Politics of fire in northern savanna lands: Communication

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Abstract

Australian bushfires are renowned for their ferocity and destructive capability. Although much attention is paid to fires in the comparatively well-populated southern half of Australia, most fire activity occurs in the northern half of the continent (Russel-Smith and Yates et al. 2007). Further, fires in this area are usually 'anthropogenic [man made] in origin' (Russel-Smith and Yates et al. 2007: 369). This paper calls attention to community discontent about landscape and fire in the Kimberley region in northern Western Australia and suggests that fire-related public authorities should pay more attention to community engagement and the views of long-term residents. Via the use of qualitative research, including in-depth interviews, this research reveals that many long-term residents of the Kimberley region are concerned about fire-management regimes and the effect these have on the landscape, cultural heritage and biodiversity of the area. Some feel that the prescribed burns in the area are not small-scale mosaic burns, and frequently get out of control, and that there is a lack of operational transparency and effective community engagement on the part of relevant authorities involved in the management of fire. It appears that a number of respondents construct 'fire' as something that is managed successfully (either for carbon farming or for the preservation of assets) while others represent 'fire' as something that needs to be managed more effectively (for the preservation of biodiversity and cultural value of the landscape). These issues underline other pressures and constructions around residents who live with the impacts of fire-based practices, and the expert authorities who make the relevant decisions in this highly-charged area of land/resource management. The qualitative fieldwork that informs this paper has been carried out with community members in the Kununurra area of Western Australia. The informants were interviewed about existing information and communication practices around fire, fire information, fire safety, fire suppression and fire mitigation. The interviews, carried out in 2012 and 2013, have been analysed using a 'communicative ecology' framework.

Keywords: Cultural studies, savanna, bushfires, remote Australia, community engagement

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Introduction

Altheide (1994; 1995) first developed the notion of 'an ecology of communication' to address variations in technological access apparent around individual competencies, the cost of technological resources, and within different social circles. Context is an important factor in differences in access, even within the same household, and is shaped and informed by the wider community. Hearn and Foth (2007: 1) further developed the idea of an ecology of communication and proposed that communicative ecologies have three layers: (i) a technological layer; (ii) a social layer, the links between the communicating people, informal groups and organisations; and (iii) a discursive layer, the content of the communication. 'This more holistic model helps us better understand the dynamic interrelationships between different communication technologies and between different social dimensions' (Foth and Hearn 2007: 751). It can be utilised to analyse communicative ecologies 'at either holistic (macro) or individual (micro) levels' (Hearn and Foth 2007: 1). In this article we utilise Hearn and Foth's framework to analyse the discursive layer of communications around bushfire in the Kununurra area and determine which aspects of fire communication and practice are of particular significance to participants in this study.

This paper first summarises previous analyses regarding the technical and social layers of the communicative ecology (regarding bushfire) in the Kununurra region. It then goes on to present residents' judgments and views about burning regimes in the area. Our findings indicate that while authorities involved in fire mitigation and prevention in the East Kimberley region are managing fire primarily to preserve life and property, others prefer it to be managed in order to conserve the biodiversity and cultural heritage of the area. These differing points of view seem to be further exacerbated by a very constrained level of community engagement regarding current burning regimes in the area.

Fieldwork Locale, Participants, Data Collection and Analyses

Kununurra is in the north east of Western Australia's Kimberley region, some 40 kilometres from the Northern Territory border. This remoteness was a key criterion for its choice as the fieldwork locale, since it requires the community to rely on its own resources when

responding to the threats posed by fire. Kununurra is also a significant distance from the sea and residents cannot choose to flee to a beach as their primary fire-response strategy. The town includes a range of community groups and social resources ranging from: structured emergency organisations, such as St John's Ambulance and Kununurra Volunteer Fire and Rescue Services; community-focused services like the CWA (Country Women's Association), the Lions Club of Kununurra Ord River, and Apex; and, a range of sporting associations and groups. In addition to the diversity of its social and community resources, the Kununurra economy draws upon a variety of land use practices including mining, pastoral leases, nature reserves and national parks, and the horticultural industry resulting from the well-established Ord River Irrigation Scheme.

The research team used purposive sampling to recruit project participants (Patton 1990). Forty-two (42) stakeholders were interviewed during the fieldwork, which occured in two phases over the 2012–2013 period. One focus of these interviews was to investigate information-seeking behaviours as these relate to fire risk, and the development of personal and community-based strategies to respond to such risks, alongside attitudes to fire information services currently available to community members and specialist fire-response organisations. Research participants included: shire representatives; emergency services personnel (both voluntary and paid professionals); tourism operators; a forest manager; small business owners (including tourism-focused businesses); a mango farmer; residents on remote and very remote pastoral properties; an Indigenous ranger team manager; visiting tourists; wider community members; and workers employed in community-based information resource organisations.

The interviewers used semi-structured, open-ended and conversational approaches to data gathering which combine both structured and unstructured interview techniques. This approach mitigates the twin challenges presented by the exclusive use of either structured or unstructured interview techniques. Structured interviews, such as sometimes used in face-to-face surveys, may not ask exactly the right questions to elicit the desired information and may impede the creation of a trusting and authentic communicative exchange since the interviewee may perceive themselves as being treated as 'a research subject' rather than being engaged as an individual with unique perspectives and views. On the other hand, the use of unstructured interviews without specific questions repeated with different interviewees reveals a broad range of information but this can subsequently prove challenging to analyse.

The semi-structured interview enables both an element of directed research while allowing the interviewee to raise issues of importance to them within the research framework. This empowers the interviewee to make a unique contribution to the project and ensures that (properly conducted) the research interview is a genuine communicative exchange between two parties interested in the core topic (and in other areas of associated concern such as fire services – including information about fires, fire safety and prevention – and the mitigation of harm to people, property, the environment and to the wider community) (Holloway and Green 2013a).

All interviews were recorded and transcribed. Transcripts were analysed within a 'communicative ecology' framework, thus enabling identification of a range of common themes. Follow-up data analysis, which interrogated the transcribed material more deeply, subsequently revealed more subtle themes regarding ways in which informal and formal communication flows and channels were configured in the community. Interviewees discussed how available fire information relates to different levels of perceived expertise and public relevance, and this discussion often led to extensive sharing about participants' concerns relating to local management of bushfires. A range of political dimensions around access to fire-related knowledge and information were identified, and these are a focus of the research presented here. (Lewis 1989 offers an earlier discussion around different constructions of fire-management practices.)

Communicative Ecology: Technological layer and social layers

This section recaps findings about the technological layer (or the accessibility and reliability of devices and connecting media) that assist in the communication of fire mitigation and the suppression of information within the Kununurra area; and the social layer or the formal and informal social structures that sustain and inform communications about fire. A more detailed analysis can be found in Holloway and Green (2013b).

Technological Layer

Interviewees in this study verified the fragility of their communicative ecology and the value of having a 'back up plan' in urgent situations such as a fire event. They appreciate that multiple platforms and channels of communication help overcome breakdowns in communication, especially in a fire emergency. Kununurra residents already have a relatively complicated technical communication ecology. This entails different technologies being used

'in town' (the internet, landlines and mobile phones) and outside town (satellite phones, long-range radios and short-range radios). New information technologies such as mobile phones, satellite phones, internet communications and digital radios are displacing older communication technologies but not entirely replacing them.

In spite of the many communication channels available in the Kununurra region, the communication ecology is rather fragile, with incompatible networks and systems and limited coverage.

> Compatibility between different satellite phone networks is problematic; mobile phone coverage can be sketchy with relatively good coverage in the middle of town becoming sporadic to non-existent the further away from the town centre they get; the internet only works in town, on pastoral stations and within some small communities; and the long range radio towers do not cover all of the Kimberley area. In addition to this, all these technologies do not work if used in a bad location – behind a ridge or in a deep valley – or in the case of internet connectivity in town, if there is heavy cloud coverage in the wet season (Holloway and Green 2013b: 132).

At the time of this study the town area of Kununurra had an ADSL2+ exchange and 3G mobile access. As part of the National Broadband Network (NBN) the town will be getting fibre-optic broadband cables (ABC 2012). Internet access is also available in some small communities and pastoral stations. Notwithstanding the remoteness of Kununurra, the level of ownership of internet-connected devices is remarkably high. Eighty per cent of the homes in Kununurra are connected to the internet (ABS 2013) while another group of residents tend to only use their 3G network to connect to the internet. This finding, that internet-connected individuals do not necessarily use fixed broadband links, is a reminder to researchers and designers that existing data regarding internet usage around Australia does not, at this stage, include users who access the internet via their mobile networks.

Social Layer

Local and informal information flows are often overlooked in analyses of emergency communications. These include informal information flows from members of the public to various emergency agencies and informal communications between members of the public during an emergency. For example, local charter pilot, Lennard, describes how he frequently informs relevant authorities about fire threats.

> I'll call DEC [now Department of Parks and Wildlife] and say – did you know you have a fire out there. Or if there is one sprung up – and it is not the tip burning off or something like that – I'll ring the shire and say we've got a fire there (Lennard 2013).

Informal information flows between community members are also an important aspect of emergency responses to fire emergencies, especially during 'the critical period before emergency service responders can appear on site. In this situation, it is often local knowledge that underpins improvised grassroots communication networks that inform and organise the neighbourhood' (Holloway and Green et al. 2013).

> We phoned around and someone would phone and call in. Instead of 000 being rung ten times, make sure that one person rang it in. 40 channel [CB Radio] was handy – two-way communication, four wheelers – knocking on doors making sure everyone is out of the house, just in case (Jane 2012).

Analysis of interview data indicated that the interviewees were often frustrated with various authorities involved in fire communications. Some were particularly concerned that organisations were seemingly incapable of reciprocal communications with each other.

> I can talk to Lake Argyle which is about 70kms from here […] but if a policeman is standing next to me he'll be able to contact the police station, but the two of us won't be able to talk to each other, because we are all on different channels (Samuel 2012, emergency worker).

Others were frustrated with the lack of fire information broadcast to the public in times of fire stress.

> With this current fire there really wasn't a lot of information and a lot of people didn't know what was going on. We [local council] knew because we were talking to the brigades and to FESA [Fire and Emergency Services] but most residents didn't have any idea and it looks pretty bad. (George 2012, council worker).

The analysis of the social layer of the fire communicative ecology in the area highlighted community dissatisfaction with the delivery of timely fire information in times of bushfire, as well as a lack of operational transparency and effectual community engagement, on the part of DFES (Department of Fire and Emergency Services) and to a lesser extent DPaW (Department of Parks and Wildlife) and local shires.

Communicative Ecology: Discursive layer

In Kununurra transience is very much a part of the community. This includes backpackers carrying out seasonal work in the community and longer term employees whose intention is only to stay for a few years on government contracts or private employment arrangements. As such, many Kununurra residents (apart from a core group of long-term residents) are highly transient. 'The population is and remains quite dynamic – young' (Lesley 2012). Short-term residents' emotional and social investment in community is often minimal and individuals tend not to identify keenly with or network extensively within the community. In addition, these more transient residents do not have the benefit of a long-term perspective regarding changes to burning regimes or the environment in general.

> This is a very transient town because it's a new town and there are some old families here, but a lot of people come here on government jobs whether it be health, education, law or whatever. They are here maybe for 2–5 years, maybe 7 but usually 2–3 years for contract people, so they come in and they see it like that. This is the season we are going to have fire and burning. That's obviously the way it is because DEC [now DPaW] are doing it and FESA [now DFES] are in control. It's ok, then they go. They don't understand what's happening. They just accept (Viv 2103, workplace trainer).

There is, however, a core group of long-term residents who have a longstanding local perspective and are concerned about the manner in which fire is managed in the region. They note changes in fire management regimes and their effects on landscape. It is these long-term residents who readily volunteered to take part in this study, as they feel their knowledge about the long-term changes that are happening is being ignored.

> For 12 years we wrote letters, had meetings, spoke to politicians, wrote to politicians, sent photos, but what happens – and I know because I worked in the government for 28 years and saw it happen – the politician doesn't bother to make his own research, he writes to the head of the department, who writes to the regional manager who writes to the area manager, and they all write letters covering their arses and presenting what they are doing as the only and the best thing, and the politician believes them and that's the end of the story (Sonia 2013, teacher).

Fire and the Landscape

Participants in this study discussed the results of this over-burning on the landscape. They noted changes to the landscape in general, soil health, biodiversity, hydrology and changes to wet season precipitation patterns. The loss of cultural assets such as rock art has also been noted and researched by one participant in this study.

A long-term change in vegetation within the overall landscape is one change all longstanding residents commented on. Archaeologist and research mentor Lee Scott-Virtue, who has been resident in the area for over three decades, has sponsored many research projects. She notes that there is:

> a very obvious change in vegetation and the Bungles [Bungle Bungles] is a classic example as is the Mitchell Plateau where these intense hot burns caused initially by the aerial burning, was removing a lot of the kerosene grasses and replacing them with woody weeds, a lot of the very large trees were disappearing. Along the Gibb River Road I've estimated in some areas about a 70% loss of tall upper storey trees, and almost 100% loss of the kerosene grasses. So it obviously the two were related – the change to vegetation (Lee 2013).

Artist, John, who has lived in, and painted, the Kimberleys for over 23 years also talks about significant changes to vegetation across time due to over-burning in the area.

> The weeds are really taking over since the [prescribed] fires, and the change of vegetation is quite remarked. The big trees – we don't have huge trees up here apart from our boabs – but what trees we do have like the Papuanas [Ghost Gums] are a reasonably big eucalyptus. A lot of those are going missing and some of the paperbarks and melaleucas. Those big older trees, when people come in later – a lot of government officials who come in later – don't know that they were here (John 2013).

Sparser vegetation on rocky hillsides also seem to be undergoing changes due to repeated burning.

> That Spinifex up the hill was massive and of course it ignites because it's got oil in it but because you are burning it year after year, it is only staying small. In a lot of places it is not even growing back because it's been burnt so much that there's nothing left […] and Cane Grass has taken over and if you look at the satellite picture, that was taken 5 years ago and you can see the burns on that (Joseph 2012, remote resort worker).

Damage to Rock Art

Interviewee and archaeologist Lee, who has spent 31 years in the region documenting and following the condition of rock art, pointed out that many sites have been destroyed by fire, often at the hand of DPaW burn-offs. These cultural sites have been unmanaged for over a century because pastoralism practices removed Aboriginal peoples from their country 'and has resulted in contemporary Aboriginal people having little or no knowledge of how their ancestors managed country' (Head 1994; Kohen 1995 cited in Scott-Virtue and Wilson et al. 2014: 4).

> I became very conscious very quickly of the change in fire regimes with the introduction of aerial burning, particularly in areas like the Bungle Bungles. I had already spent a decade working in that area and prior to government making it a national park, and it became very clear very quickly that fire was having a terrible impact on the rock art. Most of the sites have now been unmanaged for close to 130 years which means that the vegetation is growing right up against the art so it became very clear that once the burning changed the impact was very quick (Lee 2013, archaeologist).

This impact can vary from direct flame damage that 'will cause instant removal of the surface skin' (Lee 2013) to a slow exfoliation of rock art when smoke and soot combined with wet season moisture eventually 'causes the surface to exfoliate' (Lee 2013).

Lee, who has 'sent several reports to DEC [DPaW] over the last two decades' (Lee 2013), provides two verbatim quotes by Aboriginal elders for the Kununurra and Purnululu area in her latest 2014 report, which highlights local concerns over current burning policies in the area.

> I have worked with my mate Lee for 30 years and in that time we have looked at my peoples' art sites around the Kimberley. Some art sites that I visited with my mother and my grandmothers in the '60's have now gone because burning was started by government and young people [Aboriginal] who did not understand what they were doing. These fires are now at the wrong time. We need to stop burning from the air and go back to the traditional way of burning, saving bush tucker and making sure the rain will come to put out these fires. This was my Grandmother's way (Mirruwong Elder cited in Scott-Virtue and Wilson et al. 2014).

> Since DEC [now DPaW] took over the fire management of the Bungle Bungles there has been so much damage done to our sites. Some of our sites have been

there for thousands of years, and they remained intact because the original tribe the Karjarnarna-Jaru had their own fire management which was achieved because they had a connection to the land and an understanding of the environment. This has no longer been possible due to the fact that DEC [DPaW] does not consult or involve us in the management of our lands. It makes me cry to see my country being destroyed. The stories of my ancestors that are painted on these walls can never be replaced (Djaru Elder cited in Scott-Virtue and Wilson et al. 2014).

Lee's attempts to raise awareness about the issues, especially with authorities directly involved with prescribed burning in the areas where rock art has been identified and catalogued, have been frustratingly ineffective.

> FESA [DFES] are not interested at all. I haven't had any luck with them. DEC [DPaW] on the other hand, in some of their National Parks, they'd love to keep people like myself out of them but I get invited in by some of the TOs [traditional owners] for the area (Lee 2013).

Further, despite sending several reports to DPaW over the last few decades, Lee suggests that it is only very recently that people are starting to take notice, particularly some of the traditional owners who are becoming cognisant of the issue and the cultural loss this entails (Lee 2013).

The Problem with Prescribed Burns

Increased burning of the landscape and the destruction of cultural sites has been blamed, in part, on the prescribed burning regimes carried out by DFES, DPaW and Indigenous ranger groups.

> Their main goal is to protect human life and infrastructure. Well in the Kimberley 23 years ago we probably had a population of not much more than about 18,000 people across 425,000kms of country. Today we probably have 45,000. Most of these areas like Prince Regent and most of the coastal areas – there is nobody there, there is no infrastructure so I constantly question why they have to do this burning (Malcom 2012, horticulturalist).

> Everything about burning off is for our benefit, not the land's benefit. DEC [now DPaW] are the Department of Conservation. Tell me which part of conservation is burning out a couple of million acres of bush, killing every echidna, every tree,

every shrub, every bit of Spinifex. There is no conservation in that (Joseph 2012,

remote resort worker).

Participants in this study cited the problem of excessive landscape scarring which predominantly results from the practice of controlled aerial burns in which incendiaries are dropped from airplanes. According to DPaW these aerial burns aim to 'create a "mosaic" of different-aged burnt country to help limit the extent and impact of late dry season fires' (DEC n.d.). However, a number of residents who participated in this study say they have observed over the years how easy it is for aerial fires to get out of hand and, consequently, many question whether aerial burns are controllable in this landscape.

The word controlled burn is so ridiculous because to go up and drop fire bombs

[aerial incendiary devices]. There is no control once that gets away (Joanne

2013, teacher).

The longstanding resident interviewees typically referred to their continuing engagement with the landscape to highlight their local knowledge about landscape scarring and diminishing biodiversity (as also in Lewis 1989).

We are losing so much country. There is so little vegetation left out there. The

authorities talk about Savanna. The people they send up to research are only

seeing what's left, they don't see what has here before and they don't talk to

people like myself and others who have been here for 30 years and know what it

was like (Malcom 2012, horticulturalist).

Conclusion

The most frequent and largest fires in Australia occur in the north of Australia during the tropical dry season – winter and spring in southern Australia (Tropical Savannas Cooperative Research Centre n.d.). These fires are generally 'anthropogenic [man made] in origin' (Russel-Smith and Yates et al. 2007: 369) and are a significant source of disagreement among residents in the East Kimberley region about how best to manage fire in the area.

Many residents in the Kununurra region are highly transient and, as such, do not have a long-term perspective regarding changes to the burning regimes carried out in the area, or upon the environment in general. Nonetheless, a core group of longstanding residents have identified changes to soil health, biodiversity, hydrology, wet season precipitation patterns and the landscape in general – and the loss of cultural assets such as rock art – as being associated

with sustained prescribed burning programs carried out by DFES, DPaW and (more recently) Indigenous ranger groups.

These longstanding residents note that many of the prescribed burns in the area are not small-scale mosaic burns and often get out of control. Their attempts at notifying relevant authorities have, to this stage, been impeded by poor community engagement and a lack of operational transparency by the relevant authorities. The current prescribed burning regimes carried out in the Kununurra region reflect conflicting 'fire management' priorities on the part of DFES, DPaW and Indigenous ranger groups and the community in general. Long-term residents, who identify keenly with the local environment and remember times before the current burning-off practices were instigated, would prefer the introduction of new fire management regimes that focus on the preservation of biodiversity and protect the cultural value of the landscape.

This research indicates the importance of community engagement around important issues such as the management and reduction of fire-related risks, the maintenance of ecosystem health and the preservation of cultural capital. It suggests the value of further research into the contested area of fire management and supports calls for a review of current regimes of 'controlled burns'. Although such calls are now on the public agenda, partly as a result of the prescribed burns which started the Margaret River fires in 2011, destroying "32 homes, nine chalets and four sheds and […] more than 3,400 hectares of mainly Crown land" (Keelty 2012: 1), the situation in Western Australia's north west has so far attracted little attention.

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