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# Challenging the concept of Aboriginal mosaic fire practices in the Lake Eyre Basin, with particular focus on Cooper Creek country and the adjoining Simpson Desert, 1845-2015

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## Introduction

In the many discussions over the last forty years about the significance of Australia-wide Aboriginal fire practices, one concept that has become common is the importance of ‘mosaic burning’ for the management of country (e.g. Gammage 2011), that is, the deliberate creation of a mosaic of patches representing different fire histories. Aboriginal people undertook mosaic burning, it is said, for a variety of reasons, based on traditional knowledge of landscapes, seasons, animals and plants, and an ability to control fire. But how widespread was this practice? Was it as universal as is sometimes suggested?

Our starting point in this study (with our emphasis) is a quotation by historian Helen Tolcher, referring to early 1951:

“There were reports of bushfires burning along the New South Wales and Queensland borders - a *new phenomenon* in the Cooper country ---” (Tolcher 1999:144).

Evidence will be presented both for and against this statement, indicating that terrain, the changing nature of vegetation, seasonal conditions, the presence or not of Aborigines, the stocking of the pastoral country and spread of feral animals, and government policies about fire can all be of relevance.

In that the use of fire by rangers and others to recreate a vegetation mosaic is often recommended in remote Australia, and is being advocated by some Australia-wide, is there a need to pause? In particular, what are the ramifications for the future management of the desert areas under consideration?

## Explorers’ observations

The Cooper Creek country and the adjoining Simpson Desert are part of the Lake Eyre Basin (Fig. 1) and include stony desert areas, the Simpson and other sandy deserts, as well as the Channel country.

In 1845 Charles Sturt (Sturt 1969), after establishing a base camp at Depot Glen near Tibooburra, probed over several routes 640 km northerly, travelling into the Strzelecki, Cooper and Eyre Creek country, Sturt’s Stony Desert and the eastern edge of the Simpson Desert. It was a drought year. During these extended travels he recorded just three columns of smoke, a further three signal smokes (without anyone answering) and a patch of green grass. Other references below confirm this for different seasons.

Robert O’Hara Burke and William Wills left their depot at Innamincka on Cooper’s Creek in 1860, a good year, travelling northwards. Shortly after leaving their depot Wills recorded that “[the] grass had been burnt on [the creek’s] banks” (Wills 1996), which suggests an area of deliberate and focussed burning. In the three weeks it took to travel 750 km to the Tropic of Capricorn, Wills recorded only two smokes and one bushfire. During their return from the Gulf of Carpentaria in 1861 they experienced heavy rain before arriving back at their depot, where many Aborigines were living.

Wills died nine weeks later. In his last three months he did not record any smokes or fires and neither did Alfred Howitt (2007), who rescued John King, the sole survivor of the Burke and Wills party.



Figure 1. Lake Eyre Basin (from Australian Government SEWPaC map, July 2013)

John McKinlay (1862? date uncertain), another explorer sent in search of Burke and Wills, travelled firstly to the Innamincka area 1861-62, experiencing very hot weather en route. After exploration in the area, his party left on 8<sup>th</sup> February 1862 to travel through what is now part the Diamantina National Park, and north towards the Gulf. He saw hundreds of Aborigines during his travels in the Cooper/Diamantina area, living on fish and nardoo. When steady rain commenced, they moved to the sandhills, and the explorers were forced to do likewise, with a “perfect sea” about them. Only once, throughout the very hot time, the flooding rains and then fine weather, did McKinlay see the “Natives raising a great smoke in the distance”, this on 11<sup>th</sup> March 1862.

Space in this paper precludes inclusion of detailed observations by other surveyors/explorers, such as Gregory, Warburton and Lewis, in the area from 1858 to 1876. In summary, during their extensive travels, they did not record any large smokes or fire at all, despite encountering many Aborigines.

The above suggests that the Channel country experienced only a limited number of fires in pre-settlement times. The reason may lie partly in the prevailing clay soils supporting short grass-forbs, in contrast to the spinifex desert country (Newman and Condon 1969). Other reasons may be that Aboriginal people did not require large-scale fires to drive or catch game and that the nardoo spores and other seeds used for food were naturally abundant (e.g. Andrews 1879). Thus ‘mosaic burning’ seems not to have been developed by the Aborigines of the Channel country.

### **What of the Simpson Desert periphery?**

In 1876 William Hodgkinson travelled, as part of a longer expedition, south and southwest from the Tropic of Capricorn along what is now the Diamantina River to the vicinity of Birdsville and north-west to the Toko Range, a distance of about 640 km (Hodgkinson 1877). On the southern journey he recorded “signal smokes”, one other smoke, and learnt it had not rained for two years. On the northward trek “two fires” were seen in the vicinity of the Mulligan River. Afterwards he saw “columns of smoke signalling our approach in every direction” and, somewhat later, a “thick native signal fire” was seen near a large Aboriginal camp. “As we proceeded, the [guides] --- kept lighting fresh fires; and, finding they were trying to mislead, I refused to take any notice of their smoke ---.” Four days later “fires marked the site”. Continuing through spinifex country he recorded “[native] fires a-head” and then “[smokes] were rising from many places”. None of these records, given the four months and hundreds of kilometres involved, indicate mosaic burning. It is likely that the difference between the numbers of smokes and fires on the eastern periphery of the Simpson Desert and those of the main Channel country are due to a change to spinifex-dominated sand-hills.

In Charles Winnecke’s (1884) report of his final desert survey west from Sandringham station in 1883, in the vicinity of Adam Range, Field River and Hay River, comments about smokes and fires are rare.

On the western periphery of the Simpson Desert there are few records for comparison with the east. In 1880 Winnecke (1882) noticed a “smoke” during a survey to connect with H.V. Barclay’s work on the Plenty River. Another smoke led him to a camp of “about 200 natives” (p.24). Unfortunately he makes no mention of any possible traditional uses of large fires or smokes, so the implications are not clear.

### **After settlement**

Soon after these explorations, traditional Aboriginal lands were colonised by pastoralists, except for the core of the Simpson Desert, and rabbits invaded. In Queensland, in particular, but also elsewhere, pastoral settlement resulted in very few Aboriginal people surviving on their traditional country by 1890 (Hercus 1990; Watson 1998). Traditional burning practices of any kind largely ceased. All states also introduced legislation aimed at preventing fires.

Aboriginal people of the southern Simpson Desert region migrated out in about 1901 (Hercus 1990), leaving all but the northern and western fringes empty. Walter Smith’s recall of Aboriginal fire practices (Kimber and Smith 1987) from the river and creek systems of these fringes as far east as the Tarlton Ranges and Urandangi, is of fine-grained management focussed on waterholes and rocky outcrops up until the 1960s.

The natural limitations of fuel loads in the Channel country following settlement were now sufficient to suppress fires unless exceptional circumstances prevailed, as in 1917/18, 1951, 1974/75, 2002/03 (Lentic et al. 2006) and 2011 (pers. obs.). This contrasts markedly with author RGK’s observations over many years in the Western Desert, where fires initiated by lightning and by Aboriginal people are far more common.

### **Implications**

This review indicates that one should not generalise about the nature of fire in the Lake Eyre Basin, either pre-settlement or in making management recommendations. While researchers quite reasonably cite explorers’ reports to show that Aboriginal people made use of fire for a variety of purposes e.g. Lentic and Dickman (2006), it is apparent that such fires could be far apart and unlikely to constitute mosaic burning.

Where management of fire in remote Australia is feasible, it should be responsive to biophysical attributes of the country, such as terrain and vegetation type, as well as management objectives, such as pastoral production, biodiversity conservation and cultural observance (Friedel et al. 2014). Assuming that mosaic burning is universally applicable and desirable may be unwise.

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