

**Linton Burgess** performs a traditional dance during *patrula*, a return of important cultural fire practices to farmland on the midland plains of Tasmania for the first time in 200 years.





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# WALKING WITH FIRE

Black Summer showed that modern bushfire-mitigation strategies are failing. Does the answer lie in restoring ancient Aboriginal burning practices?

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STORY BY **CLARE WATSON** PHOTOGRAPHY BY **MATTHEW NEWTON AND SARAH TEDDER**

# As **Nook Webster** walks on Yuin country, he moves slowly, picking his way through the tall gum trees.

He pauses, as if he senses movement, looks skyward, then places one hand on a scorched-black tree.

The devastation wrought by the Black Summer fires was raw and immense, especially for Aboriginal people who watched country and kin burn as never before with the deep-seated knowledge that if they'd been able to maintain cultural fire practices, developed during millennia before the arrival of Europeans, those fires would never have occurred in the way they did. This country has changed, and extreme fires fanned by climate change are a new force shaping Australian ecosystems.

Aboriginal fire practitioners such as Nook know there is another way, and seasoned firefighters are beginning to heed their call. They say that if cultural land management practices were widely reapplied, many parts of the country could be healed, even protected from future fires, with the resilience of healthy landscapes restored and the strength in communities renewed. But first, an ancient fire knowledge needs to be resurrected.

▶ **Michael-Shawn Fletcher** researches the long-term interactions between humans, climate, disturbances such as fire, and vegetation.

**T**RACES OF AN Australia markedly different from what we see now can be found in the ground. Glimpses are also recorded in the paintings and journals of early British explorers. Before colonisation, smoke and fires regularly occurred – dotted across the country as far south as Tasmania – under the watchful eye of Aboriginal people actively managing the landscape, as they had done for tens of thousands of years.

Take a walk with Michael-Shawn Fletcher through the rainforests of Tasmania's Surrey Hills today, and he'll show you what remains. Not far from the coast, these rainforests snake along rivers and spread across high plains atop an otherwise mountainous landscape in the state's rugged north-west. Occasionally, you might stumble into a patch of treeless grass or come across the stump of an ancient



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**University of Tasmania** scientists work with members of the Aboriginal community and local landowners in central Tasmania to return patula (fire) to this remnant eucalypt woodland.

eucalypt buried among the dense, dank shrubs – a relic from another time when it had space and light to branch far and wide.

As for Aboriginal people elsewhere, the Palawa people of Tasmania used fire to sculpt the landscape and care for country. Open grassy areas were created to attract small animals for hunting, a technique known as firestick farming. The same patches could also function as wildlife refuges during bushfires. “Aboriginal people have dozens of words for the way they use fire,” explains Michael-Shawn, a Wiradjuri man and University of Melbourne biogeographer. “It was deliberate and they were thriving.”

As a student, he was inspired to question common-held views of Australia, particularly Tasmania, as an untouched wilderness. He wanted to see what the land had to say, believing that with understanding comes appreciation and respect. This led to a career studying records of environmental change and, specifically, the interactions between humans, climate and vegetation.

Most recently, he has reconstructed past landscapes from plant remains and pollen spores in the soils beneath modern-day rainforests in Surrey Hills. What he’s found is that moving through time from earlier, deeper soils up towards the surface, charcoal fragments that would have littered the ground with regular cultural burns all but disappear, and the native grasses and eucalypts that once grew are replaced by introduced weeds and woody rainforest trees.

“Those signatures in the landscape all converge to tell you a story of grassy landscapes with broad branching trees and fire burning underneath,” Michael-Shawn says, explaining that the same signs can be seen at other sites along Australia’s south-east coast, on the Bellarine Peninsula, in Victoria, at Potato Point, in New South Wales, and all the way to Queensland.

“Aboriginal people were profoundly influential in creating this landscape.”

That means, he says, the way we view fire in the Australian landscape needs to radically transform, because things have clearly changed. In the past 200 years, there have been more large, hot fires than ever before.

The first catastrophic bushfire ever documented in Australia hit Victoria two decades after Aboriginal people were forcibly removed from their land, Michael-Shawn says. Without traditional custodians applying cool, cultural burns to country, the trees moved in and bushfire followed. Bushfires became more frequent and ferocious, until last summer, under the overriding influence of climate change, there was possibly the largest forest fire in recorded history, the Gospers Mountain megafire.

After peering into the past, Michael-Shawn is more concerned about the future. He believes cultural burning could create more resilient, less flammable, landscapes and more resilient communities, particularly in the most densely populated part of Australia – the south-east. ▶



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Where he lives, in Victoria, a federation of traditional owners is leading fire and land management agencies through the state-wide cultural fire strategy. Moreover, Aboriginal rangers in the Northern Territory are world leaders in fire management, applying fire across savannah grasslands for decades now and showing countries such as Botswana, in Africa, how it's done.

In NSW, which emerged as the worst-hit state after Black Summer, there are select recruits with Indigenous expertise within various fire and land management agencies, but the driving force is a grassroots movement led primarily by the Firesticks Alliance Indigenous Corporation, which is working with Aboriginal communities to revive cultural practices through workshops and training programs.

"There's a lot of knowledge out there that just needs to be reawakened," Michael-Shawn says. "Aboriginal people want to engage, they want to reconnect and they've said with open arms we'll walk this path with you."

**G**REG MULLINS IS STILL reeling from what he saw last summer. As the former commissioner of Fire and Rescue NSW, the state's urban fire service, Greg still fights fires voluntarily as he's done since he was a teenager. He was at Batemans Bay on the NSW south coast on New Year's Eve when the Currowan fire had people fleeing to the sea. He also backed up against the Gospers Mountain megafire that surrounded north-western Sydney.

Forthright and earnest, he can offer numerous recommendations for what needs to be done differently, ranging

▲ **Greg Mullins, a former NSW Fire and Rescue commissioner and internationally recognised authority on bushfire and disaster response, today leads Bushfire Survivors for Climate Action, a group of bushfire survivors, local councillors and firefighters who lobby for urgent action on climate change.**

from rapid detection of new fire outbreaks in remote areas followed by swift aerial attack, to installing local solar-fed electricity grids so communications don't go down. But his main message is that you mustn't leave community out of this.

In a career spanning four decades, Greg has seen fire-fighting and its risk-mitigation strategies become increasingly sophisticated, which, unfortunately, in some cases, excluded the very communities it was trying to protect. When Greg first joined the fire service, landowners were almost wholly responsible for managing their own properties. But then risk management was tasked to centralised government agencies for the sake of coordination and safety. Poor burning practices were also a concern. The responsibility was transferred exclusively to government and with it, Greg says, a lot of local know-how was lost.

After the 2009 Victorian Black Saturday disaster, authorities conceded that withholding information from the public had cost lives. Emergency public broadcasting was introduced afterwards, along with a new fire danger rating of catastrophic. Authorities learnt from that disaster how communities needed to be part of the solution. That was more than 10 years ago.

PHOTO CREDIT: KATE GERAGHTY/SYDNEY MORNING HERALD



**The Firesticks Alliance** ensures the right people are involved in planning and implementing fire on country, based on their cultural connections to the land. The organisation provides Indigenous leadership and advocacy, running fire workshops, such as this one at Bundanon in NSW in 2018, across the country to teach cultural fire and land management practices.



## “We need people not fighting fire, but walking with fire. Through walking with fire we can create a healthy landscape.”

“Communities who understand fire, survive fire,” Greg says simply. And, with at least 65,000 years of experience, Aboriginal people know how to manage this land. Showing respect for their deep knowledge of this country, Greg says, is long overdue: “We need a horizon of years and decades, not weeks and months. That’s a change for the fire services. But our Indigenous brothers and sisters used to think that way, so let’s tap into them.”

**W**HEN THE RAINS finally fell in February, Nook Webster returned to Bundanon, a once-private property on a bend in the Shoalhaven River, west of Nowra, to see what damage had occurred.

The Currowan megafire had come close. In fact, it burnt right to the edge of a large area Nook and his mob had treated with a cultural burn 16 months earlier, then stopped. Nook retraced his steps through the bush to find the place where the two fires had met. “This is a meeting place,” he said. “From this place we have knowledge and we learn.”

For Aboriginal people, the Shoalhaven River is a special feature in the landscape where two language groups meet

– Dharawal to the north and Dhurga to the south. In 2018 the 10th National Indigenous Fire Workshop was held at Bundanon, organised by the Firesticks Alliance and led by Nook, who’s an elder with both the Yuin and Walbanja. During 13 days and nights, Nook, his son and nephews walked with fire as it trickled along the ground and led workshops for community, rangers and agency staff. He says the burn at Bundanon created its own dialogue about what cultural burning can do across a landscape.

“We need people not fighting fire, but walking with fire,” says Nook. “Through walking with fire, we can create a healthy landscape.” Aboriginal fire moves slowly and burns cool to protect a forest’s canopy. It burns only the grass and shrubs beneath and creates a patchwork of vegetation types and ages, unlike mainstream fire management programs, which burn large blocks of land at once.

A cultural burn is also less intense than hazard reduction burns, the mainstay of modern fire management. In this way it clears leaf litter and fallen bark but doesn’t carry enough heat for invasive native shrubs to germinate, which would raise the fire risk. Instead, native grasses are encouraged to grow back to hold the next fire close to the ground. ▶

▼ **Oliver Costello**, at the Firesticks Alliance workshop at Bundanon in NSW in 2018, where cultural burning later protected the site from the Black Summer bushfires.



**I**N THE EARLY DAYS of Firesticks, co-founder Oliver Costello recalls, it was hard to convince anyone in NSW to allow culturally appropriate burning. Even now, he says, Aboriginal people must make cultural compromises to comply with fire and land management agency policy, and their access to cultural lands often hinges on local landholder support.

Oliver is a Bundjalung man from northern NSW who reconnected with his fire knowledge first in the Blue Mountains, then on Cape York Peninsula with Victor Steffensen, a long-time consultant reapplying traditional knowledge in Australia. Together they formed the Firesticks Alliance. Although their work will always be tied to Kuku Thaypan elders Tommy George and George Musgrave, both of whom have since passed away, the vision for Firesticks has always been to connect communities across Australia and help rekindle cultural fire practices.

The 2018 National Indigenous Fire Workshop was a big step forward in that regard. It was the first held outside Cape York Peninsula and was a way of pushing straight through barriers that have constrained Aboriginal people from practising their culture on country. At Bundanon, they were invited by the owners and supported by land management and fire agencies.

It was clear where the authority sat – with country. “The knowledge comes from the land; it teaches the lore,” Oliver explains. To decipher the fire stories of a place such as Bundanon, where cultural fire has been absent for so long, Aboriginal fire practitioners look to the “parent” trees, the oldest trees in an area, to see what kind of fire they need. By reading indicators in country – of the plants, birds, animals, rain, wind and soil – practitioners know the right time to burn, how often and how hot.

Oliver hopes that all Australians are beginning to understand that Aboriginal people’s traditional fire knowledge is a critical practice that’s integral to how we all should be looking after this country and each other. But he knows there are still profound cultural differences to overcome. He says that because authorities are fixated on removing fuel, they don’t manage for country – for the fire stories of that land. “It’s a big journey that we’re on,” he says.

▼ **Through mentoring and leadership**, Victor Steffensen (at left), a Tagalaka man, works to revive traditional knowledge and values passed to him by elders Dr Tommy George and Dr George Musgrave.



**T**HE BLACK SUMMER BUSHFIRES were the latest tragedy in a long line of fire catastrophes. A decade ago, there was Victoria’s Black Saturday and before that, the Canberra fires of 2003. For Phil Zylstra, a former firefighter turned academic, it was the Canberra fires that had him questioning mainstream understanding of fire.

Phil studies fire behaviour and forest flammability by taking a bird’s-eye view of fire-riddled landscapes. While working in fire management, he developed the first peer-reviewed fire behaviour model for eastern Australia’s eucalypt forests. He later tested it against fires with colleagues at the Centre for Environmental Risk Management of Bushfires, showing that the size and species of plants, not fuel loads, determine how quickly a forest goes up in flames.

Last summer, Phil says, bushfires burnt like never before, due to the dryness, and things got out of hand. “We’re kind of out of our depth. We don’t understand fire behaviour very well, we just like to tell ourselves that we do,” he says. “Our assumption that it’s all about fuel loads has completely misunderstood what has happened in the past.”

For about 80 years the general strategy led by fire agencies has been to fight fire with fire, to burn as much country as fast as possible, as Phil puts it. Get rid of the fuel, clear out the shrubby understorey. Burn it now, to save it later. Called hazard reduction burning, it’s based on the idea that recently burnt forests are less flammable than long-unburnt areas because there’s less fuel.

Now experts say that prescribed burning has reached the limits of what’s practically possible. Aiming to slow out-of-control wildfires, authorities are burning more land with little protection to life and property granted in return. To achieve 1 hectare less of bushfire, the best rate is 4ha of prescribed fire, the strategy goes, except that prescribed burning does little to slow a bushfire under extreme fire-weather conditions and in times of drought. It’s also getting risky with a narrowing window of weather suitable for prescribed burns, forcing agencies to meet their targets in less time. Then, of course, there’s the smoke that accompanies controlled burns.

Hazard reduction burning has always been a hot topic, with communities claiming more should be done. ▶

**The late** Dr George Musgrave (at left) and the late Dr Tommy George – Kuku Thaypan men – hold a fire torch. The two grew up on country on Cape York Peninsula, QLD, steeped in the knowledge of their elders. They, in turn, were able pass on traditional fire knowledge to a younger generation that included Victor Steffensen.



**The vision has always been to connect communities  
and help rekindle their cultural fire practices.**



**A young girl** sets fire to dry grass in northern Australia, where managing savannah grasslands using Indigenous fire knowledge is widely practised. It's even returning valuable income to communities in the form of carbon credits. Fire in northern Australia is widely acknowledged as healthy for country, and managing the rangelands using Indigenous knowledge hugely reduces greenhouse gas emissions from these fires.

**“We’re just re-establishing a cultural learning pathway that’s been in place for thousands of years.”**

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► **“If traditional practices** are applied back into the landscape, everyone benefits from it,” says Nook Webster, a proponent of Aboriginal ecological land management practices and a former national parks ranger. “There’s food and moisture and the landscape becomes a productive environment.”

Black Summer actually came at the peak of prescribed burning practices in NSW, says Phil, who analysed publicly available fire history records. He found NSW National Parks and Wildlife Service doubled their efforts this past decade with more prescribed burning in their parks than during any decade before. “Our approach is that we just have to keep hitting it harder,” Phil says. “But we’re working against the natural system.”

Fire and forests have their own processes, something Aboriginal people have long understood. Historically, they knew which forests to protect and which ones could be burnt safely, which species thrived with fire and which ones suffered. That knowledge is still there. Aboriginal cultural fire management is as much about choosing what not to burn as it is where fire should go, and all about understanding which species belong and what makes them healthy. “Sometimes that means no fire,” Oliver Costello explains.

According to Phil Zylstra, modern fire management just doesn’t have the same nuance...at least not until now. Fire agencies such as the NSW Rural Fire Service (RFS) are planning to replace existing “crude” methods with improved risk-prediction tools to help them decide how and where prescribed fire should be applied in the landscape. Similarly, University of Wollongong researchers have released an ‘atlas’ for eastern Australia that shows where prescribed burns would be most effective in a particular landscape and where it has limited value.

As for all the maps and models he uses, Phil admits it’s a mere fraction of what Aboriginal fire practitioners have to offer. “Cultural burning is such a complex and clever science,” he explains.

**W**ITH A THREAT so great and lives on the line, fire authorities are unlikely to change their main operations unless the alternative is really shown to work. And that may be why, underscored by recent recommendations from the NSW Bushfire Inquiry, there’s now extraordinary public interest in Indigenous ways with fire.

Conversations are happening at a local level, in community fire brigades, and collaborative research projects are underway. In the midlands of Tasmania, for example, at the suggestion of one farmer, the Aboriginal community is working with scientists to return fire (patrula) to a remnant eucalypt woodland on the property and study its effect.

Another is comparing the outcomes of cultural with prescribed burning in Warra National Park and Watteridge Indigenous Protected Area, outside Guyra in northern NSW. University of New England ecologist Michelle McKemey describes it as a practical alliance between the NSW RFS, Northern Tablelands Local Land Services, Firesticks and the local Banbai rangers, who have been



empowered to reintroduce cultural burning on ancestral lands. The Banbai rangers chose what to monitor before and after each burn and that includes the totemic short-beaked echidna and threatened backwater grevillea. Their cultural fire protected both species, reducing fuel loads without removing mature stands of grevillea or the echidna’s log hollows.

This two-way approach is at the heart of Aboriginal culture, Oliver Costello says, and likewise, the Firesticks Alliance reflects what has always been – people coming together, connected through ceremony and songlines, learning from each other and sharing knowledge.

“People would come from all over, gathering for ceremony. My old people walked from here [in northern NSW] to the Bunya Mountains [in Queensland], and all along the way they would burn,” he says.

“Through Firesticks, we’re just re-establishing a cultural learning pathway that’s been in place for thousands of years. Sure, there are big gaps in knowledge, but the bigger the gap, the bigger the opportunity, and the more powerful that process is.”

But, Oliver adds, Aboriginal fire practitioners need serious support for Indigenous-led programs, not short-sighted policies, if they are to restore whole landscapes. “In a modern sense, it’s about livelihood. Not just a cultural burn here, a workshop there, but cultural fire teams empowered to practise their culture on country under their own authority, supporting landholders and land managers, and being resourced and recognised for that.”

Nook Webster has ambitions, too. Working for South East Local Land Services, he hopes Aboriginal fire practitioners and landowners can find common ground in a stewardship approach that puts country first. “We want all landholders to start connecting with country, to help maintain and heal country, to take ownership and revisit the old ways to improve current conditions,” he says.

Realistically, it will take decades to revive cultural practices in a meaningful way, but valuing traditional knowledge is the best opportunity we have in a changing climate to remake resilient landscapes and protect communities, Oliver says. “It’s going to take a long time to heal and we need to start now.”

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