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Lightning strikes cause many fires in the NT. Photo Getty Images.

UNDER FIRE

Our best friend and biggest foe.

STORY **KEN EASTWOOD**

WARNING: THE FOLLOWING STORY CONTAINS WORDS AND IMAGES THAT SOME PEOPLE MAY FIND DISTRESSING.

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Just a couple of seconds. One… Two … Tim Haslam reckons that's all it would have taken to have avoided catastrophic burns to 38% of his body, multiple operations, the amputation of parts of his fingers and psychological scars to himself and family as deep and long-lasting as the physical injuries.

Tim was on the header, 5 days before Christmas, bringing in the last of the barley crop on his large cropping and sheep venture in Popanyinning, WA, when the machinery caused a spark that started a fast-moving fire. The only person within cooee, Tim vacated the header and retrieved his ute, which had firefighting gear, but by the time he returned, the growing fire was rapidly moving into his neighbour's place.

"Just all of a sudden the wind gusted and all that was in front of me was an orange plume of flame," he says a year after the event, returning from yet another medical appointment at the Fiona Stanley Hospital burns unit in Murdoch, 2 hours' drive away.

Just at that moment, when the fire around him was at its most intense, the ute bogged. (He later discovered it had a flat tyre.) "I should have sat in my ute for 1–2 seconds and assessed, which is hard to do when there's flames flicking around your arse," Tim says. Instead, his 'flight' response saw him run from the ute, through the flames and into the intense radiant heat. "I twisted my ankle and fell over, so my forearms, hands and face got burnt," he says. "When I stood up, I'd lost my left boot, so I was standing in the fire on one foot and I just sort of stood there frozen … I had my hands in the air and the skin was dripping off them."

Employee Noel Mustchin was soon on the scene and probably saved Tim's life. He raced him the couple of kays to the homestead, where there was an outdoor shower, spraying him with water inside the ute on the way. Tim stayed in the shower for an estimated 30–40 minutes until paramedics arrived. "All I could remember was my hands going back and forward in a motion of shock. I recall getting terribly, terribly cold because I'd been under the water for so long."

A helicopter flew him to Fiona Stanley, and he stayed in hospital for 84 days, initially passing in and out of hallucinations. "I was very, very confused," he says. "I stayed up all night one night because I thought I was hanging onto a bobtail lizard, and I didn't want it to bite me. Then, for a while, I was sleeping on the Nullarbor participating in a surfing competition. And I don't even surf."

As reality set in, depression followed. "I was really not comfortable about being in hospital," he says. Tim lost one finger and the tips of other fingers and has full-thickness burns on his arms and legs that require him to wear head-to-toe compression garments for 2 years. He and his wife Sally believe that without the research and care of the Fiona Wood Foundation, he would have lost both his legs, and possibly would have died.

Still emotional about the incident, Tim is very grateful for his community and the care he has received. The people of Popanyinning rallied around the family, with 40–50 turning up for a working bee to bring in the harvest. "It gives you a lot of confidence in human nature," Tim says. "Now I'm harvesting again I've got my mojo back – I got off a header at 11 o'clock last night and I'm up at 5 ready to go. I'm doing all the jobs I used to do, but I find them difficult, and they take me a long time."

The risk of fire hasn't gone though – early in the harvesting program this summer, the header sparked another fire. But this time Tim acted more calmly. "Because I thought for 1–2 seconds, I had a completely different result."

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COURTESY SALLY AND TIM HASLAM

CLOCKWISE FROM TOP: The community of Popanyinning helps out the Haslams after Tim's horrific accident; Tim in hospital; his helicopter evacuation.

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Ranger Nick cooking in camp ovens; Glen Chidlow and Vicki Numendumah during a smoking ceremony on the Kimberley coast.

Peter Whiley works the old bellows at the Golden Memories Millthorpe Museum forge in Central West NSW.

There's no doubt that fires make a terrible enemy. But for most of our lives, they are a warm and comforting friend, from the candles on a birthday cake to the glowing coals of a campfire on a cool night. In some First Nations cultures in Australia, almost from their first breath, a child may be 'cleansed' in gum leaf smoke, in a ceremony to protect them. "Women usually do that," says Wiradjuri man Doug Sutherland, from Orange, NSW, carefully avoiding cultural taboos. "It's just to keep the baby safe as it grows up, making sure no bad spirits follow them."

As well as conducting cultural burns in the landscape, Doug performs smoking ceremonies for different groups, including for archaeological digs. "I always do a smoking ceremony to keep us safe and ward off the bad spirits while we're on country," he says. He finds school groups love the smoke during the ceremony. "They don't want to leave it – they don't want to go back to class. They just love the smell of it."

Celebrity bush cook Ranger Nick teaches courses on campfire cooking and runs demonstrations at many country festivals. He loves the sizzle of a roast in a camp oven and the way a wood fire penetrates food. "You cook a steak over open coals, and you get lovely flavours from the wood," he says.

"One of the best timbers to cook with is gidgee. It holds a really good constant heat source for a really long time, as opposed to cypress pine. Yes, pine will burn hot, but it won't hold the heat in the coals. Ironbark's a good allrounder – really good to cook with – but to the east of 'the hump' [the Great Dividing Range] it's usually too moist and loses all its heat in about 15 minutes."

Nick particularly loves cooking in well-seasoned camp ovens. "Something about camp ovens just makes food taste good," he says. "Leave it alone. Let it cook. Go fishing. The worst thing that can happen is your meal will cook, and it'll stay warm until the coals completely lose their heat. Then you just need to put a shovel full of hot coals back on it and it'll warm up again while you're having a cold beer. The ambience of sitting around a fire – it makes a beer taste better, doesn't it? I could sit there and watch it for hours."

On cold, snowy days, volunteers in the blacksmith's shop of the Golden Memories Millthorpe Museum, in Central West NSW, love their charcoal and coal forge fire, which gets up to about 800°C when they are working metal. "If you've got an open fire, it's sort of good company, because it's always changing and you watch it closely," says Ken Matthews, who grew up in Warren, NSW, and worked at a foundry. "It's great sitting around the fire with a beer or a wine," says fellow volunteer Mike Logan. "Lots of secrets are shared around fires."

Fanning the fire with giant leather bellows, made in 1863 by Alldays and Onions, Peter Whiley works on making a lizard, bending the metal and stretching out the tail. "If you do it all scientific, there's different temperatures for everything you want to make, but I just get it roaring," Peter says. Occasionally he'll temper the steel – increasing the carbon content by cooling it quickly. "You put it in water, and you make it as hard as buggery," Peter says. "But, say, an axe can't be as hard. If it's too hard when you hit it into a lump of wood it'd shatter."

Peter grew up on a property near Millthorpe, using a small forge to sharpen ploughshares and make bag hooks. "We just did it ourselves," he says. Back then Millthorpe had 5 blacksmiths in town, and one of them employed 30 people to shoe 200 draught horses a week.

Like the burning of an eternal flame at a war memorial, volunteers such as Peter, Ken and Mike are carrying the torch for some of these blacksmithing skills, keeping the traditions alive. After their own life light dims and fades, their own bodies may also be consumed by fire through cremation. Almost two-thirds of Australians are choosing cremation over burial, with that percentage increasing slightly each year, but according to Anne Schmidt, operations manager of Centre Funeral Services in Alice Springs, NT, cremations are often less common in rural areas, partly due to limited access (the Alice Springs facility, for example, was only installed in 2019, and along with one in Mount Isa is among the most remote crematoriums in the country), but also because many locals and station people have family links with particular cemeteries and many First Nations groups don't traditionally include cremation as a burial rite. In 2024, some 37% of the more than 200 body disposals in Alice Springs were cremated, compared with a national average of 70%. "There are still people in town who are surprised to learn we have a cremator here," Anne says. "Pricing is one of the biggest drivers – it's just so much cheaper than burial."

A bit like a kiln, the 2-stage gas-driven cremator generates around 1000–1200°C of heat, but Anne says there's a common misconception about the burning process. "When you cremate someone, you don't produce ashes, you produce recognisable fragments of bones," she says. Those bones are then put through a 'cremulator' and ground up to make the ashes. Some people then place some of the ashes in jewellery, keepsakes or even tattoo ink.

Anne says that previously the bodies of people who wanted to be cremated in Alice Springs had to be sent interstate or to Darwin, raising the expense and time required, whereas now a cremation can be completed in just 3 days from a person's death. "We are nature and to nature we should return, whether by fire or burial," she says.

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PHOTOS: MATTHEW ABBOTT

TOP LEFT: Warddeken rangers use leaf blowers to turn a November fire in Deaf Adder Gorge.
BOTTOM LEFT: Vernon Garnarradj with his daughter Vinnisha, 3, follow a cool burn lit by their Nawarddeken clan.

A large scrub fire burns close to the Tanami Road near Yuendumu, NT, in March 2022.

In Australia, nature itself is primed to burn. Many plants need fire – whether in the form of flame to open seedpods, or smoke to help with germination. Some flowers only appear after fire, and many trees have clever adaptions to fire, such as a fast-shedding cloak of bark, or the ability to quickly extend temporary epicormic shoots after a fire, ensuring photosynthesis, and life itself, continues.

Working with 27 different Indigenous land management groups in desert country across WA, the NT and SA, Gareth Catt, of the Indigenous Desert Alliance, is helping rangers implement more enduring and sustainable fire programs. "We're not going to stop wildfires in arid Australia, but the key is to manage the landscape so that impact is reduced," he says. "Desert ecosystems are totally shaped by fire. Fire drives diversity in spinifex country."

The aim of many large-scale fire management programs is to break up the landscape into smaller chunks, creating a complex mosaic with areas burnt at different times. Rather than being afraid of fire, this strategy views fire as an essential part of keeping the country thriving, while reducing the unstoppable, huge wildfires. It's meant to be more akin to how Aboriginal people have managed the Top End, and much of the rest of the country, for at least 11,000 years.

A study published in *Conservation Science Western Australia* in 2006 found that desert fires had changed in scale from an average of 64ha in 1953, to roaring infernos averaging 52,644ha, because of the severe reduction in patchwork burning over that time. Gareth says that desert fires are still way too big – one fire in the Great Sandy Desert in 2017 burnt 38,000sq km and fires in 2023 covered a huge area. Current work is trying to change that, by initiating many more smaller fires, particularly in the cooler months of the year. "Unfortunately, the scale of the wildfires is still beyond the scale of the burning we are doing," he says. "Now fires can be so intense running up a hill that they'll split and shatter rocks...The natural state for fire in Australia is it's been managed carefully. We're supposed to be interacting with the landscape – if we don't do that, we're being negligent."

Introduced buffel grass, favoured by many arid zone pastoralists for its ability to spread and feed cattle, is renowned for also increasing the intensity of fires when it has cured in September, October and November. "Most native grasses you can find a window and burn them in a way that the fire risk is reduced. With buffel grass, it tends to burn later in the season – it goes from inflammable to extremely flammable in a very short window so it's very difficult for fire managers," Gareth says.

Research at Charles Darwin University in Darwin seems to indicate that the prevalence of large fires is negatively affecting numbers of some birds – in particular, insectivores and carnivores such as black kites and black-breasted buzzards. Up on Artemis station on the Cape York Peninsula, owners Sue and Tom Shephard have been using fire as a tool to try to help the beautiful golden-shouldered parrots on their property, which have rapidly declined in number in recent decades. "The birds like fire," Sue says. "A cool fire is good because it burns the grass and leaves the seed on the ground, and they can feed on it and see the predators coming and zoom up quickly."

Sue says one problem on Artemis though, is that without regular hot fires, the treed areas of wattle, tea-tree, grevillea, messmate and quinine keep "thickening", choking out the grasses needed for the 3,500 Brahman cross cattle, and increasing the dense habitat for predators

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that prey on the vulnerable parrot chicks.

"It brings in predators that shouldn't be there – in particular the black-backed butcher bird that prefers that wooded environment," says Steve Murphy, the CEO of Conservation Partners, which has been working with the Shephards for the past 5 years to help manage the parrot conservation project. "Also, tree snakes and small goannas. So, you've got novel predators moving in. Then, of the predators that were always there, like pied butcher birds and hawks, there are more of them. The parrots can't see as clearly, and also the long-term change in bird species, such as the black-faced wood swallows, means they don't have the alarm calls that they used to have to warn them of predators."

Steve says under the management of ancient First Nations people, the savanna landscape was kept far more open, with the thick grass plains preventing too many trees from growing, but the combination of cattle and the huge number of agile wallabies (which use station watering points) has changed the balance. "There weren't large grazing animals in the system," he says. "As soon as you suppress grass growth, it changes the balance."

Now, the landscape is so changed, with so many "woody weeds", fire alone isn't enough to restore the balance. It requires clearing, herbicides and fire. "Fire is a critical secondary tool or a primary tool in areas that are still open," Steve says. "Fire is really important to maintain it in that open state."

The intensive work, which also includes measures such as setting up small electric fences to deter feral cats and goannas, is definitely helping the parrots. "We are now seeing without a doubt more baby parrots leaving nests," Steve says. "In the 2024 breeding season we had 50 babies – that's 8 more than the previous 2 seasons combined. So, the initial signs are really positive."

The Shephard family has been on 1,250sq km Artemis for more than 100 years, and Sue says that in her 50 years on the property, the fire management has changed a lot. "We always used fires, but not like we do today. We never had any fences or paddocks, so when we wanted to muster, we'd light a fire, usually around May, or sometimes July or August." After a week or so the cattle would come in to feed on the green pick, and they could more easily be mustered from the one area. "When you put in fences, the cattle can't go from one place to another, so you can't burn out a paddock," she says. "That was the start of all our troubles."

Hot fires were regularly lit right into the storm season of December and even January to keep the woody weeds from dominating. "If you had a thick place, you'd wait until the storms were in the air, but if you want carbon credits you can't burn then. Now we do fires early in the year, but they're not hot – they act as fire breaks, but they don't do the country much good I don't think."

Doing the country good is exactly what research is proving about current fire management practices in the northern savannas, including the world's largest ever study on fire. Co-author of the study, Dr Rohan Fisher, who works with North Australia and Rangelands Fire Information (NAFI) through his role at Charles Darwin University in Darwin, says people across Australia need to recognise the work of Indigenous rangers over the past 20 years, which has led to a complete turnaround in the frequency, size, ferocity and impact of fire in northern Australia.

"There is an area of at least 665,000sq km where there are fewer fires now than there used to be," he says. In fact, northern Australia has had one of the most significant declines in fire across any large landscape globally. "If you look at, say, the Arnhem Land plateau, an important biodiversity area, there are basically no large late dry season fires there at all anymore. There's often a perception that it's only the late dry season fires that are reduced, but that the amount burnt overall has stayed the same. That's not true. The amount burnt overall has gone down. Why

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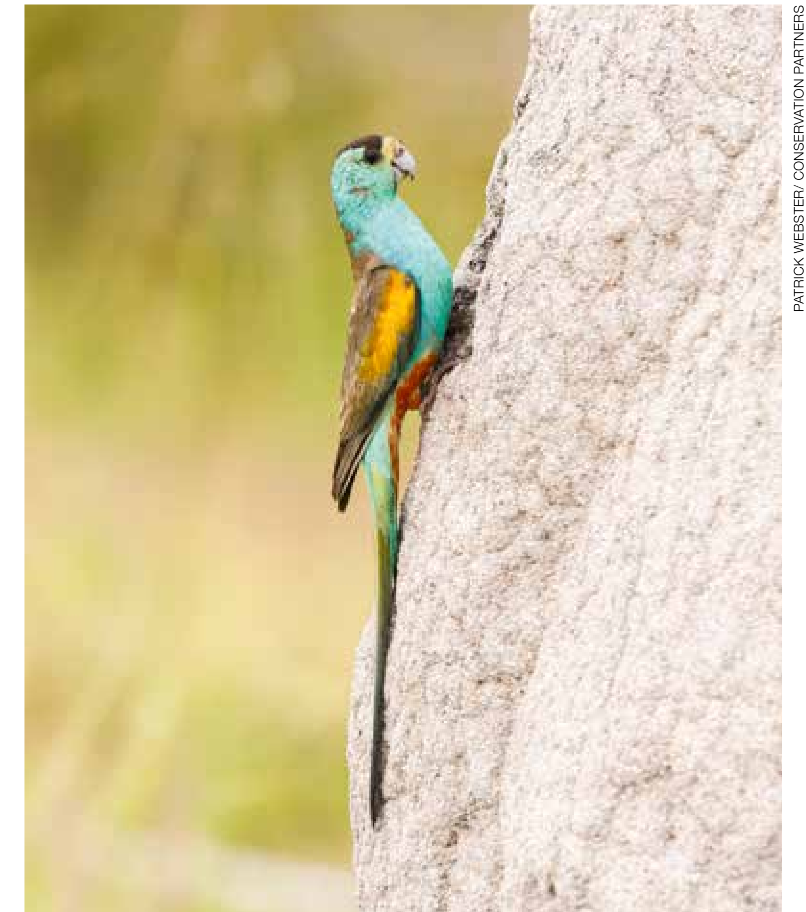

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A golden-shouldered parrot on Artemis station.

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MIM STERLING

Fire features prominently in Tim Storrier's paintings, such as Constellation and Fire (2017 acrylic on canvas 76 x 152cm).

the hell is this not one of the biggest stories in human ecological achievement of this nation in the last 50 years?"

The study, published in the *International Journal of Wildland Fire* in August 2024, focused on 22 years of data in the Kimberley, comparing pre-Indigenous fire management years (2001–2011) with the Indigenous-run North Kimberley Fire Abatement Project (2012–2022). It showed fire frequency decreased across more than 42% of the project area during the recent Indigenous management years. Fire seasonality shifted from late dry season to early dry season dominance, with fewer late dry season wildfires across more than 67% of the project area. Wildfires of more than 40,000ha occurred during 10 of the 11 years before Indigenous management, but in only one of the 11 years under Indigenous management. The fires that still occur are mostly less severe, patchier, smaller and occur less frequently, resulting in greater diversity of vegetation fuel ages, and more patches of unburnt vegetation for 5 or more years.

"As you head south, people can be so dismissive of this achievement," Rohan says. "Pretty much 99% of the research and funding attention goes to fires that occur in a very small part of Australia – that very thin strip of the south-east and south-west. But that is not where fires occur.

"My research shows the 2023 fires burned more than 84 million hectares of desert and savanna in northern Australia. This is larger than the whole of NSW.

"Water and fire are incredibly intimately linked. Rain makes fire basically." Therefore, the northern savannas, with over 1,000mm of rain a year, burn most frequently – around 39% of them burn each year. "You go down to the next rainfall zone, 600–1000mm, which are sort of those southern savannas or the northern rangelands sort of merging into the desert country. It drops down to

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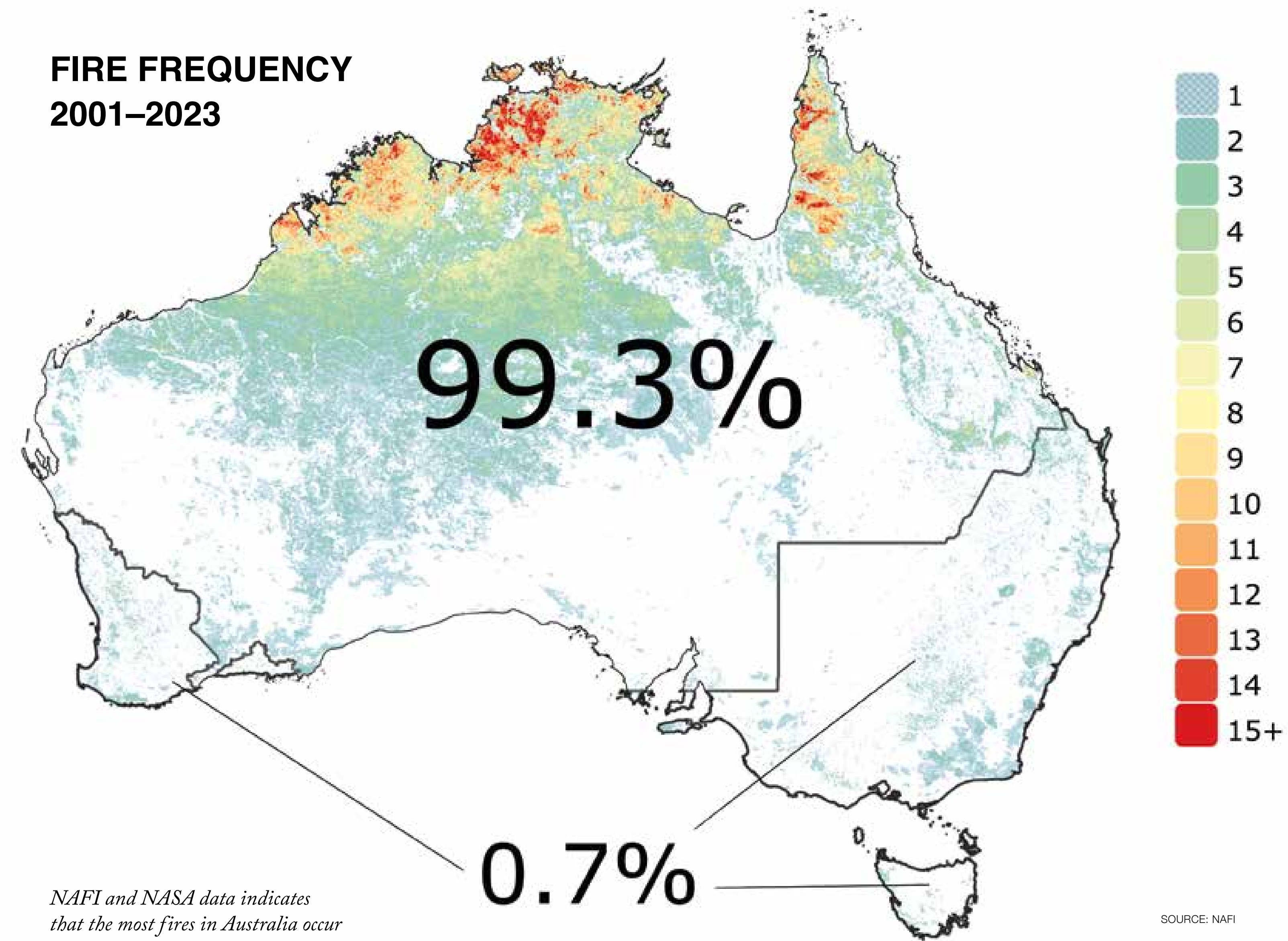

NAFI and NASA data indicates that the most fires in Australia occur across the north and desert regions.

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Henry Burke, general manager of Consolidated Pastoral Company's 9 cattle stations.

20% burnt. And the next step down going into the drier country again, it drops down to around 5% and then increasingly less from there."

Much of Rohan's work is focused on the 25 years of data that has come from the game-changing NAFI (Northern Australian Fire Information) website, which provides daily satellite updates of fires across 80% of the country. This helps land managers know where and when to burn. "You'll get a small-mammal ecologist saying, 'Oh, we need lots of long, unburnt country'," Rohan says. "It's like, 'Okay, great idea. But how do we achieve that?'" Generally, the answer focuses on ensuring the creation of a mosaic of different ages since last burning, through the detailed mapping available. "Fire management is painting the landscape with fire. Size [of a burn] is actually less important than shape – how you create these complex and nuanced landscapes."

Rohan says more research and understanding of the important role of fire in Australia is essential. "Fire is the most important human ecological factor that has developed the nature of this continent over the past 60,000 years, and we need to develop less fear of fire and start working with fire again."

For Henry Burke, general manager of Consolidated Pastoral Company's (CPC's) 9 cattle stations across 32,000sq km of land, fire management is a huge issue, particularly at the end of the dry season when lightning storms spark multiple blazes. "Last year at some of our Barkly properties, we had crews fighting fires for 10 weeks straight," he says. "And that was all storm activity. We could have had 60 or 70 fires starting one night."

The company combines the NAFI information with their own sophisticated mapping that shows kilograms per hectare of dry matter on the ground. And then fire management becomes a nuanced balance, juggling cool burns, hot burns and stock rotations to maximise productivity. "Cool burns are a bit of trial and error for a period," Henry says. "When the grass is too green it won't burn, and the fires go out. And then when the grass is drying up, it just burns through." Henry says you could also create a problem by burning a small area in a large paddock that holds a lot of stock, as they will overgraze the post-fire green pick. "You're gonna do some real damage. For example, if you are running 1,000 cattle in that particular paddock on a set stocking rate, you might have to go back to 200–300 for a couple of years just to give it enough time."

In areas where vegetation is unhealthy, or thickening of woody weeds has occurred, the timing of a hot fire must be thought out. "You might light a hot fire in June, July, mid-August, but that would be not always the best practice, because you're sitting all year with bare ground. You're better off if you're managing your pasture with fire for weed control and woody thickening doing that as close to a storm as possible."

With a huge diversity of terrain and vegetation across the vast properties Henry manages, each area has to be

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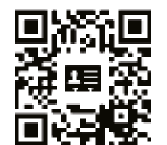

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PANIRI AGRICULTURAL CO

Patrick Lanskey conducts a cool burn to generate carbon credits on Holroyd station, Cape York Peninsula, Qld.

handled differently. "Mitchell grass, for example, is not ideal to burn," he says. "I would say if you had to burn it, then you would only want to burn it once in 10 years, so we go all out to manage any sort of fire on Mitchell grass until such time that we need to."

To add to the complexity, the company is also using its early-season fires in Queensland to generate Australian carbon credit units (called ACCUs, each unit representing one tonne of carbon dioxide equivalent that would have otherwise been released into the atmosphere), which can then be sold to the market or be used to offset their own greenhouse emissions. However, in the NT, CPC says that the legislation is inadequate, leading to huge delays in approvals for ACCU burns. "It's very messy and very hard to get any value out of it," Henry says. "It doesn't incentivise you enough and a cool burn is not always the best solution. Nevertheless, fire is an important part of our toolbox to manage good pastures."

Gary Wyatt is the managing director of Corporate Carbon, which not only manages a range of carbon credit programs, but also through its subsidiary Paniri Agricultural Co., manages 13,000sq km for cattle production and ACCU credits. He says the northern Australian ACCU market is worth about $55 million each year. "Compared to the size of the northern Australian agricultural economy, it's relatively small," Gary says. Cattle and sugar alone in the north generate an estimated $3 billion a year. "But for some sectors, it can be important, certainly for land that's under traditional ownership management. There was never a strong economic model for fire management before and you know even this relatively small contribution makes a huge difference to some communities."

Gary says that there are 2 kinds of buyers of northern ACCUs that have been generated through fire management. One is companies such as oil and gas producers who are forced by law to offset emissions. They want to pay the minimum possible – the average is currently around $40 per tonne, but they may pay less for bulk purchases. The other type is organisations that are voluntarily choosing to offset emissions, and often have multiple sustainability goals. They may be willing to pay up to $60 per tonne for ACCUs generated in projects that also have, say, an Indigenous or conservation element (such as Artemis's golden-shouldered parrot scheme).

Now, Gary says, there is a surplus of ACCUs in the market, but this is likely to change because offset targets are increasing, so demand will increase. If an organisation that is generating ACCUs through fire management has a 'worse' year in terms of carbon – for example, they have more late-season fires, resulting in emissions higher than their baseline levels – they don't have to hand back ACCUs. Instead, they generate a negative ACCU balance "and you'll only get new credits once you've wiped out or you've recovered that negative credit balance," Gary says. >

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Kachana station owner Chris Henggeler with granddaughter Georgia and one of the station's donkeys. Photo Nathan Dyer.

On Kachana station, approximately 120km south-west of Kununurra, WA, Chris Henggeler is controversially using feral donkeys, rather than fire, to rejuvenate the land in a trial area, believing that fire is being overused as a land management tool. Instead of trying to replicate what land management was like when Europeans first came to the country, he says we should look to much earlier – when large native herbivores grazed the open plains. (The ancient Australian megafauna is understood to have died out not long after the first humans arrived on the continent.)

"Fires miss the 'recycle' part of the system," Chris says. "After Australia lost most of its large herbivores, what couldn't be recycled biologically had to be ignited. [Then, later] we brought in new grazers and a lot more people. We're now trying to sustain close to 28 million people domestically and then export to support another 60 million people offshore. We need to bring more energy into the system. It doesn't make sense to burn so much of what we produce."

Using his 300 head of cattle, along with the 120–170 donkeys, and limited fires to create breaks, Chris says he has kept some areas of the station free of fire for 35 years, completely rejuvenating them. "They look like a dairy farm on the east coast," he says.

"A burn can damage and literally remove 'the skin' from a landscape," he says. "I've spent the past 35 years flying in and out of town and regardless of the season, where fires are used regularly, you're starting to see more bare ground and bedrock. Very often where there's early season burning or late-season wildfires, you lose all your mulch and groundcover." This also leads to increased flooding, he says. Meanwhile, carbon abatement schemes are just encouraging people to burn even more country. "You get paid to do less damage now, but more often. So, people are being rewarded for less worse outcomes – but you're still being rewarded for a net decline. On the other hand, there are zero incentives to go out to the catchments where floods start and put carbon back into the soil."

Away from the trial areas, on the bulk of the 77,500ha station, however, Chris admits that "we do what everybody else does, which is incendiary bombs. Strategically we've got to burn about a third of everything that grows so you don't lose 100%".

Fires and flames feature in Australian folklore and art. In his poem *Bushfire*, Henry Lawson wrote:

Better the rattle of rifles near, or the thunder on deck at sea,
Than the sound — most hellish of all to hear — of a fire where it should not be.
It roars for days in the hopeless scrubs, and across, where the ground seems bare,
With a cackle and hiss, like the hissing of snakes, the fire is travelling there;
Till at last, exhausted by sleeplessness, and the terrible toil and heat,
The squatter is crying, 'My God! the wool!' and the farmer, 'My God! the wheat!'

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Gawler Fire Brigade, SA, 1879.

Like scorched earth patches across the landscape, these devastating bushfires in Australia's history remain like scars in our collective memories. Fire isn't swayed by boundaries on maps, and so, across farmland, national parks and urban fringes, devastating, all-consuming fires have destroyed lives and landscapes.

On Christmas Day last year, Jack and Celia Tucker watched as a huge blaze in the Grampians (Gariwerd) National Park in western Victoria approached their Rhynie Pastoral cropping and sheep property (featured in issue 157, p64). Celia fled with the children to a friend's place, while Jack joined other locals defending each other's properties. Four houses were lost down the road in Moyston, and on Boxing Day fire was stopped next to the house of Rhynie Pastoral employee Taylor Leeson, but the Tuckers' place was left unaffected.

"We were very lucky," Celia says. "It came very close. It literally was pulled up on our road just south of us. Our neighbours' green lucerne crop was a very big fire break for us and the fire burned to the back of it. It shows how useful something like that can be."

Despite a lot of preparations establishing fire breaks and doing hazard reduction burns before the summer, the blaze ended up burning through 80,000ha. Celia says the support from the whole community and organisations such as BlazeAid has been extraordinary. "The main thing is that people are safe."

Although worsening in intensity and frequency due to climate change, these firestorms certainly aren't new, and, perhaps as a way of coping, we give the biggest of them special monikers to remember them. In the 2019/20 'Black Summer', at least 34 people lost their lives as 243,000sq km was burnt across many southern areas of Australia. On 'Black Friday' 1939, fires killed 71. On 'Ash Wednesday', 1983, 75 were killed in SA and Victoria. And in the 'Black Saturday' fires of February 2009, 173 people died.

Anthony 'Macca' McDonald, then running a remote-area catering company with his wife Karen, was returning to his home in Kinglake, Vic, the day immediately after Black Saturday. The furious, wind-fuelled fiery maelstrom 30m high had torn through his local community. "It's such an overwhelming scene with everything you see that it just becomes a jumble of a whole lot of emotions," he says. Temperatures were estimated to have hit 1,200°C, because of the way steel beams melted and warped, and aluminium ran like silvery creeks from car wrecks.

Macca was looking through the depressingly charred ruins of his house, flicking over pieces of tin, when some survivors asked him if he'd seen his neighbours. "I went down their driveway, checking where could they be – like I checked their concrete water tank … It was a really, still day and there wasn't a zephyr of wind, and then I heard this blowfly. And I looked, and there was the impression of bodies lying side by side about 2m from their car, and they were just ash … It was a sepia world you were standing in and they were just part of the ash that was everywhere. >

NSW RURAL FIRE SERVICE

JACK TUCKER

JACK TUCKER

CLOCKWISE FROM TOP: The Rural Fire Service's Tamsyne Harlen with the huge water bucket carried under a Chinook helicopter; Christmas Eve 2024, with the fire in the Grampians Range, western Vic, viewed from Rhynie Pastoral; protecting a house near Mafeking in the same fire.

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Burning tree near Cambewarra, NSW. Photo Matthew Abbott.

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A kangaroo rushes past a burning house in Lake Conjola, NSW, during the Black Summer bushfires in December 2019. Photo Matthew Abbott.

I saw a trunk, a pelvis, was sitting slightly off the ground, but the rest of the bodies were just ash. I went and told the police, and they confirmed that they were bodies – there were teeth. It answered a question more than anything else."

Now a tour guide at Arkaroola Wilderness Sanctuary in the Flinders Ranges, SA, Macca says that 15 years down the track, he has talked about that day a lot, which has helped with the post-traumatic stress disorder, depression and anxiety. "The psychological effects never really leave you," he says. "We're vulnerable people. Men are supposed to be strong and resilient, but the evidence doesn't show that. It's easy to sit around and drink piss all day, because it dulls the emotions, but it doesn't take the pain away."

Macca and Karen divorced 6 years later, and he says that was partly because of the psychological stresses of the fire. "By then, 70% of the couples in our street were separated or divorced," he says.

One of the issues with a large disaster like a fire, is it is much harder for a community to respond positively when there is so much need. "If any one house burns down in a small community like Kinglake, people rally – here's a school uniform, here's a meal, etc," Macca says. "But when you're sad that you've lost your house, and your neighbour has lost their house … helplessness or hopelessness is profound because you just don't know where to start."

Of course, investment in resources to fight such infernos has grown, with an increasing range of tools such as drones to help the estimated 136,000 volunteer firefighters in Australia. Tamsyne Harlen, who ran a crop-spraying business in Wee Waa, NSW, with her husband, joined the Rural Fire Service (RFS) as a volunteer in 2008, but took on a paid role when the RFS recognised her experience with aircraft could be useful. Now an aerial operations manager, she is in charge of assigning resources from the biggest aerial fire-fighting fleet in the country, such as the 737 Air Tanker *Marie Bashir*, that can drop 14,000L at a time ("I just call her the 'big girl'"), a Chinook helicopter that can carry 11,000L ("It's fast and it really can get in anywhere") and a C-130 Hercules that can carry 15,000L of fire retardant. "Ultimately it has always been for me helping the community," she says. "I wanted to help my volunteer colleagues – trying to keep that calmness because I want them all to come back."

RFS superintendent Danny Busch is in charge of a trial program in which the Service employs up to 150 goats to keep down fuel loads in 25 areas across the state that might be tricky to light fuel-reduction burns because of smoke or other issues, such as near schools, nursing homes or hospitals. "It's not to replace other methods, it's to complement them," Danny says. "It's been highly

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IT'S JUST WHAT YOU DO

"It's just what you do," Betty Wakka says, when asked why she continues to volunteer for her local volunteer bush fire brigade in Denmark, WA. Her husband Marius nods in agreement.

In 2024, Marius was presented with a medal commemorating his 45 years of service as a fire brigade volunteer. At the same event, Betty received a medal for 20 years of service. They rank among an extensive network of volunteer firefighters and support people across the country. In 2023, there were around 136,000 volunteer firefighters in Australia and about 51,000 volunteer support staff.

Marius moved to Australia from The Netherlands with his family in 1952, when he was 8. The family settled on a farm in Denmark, on the south coast of WA, and he has lived in the area for most of his life since.

His first experience of fire was soon after the family arrived in Australia. "When I was 11, a fire came through," Marius remembers. "Us kids spent the night with buckets and wet blankets, sitting by the hay shed. We were told to watch for sparks and put them out, so we didn't lose the hay. That first fire we experienced as pretty raw Dutchies was an eye-opener."

He hasn't kept a tally, so Marius can't say how many fires he's attended since. "You go out there and stay until it's done," he says.

Betty, too, is no stranger to fighting fire. "Dad taught me how to use a wet hessian bag to fight fire when I was a kid on the farm in Wagin, WA," she says. "It's how we saved our house here during the fire in 2022. We knew what we were doing." That fire started not far from Betty and Marius's farm west of Denmark and burnt through more than 2000ha.

Marius, a former captain and chief fire control officer of the William Bay Volunteer Bushfire Brigade, and Betty are both regulars at training days, sharing their wealth of knowledge with newer recruits. Betty is one of the mainstays of the auxiliary that serves up morning tea to the firefighters.

Most importantly, at 7.45 every morning during fire season, Marius reads the radio schedules. He radios the 33 people on the schedule – captains and fire chiefs from all the brigades in the Denmark Shire, and also the police and shire representatives.

After he's radioed everyone individually, Marius reads out all the permits that have been collated and written out by Betty, so everyone knows what, if any, permits have been issued. He signs off with his standard phrase: "If there's nothing else, Bell Road Base on standby. Have a good day."

Betty then emails the permits to the government officials, shire officers, and other fire volunteers. It's all critically important, ensuring communication can flow when the crunch comes. And it's all voluntary.

Jill Griffiths

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successful. What we're finding consistently is that the program can reduce fuel loads by up to half, which is pretty significant. They're particularly good in steep terrain areas and more interface areas, up close to villages."

It's these diverse measures that will hopefully reduce the impact on communities of out-of-control bushfires – fires that lead to a range of symptoms and behaviours often for many years afterwards, according to the University of New England's Professor Kim Usher. "People may tend to avoid areas or things that remind them of the event," Kim says. "They avoid that place or avoid thinking about it. As well, some people are permanently tense and anxious. They're waiting for something else awful to happen."

In one study in which arts workshops, sharing time and "yarning events" were used to bring people together after fire, Kim discovered that the recovery of a community is linked to a sense of connectedness. "I have a problem with that term 'resilience'," she says. "Resilience makes an expectation that the individual should bounce back. That's not how everyone experiences traumatic events. I like to think more of the term 'community recovery'. It focuses a lot more on a positive attitude."

Late in 2024, the Foundation for Rural & Regional Renewal (FRRR) released an extensive 5-year review of the 928 projects it supported in 240 communities that were affected by the Black Summer bushfires, totalling almost $20 million in support. It demonstrated the importance of funding medium- to long-term recovery projects to respond to community needs, rather than just short-term emergency fixes. "Money is important, but it needs to come with empathy and support, so people feel heard and understood," the report stated.

FRRR CEO Natalie Egleton says although floods generally have a bigger effect on communities financially, fire can sometimes feel more traumatic because things change so quickly and ferociously. "People describe it as these walls of flame and these tornadoes of fire – that's a war-like experience for most people. Even when rebuilding has begun, and everything appears to have stabilised, the psychological effects can be very damaging and cause long-term trauma. Every community's recovery journey is different, which is why we focus on empowering local leaders to determine what their communities need to heal."

Perhaps, many of our communities are like grand old gum trees – think of the Cazneaux river red gum in the Flinders Ranges, or millions more like it. Their form has been forever changed by fire, with blackened bark and ravaged hollows, yet they have survived and even thrived through the flames that will continue to dominate so much of our country.

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Listen to our extended interview with Tim and Sally Haslam on the OUTBACK podcast.

Campfire on the Kuddaree Waterhole, south-western Qld. Photo Mark Muller.

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