

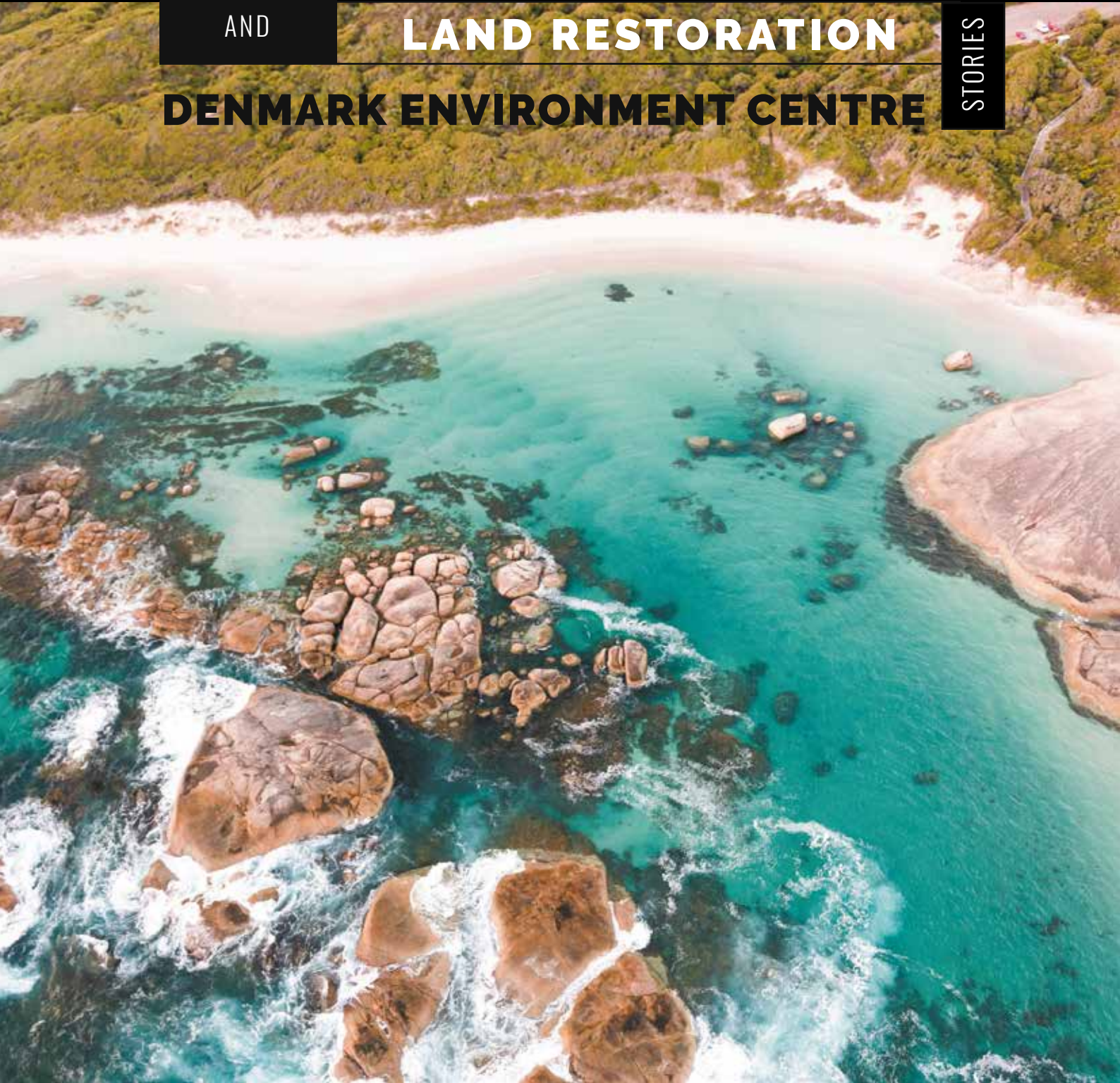
LANDCARE

AND

LAND RESTORATION

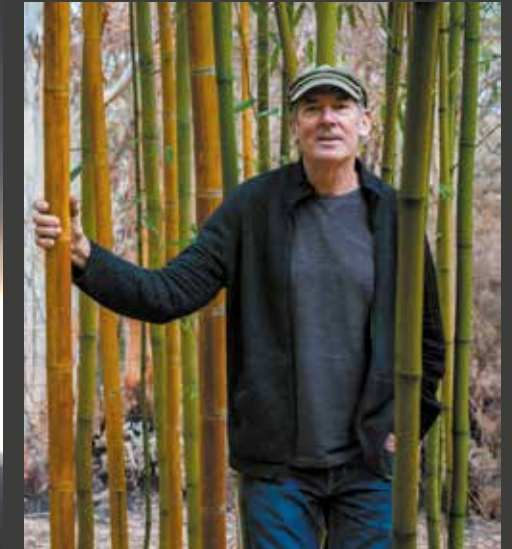
DENMARK ENVIRONMENT CENTRE

STORIES



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THIS PUBLICATION WAS MADE POSSIBLE BY THE GENEROUS SUPPORT FROM THE FOLLOWING PEOPLE:

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EDTRL

Welcome to this Landcare and Land Restoration publication 2022, which acknowledges the work of some of those who have worked tirelessly behind the scenes to advocate for environmental preservation.

Many of us living in Denmark have been attracted here by the uniqueness of our environment, the beautiful beaches, the rocky outcrops, the Karri forests and further inland the Walpole Wilderness.

From time to time the wellness of these lands is being challenged by issues such as mining, logging, poor land management practices and other influences such as change in climate conditions.

In 1987 two proposals could have had a detrimental effect on the lands surrounding Denmark: A plan by the local mill to clear the remaining stands of forests on private lands and turn them into woodchips for export and a proposal to start mining for mineral sands in the William Bay area. These proposals brought together a group of people passionate about the environment, who called themselves "The Coalition for Denmark's Environment". Both proposals were unsuccessful due to the campaigns which were initiated.

As the Coalition needed a place to meet a shop was rented in Strickland Street, which was the beginning of the Denmark Environment Centre. It was the first environment centre outside the metropolitan area and has been a hub for environmental appreciation and protection ever since.

As you read through the stories in this book you will get a glimpse of the many issues people are involved with and working on to aid the well-being of the environment in one way or another.

The Denmark Environment Centre has been and is the hub, the umbrella organisation under which the different groups can operate.

This publication is but a snapshot into these different streams and does not pretend to include all people working to preserve the environment for future generations as there are many more, who could easily be the subject of another book of this kind.

Above all I would like to acknowledge the dedication of Holly Pepper in bringing together the organisations, the people and the artistic talent which resulted in this exceptional publication.

Enjoy!

Bart Lebbing

Convenor DEC

June 2022

Wilson Inlet Bird Sanctuary Journey

01 *The Denmark Bird Goup has highlighted the importance of education as a tool for change.*

WRITTEN BY: ZOE PEPPER

Migratory shorebirds are among the most endangered group of birds. Denmark's Wilson Inlet is home to twenty-three species of migratory shorebirds. Within Wilson Inlet there are two sites that are of particular significance as habitats for migratory shorebirds -the Prawn Rock Channel precinct ("the Channel") and Morley Beach.

Migratory shorebirds undertake one of the longest known migrations of any species, travelling in excess of 12000km. Every year these birds migrate from their breeding grounds above the Arctic Circle in Siberia and Alaska to the shores of Australia and New Zealand. The remarkable annual circuit is called the East Asian-Australasian Flyway. It's one of nine major flyways around the world.

Critically endangered migratory birds that can be found in the wetlands of the Wilson Inlet are the Bar-tailed Godwit, the Curlew Sandpiper and the Great Knot that fly from Siberia each year. But the shorebird population in the Wilson Inlet is in decline. The population has declined by over 70% in the last two decades due to rapid changes in climate and loss of habitat. Their habitat is threatened. Over almost their entire migration path the birds have been squeezed into ever decreasing areas.

“Denmark’s Wilson Inlet is home to twenty-three species of migratory shorebirds.”

In 2009, Denmark community members Brad Kneebone and Jesz Flemming started to undertake monthly surveys of Wilson Inlet to monitor bird life. Over time, this close monitoring has revealed that popular recreational activities (fishing, dog walking, kayaking) at the Prawn Rock Channel precinct threatened and disturbed feeding and nesting birds.

In 2014 they submitted a proposal to the Shire Council of Denmark to turn the wider Prawn Rock Channel area into a bird sanctuary. Unfortunately, the proposal was rejected by Council on the grounds that it would be unpopular and that there wasn't sufficiently compelling evidence that the bird life in the area needed to be protected.

This defeat highlighted the need to raise community awareness about Denmark's bird life. It also renewed their determination to gather more evidence to prove the need for a formal bird sanctuary.

So, the community mobilised. At that time there were around fifteen members of BirdLife Australia (Australia's premier bird conservation organisation) in Denmark and in 2016 they rallied together to form the Denmark Bird Group.

The creation of the Denmark Bird Group has highlighted the importance of education as a tool for change. The group started with a small core group and has grown to over

a hundred members. The group continues to do monthly surveys of key nesting and feeding areas in the Wilson Inlet.

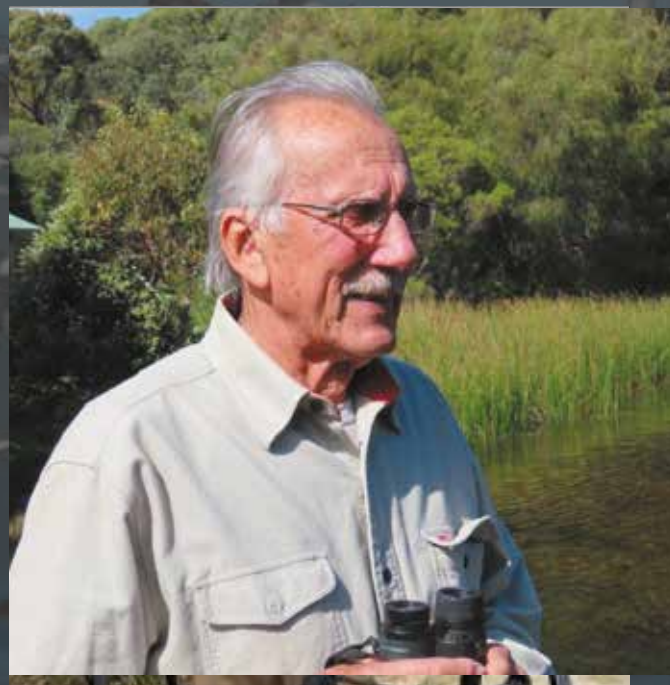
In 2018 the Denmark Bird Group made another submission to Council for a sanctuary at Prawn Rock Channel. This time they had detailed data from 2009 to 2017 that clearly showed a decline in the population of all birds in the area. This submission garnered greater support from shire councillors but was still met with resistance from people who exercise their dogs in the area and ultimately was not approved in 2018.

Since the 2018 submission was made the Denmark Bird Group has been working to raise awareness in the community "so people know what they have and appreciate it as part of the bigger biodiversity picture."

In 2022, eight years after the initial proposal, the shire approved the sanctuary at Prawn Rock Channel by unanimous council vote. The bird sanctuary is not as big as the Denmark Bird Group initially proposed but it is a definite win for the protection of Denmark's bird life.

It can be frustrating when progress is slow, but the key members of the Denmark Bird Group have been advocating for better protection for birds for over ten years and in that time, they have made changes that will help to protect Denmark's birdlife.

Left: Greenshank Photographed by John Anderson
Background: Aerial view of Prawn Rock Channel
Photographed by Simon Neville



Brad Kneebone

Denmark Bird Group

WRITTEN BY: ZOE PEPPER

Brad Kneebone is a citizen scientist with a drive to create better outcomes for birds. He is committed to surveying and documenting the changes in populations of shore birds in Denmark and works tirelessly advocating for the preservation of their habitat to protect these endangered species of birds.

His passion for wetlands started as a child, growing up in Perth near Herdsman Lake. Time spent on the lake in a metal canoe and the WA Gould League really sparked his lifelong love of birds.

In the 1970's Brad really started to get involved with wetland conservation and joined the Royal Australasian Ornithologists Union, now BirdLife Australia. He retired in his late fifties and moved to the Great Southern with his wife. And it was then that he was able to really focus his time and energy on monitoring the bird life and advocating for the preservation of wetlands. Brad was initially living in Lowlands and an active member of the Albany Bird Group

but developed a special interest in Wilson Inlet. He had assumed there was already a bird group in Denmark but, on moving closer to the town he realised there wasn't. So, he started the Denmark Bird Group with the initial aim of improving knowledge of the Inlet's birdlife.

The Denmark Bird Group has steadily grown. The group conducts weekly surveys. The initial bird surveys demonstrated that the populations were declining. Brad knew that data was needed to advocate for change.

Brad is involved with a range of committees that have formed over the years to make recommendations around the annual opening of Wilson Inlet to the ocean. He is always looking to protect the habitat of shore birds and push for better outcomes for our environment.

Brad is a methodical activist. He has been surveying shorebirds in the Wilson Inlet for over a decade. This persistent work formed the foundation to advocate for the protection of this precious habitat that is home to over seventy species of birds.

After birds, Brad doesn't have much time for anything else. He's dedicated much of his time to raising awareness in the community about the birdlife of Denmark and is committed to preserving the habitat of these shorebirds to ensure they have a place to rest and feed after their 11,000km journey from the Siberian Arctic.

The work of citizen scientists is vitally important as it complements the professional science required to sustain our biodiversity. Without them, the world would be a lot worse off.



“The work of citizen scientists is vitally important as it complements the professional science required to sustain our biodiversity.”



Left: Photographed by Jill Kneebone

Right: Red-necked Avocet Wilson Inlet Photographed by John Anderson

Top: Migratory Shorebirds in flight at Morley Beach. John Anderson

“We were dancing in the street when we heard that”. Fisheries Minister Dave Kelly came to Greens Pool in December 2018 to announce that Greens Pool would be closed to fishing and spear fishing.

No Fishing Zone!

02 Greens Pool

WRITTEN BY: ZOE PEPPER

Greens Pool is one of the most beautiful and unique beaches in WA. It's loved by tourist and Denmark locals, attracting around 270,000 visitations a year and climbing. In 2016 increasing tourism meant more people fishing and spear fishing in the calm, protected waters of Greens Pool.

At this time the Greens Pool Working Group was formed to work toward protecting the immediate vicinity of Greens Pool from fishing and other activities. “A bunch of us were knocking around and then ...including Nicole Hodgson, Louise Duxbury, myself (Bernie Wong), and maybe Simon Neville was there, we were wanting to put a group together.” The Friends of William Bay National Park made up a large number of the working group membership.

But this wasn't the first time that community members had banded together to try to stop fishing at Greens Pool. Back in 2009 Bob Gretton and Simon Neville (and others) sought protection for the area as a marine park where fishing was prohibited. They argued that recreational fishing was

depleting fish stocks. Their efforts ran aground because the Fisheries Department wanted to see longitudinal statistical data to support this claim, which they didn't have. And to collect that data, fish surveys needed to be done by a qualified fish surveyor. They ran into a lot of red tape.

Ultimately the 2009 submission to eliminate fishing at Greens Pool was rejected by the Minister and had the effect of polarising the Denmark community.

Jump ahead seven years to 2016 and the formation of the Greens Pool Working Group. This group wanted better environmental protection for Greens Pool, but learned from the earlier attempt and decided to take a different approach.

The Working Group knew that providing the extensive data required to prove fish stocks were diminishing was not a viable option. And they also knew that they needed to consult with key stakeholders to avoid polarising different community groups.

After liaising, with different stakeholders, the Greens Pool Working Group decided to advocate for the protection of Greens Pool on the grounds of safety. Increased tourism has led to an increase in all recreational activities – fishing, swimming and snorkelling- and they were all getting in each other's way.

There were instances where swimmers had been tangled in fishing lines and one swimmer had to remove hooks from himself on multiple occasions. At this time there had been a spate of shark encounters in the state so a lot of the spear fishers were opting for sheltered waters rather than go out in the open, so there was more spear fishing happening at Greens Pool. Bernie Wong recounts seeing “this guy who gets in in the shallows, spear gun loaded and ready (...) swimming out in amongst the mums and the kids.”

From all those encounters it was decided they really had a case to say it just wasn't suitable to have all these recreational

activities overlapping. By pushing the safety issues it was not so much about stopping fishing, but redirecting fishing to other areas. Because other community groups had been involved from the start they were on board. The Denmark Visitors Centre was instrumental in this approach, "it was their suggestions to not tackle it head on but to redirect tourists to other areas" for fishing.

The other aspect to the Working Groups approach was to "promote Greens Pool as one of the few windows into the Great Southern Reef." The Great Southern Reef extends from just north of Kalbarri right around to northern New South Wales and it is estimated to be about 10,000 kilometres of continuous reef, one of the largest, longest reefs in the world.

It took about two and half years for the Working Group to get to this point of this two-pronged approach. As a group of volunteers, sometimes it can be difficult to keep the momentum up.

The Group made a presentation to the shire about promoting Greens Pool as a snorkelling trail and they were on board with the proposal. But there's a lot of government stakeholders that need to be in agreement.

When the group framed their agenda as a positive, a snorkelling trail which adds to

Greens Pool's tourism it really increased their momentum. The Group put this proposal to the Department of Fisheries and from there it went to the Minister. From this point on everything happened very quickly. The Minister decided to prohibit fishing at Greens Pool for health and safety reasons. The Group were elated, "we were dancing in the street when we heard that". Fisheries Minister Dave Kelly came to Greens Pool in December 2018 to announce that Greens Pool would be closed to fishing and spear fishing to allow visitors to safely enjoy the marine life.

The Greens Pool Working Group achieved what they set out to do. Reflecting on that success Bernie Wong thinks that flipping the issue to emphasise the positives of Greens Pool as a snorkel trail was key to that success. "To promote it as a snorkel trail you have to make it a safe snorkel trail and therefore you have to prohibit fishing and spear fishing."

Since Greens Pool has been promoted as a snorkel trail there seems to be a lot more people coming with snorkelling gear. And there's a noticeable difference in the abalone and crayfish populations.

The ultimate aim would be to turn "the whole coastline of William Bay into a National Marine Park" with a couple of designated fishing zones. At the moment you can fish anywhere except for this one protected area and it'd be great to flip that so the whole area is protected except for a couple of spots. But the Greens Pool Working Group has now been mothballed and the continued stewardship is by the Friends of William Bay National Park so this will have prevail and be their cause to champion. This extends the "Friends" remit to include the marine environment to their extensive terrestrial focus.

WRITTEN BY: ZOE PEPPER

Bernie Wong was part of a core group of Greens Pool loving locals who formed the Greens Pool Working group in 2016 with the aim of achieving better environmental protection for Greens Pool.

Bernie has been in Denmark since 1990, and jokes that he's "nearly a local". The link to Greens Pool started way back then when he would visit Greens Pool with his young family.

His relationship with Greens Pool has changed over the long years. He became a member of the surf club and this gave him the courage and the swimming fitness to leave the shallows and head out into the deeper waters of Greens Pool. From 2006 he's got into the ritual of going there most days, including right through the winter. Now he takes other brave locals on informal swimming tours where they the swim from Madfish to Greens Pool, swimming out into the deep.

Bernie has been coaching swimming for about the last sixteen years for the Denmark Surf Club, using Greens Pool as a place to train. He's interested in fostering people's connection to Greens Pool to promote a sense of stewardship.

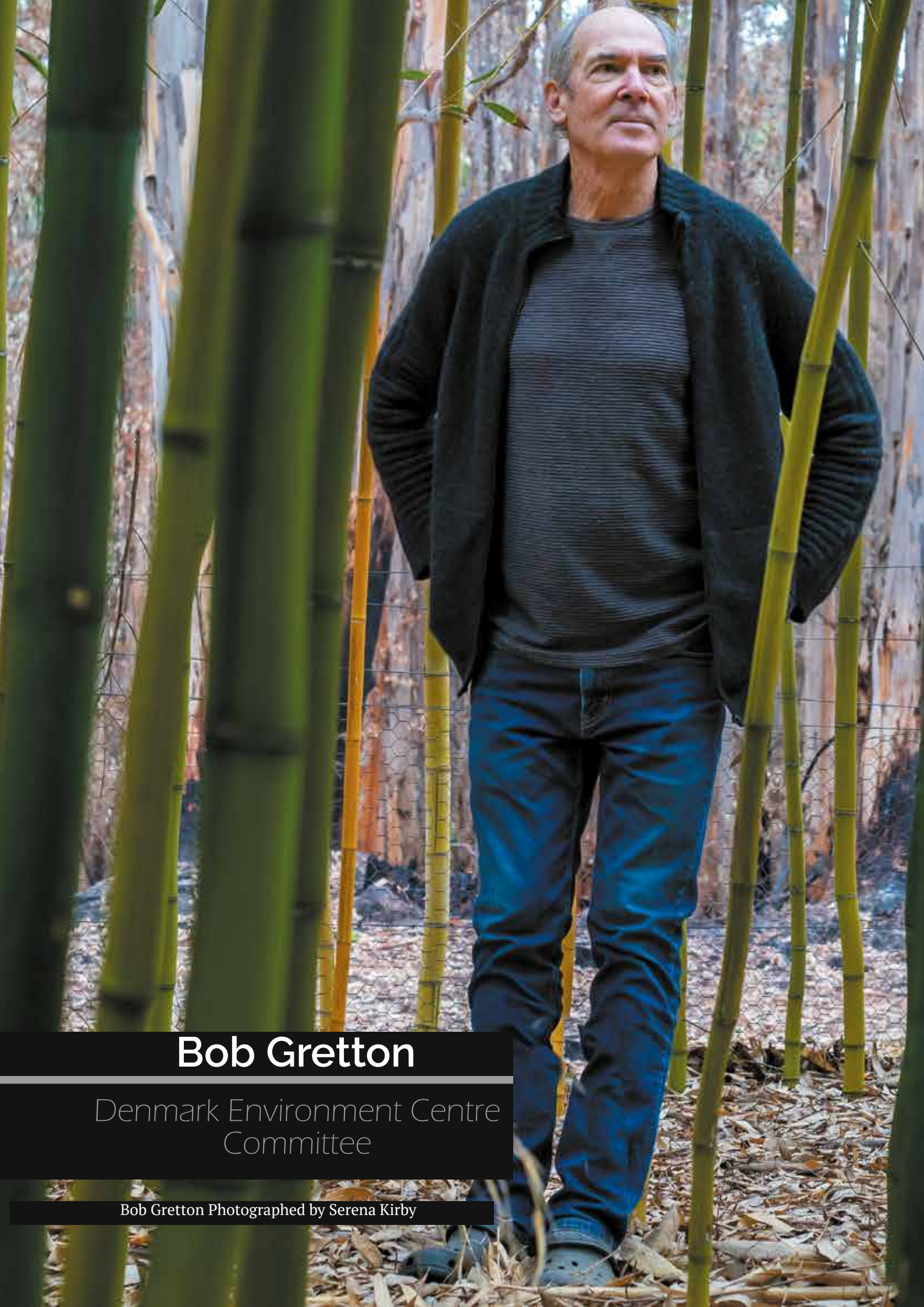
Bernie has worked with UWA and the local high school, teaching them about water safety and acting as a guide to show them the marine wonders of the Greens Pool area - "it always fun showing people the sites".

Bernie was involved with the Greens Pool Working Group for three years 2016-2018 working to make positive safer change at Greens Pool by lobbying to prohibit recreational fishing and spear fishing in the area. These mutually incompatible activities impacted the swimmers and snorkellers with a well-known local swimming legend, Steven Junk, "hooked" up twice in his back.



Bernie Wong

Greens Pool Working Group



Bob Gretton

Denmark Environment Centre
Committee

Bob Gretton Photographed by Serena Kirby

WRITTEN BY: SERENA KIRBY

Bob Gretton was in his mid 20s when he first made the conscious decision to live in harmony with the planet. And, after decades of travelling and living overseas Bob moved to Denmark in 1983 to make his home at the Wolery, WA's longest standing ecological community.

"I was a gardener and landscaper at the time and started doing courses with Green Skills on farm planning and permaculture," Bob says. "I then went on to do a Postgraduate Diploma in Sustainable Agriculture."

Bob's eco-interests led him to become involved with the Denmark Environment Centre (DEC) where he worked as a project officer helping to protect local waterways and developing 'greening' plans for the town. This involvement saw him later become a DEC committee member.

Bob is incredibly humble when talking about his environmental contribution and says he's just one of many people who have worked to protect and enhance Denmark's natural environment. Part of that work has seen him involved in the planting of around one million trees in his nearly 40 years of living in the area. Bob was also instrumental in securing land for Denmark's Kwoorabup Community Park and he's worked on many

environmental projects with Greenskills.

"After I left Green Skills in 2007 I had time to volunteer with the William Bay National Park Association (WBNPA) in various roles and on their committee. My wife and I regularly swim at Greens Pool and, along with other people, I was becoming increasingly aware of the impact that fishing was having on marine life. Spear-fishing, in particular, was greatly affecting the safety and enjoyment of swimmers."

With visitor numbers at William Bay swelling to nearly 300,000 a year, Bob could see this area was becoming extremely vulnerable to the negative impact of humans. And, with the issue becoming increasingly urgent, Bob and the WBNPA instigated a campaign for Greens Pool to be declared a 'No Take' fishing zone.

While the Government agreed that banning spearfishing at Greens Pool was "a no-brainer" due to safety concerns, Bob and the committee knew this fell short of what was really needed.

"This is when the Greens Pool Working Group was established and we handed the baton to them to push for a total ban on fishing. They worked incredibly hard and did a fantastic job."

The Group lobbied Ministers and government bodies while motivating others to join the cause. Petitions were circulated, submissions written and a local stage show produced. Finally in 2018, 15 years after Bob first called for action, the team got the win they deserved... a total ban on all fishing at Greens Pool.

"There were so many disappointments along the way but it has been totally worth it. The biodiversity of marine life at Greens Pool has radically improved since fishing has stopped. It's fantastic and rewarding to see swimmers and snorkellers enjoying the beautiful marine life that now inhabits Greens Pool. "

Fire + Biodiversity Western Australia

“The burn of Weinup block in the Perup district... like Denbarker, was very severe and was in an area with a high density of threatened species, including the numbat.”

03

WRITTEN BY: BART LEBBING

Classified as one of the world’s 36 biodiversity hotspots, the southwest of Australia is recognised as having one of the most biodiverse ecosystems on the planet. It contains 6000 native plant species and over 100 endemic fauna species. These systems include iconic tall forests containing jarrah-marri, karri and tingle, woodlands containing wandoo, coastal and inland heath systems including many species of banksia, peat swamps, and highly specialised ancient plants living on granite and quartzite outcrops.

Much of the landscape hosting this biodiversity lies within national parks and state reserves

managed by the Department of Biodiversity, Conservation and Attractions (DBCA) and their responsibilities include mitigation of the risk of wildfire. The DBCA’s primary method to reduce wildfire risk is through prescribed burning to reduce fuel loads, or flammable material.

WA has been managing the southwest region in this way since the 1960’s and pioneered the use of aerial ignition techniques to meet extensive burn targets. DBCA’s current target is for 45% of forest areas they manage to have a fuel age of six years or less. This equates to an annual burn target of 200,000

hectares. Very small areas called Fire Exclusion Reference Areas (FERA’s) are left without fire.

Concerns that these methods are causing significant, irreversible damage to southwest ecosystems and loss of habitat for birds and small animals are held by many environmental and flora and fauna groups, local scientists, and others in the community. Most people in WA are under the impression that prescribed burnings are conducted under optimum conditions to minimize the long-term impact of these burns on our unique flora and fauna, leaving a mosaic of burnt and unburnt country. However, the prescribed burning of the Denbarker block (8165 hectares) in the Mt. Lindesay National Park on the 7th of November 2019 changed that understanding for some Denmark residents. In the afternoon the town of Denmark was darkened by a colossal black cloud of smoke and the inferno could be

observed from afar.

This burn, in which 98% of the tree canopy was scorched or incinerated, led to the formation of the Denmark Fire Study Group, a group of Denmark residents who were interested in seeing how extensive and how severe this practice was in other Walpole Wilderness blocks and queried the validity of the practice in protecting the community from a wildfire event. The group began to investigate the research that prescribed burning was based on and conduct fieldtrips to monitor country and burns, get feedback from other environmental organisations, contact scientists to get their views and understanding, and meet politicians and land managers — all on a voluntary basis.

The Denmark Ratepayers Association expressed similar concerns about fire management in the Walpole Wilderness and together with the



Background: Mount Lindesay National Park following a prescribed burn. Photographed by Bart Lebbing
Front: Numbats pictured near Perup. Photographed by Bill Smart

FaBWA is lobbying government to change current fire management practices and ensure that the natural and cultural values of our southwest Western Australia biodiversity hotspot are maintained for future generations.



Denmark Environment Centre and the Denmark Chamber of Commerce a Fire Forum with an array of speakers was held in February 2020.

Later that year the Denmark Fire Study Group issued a statement expressing “concern about the current fire management and requesting change into the current prescribed burning practice” which was circulated among numerous environmental organisations, flora and fauna groups and industry bodies. The statement was presented to government underwritten by 37 organisations. Twenty-four scientists followed suit with a similar statement requesting a review of current fire practices, including whether prescribed burns were indeed effective in reducing forest flammability over time.

In early 2021, the Denmark Fire Study Group was renamed Fire and Biodiversity WA (FaBWA).

Through mainstream and social media, FaBWA was instrumental in bringing the burn of Weinup block in the Perup district east of Manjimup to the attention of the public. This burn, like Denbarker, was very severe and was in an area with a high density of threatened species, including the numbat. Local residents calculated that 50–65 numbats lived in this

block prior to the burn and were aghast at the way the burn was conducted. Humane Society International funded a study comparing the impacts of the Weinup burn to an adjacent area that hadn’t been burnt for 15 years. The study demonstrated that these types of severe burns have drastic effects on both life and habitat, particularly for small marsupial species such as the numbat. The report is due for release in July 2022.

To date, no review on the prescribed burning policy has been implemented by the WA government.

FaBWA is advocating for a substantial increase in research of alternative strategies to reduce the potential risk and impacts from wildfires and a willingness by government to independently review its current policies and practices relating to wildfire mitigation. Such practises could include early detection and rapid suppression of wildfires, a greater understanding of the flammability of vegetation types and the effectiveness, or otherwise, of prescribed burning on vegetation regrowth, and working with and drawing on traditional ecological knowledge of First Nations peoples.



Bart Lebbing

FABWA

reduce the vitality of the little wilderness we have left.”

“This country is so different from my birthplace, the Netherlands. It has such a rich biodiversity, such unique ecosystems! The changing landscape as you move through country, the species, both flora and fauna, most nowhere else to be found on the planet and yet we generally see so little recognition for this special natural world.”

As a long-term volunteer firefighter and observing country over many years his concern increased over the years about the sustainability and health of the remaining natural estate. Prescribed burning, practiced since the middle of last century and the way wildfires are being managed became his focus after he sold the business, as he viewed these having the greatest negative impact on the native country we have left.

Attending prescribed burns, inspecting country prior and post burns, studying scientific papers, raising public awareness and lobbying politicians are taking up most of his life these days.

A founding member of Fire and Biodiversity WA, his biggest wish is for a change in government attitudes, where alternative fire mitigation approaches are actively studied and implemented, which would hopefully result in a more sustainable future for our natural landscapes.

Top Left: DBCA Prescribed Burn at Denbarker 2019 Photograph Tony Pedro

Right: Bart Lebbing. Photographed by Nic Duncan

Red Tingle Tree

04

Project

“There is not one simple rule that can be applied everywhere to manage fire; every forest is different. Fire causes enormous changes in the understorey of tingle forests and, for the first time, we’ll use peer-reviewed science to examine the influence that this has on bushfire risk.” Dr Phil Zylstra

WRITTEN BY: SERENA KIRBY

The Walpole Wilderness Area’s Red Tingle Project is scientific activism at its best.

This ground breaking research project combined field work, data collection and the modelling of results to analyse and better understand the flammability of WA’s precious Red Tingle forests.

With broadscale prescribed burning having been used for decades as a bushfire mitigation tool, the project aimed to create peer-reviewed science to show the true flammability of forest vegetation. And, with these majestic giants only found in and around the Walpole-Nornalup National Park, the 6000 remaining hectares of Red Tingle forest are precious and globally unique.

The project, headed up by fire behaviour scientist Dr Phil Zylstra and ecologists Nathan McQuoid and Melissa Howe with GIS Specialist Simon Neville, centred around dozens of carefully selected forest sites - each with a different time since the last fire. Along with community volunteers, Nathan and Melissa collected information on vegetation structure, size and specific plant traits to help determine their influence on forest fire behaviour.

“In a warming, drying climate where fire is becoming increasingly frequent, it’s critical that fire management is informed by sound science,” Dr Zylstra explains.

“There is not one simple rule that can be

applied everywhere to manage fire; every forest is different. Fire causes enormous changes in the understorey of tingle forests and, for the first time, we’ll use peer-reviewed science to examine the influence that this has on bushfire risk.”

The vital data collected during the project was then modelled and analysed by Dr Zylstra using a survey methodology known as Fire Research and Modelling Environment (FRaME). This methodology shows how fire behaviour impacts ecosystems with explicit modelling of heat transfer processes. This modelling challenges the key assumption of Australian fire management - that forests simply accumulate fuel over time and, as a result, become increasingly flammable.

“It’s important to understand the impact prescribed burning has on the forest as we don’t want it to get caught in a frequent burning cycle,” Melissa says. “Once you burn it, it stimulates a massive amount of understorey plants which become very dense and tall in a matter of years. The longer unburnt Red Tingle forests have already self-thinned after decades without fire and maintain a very open structure. These places don’t need fire to regenerate them and many vulnerable old tingle trees are suffering the consequences of fire, even from a mild severity burn.

“Fire is known to weaken tree structure and change the natural plant species abundance and composition of the forest. Many Red Tingles have been structurally damaged, and eventually collapse as a result of being subjected to frequent or hot fires.”

Melissa is told that the Traditional custodians of the land call the tingle forest ‘No-fire Country’. “Governments haven’t modelled Red Tingle flammability in this way before and while there’s no logging allowed in these forests there are currently no fire exclusion zones. Our ultimate goal would be to establish ‘no fire’ areas in the longer unburnt Red Tingle forest so we can protect the fire-sensitive trees and keep the natural low flammability of these forests.

Throughout the project the researchers aimed to broaden the community’s understanding of fire dynamics and vegetation in the Red Tingle forest. They held community presentations and consulted representatives from government departments, conducted field visits with scientists, firefighters, land managers and fire coordinators and collaborated closely with Elders and members of the Noongar community.

Of course, projects like this don’t happen without significant funding and this project was supported by the Koorabup Trust, Wettenhall Environment Trust and Drs Beth & Phill Schultz and family.

With the project’s findings now having been submitted for peer review it’s anticipated the results will encourage more effective fire management practices; ones that have better environmental outcomes for the forest without compromising the safety of nearby people and property.

WRITTEN BY: SERENA KIRBY

For Denmark ecologist, Melissa Howe, an appreciation of nature was something that began from an early age.

“I’ve always loved nature and being out amongst it,” Melissa says. “We spent a lot of time outdoors and out on the water when I was growing up so to now be helping protect the environment I love is really important to me.”

Melissa first became aware of the threats to WA’s native forests while studying a Bachelor of Science in Environmental Management at Edith Cowan University and joined a logging blockade to save ancient Yellow Tingle trees in the Walpole Wilderness Area in the late 1990s. The experience was life changing and Melissa says that seeing the tragic and heartbreaking destruction of old growth forests fueled her desire to be actively involved in protecting these magnificent environmental assets.

“I did my first bush regeneration course with the incredibly knowledgeable Diane Harwood and Mark Parre when I first moved to Denmark in 2000. I volunteered when and where I could and continued to travel all over WA to be part of various forest protests and blockades. Because of this I spent a large amount of time living on country, in the bush and in the forest. I was also lucky enough to spend time living with an Aboriginal community just outside of Broome.”

Since then Melissa has worked and volunteered with countless Denmark environmental groups including the Denmark Weed Action Group, Denmark Environment Centre, Green Skills, the Wilson Inlet Catchment Committee, the National Trust. She is also a volunteer firefighter.

In 2019 Melissa became involved in the Red Tingle Project after realising more investigation was needed on the effects of prescribed burning within Red Tingle forests. This involvement

has led her into other initiatives investigating fire-sensitive species in the Walpole Wilderness Area.

Melissa admits there are financial and career sacrifices to be made when choosing to work for not-for-profit organisations and being an environmental advocate.

“It’s a vocation really. You think about it all the time and becoming emotionally attached to a cause can be challenging but the benefits are all the passionate and inspiring people you get to work with. Being a part of creating better conservation outcomes for the environment, and in particular the Walpole Wilderness Area, will be the biggest reward of all.”

Melissa Howe

Ecologist

Melissa Howe Photographed by Serena Kirby

Lake Jasper too magnificent to mine

05

Lake Jasper is also an area of cultural significance - it is Australia's only known underwater prehistoric Aboriginal site.

FIFTH SECTION

WRITTEN BY: ZOE PEPPER

Lake Jasper is the largest fresh water lake in Western Australia with a surface area of four square kilometres. It's located near Pemberton in the D'Entrecasteaux National Park and is a near pristine component of the Gingilup-Jasper Wetlands System which is made up of freshwater lakes, marshes and shrub-swamps.

The area is rich with biodiversity. It is a significant nesting ground for migratory bird species that are listed with both the Japan-Australia and China-Australia migratory bird agreements. Lake Jasper is also an area of cultural significance - it is Australia's only known underwater prehistoric Aboriginal site. Seven Aboriginal sites have been found on the floor of Lake Jasper.

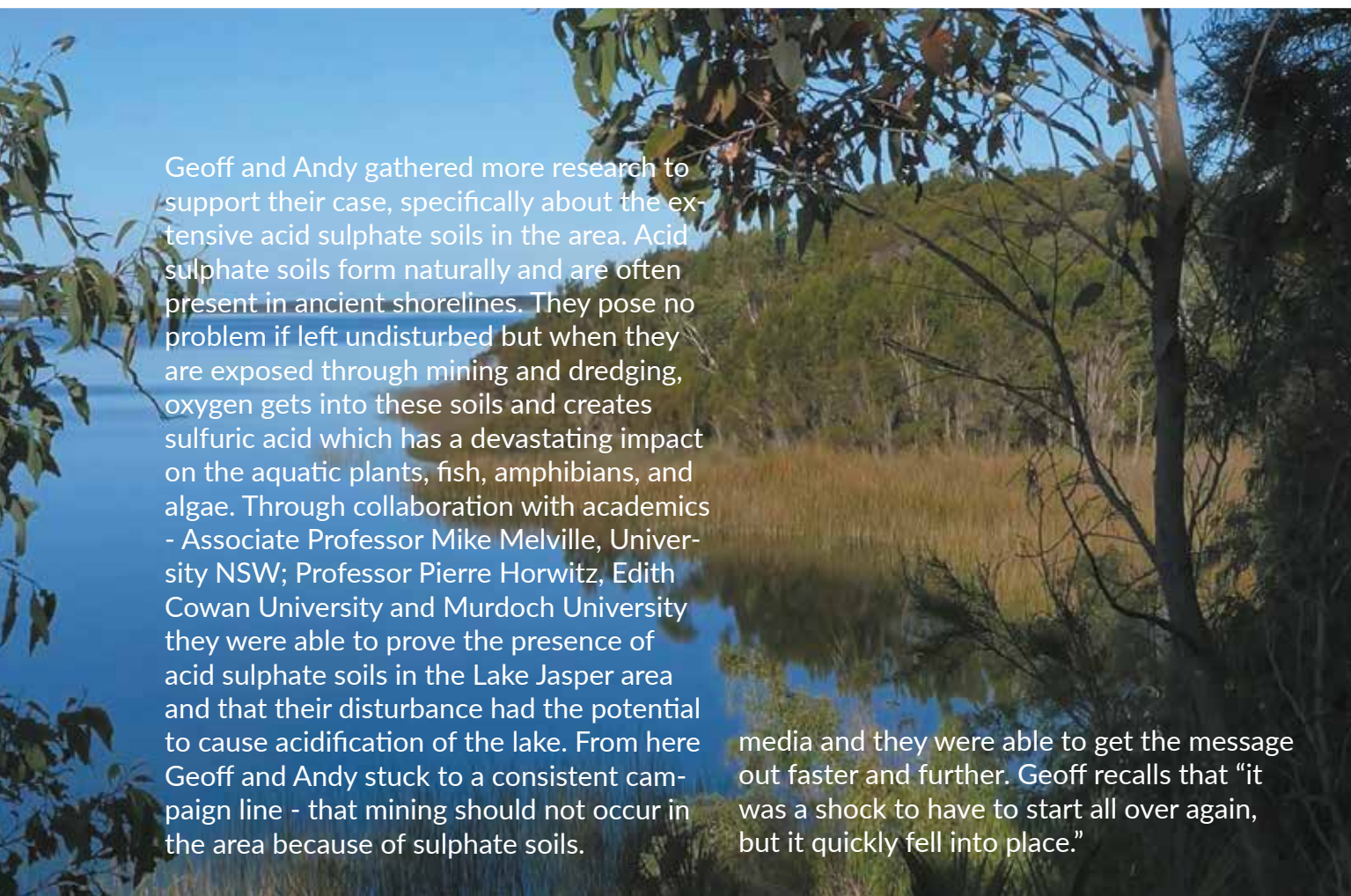
In 1996 an area of land near Lake Jasper was excised from D'Entrecasteaux National Park for a mineral sands mining lease. One of the conditions of the excision was that if the mine could not go ahead for environmental or other reasons then the land would be returned to the D'Entrecasteaux National Park.

Around the time that the mining application was seeking approval Basil Schur organised a Great Walk, with Lake Jasper as the final destination. It was on this Great Walk that Geoff Evans and Andy Russell learned about the proposal to mine Lake Jasper and saw the proposed site that was just 300 metres from the shoreline. This experience inspired a movement that was to become a twenty-five-year campaign to save Lake Jasper.

Geoff and Andy were the key drivers behind the movement. They formed the D'Entrecasteaux Coalition, which rallied together over fifty environmental organisations including the ACF and the Wilderness Society, who put their name to the cause and opposed the mine. They started campaigning to Ministers and media outlets in opposition to any exploration or mining in the Lake Jasper wetlands. Progress was slow at first, it took time before they started having any impact. Geoff recalls that they did "start getting responses from government but it was quite dismissive. We weren't being taken that seriously."



Background: Aerial photograph of Lake Jasper
Photographed by Simon Neville.



Geoff and Andy gathered more research to support their case, specifically about the extensive acid sulphate soils in the area. Acid sulphate soils form naturally and are often present in ancient shorelines. They pose no problem if left undisturbed but when they are exposed through mining and dredging, oxygen gets into these soils and creates sulfuric acid which has a devastating impact on the aquatic plants, fish, amphibians, and algae. Through collaboration with academics - Associate Professor Mike Melville, University NSW; Professor Pierre Horwitz, Edith Cowan University and Murdoch University they were able to prove the presence of acid sulphate soils in the Lake Jasper area and that their disturbance had the potential to cause acidification of the lake. From here Geoff and Andy stuck to a consistent campaign line - that mining should not occur in the area because of sulphate soils.



The D'Entrecasteaux Coalition's research and lobbying really highlighted the environmental impact this mine would have and helped to inform the Environmental Protection Authority's decisions to knock back Cable Sands' mining proposals for six years.

In 2010 Cable Sands relinquished the mining lease on the Gingilup-Jasper Wetlands, due to the Environmental Protection Authority (EPA) consistently rejecting Cable Sands' Environmental Management Programme. But the land was not returned to the National Park as the government had previously promised it would be.

Then in 2018 it was discovered that a new application for a mining lease near Lake Jasper had been proposed. So, a new campaign to save the lake began. Friends and supporters from the previous campaign in 1996 were contacted. This time around things were slightly easier, the D'Entrecasteaux Coalition had archived all of the previous research and it was ready to go. This time around the coalition had social

media and they were able to get the message out faster and further. Geoff recalls that "it was a shock to have to start all over again, but it quickly fell into place."

The Premier Mark McGowan, became involved in responding to the D'Entrecasteaux Coalition's letters about the proposed mineral sand mine. The Premier made a promise that if there were any doubts about the efficacy of the new mining application, then it wouldn't proceed. And in that instance the land would be returned to the National Park.

The mounting public pressure and opposition on environmental grounds created through the coalition's campaign led to a successful outcome. On the 2nd December 2020 Strategic Energy Resources P/L relinquished their mining lease.

And then, on World Wetlands day, the 2nd of February 2021, the excised land was returned back to D'Entrecasteaux National Park. All of the campaigners gathered at Lake Jasper to celebrate, many of them had been campaigning to protect the area since 1996.

"It was a really lovely time. To think that we have made a difference. We don't get that many wins for environmental causes. But this was a big win."



Andy Russell

WRITTEN BY: SERENA KIRBY

In 1988, when Pemberton resident Andy Russell first began campaigning to protect Yoondadadup Lake Jasper from mineral sand mining in the D'entrecasteaux National Park, his initial involvement was in a 'boots-on-the-ground' capacity... literally.

"Back then it was known as Project Sandcastle and was predominantly an on-ground campaign; blockading in the National Park and protesting outside the mining company's offices to slow down the mining exploration process," Andy says.

"It was during this time that I met fellow blockader Geoff Evans and we struck up an instant rapport. Through our close alliance, the campaign grew and later morphed into more of a legal action against government legislative processes."

As the early work by Andy and his co-campaigner Geoff pre-dated personal computers, the power of the pen was harnessed. Andy and Geoff took on the laborious task of hand-writing hundreds of pages of submissions to Minis-

ters and government agencies. They were challenging the rights to mine in the National Park and building their case for the site's protection due to its cultural, archaeological and environmental significance.

When an amendment to WA's mining law was passed in 1998, it gave communities and concerned citizens the right to have a say on issues regarding social, cultural and environmental impact. Andy saw the change as a win and one that would help save Yoondadadup Lake Jasper. What he didn't know was that it would take 30 years to get the result he wanted.

"I committed at least one day a week for three decades to this campaign. The work was ever-constant and it can be hard emotionally to keep saying no to things we couldn't morally accept or allow. We were conservationists but we were treated as radicals."

Andy adds that the key to sustaining his involvement in the campaign was teamwork and delegation; and Geoff.

"Geoff and I would allocate tasks to match our skills; we both had different strengths and I usually handled the media. We had a lot of great people working with us and the campaign had grown to become the D'Entrecasteaux Defence Coalition. It included numerous environmental groups spread across WA's South West and Great Southern, with Denmark's Environment Centre being the peak body."

In December 2020 Andy and the Coalition were finally victorious; the mining lease was relinquished and two months later the previously-excised reserves were returned to the D'Entrecasteaux National Park.

But even though the Coalition has since disbanded, Andy's environmental work has continued. He helps run environmental education programs for local schools and community groups and sponsors 'Plastic Fishing' expeditions on the Warren River.

And, through his Pemberton Hiking and Canoeing business, which he's operated since 1996, Andy seizes every opportunity to highlight the importance of protecting our precious environment.

"Fresh air, fresh food and fresh water only come from clean environments. Conservationists save the world."

WRITTEN BY: ZOE PEPPER

Geoff grew up in the UK and initially studied computer engineering and telecommunications. This led him to work for the European Space Agency in Germany, from where he went to work at the European Space Research and Technology Centre in the Netherlands. The Space Agency wanted to keep him but Geoff was more interested in travel. So, he left the UK to travel across the world and ended up in Australia in 1976. When he first arrived, he lived in Perth and worked at the WA Regional Computing Centre at the University of Western Australia, and at the Computing Centre at Curtin University. In 1989 he had a tree change and moved to Youngs Siding. Geoff enjoyed his work in computer engineering “but it’s not the same as doing something you’re passionate about, which is how I feel about the environment.”

After moving to the Denmark area Geoff has been involved with the Denmark Environment Centre, since 1994. But after the trip to Lake Jasper in 1996 he came back inspired to campaign to protect it.

Geoff is humble about the environmental work that he does, always taking a behind the scenes role. But with the campaign to save Lake Jasper he was the powerhouse behind a movement. This campaign took over Geoff’s life and spanned 25 years.

The persistence and effectiveness of the

Lake Jasper campaign really hindered the efforts of Cable Sands (the company seeking to mine adjacent to Lake Jasper, in the winter flood zone). Cable Sands made an application to the Supreme court to remove the right of the Mining Warden’s Court to hear environmental objections to applications for mining tenements. This would have fundamentally changed the public’s ability to advocate and campaign for the environment. Geoff thought “if no one had objected, it could have been passed.” Geoff was the convenor of the Denmark Environment Centre and together with James Gill they “managed to convince the rest of the Environment Centre to oppose Cable Sands in the Supreme Court”.

The Denmark Environment Centre was supported by the Environmental Defenders Office. Geoff worked closely with solicitor Michael Bennett and they were represented by QC, Greg McIntyre. For Geoff “the Supreme Court challenge that was a steep learning. So much work went into that... that was stressful. It’s really stressful.” Everything was on the line. Geoff and the lawyers even discussed the possibility of Geoff taking his name off the title of his house so that he wouldn’t lose everything if they lost the case. Geoff was thrilled to be there on the day where the Supreme Court ruled in their favor - “it was awesome.”

Geoff’s commitment to the environment is undeniable. He has given so much, doing work that is unpaid and unglamorous to protect the environment.

“The most rewarding part of being part of the Denmark Environment Centre is bringing about change.”

Geoff Evans

Denmark Environment Centre



Geoff Evans Photographed by Holly Pepper

Ending Old Growth Logging

06

WRITTEN BY: ZOE PEPPER

The south west of Western Australia is home to huge stands of tingle, jarrah, karri, marri, tuart and wandoo forests. These trees don't grow anywhere else in the world.

Over the past 150 years, more than 90% of the native vegetation in the South West has been logged or cleared with massive impacts on wildlife, biodiversity, cultural heritage, rainfall, climate and the overall ecological health of the region.

The community opposition to the destruction of these forests has been a force for over fifty years. And the persistence of these voices has led to significant change.

In 1990 a range of different forest and conservation groups from across the south west and Perth united to become the Western Australian Forest Alliance (WAFA). WAFA would be an umbrella organisation to unite these groups and advocate for statewide forest conservation issues.

The groups were all fighting highly localised forest issues but they were all linked through their advocacy for the forest. There was not necessarily a clear pathway forward in the early days but there was strength in numbers and a shared understanding that policy change was needed.

The Denmark Environment Centre is a member organisation of WAFA and some of the central people in the original formation of WAFA came from the Denmark Environment Centre.

Non-violent direct action through forest blockades together with lobbying government for policy change were key to gains made in the preservation of the forest. Jess Beckerling is the current convenor of WAFA and first joined activists in 1997 as part of the Giblett blockade. Giblett is an area of old growth karri, jarrah and marri forest about 15 kilometres north of Pemberton.

For three and a half years Jess lived in the forest at different blockades around the state. "The blockades in those days were about mostly blocking roads, to stop logging machinery getting access into the forests, and also about being in the forest, just stopping individual trees and areas of forests being pushed over. They were also about building the campaign from the ground up, raising awareness, getting critical media attention and educating the public about what was happening in the forest."

After a decade of campaigning the 2001 state election became pivotal to the protection of old growth forests. The preservation of these forests was one of

Labor's key election policies.

Just weeks after being elected as the state's new Premier, Geoff Gallop set aside thousands of hectares of old growth forest for protection.

"It was an incredible victory. We secured 230,000 hectares of really precious forest," Jess recalls. Even with this major win, the fight wasn't over. In the years to come the definition of "old growth forest" became a major sticking point. The definition meant that if a single tree had been cut down one hundred years ago then that patch of karri forest was no longer classified as old growth. "that one stump disqualifies two hectares from old growth status. So, what it meant was that old growth forests had largely been protected, but not fully protected."

For the next two decades WAFA continued to build the campaign and lobby the State government to end logging of all native forest, whether there had been historical logging or not.

Throughout this long fight the broader Denmark community has been instrumental in forest conservation, and activism that supports WAFA. "In the early days, the majority of people who would turn out to blockades with skills and commitment would be from Denmark and Margaret River." The Denmark community has been "absolutely fundamental to the fire and the heart of the campaign all the way through."

Similarly "the Denmark Environment Centre has been one of the most active and functional local environment groups that have maintained capacity over the years. A lot of the other local environment groups have waxed and waned, but the Denmark Environment Centre has been a total stalwart all the way through."

In November 2020 the documentary *Cry of the Forests* was released, about the conservation movement to protect

the southwest. This documentary really showcased the work of WAFA and a lot of momentum was generated from the film. Some key philanthropic donors saw the film and WAFA was able to put the case to them that they were on the precipice of achieving something big.

In a short space of time, with the support of some generous backers, WAFA grew to become an organisation with six staff and capitalised on the momentum of the movement as they continued to lobby government.

Then on the 8th of September 2021 the WA State government responded to activists' pleas and a massive groundswell of support across the State and announced a massive policy change - all native forest logging in the South West would end by 2024. And 9000 hectares of karri forest would be protected immediately.

Jess says the decision to end logging after such a long "very long fight" is the result of people joining forces.

"When groups of people come together, we can do extraordinary things. It takes grit, courage and perseverance."



Jess Beckerling

WAFA Convenor

WRITTEN BY: JULIANE SANDER

Jess has been campaigning for native forest conservation since 1997, inspired through a field trip to the Giblett Forest as a first-year university student. Her initial encounter with old-growth Karri and Jarrah Forest captivated Jess, and the view of a recently logged forest plot made her feel like she had found a sense of purpose. Jess just knew that she had the opportunity to do something meaningful, deferred her degree in Economics and Politics, and instead responded to a WA Forest Alliance initiative aimed at creating a response to forest logging.

A subsequent trip to a community forest picnic led to Jess spending three and a half years living in forest blockade camps. Despite the many physical, emotional and mental challenges from living in these forests, Jess defines these years as 'profoundly enriching'.

Jess contributed to a camp culture that strongly acknowledged empathy for timber

workers and consideration for all industry stakeholders, facilitating a real understanding of the logging process and an effective development of campaign strategies. Her dedicated engagement spared significant tracts of old-growth forests from logging but also got her arrested a few times, left her with thousands of dollars in fines, and exposed her to hateful and at times violent repercussions.

Her devotion to promoting non-violence direct action resulted in Jess being presented with the WA Youth Leadership Award in 1999. She has been the campaign convenor for the WA Forest Alliance since 2011, received the Conservation Council's Bessie Rischbieth Award in 2015, and was named 'Environmentalist of the Year' by the Bob Brown Foundation 2021.

Jess's vision for future forest management plans entails a strong input of indigenous knowledge. Actively engaged in many local conservation issues around Denmark and Walpole, Jess engages with the Denmark Environment Centre via campaigns such as 'Forests for Life', while her firm belief in the power of grassroots movement and legendary dedication to native forest protection embody Centre's mission and objectives.

Background: Karri Forest. Photographed by Fiona Pepper
Right: Jess Beckerling. Image supplied by WAFA

South Coast 07 Bushcare Services



Diana Harwood out on a Weeding Day. Photograph Holly Pepper.

WRITTEN BY: ZOE PEPPER

South Coast Bushcare services (formerly known as the Denmark Weed Action Group) is a not for profit organisation that is dedicated to caring for bush land. They primarily work in Shire reserves removing weeds by hand and taking care not to damage any native plants. This slow and steady low impact method encourages natural regeneration so the bush can flourish.

In the mid 80's when Diane Harwood moved to Denmark she noticed that all the gardens around town were being beautifully looked after, but no one was taking care of the bushland reserves.

With a small group of like-minded women Diane sought permission from the Shire to start work at Pioneer Park trialling the minimum disturbance method developed in the 1960's and 70's by the Bradley sisters in Sydney. Starting in the best section of bush, weeds are methodically cleared from small areas in and around healthy native vegetation so that the area can be reclaimed by the natural regeneration of native plants.

In 1995 the Denmark Shire and the Denmark Conservation Society assisted Diane to travel to Sydney to meet with members of the Australian Association of Bush Regenerators and learn from the work they were doing there. It was an inspiring trip that reassured Diane that the Denmark group were on the right track.

Weeding by hand is labour intensive - a slow and steady approach that is hard to quantify and to demonstrate the subtle

changes taking place, whereas revegetation is obvious. Sprayed areas can be easily measured, and numbers of seedlings planted can be counted. It is difficult to convince Federal, State and Local Government bodies that this method is better than spraying the weeds with herbicide and replanting.

The group have had small amounts of funding over the years but a lot of the work is done on a volunteer basis. On Wednesday mornings the volunteers meet at different bush reserves around town. The work is not only good for the health of the bush, but also great for your mental health; someone said "it saved my life". Diane has also found it really beneficial on that level. That time spent in nature is so worthwhile.

Sometimes people completing community service orders work with the group. People still comment years later "do you remember when I worked on that bit, it's still looking good, isn't it?" There's this sense of pride in something that otherwise they might not have looked at twice.

Diane is proud of the work they've done at Pioneer Park (behind the Visitors Centre), which is where it all began. When talking about weeds they use the word control rather than eradication. If you say you're going to eradicate something, then you're setting yourself up to fail because weeds will always creep in.

Aside from the volunteer work, South Coast Bushcare Services has a team of qualified bush regenerators who tackle more challenging sites requiring the skills and knowledge to prioritise sites and species and use the appropriate techniques and timing. This work is supported by annual funding from the Shire of Denmark. Funding from State and Federal Government has been sadly lacking in recent years, meaning that areas that were under control are now reverting to weeds.

There's no end date to this work. Caring for the bush is a forever project.



Diane Harwood

South Coast Bushcarers

Diane Harwood has lived in Denmark for almost four decades. During those years she has dedicated much of her time to caring for the environment. She was part of the group that started the Denmark Environment Centre and was also a founding member of South Coast Bushcare Services

Diane was born in Melbourne during World War Two. After the War, a popular family pastime was to go on bush walks, so she was brought up with a love of the bush. When she came to WA in 1976 she was stunned at how amazingly different and undamaged the bush was from that in Victoria.

To Diane, looking after the bush is an artform. Working calmly and methodically, without a sense of panic or despair, she sees the gradual transformation of a patch of weeds to a patch of bush. The change is subtle, but if you know what you're looking for you see real progress.

Of course there are still Watsonias and Blackberry in Denmark, but you won't find large outbreaks of Sydney Golden wattle, Victorian tea tree, Genista, Taylorina or Pampas grass.

Diane has undeniably stayed the course with this work. She enjoys going out to sites that she's worked on in the past and remembering when it used to be all blackberry and now it's just natives. It's exciting to see how the bush has come back without doing anything except take the threat away.

For Diane it's not just about biodiversity, it's about beauty, and all those intangible values such as a sense of place and a refuge for quiet reflection in this crazy world.

To Diane, looking after the bush is an artform. Working calmly and methodically, without a sense of panic or despair, she sees the gradual transformation of a patch of weeds to a patch of bush.

WRITTEN BY: SERENA KIRBY

With a Bachelor of Arts in Communication, plus years of experience working and studying bodywork and herbal medicine, Nadine Laphorne was heavily involved with the WA Greens after moving from Sydney to Perth in the mid 1980s.

While Nadine had visited WA's Great Southern region many times, she made a permanent move to Denmark in 1999 to participate in a full-time bush regeneration course run by Diane Harwood at Denmark TAFE.

So inspired by what she learnt and the people she met, Nadine quickly joined a group of likeminded people who were starting a Denmark Weed Action Group (now known as South Coast Bushcare Services).

"The Department of Agriculture was encouraging local communities to set up these groups with the aim of 'keeping the good bush good'," Nadine says. "I was involved from the very beginning and I've now been with them for more than 20 years. I've also been a Denmark Environment Centre member since moving to Denmark."

During her time with South Coast Bushcare Services Nadine has taken on various voluntary administrative roles. She's been convenor, treasurer, secretary and a general committee member and, of course, she's spent literally hundreds of hours out in nature caring for the bush.

While Nadine and the bushcare group help look after more than 25 Public Reserves dotted around the region, she's also undertaken paid work with the group in the form of private and commercial jobs for numerous landowners in the Denmark area.

"It's very physical work but the exhaustion you feel after a hard day in the bush is that satisfying kind of tiredness you get from actively doing something you love. Sometimes it's hard to stop

and go home as there's always just one more weed to pull or just one more patch to finish."

Of all the varying tasks Nadine undertakes in her bushcare role, she says it's the hand-fuel-reduction work she enjoys the most. You can really make a big difference in a low impact way by doing fuel reduction by hand and it's very satisfying to step back and see the difference you've made. "I usually come home with a few scratches and scrapes, mostly from blackberry canes but it's never anything major; just fleshwounds. It's worth it as I love communing with nature and, as our work is seasonal, I get to enjoy the ever-changing flowers in the bush."

In addition to enjoying the physical work, Nadine says another highlight of what she does is the places she gets to go.

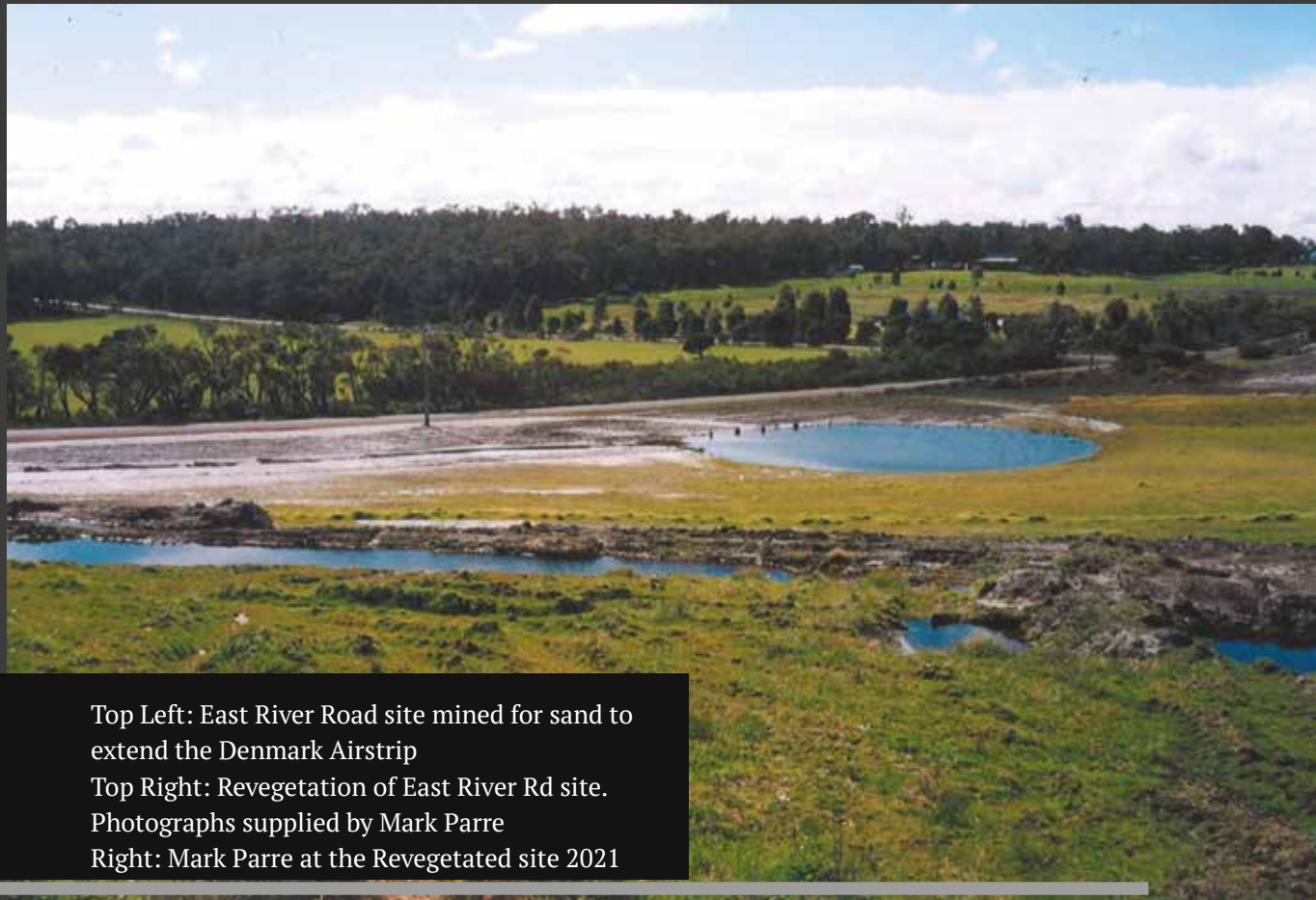
"We go to places that other people can't; little creeks tucked away on someone's property or patches of bush well off the beaten track. I get to hear the birds and work on a common goal with great people. What's not to love about that?"



Nadine Laphorne

South Coast Bushcarers

East River Rd 08 Revegetation Project



Top Left: East River Road site mined for sand to extend the Denmark Airstrip
Top Right: Revegetation of East River Rd site.
Photographs supplied by Mark Parre
Right: Mark Parre at the Revegetated site 2021

WRITTEN BY: ZOE PEPPER

In 2006 the Denmark Shire commenced extending the airstrip at East River Road, about 5km east of Denmark's town centre. Today the airstrip plays a critical role in ensuring Denmark has the necessary infrastructure to enable emergency services like the Royal Flying Doctor Service and water bombers during fire season to access Denmark.

But to build the airstrip 60,000 cubic metres of sand was mined from a nearby site and what remained after the sand was removed was a large tract of land that had become a wasteland, devoid of vegetation. Mark Parre worked in his role as the Revegetation Officer at the Denmark Shire to landscape and revegetate this steep, wet, barren site. Mark sourced native seeds from areas of bushland close to the damaged site, to ensure the site was revegetated with native plant species which would thrive in the area and that would seamlessly blend in with the existing bushland.

All the plants used to revegetate the site were raised from seed and plant cuttings in the Denmark Shire nursery. The plants are generally raised in the nursery for 12 months before being planted out on site. Volunteers are instrumental at planting time, both on this site and other revegetation projects right across the shire. Most of the planting at the East River Road site was done by school students. The planting is one of the most satisfying parts of the process so it's wonderful that it can be enjoyed by so many.

Mark played a critical role in all stages of the East River Road revegetation project from the design conception, seed collecting, plant raising, right through to the planting and maintenance of the site. Sixteen years after it was replanted this site is now a beautiful site with an abundance of native

flora. The pond dug to accommodate the water drainage of the site is now inhabited by ducks and frogs. Mark is incredibly passionate about this work and the rewards are palpable.

Mark recalls a time when he saw a White-tailed Black Cockatoo when he was visiting the East River Road site. He was walking along a fire break and saw it in a tree eating a Marri nut. "It was not more than two metres away from me. And we just looked at each other eye to eye as it sunk its beak into there to get those seeds out, it made me feel really good in my heart, just to know that I'd helped by putting a plant in the right place for that situation to occur."

Over the years he's learnt a lot about the timing of the planting of different species. "There's an evolution to the revegetation process." The first plants to really prosper are the 'nitrogen fixers'; types of pea flowers and wattles. They take the nitrogen from the air and put it back into the soil. These types of plants dominate the landscape for around seven or eight years. And then the tree canopy grows up around them and the 'nitrogen fixers' die off.

"Often that is the point when people think we need to burn off because they see dead fuel everywhere. But really this is the natural thinning of the forest understorey. If there's more patience, then the forest has time to become more complex and other species have the opportunity to grow. If it's burnt then the cycle will start over again and the 'nitrogen fixers' will be the first to recover."

This kind of knowledge of the intricacies of the bush have been developed from an endless curiosity and decades of experience. As he approaches retirement he is handing on that knowledge to another generation and training someone to take over his role at the Denmark Shire.

WRITTEN BY: ZOE PEPPER

Mark Parre has worked as the revegetation officer for the Denmark shire since 1993. In that time, he has revegetated more than 32 sites using seed and plant cuttings from species local to the area.

Mark was initially drawn to this kind of work to create more habitat for wildlife. He works out of the revegetation nursery located at the shire depot, which is "like a second home."

In the early days Mark was mentored by Brenda Hammersley a doctor who retired to Denmark. In her retirement she botanized and created amazing herbariums. Mark would visit her with a stack of flowers and ask her about them. And then they'd "get a cuppa and go to the microscopes. And she would open up the flowers and show me what was inside and show me why they were different from one another."

"I haven't got formal training in this. But I was taught by a very good mentor, how to look and observe and see those differences. And they've held me in good stead down the years."

His passion for the work and unwaning curiosity mean that his knowledge of plant provenance and propagation is vast. He feels fortunate in his role with the Shire that he's trusted to do the work that's needed. He has a lot of freedom to experiment and refine his methods with different approaches.

Now with thirty years of experience Mark enjoys sharing what he knows about growing native plants by running workshops about propagation. He's learned from "other people in the industry, books, the internet, and my own experience." Sharing that knowledge is part of what he loves to do.

He's always striving to better replicate the natural bushland in his revegetation programs. But it's impossible to know "all of the secrets which make plants survive and replicate that in the nursery. Nature does it beautifully herself. That's why we've got to preserve what we've got left."

He's always learning and discovering new things "there's still flowers I've never seen before. And there's still mysteries to be solved. What an amazing thing to do with your life. I love it."

When he's not at work he's got a passion for being in nature. It's not much different to what he does at work.



Mark Parre

Denmark Shire

Mark Parre pictured at the East River Rd Revegetated site 2021
Photographed Holly Pepper

09

Pedro Farm

Bushland protection

WRITTEN BY: ZOE PEPPER



Tony Pedro pictured at his property in an area of bushland that has been retained.
Photographed by Holly Pepper

Tony Pedro purchased a 1200 acre property close to the Hay River in Denmark Western Australia in the 1970's. It was bought under the State's Conditional Purchase Scheme, requiring 30% of the bushland to be cleared to gaining titles of ownership, the previous farmer failed to meet this target and was forced to sell.

Tony began clearing to meet this sale requirement. He had intentions to clear further to be able to run a sizeable amount of Cattle to provide for a family. But in the mid 70's Tony had an eye watering experience which made him radically rethink his approach to farming his land.

Tony was driving the D4 Bulldozer that he'd used to clear the land. It was running rough and overheating. He attempted a quick home remedy to fix the problem and poured fine black pepper into the radiator. The remedy didn't work and worse still the radiator and all that pepper blew up in his face. He rushed down to the Wilson inlet (that borders his property), to wash his eyes out. From there he looked back at his property and was shocked at how devastated the land was from his clearing. "I saw this absolute horrific mess and I thought, this is ridiculous. You know, I've got to stop, you know, smashing down this country because it's just such a horrific sort of consequence."

This moment really changed everything. No more land was cleared from that point. Within the minimum area cleared on his conditional purchase Tony Pedro established a relatively small Angus Cattle farm, with a herd of 100 Cattle. The Pedro family made a conscious decision to balance the family's financial needs with their strong environmental values. The other 70 per cent of the property is still the original Jarrah forest. The Pedros fenced off the areas of bush on the property to prevent the cattle from grazing in the bushland. Over the past 40 years the forest has been basically self-managed. The small cattle farm has provided

the family with a modest income.

The forest has largely been self-managed. Its age means that it has self-thinned and has a relatively open understorey. The forest is a habitat for many native animals including Kangaroos, Red-tailed Black Cockatoos and possums.

Leaving prime agricultural land uncleared is a very unconventional farming approach. The decision to take this route was driven by the family's commitment to protecting the environment but it has had a financial impact. "The main impact from protecting the environment is that it limits your capacity to, to assist the next generation to become farmers. The farm currently runs 100 cows, rather than, say, 200-300 cows, if everything was cleared, like most farms are."

More recently greater value has been placed on forested areas of farmland. Carbon Farming has enabled farmers to revegetate previously cleared farming land with permanent environmental plantings which can potentially earn carbon credits for the carbon stored in the trees and leaf litter. Through the trading of Australian Carbon Credits farmers have the ability to reap economic benefits from revegetating the land.

The Pedros have again missed out on any financial gain. "The whole carbon credits business, I found very confronting as well, because I assumed that because we hadn't cleared three quarters of the land that at some stage, we should gain the carbon credit. It appears that's not the case." Carbon credit schemes are only beneficial to farmers that are replanting trees into previously cleared farming land.

The environmental values that have driven the management of the Pedro's farm has had significant personal and financial impacts on the family. Ultimately their reward is being surrounded by pristine bushland that supports a healthy dose of native flora and fauna.

LANDCARE

+ LAND RESTORATION

STORIES

Denmark Environment Centre

This publication is a collection of photographs and stories that celebrate some of the tireless environmental work that locals from around Denmark, Western Australia have undertaken to protect this unique coastal town and surrounds.

