alive and to respect Country”

*Nywambaramiya (Mary Aiken)*





**B**unuba Country sits in the heart of the Kimberley, in northern Western Australia. Bunuba is not the name of our people, rather it is the name of our spoken *thangani* (language), and we are the speakers of Bunuba. The boundaries of our Country are defined by the reaches of our language, and it is within language that the knowledge and story of Country is held. Bunuba Country is made up of 18 interconnecting *muwayi* (Country or clan estates). People and families are linked to specific *muwayi* and are the *dawangarri* (people) of that *muwayi*. The name of each *dawangarri* is the same as its *muwayi*, as our people are an inseparable part of their Country.

We are the *Danggu warra warra*, the people of the *Danggu muwayi*. We are one of the river *dawangarri*, whose *muwayi* are shaped by the flow of *Bandaralngarri*, the mighty Fitzroy River. Each *muwayi* of Bunuba Country is named for a living water. *Danggu* is named for a place along *Bandaralngarri* where the river cuts in beneath the ancient *baliji* (limestone) reef that towers above. Here, where the white

rock sits, a stream of *garuwa* (water) feeds clear into the river, drawing deep from an aquifer that lies two kilometres below.

### ANCESTRAL RESPONSIBILITY

We are bound in our relationship with *Danggu* through a set of responsibilities that have been passed down from our ancestors since time immemorial. Today we draw on our formal partnership with the Parks and Wildlife Service at the Department of Biodiversity, Conservation and Attractions to support the realisation of our obligations to our *muwayi*. This living water place for which we are named, sits within the *Danggu Geikie Gorge National Park*. Although the park was first established in 1967, our relationship with the Parks and Wildlife Service and the recognition of our story is thanks to the late matriarch of *Danggu*, Ms Casey Ross.

In the late 1970s and early 1980s, our *ngarranyi* (mother) and *mimi* (grandmother), forged a strong relationship with two park rangers—Ron Hollands and Noel Nannup. Through her

*Previous page*  
**Main** *Danggu Geikie Gorge National Park.*  
*Photo – Cliff Winfield*  
**Inset** *Nywambaramiya—Mary Aiken.*

**Above left** The stunning geology of White Rock can be enjoyed from aboard the *Ms Casey Ross.*  
*Photos – Penny Purdie*

**Above** *Brolga (Antigone rubicunda).*  
*Photo – Peter Nicholas/DBCA*

patience and knowledge, she taught them the story of this place, the importance of Country and the life that it holds. With great foresight, Ms Casey Ross recognised that the establishment of the national park would protect our *muwayi* from threats posed by mining, pastoralism, or any other destructive developments. It was her great dream to see our people back on Country, caring for our *muwayi*.

### GROWING PARTNERSHIP

Unfortunately, our *ngarranyi* and *mimi* passed before she saw her grandsons wearing the Parks and Wildlife Service uniform, working as rangers at *Danggu*. Their professional role at *Danggu* began in the early 2000s and was the precursor to the establishment of the Bunuba Rangers program in 2011. From the beginning, the Parks and Wildlife Service has invested resources into our ranger program, and

**“*Danggu* is named for a place along *Bandaralngarri* where the river cuts in beneath the ancient *baliji* (limestone) reef that towers above. Here, where the white rock sits, a stream of *garuwa* (water) feeds clear into the river, drawing deep from an aquifer that lies two kilometres below.”**



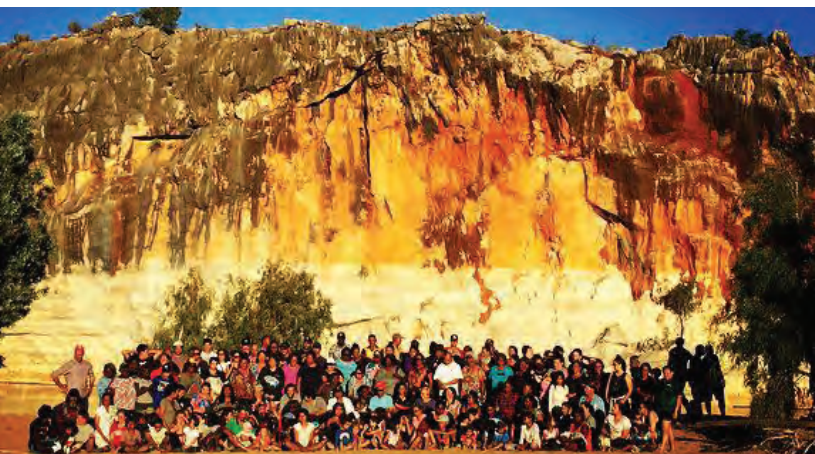
- Legend**
- Conservation park
  - National park
  - River - non perennial
  - Fishing from vessels permitted
  - Tour boat zone - no fishing from vessel
  - Sealed road
  - Unsealed road
  - Exclusion zone - paddle craft NOT permitted to land
  - TOUR Boat tours
  - H Bushwalking
  - B Boat landing
  - K Canoeing/kayaking
  - U Day use area ONLY
  - F Fishing
  - I Fishing from vessels
  - S Information shelter
  - P Parking
  - T Picnic tables
  - R Ranger station
  - T Toilet (universal)
  - X No camping
  - N No fishing in tour boat zone
  - R No rubbish bin provided
  - S No water skiing
- Walk trails**
- Balili Rarrgi Trail
  - Jarrambayah Trail
  - Bun.gi Trail
  - Larrgari Trail



Above Danggu Geikie Gorge.  
Photo – Ru Somaweera



Right Painting of Ms Casey Ross and park ranger Ron Hollands.  
Artist – Neil Carter



our ongoing care for Country through fauna and flora surveys, training, fire management, invasive species control and tourism. The support for and work of our rangers is not just confined to Dangggu. Our rangers work across all muwayi and within all parks on Bunuba Country.

This professional relationship was formalised in 2017 with the signing of an

Indigenous Land Use Agreement (ILUA) that saw the co-vesting of all Bunuba parks through a Joint Management Agreement between Bunuba Dawangarri Aboriginal Corporation and DBCA. This partnership continues to grow, and in 2020 we signed another ILUA agreement with DBCA for the proposed Fitzroy River National Park. This new park will cover over 143,000 hectares of Bunuba Country, giving voice to our people in the ongoing care of our muwayi.

Our relationship with DBCA's Parks and Wildlife Service provides more than just conservation and economic opportunities. Our partnership is built in support of our cultural practice as we have access to our Country to connect and heal. Through our joint management we develop resources that ensure our language and culture are maintained and strengthened on Country. Here at Dangggu, the park is closed for occasions of ceremony. In the past couple of years, we have hosted a family reunion for all members of Dangggu warra warra, bringing home those descendants taken during the Stolen Generations. In 2021 we hosted the inaugural Yajilarra Festival, a two-day celebration of our stories, our songs, and Bandaralngarri, our river. Just

.....  
**Top** Nywambaramiya (Mary Aiken) and Letisha Davies welcoming Parks and Wildlife Service staff to Dangggu.  
*Photo – Penny Purdie*

**Far above left** Dangggu warra warra family reunion.  
*Photo courtesy Dangggu family*

**Above right** Yajilarra Festival—Natalie Dean, Anita Dean, Uagamo Skeen, David Dodds and Ellyarnah Dean.  
*Photo – RIFT Photography/Wesfarmers*

**Above left** Shae Parriman and Tyler Wade at Yajilarra Festival.  
*Photo – Russel James*

**Left** Junba performance at Yajilarra Festival.  
*Photo – RIFT Photography/Wesfarmers*



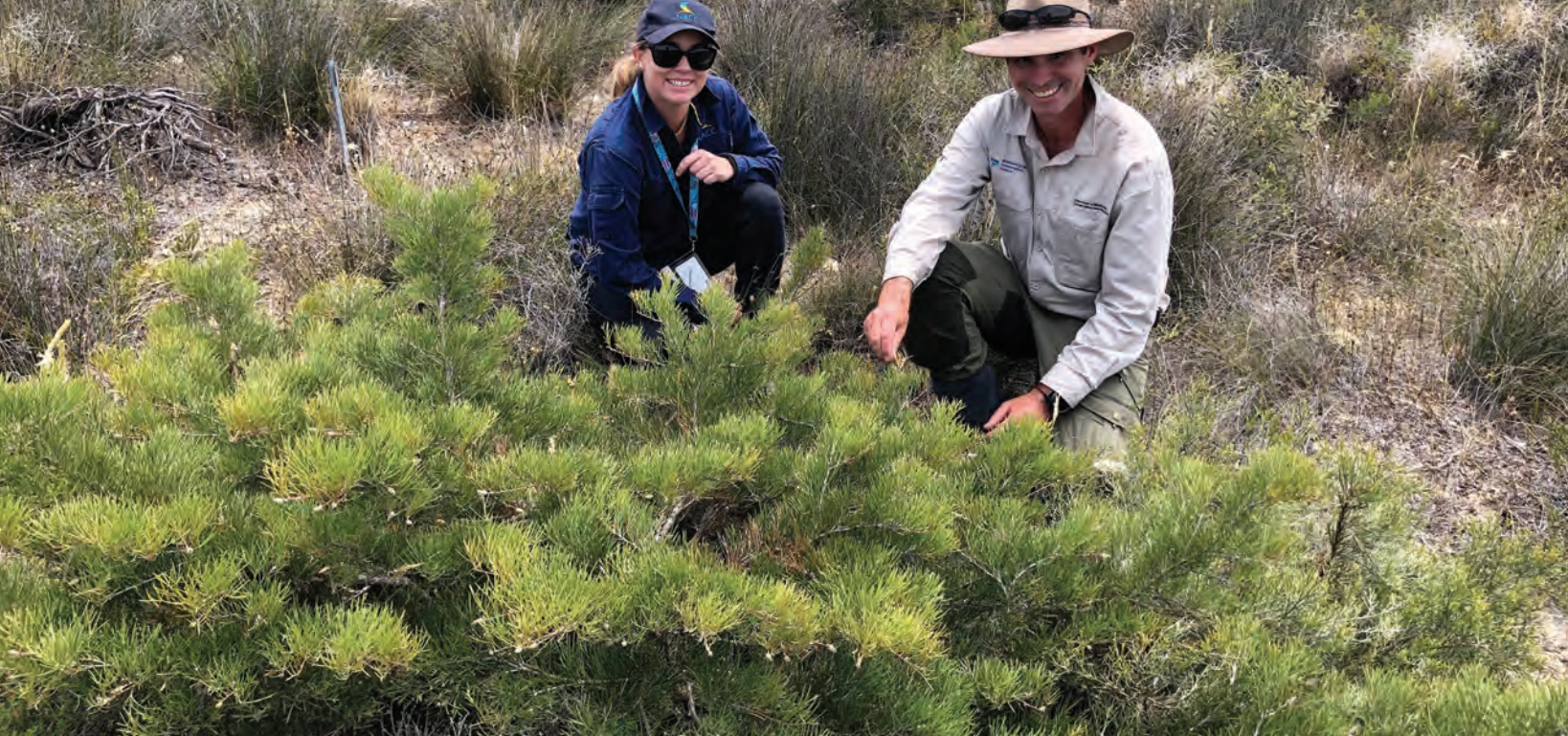
Safeguarding

# Foot's grevillea

Grevillea is the third largest genus in the Australian flora, and perhaps the most popular horticulturally. One unusual member of this popular group, *Grevillea calliantha*, was only discovered in 1991 but the number of plants that remain in the wild has already declined by 80 per cent. Collaboration between scientists, landholders, natural resource managers and the State Government is safeguarding this unique species into the future.

by Leonie Monks, Andrew Crawford, Kane Watson,  
Christine Smith, Lauren Strumpher and Steve Buitenhuis





**F**oote's grevillea (*Grevillea calliantha*) was first brought to the attention of the botanical world in 1991, when plant collector, Nick Foote, working in the Cataby area (around 170 kilometres north of Perth), noticed an unusual grevillea, covered in striking, dark maroon-coloured flowers. It wasn't until 1991 that the species was formally named. The botanists who described and named the species, Peter Olde and Neil Marriott, were inspired by the prolific and spectacular flowering of the species, naming it *calliantha*, meaning 'beautiful flowers'.

Foote's grevillea is a compact shrub, which grows to around one metre tall and two-to-three metres wide, with grey to yellow-green coloured leaves. Flowering occurs between September and February, with large quantities of nectar produced that encourage visitation by honeyeaters. The species grows in soils of grey to yellow-brown sand over laterite and occurs in areas of low heath with scattered coastal blackbutt (*Eucalyptus todtiana*) and marri (*Corymbia calophylla*) on slopes and low hills.

In the early 1990s, following the formal naming of Foote's grevillea, extensive searches were made to find new locations of the species. However plants were only found in a small area near Cataby. Only six populations of this species were



Previous page

**Main** Foote's grevillea (*Grevillea calliantha*).  
Photo – Sallyanne Cousans

**Above** Setting seed, site inspection.  
Photo – Kane Watson

**“Foote's grevillea was listed in Western Australia as rare when it was named, but since then concern has grown for its long-term future with the species now listed nationally as Critically Endangered.”**

found with a combined total of just under 150 plants. Foote's grevillea was listed in Western Australia as rare when it was named, but since then concern has grown for its long-term future with the species now listed nationally as Critically Endangered.

In the four decades since it was discovered, the number of plants remaining in the wild has declined by more than 80 per cent to just over 25 plants due to threats from grazing by rabbits, changed fire regimes, competition with weeds, chemical spray drift, *Phytophthora* dieback disease and maintenance of the road verges in which many plants grow.

## CONSERVING FOOTE'S GREVILLEA

To safeguard the long-term future of Foote's grevillea against these threats, conservation efforts over the past four decades have focussed on protecting the wild populations, collecting and conserving seed, and using the seed to establish new populations in locations that don't have the same threats as the wild populations (called translocation sites).

The seed collection program began in 1998 when seeds were collected from multiple plants at four different occurrences of the species. The seeds were then dried, before being frozen



### **How do Grevillea seeds disperse?**

Grevilleas have two main forms of seed dispersal. Some have seed with a wing that enables the seed to be caught by the wind when shed from the seed pod and blown away. Others have an elaiosome, a fatty structure at the end or along the side of the seed, which attracts ants. The ants carry the seed away, usually to their nests, to eat the elaiosome, leaving the seed intact.

**Below** Ants on a *Grevillea batrachioides* seed.

*Photo – Andrew Crawford/DBCA*



and stored in the seed vaults of the Department of Biodiversity, Conservation and Attraction's (DBCA) Western Australian Seed Centre-Kensington (WASC-K). Over the subsequent 24 years, an additional 31 seed collections were made from all the populations of Foote's grevillea, including populations for which there are now no living plants. Despite this considerable seed collection effort, the number of seeds in secure storage is still low with just over 1440 seeds collected.

The stored seed has been used to establish two new translocated populations and to restock one wild population where plants had recently

died out (also known as a restocking translocation). The seed stored in the WASC-K vaults was carefully thawed, then germinated under controlled conditions in the laboratory before being transferred to the nursery at Kings Park to be grown until the seedlings were robust enough for planting at the translocation sites.

When germinated for translocation, some of the seed collections had been in storage for more than twenty years. The fact that the viability of the collections was still high and as good as it had been when the seed was first collected, shows that seed banking is working for this most threatened of species. From 1998, these

seedlings and some cuttings were planted at the three translocation sites. Almost 500 plants were recorded across the translocation sites by 2018, demonstrating how valuable this work had been in ensuring the species did not go extinct in the wild. However, further work is still required.

**Top left** Fernanda Veraldo preparing cuttings.  
*Photo – Andrew Crawford/DBCA*

**Above left** Foote's grevillea seed collection.  
*Photo – Leonie Monks/DBCA*

**Above** *Grevillea calliantha* flower.  
*Photo – Andrew Crawford/DBCA*

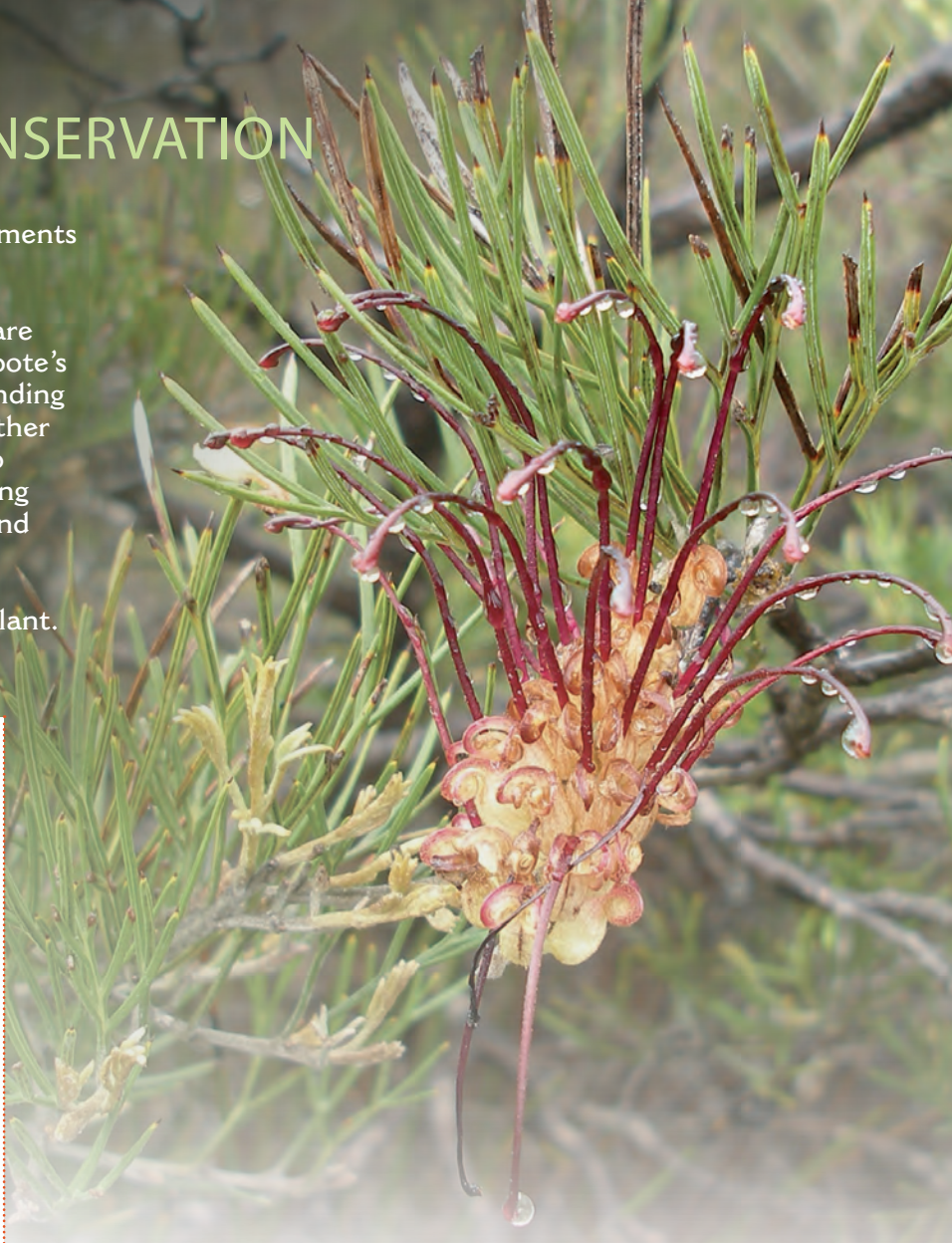
# COLLABORATIVE CONSERVATION

In 2020, the Northern Agricultural Catchments Council Natural Resource Management (NACC NRM) received funding from the Australian Government's National Landcare Program to support recovery efforts for Foote's grevillea. Over the past two years, this funding has helped NACC NRM and DBCA, together with landowners from the Cataby area, to increase the effort to help save this stunning plant. These partners bring unique skills and different perspectives to the conservation actions, that when combined enhance the recovery efforts for this very threatened plant.

## What the project means to the Regional NRM partner

NACC NRM recognises that as the pressures facing our environment continue to grow, support for collaborative projects provides a clear path to shared outcomes. NACC NRM's purpose is to guide and support the Northern Agricultural Region community to value, and actively protect our region's natural capital, consistent with the aspirations and goals of the regional NRM strategy (NARvis). Partnership for the improved conservation of Foote's grevillea clearly aligns with the NARvis goal of maintained or improved conservation status of threatened plants, of which Foote's grevillea is listed as one of the thirty plants in the Australian Government's Threatened Species Strategy. Being able to partner with DBCA and landowners to build on previous efforts delivers a positive conservation outcome.

**Kane Watson** is an Environmental Scientist with NACC NRM, with a focus on sustainability and working with community to achieve collaborative projects and education.



## What the project means to the local landowner

The work being done here is important and the interaction and education of landholders encourages us to engage with the process of protecting endangered species. We are currently constructing a bush corridor, part-funded by NACC NRM, to link up vital bush areas on our farm. The support around controlling the rabbits has made a huge difference to us going forward and being more committed to getting on top of this major issue. Education and awareness are critical, and this has trickled down to the next generation coming into our farming operation.

**Christine Smith** and her family are landowners in the Cataby area, utilising regenerative agricultural practices on their farm.



## DBCA Turquoise Coast district's involvement

Turquoise Coast District staff are actively involved in the conservation of Foote's grevillea, as well as many other threatened species. Populations are monitored, roadside markers maintained, and discussions are had with property owners and local governments to identify and manage threats to the species. Officers and conservation employees are involved in translocation site planning, irrigation, fencing and planting in support of the conservation efforts. Ongoing tasks for local staff include seed collection, weed control and the maintenance of water tanks and irrigation set ups. District staff across several work areas value the opportunity to be involved in these programs, as it gives a good understanding of threatened species recovery actions, and local involvement in the conservation of these species is vital to ensure successful outcomes.

**Lauren Strumpher** is a District Operations Officer for DBCA's Turquoise Coast district and **Steve Buitenbuis** is a Nature Conservation Coordinator for DBCA's Turquoise Coast district. He oversees the management of flora and fauna in the district.



## DBCA Science contribution: seed collection and translocation

The funding secured by NACC NRM has supported further seed collection and translocation work for Foote's grevillea. There are currently only three populations of Foote's grevillea where seed can be collected, and these were targeted for seed collection over the past two summers. To ensure only mature seed was collected, breathable cloth bags were placed over fruit to catch seeds when it was shed from the plant. The number of seed collected from each plant was limited to a small proportion of what was available, so as not to adversely affect long term survival of the populations. During the two seasons, over 350 seeds were collected, some of which were used to grow plants for translocation. In the first year of the project over 260 seedlings and cuttings were planted at one of the wild populations where plant numbers had been dwindling. Adding more plants has boosted the likelihood that the population will once again thrive.

In a new direction to the conservation efforts, this year the project partners have worked together to establish a seed orchard near Jurien Bay. Seed orchards are plantings planned and maintained to increase seed production, so that seed does not need to be continually harvested from wild plants. The seed orchard for Foote's grevillea was planted with over 325 seedlings and cuttings, is fenced to protect the plants from grazing and will be watered to maximise plant survival and seed production. The seed will be used to expand our efforts to conserve this beautiful plant and ensure it continues to survive and thrive in the wild.

**Andrew Crawford** is a Research Scientist in DBCA's Biodiversity and Conservation Science and Manager of the Western Australian Seed Centre at Kensington.



*Opposite page*

**Main** Orange-red flowers of Foote's grevillea hang below the bonsai-like weeping foliage.

Photo – Benson Todd/DBCA

**Inset far left** *Grevillea calliantha* seed.

Photo – Andrew Crawford/DBCA

**Inset left** Foote's grevillea seedlings growing in the nursery.

Photo – Simone Dudley/DBCA

*This page*

**Top right** Lauren planting *Grevillea calliantha*.

**Inset top** *Grevillea calliantha* seedlings in nursery.

**Inset above** Foote's grevillea planted in the seed orchard.

Photos – Leonie Monks/DBCA

**Right** Ant on the flower of Foote's grevillea.

Photo – Benson Todd/DBCA

**Background right** *Grevillea calliantha* flower.

Photo – Andrew Crawford/DBCA



**Leonie Monks** is a Research Scientist in DBCA's Biodiversity and Conservation Science with a research focus on plant translocations. She can be contacted on (08) 9219 9094 or [leonie.monks@dbca.wa.gov.au](mailto:leonie.monks@dbca.wa.gov.au)



# Walking in a wildflower wonderland



A new 26-kilometre loop walk trail in Lesueur National Park offers hikers the chance to get up close to a dazzling array of blooms.

by Samille Mitchell

The rays of the rising sun are spilling over nearby hills, casting the grasstrees and eucalypts in varying hues of gold.

Nearby, I hear yawns from my fellow hikers as they emerge from their tiny tents, swathed in bulky layers against the morning cold.

We've had a poor night's sleep in the bush (turns out those hiking mattresses are not as comfy as they looked in the ads) and yet we feel so happy to be here, alone, breathing in air that feels alive with a symphony of bird song.

Each of us has done plenty of long day walks in the past and camped with cars and swags but this is our first 'proper' overnight hike.

Here at the half-way point on the two-day Yonga Walk Trail in Lesueur National Park we're feeling sore, but pretty darn happy with ourselves for making it this far.

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**Main** Pink-flowered hakea (*Hakea neurophylla*).

**Inset** Pine banksia (*Banksia tricuspis*).

*Photos – Jiri Lochman*

**Left** Hikers along Yonga Walk Trail.

**Below** Views of Yonga Walk Trail.

*Photos – Samille Mitchell/DBCA*





Yonga Walk Trail is a new class 4, 26-kilometre loop hiking trail that winds through the country of the Yued people in one of the most flora-rich regions in Western Australia. Even before peak wildflower season, the trail is adorned in a garden of wildflowers in all their riotous colours and designs.

We've clambered high above the surrounding countryside on breakaway ridges, sometimes spotting kangaroos bounding into the bush.

And we've descended deep into tree-lined valleys in which Carnaby's black-cockatoos, galahs and corellas have kept us entertained with their charismatic calls.

But if there's one thing that makes this walk stand out, it's the plants.

The different landscapes harbour different plants, including many that grow nowhere else in the world. They eke out a life in niches and microclimates hidden within the ever-changing landscapes.

## "The different landscapes harbour different plants, including many that that grow nowhere else in the world."

This part of the park also harbours relic species of plants that have survived within small vestiges of refugia as the climate dried over millions of years causing the once-dominant rainforest flora to retreat. It's amazing to walk under species like laterite mallee (*Eucalyptus lateritica*) and Mt Lesueur mallee (*Eucalyptus suberea*) and imagine the same species existing here in wetter, ancient times.

### SETTING OUT

We set out on the trail late morning from Lesueur National Park's Drummond car park. At the start, the trail follows shorter walks, which come with interpretive signage explaining natural features.

After some misreading of early signs, we realised we needed to simply follow the trail markers to leave the shorter walks and venture further afield on the Yonga Trail.

You can choose to walk in either direction—we chose the longer 14-kilometre section on our first day and arrived at the campsite about 4pm.

I don't know if it was just that we were sore from lugging heavy packs but arriving at the campsite felt like a welcoming warm hug.

We'd booked online to secure the sheltered camp facility—a three-sided shelter on a raised platform with stunning views over a bushland valley below. The shelter's orientation means it captures the light of both the sunset and sunrise, and a picnic table and chairs out the front offer just the right spot to soak up the natural beauty. It provides enough room for four people.

Nearby, three open, raised platforms sleeping up to five people each, and tables, offer other campers a place to pitch a tent or roll out a sleeping bag.

Even though we had the 'luxury' of the shelter, we decided to pitch tents inside to help stay warm. And as the night descended and the stars emerged, we were happy for the extra warmth.

Before going to bed, we whipped up a meal and got a ridiculous amount of delight from using our hiker-friendly gas burner and collapsible kettle and tucking into our dehydrated meal—just add hot water and voilà—a vegetarian stir fry and chicken risotto appeared.



**Above left** Views along Yonga Walk Trail.

**Above** Yonga Walk Trail camp facilities.  
Photos – Samille Mitchell/DBCA

**Left** Lesueur isopogon (*Isopogon sphaerocephalus subsp. lesueurensis*).  
Photo – Marie Lochman

## Do it yourself

**Where is it?** Yonga Walk Trail is within Lesueur National Park, 20 kilometres north-east of Jurien Bay and 250 kilometres north of Perth. The walk leaves from Drummond carpark.

**How to book:** Bookings can be made at [parkstay.dbca.wa.gov.au](http://parkstay.dbca.wa.gov.au) for overnight shelters and platforms. The campsite is located 12 kilometres or 14 kilometres into the walk, depending which way you travel. Camping is only allowed in the shelter and, on the platforms provided.

**Tips:** Best walked in late winter or spring to witness the wildflowers and avoid the extreme summer heat.



Discover more about the Yonga Walk Trail

Scan this QR code or visit Parks and Wildlife Service's 'LANDSCOPE' playlist on YouTube.



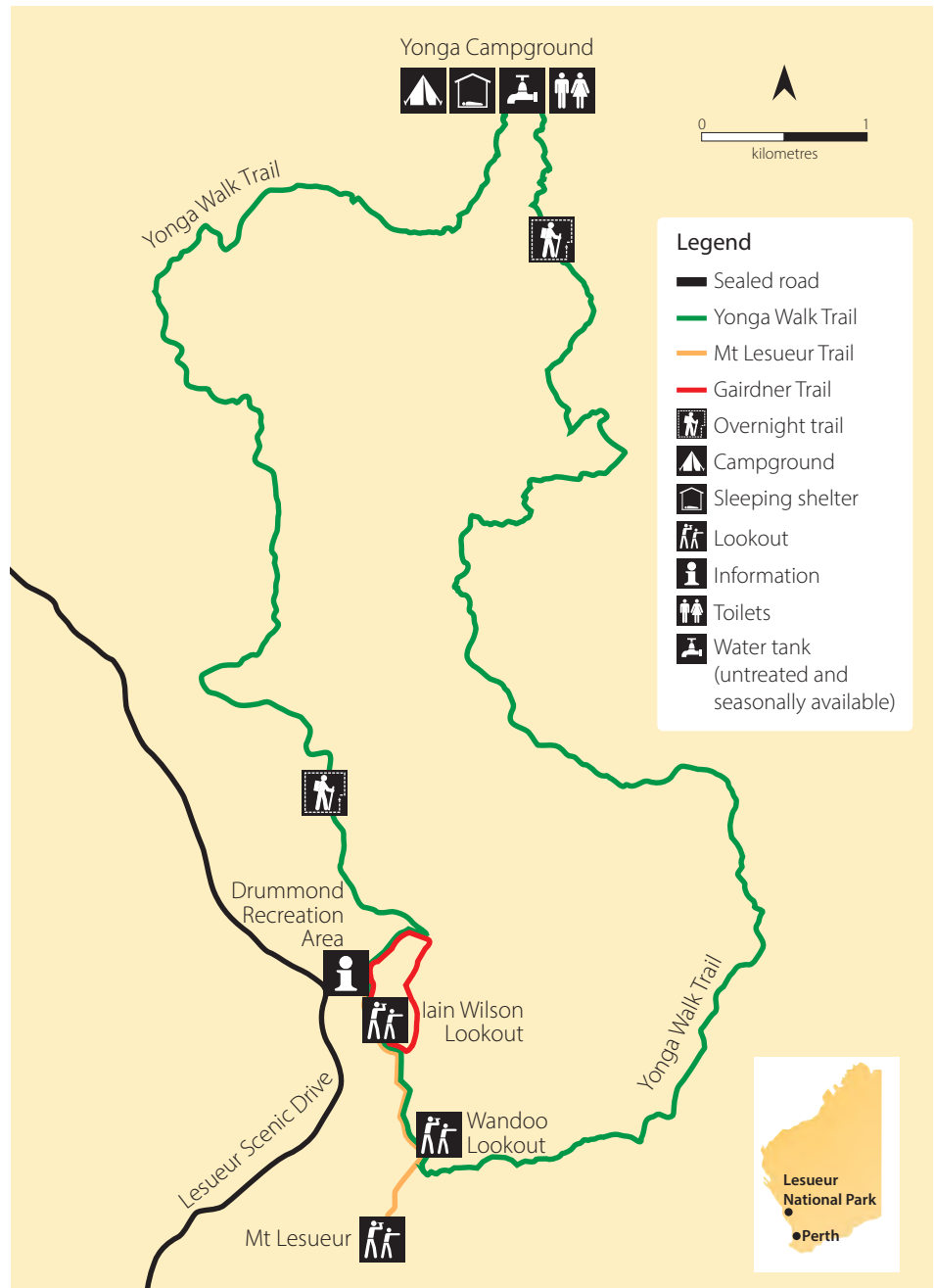
Nearby, an untreated rainwater tank provided water to boil, while wonderfully clean toilet facilities prevented the need to use the shovels we'd brought for a bush loo.

### HOMEWARD BOUND

Next morning, we left camp, feeling a lot older and sorer than our spritely selves of yesterday and worrying how we'll fare making the next 12 kilometres with heavy packs.

But once we got walking, we found our groove and were again amazed by the diversity of landscapes.

Another misreading of signs near the end of the walk added another couple



of kilometres—a brutal addition at this late stage—but by the time we reached the carpark we were chuffed, high-fiving and raving to passers-by about this highly enjoyable nature escape.


**Top** Carnaby's black-cockatoo (*Calyptorhynchus latirostris*).  
Photo – Jiri Lochman

**Right** Pink summer starflower (*Calytrix fraseri*).  
Photo – David Bettini



**Samille Mitchell** is a videographer, author, former journalist and regular contributor to *LANDSCOPE* magazine. She can be contacted at [samille.mitchell@dbca.wa.gov.au](mailto:samille.mitchell@dbca.wa.gov.au)



An underwater photograph of a southern right whale's head and eye, showing the characteristic white patches on its dark skin. The whale is swimming towards the right of the frame. The background is a deep blue-green color.

# Migration mysteries

Solving the puzzle  
of southern right  
whales' migration

An international team of scientists has joined forces to try to solve the mystery of southern right whale (*Eubalaena australis*) migration paths.

by Dr Emma Carroll, Dr Rob Harcourt, Dr Kate Sprogis,  
Dr Holly Raudino, Dr Kelly Waples and Dr Sahira Bell



**S**outhern right whales (*Eubalaena australis*) were once known as the ‘right whales to hunt’ because they were slow, approached boats, swam close to shore and floated when harpooned, but they are now the ‘right whales to study’. Southern right whales have been recovering slowly post-whaling both in south-western Australia, where they number several thousand, and in the more precarious south-eastern Australia population, which has only a few hundred. Commonwealth and State governments are joining forces and reviewing the current recovery plan actions to improve the trajectory and conservation status for the species.

One of the key gaps in knowledge remains around how southern right whales move through the Southern Ocean, in particular where they go to feed. This is

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*Previous page*

**Main** Southern right whale (*Eubalaena australis*) underwater view, Nuevo Gulf, Peninsula Valdés, Argentina.

**Above** Southern right whale and her young calf in the shallow protected waters of the Nuevo Gulf, Peninsula Valdés, Argentina, a UNESCO World Heritage site.

*Photos – wildestanimal/Adobe Stock*

fairly well known for some other whale species such as the humpback whale (*Megaptera novaeangliae*) that was also decimated by whaling but has since made a recovery more rapidly than the southern right whale. Scientists know southern right whales visit Australian shores in the wintertime to breed and calve but, come summertime, they disperse to deeper waters in the Southern Ocean. Humpback whales similarly migrate through Western Australian waters to breeding grounds along the north-west coast before migrating to Antarctic waters to feed over the summer months. However, scientists remain in the dark about where southern right whales travel to forage and the paths they use to get there. Moreover, there are populations of southern right whales that use New Zealand and its sub-Antarctic islands as calving areas, but it is not known if there is there any connection to the Australian population.

An international research team is joining forces to try to tease apart some of the mysteries of southern right whales across the Southern Ocean. The team includes Macquarie University, the University of Auckland Waipapa Taumata Rau, the University of Western Australia, the WA Department of Biodiversity,

Conservation and Attractions (DBCAs; Blackwood District, South Coast Region and Marine Science Program), and members of the Large Whale Disentanglement Team.

## TOHORĀ WHALE VOYAGES

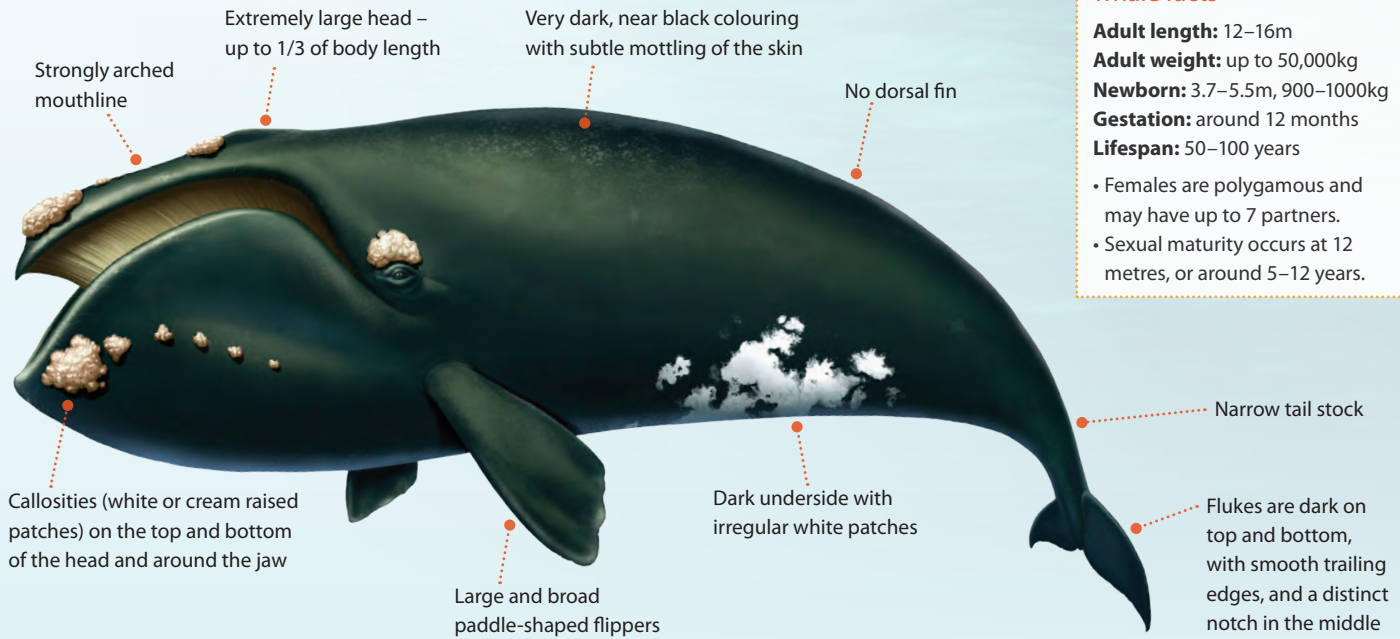
Associate Professor Emma Carroll from the University of Auckland initiated and leads the Tohorā Voyages research project that initially focused on southern right whales (tohorā is Māori for whale) in New Zealand waters. The project has so far included tagging of 25 whales with satellite transmitters in the Auckland Islands over the past three years.

“It’s really interesting to see the two mothers that were tagged in July 2022 stayed longer around the islands than the adult other whales, which started migrating into the Southern Ocean after a couple of weeks,” Dr Carroll said in September.

“Some of the whales we have tagged off New Zealand are actually going towards the south-west coast of Australia, and so perhaps are mixing with the Australian population.”

It was not until late September 2022 that the team saw ‘Whitu’ an adult male southern right whale, that was tagged

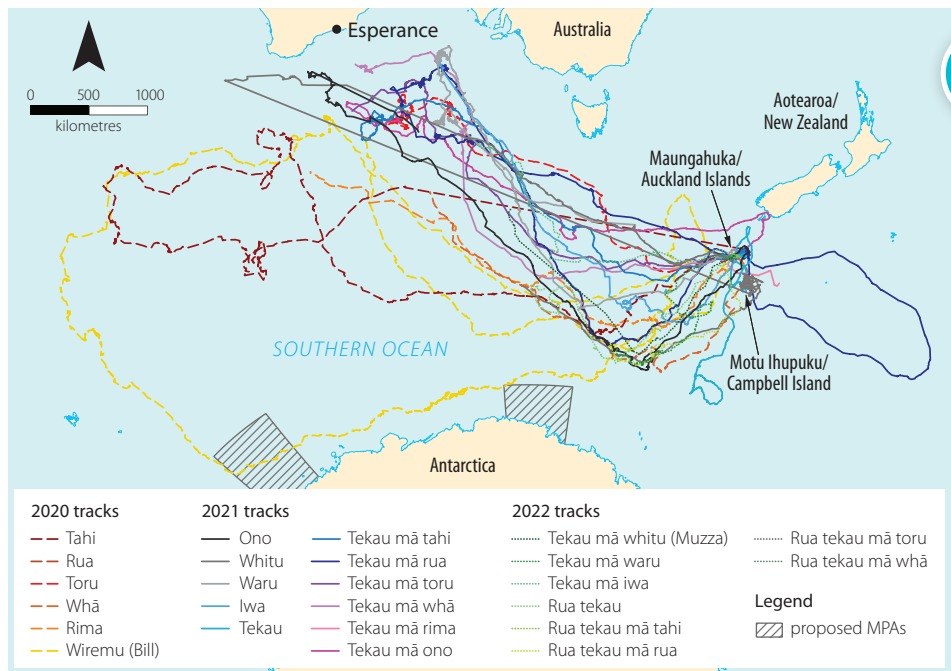
# Southern right whale (*Eubalaena australis*)



**Incredible southern right whale facts**

**Adult length:** 12–16m  
**Adult weight:** up to 50,000kg  
**Newborn:** 3.7–5.5m, 900–1000kg  
**Gestation:** around 12 months  
**Lifespan:** 50–100 years

- Females are polygamous and may have up to 7 partners.
- Sexual maturity occurs at 12 metres, or around 5–12 years.



Discover more about southern right whales

Scan this QR code or visit Parks and Wildlife Service's 'LANDSCOPE' playlist on YouTube.



**Above** Tracks of southern right whales tagged at Auckland Islands (data as per 8 August 2022).

**Right** Kirsty Alexander (Large Whale Disentanglement Team), Tim Button (DFCA Albany), Rob Harcourt (Macquarie Uni), Nick Gales (Australia's IWC Commissioner) and Kate Sprogis (UWA Albany).

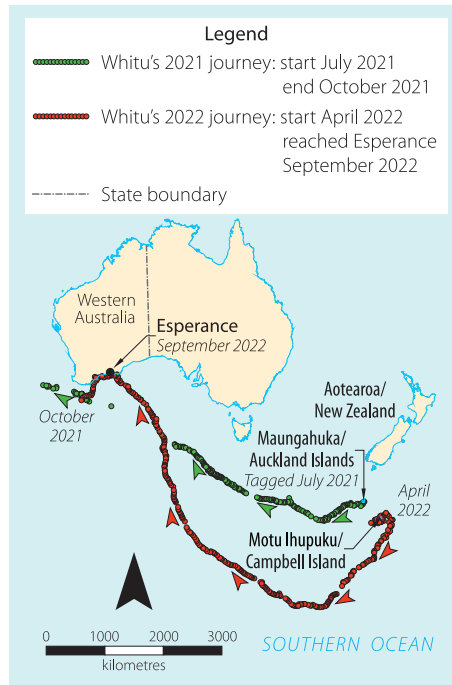


**Far right** Mottled southern right whale off Augusta.  
 Photos – Kate Sprogis



**White or grey whales—it's all in the tone**

Several 'white' southern right whale calves have been reported off the WA coast in areas like Albany, Cheyne Beach, Bremer Bay and Geographe Bay. These 'white' calves have grey colour morphism rather than being truly albino (unable to produce the pigment melanin) or leucistic (absence of cells in the skin that contain and produce melanin). The grey morph pigmentation is thought to be caused by less of these pigment-producing cells and therefore reduced pigment in the skin. The calves' skin typically darkens with age and they likely become adults with mottled or lighter black compared to other right whales. 'White' southern right whales occur near WA shores every winter, and receive a lot of attention from people trying to see them. Because of this, these 'white' whales can become harassed from jet skis and vessels. As they are considered special interest whales, to reduce disturbance it is recommended to keep a distance greater than 500 metres.



**Above** Aerial view, southern right whale and her rare 'white' calf in the shallow, protected waters of the Nuevo Gulf, Valdes Peninsula, Argentina.

*Photo – wildestanimal/Adobe Stock*

**Far left** Southern right whale tail.

*Photo – Pablo/Adobe Stock*

**Left** Map of the 10,000-kilometre migratory voyage of 'Whitu' the southern right whale, which was tagged in the subantarctic Auckland Islands in July 2021.

*Opposite page*

**Above** Southern right whale breaching, Nuevo Gulf, Valdes Peninsula, Argentina, a UNESCO World Heritage site.

*Photo – wildestanimal/Adobe Stock*

**Inset** Skin samples for stable isotopes and genetics.

*Photo – Kate Sprogis*



in July 2021, actually reach the coast of Australia. Whitu travelled to Esperance and west along the coast past Point Ann and Bremer Bay. This surprised the team as all other whales that were tagged in New Zealand remained in deeper waters in the Southern Ocean and never came to the Western Australian coast. Whitu has now completed a 10,000-kilometre journey and headed offshore again into the Southern Ocean. The name Whitu means ‘seven’ in the Māori language, and he was the seventh whale tagged as part of the project.

## SKIN SAMPLES PROVIDE CLUES

In addition to tracking, the team are also using other tools to better understand the southern right whale population. Scientists have been collecting small skin samples from the whales in New Zealand and Australia. So far, the research team, with support from DBCA, have collected several samples from the south-west and southern coast.

Macquarie University’s Honorary Professor Robert Harcourt said the samples could answer a whole raft of questions about the whales. Previously, only 17 biopsy samples had been obtained and this was one whale generation ago in the early 1990s. Gaining new and up-to-date information is crucial to understanding more about these whales.

“These tissue samples give us an amazing insight into their lives—we can tell what sex the whale is, look at genetic

similarities to the south-eastern Australian and New Zealand whales, and determine whether the whales are eating similar diets,” he said.

Southern right whales feed on small zooplanktonic crustaceans called copepods. They also may be feeding on krill, but to what extent is unknown.

## PHOTOGRAPHING WHALES TO MATCH INDIVIDUALS

Individual whales can be identified based on the pattern of their callosities on the top of their head. Each pattern is unique, and is akin to a human’s fingerprint. Callosities are thickened skin made of keratin, the same substance as human fingernails. Scientists across Australia photograph these callosity patterns from small drones or planes and

add the head shots to the Australian Right Whale National Photo Database ([data.marinemammals.gov.au/arwpc](http://data.marinemammals.gov.au/arwpc)). Researchers can then build up sighting histories of individuals to understand their movements between areas. By using all these techniques (satellite tagging, tissue sampling and photo-identification) more of the pieces of the puzzle can be put together. Building a big picture of how southern right whales use Australian State and Commonwealth waters will contribute to aiding in the recovery and conservation efforts for the species.

For more information on southern right whales, this international research program and to see the latest tracks of southern right whales tagged please see [Tohoravoyages.ac.nz](http://Tohoravoyages.ac.nz)

**Dr Emma Carroll** is an Associate Professor at Auckland University | Waipapa Taumata Rau who leads the research project Tohorā Voyages off New Zealand. Emma can be contacted at [e.carroll@auckland.ac.nz](mailto:e.carroll@auckland.ac.nz)

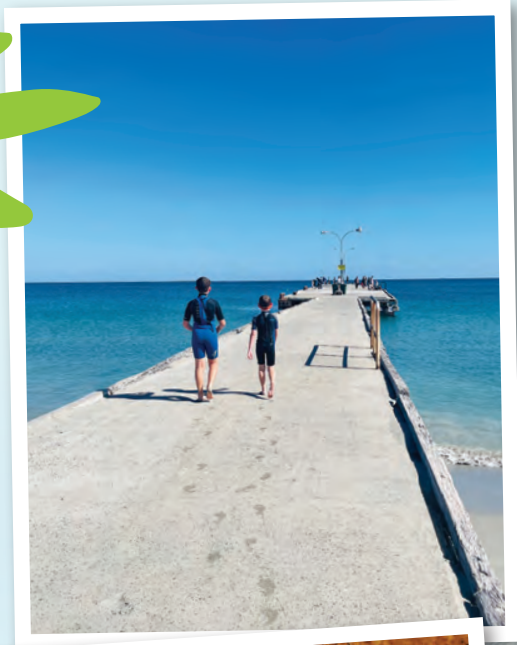
**Dr Rob Harcourt** is an Honorary Professor at Macquarie University in marine science. Rob is head of the Marine Predator Lab, specialising in marine conservation, marine ecosystems, animal behaviour and ecology. Rob can be contacted at [robert.harcourt@mq.edu.au](mailto:robert.harcourt@mq.edu.au)

**Dr Kate Sprogis** is a Marine Mammal Scientist whose research has focused on dolphins and whales off Western Australia. Kate is based at The University of Western Australia, Albany campus and can be contacted at [kate.sprogis@uwa.edu.au](mailto:kate.sprogis@uwa.edu.au)

**Dr Holly Raudino** is a Senior Research Scientist in the DBCA Marine Science Program focusing on threatened species in WA, particularly population size and distribution and applying this research for conservation and management outcomes. She can be contacted at [holly.raudino@dbca.wa.gov.au](mailto:holly.raudino@dbca.wa.gov.au)

**Dr Kelly Waples** is a Principal Scientist in the Marine Science Program at DBCA with a background in marine mammal behavioural ecology and conservation management. She can be contacted at [kelly.waples@dbca.wa.gov.au](mailto:kelly.waples@dbca.wa.gov.au)

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# Every Kid in a Park

Spending time in nature as a child has the power to build resilience, improve mental health, improve risk assessment skills and build confidence. Nature Play WA is working with families and industry professionals in the disability community with their *Every Kid in a Park* program to support families of children of varying abilities to access and enjoy spending time in parks in Western Australia.

by Nicole McNamara





**W**estern Australia's unique natural areas are some of the State's greatest assets, and Nature Play WA is on a mission to connect WA kids with the amazing outdoors. The collaborative not-for-profit organisation works with partner groups to encourage the WA community to value nature play and for families to prioritise it.

*Every Kid in a Park* is a project that came about after months of collaboration with industry professionals and families living with disabilities. The studies have led to the conclusion that WA families of varying abilities would experience significant mental and physical health benefits from increased time spent in nature.

The studies also showed that WA families living with disability face increased barriers to participating in nature activities and there is strong support from the disability services and disability advocacy community for a program with the aim of supporting families living with disability to enjoy increased access to nature.

Following on from this, WA families living with disability identified three primary elements that would improve their engagement with nature—increased accessibility infrastructure, increased information about accessible opportunities to engage with nature and the delivery of inclusive events in nature.

As a result, the *Every Kid in a Park* project was born.

## EVERY KID IN A PARK

Nature Play WA partnered with the Department of Biodiversity, Conservation and Attractions (DBCA) to connect WA kids with the outdoors and support families of children of varying abilities in accessing and enjoying nature.

Each month, information, photos and resources are shared via the website, Facebook and Instagram (@natureplaywa), and the *Every Kid in a Park* app to assist families in learning about, getting to and exploring parks in WA.

The fun and interactive nature play resources are designed in an accessible format and can be used by families in local parks, nature reserves, beaches and national parks.

Resources are developed in collaboration with industry experts, local communities and Aboriginal Elders and include an accessible nature guide, social stories, stories of Country and park review videos.

The free app is available through the App Store and Google Play Store and includes each 'park of the month' location, links to resources and access to a unique discount code for *Every Kid in a Park* participants.

All content within the app is designed in an accessible format using voiceover and image descriptions. The app platform incorporates key elements of accessibility through an inclusive mobile tour and audio

### Previous page

**Main** A family taking a walk along a trail in Mundy Regional Park. *Photo – DBCA*  
**Inset, clockwise from top left** Kids walking along Ammo Jetty in Woodman Point Regional Park. *Photo – Nature Play WA*; Enjoying the views at Ngirribungunha (Dales Gorge), Karijini National Park. *Photo – DBCA*; Wheelchair users were able to access Cabaret Cave for the *Every Kid in a Park* event at Yanchep National Park; Participants learnt about Aboriginal Culture with Derek Nannup at Yanchep National Park; Participants enjoyed Derek playing the didgeridoo in Cabaret Cave, Yanchep National Park.

**Above left** Families making their way to the beach through John Graham Reserve, Woodman Point Regional Park.  
*Photos – Nature Play WA*

**Above right** Enjoying the views at Jijingunha (Joffre Gorge), Karijini National Park.  
*Photo – DBCA*

guide, with an interactive map showing users GPS locations and nearby points of interest.

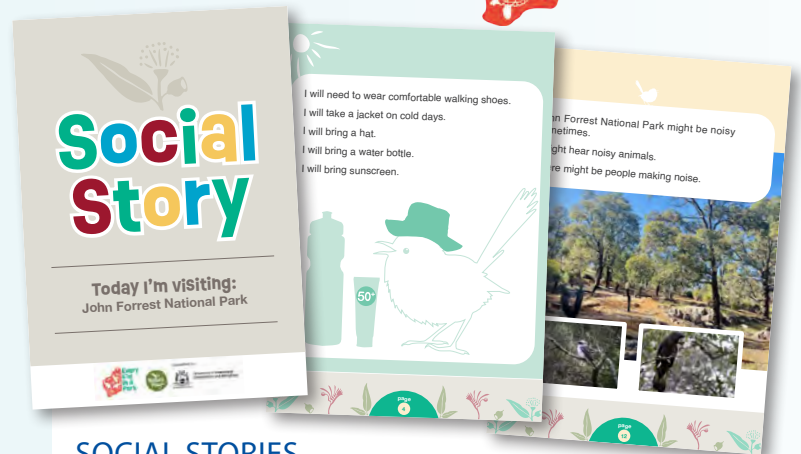
Users of the app are also able to access an interpretive trail in each activated park. These trails use GPS coordinates to highlight five to ten stops along a walk trail. Each stop provides park-specific content including photographs and historical or cultural information where possible.

## Every Kid in a Park resources



### ACCESSIBLE NATURE GUIDE

Featuring information about recreation activities, location of key amenities and a communication board to assist families where communication support is useful. A sensory guide provides details on sensory elements of key experiences at the park.



### SOCIAL STORIES

Social stories are developed to help explain social situations to children and adults with autism spectrum disorder, intellectual disability, developmental delays and learning challenges. This resource helps people of all abilities to plan and prepare for their visit to the national park by explaining what they can expect on the day of their visit.



### STORIES OF COUNTRY

Each activated park has a focus on the important and ongoing connections between Aboriginal cultures and the natural world (Country). Nature Play WA is working with local Aboriginal Elders and representatives around the State to learn more about their connection to Country through stories and illustrations, known as Stories of Country.

We hope to play a small part in helping WA families recognise and appreciate the diversity, richness and beauty of Aboriginal cultures and their deep connection to our natural world.



### PARK REVIEW VIDEO

Nature Play WA staff understand the importance of working with kids to understand their needs when visiting the outdoors. By connecting with local families, we share a filmed interview with a local kid on what they like about the park. This video is shared on our social media website.

Main Woodman Point Jetty. Photo – Nature Play WA

Top left McNess House Visitor Centre, Yanchep National Park. Photos – DBCA

Top right Pages from the John Forrest National Park Social Story.

Above left Cultural events held at Yanchep National Park in June 2022. Photo – Nature Play WA

Above right A filmed review by Felix at Canning River Regional Park.



### **Every Kid in a Park events**

“We loved attending the *Every Kid in a Park* event at Yanchep. It is difficult to find places that both our sons can enjoy together, given one of them needs help with accessibility. We find getting out to national parks a bit hard given there are steps/sand/dirt involved, and appropriate changing rooms are hard to come by. At the same time, activities we take the boys to need to be age-appropriate. The didgeridoo was a huge hit with both the boys, and the darkened cave was perfect for our son with low vision. Walt loved the sensation of having his face painted, and Gus thought the visit by the koala was brilliant. There was something for all the kids, regardless of ability. We will definitely be keen to attend the next project.”

– *Every Kid in a Park participant*



## **PARK OF THE MONTH**

Each month Nature Play WA shares a ‘park of the month’ location around Western Australia with *Every Kid in a Park* audiences. Information is promoted through the Nature Play WA website and social media and *Every Kid in a Park* app, and features photographs, resources, and key overview and biodiversity information on the selected park.

Family-friendly resources are developed in collaboration with Parks and Wildlife Service staff, exploring things to do and connecting with WA’s rich cultural values through storytelling and illustrations.

Four activated parks each year are highlighted further with additional resources providing relevant information on accessibility, with the hopes of providing families with tools and support when planning their visit.

## **INCLUSIVE EVENTS**

Accessible and inclusive events are a part of the project and held at each

activated park. In collaboration with Parks and Wildlife Service and local groups, Nature Play WA delivered a series of events in June 2022, exploring the unique biodiversity and cultural importance of Yanchep National Park. Each of these events was wheelchair friendly with all ages welcome.

The first event, Nature’s Wonderland, opened with a Welcome to Country by Derek Nannup, which officially launched the fun at Yanchep National Park. Nature’s Wonderland was a unique opportunity for families to explore Cabaret Cave, with a special entry open for wheelchair users.

Families explored the cave formations while enjoying several activities including Aboriginal face painting, fairy crown making, boomerang and tapping stick making and an opportunity to hear Derek Nannup play the didgeridoo.

Events and activations will be happening throughout the year, so if you have any questions or to get involved in *Every Kid in a Park*, visit the Nature Play WA website [natureplaywa.org.au](http://natureplaywa.org.au).

**Top left** Face painting at the event in Cabaret Cave, Yanchep National Park.

**Top right** Derek Nannup shared his knowledge, passion and humour with *Every Kid in a Park* participants in Yanchep National Park.

**Above** Participants were given the opportunity to get up close and personal with some interesting creatures found in Yanchep National Park.

**Below** Cabaret Cave was a great place to launch the events at Yanchep National Park. Photos – Nature Play WA



**Nicole McNamara** is a Project Manager with Nature Play WA. She can be contacted at [nicole@natureplaywa.org.au](mailto:nicole@natureplaywa.org.au)



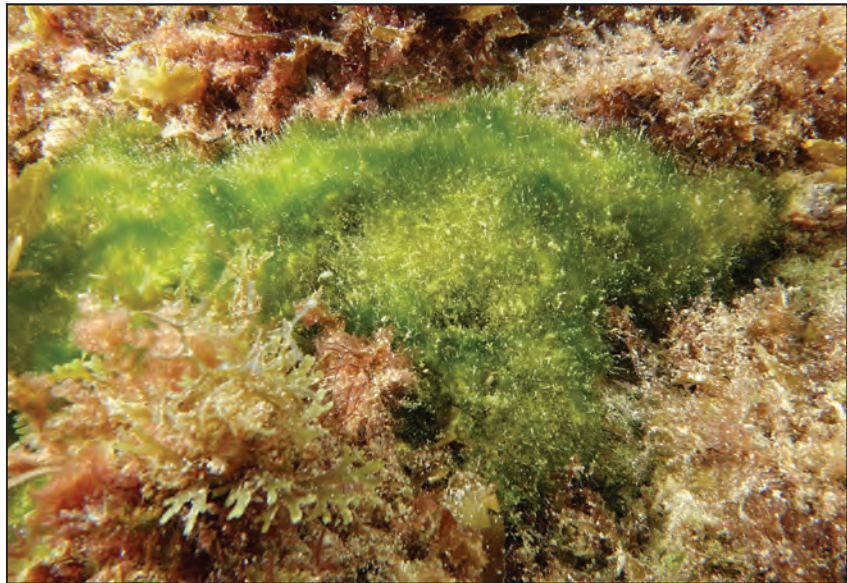




Students of seaweeds learn that there are essentially three major groups—the green, brown and red, usually separated clearly by their colour.

But rarely encountered is a fourth group, the ‘yellow-green algae’ more formally known as the Class Xanthophyceae. This small but diverse group includes more than 100 genera and about 600 species, but most are freshwater or terrestrial, with very few marine species. Several morphological types can occur, including simple filamentous forms and single cells that can sometimes aggregate into colonies. From an evolutionary perspective, they are most closely related to the brown algae, but they lack the brown pigment fucoxanthin and therefore appear green or yellow-green due to the presence of chlorophyll a. How then do you then tell them apart from the green seaweeds? It can be difficult, but the green algae produce starch as their carbohydrate reserve, whereas the yellow-green algae do not. Using an appropriate stain can highlight the presence of starch, and this can be used to distinguish the green from the yellow-green algae.

One of the more distinctive yellow-green algae is the genus *Vaucheria*, which forms velvety mats in a variety of habitats, including wet soils, freshwater streams, and brackish waters. A few species also occur in fully marine environments, but these are relatively rare and historically there have been no records of marine *Vaucheria* in Western Australia. A few years ago, during my regular visits to Cape Peron, I noticed an unusual, vivid green mat growing on the sand in gaps between the rocky reef. I collected a small portion and under the microscope it was recognisable as a species of *Vaucheria*, representing the first marine record of the genus for Western Australia. Establishing a species identity was not so straightforward, as doing so relies on observing the sexual reproductive structures and these were absent from the plants. However, *Vaucheria* can be compliant. Placing it in what is known as ‘crude culture’, essentially in a container with plain seawater and leaving it for a



## *Vaucheria*, a yellow-green seaweed

week or so, seemingly stresses the plant and it responds by producing male and female gametes. Based on the reproductive structures, the Cape Peron plants appeared to be closely related to what is regarded as a widespread species, *Vaucheria longicaulis*, but there were subtle differences that warranted further attention. Could this be a new species?

At this stage an article appeared that reported *Vaucheria longicaulis* from the shores of the Wadden Sea, in the cold North Sea just south of the Danish-German border. The Wadden Sea population was described as invasive by the authors, introduced by ships or with the shellfish industry. DNA sequence analyses of our Cape Peron specimens, undertaken by Heroen Verbruggen at the University of Melbourne, indicated that it was the same species as the Wadden Sea *Vaucheria*. Could this mean that the Cape Peron population is a potentially invasive introduction? The species has been observed during recent visits to Cape Peron and appears to be more common,

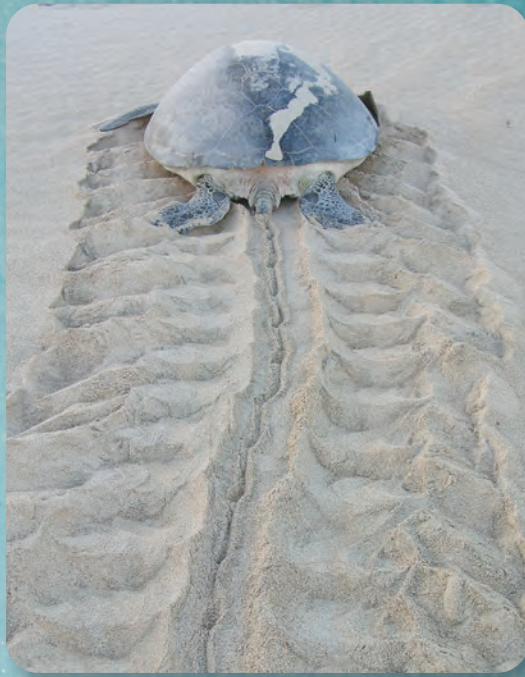
**Above** The newly discovered *Vaucheria* forming a turf mixed with other seaweeds.  
*Photo – Dr John Huisman*

but whether this is a consequence of more attentive searching is not known. And as always, there are potential complications. While the analyses have demonstrated that the Cape Peron and Wadden Sea plants are the same species, are they in fact *Vaucheria longicaulis*, a species that was first described from Elkhorn Slough, on the coast of California? DNA sequences from authentic specimens from that locality are not available, but Kerstin Wasson, the Research Coordinator at Elkhorn Slough, kindly offered to collect specimens. The results of DNA analysis of these specimens will confirm whether the Cape Peron species is indeed *V. longicaulis*, or an undescribed species that is also found in the North Sea. Whatever the outcome, I will certainly be keeping a close watch on the species whenever I visit the Cape.

Seasonal knowledge of  
***Nynggulu coastal  
peoples***

The Baiyungu,  
Yiniguurdira  
and West Thalanyji,  
north-west Australia





Drawing on thousands of years of traditional ecological knowledge, a cultural seasonal calendar has been developed by Nyinggulu (Ningaloo) Coast Traditional Owners and WA's Parks and Wildlife Service that collates and compiles the cultural understanding of how the seasons change by looking at signals in nature.

**by Hazel Walgar and Felicity Kelly**

First Nation's people have had an ongoing connection with the Nyinggulu (Ningaloo) Coast spanning more than 50,000 years. The Nyinggulu Ganyarjarri (the people who belong to the Ningaloo Coast) have a deep understanding of the Thanardinyungjarri (the seasons of Nyinggulu) and how they influence ngarrari (land) and thanardi (sea) country.

Traditional Owners from the Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC) and the Parks and Wildlife Service at the Department of Biodiversity, Conservation and Attractions (DBCA) have been working together on the creation of a seasonal calendar that represents traditional ecological knowledge of the Nyinggulu (Ningaloo) Coast.

Understanding the seasons of Nyinggulu has sustained Traditional Owners for thousands of years, providing them with food, water, medicine and trading goods. Traditional ecological knowledge has been passed down from generation to generation.

.....  
*Previous page*

**Main** Mauds Landing, Coral Bay.

**Inset clockwise from left** Gujawari (whale shark) swimming in Ningaloo Marine Park.

*Photos – Tourism WA*

Majun (turtle) returning to the ocean.

Peter Austin sitting with Ehan Cooyou and Hazel Walgar providing linguistic assistance.

*Photos – DBCA*

Gujanganhunghu (black-flanked rock-wallaby) at Yardie Creek, Cape Range National Park.

*Photo – Tourism WA*

Bush tomato (Yardie morning glory).

*Photo – John English*

**Above** One last workshop to finalise the calendar.

*Photo – DBCA*



**“Understanding the seasons of Nyinggulu has sustained Traditional Owners for thousands of years, providing them with food, water, medicine and trading goods. Traditional ecological knowledge has been passed down from generation to generation.” Hazel Walgar**

## COMING TOGETHER

For Baiyungu Traditional Owner Hazel Walgar, developing the seasonal calendar was a long awaited dream.

“Baiyungu people have known the changes through the season by understanding the movements and cycles of animals and how the flowering and fruiting of particular plant species signal the right time to hunt and gather as the seasons change,” Hazel said.

“This traditional knowledge has been passed down from generation to generation. I am happy to be sharing this with the younger generation.”

The Nyinggulu Seasonal Calendar began as a brainstorming session on a whiteboard in the back office of Cardabia Homestead back in 2018. Over three years, a series of focus groups and community workshops were held in Exmouth, Carnarvon and Cardabia Station, bringing Baiyungu and Thalanyji Traditional Owners together to collate and compile traditional ecological knowledge of the Nyinggulu Coast.

Dr. Emma Woodward from CSIRO, who has experience in assisting Traditional Owners in their knowledge into a seasonal calendar wheel format, has made an invaluable contribution to this project.

Emma worked closely with the Traditional Owners to turn their traditional ecological knowledge into the wheel format displayed in the Nyinggulu Seasonal Calendar.

“I was excited from the outset to support Traditional Owners to document and compile their ecological knowledge into the Nyinggulu Seasonal Calendar as I could see the calendar’s potential in raising awareness of the role of Traditional Owners, and their strong ecological understanding of Country, in the active management of this highly visited World Heritage region,” Emma said.

“Also, the process of creating the calendar enabled different knowledge systems to come together—with DBCA staff sharing their specific knowledge of migratory birds with Traditional Owners; and Traditional Owners sharing detailed cultural knowledge of plant use in a true demonstration of two-way learning exchange of knowledge.”

## WHEEL OF KNOWLEDGE

Through the development of the calendar, linguistic researcher Peter Austin joined one of the focus group workshops at Cardabia and provided language support throughout the project’s development. Peter has a long history of working with

Discover more about Ningaloo’s cultural values

Scan this QR code or visit Parks and Wildlife Service’s LANDSCOPE playlist on YouTube.



**Top** Baiyungu Traditional Owners and Dr Emma Woodward from CSIRO reviewing the Nyinggulu Seasonal Calendar.

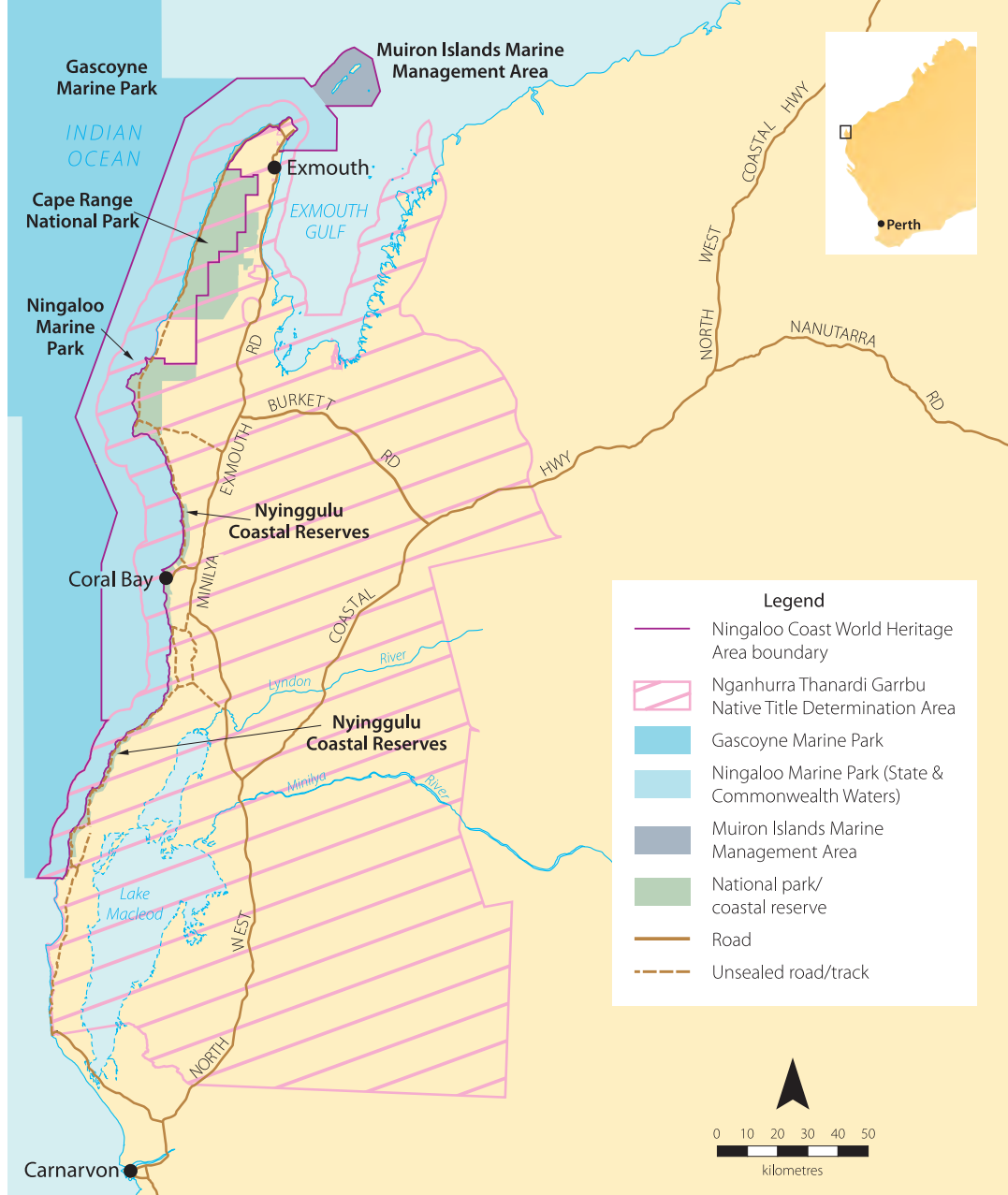
**Above** The Nyinggulu Seasonal Calendar in its early stages.  
Photos – DBCA

**Below** Turquoise Bay, Ningaloo Marine Park.  
Photo – Tourism WA

Baiyungu and Thalanji language groups, with some of his earliest work dating back to the 1970s.

The calendar features everything from the iconic species such as whale sharks, humpback whales and manta rays right down to some of the lesser known but extremely important creatures like the burrowing bee, ghost crab and migratory shorebirds. These are all interconnected and hugely important to Traditional Owners.

Many of the features convey the outstanding universal value (OUV) of the Ningaloo Coast World Heritage property and is a great way to highlight the inherent link between natural and cultural values. The depth of knowledge contained within the Nyinggulu Seasonal Calendar is a testament to a genuine joint management relationship between Traditional Owners and the State government on the Nyinggulu Coast.



# Thanardinyungjarri - Nyinggulu seasons

## Nyarlba – spring time

(August, September, October, November)

It is the birthing season, wildflowers are blooming, attracting the jarabarndi (burrowing bee) and nyabarra (ants). The flowers and the ants attract nganaraji (thorny devil) and jirribarri (echidna). Following the winter rain there is plenty of food and land animals are fat. There is also plenty of coastal food available.

Munungu (green parrot fish) are fat now and easy to spear when they come in on the tide to feed. Guwirda (quandong) are ripening: they are good for turkeys, emu and people.

Ghost crabs are important to Traditional Owners. We collect them to make our own traditional burly.

Jarabarndi burrowing bees nesting time is now, Nyarlba season. They nest mostly in salt marsh areas close to sandhills. Their main food source is the bluebell flower, the queen bee lays an egg, which forms into a grub old people dig and eat, it's very high in protein and vitamins. We call it nyiburda.



4)

1)



2)



3)

Nyarlba (spring time)

Bulhuwanguli (cold time)



## Bulhuwanguli – cold time

(June, July)

The easterly wind is blowing—it is very cold and the air is dry. Now we turn to the land for food. Warnan (the winter rain) is a good source of nutrients for the thanardi (the ocean). Bilarna wanggayi clouds are talking, and walybara chain lightning big rain is coming, all living creatures on Country prepare themselves.

A favourite time for us is a few weeks after a good rain: the Country is green, there's plenty of food and it's time to go hunting.

Gagula (bush bananas) grow up after the rain, and bardurra (turkeys) and bunggurdi (kangaroos) are nhulgan (fat): red kangaroos fatten first as the 'blues' are carrying young.

Nyinggulu jurirri (pointy-nosed emperor), ngarrara (spangled emperor) and wuruwuru (bluebone) are fat.



5)



6)

*This page*

- 1) Cumulonimbus clouds bring rain. Photo – Len Stewart/Lochman
- 2) Jarabarndi (Dawson's burrowing bee). Photo – Jiri Lochman
- 3) Mulla mulla. Photo – Matt Prohet
- 4) Ghost crab. 5) Kangaroo with joey. 6) Humpback whale. Photos – DBCA

*Opposite page*

- 7) Grey plover (*Pluvialis squatarola*). Photo – Jiri Lochman
- 8) Majun (turtle) hatchlings. Photo – Meghan Segers
- 9) Gagulara (bush tomatoes). Photo – DBCA
- 10) Gujawari (whale shark).
- 11) Gajalbu (emu) at Cape Range National Park. Photos – Tourism WA



7)

## Thubayurri – hot time

(December, January, February)

The visiting shore birds that come to Nyinggulu, they are referred to as garrbarajarri gayirrinynunghu, they come from long way, and they travel at night.

This is the hottest season, jirri (mirages) are seen on the horizon. Hot easterly and south-westerly wabirri (winds) blow. It is the start of the cyclone season: cyclones bring rain and life. It is the mating season for many animals. The life cycle begins... We watch for wabagu (eagles) along the roadside and look after them by moving any roadkill into the bush. Eagles are an important totemic species, and mate for life.

Coastal Aboriginal people have a strong connection with wilarra (the moon) and the tides. The tides tell us what's happening on Country and tell us when it's the right time for fishing and hunting. Wilarra also shows us future weather: a halo around wilarra tells us that he is holding the moisture and that a long hot summer can be expected.

Wilarra thunthumurdu ngurndayi: small moon, best time for hunting and collecting on the reef, especially at night.

Our Aboriginal astronomy is the star of our dreamtime story. Baiyungu, Yinigurdira and Thalanyji people have deep connection to astronomy. It guides us on what food is available at every stage of the year.

Majun (green turtles and loggerhead turtles) are nesting.



8)



## Biyardi – warm and dry time

(March, April, May)

Gajalbu (emus) are mating, so don't hunt them. If there is no food around, they will put mating on hold. Male gajalbu are building up their strength—becoming fat—ready for sitting on the nest and then taking care of wimbiljarri (chicks). Thurru (caterpillars) travelling in lines tell you gajalbu are laying gawungga eggs.

Gajalbu are hatching. Thalu is an increase site where gajalbu become plenty. Gajalbu will always return to their dreaming place with their wimbiljarri (young chicks).

Bardurra (turkeys) are laying eggs. Dugongs are birthing and are resting in the Exmouth Gulf (nursery ground).

Large coral spawning events occur in accordance with the moon. The Old People used to do traditional burning at the right time, reading Country to know when to burn. Fire is important in the cycle of life and renews Country.

Turtle eggs are hatching. Gagulara (bush tomatoes) are eaten by bardurra (turkeys) and gajalbu (emus) throughout the year.

The ocean is nourishing and there is plenty of food for our visitor gujawari (whale shark). Many juvenile males visit Nyinggulu.

Pink-red algal slicks can be seen on the ocean.



9)



11)



10)

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# Rover Task Force:

## improving riding and volunteering experiences on the Munda Biddi

story and photos by Oliver Laing

**Since 2020, the Munda Biddi Trail Foundation's Rover Task Force has been helping the Department of Biodiversity, Conservation and Attractions (DBCA) to improve the much-loved long-distance off-road cycling trail. The task force, inspired by the Bibbulmun Track Foundation's Support Volunteers program, brings a more collaborative approach to the maintenance of the Munda Biddi Trail.**

**S**ince the inception of the Munda Biddi Trail Foundation's Rover Task Force in 2020, there have been 16 separate deployments along the Munda Biddi Trail, from flagging and building new singletrack around the Kalamunda Circuit, to widening the trail corridor with brush cutters and chainsaws north of Collie. The creation of the task force was inspired by the Bibbulmun Track's Support Volunteers program and brings together volunteers with dynamic skillsets to maintain the trail that stretches more than 1000 kilometres from Perth to Albany.

The team has been instrumental in several initiatives at the Munda Biddi Trail Foundation and has assisted with keeping on top of maintenance, rapidly pinpointing known issues and identifying future areas of the trail in need of some love.

The task force gives volunteers a sense of ownership and pride in the Munda Biddi Trail, at the same time as providing

an opportunity to learn new skills, meet new people, and spend time in parts of the south-west of Western Australia that they may not have been to—or may have zoomed through on a bike ride!

The Rover Task Force has logged more than 3000 hours of volunteer activity to improve the Munda Biddi Trail and delivered more than 15 kilometres of realignments. Working with DBCA's Recreation and Trails Unit and contractors, the task force adds value to the Foundation's volunteering experience and also gives added return on investment for the Foundation's stakeholders.

### LABOUR OF LOVE

The task force volunteers and Munda Biddi Trail Foundation staff spent more than a year engaged in a fine-grained trail audit to determine the ideal inspection frequency and maintenance requirements. With around 1060 kilometres of Munda



Biddi to survey, this was a detailed and time-consuming process. The team travelled along the Munda Biddi by foot, bike and in a convoy of cars, stopping frequently, taking photos, discussing problematic sections, and dreaming of an even better Munda Biddi Trail.

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*Previous page*

**Main** The start of the day's trail building near Mundaring Weir Road.

*Photo – Pippa Engledow*

**Inset** The success of the task force is down to the hard work and dedication of volunteers. James (left) has been juggling tools since day one and was ably assisted by Paul prior to his return to France.

**Top** A 'before' photo of a problem section near Logue Brook Dam.

**Above** Near Logue Brook Dam after Rover Task Force improvements. Drainage channel to left of picture ensures water does not collect on, or run down the trail.

**Above right** Trail building techniques vary depending on the terrain and topography.

Just as the surveys help the Foundation to optimise trail maintenance volunteers efforts, they also give the Foundation a more accurate idea of what is required. The process involves planning projects such as upgrading, and realigning sections to modern trail building standards, minimising erosion and ensuring that water runs off the trail.

While a 'skunk stripe' of muddy water up the back of a Munda Biddi rider is a mark of pride, no one really wants to chance a deep, unavoidable puddle, except riders whose support team is waiting with dry clothes and shoes at the next stop!

Prior to the Rover Task Force taking shape, the Foundation had a 'one size fits all' model of trail maintenance. The Munda Biddi is divided into 108 sections in five roughly 200-kilometre-long areas. The backbone of the organisation's volunteer program is the sectional maintenance volunteer, someone who can travel to (or lives near) their allotted section every three or so months to check out the trail condition.

Historically, sectional volunteers often worked alone, and this continues

to occur today, but the Foundation's staff and board realised that to enhance the volunteer experience, different types of trail maintenance experiences would assist in diversifying the volunteer demographic, help with retention and visitation and allow for larger and more complex projects to be undertaken.

## TRAIL HISTORY

The history of the Munda Biddi is long and winding, just like the trail itself. The kernel of an idea came from the Western Australian Mountain Bike Association (WAMBA) and other community members in the mid-1990s, as a mountain bike equivalent of the Bibbulmun Track.

While the nascent 'Friends of the Hardwood Trail' were no doubt focused on what an epic adventure such a ride could be, the social, health and economic benefits of a long-distance off-road trail for cyclists garnered support from the local shire councils along the potential route, as well as from the State Government and the regional development commissions.

With a name change to reflect the connection to Country of the Noongar

people, the first section of the Munda Biddi (meaning 'path through the forest') from Mundaring to Dwellingup opened to the public on 2 December 2002, with maps going on sale concurrently.

Knowledge about trail building techniques was not as easy to come by twenty years ago and the standards that are now in place to construct robust and long-lasting trails catering to different levels of riding experience were a few years off. The first northern section of the Munda Biddi, between Mundaring and Dwellingup borrowed fire roads and other trails and linked it together with small sections of singletrack where necessary.

This strategy worked well for the most part but even the most ardent supporter of the Munda Biddi would admit that some sections of the trail were brutally steep and loose, often 'fall line' alignments that were memorable for all the wrong reasons!

The climb out of the Helena Valley to Mount Gungin, only 10 kilometres into the trail from Mundaring, was a case-in-point. After a cruisy downhill run to the Mundaring Weir hotel, followed by some relatively level riding alongside the Helena River, riders were faced with an off-camber 'wall' that only the fittest, lightest-laden cyclists could manage to ride up.

When you next ride that section out of Helena Valley, make sure you give thanks to the Rover Task Force and DBCA for the new singletrack switchbacks that take (most) of the sting out of the steep sections, and for the new alignment just south of the Weir Hotel that now avoids Mundaring Weir Road and has fantastic views across to the dam wall.

Realignments have also occurred around Pickering Brook, the Canning River and through the Murray Valley—all of which have improved the Munda Biddi ride experience significantly.

**Right** The Rover Task Force also clears fallen trees on the Munda Biddi Trail.





## MAINTAINING MOMENTUM

While such improvements garner the attention of and gratitude from the riding community, the task force's remediation and maintenance work is equally important. A recent deployment to Yarri campsite and surrounding areas took the pressure off DBCA's Wellington district staff, (not to mention the sectional volunteer) to clear a couple of kilometres of dead Acacia saplings from the trail corridor following a prescribed burn.

Such work can take multiple visits, as every strong wind brings more derailleur-snapping sticks back into the ride line. Riders more than likely won't even know the task force has been there after a few days, but the memories of doing a great job with a like-minded team remain strong for the Rover Task Force volunteers.

## WHAT'S NEXT

The Foundation has plenty more task force deployments in the pipeline, which occur from March to November each year. The Foundation is looking for people with, or willing to learn, skills including trail building, landscaping, basic carpentry, and construction.

Deployments of task force teams have so far been limited to one day but, on more complicated, longer projects or those further from Perth, multiple-day deployments are likely. It's a great way to learn new skills and meet like-minded people. Projects are advertised to prospective task force members via email and social media, and you can tailor your volunteering experience to suit your schedule, plus have the satisfaction of riding an improved section or alignment that you contributed to!

**Above left** Trail remediation near One Tree Bridge; the ride line had ended up on the right of picture. The trail corridor was taken back to its original alignment.

**Above right** Near Yarri campsite—the end of the day, and the team is still smiling!

**Below** Ready to ride!  
Photo – Pippa Engledow



**Oliver Laing** is the Munda Biddi Trail Foundation's Executive Officer. He can be contacted at (08) 6186 6995 or [admin@mundabiddi.org.au](mailto:admin@mundabiddi.org.au)

To get involved with volunteering for the Munda Biddi Trail Foundation, visit [mundabiddi.org.au](http://mundabiddi.org.au)

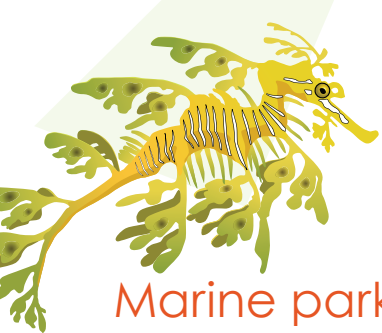
## How to get involved

The Munda Biddi Trail Foundation is always keen to recruit volunteers for sectional trail maintenance, Rover Task Force deployments and office and administration duties.

Training and support are provided and both individual and group trail maintenance are accommodated. Adopt a section with friends or enjoy the solitude of the bush while improving the trail.

Scan the QR code or visit [mundabiddi.org.au](http://mundabiddi.org.au) for more information.

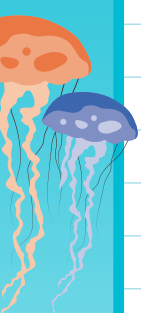




# Marine park word sleuth



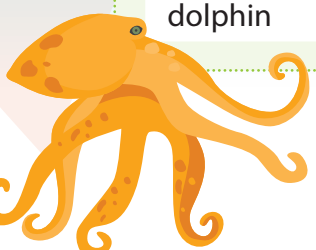
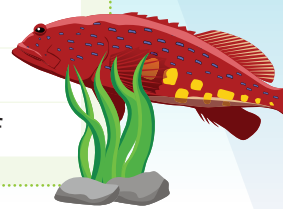
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w	n	r	a	r	e	n	i	h	p	l	o	d	l	o	u	s	f
h	e	t	i	t	u	r	t	l	e	s	o	f	f	g	u	l	l
a	m	n	s	n	s	e	a	s	t	a	r	o	n	w	e	a	o
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y	e	s	a	e	a	u	a	s	h	r	i	m	p	o	t	i	d
r	f	r	m	m	a	n	g	r	o	v	e	u	g	f	l	m	e
a	t	o	s	q	u	i	d	r	k	e	a	a	r	s	a	f	r
u	e	h	s	s	a	r	g	a	e	s	r	u	o	n	r	l	p
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p	e	l	i	c	a	n	o	c	t	o	p	u	s	b	a	r	c



The following animals, plants and activities can be found in marine parks. Find them in the word sleuth:



anemone	flounder	lobster	sail	shark	surf
clam	gull	marine parks	sanctuary	shipwreck	tern
crab	island	moray eel	sea lion	shrimp	urchin
cuttlefish	jellyfish	octopus	sea star	snorkel	weed
dive	kayak	pelican	seadragon	sponge	whale
dolphin	kelp	penguin	seahorse	squid	windsurf



LANDSCOPE's Kaleidoscope kids exploring nature page is an exciting regular feature for kids.



## *Grevillea pimeleoides*

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*Grevillea pimeleoides* occurs naturally in the jarrah and marri forests of the Darling Range, east and south-east of Perth in gravelly or clay loam. It is an unusual species because it does not look like a typical *Grevillea*. Instead it has attractive bright green leaves covered in fine hairs. The bright yellow flowers occur in clusters at the ends of the branches from winter to spring and change in colour as they get older, becoming darker and sometimes with tinges of red. Grevilleas are named after Charles Francis Greville, co-founder of the Royal Horticultural Society.

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Illustration by Gooitzen van der Meer

Reference photo by Fred and Jean Hort

# *Nature's pin-ups*

## GREETING CARD COLLECTION

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