

Learning from Indigenous fire management practices

Warning – Aboriginal and Torres Strait Islander teachers and students are advised that this curriculum resource may contain images, voices or names of deceased people.

GLOSSARY

colonisation: the act of one country invading and taking over another. The British began the colonisation of Australia in 1788.

Country: the lands where Aboriginal or Torres Strait Islander communities have always lived.

ecological: how living things relate to each other and their surroundings.

firestick farming: the practice of setting bushland or other vegetation on fire in a controlled way to promote a healthy landscape.

First Nations people: Aboriginal and Torres Strait Islander people.

interdependence: a mutual dependence between things.

nation: the area of land, river and sea that's the land of each Aboriginal or Torres Strait Islander language group or community (Miromaa 2019).

woody savannah: a large, flat area of grassland with trees that are well spaced out.

Fire can help or hurt

Aboriginal and Torres Strait Islander Peoples have long used their **ecological** knowledge to manage and maintain the environment. The modern problem of uncontrolled bushfires, which devastated large parts of Australia in 2019–20, require complex, creative solutions to minimise their impact. Now, more than ever, scientists are turning to the knowledge of First Nations Peoples to try to find the solutions to bushfire.

Fire use in Australia before European arrival

a) Caring for Country

Prior to **colonisation**, there was no concept of 'owning' land. Indigenous land management practices stem from an ancient belief system about the interdependence of people and **Country**.

This is sometimes called 'caring for **Country**'. This is a way of life that's based on respect; where nothing is owned. **Country** sustains and provides for the people, and people manage and sustain Country through cultural practices and ceremony.

b) Regional, seasonal approaches

The use of fire wasn't the same all over the country. There are many different Indigenous nations in Australia, each with their own fire management practices. Each **nation** used hot or cool fires at certain times of the year, in specific ways, which were driven by the needs of the local plants and animals and the local weather patterns. Naturally, the use of fire was very different in the wet tropics in the north of the country, compared to the **woody savannah** of the southern areas. A modern term that's sometimes used to describe how Aboriginal and Torres Strait Islander Peoples used fire is **firestick farming**.

First Nations people used ecological and scientific knowledge to choose the right time to burn, so that the fire would remain under control. Broadly speaking, burning was conducted during cooler times when it wasn't too windy. Today, in our calendar that has four seasons, most Australians refer to those cooler months as winter or spring. Before European arrival, different nations followed between four and thirteen different seasons in their part of the country. The seasons were determined by plant, water and animal cycles – and all of these were interlinked.

c) Reversible and irreversible change

'Reversible and irreversible change' is a scientific phenomenon that was used by Aboriginal and Torres Strait Islander people in everyday life, to care for Country, to make tools, and to feed themselves.

Irreversible change: a change is called irreversible if it can't be changed back again. It's a permanent change. Using heat to cook meat is an irreversible change. You can't turn it back into raw meat once it's cooked. Burning is another irreversible change. When you burn wood, you get ash and smoke. You can't change the ash and smoke back to wood again.

Reversible change: a reversible change is a change that can be undone or reversed. If you can get back the substances you started the reaction with, that's a reversible reaction. An ice cube that's melted into water has undergone reversible change because the water could be frozen back into ice. Reversible reactions include evaporation, melting and freezing.

d) Case study project: plants and animals need fire to thrive

Thousands of years ago, Aboriginal and Torres Strait Islander Peoples used fire to shape and support the landscape so that it was productive for people, plants and animals. Australia's plants and animals have evolved with fire and many species actually need flame to survive and thrive. Some species that are reliant on fire include the fire hawk raptor, banksia plants, grass trees and kangaroos.

Displacement from Country

Before Europeans arrived, Aboriginal and Torres Strait Islander nations occupied every part of Australia, farming and looking after Country. When European **colonisation** happened, it not only had devastating impacts on Aboriginal and Torres Strait Islander communities and cultures – it also impacted on the environment. First Nations Peoples were displaced from ancestral lands and were not allowed to care for Country (Victorian Public Sector Commission 2020). Colonisers assumed that burning of Country damaged the landscape, and stopped it happening in many areas (ACARA 2020).

Today's big environmental problems started to develop in the years after Europeans arrived and First Nations Peoples were displaced. These include extinction, disease, bushfire, weeds, pests, salinity and climate change (Australian Government 2004).

How fire is managed in Australia affects everyone

Even if the 2019–20 bushfires didn't come close to your school or home, it's likely you were still impacted. Large-scale fires send carbon into the atmosphere, which affects the air we all breathe. Smoke from bushfires is made up of very small particles and gases that can irritate your eyes, nose, throat and lungs (NSW Health 2020).

Another way that bushfires affect you is that they heavily impact national parks, which are a public resource. National parks are set aside to protect biodiversity, and deliver other economic, social, cultural and health benefits (National Parks Association of NSW 2012). When national parks are damaged, a public asset – your asset – is affected.

It's estimated that 830 million tonnes of carbon dioxide were released into the atmosphere during the 2019–20 bushfire catastrophe (Australian Government 2020). This contributes to climate change (Climate Council 2019), which affects all life on Earth.

Decisions on how we manage fire in Australia are made by politicians and people in government, but those decisions affect all Australians. In Australia, the Federal Government oversees the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (Australian Government 1999), which directs how bushfires should be managed in this country. The Act says there are two main ways to manage fire in Australia:

- Firefighting is defined as “emergency actions taken to prevent bushfires damaging human life or property”. This is about taking action when a fire is already happening.
- Fire prevention is defined as “preventative actions taken to prevent or reduce the risk of severity of fires before a fire occurs”. The main method used across Australia is ‘fuel reduction burning’. This is when small, controlled fires are used to burn off grassland, bushes and small trees, so that if a bushfire was to start, the bushfire would be less intense. (Department of Agriculture Water and the Environment, n.d.)

Some Australians are critical of these approaches. For example, some people say that relying on fuel reduction is becoming less effective as our weather conditions get hotter, drier and windier (ABC News 2020). They say the 2019–20 bushfires devastated areas that had undergone fuel reduction burns, which shows that it's not a very effective strategy (ABC News 2020).

Decisions about how we manage land in Australia impact everyone and will continue to be scrutinised when big disasters happen, like the 2019–20 bushfires.

'Two-way' fire management

The **ecological** knowledge of Aboriginal and Torres Strait Islander People's lives on and is still being used to manage landscapes all over Australia. Now, technology is being used to support this knowledge, showing how ancient science and Western technology can combine for effective results.

What can you do with your new knowledge?

Here are a few ideas:

- Visit an open day run by your local fire department or rural fire service. Find out about how fire is managed in your area. How is it different, or similar to, Indigenous fire management?
- Write to your local member of parliament and ask for action on climate change and bushfires. You may like to highlight how Indigenous fire management practices can be used in fire prevention and why they are still important today.
- Now that you know about the 'fire triangle', look around your backyard and see how the amount of fuel might be reduced to decrease the intensity of a bushfire.

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