The Jigija Fire Training Program: Indigenous Fire Ecology Training in the Lower Gulf of Carpentaria

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Abstract

Within contemporary Australian fire management, the discourse of risk and hazard reduction too often sidelines more holistic understandings of fire as an essential and productive element within connected landscapes. While there is increasing recognition of the importance of Indigenous fire knowledge and practices across Australia, these are rarely integrated in a meaningful way with conventional fire services. The Gangalidda and Garawa People from the lower Gulf of Carpentaria have developed Australia's first Indigenous owned and managed fire training program. The Jigija Indigenous Fire Training Program provides a unique opportunity for Traditional Owners to share their knowledge of fire, with instruction on mosaic burning techniques, using fire to manage pasture, seasonal burning and the importance of monitoring burn frequency and intensity.

Introduction

A large volume of writing now supports the view that Aboriginal people have undertaken controlled burning on mainland northern Australia for millennia.[4] Although there is some debate of the ecological effects of pre-settlement Aboriginal fire management,[5] Aboriginal knowledge of fire and its cultural and spiritual importance to communities is well documented. Fire is recognised as an important element of Aboriginal traditional law and culture, part of the reciprocal relationship that Aboriginal people have with the land and of their responsibility to it. Fire was used to promote food resources, for signaling, hunting, influencing patterns of vegetation and assisting travel, with "regular, light burning… the pattern all over Australia at the time of European contact"[6].

European visitors to northern Australia noted the use of fire by Aboriginal groups as early as the 1840s. In *Discoveries in Australia,* John Lort Stokes documents his experiences travelling in the lower Gulf of Carpentaria during 1837-1843 aboard the H M Brig Beagle (the same ship which had previously carried Darwin on his voyage). Stokes named a section of country near Burketown the 'Plains of Promise' and

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[4] Rhys Jones (1969) first coined the term 'fire-stick farming' to refer to the ways Indigenous people have systematically applied fire to the landscape and created change in the distribution and abundance of particular species. See also Gammage (2011), Luke & McArther (1977) and Flood (2004).

[5] For example, while Gammage (2011) frames Australia as the 'biggest estate on earth' and describes the ways Indigenous people skillfully and productively undertook land management prior to the arrival of Europeans, Flannery (2002) focuses on the ecologically disruptive impact of Aboriginal fire practice on the early Australian environment.

[6] Flood (2004); p.251.

remarked that 'it appeared to be thickly inhabited' according to the observation of 'numerous fires'.[7] Stokes goes on to suggest the existence of a landscape shaped by fire:

> 'In the present case, with the exception of a clump of trees to the southward, there was nothing to break the vast level that stretched before us, its rim sharply defined against the morning sky. Here and there a charred stump, the relic of some conflagration, reared its blackened face, serving to keep us in the direction we had taken at starting, which was over a rich alluvial soil, that seemed to hold out a promise of a future brilliant destiny to this part of the continent'.[8]

Traditional fire practice continues to be a fundamental part of life for contemporary Aboriginal communities in the lower Gulf of Carpentaria. For the Gangalidda and Garawa People residing in the communities of Doomadgee, Burketown and Robinson River, ongoing traditional fire management practises ensure the availability of important bush foods such as *thurnkugu* (wild blackberry), *junggula* (bush cucumber), *jardabu* (emu) and *bulginda* (wallaby). Understanding of traditional fire management practice is held and passed down by elders through the teaching of Dreaming stories, detailed environmental knowledge and burning skills. The result is a complex and multidimensional contribution to the maintenance of landscapes, ecological diversity and environmental health.

With the support of the Carpentaria Land Council Aboriginal Corporation, the Gangalidda and Garawa People have established a fire management program that relies on traditional ecological knowledge of fire, together with Western scientific understandings and contemporary technologies. Since 2007, the Gangalidda and Garawa Rangers have undertaken controlled burning on their traditional country focused on early season cool mosaic burns and strategic late season storm burns. The early season firework is conducted using a raindance incendiary machine to reconstitute patch-work burning patterns used traditionally to reduce fuel loads to assist in wildfire mitigation, whilst storm burning practices utilise a gel torch to target specific weeds such as Rubber vine. Burns are planned using scientific data from sources such as the Bureau of Meteorology and North Australian Fire Information in conjunction with understandings of when, how and why Gangalidda and Garawa People have traditionally burned their country.

Contemporary approaches to wildfire management in Australia

The benefits of pre-European Aboriginal fire regimes are gaining some recognition and application across Australia, with peak bodies reporting the value of Indigenous knowledge and expertise.[9] Increasing public recognition of traditional ecological knowledge and government funding for burning programs also assists Indigenous people to effectively manage their land. Both State and Federal Governments have shown a willingness to invest in ranger programs, increasing the opportunity for Indigenous people to carry out effective fire management regimes.[10] In a recent

[7] *Discoveries in Australia,* John Lort Stokes 1846: n.p.
[8] Ibid.
[9] For example, at the 2015 Australasian Natural Hazards Management Conference, the Bushfires and Natural Hazards CRC hosted a panel discussion to raise 'awareness of traditional, local and Indigenous knowledge and practices that complement the current science and research' (Jones 2016: n.p).
[10] For example, the Federal Government's Working on Country program (see http://www.environment.gov.au/indigenous/workingoncountry/) and the Queensland Land and

report into Indigenous ranger programs in Australia funded by The Pew Charitable Trusts, it was noted that "having strong governance through a well managed Indigenous Protected Area and a skilled ranger workforce has provided a sophisticated and strategic fire management capacity'[11]. The environmental benefits of Indigenous burning programs were also noted:

> Fire management across a regional scale in tropical savannas, the central deserts and other areas can rehabilitate entire ecosystems and help to sustain a broad diversity of life. Early intervention in halting and reversing the spread of invasive weeds is a cost effective approach and critical to protecting the large areas they threaten.[12]

Within contemporary Australian fire management, however, the discourse of risk management and hazard reduction too often sidelines more holistic understandings of fire as an essential and productive element within connected landscapes. While there is increasing recognition of the importance of Indigenous fire knowledge and practices across the sector, these are rarely integrated in a meaningful way with conventional fire services. For example, although the Government of Western Australia's *Report of the Special Inquiry into the January 2016 Waroona Fire* acknowledges the expertise in fire management that Aboriginal people possess, it too simply summarises that "(T)raditional Aboriginal fire techniques may help inform how best to use fire on the land".[13]

Ironically, whilst Western knowledge of fire is seen to fit within a scientific framework and pedagogy, many emergency services are struggling to provide training in the role of the landscape and ecology in fire mitigation and management. Based on a system of rapid response rather than prevention, it has been argued that emergency fire services across Australia have not fully considered wider land management goals and been unable to monitor the long term ecological effects of fire.[14] This is no doubt difficult in circumstances where emergency services are often underfunded and fire management programs and techniques are constantly changing in response to new science, changes in public policy and advances in technology.

The Jigija Indigenous Fire Training Program

The Jigija Indigenous Fire Training Program seeks to address some of these issues.

The program is a wholly Indigenous owned business that provides fire management and mitigation training in the lower Gulf of Carpentaria. The program provides a unique opportunity for the Traditional Owners to share their knowledge of fire, together with practical lessons that are relevant to contemporary fire management. During the five day program, participants are introduced to and assessed on the application of the *Gulf Savannah Fire Management Guidelines*. The program includes instruction on mosaic burning techniques, using fire to manage pasture, seasonal burning and the importance of monitoring burn frequency and intensity.

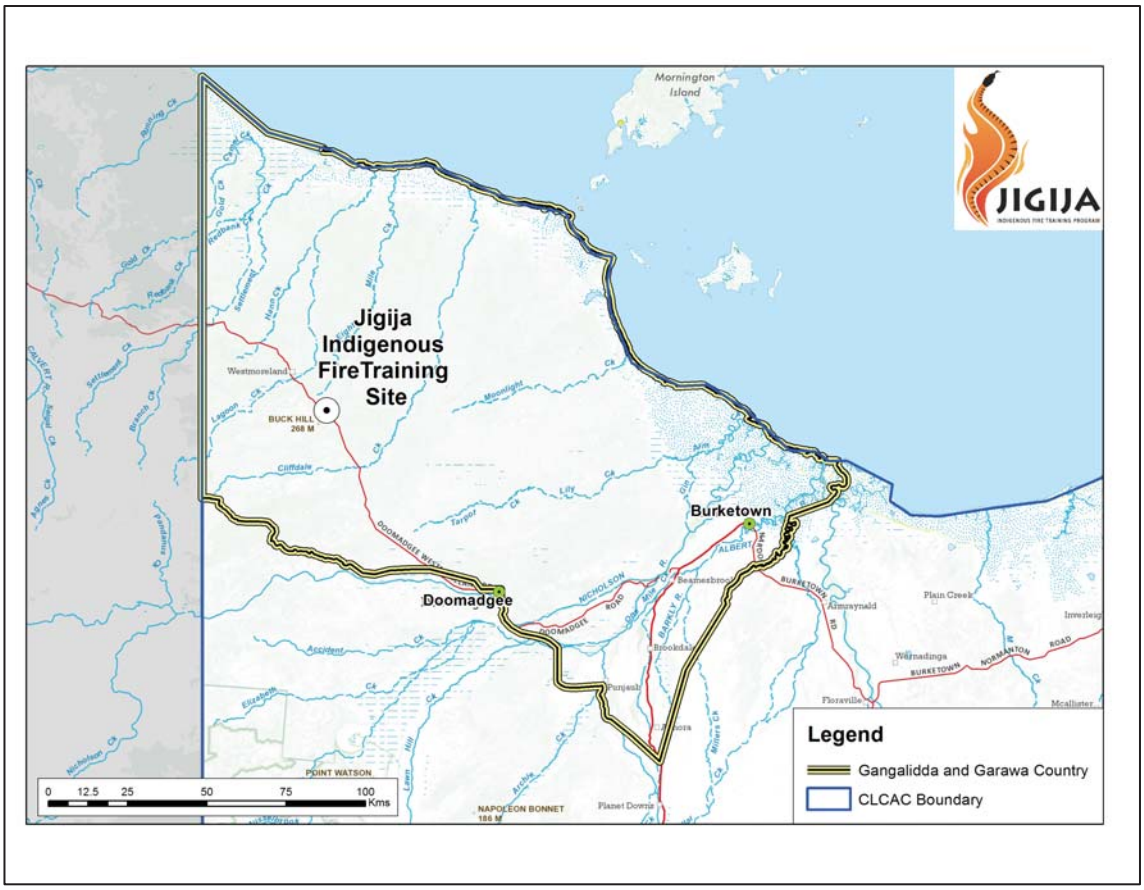
Sea Ranger Program (see https://www.qld.gov.au/environment/plants-animals/community/about-rangers/)

[11] Country Needs People (2017) p.18

[12] Ibid, p.80

[13] Government of Western Australia (2016), p.90.

[14] Andersen (1999), p.1.



The Jigija program offers participants the opportunity to engage with a range of landscape types, with instruction on how fire might be used differently in each landscape to both prevent and mitigate bushfire. This knowledge is reinforced with examples of Traditional Knowledge and Dreaming stories – lessons on weather predictors or animal signals suggesting fire management outcomes that often have an uncanny match in Western science. The Program includes instruction on the conduct of fauna and flora survey techniques, avoidance of sacred sites and procedures to avoid interference with native title rights and interests during controlled burns. Lessons include a comparison of Western and Aboriginal worldviews in relation to fire management practice, best practice guidelines for Aboriginal community engagement and adherence to Aboriginal cultural protocols.

The Jigija Indigenous Fire Training Program seeks to achieve the shared goals of controlling wildfire as well as significant environmental outcomes through reducing invasive weeds and enhancing biodiversity. The program recognises that many fire practitioners do not understand or have not had the opportunity to consider the differences between the pre and post Australian settlement landscape. However, it also accepts that pre-settlement community objectives or goals may no longer be possible or practical where land users are competing for space and food security must be considered. Curriculum objectives are comprehensive and flexible in order to meet the needs of fire practitioners and private sector land managers and owners, such as pastoralists.

The first Jigija pilot program was delivered in May 2017. The program received and continues to receive extensive support from the Queensland Fire and Emergency Services (QFES) and Queensland Rural Fire Service (QRFS). QFES and QRFS have worked collaboratively with the Gangalidda and Garawa People for a number of years. These agencies have provided support both in the development of

competencies for accreditation by the Australian Skills Quality Authority and in providing for the attendance of a number of professional and volunteer staff at the pilot program. The Jigija Indigenous Fire Training Program demonstrates how collaboration between diverse groups may offer new and productive opportunities within contemporary Australian fire management.

Conclusion

The Jigija Indigenous Fire Training Program provides a unique learning experience on remote Aboriginal land. Participants are exposed to principles of Indigenous fire ecology that hold relevance across the country. The program uses traditional ecological knowledge to teach stakeholders the skills needed for prevention and mitigation of uncontrolled wild fires and so move away from purely response based fire management. It is also hoped that the program will provide a source of income to enable the implementation of the Jigija Community Benefits Program. The community benefits program will provide for the continuation of the wider Gangalidda and Garawa burning program and establish the Kids on Country Program. The Kids on Country Program will aim to teach children and youth about Gangalidda and Garawa language and traditional knowledge of fire. Indigenous knowledge tells us that fire contributes to environmental health in complex and multidimensional ways and the Gangalidda and Garawa People are cognisant of the need to support and document traditional fire practice so that it may be available to future generations. With the assistance of QFES and QRFS, the Jigija Indigenous Fire Training Program also demonstrates that an understanding of landscape, country and ecosystems will assist to develop community based resilience to wild fire.

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