



INTERVIEWED BY DR CHRISTIANE KELLER, AIATSIS

Dan Morgan is a southern Yuin traditional owner with 18 years' experience as Aboriginal Field Officer for National Parks and Wildlife Services (NPWS) and Member of the Biamanga Board of Management. He now works as Aboriginal Community Support Officer with South East Local Land Services (LLS).

How do you explain the current situation with the extensive bush fires in regard to global climate change?

I am glad that I don't have to drive through the recently burnt areas every day. It would affect me mentally. It really affects us as custodians of the land as it is our cultural obligation to look after country. And to see country so devastated is a reflection onto us. It's hard as we don't have any say in how country is treated but we have to live with this aftermath. There are a lot of politicians saying things now but not much action. If it's not happening now I don't think that there is much hope.

I can't really speak on behalf of community but I believe that there is climate change. Each summer seems to be getting hotter. I noticed little things like our middens along the foreshore are getting eroded by big seas. The watermark seems to become higher and higher. A lot of these midden areas are our burial grounds. The winters have been quite mild. We never ever had north-westerly winds in winter. Normally we only get west and southwest winds. It's like the seasons are changing and with it our cultural season.

Can you explain the difference between a hazard reduction burn (HRB) and cultural burning?

Agencies in control of bush fire management are doing HRBs of quite large areas which are measured by the fuel loads they reduce per hectare and are repeated every seven years.

Within one or two days of spending time with Victor Steffensen [a traditional fire expert and leading educator in the matter] up north my whole perception of fire had changed. When I was working with NPWS I realised we were using fire the wrong way causing more harm than good. Returning home I started paying attention to the areas where we had previously done HRBs. In areas that we called a 'doughy' burn where the fire was patchy and did not burn through easily and reduce the surface fuel loads, I noticed a lot more native grasses and sedges. Areas we called a 'good' HRB, where fire carried through the landscape and reduced fuel loads I noticed a lot of thick, shrubby mid story species. Four, five, six years later there was more fuel load growing back then before the HRB.

The 'good' HRBs were hot fires that changed the chemistry of the soil and burned out the seed stock.

Dan Morgan at Bithry Inlet explaining the different country types. To the left of the path is the coastal mahogany forest, to the right the greybox and a bit further up the hill the full gum country.

Credit: Christiane Keller, AIATSIS



The plant species that came back were fire dominant species, thick shrubby plants that would fill out the mid story between the ground layer and the canopy of the forest. When a wild fire comes through it gives the flames a chance of climbing up into the canopy creating a wall of fire.

The way we burn traditionally we break the land down into different country types according to the dominant tree species. When you drive down Middle Beach road to Bithry Inlet [in Tanja, at the south coast of NSW] it starts down at the beach with sand dune country. A lot of country types, like sand dunes are very sensitive and we don't burn it often or not at all like rainforest. Once you come up the steps into the car park you get to coastal mahogany country. Then, just 50-80 meters further you come into coastal grey box and woollybutt country. Another 100 meters further down the road is spotted gum or full gum country. So, just within about one kilometre there are four to five different country types that need different types of fire regimes at different times.

In a modern day HRB you can have these different country types which need different fire regimes at different times to each other. They can be months or years apart but they are treated all the same. We end up with one country type with fire dominant species. When wild fires are coming through it thrives on these shrubs and explodes. It creates these massive mega fires.



Southern Yuin community at Wallagoot Lake starting the fire and monitoring progress.
Credit: Dan Morgan, LLS



Slowly moving the fire through the forest.
Credit: Dan Morgan, LLS

Traditionally we burn these areas separately. Because traditional fire regimes have not been implemented for so long, the first burn is always a bit difficult and hotter than we want it to be. But we are trying to keep it as cool as possible. Once we get that first burn in, then it's like a reset.

In a cultural burn we put one spot of fire in one area. We have a little ceremony and we'll wait for five maybe ten minutes. This lets the birds, animals and insects smell the smoke and give them notice that there is fire and a chance to move away. Then we'll go up to the fire and let the fire spread out. We are looking at all the insects, spiders and all that's moving and we will let those insects decide how fast we pace the fire. It's a lot more time consuming but it's like anything, the more time you put in the better the outcome you get.

This first reset burn is like a blank canvas. We still have surface fuel loads, materials on the ground and a charcoal mulch layer that acts like bio-char. It creates good bacteria in the soil which then retains more moisture. By burning slow and cool the grass seeds will germinate and come back. We'll get a knee-high layer of grasses and native sedges that acts even more like mulch. We might have more fuel load but also more moisture in the soil to suppress wildfires. That's the difference between cultural burns and HRBs.

Because we haven't implemented the cultural burning for so long tall native species have moved into other country types where they don't belong. Country types are like gardens and need maintenance. If you don't look after them they become full of weeds and get out of control. Using the right fire at the right time will weed those plants out but only if they are not over shoulder or head height, then it will become a manual handling job to get these plants out. That's what we were testing after the Tathra bush fire where we burned six months after the fire¹. That could be a little early as the land is still in recovery mode. We were planning to burn individual little test patches at six months, twelve months and then every year to monitor what would be the best method, but we ran out of funding for the continuing program and only got to do the one six months burn.

We let the country tell us when to burn. Within each country type there are certain indicators. It could be a flower, a certain tree that is seeding, or when a certain grass cures. These indicators show us that this country type is ready to burn again. This can differ to the timeframes the agencies in control of bush fire management want to burn. It all depends on the health of the country.

Fire is like a medicine for that country but it has to be the right type of fire.

Cultural burns are more regular than the thresholds that are currently set on forest types. Scientists base their thresholds on different plant species that might become extinct if they are burned more frequently. Their evidence is based on a hot fire HRB and no research has yet measured the survival of these plants with the way we burn.

Cultural knowledge is quite scientific and has been proven for thousands of years but scientists ask for scientific evidence before we get an opportunity to practice cultural burning. Gathering scientific data is taking a long time. For us to get a healthy country again that could take a generation or maybe longer. How long do we have to wait for science to catch up with cultural knowledge?

Cultural burning has so many different layers. When we do workshops we always work with community. It's about learning to read landscape again, being part of and playing a role in the landscape. Our role as humans was to apply fire at the right time only when the country told us to.

Seeing that cultural burning is a very slow process, what would you need to make it sustainable?

We would need Indigenous ranger groups up and down the coast working within their traditional lands with support by mainstream funding and carbon credits, so that during the cooler months we can get country back to health again. Aboriginal ranger groups need to lead this work with the wider community.

Last year we started the Murrah Flora Reserve Firesticks project that involve multiple government agencies, Aboriginal organisations and communities. There is a lot of interest within the communities along the south coast in cultural burning practices but before we can start to practise these on public lands, we need to meet government legal requirements.

To get environmental outcomes could take a long time but what is measurable now is the social benefits.²

Cultural burning is a great opportunity for our communities with so many issues like alcoholism, substance abuse, domestic violence, imprisonment and unemployment. A program like this is connecting our community back to culture and country and provides a sense of pride

and ownership for caring for country through traditional land management. There are employment opportunities and at the same time it creates a safe and healthy environment for everyone. It also creates positive relationships between the Aboriginal community and the wider community and is breaking down this social gap. It's just a win-win situation. I am not sure why something is not in place already.

I'd like to see ranger groups working across private and public land under the one policy framework, Caring for Country. There needs to be legislation change to allow the rightful owners of this land to practice culture through traditional land management on public lands.

¹ V Milton, *Indigenous fire methods protect land before and after the Tathra bushfire*, Text, ABC News, 2018, viewed 21 January 2020, <<https://www.abc.net.au/news/2018-09-18/indigenous-burning-before-and-after-tathra-bushfire/10258140>>.

² For social benefits of working on country see Social Ventures, *Consolidated report on Indigenous Protected Areas following social return on investment analyses*, Department of Prime Minister & Cabinet, Canberra, ACT, 2016, viewed 3 December 2020, <<https://www.socialventures.com.au/assets/Consolidated-SROI-Report-on-IPA-WoC.pdf>>.



Southern Yuin community working together in cultural burning.
Credit: Dan Morgan, LLS