

The language of fire:

seasonality, resources and landscape burning on the Arnhem Land Plateau

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SUMMARY

There are few published data that detail the relationship between Aboriginal people and the environment of the Arnhem Land Plateau and even rarer in these studies are the voices of Aboriginal people themselves. What knowledge we do have has been collected from the fringes of this region from well-known archaeological studies in Kakadu National Park on the western margin, and for coastal groups in central-north Arnhem Land to the east. Although the process of depopulation on the Arnhem Land Plateau commenced at the end of the 19th century, small bands of Aboriginal people continued to occupy the plateau: living in the myriad of sandstone shelters and harvesting and managing the resources of the region up until the early 1970s. The material in this chapter represents an intersection of history, ethnography and human ecology recorded in the Bininj Kunwok language from those few remaining Aboriginal people – ecological experts in their own right – who resisted permanent settlement at regional towns and missions and continued their traditional occupation of the plateau until recent times. Accounts of the seasonally available plant and animal resources, the traditional patterns of movement and the specialist language used to talk about fire and its variety of uses are important in establishing baseline ethnographic data and an historical context in which contemporary ecological and cultural changes can be understood.

INTRODUCTION

The study of Australian Aboriginal burning practices has been of interest to a variety of academic disciplines across both the natural and social sciences. The literature is now extensive and deals with a diverse range of research questions, many of which relate to landscape and vegetation history (Bowman 1998) and more recently the role of fire in

contemporary land-management policy development (Dyer *et al.* 2002; Whitehead *et al.* 2003). One focus to date has been investigations of traditional Aboriginal fire regimes in the context of the biological condition of the Australian landscape and the quest to understand the factors that have shaped it. The objective of this chapter, however, is to remedy a rather serious lacuna in the study of Aboriginal landscape burning: namely the absence of Aboriginal voices and especially Australian language texts as primary data. This is not to suggest that the slate in this area is completely blank. Important Aboriginal contributions or co-authored works include Langton (1998, 2000), Yibarbuk (1998), Yibarbuk and Cooke (2001), Yibarbuk *et al.* (2001) and the Aboriginal language texts in Bowman *et al.* (2001) and Hill and Nowakowski (2003). In addition, many long-term collaborations between Indigenous people and ecologists have resulted in important descriptions of Aboriginal landscape burning. For the area with which we are concerned in this chapter – the Top End of the Northern Territory and in particular the Arnhem Land Plateau – important studies include Haynes (1985, 1991), Russell-Smith (1985a, 1985b, 2002), Russell-Smith *et al.* (1997, 1998, 2002, 2003) and Yibarbuk *et al.* (2001).

The purpose of presenting extended texts on fire and landscape in an Aboriginal language here is not to argue for a particular point of view in relation to the history of Australian landscapes, nor as a demonstration of the nature of classical pre-contact Aboriginal fire regimes. The transcripts and translations of the texts that follow will certainly be of value for a number of other reasons. Firstly, recent research on biocultural diversity has highlighted the increasing threats to the viability of traditional ecological knowledge (Ellen *et al.* 2000; Florey 2001a, 2001b; Zent 2001; Stepp *et al.* 2002; Maffi 2005). Access to the ecological knowledge of Indigenous peoples is mostly available in the fullest detail to members of the speech community in question. It is here that collaboration among linguists, Indigenous people and natural science specialists can assist in the documentation and maintenance of threatened traditional ecological knowledge. For linguists, there is no reason why the documentation of a previously undescribed minority language should not include the detailing of cultural knowledge, and especially ecological knowledge, as part of the language description. In Australian linguistics, there has been such a dramatic loss of linguistic diversity since European settlement that, in many cases, opportunities to record unique types of Aboriginal ecological knowledge have been lost.

Secondly, the promotion and maintenance of traditional Aboriginal ecological knowledge is of relevance to the current discourse on the links between linguistic and biological diversity (Harmon 1996, 2002; Maffi 2001a, 2001b). It can be argued that the diversity and complexity of both the topographic and biological diversity of the Arnhem Land Plateau has engendered a diversity of adaptational ideas for the Aboriginal groups who have lived in the region. The plateau is a major centre for biodiversity and ‘supports an unusually diverse biota, including very many relictual and endemic plant and animal species’ (Commonwealth of Australia 2005). The correlating linguistic diversity of the region expresses a great range of such adaptational ideas and, with the loss of such diversity and cultural heritage, our ability to understand the complexity of human interactions with this particular environment is certainly impoverished. But, in seeking to maintain the vitality of the Aboriginal languages of the plateau, this is not an exercise in giving language priority over speakers. Many speakers of Bininj Kunwok dialects on the Arnhem Land Plateau are becoming increasingly aware of the

fact that their socioeconomic interests are served by maintaining the vitality of their minority languages in the new land-management economy. The cross-cultural Indigenous-knowledge-recording programs presently in train on the plateau serve as a counter-example to the moralising views of those such as [Muehlmann \(2007\)](#) who argue that pointing out the links between linguistic and biological diversity in the context of addressing language endangerment is to somehow essentialise both Indigenous people, their languages and nature.

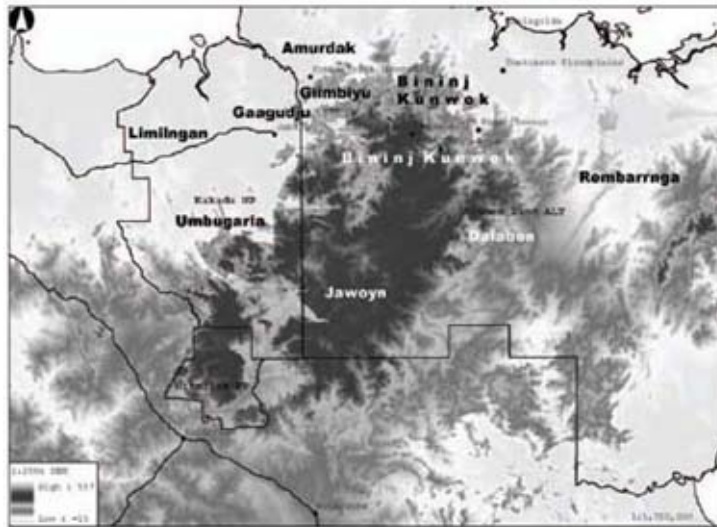


Figure 5.1 Languages of the Arnhem Land Plateau.

Thirdly, the traditional ecological knowledge presented in this chapter is of further importance beyond notions of intrinsic value in that it can also make a vital contribution to the development of land-management policy. Other contributing authors to this volume outline some of the challenges faced by land managers who, in working with the Aboriginal landowners of the Arnhem Land Plateau, are seeking to address issues such as uncontrollable late-dry-season wildfires, feral animals and plants, and other threats to biodiversity. Traditional ecological knowledge has a contribution to make in the development of new economic opportunities for traditional landowners, some of whom are keen to find ways for younger generations to return to their traditional estates and make a living managing them. As part of this enterprise, and in keeping with the wishes of older generations (and detailed in texts presented here), young people need to learn how their grandparents' generation interacted with landscapes and how management practices were described and referred to.

Languages of the Arnhem Land Plateau

Approximately one-eighth of the continent of Australia – in the north – is home to about 20 language families, which linguists refer to as the northern prefixing languages ([Capell 1962](#)) or 'Non-Pama-Nyungan languages' ([Evans 2003a](#)). The remaining seven-eighths is occupied by a family that has been named 'Pama-Nyungan'. The names 'Pama' and 'Nyungan' come from the names for 'human' or 'man' in languages in the north-east and south-west of Australia, respectively. One Non-Pama-Nyungan language family, referred to by linguists as 'Gunwinyguan' ([Evans 2003a](#)), dominates the Arnhem Land Plateau. The individual languages of the

plateau, which are members of this language family, include Rembarrnga to the east, Dalabon to the south, Jawoyn to the south-west and Bininj Kunwok in the north: the latter consisting of a dialect chain of six named varieties stretching from the north-east of the plateau, then across to the north-west area within Kakadu National Park (see the map in [Figure 5.1](#)). The texts presented in this chapter are all in Bininj Kunwok ([Evans 2003b](#)), ¹ particularly the Kundedjnjenghmi, Kunwinjku and Kuninjku dialects.

In the north-west of the plateau around the Alligator Rivers region, there were a number of other languages spoken – Urningangk, Erre and Mengerr(dji) – but these are all now extinct. The neighbouring Gaagadju people referred to this group of languages collectively as ‘Giimbiyu’ ([Birch 2006](#)), which means ‘of the rock country’. The descendants of Giimbiyu language speakers now speak Kunwinjku, the Bininj Kunwok dialect now associated with the town of Kunbarlanja (Oenpelli), although most Kunwinjku-speaking clan estates are located to the east of here.

The Aboriginal contributors

Lofty Bardayal Nadjamerrek, Wamud/na-Kodjok subsection, Mok clan.

Bardayal Nadjamerrek’s knowledge of the Arnhem Land Plateau, its sites, walking routes, plants, animals and social history is unparalleled in the region today. He has played a central role in encouraging his kinsmen to return and manage their traditional estates and continues to guide the land management and research community of Kabulwarnamyo, on the upper Liverpool River.



Mary Kolkiwarra, Kodjdan/ngal-Wamud subsection, Wakmarranj clan.

Mary Kolkiwarra has also been a key contributor to the Indigenous knowledge recording work currently based at Kabulwarnamyo Outstation. Her knowledge of local plants and women’s role in landscape burning has made a valuable contribution to documentation and land-management programs.



Jimmy Kalarriya, Kodjok/na-Wamud subsection, Wurrbbarn clan.

Jimmy Kalarriya is another key contributor to this chapter. He is currently the sole custodian of knowledge about certain sites and walking routes, especially in the northern parts of the plateau. Kalarriya has contributed to a number of knowledge recording projects, including those focused on rock kangaroos, the Oenpelli python and emus.



Jack Namandali Djandjomerri, Kamarrang/na-Bangardi subsection, Bolmo clan.

Jack is a long-term resident of Marlkawo outstation and has contributed much to site survey work, fire knowledge recording and in particular the work on emu ecology.



'Big' Bill Birriyabirriya, Bulanj/na-Kangila subsection, Kardbam clan.

Based at Marrkolidjban Outstation in the lower Liverpool River district, Birriyabirriya has comprehensive knowledge of the sites and ecology of this region, which is in the eastern outlier region adjacent to the plateau and includes a number of important neighbouring wetland habitats.



Ruby Bilindja, Ngarridjjan/ngal-Wakadj subsection, Wakmarranj clan.

Ruby has spent all of her life in the stone country and has extensive knowledge of women's role in landscape burning. Among a variety of other subjects, she also has specialist knowledge about native bees and honey. She was one of the wives of the last great stone tool maker, artist and traditionalist, Wally Mandarrk. Her daughter Jeannie Imangala and son-in-law Romeo Lane also contribute to some of the discussions transcribed in this chapter.



Peter Biless, Ngarridj/na-Wakadj subsection, Djordi clan.

Peter Biless spent most of his earlier life based at Oenpelli, but made frequent trips to popular camping places on the plateau and, in later years, has been based on his country at Kamarrkawarn. He has been instrumental in setting up Warddeken Land Management Ltd that seeks to facilitate new economic opportunities for young Aboriginal people of the plateau through the application of traditional ecological knowledge in contemporary land management.



Mick Kubarkku, (deceased 16 May 2008), Balang/na-Ngarrdij subsection, Kulmarru clan.

Mick Kubarkku lived all of his life in the Mann and Liverpool Rivers districts south-west of Maningrida. He established Yikarrakkal outstation in the early 1980s on the country where he had lived all of his life. An acclaimed artist and traditionalist, Kubarrku grew up in the rock-shelters around the middle Mann River and had extensive environmental knowledge of this region.



Ethnographic background

Chapters 3 and 4 detail the historical context of the lives of the Aboriginal contributors to this chapter. Clearly by the end of the 19th century there had been a major regional breakdown in the healthy functioning and viability of many Aboriginal societies to the west of the Arnhem Land Plateau (Chapter 2). Disease, the availability of destructive recreational drugs and an accompanying exodus of young men had a profound impact on the communities of the plateau. Social changes moved along a trajectory set in train by depopulation rather than by direct foreign invasion. The Arnhem Land Plateau is a vast region of some 34 000 square kilometres with a dramatic topography that limited the number of incursions non-Aboriginal people were able to make into the area. Further, by the late 1920s, the plateau was considered of no economic interest to non-Aboriginal people (Mackay 1929).

Although the destruction of Aboriginal society to the west also affected people on the plateau, it is clear that a small number of groups managed to stay within their traditional ranges of seasonal movement. Certain others travelled back and forth between the plateau and various other settlements and enterprises such as Oenpelli Mission, cattle stations, buffalo camps, mining projects and railway construction camps. In 1939, patrol officer Gordon Sweeney estimated the resident population of the stone country groups (Dedjnjenghmi, Gundjeihmi, Dangbon, Ngalakan and Kunwinjku language groups) to be somewhere around 250 individuals (Sweeney 1939, p. 8–10).² Indeed, small groups of Aboriginal people remained on the plateau throughout the 20th century and, in some cases, they continued traditional lifestyles up until the 1960s, having minimal contact with non-Aboriginal people. Evidence for this comes from oral histories, including some of the members of the groups referred to by Sweeney who survive to the present day, but also from the items of contact material culture (glass, steel axes, school slates, ammunition casings, and so on) still found in important rock-shelter camp sites. Additionally, the rock art record – itself a vast historical and artistic treasure – details the recent occupation of many sites across the plateau. Lofty Bardayal Nadjamerrek (b. 1926) has pointed out a number of works of art he created while camping in rock-shelters as a young man, in a variety of locations in the upper Mann and Liverpool Rivers districts, and is able to identify the artists of a number of other paintings throughout the plateau. Other evidence of continued 20th century occupation of the plateau is in the form of the photographs of the surveyor Herbert Basedow. Basedow photographed a number of rock art sites near the Liverpool and Mann Rivers in 1928. Some of these sites have since been located and a comparison of Basedow's photos taken in 1928 with the condition of the galleries today indicates that a number of images have been added since Basedow's visit (Garde and Kohen 2004).

Some of the Aboriginal contributors to this chapter (such as Lofty Bardayal Nadjamerrek)

spent much of their youth following traditional walking routes across the plateau, occasionally visiting the Oenpelli Mission, the Maranboy tin mines and the Second World War army camps at Mataranka. Others spent their time moving back and forth to Oenpelli: attending ceremonies further to the east and taking advantage of well-known seasonal resource harvests at key locations across the plateau. To date, ecological knowledge has rarely featured as part of the ethnographies produced by social scientists who have worked in this region (exceptions include Altman 1984; Chaloupka and Giuliani 1984; Lewis 1989) and so the material presented here, despite it appearing quite late in the scheme of things, includes a number of novel additions to our knowledge about the stone country – at least from an ethnographic perspective.³

The material presented here was elicited over the past 10 years during discussions and conversations, some of which took place during formal meetings and interviews, and others during casual conversations. The material was digitally recorded, transcribed and translated into English. It is presented as knowledge that is intended to be transmitted orally and has been occasionally edited in order to iron out the untidiness of everyday speech, such as simultaneous utterances and the minimalist and elliptical reference style of Bininj Kunwok speakers (Garde 2003). Traditional ecological knowledge is holistically encyclopaedic in nature and embedded in Indigenous views of the world that do not compartmentalise the natural world (and human relationships with nature for that matter) into divisions in the same way as the knowledge domains of academic disciplines. The presentation of these texts is obviously no attempt to present the entirety of such an encyclopaedia. The texts represent a collection of descriptions, lists, spontaneous explanations and assorted memories as they came to mind during the discussions and interviews that took place over this 10-year period.

Box 5.1: Land tenure on the Arnhem Land Plateau

The Aboriginal people of the Arnhem Land Plateau own land communally through membership in patrilineal clans known in Bininj Kunwok dialects variously as *kun-mokurrkurr* (Kunwinjku and Gundjeihmi), *kun-nguya* (Kuninjku) or *daworro* (Kune and Mayali). A clan owns one or more named ‘clan estates’, which are referred to as *kun-ngeybadjan* or *kun-ngeykimuk*, which literally mean ‘big names’. Such ‘big names’ for estates operate as eponyms in the sense that they are usually (but not always) important camping or religious sites within an estate that give rise to the whole estate being referred to by this important individual site within it. There are also many individual named sites within an estate. The term for ‘place’ is *kun-bolk*, but a site which is a traditional camping place or stopover on a *bininj man-bolh* ‘walking route’ is known as *kun-red* ‘home, hearth, living space’.

A traditional owner of a clan estate is known as *na-redweleng* (if a male), *ngal-redweleng* (if a female) and *birri-redweleng* (plural). Such a person would call an estate their ‘father’s country’ and they collectively exercise the ultimate authority over such an estate. However, people also have certain rights in relation to their mother’s country and both

a person who calls an estate their mother's country and the country itself are referred to by the noun *karrardwarreken*. An alternative way of referring to one's mother's country is the verb [pronoun.prefix]+*bolkkuykme*. This latter verbal form of reference literally means 'to spray [from the mouth] on the country' – the etymology of which refers to the ritual of a new visitor to a site being introduced to the ancestral spirits of that place by being sprayed with water by a person whose mother is a member of the land owning clan.

e.g. *nga-bolkkuykme*: literally, 'I spray [from my mouth] onto the country' > my mother's land

yi-bolkkuykme: literally, 'you [singular] spray [from your mouth] onto the country' > 'your mother's land'

An alternative expression is: *nga-bolk-nunj-yo*: literally 'I-place-saliva-lie' > my mother's land.

Those people who call an estate their 'mother's country' are referred to by the term *djungkay*. The traditional owners or *birri-redweleng* and their *djungkay* 'mother's country kinsmen' must work together to manage an estate. The *djungkay* have particular responsibilities for managing their mother's country and work in consultation with the traditional owners. A person who is a *djungkay* for a particular estate is an important person to be involved in land-management activities such as landscape burning. The traditional owners or *birri-redweleng* [plural] prefer to have their *djungkay* present when undertaking such tasks on their estates or when 'foreigners' are visiting the country.

Another important concept is the division of the cosmos into moieties. Elements of both the natural and supernatural worlds are associated with one of two patrilineal categories known in Bininj Kunwok as *duwa* and *yirridjdja*. All people, clans, places and estates, plants, animals, natural phenomena and supernatural beings are affiliated with either the *duwa* or *yirridjdja* patrimoieties. A *duwa* man must marry a *yirridjdja* woman and vice versa. If a traditional owner or *na-redweleng* is a *yirridjdja* person, their *djungkay* will be a *duwa* person and vice versa. There are also matrilineal moieties known as *-ngarradjku* and *-mardku*.

In some cases, a confederation of neighbouring clans of the same patrimoiety can own an estate in what is referred to as *kabirri-yikadjurren* 'they are in a company relationship'. Should all the members of a clan die without male successors, there are a number of principles at play that determine which clan will succeed to the extinct estate. One of these is that a neighbouring clan of the same moiety can inherit the estate. It is also possible that a group of kinsmen connected through either patrilineal or matrilineal links can join together to succeed to an extinct estate.

Although the material presented here suggests some kind of patterned movement throughout the seasonal cycle, it would be incorrect to suggest that there was no annual variation in the movements of family groups. Ceremonies, invitations, available resources, chance meetings, interpersonal relationship issues, unusual changes in weather and a variety of other factors influenced where people went at the different times of each year. There were patterns of movement, but certainly no immutable itinerary was followed.

SEASONS AND RESOURCES

Research on resource utilisation, seasonality and ecological zones has demonstrated the abundance that Aboriginal people enjoyed around the extensive floodplains and riverine habitats of the Alligator Rivers region to the west of the plateau (Chaloupka 1981; Russell-Smith *et al.* 1997; Brockwell *et al.* 2001). There is no doubt that the population density of the plateau was far lower than that of the adjoining western floodplains because of the comparatively fewer resources available in the rock country. But, of course, there was movement between these two regions. The only archaeological excavation undertaken on the eastern part of the plateau was conducted in 1998 at Ngalirrkewern, a shelter decorated richly with recent phase rock art in a small tributary valley of the Liverpool River (Allen 2002). Although it is only a single site study for the area in question, the findings are possibly consistent with claims of a low population density for the plateau, or at least this particular region of the plateau. It has been suggested that in fact the plateau was only occupied on a seasonal basis (Brockwell *et al.* 2001, p. 375), but this seems an unlikely sweeping generalisation for such a vast region, although this suggestion is qualified with the following rider ‘... we have to allow for variation within physiographic zones to which the gross label ‘plateau’ is applied and contemplate a more complex seasonality of human access than the historical reports suggest’ (Brockwell *et al.* 2001, p. 375). Other archaeological studies support the view that the plateau had a permanent population throughout the annual seasonal cycle (Guse 1999, p. 58):

A broad scale comparison between the archaeological sites of the wetlands and plains to the north and the plateau country to the south reveals a continuum of artefact and raw material richness. There is a general trend towards more diverse archaeological assemblages on the wetland sites along the South Alligator River ... There are various reasons for such a trend to exist in these richness scales. A major reason is the importance of the ecological resources of the wetland regions. The pattern does not suggest any abandonment of the plateau for the wetland country on a seasonal basis. The scale highlights the different technological approaches and activities conducted by Aboriginal people in each region.

Indeed, the variety of ecological habitats and the associated biological diversity have allowed groups of Aboriginal people to base themselves on the high country and to move seasonally within its boundaries in order to profitably exploit available resources. In addition to archaeological arguments, there is also recent ethnographic evidence to support this view. In a conversation with two senior Aboriginal women – Ruby Bilindja and Mary Kolkkiwarra, whose traditional estates are in the north-east of the plateau – they claim that in their youth, their families always stayed in the rock country and they knew very little of the resources of the floodplains:

Murray Garde: *Bale kabbal nawu ngalmangeyi... ngune-yahwurdni ngurri-*

Which floodplains did you get turtles (*Chelodina rugosa*) from ... when you were

<i>yawani?</i>	younger?
Mary Kolkiwarra: <i>Kayakki</i> .	None
Ruby Bilindja: <i>Kayakki</i>	None
Mary Kolkiwarra: <i>Ngad nani kuwarddewaken arri-ni</i> .	We were living in the rock country.
Ruby Bilindja: <i>Kuwarddewaken ngarri-djaldi</i> .	We were rock country people and we stayed there all the time.

Certainly, some other plateau groups did move down to floodplains in the dry season: to the Alligator Rivers wetlands to the west, and to the Tomkinson River plains in the east.

There are already a number of descriptions of the seasonal cycle for Bininj Kunwok groups in the literature (Altman 1984, 1987, p. 25 for the Kuninjku; Brockwell *et al.* 1995; Russell-Smith *et al.* 1997 for the Gundjeihmi; and Haynes 1985 for the Kune). Both Altman and Russell-Smith *et al.* include comprehensive lists of flora and fauna used respectively by the Kuninjku in the east and the Gundjeihmi in the west and, except for some habitat differences (i.e. the absence of wetlands on the high country) and a few other minor differences, these lists detail basically the same resources used by plateau people. The western studies, however, reveal that groups such as the Gundjeihmi relied solidly on the resources of the Alligator Rivers and Magela Creek floodplains and riverine habitats, but forays into the rocky plateau country were still part of the annual pattern of movement at certain times of the year (Chaloupka 1981). The Kuninjku to the east have territory within tidal river zones and enjoy access to certain estuarine species, in addition to freshwater riverine resources. The material presented here focuses on the resources found in the rock country of the central, central north and north-east parts of the plateau, for people who describe themselves as *warddeken* ‘inhabitants of the rock country’. There is evidence in the texts that some central plateau groups (such as the Kundedjnjenghmi) took advantage of visits to floodplains belonging to both their eastern and western neighbours, especially in the early dry season for fishing, or in the later dry season to catch magpie geese.

Bininj Kunwok names for seasons are represented in Table 5.1. These names are the same across the six dialects, except that there are a few differences in the eastern-most dialect, Kune (see Haynes 1985). The names of the seasons in Bininj Kunwok can be reduplicated to indicate ‘mid-season’ as opposed to a transitional period between seasons:

kudjewk > *kudjewhkudjewk* ‘mid-wet season’ also *kudjewkbulddjarn* ‘in the middle of the wet season’
(-*bulddjarn* = ‘centre, middle, depth’).

There is also a ‘co-occurrence suffix’ *-ko* (Evans 2003b, p. 164) which has the sense of ‘occurring at the time of’, thus:

kudjewk-ko ‘in the wet season, at the time of the wet season’
wularri-ko ‘in the time of the wet season westerly winds’

wurrkeng-ko ‘in the burning season’
an-dudjmiko ‘at the time when the green plums (*Buchanania obovata*) are fruiting’

There is also an alternative construction which takes the form *-keno* (meaning ‘time of’, Evans 2003b, p. 153). An example is given in the following text by Kune speaker Jack Nawilil:

Jack Nawilil: Namarr ka-bidbun kudjewkkeno well kuwardde ka-wendi na-warddewarddeken nungan.

The male euro climbs up slopes in the wet season and it lives up in the rock country, which is its habitat [at that time].

Jimmy Kalarriya: wind names

Wind direction is an important seasonal marker. Wind names with a temporal suffix in Bininj Kunwok also serve as seasonal terms as winds blow from particular directions at certain times of the year (as the example *wularri-ko* above illustrates). As can be seen from Table 5.1, there are a large number of named winds and a few of these (*barra*, *djimurru*) have names which are borrowed from Makassarese (Evans 1992).⁴

<i>Jimmy Kalarriya: Kun-kurra ka-karrme kungey ... Kun-kurra ka-bun bu kune nga-yime ka-rrurndidurndiwe koyek-beh bolkki ka-kurrabun bolkki yekke. Djalkoyekbe ka-wurrabun.</i>	The winds have names. The [wet season westerly] wind blows and then it reverses and becomes an easterly wind again. We are in the dry season now and that is the wind blowing now. It's blowing from the east.
<i>Ka-djale kune kah-yime ngaleng kudjewk wanjh ka-borledke kunu ngarr-nan ka-ngukdowkke korlkkorlmi, ka-ngukdowkke. Wularri ngarrih-yime njamed ka-rralkdaje manimunak, wularri, karrikadbe ka-kurrabun, wularri. Taem</i>	It keeps blowing like that and then in the wet season it changes direction and we see the <i>korlkkorlmi</i> winds that make the thunder. The <i>wularri</i> wind cuts down the grass for the magpie geese. <i>Wularri</i> blows from the west. Then they lay eggs. That <i>wularri</i> wind

Table 5.1: Bininj Kunwok names for the seasons and winds.

Dry seasons			Wet seasons		
Yekke	Wurrkeng	Kurrung, Djurlirrimi	Kunumeleng	Kudjewk	Bangkerreng
early dry season	cool dry season <i>wurrk</i> fire > season of fire	hot dry, build-up season literally: <i>Ku- LO</i> Cative <i>dung</i> 'sun' Djurlirrimi is mid- <i>kurrung</i> when humidity and temperatures are both very high.	first storms of the monsoon	full wet season <i>Ku- LO</i> Cative <i>djewk</i> rain	last rains knockemdowns <i>bang</i> strong, powerful.
Seasonal wind names					
Dalukorro strong dry season winds from the east, especially in the mornings.		Walirr hot south-east winds in <i>kurrung</i> season.		Kularri (variant=Wularri) strong westerly winds associated with magpie geese egg laying.	
	Lidjalidja late dry season winds which have moved from easterly to southerly.		Korlkkorlmi westerly winds which bring thunder storms and the rush of cool air just before a thunder storm. Niyaniya southerly winds that swing from the south >west and then from the north.		Nakul 'knockemdown storms' which lay down the tall stands of sorghum spear grass.
	Kun-mayorrk gentle south-east winds. This word is also a general term for 'wind' in some dialects.		Barra northerly/north-west winds continue from <i>kurrung</i> to <i>kunumeleng</i> .		Makkumbu westerly winds associated with extended periods of rain. (variant=Nakkumbu)
		Mahbilil evening <i>kurrung</i> season winds from the coast. Also known closer to the coast as Barra 'northerly/north-west winds' just starting at the end of <i>kurrung</i> (Makassarese loan word).			
				Djimurru a wet season north-easterly wind (Makassarese loan word).	
					Barlmarradja general westerly wet season wind.

ka-rrabungkdeng. Wularri kunu. Kun-kurra ka-ngeyyo manu wanjh anekke. Wularri ngarri-yime manu kun-kurra an-badjan karrikadbe.

[time]. That's what that wind is called. That big wind from the west we call it *wularri*.

Kudjewk ... dalukorro, wanjh ka-berkbakme koyekbe.

These are wet season [westerly winds], ... but *dalukorro*, that blows from the east.

...yekke ka-yibukmen wanjh man-djewk ka-ngurdme 'stop' ka-yime dulukorro. Korlkkorlmi karrikadbeh kudjewk, korlkkorlmi. Makkumbu, karrikadbeh.

In *yekke* with this wind, the country dries up and then the rain stops, and the *dalukorro* winds start. The *korlkkorlmi* wind blows from the west in the wet season and *makkumbu* wind [also] blowing from the west.

Murray Garde: Balekeno makkumbu?

When is the *makkumbu* wind?

Jimmy Kalarriya: Kudjewk, djal ka-djaldjakdung munguyh en ngalengman. Ka-borledke makkumbu barlmarradja,

In the wet season, when it keeps raining continuously well that's it then. It changes from

niyaniya.

makkumbu and barlmarradja to niyaniya.

Niyaniya, karrikadbe kakkibe ka-borledke walembe. Niyaniya ka-borledke walembe karrikadbe, kakkibe. Kakkibe.

Niyániya, from the west and then north it turns around to blow from the south. *Niyániya* turns from the south then from the west and around to the north. From the north. ⁵

Murray Garde: *Balekeno?*

When?

Jimmy Kalarriya: Kudjewk. Dalukorro ngarriyime dalukorro, wanjh ka-bukubukmen mandjewk ka-ngurdme ‘stop’ ka-yime, dalukorro. ‘All stop’. Ka-ngurdmerren rowk. Wanjh koyekbe ka-berewkberewkme.

In the wet season. We call it *dalukorro*, a wind that dries up the country and the rain stops. The rain stops and the *dalukorro* wind starts. All rain stops. And then it blows from the east.

Ka-berewkberewkme koyekbe bu ankarnbirr kah-kobun. Ka-berewkberewkme. Dalukorro koyekbe. Wanjh bonj mandjewk ka-yiburnbun.

The wind is blowing from the east when the *Acacia oincocarpa* shrubs are flowering. It blows [at that time]. The *dalukorro* wind blows from the east. With the arrival of that wind, the rains stop.

...bolkkime ngarr-ni, bolkki ngarr-ni yekke. Koyekbe kah-kurrabun, yekke. Man-djewk wanjh ngurdmeng ngarrhdjalni. Ngarrhmadbun kaluk kun-kudji andudjmi ka-kobun wanjh kunukka ka-djakdung nawu darnki wanjh kuridjmidj start ka-yime bu mandudjmi ka-kaberrkyo.

... today we are in the early dry season. The wind is blowing from the east in *yekke* season. We can camp out when the rain has stopped. Then we wait for the green plums (*Buchanania obovata*) to flower and then again it starts to rain and its close to Christmas when the *Buchanania* plums are fruiting all over the place.

Although the higher stone country of the plateau has been described as relatively poor in resources compared with the north-western floodplains, the diversity of habitat types and the range of natural species available has been sufficient to sustain a number of rock-country populations. The descriptions of physiographic zones in the north-western margins of the plateau in Russell-Smith *et al.* (1997, pp. 166–167) also apply in a more general sense for other parts of the plateau except for the absence of any other large wetland habitats higher up in the rock country and the relabelling of ‘lowland savanna woodlands’ to ‘plateau savanna woodlands’ and ‘lowland jungles’ to ‘plateau jungles’, and so on. A Bininj Kunwok view of landscape and some of the language used to conceptually organise it is discussed in another section below.

The following texts discuss the resources available for each season and some of the sites that people remember visiting at these particular times of the year where such resources are sought. Information about seasonal movement can be interpreted as representative of a range of possible sites that people might visit for a particular time of the year, rather than descriptions of fixed patterns of movement and resource exploitation. We commence with the first rains of the wet season.

Kunumeleng ‘First storms of the wet season’

Kunumeleng is a time when the first storms of the coming monsoon start to fall. It is a productive time for many fruit trees and perennial grasses sprout again attracting macropods, which come to eat the soft new shoots. In previous times, *kunumeleng* was a season when people would start to move upstream to rock-shelters on the margin of woodlands in anticipation of the coming wet season.

Bardayal Nadjamerrek: *An-bedje, kunj ka-djalbelkngun kunumeleng ka-djaldalkngun ka-rralkngun An-yokkorol, an-karne makka man-buyika manu njamed an-bedje ka-rralkrohrok manu yoh mayamaya wurlhkarndayh ka-re karndayh ka-ngun djabelno an-mirrhbang.*

In *kunumeleng*, kangaroos eat the new spear grass shoots (*Sorghum spp.*). The large and small varieties of spinifex *Triodia plectrachnoides* are also shooting just like the spear grass, and kangaroos eat grasses such as *Panicum trichoides* and *wurlhkarndayh* (unidentified), the sharp blades of which female Antilopine kangaroos (*Macropus antilopinus*) can eat.

Kunumeleng ku-wardderurrk, arri-re wanjh ku-wardde, dolobbo yika arri-rdakme bu na-kare wanjh arri-ngimeng.

In *kunumeleng* we camp in rock shelters and so we move to the rock country at that time and enclose the shelters we return to annually with stringybark and camp inside.

Murray Garde: *Ku-waddakuken baleh barri-rey bu kunumeleng?*

What are some key *kunumeleng* season camping places?

Bardayal Nadjamerrek: *Bu Kodwalewale maitbi kure Mako Karrang kun-red kure bu Bernberndulh. Kumekke kodbarre arri-yoy dja ku-rurrk. Ka-djalbarndi nomerra kun-wardde kun-wardderurrk karri-yoy, dolobbo arri-rdakmi arri-yoy...yika balabala barri-yoy yika ku-rurrk.*

Maybe in the Kodwalewale estate and places there such as Mako Karrang and Bernberndulh. There we would construct bark shelters and camp inside them. Despite it being rocky, we would camp in the caves and enclose them with stringybark or build platforms inside them which they would sleep on.

Kamarddjabdi arri-yoy kuwardde kunumeleng. Ngaye nga-bimbom rakul, dorddoro, borroborro. Mawa yi-yime ngudda ngane-yoy an-korrwan arri-nguni.

We also camped at Kamarddjabdi in *kunumeleng*, in the rock country. At that site I painted birds [on the walls of the shelter]; chestnut quilled rock pigeon (*Petrophassa rufipennis*) and partridge pigeon (*Geophaps smithii*). My father (the one you call grandfather) and I camped there and we used to eat white currants (*Fleuggea virosa*).

Murray Garde: *Kunumeleng bu ka-djakdung ngaled barri-nguni?*

What else did people eat in *kunumeleng* season?

Bardayal Nadjamerrek: *Kunumeleng an-dudjmi arri-nguni. An-dudjmi, an-dak nawu an-dawk, an-kinjdjek dja kodjbang, kayawal, kayawal bbarri kolhdeno. Makka worrkimuk baworrormeninj..., yekke wanjh.*

Mary Kolkkiwarra: *An-dudjmi, an-djarduk, an-kurndalh.*

Bardayal Nadjamerrek: *An-dak ba-yakminj*

Mary Kolkkiwarra: *An-dak korroko barradjmeng. An-dak ka-yakmen wanjh start kayime an-dudjmi.*

Murray Garde: *Kunj?*

Bardayal Nadjamerrek: *Kunj arri-yami wadda... kuwardde...*

Mary Kolkkiwarra: *Bu kunumeleng ba-yimi bu ba-djakdungi ba-yimi bu an-dudjmiko start bawankani wanjh arri-djalni.*

Bardayal Nadjamerrek: *One place!*

Mary Kolkkiwarra: *...yiman ka-yime Kodwalewale kumekke arri-di ba an-dudjmi arri-mang. Arri-djalni wanjh kudjewk barradjmi wanjh arri-wohyimi 'ma karri-derrehmen'. Arri-derrehmi this side karri-kukngimeni karrikad yiman ka-yime Mokmek area arri-mey wanjh arri-barrarnmangi yika konda arri-rey arri-ni. Ngarri-baley babangmedjewkni wanjh kudjewk ba-yimerranj. kudjewk ka-balyimerran wanjh bangkerreng an-djewk ka-rradjme bu an-bedje ka-kobun.*

In *kunumeleng* we ate green plums (*Buchanania obovata*), milky plums (*Persoonia falcata*) and bush cucumber (*Cucumis melo*), cheeky yams (*Dioscorea bulbifera*)⁶, 'water peanuts' (*Aponogeton elongatus*) and long yams (*Dioscorea transversa*); long yams are just starting to shoot new leaves at this time. When the leaves have grown into maturity it will be *yekke* season.

Green plums (*Buchanania obovata*), bush apple (*Syzygium suborbiculare*) and black plum (*Vitex glabrata*).

The milky plums (*Persoonia falcata*) have finished [by *kunumeleng*].

Milky plums (*Persoonia falcata*) have finished fruiting. They finish and then the green plums follow (*Buchanania obovata*).

[What about] kangaroos?

We speared kangaroos around the places where we camped ... in the rock country [i.e. rock country macropods]

When *kunumeleng* had arrived and the rains had started and the green plums (*Buchanania obovata*) are falling off the trees everywhere, then we would stay in one place.

One place!

For example we would stay in the Kodwalewale estate and collect green plums. We would stay there until the end of the wet season and then say 'OK, let's shift camp'. Then we would move west over on this side [Kabulwarnamyo] to the Mokmek area and into the Liverpool River valley. We'd stay around here until the wet season or maybe stay through the wet season into *bangkerreng* 'last rains' when the spear grass is flowering.

We would camp in the rock country at

Bardayal Nadjamerrek: *Kure ku-wardde arri-ni ku-ngamed Anbendulkyi, Kodwalewale, koyek arri-yoy Komburr.*

Anbendulkyi, Kodwalewale is to the east [of Kabulwarnamy], and there in the east we camped at Komburr and Benbeyibemeng [in the Marlkawo estate].

Mary Kolkkiwarra: *Ngalengman kilhken Anbendulkyi, bolkbolmoken, yika kudjewk barri-rey arri-wohrey dolobbo arri-rdakmi. there in kudjewk (wet season) and we would*

That is downstream, Anbendulkyi is in Bolmo clan country and sometimes they would go camp in bark houses or caves enclosed by stringybark.



Figure 5.2 Women burning in *kunumeleng* (first rains) on billabong margins to expose turtle aestivation sites at Kunbarlanja in 2005.

Further to the west on the floodplains, early *kunumeleng* was also a time to find turtles (*Chelodina rugosa*), which lie buried in periods of aestivation in the mud on billabong margins. Women look for the tiny tell-tale holes in the ground through which the turtles breathe. These are called *mim* and they reveal the location of the turtle beneath the ground. Women also burn grass in *kunumeleng* around the margins of billabongs and water holes to make it easier to find the *mim* as such grass, being close to water, is too green through the dry season and will not burn (Figure 5.2). Once the water has dried further in *kunumeleng*, the grass is burnt making it easier to find the turtles. But back up on the plateau there are few wetlands where turtles are sought by prodding the ground with the long sticks or thin metal rods that women use on the floodplains. In the rock country, turtles are taken out of freshwater streams, but the best season to find them is in *kurrung* and early *kunumeleng* when the water levels are at their lowest.

Mary Kolkkiwarra: *Yekke start kabarri-djalmang bolkki kunumeleng. Kunumeleng kabarri-mang ka-rrudjendi mim.*

They start to find turtles in *yekke* season but now it is *kunumeleng*. In *kunumeleng* they look for them [on the floodplains] by searching for the breathing holes [of buried turtles].

Kudjewk ‘Mid-wet season’

Bininj move into the shelter of the rock country during *kudjewk*, especially to sheltered sites that border woodland forest. Obviously people are more sedentary during extended periods of rain, and game is more difficult to find and track with the thickening of vegetation. But, as the discussion below reveals, it was still possible to move around from time to time in the rainy season. As discussed for *kunumeleng* ‘early rains’, *kudjewk* is a time when there are a variety of edible fruits and tubers available. Some of the most important wet season edible fruits and tubers on the plateau are set out in Appendix 1.

Bardayal Nadjamerrek: Kudjewkbuldjajarn ku-wardde arri-yoy kodbarre dolobbo arri-rdakmi na-kare yika arri-rey yika arri-yerrkani kube arri-yun arri-yimi. An-djewk djaldjajkungi nomata. Ba-rradjmeng wanjh arri-wabmeng.

In the middle of the wet season we camped in rock-shelters or houses made from stringybark and sometimes we would shift camp or sometimes just stay in one place. It didn't matter to us that it rained for long periods of time [and we had to stay in one place]. When the rain stopped falling we could shift camp.

Mary Kolkkiwarra: Yika ngarri-re wanjh ngarri-dakme dolobbo ngarri-yoy. Bu yiman an-djewk nawu kanh-karrmi yiman ka-yime kan-karrme nawu munguyh an-djewk yiman ka-yime konda ngarri-dakme dolobbo ngamed Kamarrkawarn kure kabarri-djalni kumekke arri-yedbuni all day arri-yoy yika.

Sometimes we go and make bark houses and we camped in those. When the monsoon rains really take hold, falling continuously and limiting our activities, we would go and camp at Kamarrkawarn and just stay in the camp sleeping all day [waiting for the rain to stop].

Mary Kolkkiwarra: Still arri-kolungi samtaem fishing bikodj darnki bu an-bokimuk wanjh kunukka minj arri-wernhmeninj ba babokolungi little bit wanjh arri-rey arri-weyi kume bu arri-weyi djal mak kun-buyika nawu fishing line yakni kunukka.

Peter Cooke: Any fish still there [at Kamarrkawarn on the Mann River] that time?

We would still walk down to the river to go fishing sometimes but because of the floodwater you can't really fish properly, although we could still do a bit of fishing but another thing is that long ago we didn't have fishing lines.

Bardayal Nadjamerrek: Wirmurrng arri-danjuni.

We used pronged fishing spears.

Further:

Bardayal Nadjamerrek: Kumekke [Kunberrkken] arri-yoy. Kunukka arri-bawoni bad konda mak makih arri-yoy ngamed Kamarrkawarn kaluk kure Kamarrkawarn yerre Kunj Ka-

[Sometimes] we camped at Kunberrkken near [Makkalarl, Djalbangurrk estate]. We would shift from there and another place where we camped sometimes was near Kamarrkawarn at Kunj Ka-djowkke and at Nakurlkboy [Kodwalewale estate].

djowkke bad ngamed arri-yoy
Nakurlkboy.

An-djanek arri-dongi kun-kare.
Ku-djewk bu bangkerreng kure
an-kurndalh arri-yoy
Yirrirnbuddak

[In the wet season] we would pound *Typhonium* tubers (see Figure 5.3). From the mid to late wet season we might camp in the grove of black plums (*Vitex glabrate*) at Yirrirnbuddak

Bardayal Nadjamerrek: Kudjewk
an-bedje ka-bardkirh ka-
djordmen. An-lombeng ka-kobun
dja an-darl an-murlmu ka-kobun
kudjewk dja an-kolomborr. Djenj
med ka-bokimukmen. Djenj
bangkerreng wanjh arri-
danj bom.

In the wet season the spear grass (*Sorghum* spp.) is green and growing. *Asteromyrtus symphyocarpa* is flowering in the wet season and so are *Melaleuca viridiflora* and other paperbarks. Certain eucalypts are flowering [*an-kolomborr*, a rock country eucalypt]. It's not yet time for fishing, the water levels must increase first. We spear fish in *bangkerreng* season 'late wet/last rains'.



Figure 5.3 Rock art image at Ngalkombarli [Nakarlwakarwa estate] of *Typhonium* sp., one of the many yams available in the rock country.

As mentioned above in *kunumeleng*, various grasses are flowering in the wet season including grasses important for kangaroos:

Bardayal Nadjamerrek: Oh karndakidj,
belendjerre. Belendjerre kun-dalk anekke manu
ka-dalkngun nawu karndayh yiman kurdubu ka-
yime. Ka-balemkimukmen.

Themeda spp. grasses are for Antilopine kangaroos. Male and female Antilopine kangaroos eat *Themeda* grass. They get fat on it.

Mary Kolkkiwarra: Manekke ka-djaldan ka-
djalbelkngun bu bolkki yiman kunumeleng ka-
djale yimarnek yekke ka-balyimerran bu
kudjewk buldjarn wanjh start ka-welengkobun
now. Yiman ka-yime an-bedje ka-rohrok

Those grasses are always there, including now in *kunumeleng* and they should be there through *yekke* season but in *kudjewk* they start to flower just like sorghum grasses, which flower through to

The wet season was a good time for hunting flying fox, but as the following text makes clear, they were also hunted at other times of the year. The large jungle of Mererrinj was an important wet season camping place visited for *kuluban* ‘flying fox’, *kayawal* ‘long yams’ and the meristems of *marrunj* ‘*Gronopyllum ramsayi* palm trees’.

Bardayal Nadjamerrek: *Yo kuluban Mererrinj Mererrinj dja Mibirk, yekke kurrung, yekkeokunumeleng, bu kudjewkken, kuluban arri-buni arri-kodmikani arri-yibidbuni arri-kodmikani arri-kodmikani arri-kodmikani, arri-karlangmang arri-bidbidbuniken wanjh kuluban arri-buni kun-dulkyih namalwurru kun-dulk an-kuyekuyeng an-barnba [name] arri-buni arri-buni bow bow kirn ba-yimi barri-berlbakkeyi kirn barri-djurkodjbakbakeyi. Mererrinj, kunumeleng, kudjewk. Kudjewk kuluban arri-nguniwarre ngalengman dedjno kun-balem! Kukilhken kukabo, ku-ngarre bad arri-yoy karrkad kumekke ku-warddeburrk, kun-kod arri-buni. An-mulmu dja arri-barrhbuni dja an-rurrkyahwurd kumekke ka-rurrkdi. Yika ku-wardderurrk barri-yoy yika kodbarre barri-marnbuni. Kure an-binik arri-yoy.*

Yes, we got flying foxes at Mererrinj and Mibirk in the wet and dry seasons, but we especially used to hunt them in the wet season. We used to climb up the trees, up, up, up, out on to a branch and kill the flying foxes with a long stick called *an-barnba* ‘whack whack, screech’ they’d break their arms and hit them over the heads and they would break their necks. We went to Mererrinj in *kunumeleng* ‘first rains’ and *kudjewk* ‘full wet season’. We used to eat a lot of flying fox – those plump little rumps! That was down on the creek in the jungle but we camped up higher where there is a traditional camping spot where we made paperbark houses. They used *Melaleuca viridiflora* paperbark to make them and there are also some small rock-shelters there. Sometimes they camped in the rock-shelters and sometimes in paperbark houses. We used to camp in the *Allosyncarpia* forest.

Bangkerreng ‘Late wet season’

Mary Kolkkiwarra: ... *wanjh arri-balkolungi arri-yime bu bangkerreng*

... we would go down [downstream, down from time the higher rock country] in *bangkerreng* time.



Figure 5.4 Tall stands of Sorghum in *bangkerreng* season (photo: Peter Cooke).

Bangkerreng is the end of the wet season and the final storms and associated winds that knock down the now very tall stands of sorghum grass (Figure 5.4). People are still living in rock-shelters but increasingly moving out into areas of more open savanna woodland or *man-behbeherrk*. As the waters recede towards the middle and end of *bangkerreng*, fishing becomes a major preoccupation. Dragonflies *kaladjirridj* are seen flying everywhere and are considered a calendar insect, marking the end of the rains.

Mary Kolkkiwarra: *Ka-ngolngurrurdu, bangkerreng burldjdjarn an-djewk ka-yakmen.*

Cirro-cumulus clouds appear in the late wet season of *bangkerreng* and indicate the end of the rain.

An-me arri-yawani ankung arri-nguni, an-wohmi arri-buni karrbilk bangkebangkerreng.

We would look for honey to eat, and we mashed up *Ipomoea graminea* and *Ipomea gracilis* tubers throughout *bangkerreng* season.

An-wohmi manu man-me yiman ka-rohrok biddadda, an-kukyawuyahwurd.

An-wohmi (Ipomoea graminea) is edible with a tuber like a potato, but much smaller.

Makka man-lerrelerre ka-kobun manu dja bangkerreng mak bu ngurrurdu-ken kabbarri-konguyi djahwodjahwon, ka-mulewan ngurrurdu.

That *Bossiaea bossaeoides* bush flowers in *bangkerreng* and it's the time for emus to come and eat the little flowers. It [the flowering] tells us that emus will start to appear.

An-djamko jarran ka-yo ka-kobun bangkerreng.

Grevillea dryandri flowers in *bangkerreng*.

A number of edible tubers are largely only available in *bangkerreng*. One is *Curculigo ensifolia*, called variously *an-burda*, *an-mulbirrk* or *an-djay*. The tubers are roasted, mashed up and eaten. Another edible tuber available in *bangkerreng* is *Austrodolichos errabundus* called *kurlahbang* or *barddjubarr* in Bininj Kunwok.

An-burda arri-dong arri-bekmarnbun.

We pound the *Curculigo ensifolia* tubers to make a mash.

Mary Kolkiwarra: <i>Kurlahbang yimen only djal bangkerreng ngalengarre [bulu bayoy] ba barri-buni kobohbanj. Bangkerreng barrimangi an-kurlahbang dja anekke an-ngamed ... kunan ngurri-yime ngaye barddjubarr nga-ngeybun.</i>	The old people [the women] used to go and process <i>an-kurlahbang</i> in the late wet season. They would get them in the late wet season, the <i>Austrodolichos errabundus</i> and whatsit 'kunan [man-kunan]' which is what you all call it, but I call it <i>barddjubarr</i> .
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Marlkawo <i>ka-mirnderri an-kurlahbang, karri-karung karri-ngolung karri-kurlahwe.</i>	At Marlkawo there are lots of <i>Austrodolichos errabundus</i> plants and we dig them up and roast them and remove the skin.
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Not only people come down to the lower more open areas in *bangkerreng*, but so do various macropods:

Jack Nawilil: <i>Namarr ka-bidbun kudjewkkena well kuwardde ka-wendi na-warddewarddeken nungan.</i>	The male euro climbs up slopes in the wet season and it lives up in the rock country, which is its habitat [at that time].
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Murray Garde: <i>Man-me njale ka-ngun?</i>	What does it eat?
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Jack Nawilil: <i>Man-me man-karrarndalk ka-ngun, djorrkkun dedjmeldurngh ka-ngun and badberrem ka-ngun.</i>	It eats triodia grass (<i>spinifex</i>), <i>Ficus platypoda</i> and <i>Melodorum rupestre</i> .
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Murray Garde: <i>Bangkerreng?</i>	In the late wet season?
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Jack Nawilil: <i>Bangkerreng ka-kolung ka-ngun njamed na... green grass na ka-ngun ka-karurren. Konda badyak im different kunj, kalaba. Bad kubad ka-rri nabarlek badborng djukerre barrk.</i>	In the late wet season, it goes down from the rocks and eats ... green grass and digs everywhere. The rock kangaroos are different, as is the antilopine kangaroo. But the <i>nabarlek</i> and the short-eared rock wallabies and black wallaroos live in the rocks [all the time].
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In certain places, fish traps of different designs were constructed in *bangkerreng*:

Mary Kolkiwarra: <i>Arri-balkolungi kondabeh med Kodwalewale karri-nguni djenj After that, kumekkebeh arri-nani yakmeni Kukadjjerre arri-rey koyek Dja Kudjam arri-balkolungi karrkad anbu Ankorlod bono kaddum.</i>	From here [Kabulwarnamyo region] we went to Kodwalewale to eat fish. After that, from there when we saw there were none left, we went to Kukadjjerre [upstream from Kurrurldul] and down to Kudjam, which is upstream from Ankorlod.
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Bardayal Nadjamerrek: <i>That Kukadjjerre im go raitab ngamed ngamed Kudjam, Kudjam</i>	From Kukadjjerre you continue right up to Kudjam in the Kardbam clan country where they blocked [the creek] to get fish. And also at Kawidji, but that is in <i>duwa</i> patrimoiety
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Kardbam djenj arri-dabkeyi djenj, Kawidji ka-bolkduwa.

country [Kardbam clan is the opposite *yirridjdja* moiety. There are special rock country fish traps at in these places for catching small fish].

Mary Kolkkiwarra: *Arri-balhmi, ku-warddeyi.*

We made stone fish traps there.

Bardayal Nadjamerrek: *Kunkalewobe.*

Fence fish traps.

Mary Kolkkiwarra: *Kunkalewobe manu ba-balhmi kun-kod kun-dulk ba-djabdjabnami wanjh ba-kirndihnamu wanjh ba-balhmi kun-kodyih kun-kod ba-balhmi bonj after that djenj ba-bidbuni ba-yoyo ka-djongi full ba-yimi kume ba-mirnderri wanjh ba-bomunkeweyi ku-buyika kure ka-borey wanjh djenj ba-[?] njamed ba-kurrmi njamed, badjbarra badjbarra nawu yakngarra karri-kadjung kaluk kabbarri-marnbun different way bedman old people barri-marnbuni like yiman 'net' ka-yime wanjh barri-nanganani barri-kurrmi djenj ba-mankani ba-djalwarrhmi ba-balmi kabbarri-burriwe ba-djalyawoyhwarrhmi barri-yawoyhkurrmi badjbarra Yika milil yoh manekke.*

Kunkalewobe are fence fish traps made from paperbark and a fence of stakes which then hold the paperbark used to block the fish. After that the fish having gone upstream come back with the current and are washed through a sluice way into a woven container. A long net called *badjbarra* made from pandanus which the old people made in a different fashion [to how we do weaving today] like a net and the fish would fall into [a basket] and when they saw that it was full they would throw out the fish and set it again and the fish would fall into it again. *Badjbarra*, yes, sometimes it was also made of *Malaisia scandens* vine.

Bardayal Nadjamerrek: *Arri-kirndihnameng arri-warnamkan. Kun-kalewobe nomo djenj ka-kurduhme i gan go ka-ngarrnghmang.*

Peter Cooke: What time of the year do you make those fish traps, off on the side of the river, in shallow water but you make a shade for them?

Mary Kolkkiwarra: *Nakka different kind njamed...*

We put stakes into the ground to make a fence across the creek. This is a trap known as *kunkalewobe* and fish cannot get around it, they can't continue through, their forward movement is blocked.

Mary Kolkkiwarra: *Yo njamed kabbarri-yime bul. Bul kabbarri-marnbun bedman kabbarri-djalbarrhbun kaberrk kanjdji ka-ngimerren inside kanjdji ka-kaberrkdi nakka nabuyika different bedman kurih ngayi nga-bengkan barri-yimihwoni wanjh kanjdji ku-djurle ka-*

That's a different kind [of trap], what's it called ...?

Peter Cooke: You make like a little *balabala* [flat roof, shade house] and then cover it up.

Yes, they call that *bul* [kind of fish trap]. They make the *bul* and enclose a space and they all go inside [the fish]. This is a different kind [of trap] other people [used to make] but I know about it. The fish used to go inside into the

welerrme kaluk kabbarri-werrhme kabbarri-djalwe kabbarri-djalwe ...wanjh kaban-biddulubun walabi wanjh kabbarri-werrhme kabbarri-durdmang yekke yiman ka-marnburren bu yiman ka-yime an-bedjekeno ka-bardbakke nakka kuri wanjh ngayi kaban-nang an-kare ngamed ngalengarre kanjdji, yibolkngybu na-Balngarraken, nangamed Djulubbirri kun-red nuye konda this side, Kuluban Kayo.

shade in large numbers and then they would scoop them out, throw them out, but the fish would spike them [with their fins/barbs] and so they used hinged-frame fish nets to get them all out. They did this at the start of *yekke* season when the spear grass had fallen down. I remember seeing this a long time ago down on the lowlands there in Balngarra clan country in whatsisname, Jack Nawilil's country, but on this side at Kuluban Kayo.

Bardayal Nadjamerrek: *Ya Korlobidahdah nakka different bul duniinj ka-mankan.*

Yes and a different trap, a true *bul* fishtrap was made at Korlobidahdah [Cadell River district, eastern plateau].

Mary Kolkkiwarra: *Kun-kod kabbarri-barrhbun kabbarri-djalkodwe kure kabbarri-yimewon an-kimuk kaluk kume djenj kamirndengimerren ka-djalngimen ka-barlme kaluk kabbarri-welengwerrhme after that maitbi kabbarri-durdmang walabi kabukkendadjme kumekke kanjdji djenj kabbarri-bekkan ooooo kabbarri-nan rrrrrrr ka-rralak ka-wokdi kanjdji bu like ka-njamedme ka-bowokdi djenj nawu yi-burrbun njamedme like every yekke.*

They make a paperbark enclosure after collecting a large amount of paperbark and lots of fish go inside [the little house] until its full up and then they scoop all the fish out or maybe they use a hinged-frame net to get them out. Inside they will hear the fish making a noise, making the water rattle rrrr inside [the little house], you know, they did this every *yekke* season.

Bardayal Nadjamerrek: *Dalukorro Yiman ngad karri-nawu, nakka barri-djal karlewobeno barri-kurrmi.*

When the *dalukorro* winds were blowing, but for us here in this area, they used to make fence fish traps.

Yekke 'Early dry season'

Yekke is the start of the dry season. People leave the protection of the rock-shelters and move to lower or downstream areas. Burning starts as soon as the grass will ignite, but many areas are still too green resulting in patches of burnt and unburnt country. This has also been recorded on the eastern Arnhem Land Plateau by Haynes (1991, p. 66), who worked with the Kune in the 1970s:

By the time the last rains had fallen, the beginning of the season the Gunei [=Kune] call yegerr [= yekke], burning on the floodplains was well under way and some burning in the woodland had started ...

The reduction of fuel in the early dry season restricts the damage fires can do in the late dry season when men conduct kangaroo fire drives in *kurrung* season. There are few trees with available edible fruit at this time of year, but *yekke* is a time for certain kinds of fishing

although fish are only available below the large waterfalls of the major water courses (e.g. Binenge ‘Cuthbertson Falls’ on the Liverpool River. If you want to go fishing and you are on the upper Liverpool you have to move below Binenge. The lack of large waterfalls on the Mann River, however, means that there are fish in the upper reaches of this river).

Mary Kolkkiwarra: *Yekke wanjh yika arri-bolkbawoni arri-kolungi an-behbeberk arri-rey wanjh yiman ka-yime koyek djarre. Marlkawo arri-ni, arri-durndengi kondanj [Kabulwarnamyo] arri-ni. Dja karri-waley yakarrikad...*

In *yekke* we would leave the places [where we camped in the wet season, rock-shelters] and go down to the savanna woodlands, walking sometimes a long way to the east. We would camp [in *yekke*] at Marlkawo and then perhaps come back and stay here at Kabulwarnamyo. Or we might travel a long way to the west ...

Bardayal Nadjamerrek: *Kunj arri-nguni barrk.*

We would eat black wallaroos [i.e. we would come to this area, Kabulwarnamyo, to hunt black wallaroos in *yekke*].

Mary Kolkkiwarra: *Yekke wanjh ka-bardbakme an-bedje, yekke wanjh an-karnbirr karri-nan ka-kobun an-barndarr karri-welengnan karri-yime yekke.*

In *yekke* the spear grass falls over and in *yekke* when you see *Acacia oncinocarpa* and turkey bush (*Calytrix exstipulata*) flowering, then we say it is *yekke* ‘dry season’.

Bardayal Nadjamerrek: *[bangkerreng] kayakki ka-bolkkih ka-njihme arri-yime marrek ka-wurlhme yekkeyekke wanjh ka-wurlhme.*

In *bangkerreng* season ‘last rains/knockemdowns’ [just before *yekke*] the grass is too green/wet and we say that it will not burn. It will burn throughout *yekke*.

Murray Garde: *Yekke kure ku-wardde barri-bawoni?*

Would they not burn the rock country in *yekke*?

Bardayal Nadjamerrek: *Barri-wurlhkeyi ba-kadjungi ba-rrowen.*

They would burn it [at that time], but it would only creep along and stop [making burnt and unburnt patches].

Murray Garde: *Bininj-wi barri-dokmeni daluk?*

[What about] men and women going ahead [burning]?

Bardayal Nadjamerrek: *Nakka yerre barri-wurlhkeyi barri-rey barri-bulekadjungi ‘Buleno karri-ray!’ barri-yimi. Daluk o Bininj o dabbarrabolk o wurdurd kunukka yekke.*

The women came behind [when travelling] burning as they went and following the burnt patches the men had made ahead of them. They used to say ‘Follow the burnt patches!’ Women and men, old and young [burning], that’s what happened in *yekke* ‘early dry’.

Mary Kolkkiwarra: *Yika mak daluk arri-wurlhwurlhkeyi, yekke start arri-djalwelengyini Bininj barri-wurlhkeyi ba-djale wurlhkeyi barri-yidangerreni*

Sometimes we women would burn the country, starting in *yekke* we would keep burning and together with the men we kept burning all the way through to *kurrung* ‘hot late dry season’.

ka-djale kurrung.

Murray Garde: *Kodwalewale yekkekeno baleh ngurri-yoy?*

Would you camp somewhere in Kodwalewale estate in *yekke*?

Bardayal Nadjamerrek: *Oo, Kukarddak Djordi-ken yika mak mak Wurrbbarnbuluken Nabarng.*

Oh at Kukarddak [which is in the Kodwalewale estate] in Djordi clan country or sometimes we would go to the Nabrang estate in Wurrbbarnbulu clan country.

Mary Kolkkiwarra: *Arri-ningihni arri-balkolungi yika kilkken arri-waleyi yika kaddum Kodwalewale yika arri-kolungi yika kure Manmoyi o arri-bale everywhere arri-wam Ngolkwarre arri-bale Kunburray Arri-bale kurih Ngolkwarre Kunburray Kodwalewale, yekke yo.*

We might stay in one area or we might go downstream, sometimes to Kamarrkawarn, sometimes downstream to Manmoyi, but we could go everywhere through the estates of Ngolkwarre, Kunburray and Kodwalewale, in *yekke*, yes.

Murray Garde: *Yekke an-me njale karri-nan?*

What foods do we see in *yekke* season?

Bardayal Nadjamerrek: *An-kung arri-nguni an-wohmi, an-mulkirrk ya burda yi-bengkan kabarri-durrkmang bu kurorrbo ka-dingihdi. An-burda arri-dong arri-bekmarnbun.*

We ate the honey of stingless native bees, *Ipomea* tubers (*Ipomoea graminea*, *Ipomoea velutina*) as well as *an-mulkirrk*⁷ and *Curculigo ensifolia*⁸ tubers: you know all those foods which grow in clearings, we pull them out of the ground. We pound the *Curculigo ensifolia* tuber to make a mash.

Murray Garde: *Kunj?*

[What about] kangaroos [in *yekke*]?

Bardayal Nadjamerrek: *Yekke ka-balemdi, yekke nakka bonj.*

In *yekke* they are fat, *yekke* is a good time for them.

... kunj barri-yami barri-nani ka-kinje ... Dja an-kung barri-nguni nabiwo, kardderre barri-derdmi yukno barri-dahkendongi barri-barungi.

... they would spear kangaroos and cook them ... and they ate various varieties of honey, *nabiwo* and *kardderre* and carried the honey back so they could mix it with other food.

Murray Garde: *Balekeno ngurrim-wam kondanj Wamud?*

What time of the year might you come here [to Kabulwarnamyu] Wamud?

Bardayal Nadjamerrek: *Yekke an-kungken. Kurebeh nga-dolkkang nga-wabmeng [Kabulwarnamyobeh] ngamed Kulnguki, Kodwalewale wanjh arri-wam an-bolh. Kulnguki Djamamburru Ubarr ka-yo. ... Djamamburru ka-dolkkan Bonurkwern kun-wadda Kamarrkawarn.*

In *yekke* it's the time for honey. I would move from here [at Kabulwarnamyu] to Kulnguki. Then we might go to Kodwalewale, following the walking route. Then from Kulnguki to Djamamburru where there is an Ubarr ceremonial ground. From Djamamburru you go to Bonurkwern and then home to Kamarrkawarn. That's all in the

That country for Djordi Kodwalewale. Kodwalewale estate belonging to the Djordi clan.

There are no major sites for hunting magpie geese on the plateau and so the options are to travel to Gundjeihmi country on the floodplains bordering the plateau to the west or east to billabongs near the lower Liverpool.

Murray Garde: Ka-bardbakme an-bedje, balekeno kabbarri-wurlhke?

When the spear grass collapses, when do they burn it?

Bardayal Nadjamerrek: Anekke ka-bardbakme yekkeyekke an-bedje, yekkeken wurlh ba-wolhbarungi, nomo balay barayinj ba-djalkadjukadjungi ba-rroweni ya.

In the middle of the early dry season *yekke* it has fallen down and in *yekke* the fire would consume it. It would not burn for a long distance, but just follow along in a patch and burn out.

Murray Garde: Manimunakyak konda Wamud. Yika barri-kolungi bamurruken?

Are there no magpie geese here Wamud? Would people go down somewhere to get geese?

Bardayal Nadjamerrek: Kanjdji barri-rayinj kure ngamed Kungorobu koyek Kungorobu dja ngamed Yimayhyirud, bamurru kumekke kulabbarl, yekke.

They would go down to *whatsit*, Kungorobu, to the east and to Yimayhyirud to get geese there on those billabongs, in *yekke* 'early dry season'.⁹

Long yams (*Dioscorea transversa*) and 'cheeky yams' (*Dioscorea bulbifera*) are an important perennial food source (except in the wet season when cheeky yams are not available). Certain places in jungle habitats are important yam sites especially in river valleys and gorges. *Yekke* in particular is a time when long yams are easier to find.

Mary Kolkkiwarra: Kunukka yi-na bu arrih-dja-... kubolkkuken bu arri-yimi like kure yiman barri-yikarreni an-me arri-bengkani yiman ka-yime Ngolkwarre, konda kilkken, Kunburray yiman this side arrim-kukdurndengi mak kondah mani Mokmek area ngalengarre manekke mane kukadj mirnde ka-rri an-me dja minj na-ngale kayawal ka-bun. Yo yika mahni walem, Morre Birulk Dja marrek na-ngale ka-bun warre bolkkime.

We have important traditional places where people go to for particular plant foods, such as long yams, which we know such as Ngolkwarre estate and downstream from here [on the Liverpool River] at Kunburray, but also back on this side in the Mokmek area, there are many yams but today no one is collecting them. Yes, also to the south there are important yam sites at Murre and Birulk [in Muruba clan country]. But no one goes there anymore to get the yams.

Another important yam area is Manggabor Creek [i.e. *mankabo* 'creek'] also known as Kumarrirnbang Creek¹⁰ on the north-east of the plateau which has many *Allosyncarpia* forests and other jungles distributed along the gorges and tributaries where the creek has cut through the surrounding rugged sandstone. Jimmy Kalarriya describes sections of this river valley/gorge as being very important *yekke* long yam sites. The sites he mentions, Ngalbinnedjad

and Mibarra, are located along Kumarrirnbang Creek (see the accompanying map):

Jimmy Kalarriya: Mani karri-wam bolkki, Ngalbinjdjad karrbarda man-kuken. Mani karrbarda an-kuken konda Mibarra. Karrikad manih manekke manih. Djal kawarre, karrbarda. Manih an-barrarn kureh karrih-wam karri-durndi. Mani Mibarra, mani ka-rredjdubbedurndeng, Bumurn manu Bumurn.

Today we passed through the site Ngalbinjdjad, which is well known for long yams. Long yams were associated with this place Mibarra. There are so many yams here. This gorge is where we travelled back and forth. Here at Mibarra, this gorge comes to a dead end at the site Bumurn.

Mirurr arri-yoy wanjh malahmalayi Ngalurdbirrhmi arri-yoy. Kumekke-beh barrhbuni wanjh Berddolkko arri-wam arri-yoy arri-derrehmi Mibarra. Kumekke arri-yoy karrbarda arri-nguni wanjh arri-derrehmi Kamanemdi. Kumekke-beh arri-dolkkayi arri-wam Yolngbuyken. Malayi arri-djalbolkyurhkeyi Nadjabba, Kurrbbirnbaleng arri-yoy. Nadjabba bim na-kuken.

We camped at Mirurr and then in the morning we went to Ngalurdbirrhmi and camped there. From there, at first light we walked to Berddolkko and then moved further to Mibarra. We camped there and ate long yams and then continued on to Kamanemdi. From there we set off for Yolngbuyken. The next morning we would walk past Nadjabba and arrive at Kurrbbirnbaleng where we would camp. Nadjabba is an important rock art site.

Nanebe Berddolkko ... ngarri-wakbom. ... Karrbarda mani man-wandjad djal kawarre karrbarda. Karrbarda kukadje.

This area around Berddolkko ... where we've been circling [in the helicopter]... long yams (*Dioscorea transversa*) in this river valley are everywhere. There are so many of them here.

Wurrkeng 'Mid-dry season/Fire season'

Wurrkeng is the cool dry season and at this time of year on the higher parts of the plateau, overnight minima can reach as low as 4°C, although the average minimum is 8–15°C. The name for this season is derived from the root *wurrk* 'bushfire' and tells us something of the relationship between seasonality and frequency of fire. The deep significance of landscape burning to plateau Aboriginal people is also reflected in semantic shifts such as the Dalabon language name for 'grass' *wurrhno*, which is also related to the Bininj Kunwok word *-wurrk* 'bushfire'. In this case, the important association between 'fire' and 'grass' has resulted in a semantic shift from 'fire' to 'grass' (the material that burns in a bushfire).¹¹

This middle dry season period was the time of year when burning was most frequent, although fires were also lit earlier in *yekke* as the discussion above mentions.

Bardayal Nadjamerrek: Yekke ka-bolkborledme.

In *yekke* 'early dry season', the country changes.

Mary Kolkkiwarra: Wanjh wurrkeng start ka-welengbukmen wurrkeng ka-yimerran kurrung

Then *wurrkeng* season commences and the country starts to dry up as it moves closer to the hot build up season of

darnki. Bininj barri-wurlhwurlhkeyi arri-welengbulekadjungi arri-rey arrban-marnebebmi kuwadda korroko kunj barri-yingkiyami barri-wilkdengi. Ngandi-marnebolkmulewani 'Konda karri-yo' barri-bolkngeybuni. Ma ngarri-yimi wanjh ngarri-welengrey. Barri-yingkihkurmi kunj barri-kinjeyi.

kurrung. In *wurrkeng*, people were burning everywhere and we would follow the paths of burnt grass [lit by the men ahead of us] until we arrived at the camping place where there would be roast kangaroo waiting for us that they had cooked in ground ovens. At the start of the day the men would say 'we'll camp at such and such a place' and we would say 'OK, see you there' and off we would walk. The men would have kangaroos ready for us, already cooked [by the time the women and children arrived].

Mary Kolkiwarra: *Yika mak daluk arri-wurlhwurlhkeyi, yekke start arri-djalwelengyini Bininj barri-wurlhkeyi ba-djale wurlhkeyi barri-yidangerreni ka-djale kurrung*

Sometimes we women would also burn as we walked starting at *yekke* season the men would be burning all the time continuing all the way through to *kurrung*.

Mary Kolkiwarra: *An-djoh kakobun ka-rrabungundjikan modjarrkki ka-kurrme modjarrkki dabuno same way an-djoh. Wurrkeng.*

When the *Acacia difficilis* is flowering, the fresh water crocodiles lay their eggs at the same time, during the flowering of the *Acacia difficilis* in *wurrkeng* season.

Bardayal Nadjamerrek recalls camping at Narralombun in *wurrkeng* to enjoy the abundant honey in this area at this time of year:

Bardayal Nadjamerrek: *Narralombun anmurlmu ka-rrri, arri-yoy kuwaddaburrk bu junction at Warnkulumbakmeng. Wurrkeng ankung arringuni. Midjohdjodjoh dolobbo arri-rdakmi koyek.*

At Narralombun there are *Melaleuca leucadendra* trees and we slept at the traditional camping place there at that [river] junction and in *wurrkeng* season we ate honey. To the east, [on southern side of crossing, Manmoyi to Kabulwarnamy road] is the camp which we made from bark shelters in a grove of *Acacia difficilis*.

Wurrkeng was the time to process the starch in the rhizomes of a jungle fern (possibly *Blechnum indicum*) known as *an-bulkung* in Bininj Kunwok. This food seems to be a specialty of the plateau and its preparation is described by Mary Kolkiwarra. The interview was recorded in 2001 at Makkalarl in the Djalbangurrk estate.

Murray Garde: *Njale birri-nguni kondanj?*

What did people eat in this place [Makkalarl, Djalbangurrk estate]?

Bardayal Nadjamerrek: *An-me barri-nguni an-*

They ate *an-bulkung* fern rhizome, kangaroos, honey, goanna, bandicoots,

<i>bulkung, kunj, ankung, djanay kobbol barri-nguni yok, djanay.</i>	and a kind of goanna (<i>Varanus panoptes</i>)
Murray Garde: <i>Yo djanay yiman kalawan.</i>	<i>Djanay (Varanus panoptes)</i> is a kind of goanna.
Bardayal Nadjamerrek: <i>Ya kalawan bad kuk-buyika.</i>	Different to <i>Varanus gouldii</i> .
Murray Garde: <i>An-bulkung makka njale?</i>	What is <i>an-bulkung</i> ?
Bardayal Nadjamerrek: <i>An-me.</i>	(vegetable) food
Murray Garde: <i>Bale birri-ngalkeng?</i>	Where did they find it? It's around here in jungles.
Bardayal Nadjamerrek: <i>Ka-di konda kungarre.</i>	It's around here in jungles.
Murray Garde: <i>La birri-durrkme?</i>	Did they pull it up?
Bardayal Nadjamerrek: <i>Barri-karungi, ku-kurik karri. Barri-rey barri-ngolongi, barri-worrhmi kunak an-kimuk.</i>	You have to dig it up from the ground. They would roast it on very large fires.
Murray Garde: <i>Barri-dongi?</i>	Did they pound it?
Bardayal Nadjamerrek: <i>Barri-ngolongi med yerre barri-borledkerrinj wanjh barri-dongi wanjh barri-marnbuni kun-djulng mani barri-marnbuni kun-kurik wanjkih. Ba-marnburreni anbulkulng berlno bad djuj (duyu) makka. Dyu (?) barri-ngoluy. Barri-dongi, kundulk (ngunbulke???), kundulke (?) ... yi-bengkan ka-djorlok kabarrimarnbun, you know that an-rurrk kunrurrk, that anekke kabarridongi, kun-dulk...</i>	You have to cook it first, turning it over and then pound it, turning it into a pulp in the consistency of soil. This pulp is made from the 'arms' of the rhizome and they pound it on a special piece of wood in which they make a hole and they grind it up in that hole in the wood.
Bardayal Nadjamerrek: <i>Barri-dongi kabarridongi... barri-djedmi mekem flat ba ba-djorlokkenni that nganme. You seeim that ka-warddedjorlok, same barri- barri-dongi.</i>	They carve the wood until it is flat and then the food sits in a hole (depression) in the wood. Have you ever seen those cupules in the rock-shelters, well they ground it up in those too.
Bardayal Nadjamerrek: <i>Barri-dongi bad barri-ngolongi korroko barri-dongi ba-yawoyh barri-yawoyhborledkeyi barri-ngolongi barri-yawoyhrungi wanjh ba-bidmeni now kunrung bar-rungi kunak, kay barri-bakkeyi day barri-bakkeyi berlno ya. Barri-marnbuni, barri-dongi anme. Tharran ngarri-marnbuni njamed an-kung.</i>	They cooked it first and then pounded it and pounded it, but they cook it, turning it over again over the coals until the heat from the fire forms it into sticks and they break them off and they pound it then. We used to make it with honey.
Bardayal Nadjamerrek: <i>Make im ankung sugar bag, mekem sweet one...</i>	Mix it with 'sugar bag [honey] to make it sweet ...
	They roasted it ... roast it by making a

Bardayal Nadjamerrek: *barri-ngolungi..... barri-ngolungi, mekem big fire, that an-bulkung berlno, ba-rungi wanjh barri-borledkeyi yiken, barri-borledkeyi wanjh 'keyi' barri-bakkeyi now ba-darlehmeninj. Kodjdjan im know marrek ba-rayinj. I got nother an-bulkung there my place.*

big fire, those sticks of *an-bulkung* which they roast, turn over again until it would snap 'crack' when you broke it because it had dried out. Kodjdjan [Mary] knows but hasn't been [to collect it for a long time]. I also have *an-bulkung* in my country [Ankung Djang, Kabulwarnamyo].

Peter Cooke: You can make it anytime of the year or?

Bardayal Nadjamerrek: *Yekke o kurrung all that, nomo kudjewk kayakki, tharran ka-boyo all over.*

From *yekke* to *kurrung*, all that, not in the wet season because there was water all over.

Mary Kolkkiwarra: *Ngalkka an-bulkung wurrkeng ngalengarre.*

That *an-bulkung* is [prepared] in *wurrkeng* season.

Kurrung 'Build-up, late dry season'

Kurrung is the hottest time of the year on the plateau, with accompanying high humidity. Storm clouds start to form but don't break until the following *kunumeleng* season. The ground becomes so hot that it is often difficult to walk in the middle of the day. The name of the season derives from the Bininj Kunwok locative prefix *ku-* 'in' and *-dung* 'sun'. When the temperature and humidity has reached a peak, then this time is also known as *Djurlirrimi*. *Kurrung* is a time when the large macropod fire drives are conducted in specific locations known as *bambarr* 'dead-end fire drives valleys'. These hot fires are designed to injure large kangaroos such as *Macropus antilopinus* so they can be easily speared by hunters working in co-operative teams. The extensive burning that has been conducted throughout the preceding dry season period means that the surrounding fuel has already been reduced, making it less likely for the hot fires of the kangaroo drives to burn out of control and continue outside of the fire drive location. In relation to large kangaroo fire drives, Bardayal Nadjamerrek makes the following comments:

Bardayal Nadjamerrek:
Kurrungburlldjdjarn, yekke kudjihno arri-wurlke, yekkeburlhdjarn kudjihno wanjh kurrungburlldjdjarn barri-wurlhkeyi an-kimuk an-wurrk kalaba barri-bom kandarlbburru o barrk arri-yami o kanbulerri ku-wardde an-wurrk ba-djirrkani kunak barri-kengemi, kalaba same way. Kornobolo du ba-birlikehkengemi barri-yami ba-rrerkani ba-berdmaberdmarrreni ba-

The middle of *kurrung* [is suitable for kangaroo fire drives], also occasionally in *yekke*, but the biggest drives were in *kurrung*, making fires that would drive out the large male antilopine kangaroos (*Macropus antilopinus*), or black wallaroos (*Macropus bernardus*) and euros (*Macropus robustus*) in the rock country. The fire would push them out and the kangaroos would be afraid of the fire. In the same way, agile wallabies are afraid of the fire and they could spear them when they sat

belenghmerreni berdno ba-wolhmerreni down to hold their tails, licking their wounds, their tails having been burnt in the fire and with their heads close to their tails [distracted] the hunters would sneak up and spear them.

Kurrung is also a good time to look for turtles in creeks as the water levels are now at their lowest point and women would feel around in the sandy creek beds to find them.

Mary Kolkiwarra: *Marlkawo nakka barribirrkani kuwukku barri-djuhni ka-djuhkendi barri-djalbirrkani barri-mangi kuwukku barri-birrkani barri-bekkani barri-karrmi kurrungburldjdjarn barri-djuhmi Ngard barridjalkarrmi makih ngalderrhwo ngalyahwuyahwurd barri-yawoyhdjuhkeyi barri-durndeyi ngale ngalderrhwo ngalkimuk ngalu barri-bebbekeyi o ngalmangeyi barrimangi barri-bebkeyi kurrung.*

At Marlkawo they would feel around for turtles in the creeks. They get into the water and feel around and grab them in the water when they can feel them. This is in the middle of *kurrung*, [the hot build-up season before the rains] when they go into the creeks. They would get northern snapping turtles (*Elseya dentata*) sometimes getting small ones and then large ones or long neck turtles (*Chelodina rugosa*), getting them [out of the creeks] in *kurrung* season.

While in the creeks looking for turtles in *kurrung*, women and children also gathered freshwater mussels and the lower water levels in some places allowed men to spear fish:

Bardayal Nadjamerrek: *Kurrung wanjh karnobirr arri-nguni o djenj arri-nguni arridanjbuni.* In *kurrung* we ate freshwater mussels or we speared fish.

Low water levels also meant that fish could be killed in rock pools along water courses with plant ichthyicides.

Peter Cooke: What's the really good place for poisoning fish?

Mary Kolkiwarra: *Mary Kolkiwarra: Arri-weleng kolhbuni kumekke yiman ka-yime Morle Karrang arrikolhbuni yiman ka-yime Anberd kaddum kure ka-djangdi arri-kolhbuni An-berd Dume Ka-nerrme djenj makka arri-kolhbuni ba-bukmeni kaddum djarre arri-djalkolhbuni Kamarrkawarn area and arri-bodjinihmi yiman ka-yime njale ba-wukdalkani-warre djenj njamed mawurrumburrk mawurrumburrk dja an-balarra arri-rawoni arri-dukkani barri-dorrorrokeyi dja yika bedman barri-buni ba-*

We used to poison fish at places such as Morle Karrang and near the penis dreaming at Anberd, upstream and also at Dume Kanerrme we used to poison fish there and much further up in the Kamarrkawarn area we poisoned fish and you could see them float to the surface. We used *Distichostemon hispidulum* and *Owenia vernicosa* sometimes together. We would tie the branches together and drag them through to kill barramundi and saratoga and catfish,

djal[na]rrolkani namarnkol nawu nuk yina dja heaps of them, all kinds of fish, black bream.
kuluybirr ngalkka dowerreni dja In *kurrung* season. They also used to poison
mardakidjawarre yiman ka-yime all kind fish up on the Cadell River and in the
dunbuhmanj all kind *Bu kurrung Yarangkarr* easternmost part of the plateau in the
barri-kolhbuni. *Yarangkarr* estate [Rembarrnga country].

Another *kurrung* season activity was the collection of white clay (huntite), used for ceremonial, ritual, artistic and medicinal purposes. One of the most famous white clay mines on the plateau is at Madjanngalkku in the Maburrinj estate.

Peter Cooke: When would people collect *delek* [white ochre] from Madjanngalkku?

Mary Kolkiwarra: *Barri-kolungi yika barri-rey o koyek barri-durndi barri-djalohmangi delek. Kurrung every kurrung. Kurrung time nakka barri-mangi delek. Kulay babukmeninj barri-mangi. Kure yiman Kunbarlanja barri-rey wanjh barri-wohdurndeyi 'come back time' and barri-mangi. An-kole bu barri-bunjdadjkeyi. An-kole arri-karnmangi arri-djorrngmi arri-djorrngmi arri-burranbarungi. Yika Kunbarlanja barri-kani bulk barri-worreni. Bandi-woni njalehnjale o middiriyal bandih-woni wirlmurrng djalikiradj bandi-woni.*

They went down or if they were walking to the east they would turn off there [to Madjanngalkku] on their way to get the white clay. That was in *kurrung* season, every *kurrung*. They got the white clay in *kurrung* season. The creek would be dry at that time of year so you could get it. If they went to Kunbarlanja (Oenpelli), on their way back to the east they would collect some when they came back. They would go [west] to get spears [and return via Madjanngalkku]. They would collect the spear shafts, straighten them [with heat] and then paint them with the white clay. Sometimes they would take them [the painted spears and the clay] to Kunbarlanja on the trade route to exchange them. They would give them whatever, cloth or fishing spears or lengths of wire/steel to make spear points.

TALKING ABOUT LANDSCAPES, VEGETATION HABITATS AND ECOLOGICAL ZONES IN BININJ KUNWOK

The topographic and botanical diversity of the Arnhem Land Plateau is reflected in the large number of terms (over 300) in Bininj Kunwok for landscape and vegetation communities. These terms cover the range of scale and specificity from a generic term such as *man-berrk* 'savanna forest' through to a grove of a particular plant *midjohdjodjoh* 'grove of *Acacia difficilis*'. Some terms, however, do not encode scale such that the term *man-dulum* 'hill' can refer to an elevated landform of any size from a bump in the road or a sandcastle through to a major elevated feature covering a square kilometre or larger.

Europeans have brought to the Australian landscape, including the Arnhem Land Plateau, a European-centric taxonomy of the Australian biota. Take for example the definition of the term

‘sandstone heath’ commonly used by ecologists to refer to a range of vegetation communities on the Arnhem Land Plateau.

A specialist definition:

The Arnhem plateau sandstone heath community is a complex of closely interdigitated, intergrading plant formations including Eucalyptus, Corymbia or Callitris-dominated forests, woodlands, open woodlands, shrublands and hummock grasslands united by the presence of a well-developed sclerophyllous shrub component. ¹²

This definition is based on the English term for the European plant ‘heath’:

1 a: a tract of wasteland **b:** an extensive area of rather level open uncultivated land usually with poor coarse soil, inferior drainage, and a surface rich in peat or peaty humus **2 a:** any of a family (Ericaceae, the heath family) of shrubby dicotyledonous and often evergreen plants that thrive on open barren usually acid and ill-drained soil; especially: an evergreen subshrub of either of two genera (*Erica* and *Calluna*) with whorls of needle-like leaves and clusters of small flowers **b:** any of various plants that resemble true heaths. (Source: Merriam-Webster online dictionary, www.merriam-webster.com/dictionary/heath)

An elicited, but composed definition for ‘sandstone heath’ in Bininj Kunwok is possible, but it would be a descriptive phrase and is therefore not a natural lexical entry in a dictionary:

Kun-dulk an-djuhdjumbung kukorlh

‘trees and short shrubs associated with bedrock/rocky open zones’

The point of all this is that although non-Indigenous scientists can identify a particular ecological zone or plant habitat and put a name to it, the same entity is not necessarily similarly identified by Aboriginal people on the plateau as a discrete biome. This is not to say that the plants or the environment of places where ‘sandstone heath’ is found were of no significance to Aboriginal people. Indeed most of the plants of ‘sandstone heath’ habitats have Bininj Kunwok names, but this is a reflection of cross-linguistic differences in how landscapes and ecological habitats are ontologised. In the European scientific sense, the classification is motivated by, among other things, intellectual interest in plants, while the lack of a term in Bininj Kunwok is for Aboriginal people on the plateau, possibly motivated by ‘utilitarian considerations’ (Hunn 1982; Berlin 1992; Burenhult and Levinson 2008) or the fact that the diversity of plants that grow in sandstone heaths is less salient than the landforms on which they grow; that is, *kukorlh* ‘open bedrock expanses’.

Therefore, the cross-cultural enterprise of non-Indigenous and Indigenous land managers working together to manage the resources and deal with the threats to the Arnhem Land Plateau will require some mutual cross-cultural understanding of how each group organises its cognitive schemes in relation to the labelling of landscapes and ecological zones. It is also

important that the vocabulary and ecological referential systems that have developed over thousands of years in response to human interactions with the plateau's environment continue to be used by younger generations of Bininj. This is no assumption on my part as a sympathetic social scientist, but a clearly stated objective of senior plateau community leaders such as Jimmy Kalarriya and Bardayal Nadjamerrek who, when interviewed for the Australian Broadcasting Corporation television science program *Catalyst* in 2006, made the following comments:

Jimmy Kalarriya: Yawurrinj ba kabirri-durrkmirri kabarri-wokihme kamak.

Ngarrbenbukkan yawurrinj ba bu kabirri-bengkan like ngad maitbi ngarri-danjik ngarri-dowen. Wanjh yawurrinj kabirri-bolknahnan kun-red. Karri-djarrkdurrkmirri Balanda dorreng, ba Balanda kun-wok bedberre dja ngad ngarri-bulerrri kun-wok ngarri-wokdi.

This [land management and traditional ecological knowledge recording project] is a good thing and is something we have all wanted. I have really wanted to see this. Our young people working [in this project] is a good thing. We elders need to teach these young people so they will gain this knowledge, because when we three have died [Bardayal Nadjamerrek, Jimmy Kalarriya and Peter Biless] then it's up to young people to look after the country. Then the young people can look after the country. We can work together with non-Aboriginal people so that we use both our Aboriginal language terms and the English words together.

Bardayal Nadjamerrek: Dja Balanda ngandi-bidyikarrme nawu ka-bengkan kun-wale dja kun-wok ngadberre, birri-wern Balanda minj kabirri-bengkan Kunwinjku. Bu ngayi nga-djare wanjh kunred Bininj ngarri-marnbun, dja Balanda, Balanda law or Bininj law, ngarduk law.

We need non-Aboriginal people who understand our ways of doing things and our language, as many non-Aboriginal people do not know Kunwinjku. I want to make my place where we Aboriginal people make use of both Aboriginal and non-Aboriginal cultural practice [in managing and referring to the country].

It is no surprise that a hunter-gatherer culture, whose day-to-day survival depends on an understanding of landscape, seasonal variation and biological diversity, should have developed specialised knowledge concerning landscape features, ecological habitats and detailed ways of referring to many aspects of landforms. Cognitive geographers have noted that the linguistic category of landscape terms is universal in all cultures, but the organisational details or cognitive schema for how landscapes are referred to and ontologised varies greatly from culture to culture (Mark and Turk 2003). Seventy years ago, however, the point that landscape terms are a cultural universal needed to be made and anthropologist Donald Thomson working at that time in Arnhem Land made the following remarks (Thomson 1939, p. 211):

... 'the seasonal factor is recognised by the aborigines themselves, and stressed by the fact that they have classified the types of country, as accurately and as

scientifically as any ecologist, giving to each a name, and associating it with specific resources, with its animal and vegetable foods, and its technological products’.

We turn now to a discussion of the Bininj Kunwok conception of landscape and ecological zones.

BININJ KUNWOK LANDFORM TERMINOLOGY

I wish to sidestep the more abstract question of whether or not landscape in Bininj Kunwok is a self-contained semantic domain and concentrate on a description of terminology, word classes and identify how culture weaves its way into language about landscape. Certainly, the overarching label *kun-bolk* in Bininj Kunwok, can be glossed as ‘country, landscape, place’ and the interrogative *Bale ka-bolk-yime* ‘what is the country like (what is the form of the land)?’¹³ could elicit a description containing the names of landscape features. In contrast to the word *kun-bolk* is the term *kun-red*, which means ‘home, hearth, traditional camping place’, because the site has resources or some cultural significance that drew people to spend time there. All *kun-red* have names and are also described as *kun-redkuken* ‘sites of significance in that they are known important historical camping places’ (or *waddaburrk* in Kundedjnjenghmi and Dalabon). The adjective *-kuken* can be suffixed to other nouns such as foods and cultural practices and was once translated by a Kunwinjku speaker for me as ‘important’.

Basic landscape terms in Bininj Kunwok are nouns. All nouns in Bininj Kunwok have gender agreement (although in some dialects this agreement is breaking down). There are four genders in Bininj Kunwok: masculine, feminine, neuter and vegetable. These classes are often (but not always) marked by the prefixes *na-*, *(ng)al-*, *kun-* and *(m)an-* respectively. Most landscape terms belong in the vegetable class and have the prefix *man-* in some dialects (Kunwinjku, Kuninjku and Kune), while some other dialects drop the initial nasal sound > *an-* (Gundjeihmi and Kundedjnjenghmi).

- *(m)an-dulum* ‘convex elevated landform (hill)’
- *(m)an-kabo* ‘water course’
- *(m)an-barrarn* ‘gorge, valley, lower region with elevated landforms on either side’
- *(m) an-ngarre* ‘jungle, thicket’

Not all terms have a noun class prefix e.g. *kabbal* ‘plain’, *kanjdjikanjdji* ‘lowlands’, and those with prefixes in some dialects can drop them in others and add a third person possessor suffix *-no* giving *dulumno*, *kabono* and *barrarnno*, which essentially means the same thing. The locative suffix *ku-* can transform the landform object into a place or location thus *ku-rrulum* (d>rr between vowels) ‘in the hill(s), *ku-kabo* ‘in the creek’, *ku-barrarn* ‘in the gorge’.

Elaborations or part features of basic terms are often verbs and seen as processes:

ka-barrarn-djarrinj-mang (intransitive verb)

it gorge.diverge.get

'a gorge which is dissected by another gorge at right angles'

ka-bo-berl-duluburren (reflexive verb)

it water.arm.pierce-reflexive.suffix

'braided stream'

ka-wardde-berre-bame (intransitive verb)

it rock.chest.shine

highly visible scarp or ridge line

Many terms can be described as predicate nouns. This means the root of the term is a noun, but it has a third person singular prefix *ka-* 'it' which is also the kind of prefix found on verbs. Terms in this construction often occur as a combination of subject prefix, noun and adjective:

ka-bo-ngerdken

it water.pregnant [literally, 'it water.pregnant']

'waterhole (on river)'

ka-ngalk-kuyeng

it cliff.long

long and tall escarpment face which runs for some distance.

These terms can then be built up into compound nominal phrases for more specific descriptions, some of which can be conventional terms, while others can deal with translations of English terms such as the rendering of the English word 'watershed':

ka-bolk-rorrbo kunj djurleno

it place. open area kangaroo shade

'open grassland with a few shady trees under which kangaroos like to rest'

ka-bo-larlma-rren ka-bebbe-bo-yarlarrme

it water-divide-itself it each-water-disperse

'water shed'

Landscape terms frequently encode more than just the geomorphology or the form of the land itself but can also include information about vegetation, water and human relationships or interaction with the land. In English, vegetation habitat terms are mostly exclusively concerned with the plant communities they describe, but in Bininj Kunwok this is not so. For example in English, ecologists refer to 'tropical savanna or woodland' or 'tall open forest'. These forests are dominated by eucalypts and other small trees and shrubs with a ground cover dominated by *Sorghum* spp. grasses and various herbaceous species. Generally these environments are called (*m*)*an-berrk* in Bininj Kunwok but the word also encodes the following semantic features:

- openness and traversibility
- opposition to *kuwarddewardde* 'rock country'
- opposition to riverine environments, such that to retriplate the stem of the word

(*m*)*an-behbeberk* denotes a great expanse of woodland with no water. Bininj Kunwok speakers talk about movement across the plateau in terms of walking from one creek, traversing a stretch of *man-berrk* and arriving at the next creek.

These semantic features can be deduced by seeing how the root *-berrk* is used in everyday speech and in compounds as in the following examples:

kanjdji ‘inside’ versus *ku-berrk* ‘outside’

When you place the locative prefix *ku-* on the stem, the sense becomes ‘outside’ in opposition to ‘inside’, but even with the noun class prefix remaining, the word can still be glossed as ‘outside’:

Ku-berrk *karri-yo wardi karri-ladmen.*

Let’s sleep outside otherwise we’ll get hot.

Ngarrih-nang man-berrk bidbom kinga.

We saw that the crocodile had climbed up and out in the open (i.e. out of the water).

This sense of openness or accessibility associated with the terms for ‘tropical savanna forests’ is something that has a human element. The openness of these forests is in opposition to the dominating hindrance of *kuwarddewardde* ‘the rock country’ or *ka-ngarredubbe* ‘impenetrable thickets’ and Bininj believe that they have a role to play in keeping these forests ‘open and accessible’ by undertaking the annual landscape burning as they moved from *kun-redkuken* to *kun-redkuken*, ‘important camping location to important camping location’. Areas of open forest are not impersonal tracts that just roll on without delineation. They are divided by patriclan boundaries, and sections of large savanna forest tracts are individually named as the following text illustrating the term *-berrkmarren* ‘the meeting up of named tracts of tropical savanna forest’ makes clear:

Bardayal Nadjamerrek: ... ka-balhdurdeng nani kanjdji ka-reh Ngaldaddubbe kondah, Ngaldaddubbe Nakarlwakarluwa kaban-berrkmarren

... it [the country] goes back down to Ngaldaddubbe here where Ngaldaddubbe and Nakarlwakarluwa meet together in [two areas of named] open forest country.

Encoded in some terms are what might be called ‘human affordances’, that is, certain terms that index some kind of human interaction with the landscape or facilitate a cultural practice. The term *man-berrk* includes a sense of accessibility. It is a landscape you can walk through with ease (because you keep it that way by burning it regularly) as opposed to the notion of ‘hindrance’ encoded in *kuwarddewardde* ‘rock country’ or *ka-ngarredubbe* ‘impenetrable thickets’. Other terms which encode human affordances, hindrances or human interaction with the landscape are the following:

bambarr n.

dead end valley, narrow gullies or slopes/screes leading to a cliff, which are the sites chosen for fire drives to trap kangaroos that become injured by fire and can be easily speared.

Makka ngarri-di manekke kunj yiman ba kah-re man-bambarr ka-bidbun, yah ngarri-yame.

We stand there in them (the valleys), and if the kangaroos go up the narrow gully then we spear them.

kurrangmaye n.

the area just outside of the entrance to a rock-shelter, an area just beyond the overhang of a rock-shelter (typically a domestic space associated with a rock-shelter)

-djulngbongun v.t.

prefix = kandi-, ngarrben-/ngarrban-expression [literally 'drink dust'] signifying relative residence/land ownership on a watercourse; that is, upstream or downstream of the other community

Kandi-djulngbongun.

They drink our dust; that is, their land is downstream from ours.

Ngarrben-djulngbongun.

We drink their dust; that is, our land is downstream from theirs.

ngalkmak prefix = ka-

n. [literally: 'it-cliff.good']

a cliff face that can be negotiated by foot without difficulty

Ka-ngalkwarre karri-kurduhme, ka-ngalkmak karri-kolung.

You have to walk around a sheer cliff face [to get down], but on a broken cliff face/accessible cliff, we can walk down.

antonym = ka-ngalkwarre [literally: 'it-cliff.bad']

Special terms exist for plant communities that are dominated by one species. Again, you can turn the plant name into a location by reduplicating or retripling the stem (depending on the number of syllables in the word), removing the noun class prefix *man-* and adding the locative prefix *mi-* so that the name *man-larrh* means 'cypress pine *Callytris intratropica*', but the word *mi-larrhlalarrh* means 'in a grove of cypress pine trees'. This can be done for all plants that grow in stands or groves. Here are some other examples:

mi-rrahdadarl n. [from (m)an-darl]

*forest of *Melaleuca viridiflora*.*

mi-djohdjodjoh n. [from (m)an-djoh]

*grove of *Acacia difcilis* trees*

mi-bernbehbernbern n. [from (m)an-bernbern]

*grove of *Eucalyptus alba* trees.*

mi-binihbinik n. [from (m)an-binik]

*grove of an-binik trees, *Allosyncarpia ternata**

mi-dadjehdadjek n. [from (m)an-dadjek]

grove of fern-leaved grevilleas
synonym = *an-dadjek kamirnderri*
mi-djamkohdjamko n. [from (m)an-djamko]
grove of sandstone country grevilleas such as Grevillea angulata, Grevillea dryandri, Grevillea formosa
mi-djarrahdjarralda n. [from djarralda]
monsoon vine forest/jungle with large tall trees such as Maranthes corymbosa
mi-djimdjihdjimdjim n. [from (m)an-djimdjim]
grove of water pandanus Pandanus aquaticus.

Certain other terms encode both plant and landform features:

malaka (n).

landscape habitat characterised by flat dry country with numerous eucalypt species.

Andjarrarn malaka-kah.

The an-djarrarn tree [a kind of Eucalypt] is found in flat dry eucalypt country.

malalam (n).

dry land often on gentle slopes or undulating country, typically brown to reddish soils with little grass but covered with a grove of dense but thin tall trees especially Eucalypts.

The Arnhem Land Plateau Indigenous knowledge recording program has to date recorded over 300 terms for landforms and ecological zones. Just to illustrate one landform domain, a selection of terms relating to the rock country and rock formations is given in Appendix 2, and [Figures 5.5–5.8](#).



Figure 5.5 *Ku-warddekimuk an-warddebulddjarn*, sandstone outlier massif, extensive plateau country.



Figure 5.6*Ka-wohbarrarnkodj dubbe*, the dead end 'head' of a gorge.



Figure 5.7*Ka-warddeyalalyo*, horizontal overhang of rock which provides a shelter below.



Figure 5.8*Ka-barrarndjarrinj mang (v.i.)*, gorges dissected by other gorges at right angles.

FIRE

This section is a collection of texts that list the various uses of fire in the lives of plateau people. It includes perspectives from both men and women, and again the emphasis is on giving voice to those Aboriginal people of the plateau who are knowledgeable about such matters. Landscape burning was employed by Aboriginal people for a large variety of purposes and for the area with which we are concerned – the tropical north of the Northern Territory – the literature that discusses such variety of purpose is now considerable (e.g. [Press 1988](#); [Lewis 1989](#); [Haynes 1991](#); [Russell-Smith 1995](#); [Russell-Smith et al. 1997](#); [Yibarbuk 1998](#); [Yibarbuk et al. 2001](#); [Whitehead et al. 2003](#)). The present compilation, as for the previous sections, consists of transcripts of various audio recordings made over a 10-year period. These include discussions at regional land-management meetings and workshops, formal interviews during field trips and more informal discussions during recreational bush trips or moments of relaxation around the family hearth on outstation residences.

A summary of the landscape burning purposes discussed in the following texts is given in [Table 5.2](#), and a glossary of Bininj Kunwok terms relating to fire is given in the appendices.

Table 5.2: A summary of landscape burning purposes for the Arnhem Land Plateau.

Purpose	Description
Domestic space clearing	Fires are lit to burn an area chosen as a camp site. This also makes it easier to see dangerous animals, such as venomous snakes, centipedes and scorpions.
Fuel reduction and fruit trees	Burning in areas where fruit trees are plentiful ensures that hot late-dry-season fires will not damage fruit trees and makes it easier to collect fallen fruit.
Tuber collecting by women	Burning in areas where various edible tubers are sought makes it easier to find these foods. For some yams the fine tendrils leading to the tuber are followed in the soil and this is easier to do after the surface litter has been burnt.
Green pick encouragement	Areas were burnt in order to encourage game into an area.
Creek-line fire breaks	Creek lines were used as fire breaks and these were purposely created to assist in control of large hot fires.
Kangaroo fire drives	Large coordinated burns were conducted in the late dry season in order to hunt larger macropod species. Other smaller drives were also conducted for smaller macropods.



Figure 5.10 Bininj Kunwok terms relating to the dynamics of *man-wurrk* ‘landscape fire’ (adapted from Cheney and Sullivan 1997).

Burning to clear a living space

On arriving at a camp site, an area around the living space is usually burnt to clean the compound and to reduce the risk from snakes and other dangerous creatures such as scorpions and centipedes.

Jeannie Imangala: *...kubule kareh barri-yerrkani.*

... people used to make camp in burnt areas.

Ruby Bilindja: *Bad kubule barri-werrhwerrhmi barri-yerrkani. Ngarri-werrhwerrhmi kubule wanjh barri-yerrkani*

They would rake away the black ash and camp there. We cleared the black ash and we would sit down there.

Mary Kolkiwarra: *Yiman ka-yime ngaye nakohbanj ba-djangkani en nani kam-ngorrkang.*

Like with me, my father would be off hunting and would carry something home [while we were burning the camp ground].

Mary Kolkiwarra: *Ngan-marnebolknami kumekke ngayo karri-yo that place barri-bolkngeybuni djib. Wanjh ngarri-bolkngeykarmmi kunu arri-djaley an-djad ngarri-yerrkani. Ngarrih-yingkihbuleweyi yika bininj mahki kumekke barri-bolkngeybuni. Wanjh ngarri-djaledjaley ngarri-yerrkani kubule.*

He [father] would name the site they intended walking to and off they’d go. We remembered the name of that place and we would walk off to go and camp there. We would burn off as we walked and when we arrived, we would camp in the area which had been already burnt.

Ruby Bilindja: *Kubule woh.*

In the burnt area (black ash area).

Fire and fruit trees

This text was recorded from Djungkidj Ngindjalarrkku: a young man from Yikarrakkal who has lived all of his life around the middle Mann River region. Here he discusses the relationship

between fire and fruit trees, especially those that fruit in the early wet season such as those listed in Appendix 1:

Djungkidj Ngindjalarrkku: <i>Yika man-dudjmi ngarri-marnebulemarnbun. Man-dudjmi la man-dak.</i>	Sometimes we make burnt patches for the <i>Buchanania obovata</i> trees. <i>Buchanania obovata</i> and <i>Persoonia falcata</i> trees.
Murray Garde: <i>Bale ngurri-yime?</i>	What do you do?
Djungkidj Ngindjalarrkku: <i>ngarri-wurlhke ngarri-bulemarnbun. Laik ka-marnkan kabbal, ka-kukyo.</i>	We light fires and make burnt patches. So there's an open and clear place for the fruit to fall onto.
Murray Garde: <i>Yungki, ngurri-yingkiwurlhke?</i>	You burn before it fruits?
Djungkidj Ngindjalarrkku: <i>Ngarri-yingkiwurlhke.</i>	We burn ahead of time [before flowering].
Murray Garde: <i>Kukno?</i>	[When the fruit is] green/unripe?
Djungkidj Ngindjalarrkku: <i>E'e, kuning ka-yime laik ngarri-wurlhke, wanjh kam-re man-djewk ka-bun, wanjh kune ka-nguybun ka-djordmen.</i>	No, we burn off and then when some rain starts the trees flower and grow well.
Murray Garde: <i>Balekeno ngurri-wurlhke?</i>	When do you burn?
Djungkidj Ngindjalarrkku: <i>Ngarri-ray ngarri-wurlhke.</i>	We just go and burn off.
Murray Garde: <i>Yekkekeno?</i>	In the early dry?
Djungkidj Ngindjalarrkku: <i>Yo. Kuneng ngarri-wurlhke wanjh ka-nguybun.</i>	Yeah. That is when we burn off and then the trees flower.

Women burn to find yams and other tuber foods

Certain edible tubers can be found by identifying the leaves but, at certain times of the year, there will be nothing above the ground to betray the presence of the food that lies beneath the surface. Women use fire to clear the leaf litter allowing them to sift through the soil looking for certain kinds of fine roots that lead them to yams or other tubers.

Mary Kolkiwarra: <i>Arri-wurlhke, yiman ka-yime korroko bu arri-rey kobohbanj laik kandi-bukkang bedda like ngarri-yahwurdni yiman ka-yime ... Arri-rey bu yiman anyawok dedjrungi karri-wurlhkeyi wanjh. Ngarri-kabbuni manu malahmalayi mani nga-marnbom yi-bengan?</i>	We burn the country in the way the old people taught us when we were children such as [...]. We also used fire to find the cheeky yam [<i>anyawok</i> , ' <i>Dioscorea bulbifera</i> ']. We cleared away the surface with our hands just like I showed you this morning, remember?
Murray Garde: <i>Yoh</i>	Yes
Mary Kolkiwarra: <i>Kune arri-yimi wanjh kebmudno arri-ngalkeyi. Mani kebmudno</i>	That's what we did until we found the fine roots that grow out of the yam. We then follow

<i>arri-djalkadjuyi ngarri-nani konda ka-rri. Ba-kebmudyirri</i>	them back until we see the tuber. There would be fine tuber roots there.
<i>Jeannie Imangala: Yawok and njale mak karrbarda.</i>	Cheeky yams (<i>Dioscorea bulbifera</i>) and long yams (<i>Dioscorea transversa</i>).
<i>Jeannie Imangala: Ngarri-karungi kebmud ngarri-ngalkeyi.</i>	We used fire to find the fine tuber roots.
<i>Mary Kolkiwarra: Kayawal yerri ani ngarri-yimi ngarri-kebmudyawani ngarri-kebmudngalkeyi. Ngarri-djalkebmudkadjungi ngarri-nani ka-kodj ...</i>	It's the same with long yams (<i>Dioscorea transversa</i>), we follow the fine roots that come out of them until we locate the tuber ...
<i>Ruby Bilindja: Kodjno.</i>	The tuber.
<i>Murray Garde: bu ngurri-yawani karrbarda nawu daluk...?</i>	so when women were looking for yams...?
<i>Ruby Bilindja: Barri-kabbuni.</i>	They would feel around in the ground with their hands.
<i>Mary Kolkiwarra: Buleno barri-wurlhkeyi wanjh.</i>	They would burn it to turn it to ashes.
<i>Ruby Bilindja: Kebmudno ngurri-nani.</i>	You'd see the fine roots.
<i>Mary Kolkiwarra: Barri-kabbuni barri-nani laik ngamed kun-yarl yiman wanjki yiman kebmud laik string ngalengarre barri-kabbukabbuni barri-ngalkeng barri-karungi barri-kukkurmikurrmi barri-mangi barri-yawoyhkabbuni ku-buyika everywhere barri-wabwabmi yiman bu barri-nani ba-rungi kaddum ba-yawoyhrungi wanjh barri-kulkweyi kun-bidyih.</i>	They would run their hands through the top soil to try to find the fine roots, the vine like a fine string that goes down to the yam and they would find it and then dig it out and stack them up, pull one out, and then search for another in another place, everywhere, moving from place to place, looking up where the fire had burnt up into the leaves and then they dig it out with their hands.
<i>Murray Garde: first time bu ngurri-bebme wanjh ngurri-wurlhke?</i>	So when you first get there [to look for yams], you burn the place?
<i>Mary Kolkiwarra: Yo</i>	Yes
<i>Mary Kolkiwarra: mm, yika mak bu bininj barri-yingkih-wurlhkeyi ba-rrordrungi wanjh barri-djale bu mani kaddum ka-rrordbarnhbarndi ku-kurlk konda karri-kabbuni barri-yimi nawu kobohbanj barri-karungi.</i>	Sometimes too when they had burnt, you can more easily see the seed pods burnt hanging down from above and so then they start digging with their hands, that's how the old people used to dig them out.

Burning for green pick to encourage game

The fact that Aboriginal people burnt landscape to induce new grass growth that attracted game

Murray Garde: <i>Mak nga-bek kang birri-yimeng birri-wurlhkeng wanjh kun-dalk like kun-bule wanjh yimerranj, and ka-rralkbebe and kunj ka-kadjung.</i>	I've heard that they also burned the country so that kangaroos would be attracted to the new grass shoots which resulted?
Mick Kubarkku: <i>Yoh, man-nelk. Manbu man-dalknelk, ka-kolhdebebe. Yoh wanjh kolhdeno ka-kadjung ka-ngun wanjh.</i>	Yes, the soft new green shoots. The new grass shoots. Yes, they follow after this to eat it [the kangaroos].
Lulu Larradjbi: <i>Ka-kolhdengun.</i>	It eats the new shoots.
Murray Garde: <i>Ka-kolhdengun. Kolhdeno njamed kun-dalk?</i>	It eats the new shoots? The new grass shoots?
Mick Kubarkku: <i>Yoh ka-rralkbebe, yiman kadni ka-yime ka-rralkbebe.</i>	Yes, when the grass appears, just like when we plant a vegetable garden, the new grass comes up.
Murray Garde: <i>Yoh ka-durhdurndulubun.</i>	It sprouts up everywhere.
Mick Kubarkku: <i>Yoh wanjh ka-re kunj ka-wake ka-ngun, ka-rralkngun.</i>	Yes, and the kangaroos crawl across eating the grass.
Murray Garde: <i>Kunekke mak, bininj birri-wurlhkeng ba ka-kolhdebebe ninj?</i>	So people also burnt the country to make the new shoots grow up?
Mick Kubarkku: <i>Yoh, wanjh djurrkmayi kunj kadjuyi bu nguyi.</i>	Yes, it would attract kangaroos, they follow it to eat it.
Mick Kubarkku: <i>Yoh nguyi wanjh balemdiwirrinj. Balemno nungkake balemdiwirrinj.</i>	They eat it and get fat. The fat of the kangaroo, it would get fat.
Murray Garde: <i>Kunukka-ken mak birri-wurlhkeng?</i>	So is this also why they made fires?
Mick Kubarkku: <i>Ng ng kunekke-ken.</i>	Yes, for this reason.
Mick Kubarkku: <i>Yoh ka-ngun kunj, nganabbarru warridj. Ka-rralk-ngun. Mane ngarri-marnebulewurlhkemeninj nawu kunj.</i>	Kangaroos eat it [the new grass] and so do buffaloes. They eat grass. We would make a burnt ash area for the kangaroos.

Burning to make fire breaks along creek lines

The Bininj Kunwok people of the Arnhem Land Plateau are sometimes referred to by other Aboriginal coastal neighbours by the English term 'the creek people'. Small watercourses support a diversity of plants and animals, but they are also important in fire management. Creek lines serve as firebreaks and Bininj take into consideration the location of a creek line that can be used as a fire break when planning burning (Figure 5.11).

Jack Djandjomerr: <i>An-kabo barri-wurlhkeyi</i>	They used to burn along the creeks, you know. They would go to the creek in the event that
--	--

an-kabo yi-bengkan. An-kabo barri-rayi, barri-nayi too fast ka-re wanjh barri-wurlhkeyi an-kabo stopem that natha wan. They didn't want it to get across kunak nawu, stoppem birri-yimi this side bu kabohkabo birri-wurlhkeyi wanjh they stop that manekke manu kunak rey. Lakadjad dabbarrabbolk birri-yimi nawu kare.

they saw a fire was moving too fast and then they would burn a fire break to stop that other fire approaching. They didn't want it to get across the creek, that [dangerous] fire, so on this side they burnt a firebreak to stop that fire from proceeding any further. That's what the old people used to do.



Figure 5.11 A creek-line fire, which creates a firebreak to control approaching larger hot fires (photo: Ira Cooke).

Kangaroo fire drives

Mick Kubarkku: Makka ngarri-di manekke kunj yiman ba kah-re man-bambarr ka-bidbun yah ngarri-yame.

We stand there in them (the *bambarr* gullies/valleys) and if the kangaroos go up the gully/scree then we spear them.

Large coordinated kangaroo fire drives *man-wurrk kunjken* were conducted usually in the late dry season of *kurrung* but sometimes also earlier in *wurrkeng*. The main targets of this form of hunting were antilopine kangaroos (*Macropus antilopinus*) and euros (*Macropus robustus*). These drives were once an annual event, which required coordination of a large number of people from many groups. An invitation to attend a drive would be made by sending a torch made from bound *Eucalyptus tetradonta* bark, known as *djalk*, to one's neighbours. Various ritual restrictions had to be observed when staying in the preparation camp at the fire drive location. All spears in the camp had to be laid down flat otherwise antilopine kangaroos would sense their presence and move away. Bardayal Nadjamerrek explains:

Nawu kandakidj an-kole an-

kodjdjekurrmi wardi bu baladjabdiwirrinj bu bangmeyurrhkuyuwirrinj, kunkange ba-kange ... ba-bangniwirrinj kunj. Dja arri-kolekurrmi an-wurrk arri-nami ya arri-kolekurrmi kanjdji borndok an-kole ku-kurlk balayoy bu an-wurrk arri-yikani wardi anbu badjabdiwirrinj an-kole ngarrikurrmeninj ba-kangedarmeninj yirridjdja nawu bininj nakka, nungka kunj ka-bengkan rowk ba-kangebabanghni 'O kangebabang maitbi Bininj kabbarri-re' ba-yimi barri-nami. An-kole arri-kurrmi bu arri-yoy malahmalaywi, nakka yirridjdja yi-bengkan marrngkidj Ubarr nawu o lorrkkon. Yirridjdja nakudji duwa ngad na-warre kalkberd. Yiman laik kordang marrngkidj bu bad najing nakka yirridjdja yiman Bininj. Yiman ngarri-yime 'Oh djad kunj birredjdjudmeng kabi-dedjdjudme an-bu an-kole arri-djabname. Kare balay.

As for the antilopine kangaroo, spears which were going to be used to hunt them had to be placed flat on the ground because if they were stood upright, if they stood up straight before being used to hunt the kangaroos, the animal would sense the presence of humans and become strong and powerful. If we were placing spears to be used in a kangaroo fire drive, we would put those spears down flat together with the spear thrower on the ground, when we were going off to do a kangaroo fire drive. If we were to put the spears upright in the camp, then the mind of the kangaroo would be alerted because *yirridjdja* moiety kangaroos are like humans.¹⁶ Those kangaroos know everything about our intentions and can think 'Oh I feel energy welling up in my body, there must be humans coming.' When we camped the night before the kangaroo fire drive, [we would be mindful of the fact that] those *yirridjdja* moiety kangaroos are associated with the Ubarr and the Lorrkkon ceremonies and have supernatural power. That's the case for *yirridjdja* moiety kangaroos. But the *duwa* moiety kangaroos, our moiety [speaker is *duwa* moiety], they are not powerful like that. *Yirridjdja* moiety kangaroos are like 'clever men', like human witch doctors. We would say things like this, 'that kangaroo has been [metaphorically] jabbed in the rump by a spear [which was not placed flat on the ground] and it will move away to a distant place now.'

The following text is a discussion with Bill Birriyabirriya and Nancy Kurawalwal at Marrkolidjban Outstation. They describe how a group of hunters in a fire drive burn grass forcing kangaroos up towards an elevated area or *bambarr* where they cannot escape. Another group of hunters waits here for the kangaroos to arrive. These areas have been previously burnt in preparation, providing refuge from the fire for the second group of hunters and also stopping the large hot blazes from escaping and continuing into neighbouring areas. By this time of year the remaining fuel load is low because people have been burning all through the dry season and the risk of the fire escaping and continuing has been minimised. What Birriyabirriya describes here is also precisely what Altman witnessed at Namilewohwo in 1980 (Chapter 6). The discussion demonstrates coordinated, carefully planned and sequenced activity in fire management.

Murray Garde: *Yoh, but nakka kunj-ken kun-buyika?*

Yeah, but are kangaroo fire drives different? [to other uses of fire]

Bill Birriyabirriya: <i>Yoh kunj-ken.</i>	Yes, for kangaroos
Bill Birriyabirriya: <i>Birri-wurlhkeng birri-borledmeng manu man-dulum and mani birri-borledmeng.</i>	They lit fires around a hill [like this one over here near Namokardabu] and they encircled it.
Nellie Kurawalwal: <i>Man-bambarr.</i>	[Into] valleys/dead end gullies/cliff faces.
Bill Birriyabirriya: <i>Man-bambarr, and birri-marnbom [draws a diagram in dirt] ... kunuk' ka-yime, and mane man-dulum, maitbi konda, birri-di kunj namekke kam-wam, kondah and mane bu kureh birri-wurlhkeng kun-rak.</i>	A valley/gully that rises, and they would make it like this [draws a diagram in dirt] and this is the hill here and they would wait here and the kangaroos would come here and then they would make fire and burn here.
Bill Birriyabirriya: <i>Kure kam-re kun-rak and namekke kunj olot bad kondah kam-wam.</i>	The fire would come here and all of the kangaroos would come in here.
Murray Garde: <i>Minj bale kabirri-yime bu kabirri-bidbun larrk? Kunj</i>	And so the kangaroos had no where to climb up?
Bill Birriyabirriya: <i>Ey? Oh kunj ka-bidbun kabirri-bun.</i>	Oh when they climbed up they would kill them.
Murray Garde: <i>Aa kabidbun wanjh kumekke kabirri-rung?</i>	Oh they climb up and there ... they get burnt?
Bill Birriyabirriya: <i>Minj ka-rung, la kabirri-djal[?]yame man-kole korroko yameng man-kole, bu korroko birrih-yameng man-kole but bolkki mako.</i>	They don't get burnt [to death], they just get speared, before they used to use spears, but now we use guns.
Nellie Kurawalwal: <i>Bolkki mako.</i>	Guns today.
Murray Garde: <i>But kabirri-nan kun-kurra, bu kun-kurra ka-bun ...</i>	But what about the wind, when it blows
Bill Birriyabirriya: <i>Kabirri-wurlhke, but konda nawu birrih-di yi-bengkan kure njamed man-bambarr..... like kabirri-wurlhke balemane ka-re bu bininj bedberre konda kabirrih-di laik ku-bule kure minj kun-dalk ka-rri. Konda wanjh little bit kah-re maitbi kureh ka-yimen mane kam-re kureh well block kabirri-yime manu kun-rak.</i>	They burn the country and stand there up the valley they burn off and can't go anywhere but just stand there in the ash/burnt area, there's no grass left. And then the others are blocking the other side with the fire.
Murray Garde: <i>And konda mak bininj kabirrih-ni?</i>	And there's people standing here also?
Bill Birriyabirriya: <i>Yo ... bininj kabirrih-di because mane manu korroko kabirri-wurhlke like.</i>	Yes, there's people standing in there because they've already burnt that area.

Murray Garde: <i>Like boyen birri-wurlhkeng? Yiman ka-yime wolewoleh birri-wurlhkeng wanjh kabirri-durdeng?</i>	They burnt it beforehand? Like they burnt previously, the day before or whatever and then they go back.
Bill Birriyabirriya: <i>Yoh bu start laik kunek' kabirri-wurlhke laik konda kabirri-yime kabirri-bulewe, kabirri-wulhke ka-kadjung and kunj kam-re kabid... kondah ka-rerrkan kabirri-yame, birri-yameng man-kole.</i>	Yes, at the start they burn this area and make ashes there, and then the kangaroos are forced up there and they sit down there and people spear them.
Bill Birriyabirriya: <i>bu start kabirri-yime laik kabirri-wurlhke man-wurrk yi-bengkan Bulanj?</i>	At first they burn it, you know a blaze Murray?
Murray Garde: <i>Yoh</i>	Yeah.
Bill Birriyabirriya: <i>Bokenh bininj o bininj kabirri-re bininj kabirri-dawurlhke kun-dalk maitbi raitab kabirri-wurlhke, and birri-buyika mak bininj, konda kabirrih-di.</i>	A couple of men go and burn right along and another group are standing here.
Murray Garde: <i>Kure ku-bule?</i>	Near the ash area?
Bill Birriyabirriya: <i>Kure ku-rralk.</i>	In the grass.
<i>Bad kabirri-wurlhke manih kah-kadjung, kureh kah-re, la mane manu kureh kah-re ngalengman, la konda wanjh bedda bininj kabirrih-di.</i>	They burn the country and it moves off itself [the fire], but here the others are standing [waiting].
<i>Bu kabirri-yame and ruy kumekke wanjh yi-bengkan ... kole-dorrengh ruy and birrihmey.</i>	They spear them and they [the kangaroos] get burnt you know ... burnt, with a spear in them, and they go and grab them.
<i>Yoh man-djewk, like every year, bu ngarri-wurlhke kunj wanjh karri-wurlhke man-djewk ka-borledme like, ku-djewk and like kuning ka-yime karri-wurlhke, munguyh.</i>	Yes, it's an annual event, we burn off and then another year goes and we burn again, over and over.

Likewise, Mick Kubarkku describes how the kangaroos are often injured by the fire and they lick their burns as they stand in the previously burnt ash area, unaware that hunters are stalking them:

Mick Kubarkku: <i>... karri-wurlhke nawu kunj ka-belenghmerren wanjh, ya wanjh karri-danjun. Man-kole yerrkka, man-kole yerrkka ngarri-yameninj bu belenghmerrimeninj ... kunj,</i>	... we burn for kangaroos, they stand there licking their wounds, and that's when we spear them. With spears, we used to spear them when they were licking themselves [after being burnt] ... those kangaroos.
<i>Ka-rung wanjh, ka-rung ka-belenghmerren. Minj kan-nan ngarrku, nakka welengh. Ya ka-belenghmerren.</i>	They get burned, burned and they lick their burns. They don't see us, they're concerned only with themselves. Yes, they lick their wounds. Then ... we spear them while they're wounded with

Conducting kangaroo fire drives at the hottest and driest time of the year is dangerous business and there are numerous stories told of how people were burnt to death in kangaroo fire drive accidents. ¹⁷ During the 1980 Namilewohwo fire drive, Jimmy Kalarriya and his classificatory son were nearly burnt. Recollecting this incident during a conversation in 2006, Kalarriya and a group of other elders discuss hot late-dry-season fires and how they need to be controlled by reducing the fuel throughout the early dry season. Patches of grass in certain locations were left unburnt until late in the dry season in preparation for the fire drive, but fire breaks needed to be put in place beforehand, and adjoining areas of dead grass needed to be burnt earlier in the year in order to stop kangaroo fire drives starting fires that might burn out of control for many days.

Jimmy Kalarriya: ... ngad
karri-nameng kondah
Nimilewohwo bu kurrung-ni.
That time business on
yimihyimi.

Once we had a kangaroo fire drive at Namilewohwo in the late hot dry season. At that time there was a sacred ceremony [Kunabibi] happening.

Arri-nameng ngayi ngane-
kuyinruy na-djakerr Robert
ngayi nawu Jabiru kah-ni.
Wanjh ngarri-nameng man-
wurrk arri-kuyinruy.

We lit the fire and nearly got burnt to death, me and Robert [Namarnyilk], who lives today in Jabiru. When we conducted that [kangaroo] fire drive we nearly got burnt.

But wurdyaw nga-
marneyimeng werrk yi-
bulewemen kumekke mak
matches ngane-kang werrk
buleweng.

I said to the boy [Robert], quick light a fire and backburn with these matches we were carrying.

Bulewarlahminj ngane-
dolkang ngane-bolkmelmeng
...ngane-ruyi.

When the burnt ash area was big enough we jumped into it for safety ...we nearly got burnt.

Peter Biless: Yoh kurrung
makka. Makka djal bonj bu
birri-wurlhkeyi makka 'flatout'
djaley

That's because it was *kurrung* the late hot season, at that time of year the fires will burn 'flat out' with speed and intensity.

Bardayal Nadjamerrek: Flatout
ba-rey bad an-bu yekke
yekkeken arri-wurlhkemeninj
kuni ba-yimi.

It burns intensely 'flat out' then, but in the early dry season, that's the time when we used to burn, that's what we used to do.

arri-djalngurdme [kurrung]
ba-wurlhmiwurd ba-wurlhmi

We would stop burning by *kurrung*, but there might be small fires because all of the dried grass is finished by that time of

<i>najing an-bu dalknudyak, djal kun-dalknud makka ka-djale yalhmeninj ka-re ka-dalkraworren yiman.</i>	year, there's no grass left, but if there is a lot of dry grass it will burn on ahead with intensity and these fires will then burn fiercely into adjoining unburnt patches of grass [and continue dangerously].
Jeremy Russell-Smith to Jimmy Kalarriya: What, man-karrarndalk?	Was it [<i>Triodia</i>] spinifex bush?
Jimmy Kalarriya: <i>Belendjerre</i>	Kangaroo grass [i.e. <i>Themeda</i> spp. grasses]
Jimmy Kalarriya: <i>Kurrungni kunukka, kurrungni kaluk djawam manekke.</i>	It was the late dry hot season and it burnt too far, quickly [where it was not intended that it should burn].
Jimmy Kalarriya: <i>Mani, nani yi-nan nuye kun-dalk nani.</i>	[makes hand sign for Antilopine kangaroo] The grass which is eaten by this [the Antilopine kangaroo- in sign language].
Jeremy Russell-Smith: <i>kanjdjikanjdji?</i>	OK [was it on the] lowlands?
Jimmy Kalarriya: <i>Kurrulum</i>	The hill country [low rolling hills which are a favoured habitat for these kangaroos].

Walking routes and landscape maintenance

When walking from site to site, the men would go on ahead and burn as they went. This might flush out kangaroos, but it also kept the traditional walking routes open and for the women who followed behind, the black burnt patches indicated the path taken by the men. At the end of the day the women and children would arrive at the place mentioned at the beginning of the day and the camp ground would be burnt to clear it.

Bardayal Nadjamerrek: <i>[bangkerreng] kayakki ka-bolkkih ka-njihme arri-yime marrek ka-wurlhme yekkeyekke wanjh ka-wurlhme.</i>	In <i>bangkerreng</i> , the late wet, we didn't burn much, it was too wet, but in <i>yekke</i> , throughout the dry season, it burns.
Bardayal Nadjamerrek: <i>Barri-wurlhkeyi bakadjungi ba-rrown.</i>	They burnt in a way such that the fire creeps along and dies out.
Murray Garde: <i>Bininj-wi barri-dokmeni daluk?</i>	Are men doing this, going ahead, or women?
Bardayal Nadjamerrek: <i>Nakka yerre barri-wurlhkeyi barri-rey barri-bulekadjungu 'Buleno karri-ray!' barri-yimi. Daluk o Bininj o dabbarrabolk o wurdurd kunukka yekke.</i>	Women would follow us [men] burning behind us and also following the ash areas we had made. 'Let's follow the burnt areas' they would say. Women or men, old people or children. In <i>yekke</i> , the dry season.
Mary Kolkkiwarra: <i>Ngarri-birlikani kuwadda ngarri-yibebmi. Arri-worrhmi, djal anekke kuybuk, kuybuk ngong o njamed mani arri-kani kuydjimbok. Dja yika makih njamed dolobbo</i>	We'd carry the embers (in the banksia cones or pandanus stems) until we got to the camp. We'd light the campfire with the banksia cone or we would carry another plant

nawu yi-bengkan ...

koydjimbok. Or sometimes *Eucalyptus tetrodonta* bark ...

Djalk nawu, namekke arri-dukkadukkani arri-birlikani madjdjurn woh. Yika kun-daleh, kun-daleh barri-kani ngadberre kobohbanj korroko bedman nawu barri-marnbuni barri-bordebmi.

We made torches out of rolled up stringybark. Sometimes they used fire drills to light fires, spinning the stick between their hands.

Ruby Bilindja: Ngarrri-wurlhkeyi yika barri-dombuni kun-djalh arri-bakkeyi barri-dombuyi.

We would light fires, but other times we put them out too, with branches.

Jeannie Imangala: Kun-malaworr.

Branches of leaves.

Mary Kolkkiwarra: Kun-malaworr arri-bakkeyi.

We'd break off branches.

Ruby Bilindja: Mm kun-malaworr yiman manih. Barri-dombuni barri-bakkeyi barri-dombuni, barri-dombuni barri-yakwong. Kun-malaworr arri-djalwohwodbuni barri-dombuni rowk. Ka-mak. Bu barri-nani kaddum ba-birlibadwayhmeng. Wanjh barri-dombuni. Barri-djaldombuni barri-yakwoni.

Mm green leaves, like that. They kept on breaking off branches of leaves until they had extinguished the fires. We would whip with the green branches and put the fire out. It works. They did this if they saw the fire was getting too big. Then they would put it out, until it was completely extinguished.

Jeannie Imangala: Wanjh kubule kareh barri-yerrkani.

And then they camp in the ash area.

Ruby Bilindja: Bad kubule barri-werrhwerrhmi barri-yerrkani. Ngarrri-werrhwerrhmi kubule wanjh barri-yerrkani

They would rake away the black ash and camp there.

Mary Kolkkiwarra: yiman ka-yime ngaye ... nakohbanj ba-djangkani en nani kam-ngorrkang. Ngan-marnebolknami kumekke nga-yo karri-yo that place barri-bolkngeybuni djib. Wanjh ngarrri-bolkngeykarrmi kunu arri-djaley andjad ngarrri-yerrkani. Ngarrrih-yingkihbuleweyi yika bininj mahki kumekke barri-bolkngeybuni. Wanjh ngarrri-djaledjaley ngarrri-yerrkani kubule.

Like with me, my father would be off hunting and would carry something home. He [father] would name the site they intended walking to and off they'd go. We remembered the name of that place and we would walk off to go and camp there. We would burn off as we walked and when we arrived, we would camp in the area which had been already burnt.

Ruby Bilindja: Kubule woh.

In the burnt area (black ash area).

Mary Kolkkiwarra: Arri-bulekadjungi, barri-wurlhkeyi werrk ngadberre ngandi-marnebulemarnbuni buleno ngarrri-rey ngandi-marnebolkngeybuni kure arri-yoy. 'Ma kumekke ngarrri-yo ngurri-bebme. Ma! Dja yingkihmarnebulemarnbun!

We used to follow the burnt patches, the men went on ahead and burnt the country for us and we would follow behind heading towards the place they had named before we all set off. 'We'll camp at place X, you should head for that place! We'll go on

ahead and burn the route for you!’

Bardayal Nadjamerrek: *Dja kunj arri-yingkihkinjeyi weleng arri-dow[waddahmik] arri-yami barri-rey arri-yimi ‘kuy’*

We would have a kangaroo cooked waiting for the women and children and we would already have set up camp and as they were arriving we would call out to them [so they would know where to go] ‘koooooiiii’.

Patchwork burning

At Kabulwarnamyo Outstation in December 2005, a land-management workshop entitled *Kunwok Kunbolcken ‘The language of land’* ¹⁸ was conducted and attended by *Bininj* of all ages and from a number of communities on the plateau. At one point, we discussed the following question, ‘How do you describe ‘well burnt’ savanna in *Bininj Kunwok*?’ Bardayal Nadjamerrek replied with the following comment:

Bardayal Nadjamerrek: *Ka-rung ka-wohdalknjihme ka-kih ka-re hab, ka-re hab ka-re ka-wohnhnjihme ka-rralkkih.*

It burns resulting in patches of burnt and unburnt grass, it burns into some areas but not others, it burns into other areas [and makes a patchwork pattern] leaving some of the grass unburnt [because] some of it is green.

Murray Garde: *Bu karri-nan ruy rowk, bale karri-yime?*

What is the term for bush that is totally burnt?

Bardayal Nadjamerrek: *Kabarri-yime ba-ruy yerrikahwi ka-yime.*

We use the term *ba-ruy yerrikahwi* ‘total area burnt’, is what we say.

The *Bininj Kunwok* term given by Bardayal above *ka-rung ka-wohdalknjihme* is what I have translated as ‘patchwork burning’ (Figure 5.12). These two words broken into their individual morphemes have the following literal senses:

ka-rung ka-woh-dalk-njihme
it-burns it-partially-grass-is.green/moist

Some moments later, as we were eliciting terms for landscapes by looking at slides on a computer screen, Bardayal excitedly offered the following comments with great animation in response to the photo of *man-berrk* in Figure 5.13 (a site rich in *Buchanania obovata* groves a few kilometres north-west of Marlkawo outstation).



Figure 5.12 *Ka-rung ka-wohdalknjihme*, ‘patchwork burning’ (photo: Jeremy Russell-Smith).



Figure 5.13 ‘A good management outcome for farming emus’; *Man-berrk* ‘savanna woodland’ on the Kabulwarnamyo to Marlkawo road (refer text for details).

Mani dabbarrabolk barri-djareni, mani ngandi-bukkang, an-dudjmi-ken, ngurrurdu, kunj!

This is [the kind of savanna] the old people wanted, this is what they taught us, [to burn like this] for green plum (*Buchanania obovata*), emus and kangaroos!

The site pictured in [Figure 5.13](#) on the Kabulwarnamyo to Marlkawo road is in some respects a good illustration of Rhys Jones’ (1969) term ‘firestick farming’. The green plum trees (*Buchanania obovata*) in this region – as in numerous other important green plum sites – are mostly of a noticeably shorter variety (0.5–2 m), which are distinguished by name in Bininj Kunwok from the taller (4–10 m) variety. The tall variety is called *man-dudjmi* or *man-moyi* while the short variety is called *man-wodberr* (see [Figure 5.14](#)). The relatively intensive human occupation in the vicinity of this green plum grove and the fire regimes Aboriginal people have instigated here over many generations have most likely resulted in the shorter *man-wodberr* variety. At the same time, the area is known as an important habitat for emus

who find the shorter *Buchanania obovata* trees to their liking as the fruit is more easily accessible for them.



Figure 5.14 Children from Markkawo collecting *man-wodberr*, the short variety of *Buchanania obovata*.

The two senior traditional landowners of this region, Jack and George Djandjomerr, have very clear views on the role of fire in attracting emus into the area. However, the hot late-dry-season fires that swept through the area repeatedly up until the 1990s before more traditional regimes were reintroduced, have been blamed for the apparent decline in emu numbers in the region. I asked Jack Djandjomerr about the effects of these repeated hot late-dry-season fires on emu populations. Jack had been busy in 2004–5 trying to reduce fuel loads in the region in order to return to a more controllable early dry-season fire regime and avoid the large hot fires of the late dry season. These adjustment fires may have discouraged his emus, but, as he points out, the reintroduction of the proper fire regimes will eventually promote the plant foods sought by emus:

Murray Garde: Do you think when there are big fires which are not managed properly, it spoils emu habitat?

Jack Djandjomerr: *Woh, manekke nga-wokdi all the time bla ngurrurdu nga-wurlhkeng everywhere from last year im burn lots here ngurrurdu no more here now, im gone away but like ka-marnbun man-me ka-rrurndeng ka-ngungun then one place ka-yidjaldurndiwerren kabirri-ngun anme kabirri-worrkmen minj karri-ngalke, bad nuk karri-ngalke karrihbun.*

Yes, I'm always talking about this in relation to emus, I've been burning everywhere from last year and all these fires have chased away all the emus, but eventually it will make more food for them and they will return to feed and then they will stay around one location to eat the fruit and maybe we will find some of them to hunt or maybe we won't.

Murray Garde: So emus don't like big fires?

Josie Maralngurra: <i>Marrek ka-djare ngalkka.</i>	They don't like it.
Jack Djandjomerr: He [the fires] make him run away from last 2 years he bin burn a lot well im not here <i>ngurrurdu wam lakidjad</i> because he bin look <i>kunak ba-birlinang</i> well <i>ba-wam anek ngurrurdu</i> might be <i>Wurrbbarn durnderrinj.</i>	The fire made the emus run away, all the burning, and now they are not here because they saw the fire and so they took off, maybe they all went back to Wurrbbarn [i.e. 'emu'] clan country.
Jack Djandjomerr: no, I like to stop <i>im</i> , just one time we just try [to burn] we try <i>bu anme ka-wernmen anme ka-wernmen wanjh kamak karri-nan wanjh karri-durndeng karri-wurlhke</i> then <i>karri-wurlhwurlhke</i> everywhere like <i>kamak ka-wernmen anme ka-marneyo dumaj.</i>	Murray Garde: So what should people do in respect to fire and emus? I just want to stop the burning for a while [but] we try to burn so that the fruit trees increase and then when we see that the emus have return then we can continue burning everywhere. When the emu food increases, so will the emus.

I also asked Jack's brother, George Djandjomerr, if the cessation of burning for some time might encourage the return of emus. His reply indicates that the solution is not to stop fire altogether, but to make sure the fires are lit early in the dry season.

George Djandjomerr: <i>kayakki bu yiman kabirri-wurlhke yi-burrbun nawu boyen kabirri-rengere kabirri-wurlhke</i> what time <i>kabirri-wurlhke</i> <i>May bu kabirri-re</i> April or May helicopter <i>kabirri-re kabirri-wurlhke</i>	No [i.e. don't stop burning], you know when they go out burning, what time is that, in May or April in the helicopter those young blokes go out burning, well that is good, it's good to burn early like that. Emus know the
<i>yawurrinj kunukka kamak, early kunukka kamak Yika mak ka-djalbolkburrbun nawu ngurrurdu ka-djaldurndeng kure man-me ngalengarre ka-dingihdi kumekke ka-rrurndeng ka-ngun yika bu minj kabirri-ngalke kunukka Marlkawo wanjh ku-buyika ka-re kure an-me ka-burrbun kaluk ka-re wardi an-djewk kabirri-re o dird kabirri-re kabirri-yawoyhdurndeng kabirri-marnebebme</i>	country and they will come back to where they know their food is located and stay there, they'll come back and if there are none around Marlkawo then they will be somewhere else but they know the country and in some years they will come back again

Other kinds of fire drive hunting

Coordinated kangaroo fire drives involving large numbers of people in *bambarr* 'fire drive valleys' were not the only kind of fire drive. Small opportunistic kangaroo fire drives in areas with plentiful fuel were also conducted to flush out macropods exposing them to waiting hunters. Areas with tall grass on the margins of water courses or in rock country were places where fire would be used to flush out macropods.

Bardayal Nadjamerrek: ... *karri-wurlhkeyi djamdam* ... sometimes we would burn off for the black wallaroos, lighting little fires everywhere (in a ring in the rock country) and then in the middle. (sometimes) *barrk, ngarri-nami, ngarri-ngolhngolhkeyi walung, wanjh ngarri-wurlhkeyi yilk yerre, karrimen burldjdjarn. Ya nungan mak kurebe ba-wurlhkeyi bininj nawu nganeh- ngarri-reyi kahwi. La nungan mak bininj kure ba-birlikani, ba-wurlhwurlhkeyi ba-kuyin (disfluent) barrk ngarduk ba-bebmeng bayi(mi), ba-bebmeng ba-yami... ba-wukkurrmi.* Someone else would burn from another side and we went along like this. With people walking along carrying fire, the black wallaroos would come out and sometimes get burnt.

Murray Garde: *Bambarr kuwid nakka...*

You don't hunt them in *bambarr* fire drive gulleys?

Bardayal Nadjamerrek: *Bambarryak, kalaba yirridjdja. Bambarr ka-karrme bad nani kuwarddewaken nakka bambarryak. Ngarri-wurlhkeyi ngarri-nang ka-bebme. Yika (disfluent) ... 'Oh djibowkman ngarduk', ngarri-yimi ngakadjungi nga-yami.*

No, *bambarr* 'fire drive valleys' are for *yirridjdja* kangaroos. In this landscape there are no fire drive gulleys. We just lit fires and watched them (black wallaroos) come out. I would say 'Oh there's Djibowkman [the name of a mythological black wallaroo] come out for me, I'll go and spear him.'

Murray Garde: *Birri-wurlhkeng bu ka-bebme.*

They lit fires to chase them out?

Bardayal Nadjamerrek: *Wo ka-bebme, anwurrk kabi-bebke, ka-belenghmerren warre, yika ka-belenghmerren djarran anwurrk difren hot kabi-marnbun kabi-kurrnginjbebke. Ka-belbme kuwanjkeno ku-warrwarrku kuworrk ka-belenghmerren. Ngarri-kunibebme ngarri-yame.*

Yes, they'd come out, chased out by the fire and be licking themselves because the fire had made them hot and made them sweat. In the heat their pouches stick to them and so with their heads buried down licking themselves, we would sneak up and spear them.

Honey and fire

On an excursion in 2005 to find *an-kung*, 'honey hives', the discussion turned to the role of fire in helping people locate *nabiwo*: a variety of honey that is found both in the ground (especially termite mounds) and also up in the hollows of trees. Locating the entrance tubes to ground honey hives is much easier to do in areas that have been burnt.

Mary Kolkiwarra: *Kukurlk nani its alright djamtaem kukurlk bonj anyway karridjalyawan easy one kangalke kure*

In the ground it's easier sometimes to find [honey] there ...

...

Mary Kolkiwarra: *Mani an-kebkali kakbi boyen barri-mey.*

They found some just north of here where that rocky cliff face runs.

Emmanuel: *O baleh?*

Where?

Mary Kolkiwarra: *Karri-re next time kulewali, kure.* Let's go to where it has been burnt off next time.

Bardayal Nadjamerrek: *Ngurri-wurlhke...*

Burn this area!

Mary Kolkiwarra: *karri-badjawan ...*

so we can [more easily] see the entrance tubes ...

Emmanuel: *La kure nganang, kure nganang kubule nani kure kabirriwurlhke.*

I found a hive over there, there I saw a hive in the ash area, this area where they are doing burning.

Mary Kolkiwarra: *badjno karrinan kure kayawoyhyerrkan. Ankung, dja kure mak buleyi yika kundalkkuk kanbalhme marrek karringalke.*

We can see the entrance tube where the bees land to go inside. The honey there in the burnt area, because the green grass conceals the hives and stops us from finding them.

Fire, honey, religious rituals and Karrkkanj the brown falcon

People on the Arnhem Land Plateau were well aware of the destructive nature of hot late-dry-season fires. Such fires are particularly destructive of the native bee hives in both the ground and up in the hollows of trees. In the *Ankung Djang* 'honey dreaming' estate of Bardayal Nadjamerrek is a site, Nabiwo Kadjangdi 'Nabiwo honey sacred site', on the banks of the Liverpool River (*nabiwo* is the name of a variety of native stingless honey bee *Trigona mellipes*). At this site there is a small rock of some 30 cm in height that stands up in the ground marking the centre of this totemic site. A honey increase ritual was performed here each year to ensure plentiful honey and also to protect the honey hives from destructive hot late-dry-season fires. The ritual involved clearing the ground around the *nabiwo* stone to make an area where a group of people could sleep. Everyone in the camp joined in circling the camp fire during a part of the ritual called *bordomo*. Wearing paperbark hats, the group would repeatedly circle around the fire until it had died down. Following this ritual the objective was to make sure the fire would burn at a low intensity without large flames throughout the night. To keep the hearth burning gently, pieces of broken black termite mound called *djibdjib* or *djidbinj* were placed on the fire. The subduing of the ritual fire represents the restraint of uncontrolled hot fires that might sweep through and damage the honey resources of a particular area. In the transcript below Bardayal Nadjamerrek, Mary Kolkiwarra and a number of their grandchildren go to Nabiwo Kadjangdi to visit the site and clear the ground around the sacred rock.

Bardayal Nadjamerrek: [to Kabbindi White, Bardayal's granddaughter] *Mahni manu ... yi-djaldjokkok yiray djokkok yiray ... beh yikak- ... yiwalemwi wurdurd kabarri-di, beh yikodjka, ... ngundi-yikarmen*

This part here ... go down and clear this side and then the other side ... further towards the south where the children are standing. That's where you make the 'head' of the cleared area. Get the others to help you.

Mary Kolkiwarra: *Kabbindi yi-birrhmen bikodj yu djungkay djarran, you klinimap there njamed ... ngune-*

Kabbindi don't you be shy, you are the right person to do this, you are the ritual boss from the correct moiety. Clean it up there, just push all of the debris

<i>djaldjirrkan.</i>	out of the way.
Mary Kolkiwarra: <i>You djungkay here makih, ngune-re ngune-yawoyhdjirrkan kure klinimap ngune-yime clean ngune-bolkbawon. Ma werrk ...</i>	There's more 'correct people' [ritual bosses] here. You two [boys] clean up this area here so that we leave it clean. Come on quick.
Bardayal Nadjamerrek: <i>Ngune-dulkbakkemen. Beh yi-balderrehmen.</i>	Break off a branch [as a broom]. Just move further that way.
Mary Kolkiwarra: <i>Name kun-wardde nabiwo djang nakka.</i>	The rock there is the 'dreaming' for <i>nabiwo</i> honey.
Bardayal Nadjamerrek: <i>Beh yi-balray.</i>	Keep extending it [the cleared area around the rock].
Mary Kolkiwarra: <i>Nungan nabiwo ka-djangdi.</i>	This is the <i>nabiwo</i> honey dreaming place.
Mary Kolkiwarra: <i>Ngale diyawarra konda koyek ngalengman. Kaluk rerre ngalekke, bad bonj karri-djalbirndulhme.</i>	That's the <i>diyawarra</i> species (<i>Trigona hockingsi</i>) honey dreaming just to the east there in that grove of water pandanus. We can go there later, but the splashing we have done in the water will increase that species too.
Mary Kolkiwarra: <i>Bedman lorlbban, diyawarra karrimen bobbidj, all kind ka-raworren.</i>	All the different honey bee species all join together when we do this ritual [<i>lorlbban, diyawarra, bobbidj</i>]
Peter Cooke: <i>Lorlbban, diyawarra, bobbidj?</i>	[names of honey varieties]
Mary Kolkiwarra: <i>All kind ka-djalmarnburren yiman kayime.</i>	The ritual makes all the honey types increase.
Peter Cooke: <i>Anyalk?</i>	Rock honey?
Mary Kolkiwarra: <i>Anyalk all kind yiman ka-yime ka-mirnderaworren. Nabiwo and all. Bad bifo, bu Nabiwo barri-yoy barri-yoy barri-yoy barri-worrhmi kunak kumekke two sides barri-worrhmi anyaaaa:hwurd djibdjib you know that black one black djibdjib that one barri-marnbuni little bit fire, and they sleep one night before barridurndengi.</i>	Including the rock honey too, all of the different types join together in the ritual, including <i>Nabiwo</i> . But before, when they used to come and sleep here, they would make campfires on either side of this rock and put pieces of black antbed on the fires either side of the 'dreaming'. You know that black termite mound, well they used that to keep the fires small and they would sleep here for one night and then leave the next morning.
Mary Kolkiwarra: <i>Don't make this one no ... that black djibdjib.</i>	Keep the fire small by using the black antbed.
Bardayal Nadjamerrek: <i>An-njamed, djidbinj</i>	Called 'djidbinj'.

Mary Kolkiwarra: *Djidbinj manu yi-bengkan.*

You know that black termite mound ‘djidbinj’.

Mary Kolkiwarra: *Yo wanjh barri-yawworrhmi anekke yiman ba-djalyawworrhmi inside kanjdji ba-rungj wanjh barri-budboddi barri-yoy side side before morning time, barri-durdengi.*

They made very small fires which kept going a long time, the termite mound chunks would heat up inside and they would sleep on either side of them and in the morning, they would leave.

Mary Kolkiwarra: *Barri-djalworrhmi minj manu karri-worrhmeninj yiman kunak duninj yi-burrbun manu bolkbaydiwirrinj. Minj ka-bolkbaydi kawarri-wurlhke yiman ka-yime yi-burrbun yinan kah-rung man-kimuk karri-worrhme wanjh ba-badrungj barri-malayidolkkani.*

They used it to make camp fires not with ordinary firewood like this otherwise it would make a bright blaze [and ‘burn’ the bees of the dreaming place]. They didn’t make big bright campfires but they lit small long burning camp fires which kept going until the morning when they got up.

Murray Garde: *Wardi bod kaban-nan o?*

Why, otherwise the dreaming bees would see or something or what?

Mary Kolkiwarra: *Bod rungj man-kung warridj namekke barri-worrhmi.*

They were ritually ‘cooking’ the honey and didn’t want big fires [in the coming season] to burn the honey bees and ruin the hives.

It is not only humans who use fire for their own benefit. During bushfires in northern Australia, a number of raptors can be seen following the back of the fire to take advantage of the small mammals and insects that are flushed out by the blaze. One raptor in particular, *karrkkanj* the brown falcon (*Falco berigora*), does more than just wait for the fire to burn into large patches of dry grass. This bird will swoop down, pick up a fire brand and fly off to drop it into another patch of grass. When a fire burns into a creek line and burns out, brown falcons have also been observed collecting fire brands and dropping them on the other unburnt side of the creek in order to continue the fire ([Figure 5.15](#))

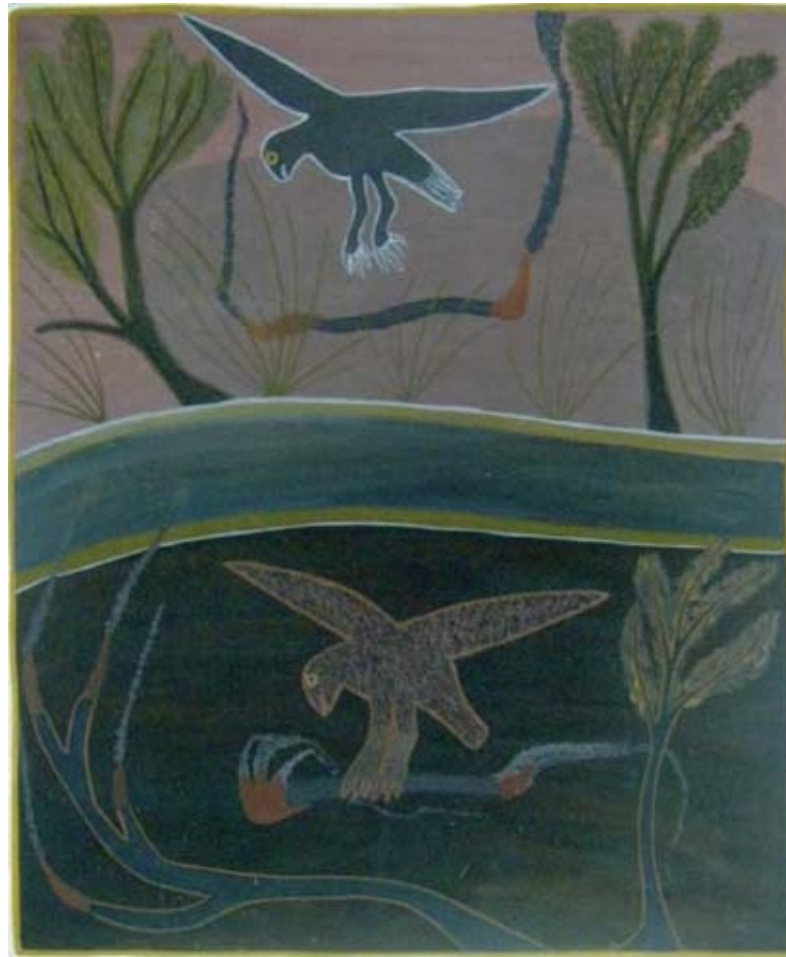


Figure 5.15 *Karrkkanj* the brown falcon (*Falco berigora*) carrying and dropping burning embers in order to spread fire to flush out insects and small mammals. Painting by Billy Yalawanga (Kune-Dangbon language group).

This association of brown falcons and fire is celebrated in rituals associated with the hollow log ossuary ceremony known as *lorrkkon*. For a number of nights in succession, sacred songs are sung accompanied by pairs of boomerangs. This singing takes place in public in the midst of the main camp. After a week or so of this evening chanting, there comes a particular night when the men will now leave the public camp and shift to a sacred and restricted location nearby, but out of view of the women and children. As they depart the public camp in the early evening, men of particular patrimoiety subsections (named *Bulanj* and *Kodjok*)¹⁹ line up and in imitation of the brown falcon, they hold a fire brand aloft as they celebrate this special bird in song and ritual.

Burning to protect ‘jungles’ or closed forests

The restriction on burning in jungle thickets has been well noted in the literature for a number of Aboriginal groups extending from the Alligator Rivers region to the west of the plateau (Russell-Smith *et al.* 1997, p. 177), through to the eastern margins of the plateau around the Cadell River (Haynes 1991, p. 68) and north-east to people from the Blyth River mouth in north-central Arnhem Land (Jones 1975, p. 25, 1980, p. 124). In addition to protecting some of the food resources of jungles (yams, flying foxes, honey and palm tree meristems), jungles on the Arnhem Land Plateau also have cultural significance as *kunredkuken* ‘traditional ancestral

camping places’ where the deep shade was appreciated by their ancestors (Yibarbuk and Cooke 2001, p. 34). Such jungles and forests are sometimes also referred to simply as *kundjurle* ‘shade’. The following text considers the details of how to burn fire breaks around jungles, *Allosyncarpia ternata* forests and cypress pine groves in order to protect them. The terms for firebreak in Bininj Kunwok and mentioned in the text below are based on the idea of ‘placing a burnt patch ahead of another fire’. The word *buleno* ‘ash, burnt patch’ can be incorporated into a compound verb:

-yingki-bule-marnbun > Karri-yingkihbulenarnbun.
beforehand-ash-make 'Let's make a fire break!'

By semantic extension, the word *bule-no* can mean black as in the term *arri-bulerri* ‘we black (Aboriginal) people’. Considering the role of fire in Aboriginal culture, this term of self designation takes on an appropriate significance.

There is mention of seasons, time of day to burn, wind intensity and fire behaviour. The text is a transcript of a conversation between Bardayal Nadjamerrek and a younger Aboriginal land-management ranger, Romeo Lane, and was recorded at Kabulwarnamyo in *kunumeleng* in 2005.

Bardayal Nadjamerrek: ... <i>dalukorro ka-birlikimukmen, ... Ka-yakmen afta dalukorro, ka-wurlhme djarran little bit, strong one, an-kimuk kun-kurra, wanjh ka-birliwayhmen djarran kaddum, ...</i>	... in the <i>dalukorro</i> dry season winds, the fires will get bigger ... after the end of <i>dalukorro</i> the fires go down and they burn less intensively, but in strong winds the flames lift up high ...
Romeo Lane: <i>Kun-kurra nawu ka-yurrbirdihme nunganhyak. Wanjh ka-birliwayhke.</i>	When the wind is ‘galloping’ along, there should be no fire. The flames will rise up.
Bardayal Nadjamerrek: <i>Kaddum ka-rrolkan ka-re kaddum ka-birlibarndi.</i>	They fly up high, the flames rise up.
Romeo Lane: <i>Karri-nan bu kun-kurra ka-yurrbirdihme en karri-wurlhke ka-birliwayhme karri-nan njamedno ... ka-birliwokme.</i>	We can see when the wind is blowing strongly and we light a fire, we can that the flames whatsit ... they advance much quicker.
Bardayal Nadjamerrek: <i>Weldjenno birliweldjenno ka-birliweldjenbebme.</i>	The flame tongues, there are flame flashes, sprites of flame.
Romeo Lane: Yo	Yes
Bardayal Nadjamerrek: <i>Birliweldjenno. Kawelengre ka-birliwayhme ka-djalkurrabu ka-kolung now, ka-rrowen laik ka-rrowen wanjh ka-djaldowen kandji. Wanjh ka-rrowen an-bolh ka-kadjung ka-re bu wanjh</i>	The tongues of the flame. The flames rise up and burn until they go down and die down to a small creeping fire, down low. When died down like this the fire can crawl along the [walking] track and we can watch it. ‘It’s died down’ we would

<i>karri-nan. 'Ba-rrroweng ba-rrroweng karri-yime. Dja kamak karri-yime. Ba barriyimi dabbarrabolk arri-yimi kandi-marneyimi 'Oh nomo ngurri-wernhwurlhke!' Wanjh barri-yimi 'Ngurri-bawo!' Arri-bawoni. Yawoyhno arrih-ni kaddum yiman konda ba-rrungdi wanjh arri-wurlhkeyi. Arri-nani ba-welengyayahmi djarran ba-rey.</i>	say. 'That's good', we would say. The old people [previous generation] they would say to us 'Don't make big hot fires! Don't light such fires, leave it.' So we would leave it alone. Again we would sit there [after having watched the behaviour of the fires] and in the middle of the day, we would light a fire. We would watch the fire creep along at low intensity.
Romeo Lane: <i>Weleng birlirayi.</i>	Then the flames would move along.
Bardayal Nadjamerrek: <i>Yoh ba-welengbirlirayi anbu an-dalknud.</i>	Yes the flames would move through the dried grass.
Romeo Lane: <i>An-dalknud</i>	The dried grass.
Bardayal Nadjamerrek: <i>Ba-ruyi, all around ba-ruyi. Arri-djalnahnayi ba-baldungyibmeninj kanjdji ba-birlihkolungi. Laik ba-rrroweni barri-yimi 'Ba-rrroweng kube kubeh ka-re ba-rrroweng.'</i>	It would burn all around, burning everywhere. We would watch over it until the sun went low in the sky and the flames lowered. The fire was starting to die down and they would say 'It is dying down now, it will not get away, it is going out.'
Romeo Lane: <i>Wanjh yiman three four o'clock wanjh kunukka birlkoluy.</i>	So three or four o'clock in the in the afternoon the fire would reduce in intensity.
Bardayal Nadjamerrek: <i>Yeah</i>	Yeah
Romeo Lane: <i>Yeledj birliray.</i>	And the flames move slowly.
Bardayal Nadjamerrek: <i>Yalmo ba-rey. It would go slowly.</i>	Romeo Lane: <i>Yiman ... en birlirayi en ray</i> So that ... when the flames move off and the <i>wurlhmeng kun-kurra nakka birliwayhmeninj.</i> winds pick up again then the flames lift up again.
Bardayal Nadjamerrek: <i>Wanjh derrehmeng.</i>	Then it moves off again.
Romeo Lane: <i>Derrehkemeninj beh.</i>	It moves off.
Bardayal Nadjamerrek: <i>Yoh. Kumekke ba-djalyimeninj ba-yakmeninj ba-rrrowemeninj an-yahwurd an-yahwurd ba-wurlhmeninj ba-kadjuyi wanjh darnki ba-rrrowemeninj ka-rrowen.</i>	Yes. That's what would happen, the fire dies down to a number of small fronts, burning slowly and crawling along until it reduces and dies out.
Bardayal Nadjamerrek: <i>Kure an-binik dja binik ka-rrulkdi marrek arri-wurlhkemeninj ba-rungi ba-yawoyhrungi ba-rrroweni arri-yawoyhwurlhkeyi ba-rey kureh ba-rey bad nomo an-binik kun-djurle makka ba-yakkeni.</i>	In <i>an-binik</i> forests we didn't light fires because repeated fires would kill the forest, so we would burn off [to the side of the forest to make a fire break] and when it died down, we'd light another until it finished the fire break but there was no fire [allowed] in the <i>an-binik</i> forest, they are there for shade.

Romeo Lane: <i>Birri-birlinahnayi</i> like side and side.	They took care to watch over the fire on all sides [of the jungle].
Bardayal Nadjamerrek: <i>Arri-birlinahnayi, ba-birlikoluyi arri-nayi, wanjh bu 'Maibi malayi arri-yawoyhbirli ... arri-dolkkayi.</i>	We would watch over the fire until it died down and then [we would say] 'Tomorrow maybe we'll light it again, ...when we get up [in the morning].'
Romeo Lane: <i>Rey wurlhkemeninj</i>	They would go off and burn again.
Bardayal Nadjamerrek: <i>Kure arri-bidmarrimeninj kure barri-bawong. Wanjh arri-nayi ka-djalmak.</i>	We would work together burning and in some places leave it unfired. Then we see this was effective.
Romeo Lane: <i>Kamak rowk wanjh beh ngurri-birlimunkewemeninj.</i>	When all was well [with the firebreak] then they sent the fire off to other directions [around the jungle].
Bardayal Nadjamerrek: <i>Ya, wanjh ba-welengkadjuyi all around.</i>	Yes, then the fire would burn all around [the jungle].
Romeo Lane: <i>Bad nawu kurrungburldjdjarn?</i>	What about in the middle of <i>kurrung</i> [hot late dry season]?
Bardayal Nadjamerrek: <i>Makka larrk! Wardi wurlhmeninj kun-djurle and all yi-bengkan ba-djalruyi nawu kurrungburldjdjarn.</i>	Not then! Otherwise the shady jungle could be burnt as you know how everything gets burnt in a hot late-dry-season fire.
Romeo Lane: <i>But early ngurri-wurlhkemeninj ngurri-marnewurhlwurhlkemeninj wanjh yingkihuleyuwirrinj.</i>	So you burn early in the year, you burn for the benefit of [the jungle] so that there is a fire break established early [before hot fires can come through].
Bardayal Nadjamerrek: <i>Ya</i>	Yes
Bardayal Nadjamerrek: <i>Buleno ba-yingkihuleyuwirrinj.</i>	There would be a burnt area, a fire break already in place.
Bardayal Nadjamerrek: <i>Dja wanjh ba-welengkadjuyi kurrungen anbu djaid-djaid ba-ruyi.</i>	So that if a fire should go through in <i>kurrung</i> [late dry season], then it would pass to the sides of the jungle.
Romeo Lane: <i>Wanjh beh bebbebeh birlirayi.</i>	The fire would burn on either side away from it.
Bardayal Nadjamerrek: <i>Ya beh ku-buyika ku-buyika ba-welengwurhlmeninj na barayi, dja mak an-binik makka ba-djalngarrediwirrinj ba-ngarredi.</i>	Yes, the fire would pass somewhere else so that the <i>anbinik</i> forest would stand there unaffected.
Romeo Lane: <i>Yoh</i>	Yes
Bardayal Nadjamerrek: <i>Ya... Buleno ka-</i>	Yeah, ... there would be a firebreak there.

welengyo.

Romeo Lane: <i>Ka-yingkihbulerri.</i>	A fire break beforehand.
Bardayal Nadjamerrek: <i>Ya</i>	yes
Romeo Lane: <i>Wanjh karri-durndeng karri-wurlhke.</i>	So we can return at some other time and continue burning [without worrying about damaging the jungle].
Bardayal Nadjamerrek: <i>Minj kurrungburldjdjarn ngurri-wurlhke kawelengkadjung ka-buleyo yuhungki ka-yingkihbulero kumekke beh ka-djaldowen ka-re.</i>	Don't burn in the middle of <i>kurrung</i> [late dry season] but any fires that do burn then will burn out once they get to the firebreak there.
Romeo Lane: <i>Wanjh yerrebeh arri-bulemunkewe.</i>	We should have the fire breaks in place beforehand.
Bardayal Nadjamerrek: <i>Kure ka-welengre kure ka-re kure ka-re, kurrung nawu.</i>	So that in <i>kurrung</i> season any fires will go here, go there [and die out].
Romeo Lane: <i>mm</i>	mm
Bardayal Nadjamerrek: <i>Ya, that kamak rowk yi-wurlhke. Kune mak ka-yime marrek yi-wurlhke, djamtaem yi-wurlhke yekkeyekke kunukumeleng... no ... dalukorro bu, kunumeleng ka-rralknud.</i>	Yes that is the proper way to burn. But there are other times of the year from the early dry through to the early wet when you shouldn't burn. Throughout <i>yekke</i> there are strong south-easterly winds and at the end of the dry season there can be a build up of large fuel loads [if grass was not burnt].
Romeo Lane: <i>Yiman mak njamed man-larrh.</i>	Such as near cypress pines.
Bardayal Nadjamerrek: <i>Djurleno.</i>	Shade [The cypress pine groves are also important shade].
Romeo Lane: <i>Young one, nawu ngarri-nan ka-kaberrkdi mak kumekke ngarri-re ngarri-wurlhke side bedberre...</i>	We should burn to the side of the young cypress pine trees which are all growing in a grove...
Bardayal Nadjamerrek: <i>Mm mm</i>	Mm mm
Romeo Lane: <i>Yimarnek arri-yingkibulemarnbun kune wanjh kurrungburldjdjarn kamre wardi kunak kamre kubuyikabeh kambirlire yiman Bulmunbeh kamre kabirri-birimunkewe Bawurrkbarnda wanjh kurebeh kan-djirrkkan.</i>	So we should burn fire breaks so that in the middle of the late dry season when fires come up from Bulmun which those people have lit or Bawurrkbarnda, as those fires can affect us.
Bardayal Nadjamerrek: <i>... an-larrh anbu</i>	... the cypress pines will be burnt [i.e. are fire

<i>ka-rrulkrung</i>	sensitive]
Romeo Lane: <i>Yiman kure an-larrh arri-marnewurlhwurlke arri-yingkihbulawon.</i>	So we should also burn fire breaks for the cypress pine groves [to protect them].
Bardayal Nadjamerrek: <i>Ka-buleyo.</i>	Fire breaks will be there.
Romeo Lane: <i>Kure man-binik ka-kaberrkdi.</i>	And at the <i>Allosyncarpia ternata</i> jungles.
Bardayal Nadjamerrek: <i>Ya</i>	Yeah
Romeo Lane: <i>Same way ... wanjh bu kurrungburldjdarn minj worry ngarri-yime.</i>	Same way ... so that in the hot late dry season, we don't have to worry.
Bardayal Nadjamerrek: <i>Ng ng, ka-yingkibuleyo, ngurri-djalyime bonj ka-yingkihbulawo kuberrk ka-yime marrek an-larrh ka-rung wanjh djal woybukkih ka-buleyo ka-welengkadjung kubuyika.</i>	Mm mm, the fire breaks will be in place before hot fires come through and the cypress pine groves will not get burnt, that's right, and the fires will burn off in another direction.

MAINTAINING ACCESS TO THE HIGHER ROCK COUNTRY

Burning spinifex in the rock country in the late dry season, or in the strong *dalukorro* winds of the early dry, was avoided. In the following text Bardayal Nadjamerrek recommends burning rock country with its highly flammable spinifex grasses only in the late wet season of *bangkerreng*, in the cool of the late afternoon and then not every year. The discussion transcribed below was in the context of walking through spinifex on the margins of higher and denser rock country. In the most remote parts of the plateau, and the most difficult to access, fire was a rare intruder. But certainly some patches of spinifex in rock country needed to be cleared to allow access from time to time.

Murray Garde: <i>Wamud yi-bengkan nawu an-karrarndalk, yika nawu ka-rralknudkimukmen ...</i>	Wamud, you know the <i>Triodia spinifex</i> [in the rock country], sometimes it can build up as fuel ...
Bardayal Nadjamerrek: <i>That mean kaddum ka-rri, well nomo yi-djengwurllhke kuni ka-yime [indicates lower down] ka-birlikurrmerren ka-mankan ka-rrown wanjki, little bit ka-kolung now,</i>	That means it's a tall heap, well don't burn it like that, burn it when the flames will be small, down low and it will burn itself out [instead of continuing on], gradually reducing in intensity, crawling along from
<i>ka-balderrehderrehme that mean im finish maitbi ka-rrungyibme darnki ka-rrown ... bangkerreng yoh.</i>	one place to another, that means the fire will die out as the sun sets, yes, <i>bangkerreng</i> season [late wet season is the time to burn it].

Murray Garde: <i>Bu karra-knudkimukmen ...</i>	But when the spinifex fuel is big ...
Bardayal Nadjamerrek: <i>That mean ka-birlidjabdi ka-re kondabo [gestures] 'Oh that arri-wurlhkeng but im go down ka-kolung djarran ka-nelk, yibengkan kun-kurra ka-nelkbarlme that mean bangkerreng, that mean kamak kabbarri-wurlhke.</i>	That means the flames will stand up high, when they should be down here like this [lowers hands to indicate shorter flames]. [We might say] 'Oh someone has set fire to it, but it will go down, reduce in intensity because [at that time of year] it is only new growth, you know in the last rains of bangkerreng 'knockemdown winds', the spinifex is only young [small] and that means it's good to burn it at that time.
Murray Garde: <i>Bale ka-yime andjewk Wamud?</i>	How many years apart Wamud?
Bardayal Nadjamerrek: <i>Bokenh arri-djalmarnbun.</i>	Every couple of years.
Murray Garde: <i>Bu karri-wurlhke yiddok mayhngong ka-rrown o kayakki?</i>	But will burning it kill animals?
Bardayal Nadjamerrek: <i>Karrown, bu kurrungburldjdjarn o yekke dalukorro ka-wurlhme 'all over'. Too much wind karri-bawo. Ka-mankan kun-kurra kayakmen wanjh ngurri-wurlhke ngokkongkowi wanjh ka-kolung now.</i>	They will die if you burn [spinifex in the rock country] in the middle of the late dry season [kurrung] or when the south-east winds are blowing in the early dry, then it will burn 'all over'. We should not burn when there is too much wind. When the wind has dropped, when it is finished, then you can burn it late in the afternoon, around dusk, then the flames will be lower.

CONCLUSIONS

Most of the contributors of the texts in this chapter are people who spent a substantial part of their lives walking across the Arnhem Land Plateau before the present day sedentary existence of life on outstations and regional settlements. Their accounts of life on the plateau in terms of how they used fire to manage this vast region tell us something of the nuanced approach to land management. Attention was paid to the conditions of temperature, fuel load, vegetation, habitat and wind intensity in conducting burning. Earlier dry season burning reduced the intensity and extent of fire in the driest and hottest time of the year. The grassy understorey of *man-berrk* 'savanna woodland' was the main focus for burning on the plateau as this was the easiest landscape to traverse. Other areas such as the margins of jungles (as described above) and the *Triodia* spinifex along walking routes on the margins of rock country needed more care.

These anecdotal accounts of landscape burning are largely consistent with what has been recorded from the very first systematic descriptions of Aboriginal landscape burning in Arnhem Land (Jones 1975; Haynes 1985; Russell-Smith 1985b). Burning commenced in the

late wet season where possible, and continued throughout the dry season until the rains of the following monsoon, with people seeking to control the intensity and extent of fires at different seasons and in different ecological habitats and landscapes. Burning reached its peak in *wurrkeng* ‘the season of fire’. Fires lit after this time were of a specialist nature, such as macropod fire drives or women’s turtle collecting fires.

Detailed knowledge of fire regimes for particular places and seasons remains relevant for the development of contemporary land-management policy. The involvement of young Aboriginal people in contemporary land-management work will engender the recreation of experiences that make traditional ecological knowledge relevant in new economic contexts. The main purpose of this chapter has been to give voice to those Aboriginal people whose knowledge about the ecology of the Arnhem Land Plateau is crucial for intergenerational knowledge transfer. No one pretends that there can be a return to the kind of nomadic lifestyles that people on the plateau once conducted. But there is a realisation from younger generations of landowners and managers, that the knowledge of previous generations is a starting point for the development of contemporary management policy. Otto Champion is one such person who values the experience of his elders. During a land-management meeting in 2006, as part of the annual trans-plateau walks that Warddeken Land Management Ltd organises for rock-country communities, Otto made these concluding remarks, which are a fitting conclusion to the texts that have been presented in this chapter.

Otto Champion: ...*name na-kare ngarr-durndeng kamak* because *um kun-wok* like *ngarr-karrme* really strong *ngarrku wurdurd* young people *bolkki ka-warrehwarrewon* so really *ngarr-durndeng* back if *ngarr-borledke* new *time-ngarre marrek ngarr-bengkan njale yungki kan-marnbun ngarrku ngarrbin-warkwan yawurrinj, ngarrku kabirri-re kabirri-warkwan* that *kun-wok* and really like *ngad kure ngarri-djare ngarri-durndeng* back

... there are good things in the past we should draw on because like these words we are sharing today [from the knowledgeable elders] they are really our strength. Young people today cannot manage the land well without this knowledge, so really we need to go back to those things if we are entering a new era. We don’t know what the future holds for our land and we don’t know what the young generation will do without this guidance, so we need to rely on what we know from the past [to manage fire on our country]

Bardayal Nadjamerrek: *Kun-kare*

from the past

Otto Champion: Old ways *ngarr-durndeng ngarr-bokkarren ngarr-ngun mayh*, last one *ngurri-ngun ngudda* that’s why *bobo ngarri-yime kun-red namekke ka-yo* last one *maitbi ngarr-bokkarren kunj yi-ngun bobo yi-yime kun-red yi-bobohme*

We need to follow the footsteps of each preceding generation, the old ways when we hunt, you can eat the meat of those animals and then we can say goodbye to the country that sustained us knowing that the knowledge remains, following in the footsteps of others, in the hunting of kangaroos you can say farewell [with confidence] you can say farewell to the country [knowing that the knowledge will be handed on to the next generation].

Bardayal Nadjamerrek: *Bale ka-mak o bale ka-warre?*

Are these words good or not?

Peter Biless: *Yo bu manekke ka-mak makka*

They are of course very good.

ENDNOTES

- 1 The term *Bininj Kunwok* means ‘people’s language’ and the word *Bininj* has a variety of senses determined by context including: ‘Aboriginal’, ‘human’ and ‘man’. In this chapter, I use the word *Bininj* to refer to the Aboriginal people of the Arnhem Land Plateau who speak *Bininj Kunwok* dialects.
- 2 Sweeney (1939) estimated (from interviews with neighbours) that there were 25 Dedjnjengh [Kudedjnjenghmi] and Gundjeihmi people: 50 from the Dangbon and Ngalakan groups, 80 from the upper Kumadderr and Kumarrirnbang groups and he counted 96 people at Marrkolidjban, making a total of at least 250 people living on or nearby the plateau in 1939. There were also an additional 100 Rembarrnga people associated with the camp at Buluhkaduru, but no doubt there were others living in the rock country not far from there.
- 3 Archaeology in this region has largely focused on the outlier sites of Kakadu National Park and the Alligator Rivers floodplains (e.g. Kamminga and Allen 1973; Schrire 1982; Jones 1985; Hiscock 1991; Brockwell *et al.* 2001). Rock art studies, however, have been more widespread across the region (Chaloupka 1993; Taçon 1993; Garde 2000).
- 4 The wind name *djimurru* is borrowed from Makassarese *timoro* ‘east’. Nicholas Evans (*pers. comm.*) suggests that the wind name *lidjalidja* is also possibly Makassarese in origin: ‘Cense 1979, p.402 gives a word *lete’lete*’ (which could give *lidjalidja* if filtered through a coastal language) with the meaning ‘handelsprauw’ and the [Makassarese] example sentence *lete’-lete’ kudongkoki antama mae* ‘ik ben met een lete’-lete’ hier gekomen (bv v d voor de kust liggende eilanden naar Makassar)’ suggesting a possible metonymy of season/wind names with the departure of Macassan praus’.
- 5 Kalarriya is not confused here. The transition from the dry season south-east winds to the northerly and north-westerlies of the monsoon involves this unstable transitional wind *niyaniya* that swings around from one direction to another.
- 6 These yams are usually finished by *kunumeleng* and not eaten in the wet season, but some will still be available.
- 7 Scientific name not yet identified.
- 8 Available mostly in *bangkerreng* but also into early *yekke*.
- 9 *Yekke* is not the usual season for magpie geese, but geese can sometimes be found at this site on the lower Liverpool River earlier in the year.
- 10 Aboriginal people do not name complete landscape features such as rivers or water courses. Kumarrirnbang Outstation, (named after the regional Kumarrirnbang estate) is on Manggabor/Kumarrirnbang Creek, and is located at -12° 19’ 46”, 133° 59’ 51”. The actual site for Kumarrirnbang outstation is called Kuyahyay.
- 11 The Bininj Kunwok (and Jawoyn) term *wurrk* ‘fire/fire drive’ is also widespread in the

languages of Arnhem Land beyond the plateau including a number of Yolngu languages from north-east Arnhem Land where the word also means ‘fire/kangaroo fire drive’ (White 2001, p. 350).

- 12 This is the definition used in the nomination form to list the ‘sandstone heath’ of the Arnhem Land Plateau as a threatened ecological community under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).
- 13 *Bale ka-bolk-yime?* literally = ‘where 3-place-do/say’.
- 14 *mimal* is also the ordinary register word for ‘fire’ in the neighbouring Dalabon language (Evans *et al.* 2004, p. 240).
- 15 This text first appeared in Bowman *et al.* (2001, p. 66).
- 16 Macropods are associated with either the *yirridjdja* or *duwa* moieties based on species (Garde and Telfer 2006, p. 387). The antilopine kangaroo (*Macropus antilopinus*), spectacled hare-wallaby (*Lagorchestes conspicillatus*), and short-eared rock wallaby (*Petrogale brachyotis*) are *yirridjdja* moiety. The euro (*Macropus robustus*), nabarlek (*Peradorcus concinna*) and agile wallaby (*Macropus agilis*) are *duwa* moiety.
- 17 See Garde 2003, pp. 479–482 for accounts of such accidents.
- 18 See the accompanying documentary film of this workshop *Kun-wok Kun-bolkken*, ‘The Language of Land’ (McKenzie 2006).
- 19 There are two morphs of the brown falcon: one light, the other dark. The dark morph is considered *Bulanj* subsection and is called *wunwunbu*, the light morph is *kodjok* subsection and is called *kanmilanmila*.

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APPENDICES

Appendix 5.1: Plant foods of the wet seasons (kunumeleng, kudjewk and bangkerreng)

Species	Bininj Kunwok Name + short text Djnj = Kundedjnjenghmi, Gdj = Gundjeihmi, I = Kuningku	Which part of wet season?
<i>Aidia racemosa</i>	Djnj = <i>anmarredondolem</i> , Gdj = <i>djirdu</i> , <i>mulunjmulunj</i> , I = <i>kabirlekan</i> <i>Anmarredondolem kukabo karri</i> . The <i>Aidia racemosa</i> plant grows near creeks.	<i>kudjewk</i> , <i>bangkerreng</i>
<i>Amorphophallus galbra</i>	Djnj, Gdj = <i>andidjdjanku</i> , I = <i>mayhdedj</i> , <i>walangari</i> (<i>duwa moiety</i>), <i>djedbarlh</i> (<i>yirridjdja moiety</i> , but also the Dalabon name). The tuber is roasted for 1 night. The plant consists of a single stalk of about 1.5 m. with a head of green seeds at the top. Just beneath the base in the ground is the large tuber. Rock wallabies such as the short-eared rock wallaby also eat the tuber. There is considerable variation in shape and size of these plants and, as a result, different sizes of the same species may have different moiety affiliations and names in Bininj Kunwok.	<i>kudjewk</i>
<i>Amorphophallus paeoniifolius</i>	Yam with toxins that must be removed before the tuber is edible. W = <i>kamarn</i> , Djnj = <i>morlkalk</i> <i>Kamarn arri-ngun an-me manu yiman an-didjdjanku rerri</i> . The <i>kamarn</i> Arum plant is edible and is similar to the <i>an-didjdjanku</i> Arum tuber.	All year, but especially <i>kudjewk</i> , <i>bangkerreng</i> .
<i>Ampelocissus acetosa</i>	'Wild grape': a low growing and scrambling climber with edible black currant-like fruit Djnj = <i>an-djakurrkkurrk</i> , I = <i>man-djalke</i> , Gdj = <i>an-nunjek</i> , syn. = <i>anwak</i> (also the name for a number of plants with similar clustered fruits – <i>Leea rubra</i> , <i>Melostoma</i> sp. and <i>Ampelocissus acetosa</i>). <i>Andjakurrkkurrk ngurrurdu ka-ngun</i> , <i>kudjewk</i> . Emus eat the wild grape in the wet season.	<i>kudjewk</i> , <i>bangkerreng</i>
	Small herb from rock country with edible tubers; the same name is used also for <i>Murdannia graminea</i> Djnj = <i>an-bidkawang</i> (<i>man-kawang</i> , <i>man-bidkawang</i>), Gdj = <i>an-</i>	<i>kudjewk</i> ,

<i>Aneilema siliculosum</i>	<p><i>bidkalkberd</i> ... ngali ngalengman mak ngarri-karuhkarung. Man-ngalinjen man-kawang, mankawang man-djudjulng. Kunekke kadedjmaddi man-kawang. ...we dig other small bush tubers like fi:<i>Ipomoea</i> sp. and fi:<i>Aneilema_siliculosum</i> which (the latter) has little small tubers and roots.</p>	<p><i>bangkerreng</i> <i>Murdannia graminea</i> appears in <i>bangkerreng</i> and <i>yekke</i></p>
<i>Antidesma parvifolium</i>	<p>Djnj, Gdj = <i>an-yuku</i>, I, W = <i>man-yuku</i> <i>An-balinjdja man-me ngarri-nguni, barnemno ngarri-nguni djorlengno, yiman ka-yime yi-bengkan an-djurlukkurn, bad ngalengman ku-warddewaken ngarri-ngeybun an-yuku, an-djorleng</i> black one. <i>Anih an-kuken ngarri-ngun, an-yuku.</i> <i>Vitex acuminata</i> has an edible fruit which we eat when ripe and it's like the <i>Antidesma ghaesembila</i> fruit, but it grows in the rock country. We call the rock version of <i>Antidesma ghaesembila</i> 'an-yuku' (<i>Antidesma parvifolium</i>). When it's ripe it's black. It's a well known traditional food, <i>Antidesma parvifolium</i>. The juice is also used in kangaroo hunting sorcery rituals.</p>	<p><i>kudjewk, bangkerreng</i></p>
<i>Cucumis melo</i>	<p>Bush cucumber: a vine with an edible fruit available in the wet season, also eaten by emus Djnj, Gdj= <i>an-dawk</i>, I, W, E= <i>man-dawk</i> <i>Ngale ngal-bengwarr ngalu kurdukadji, kun-mabu warridj ka-ngun. Manekke ngalengarre man-djalke manu ngad Bininj karringun warridj, kan-djenbun and man-dawk warridj, yibengkan man-dawk man-yahwurd, manekke kangun.</i> She is completely crazy the emu, she even eats charcoal. And <i>Ampelocissus acetosa</i> that currant that people also eat, but it burns your tongue and also small bush cucumbers bush cucumber, you know those little things, it eats those.</p>	<p><i>kudjewk, bangkerreng</i></p>
<i>Cynanchum pedunculatum</i>	<p>Djnj = <i>an-ngalemerrk</i>, E = <i>namelengerrk</i> Small edible tuber found in sandstone habitats</p>	<p><i>kudjewk</i></p>
<i>Dioscorea transversa</i>	<p>Long yam: an important staple throughout the year. Djnj = <i>kayawal</i>, I, E, W = <i>karrbarda</i></p>	<p>All year</p>
<i>Marsdenia viridiflora</i>	<p>Djnj = <i>album</i> <i>Albun an-me ka-karrme karri-mang bangkerreng, yiman ka-yime</i> <i>Balanda bobbo ngurri-karrme.</i> <i>Marsdenia viridiflora</i> has a fruit that we get in the late wet.</p>	<p><i>kudjewk, bangkerreng</i></p>

	It's like that fruit you white people have, pawpaw.	
<i>Melodorum rupestre</i>	Djnj, W, I, E, (m) <i>an-badbirri</i> <i>Namekke nadjinem manme ka-ngun man-badbirri, yika ka-kolung ku-wardde ka-kolung man-buyhbuyika ka-ngun.</i> That black rock kangaroo eats <i>Melodorum</i> fruit, sometimes it comes down from the rocks and eats other kinds of food.	kudjewk
<i>Persoonia falcata</i>	All dialects = (m) <i>an-dak</i> <i>Man-balmed dja man-dak yi-rrong yi-marnbun yi-ngun karrirawon.</i> Pound the <i>Planchonella arnhemica</i> and the <i>Persoonia falcata</i> fruit together and you can eat it.	kurrung, kunumeleng, kudjewk
<i>Pouteria sericea</i>	All dialects = (m) <i>an-dangnud</i> Black fruits eaten in wet season	kunumeleng, kudjewk
<i>Smilax australis</i>	Djnj = <i>an-morrodondolem</i> , Gdj = <i>an-morrng</i> <i>An-morrodondolem kabirri-we ku-wukkukah djenj ka-ngun bamrdek warridj.</i> They throw <i>Smilax australis</i> berries into the water and fish eat them and so do northern snapping turtles (<i>Elseya dentata</i>).	kudjewk, bangkerreng
<i>Syzygium armstrongii</i>	Djnj = <i>an-kardadjirr</i> , I = <i>man-kindjilkkindjilk</i> Edible white fruit <i>An-kardadjirr kurlahno arri-bun arri-ngolung ka-njerreyhme</i> <i>ka-bangwayhme wanjh arri-djuhke djenj ka-rrowen.</i> We pound the bark of <i>Syzygium armstrongii</i> , warm it over a fire and when it starts sizzling, the poison [ichthyicide] comes out and we put it in the water and the fish die.	kunumeleng, kudjewk, bangkerreng
<i>Syzygium eucalyptoides</i> ssp. <i>bleseri</i>	Djnj = <i>an-djalbbirdo</i> , larger variety is called <i>an-djola</i> , I = <i>bokorn Djalbbirdo, nakka djal kunumeleng nawu</i> rain time. <i>Syzygium eucalyptoides</i> ssp. <i>bleseri</i> is an early wet season fruit, in the rainy season.	kunumeleng
<i>Syzygium eucalyptoides</i> ssp. <i>eucalyptoides</i>	Djnj = <i>an-bowngbo</i> , <i>an-bowngbowng</i> , I = <i>man-bongbong</i> <i>An-bowngbow ku-warddewaken, karri-kukngun ka-rohrok djarduk, man-kukmanjmak.</i> <i>Syzygium eucalyptoides</i> ssp. <i>eucalyptoides</i> is from the rock country and is similar to <i>S. suborbiculare</i> and tastes delicious.	kunumeleng, kudjewk
<i>Syzygium forte</i>	Djnj = <i>an-boyberre</i> , I = <i>kidjdjahdjanj</i> , E = <i>madjabuli</i> <i>Karrkad nawu karri njamed nakka nawu djalbbirdoh kanjdjikanjdji</i> <i>karri nakka madjabuli nawu kure kuwukku.</i> That one, the <i>Syzygium eucalyptoides</i> ssp. <i>bleseri</i> is up on	kudjewk

	the higher bushland, but <i>Syzygium forte</i> grows down in the creeks, in the water.	
<i>Syzygium suborbiculare</i>	All dialects (<i>man-</i>) <i>djarduk</i> <i>Djarduk nawu yiburrbun nawu djarduk dangbele nakka djal kunumeleng.</i> You know the red bush apple tree with the white flesh inside, well it fruits in the early wet season.	<i>kurrung, kunumeleng</i>
<i>Typhonium</i> spp.	There is considerable variation in shape and size of Arum plants and as a result, different sizes of the same species may have different names in Bininj Kunwok; <i>madjalkbadj, kubulurr, man-djanek, man-danek.</i> <i>Kuwardde kaddum minj bu wernhdjarre darnki, ngarri-bidbom kumekke ngarri-yoy man-danek ngarri-doy.</i> Up on the rocks not up high but close [to the ground], we climbed up and there we camped and pounded <i>Typhonium</i> tubers.	<i>kudjewk, bangkerreng, yekke</i>
<i>Vitex acuminata</i>	Djnj = <i>an-balinjdja, an-dedjbang</i> , E = <i>man-dedjbang</i> <i>Djabbo ka-ngun an-balindja. Bininj karri-ngun, djabbo nuye duninj anekke an-balindjarr.</i> The quoll eats the black plum. People eat it (too), but it really belongs to the quoll.	<i>kunumeleng, kudjewk</i>
<i>Vitex glabrata</i>	All dialects = (<i>m</i>) <i>an-kurndalh</i> <i>Man-kurndalh birri-barndiwirrinj kam-wakemeninj birri-yameninj.</i> <i>Manekke nga-yameng wanjh barnambarl.</i> They would stand up high in the <i>Vitex glabrata</i> tree and when [the emu] came wandering over [to eat the fallen fruit] they would spear it. I speared one from up in a tree, a practice called <i>barnambarl</i> .	<i>kunumeleng, kudjewk</i>

Appendix 5.2: Bininj Kunwok landscape terms relating to rock country and landforms

Dialect key: Djnj = Kundedjnjenghmi, Gdj = Gundjeihmi, I = Kuninjku, W = Kunwinjku

wardde prefix = **kun-**

n. rock, stone

derivative *kun-warddewardde*

‘*escarpment, rocky outcrop*’

warddebakabakmeng prefix

= **an-**, **ka-** pred. v./v.i.

rock rubble, scree rubble, fallen

rock debris that has
shattered

dialect = Dijnj, other dialects =

An-warddebakabakmeng

an-warddeyahwuyahwurd.

Rocky debris broken up into
small pieces.

warddebalabala prefix =

an-

n. 1. flat rock (large scale) 2.

any small piece of ledge

sandstone, e.g. piece of

stone suitable as a

grindstone or lala

'grindstone'.

warddebalabala

ka-rurrkmarnbun prefix =

ka-

phrase flat overhang that

creates a cave below

warddeberreame prefix =

ka-

v.i. scarp or ridge line that

runs long and low

warddeboboyo prefix =

ka-

v.i. sandstone overhang

suitable for a shelter

Dabbarrabolk barri-yonginj kure

kawarddeboboyo.

The old people/ancestors used

to sleep in sandstone

overhanging shelters.

synonym =

ka-warddeyalalyo, ka-

arddeboddi dialect = Dijnj

warddeboddi prefix = **ka-**
v.i., horizontal overhang of
rock, which provides a
shelter below. synonym =
ka-warddeyalalyo,
ka-warddeboboyo, dialect =
Dijnj

warddeburldjdjarn prefix =
ku-
variant =
an-warddeburldjdjarn
n. mass of rock, a sandstone
outlier, plateau country
An-warddekimuk
an-warddeburldjdjarn.
Rocky plateau massif.

warddedjabdi prefix = **ka**
n. outcrop of rock
Makka mak mimih kumekke
ka-reddi. Manih
ka-warddedjabdi. Makka
wanjh mimih kumekke
kah-di.
Mimih spirits also live in that
place. There where those
boulders are protruding.
That's where mimih live.

warddedjudjulngyo prefix =
ka-
v.i. rock rubble from
exfoliation or scree deposit,
especially finer smaller
pieces of sandstone rubble

warddedjuhdjuhkendi prefix =
ka-
rocks lying in a water course

Ka-warddedjuhdjuhkendi

ku-barrarn

ka-kawadjirriyo.

*'There are rocks in the river
gorge with sand lying either
side.'*

warddedubbe prefix = **ka-**

1. *impassable rock country,
impenetrable rock country*

warddedulumkimuk prefix =

ka-

variant =

ka-warddeduluhdulum-

kimuk (reduplicated form)

1. *country with numerous
round large boulders
(large scale)*

warddekarrekarnkudji

prefix = **ka-, an**

1. *rock formation consisting of
a narrow column or
columns, which may or
may not be supporting large
boulders on top, slender
sandstone pillar or butte.*

warddekudjihkudji prefix =

an-, man-, ka-

1. *escarpment outlier country
with scattered residuals
and/or boulders on the
plain.*

dialect = *Djnj*

other dialect: *I, W = man-
arddekudjikudji, kun-
arddekudjihkudji.*

warddekuyeng prefix = **kun-,**

an-

n. tall rocky outcrop, butte
Kunwarddekuyeng yiman
kayime Nimbuwa.
A tall rock formation such
as Nimbuwa.

warddekorlh prefix = **ka-**

an-

n. expansive flat rock platform,
especially in river
valleys and margins

Possible forms =

an-warddekorlh, man-
arddekorlh, ka-
arddekorlh,
warddekorlhno.

synonym = ku-korlh, korlhno

warddelobme *n. prefix = ka-*
escarpment line.

Ka-warddelobme.

The escarpment line runs
along.

warddelungurr prefix = **ku-**

n. 1. a large cavity in rock,
either in the face of an
outlier or under the
ground

2. sandstone country with
many caves or gorges

warddemirrkbarangbarang

prefix = **ka-**

predicate noun

expanse of rock of uneven

surface with a bright shining

appearance (due to

variation in reflection on

both smooth and uneven

surfaces), either as a vertical

cliff face or horizontal surface. dialect = Djnj

warddemorrhmorrboy prefix =

ka-

predicate noun

*region of flat rocky expanse,
often with scattered small
boulders and rocky debris
on a flat and open area*

dialect = Djnj

warddengarlhmi prefix =

ba-, ø

v.i.

rock rubble, scree rubble

Djnj, Gdj =

ba-warddengarlhmi

warddengarre prefix = **ka-**

warddengarre an-kokbo

an-wern prefix = **ka-**

*phrase a rock country jungle
dominated by rock
country cycad*

wardderurrk prefix = **kun-/**

ka-, an-

*cave, enclosed space under an
overhang*

other forms =

ka-wardderuhrurrk

*(reduplicated form) 'many
caves'*

warddewardde prefix =

kun-/ka-

1. *1. escarpment,*

2. *rocky outcrop, very rocky
country, land covered in
boulders.*

warddewardde

an-karrarndalkwern

prefix = **ka-**

phrase spinifex (*Triodia*) in
rock country

warddewarnamyo prefix =

ka-, ku-

v.i. parallel ridge lines of
sandstone outlier
formations or on a smaller
scale, small lengths of
parallel rock formations on
a flat

warddeyalalyo prefix =

ka-

v.i. horizontal overhang of
rock, which provides
a shelter below

synonym = *ka-warddeboddi*,
ka-warddeboboyo.
dialect = *Djnj*

warddeyirriyo prefix = **ka-**

line of rocks or ridgeline
(a degree of straightness is implied)

warddeyongoyo prefix = **ka-**

v.i. scattered small boulders

warddeyunkurr prefix =

ka-

1. variant =

ka-djalwarddeyunkurr

1 boulder protruding out of the
water in a water course as
an island.

Appendix 5.3: A glossary of Bininj Kunwok terms relating to fire

bambarr, man-bambarr n.

dead end valley or narrow gully, which are the sites chosen for fire drives to trap kangaroos, which become trapped and injured by fire and can be easily speared.

bananame *v.i. crackling of a fire*

bilbilk *n. a vigorous fire that burns beneath the matted roots and flotsam of riverbeds, especially in paperbark forests*

birlibang *n. fierce blaze, powerful fire*

birlibarndi *v.i. fire located in a high position (e.g. up in a cliff or in a tree)*

birlibebme *v.i. appearance of flames*

birlibidbun *v.i. the climbing up of a flame or fire, increase in height of a flame, movement of a fire line upstream along a water course or in a drainage basin*

birlidadjme *v.i. the lowering in intensity of a fire/flame*

birlidjenno *n. the tongue of the flame*

birliokme v.i. the forward
movement of a fire line

birliombun v.t. extinguish a
fire

birliowen v.i. extinction of a
fire

birlikadjung v.t. the
movement forward of a fire
(‘it follows the fuel’)

birlikan v.t. carry fire or light,
take a torch

birlikimukmen v.i. the
increasing in intensity of a
fire/flame

birlikolung v.i. the movement
of a fire line to a lower
elevation or down stream
along a water course or
drainage basin

birliobme v.i. the quick
movement or spreading of a
fire through the fuel

birlimang v.t. 1.get fire, or a
torch. 2. a public section of
the lorrkkon ceremony.

birlimunkewe v.t. to send fire
(with a person taking a
brand or a torch)

birlinahnan v.t. to supervise a
fire, conduct a controlled
burn

birlino, kun-birli n. birli
‘flame’ + no ‘3rd person
possessed suffix’, flame, fire
Dalukorro ka-birlikimukmen,
bangkerreng wanjh
ka-birliyahwurd kun-
kurra, ya ka-kolung,
ka-rrowen. In the windy
part of the dry season, the
flames are whipped up, but
in the last of the rainy
season, the very early dry
time, the fires are small
because yeah, the wind
dies down.

birlire v.i. movement of fire
through fuel

birliwarrewon v.t. interfere
undesirably with a flame,
to ruin a fire, burn at the
wrong time or in a place
where one does not have the
authority to burn (also
figurative ‘to be in wrong
way marriage’)

birliwayhme v.i. the rising up
of a fire or flame (as in the
front of a grass fire)

birliwe v.t. light bushfires

birliweldjenbebme v.i. the
leaping of fire sprites, the
flashing of the very tip of a
flame

birliweldjenno n. (fire)
sprite

birliwerrhme v.t. the clearing
of the bush by a fire, the
reduction of vegetation
cover through fire

birliwurlhme v.i. the burning
of a flame, the action of fire
taking hold (of the fuel)

birliyahwurd n. small fire,
small flames

birliyahwurdmen v.i.
reduction in intensity of a
fire

bule, prefix **kun-** or **man-**,
also **buleno** n. ashes, black
area after a fire

bulewe v.t. create a burnt area
of ground (and by
inference, make a fire
break)

bulewurlhke v.t. create ash by
burning grass

dahbo prefix = **man-** n. red
coals of a fire

dirndelk n. the new growth of
vegetation (after a fire),
synonym = **rakelno**

dume, (m)an- 1. back of a fire
(literally 'lower back' but
with vegetable noun class
prefix) 2. fire drive

dumekan v.i. follow behind a
moving fire line when using

fire to hunt or burn off

kinje v.t. burn or cook
something

mardadangkarrk n. new shoots of grass which
appear after fire, new green
pick induced by fire

rak prefix = **kun-** 1. generic
fire 2. camp-fire 3. fire
wood

rakelno n. new growth on a
branch or stem (after fire),
epicormic growth

-rung v.i. to burn, be hot, be
cooking, give off heat

-wurlhme v.i. burn, go up in
flames, be hot

-wurlhke v.t. set fire to
something

wurrk prefix = **man-** 1.
bushfire 2. fire drive

yalhme v.i. the spreading forth
of a bushfire and its
attendant noise as fuel is
consumed

-yingkibulemarnbun v.t.
make a fire break literally:
'beforehand-ash-make'.

-yayahme, ka-birliyayahme
v.i. spreading of fire as it
crawls through the bush,
movement of a small

*controlled fire. Also
ka-birliyayahme.*