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Symposium 6: Walk the Talk: Cultural Heritage Management in Kakadu National Park, 19–20 May 2011

Jabiru Youth Centre

S Winderlich (editor)

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The authors acknowledge the traditional owners of the Kakadu region and their continuing connection to the land, its waters and communities.

We pay our respects to them and their cultures and to their elders both past and present.

Contents

List of participants

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Thanks also to Anne O'Dea for formatting and proofreading the proceedings and Supervising Scientist for their role in publishing these proceedings as part of their internal report Series.

The most important acknowledgement needs to be for several senior traditional owners who participated in this workshop and have since passed away. This highlights some of the main concerns expressed by Bininj/Mungguy regarding the loss of knowledge with the passing of key elders. The contribution of these experts in the management of cultural heritage in Kakadu and the surrounding area can't be measured and it is hoped that these proceedings will be one tool that will be used in continuing their legacy.

1. Introduction: Walk the Talk: Cultural heritage management in Kakadu National Park

S Winderlich[1]

The cultural heritage workshop is the sixth in the series of symposia and workshops held by Kakadu National Park (KNP). The previous forums have focused on landscape change (Walden & Nou 2008) and factors driving biodiversity change: weeds (Winderlich 2010a), fire (Atkins & Winderlich 2010), climate change (Winderlich 2010b), feral animals (Jambrecina 2010), and threatened species (Winderlich & Woinarski 2014).

This symposium was held at the Jabiru Youth Centre in Jabiru on 19th and 20th of May 2011. At least 87participants attended from a wide range of stakeholders, including traditional owners, Kakadu National Park, other government agencies, academic institutions, neighbouring landholders, and non-government conservation organisations.

As with the previous symposia in this series, the aims of this symposium were (i) to have an effective two-way transfer of knowledge between KNP staff, researchers, the Kakadu Research Advisory Committee (KRAC) members, stakeholders and traditional owners on issues relating to the conservation and management of cultural heritage; and (ii) to ensure that the outcomes of this consideration are integrated in an appropriate and effective manner into park management.

Participants were asked to note that although present research and scientific knowledge is critical to the workshop, the objective is to place this knowledge in a management context and pose questions to park staff and traditional owners regarding future management frameworks and research directions. They were informed that the workshop would also have a focus on using this information to discuss ways of implementing the actions identified in the draft Cultural Heritage Strategy.

The format for the symposium included a series of status update presentations, followed by workshops and open discussions focusing on key management and research questions and priorities. Presenters and workshop facilitators were given a series of focus questions to assist in guiding the information presented and the subsequent discussions.

1.1 Presentations

Presenters were asked to aim their talks towards a non-technical but highly knowledgeable audience. They were also asked to pose questions and where possible make recommendations based on their research for the workshops to consider. Presenters were also encouraged to contribute to the discussion and question sessions and in the workshops.

Presenters were given several focus questions to assist them in delivering the information being sought by the workshop facilitator. These were:

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[1] Formerly Natural and Cultural Resource Manager, Kakadu National Park, currently partner in Windydea Professional Services and Consultants

- Summarise the current knowledge in the area of expertise you are presenting (refer to relevant KNP management objectives as outlined in the Kakadu 5th Plan of Management).
- What are the main threats to cultural heritage in KNP (i.e. what are the priority management issues?)
- How should the park manage these threats to maintain and/or restore a resilient culture in KNP?
- What information is still required to develop an effective cultural heritage management policy? i.e. what are the key knowledge gaps.

1.2 Workshops

The workshops were designed to discuss the relevant presentations and any future management or research implications as they relate to the draft Cultural Heritage Strategy. Workshops were also provided with a series of focus questions to guide their discussions. These were:

Given KNP's management objectives as outlined in the 5th Management Plan:

- How should forum participants best consider and review the issues, questions and recommendations posed by presenters in the context of their focus questions?
- Review how issues/threats are currently being managed and make any suggestions for improvement.
- How do we manage the risk of loss of cultural knowledge in KNP?
- How do we manage cultural information and data so it can be both protected but also be easily used and accessed where appropriate?
- What are the opportunities?
- What needs and opportunities exist for collaboration across the region?

The symposium proved to be a successful and stimulating forum, with a considerable amount of very useful new information contributed by presenters, and considerable insight and expertise contributed by attendees. Much of this information is presented here, and much will also be used to inform the implementation of the park's cultural heritage strategy and the development of the park's new management plan.

The workshop was particularly successful due to the assistance of Murray Garde whose interpreting skills ensured that Bininj/Mungguy were more actively involved than for any other of the 6 symposia and workshops held by the park.

Due to capacity issues the completion of these workshop proceedings was delayed until 2015 — some time after the workshop occurred in May 2011. This was primarily due to the management of threatened species becoming the highest priority of the Natural and Cultural Programs unit over this period which led to the convening of the 7th symposium in this series on threatened species prior to the cultural heritage workshop proceedings being completed. Nevertheless the information presented provides a valuable summary of cultural heritage work that has been undertaken or discussed for the Kakadu region. There has been significant work undertaken in the park since this workshop was held which is not captured in these proceedings. This work will be presented in a subsequent publication.

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2. The views and knowledge of Bininj/Mungguy on the management of Cultural Heritage in Kakadu National Park

S Winderlich[2]

2.1 Introduction

Kakadu National Park is jointly managed between the Australian Government and the park's traditional owners. All aspects of the park's management are therefore a combination of Western park management knowledge and practices and of the knowledge and expertise of the park's traditional owners and other Bininj/Mungguy. In keeping with the joint management status of Kakadu, the purpose of this paper is to focus on what a selection of Bininj/Mungguy thought and felt about cultural heritage management in the park. In so doing it was hoped that through all the subsequent presentations and workshops, participants would consider the issues raised by Bininj/Mungguy and how they could best inform the management of Kakadu.

Any management action in Kakadu needs to be consistent with the relevant legislation and the Management Plan (Director of National Parks 2007). Extensive consultation with traditional owners was undertaken in the development of this plan to ensure it reflects the views of a wide cross-section of the park's traditional owners. The elements of the plan of management that are relevant to the management of cultural heritage in Kakadu are found in Section 5: *Looking after Country and Culture.*

Any detailed examination of the contents of this paper needs to be undertaken with close reference to *An-garregen. A strategy for cultural heritage management in Kakadu National Park.* (Director of National Parks 2011). This strategy was also developed through extensive consultation with traditional owners and other relevant Bininj/Mungguy.

2.2 Method

Questionnaires were used as a framework for eliciting Bininj/Mungguy responses to several key questions relating to cultural heritage. The questionnaires were used as the basis for one-on-one, or small group interviews with traditional owners and other local Bininj/Mungguy.

Two questionnaires were prepared — one to survey the views of more senior Bininj/Mungguy and one to survey the views of young Bininj/Mungguy (Appendices 1 and 2). The aim was to investigate whether there were any detectable generational differences in how the management of cultural heritage in Kakadu was viewed. The distinction between senior and young respondents was subjective but on average young respondents were aged from 16 to 25 years, and the senior respondents from 25 to 80 years. There were 34 respondents in the senior Bininj/Mungguy and nine respondents in the young Bininj/Mungguy category. To ensure that any gender differences in relation to cultural heritage were accommodated, both men and women were interviewed in both

[2] Formerly Natural and Cultural Resource Manager, Kakadu National Park, currently partner in Windydea Professional Services and Consultants

age groups, and most of the interviews were undertaken by young male and female Bininj/Mungguy staff.

There was a slight issue with the two separate questionnaires. In hindsight the author should have made the two versions more distinct. While the correct questionnaire was used for all the senior Bininj/Mungguy respondents, some of the young respondents were also given the 'senior' questionnaire. However, given that the questions on both questionnaires had only minor differences in emphasis, all responses were incorporated in the analysis. The most observant of readers may therefore detect a slight difference between the questionnaire included as Appendix 2 and the results provided below, but this has not affected the integrity of the material contained in this paper.

At the start of each interview the purpose of the survey was explained to participants. It was explained that the survey was intended as a means for Bininj/Mungguy to provide their perspective on cultural heritage to participants at the workshop and in so doing contribute to the discussion on the management of cultural heritage. All participants indicated that they were willing to participate on that basis, and this was noted on the interview records.

It is acknowledged that the survey results are not representative of the entire Indigenous population in the survey region, given the selective nature of the sample and its small size, however a good cross section of all the clan groups from Kakadu was achieved. The results outline some key issues and concerns from the indigenous groups sampled, and generally capture views held across the broader population; such views are highly relevant to any discussion on the issue of cultural heritage management.

2.3 Results

The views expressed by Bininj/Mungguy in the survey on cultural heritage are presented in point form under themes that emerged from the data collected. The original responses have been grouped into emergent themes for ease of interpretation and to reduce repetition. However as one of the main aims of these surveys was to provide Bininj/Mungguy an opportunity to directly represent their views on cultural heritage, their responses are presented largely unedited.

2.3.1 Questions for senior Bininj/Mungguy

1) How important is looking after culture in Kakadu to you?

Very important for the following reasons:

To keep culture alive for all generations

- Very important all over Kakadu if people want to keep their culture.
- Very important for Bininj and daluk [men and women], for kids and grandkids, so when they grow up they can pass it on to future generations and keep the culture alive.
- Very important to me because culture has been around for a long time. People should keep continuing what our people have done a long time ago to keep culture alive. So looking after culture is a very important thing by making sure country is looked after the way the elders and older people used to back in that time.
- Very important. Culture and everything to do with culture — all very important for preserving the culture itself.

Because rock art, sacred sites and ceremony are important

- It's very important because of the sacred sites — and ceremony is a big part.
- Very important. I think some of it is being lost. We need to gather people and be more active with country, rock art and dance.

To get out on/look after country

- Very important especially for Bininj and Mungguy people; it's good to pass it on to the next generation, also practice it more and get out on country.
- Really important because our younger generation need to gain knowledge to look after country and culture, also who they are and where they stand. It's a big part of who we are.

To learn two ways

- Young people — we should teach them two ways, man and women, and teach our own kids.

Because there is a danger of losing culture

- Very important. Elders have passed away and there are not too many of us left around to remember the old ways to pass onto the younger generation.
- It's very important especially for the younger generations. Nothing is being passed on to them. The young ones are not interested. The older ones: too much alcohol, drugs and gambling.
- In terms of documenting culture it's very important but there's still a great need for the country itself to be taken care of — keeping the stories [of] the old people. Bring them out and making them accessible, because each generation now has the responsibility to pass them stories on, but if they haven't had access to the stories then they are not keeping them living.
- Very important. The culture seems to be getting lost every year. It's good to maintain our culture — every day going out hunting, school holidays with the kids.

To share with tourists and the next generation

- Pretty important because there is a lot of indigenous people in Kakadu and it's good to know our culture so we can teach it to the tourist and young Bininj people of this area.

Because this is my home

- This is my home

2) What sort of things need to be looked after?

- Everything.
- Land, country and culture, getting young people involved, handing stories on.
- Rock Art. Need more focus on rock art and also full time jobs for Bininj people. Also bring back culture such as dancing and bush tucker.
- Sacred sites — djang. Teaching young people djang and knowing the stories related to the sacred sites.
- Our country and sacred sites. We don't like different mob going through our country. They help themselves for fishing and camping. We don't like that to happen.
- Ceremony.

- Language (I think language is slowly dying out) and practices such as camping, place names, songs, dances, kinship — the whole system.
- Burning.
- Plants and animals.
- We need to look after Bininj people and their ideas and support what's important to them, working together as one.
- Main concerns for TOs [traditional owners] the way I see it, floodplains, rock country, sacred sites, rock art and other sensitive areas. Coastal areas too. Crocodile behaviour. Other areas being abused that need to be managed.

3) Whose responsibility is it to look after culture?

Bininj

- Us Aborigines and our descendants. Old people and the next generation. Bininj should be teaching their kids — it's up to us.
- Family. All of us: nephew, niece, grandchild should be coming up to learn. They forget.
- Elders — they tell us stories and we hold it.
- Bininj — to pass on to younger generations so it keeps going.

Elders/old people

- All the old people that know djang have died. We only have a few left.

Bininj with Parks help

- Mostly Bininj, [with] Parks help.
- A number of TOs with Joint Management.
- My understanding is both — Director of National Parks and TOs — Bininj and Balanda together.

Parks

- Parks.

All stakeholders

- Every person, business and organisation in Kakadu has a responsibility to protect and encourage Bininj culture in Kakadu.
- Everybody, not just Parks — the people as well. Parks should respect the culture. Mining companies and other businesses should respect culture too. This is Aboriginal land.
- Everybody, Bininj/Mungguy and Balanda. It's important for Balanda to know Aboriginal ways as well, so they don't do anything wrong.

4) Who needs to be involved (in looking after culture in Kakadu)?

Bininj

- More Bininj. There should be more young people involved.

Bininj with Parks and scientist help

- TOs and management of the park because they are here to manage the park. Also support from scientists.

All stakeholders

- Everybody, Parks, Bininj and Balanda, old and young people — otherwise it is going to die out.
- We need to identify Bininj leaders, together with Parks and other organisations and business, who can work together to drive Bininj culture.

5) What do you think should be done about looking after culture in Kakadu?

Teach language/bush tucker/on country

- Talk about it more. Teach young kids.
- Bininj need to get together like they used to in the past. They need to sit down and share stories and send kids to ceremony so they can learn.
- How? Always language, always yeah, only rain-dance always larrk [no], yo, yeah we still do dance here, young kids at school, but some of them are shy. But somewhere in bush gamak [good] yo, take them out bush for camping. These are good activities for the young ones. See how big our culture we got. For bush, that's more you can get, more experience, more when you looking at something and then you'll pick it up straight away.
- Go out camping school holidays.
- Djang and hunting places.

Lifestyle/life choices

- Maybe make it a regular thing — look after it, not just 2-3 days.
- Aboriginal people need to stand up for their way of life and to give up alcohol because we're not learning anything.
- I think the families should be interacting with each other — supporting each other and making great ideas together to help look after culture in Kakadu and keep it strong.

Workshops like this/formal learning

- More workshops like this on how to preserve culture.
- A lot more gathering should be taking place that would give the communities a bit more responsibility.
- More education towards culture, and sharing the culture with visitors and people living in Jabiru. More stuff like Kundjeyhmi language book is a good start.

School curriculum

- Schools should have one day a week with just Bininj teaching. More workshop sessions with younger people in it. School age kids too like Junior Park Rangers. Sometimes school means leaning more white [ways] than learning culture.

Identify Bininj leaders

- Kakadu desperately needs Bininj leaders — young and old — who will carry the culture for them.
- More Bininj people should be involved. Need more people to talk for us. Create big opportunities for young people.

Park staff work with Bininj

- Rangers got to let us know where they go, like sacred sites. They should take Bininj if they want to go to sacred site areas. Make sure Parks look after the culture and respect Bininj culture.
- More money and more work in the park for Bininj.
- Some things have been done and the rest of the things are being done now i.e. rock art maintenance.

Don't know/not sure

- Don't know.
- Maybe look back at what the older people had said and follow on from there.

6) What is being done well in looking after culture in Kakadu?

Involving old and young people

- Doing stuff on country, talking to children, involving old people, hunting.
- Good role models.

Looking after/being on country

- Looking after our own country and animals, rock art and burning.

Parks/Natural and Cultural Programs (NCP) working with Bininj

- Just recently there has been a committee set up, which is NCP, and slowly it's getting people involved by going on country. They will need to continue that with Aboriginal people, Parks and NCP. So that's how you can look after country and culture more.
- I'm really happy for family looking after country and Parks are there to help.
- Rangers, consultation, sacred sites protected. Family explaining where man and woman's sacred sites are and to Balanda so site can be protected.
- Parks working with Bininj is good. Park staff and Bininj staff sitting down with TOs.
- Rock art maintenance, stone country burning, bush fire and looking after country.
- Parks involvement, also educate Bininj with white-fella way.
- Maybe going out looking at the sites, recording [them], seeing if paintings are damaged or good.
- Being joint management and National Park it has shown that they can work together.
- Parks helping young people understand about culture and getting out on country. People going out fishing and hunting. People getting jobs.
- Anything that gets Bininj on country such as the stony country, burning, rock art maintaining, bushwalks and culture activities.

Tourism/events

- Wind festival, bush tucker tours – need more things like that in Kakadu.

Most things

- Most things are OK. We need to do more on rock art and looking after sacred sites.

Not much

- Jobs created that focus on culture.

7) Is there anything that worries you about looking after culture in Kakadu?

Park funding

- Worried about the decreasing funding for parks on NCP projects.

Loss of elders/old people and passing on of knowledge

- Not much old people around anymore to explain rock art, sacred sites, stories. Old people should of told us long time ago.
- I think Kakadu is at a critical stage of losing Bininj culture in a significant way because the knowledge has not been passed on from elders. It will all soon be forgotten if no one keeps it going.
- Who is going to talk for country? All the old [people are] gone.
- Most of the old people have passed away and young people haven't noticed — too busy with alcohol and sniffing petrol.
- Only sacred sites. Teaching young ones.

Environmental factors

- Climate change and the sea levels — the floodplain and swampy areas [are] disappearing which means the bush tucker that live there will be gone.
- Animals and country for animals. Balanda wreck the country.
- Late burning and fire that destroys the animals.
- Feral animals and weeds killing our animals — we don't see frilled neck lizard …

Lack of action

- What worries me is that hasn't been done a lot.
- Park staff need to know where the sacred sites are so that they don't go to the wrong places — backpackers/bushwalkers going to wrong places.
- Its worries me that Bininj people are not being involved in too many things.

Drugs/alcohol/disconnection to country

- Drugs, alcohol, young people don't worry about bush, school, culture. The older people are trying to get younger generation back out bush.
- Drugs and alcohol.

Humbug/from Balanda/Balanda influence

- There's a lot of ways to make you worry, aye. You don't want Balanda humbugging you, leave your country and settle down a little bit and then come back for next round. Just let it rest and come back for 'nother questions next time.
- Too many Balanda surround us. We can't take our younger generation out to sit on the rock. We need to give them place or they need to leave some places for us.
- The way the park is managed. Policies and guidelines etc. from park management that clash with our rights to participate in cultural activities on our land.

Tourism

- Tourists going to the wrong places.
- Aboriginal people aren't talking to visitors about culture themselves. Tour guides don't keep to true stories — they add on. Worry to keep stories true.

Lack of interest from young people

- Younger people don't seem to be interested any more.
- Mainly if people don't take it seriously or really have interest in it.

Other

- I don't think anything worries me in Kakadu National Park other than a mining town and taking care of the land, especially where people are living, giving young people access to materials available.
- The modernisation of the world.

No worries

- Nothing really worries me but our culture is still strong.
- Not really.

8) Are there ways we could look after culture better? (in Kakadu)

Park employment

- Permanent full time field officer for cultural management. Not coming and going workers.
- The more involvement with TOs, the Bininj community and getting them work within the park. More Bininj involvement and more Bininj jobs.

Bininj passing on knowledge

- Old people show my generations about culture, language, stories.
- Yeah, teaching more young kids. When they have their own kids they can pass it on.
- More cultural activities and we need more role models.

Taking time to learn

- Listening to what Aboriginal people say about their feelings on country and culture.
- Just if people really listen and take into consideration how important it is.
- Keeping talking about it, recording it, it might live forever.

Make opportunities to learn

- Get people together and out on country often with elders so that we learn together.
- Yes, by involving Bininj and the younger generations. That's why the younger ones get into mischief and are wandering around the shops. They need to be involved in things.
- Walk around on country, show all the younger kids how to talk language and place names.
- You have to get the older people (not just Board members) that have had stories and tell the stories together with the younger ones.

- I'm thinking two ways, like for culture — look after it and hand it over to your 'nother future coming on and keep it strong and better. That's where you don't lose your culture because your cultures will be there all the time.
- Yeah, when we work together looking after the land and cultural activities to the younger generation.
- More elders and young generation sitting down together and talking about culture and going out on country.
- Take children out or write them down on paper, and start teaching so culture can be strong.
- At the moment the only time we acknowledge these things is through hunting, funerals, ceremonies but I think [we should have] more education programs to support TOs about their land their culture and their rights.

Parks and Bininj working together

- Yes. We can look after culture better by all linking together in the park and be united as one group to make Bininj culture number one in Kakadu.
- Parks involvement.

9) What sort of things do you do to keep your culture strong?

Speak language

- Talking language — speak gunwok [language]. Speak language and keep it strong.
- Talk language.
- Talk to the kid in language.

Go out on country

- Visit country and places old people visited.
- Visit rock art sites, do rock art with Parks.
- Take young generation camping, fishing, hunting, look after tucker, language – so they can show their kids. Camping, hunting, take my kids out, teach them about bush tucker.
- Go home to Arnhem Land where their culture is very strong, but I also continue on with my mother's culture here in Kakadu and teach my kids with it today. Walk around myself, get pandanus or go fishing, hunting, show the young kids. Long time ago we used to go for yam but worry for buffalo now.
- We go fishing, hunting, camping, looking for yam, take them out somewhere bush. Show them how to split pandanus or stuff like that — that's our culture – like show them good better things, more better than white one, white man law, Balanda law.
- Burial grounds. When someone dies we take our kids there. Sit around the campfire and think about our culture. And then on and on and on it goes.
- Take them out to my mother's country and father's country and tell them stories, teach them how to make fire, teach them how to make spear, cook fish. We teach them the way we were taught.
- Hunting, fishing.
- Getting out on country where opportunities present themselves.

Pass on information/teach children

- To keep talking to my children — explaining to them how important it is because it's like what our older people seen, and the painting is just like a story written to us. That's how we see it is so important.
- Tell stories, dancing, teaching younger ones.
- We teach our kids language, Bininj law, stories, about sacred sites, and take them through ceremony.
- Books. I used to go out to schools and talk about bush tucker, what you can make from leaves etc.
- Tell my kids culture stories and teach the culture way.
- Getting back to my family ties and my land. Also teaching and believing what my culture is all about.
- Teach how to cook and gather food, and also respect the food we catch so it will stay in our culture.

Work for Parks/NCP

- My most important contribution to culture would be through my job working at Parks in cultural heritage.

Listen and learn

- I do weaving and believe it or not I was 59 when I learnt but I am shocked how many women in Kakadu don't know [how] to weave. It's never too late to learn.

Teach tourists

- Doing my business — teaching tourist about culture and country.

Other

- Staying strong, moving forward, both ways, but I stand for my culture — helping and supporting families.

10) Are there any ways you would like to be involved in looking after culture in Kakadu?

Land/rock art management/Parks

- Yeah go out more doing burning and rock art.
- We want to go out with Parks and other Bininj — learn both ways, manage the land, to look after the rock art, burial sites and get involved in ceremony.
- Yeah I would like to get involved, maybe in burning and the storytelling and cultural camps.
- A lot more involvement of the community in regards to how we participate in running our park.
- Yeah, but would only be able to do it in the wet season — filming, gathering stories for place names, place names.

Employment

- Fulltime job would be nice.
- Get young Bininj people work.

- Yes. If park management want people to help — where we can get involved with culture.

Learn from elders

- Yeah well it's up to senior Traditional Owners – people of the land to say.
- By spending more time with elders on country to learn and listen.
- Yes, like that really ceremonial stuff that the younger boys go through … and younger women, so they learn from the older people. Stop tourists going to ceremonial grounds and getting someone from our group to explain if — my nephew Marcus. Get the youngest kids.

Already doing it

- Yes we all do look after our culture — our good pictures there, rock art, stories from the rock art.
- In my area I already do a lot — burning, field trips, good communication with Mary River District.

Create opportunities/take action

- Getting young people involved in culture talks and walks, and out camping so we can keep the culture alive. That's one way of getting young people involved.
- Get more involved with culture.

No/too hard/maybe

- If somebody came around and asked me as long as it's not too strenuous.
- I'd love to but I can't (I'm too old).
- No.
- Not sure.
- Any way I can help out.
- I would like to be involved in a lot of programs but work takes up a lot of our time. Need to make a day to do things kids can benefit from.

11) Is there anything you think we need to find out that might help look after the culture? (Any research gaps)

How to protect cultural resources

- Find ways to protect rock art being washed away by rain, or ways to protect it from getting destroyed.

More information

- Archaeology – places that have been done before.
- Parks need to get research done on the rock art. It would be good, also cane toads and weeds.

Record/learn from existing knowledge

- Yes. Lots more on rock art stories, sacred sites, language. If they don't keep that up you'll find TV and those little boxes (play station etc. games) will take over.
- I need to learn about culture, language and kinship.
- A lot of the elders should be used for their knowledge — more involvement with elders.

- To go out with TOs more.
- Go to workshops all over Australia and gain knowledge.
- Get countrymen on the land so they can tell you all the stories.

Practical help/logistic/funding assistance

- They should get all our families together to talk about culture. We still got culture but not much. Family don't come visit. No vehicle. Need some help — generator etc. to move out bush more better.
- A lot of research needs to be done, but the main thing is resource and funding.
- Yeah to find out what assistance we need to help find out about culture.

Other

- We need to find out who in our community are going to lead Bininj culture (young and old).
- Yeah looking after the country the way the old people did.
- Learn how to live with Balanda, our culture is totally different to theirs.
- A lot.

No/not sure

- Not sure.
- No.

12) Do you have any message for young Bininj about looking after culture in Kakadu?

Actively learn about/maintain culture

- They should continue to look after country like the old people. Visit country, go with old people, collect knowledge. Speak language.
- Young Bininj need to get to know all the family, extended family, neighbours, learn about themselves and each other and how all our families are connected and the stories that connect us to our culture.
- Yes. Get off the drugs, sex, alcohol. Go to school, and start thinking about the culture.
- I won't say give up TV — TV sometimes gives really good stories on different countries. The thing is maybe young Bininj should learn to look after their own country. To look after their own country they must stay in their own area. Don't come to Darwin and expect your country to be looked after by nobody.
- Get out there — a lot more fishing. Get out on country, get out with family and learn about burning.
- Grow up and go hunting, ceremony and follow in our footsteps so they can keep the culture going.
- Go and look after this country for our future generation.

Take time to learn

- It's good culture is being taught in school, by Parks to build their skills up and learn about their culture.
- They should listen and learn from their families. Education and culture — education and culture.

- Listen to old people when they show you rock art, sacred sites, stories and how to look after the country.
- Go to school and get an education and listen to the old people.
- Young women, young men we teach them. Men teach them ceremony, they work for Balanda things like that. For men and women looking after country.

Teach others

- Yes. All the grandkids, when they grow up they can teach Balanda, especially about sacred sites and dreaming places.

Other

- We come from this land, we leave this land and we go back to this land and we leave this land for our children.
- Have respect for yourself, family and your elders.

Any other comments?

Stay on country/keep your culture strong

- Families should come back and live in Kakadu. Out bush we can hunt and fish and teach grandchildren.
- Understand the country. Getting to know the country well and talk about it.
- The culture is knowledge of our ancestors, country, our dreaming, dreaming place, also thing where you are born and keeping them for your kids. It's always there with you all the time your culture. It's a great thing to have your culture.
- Bininj to Bininj we can discuss together. We'll still keep our culture if they go, but we'll still have Bininj there always — Bininj there. Question: In 10 years' time what will happen if there is no park? Yo!
- You want to keep that culture strong. Culture comes first. Bininj walking tracks. I want to see women dance cultural way. Bininj people need to stand up with one voice, teach them our culture two ways. Bininj working together.
- Having the ability to take care of your country. Resources and enormous good will for the enormous responsibility in keeping the stories alive in Kakadu. All the resources are here — it's just a matter of finding the key element to put it together.

Pass on knowledge

- Teaching our younger ones about rock art and stories is the most important.
- Our own kids need to learn from the old people so they can stand strong and move forward.
- Listen to their elders. Old men show the young men and old women show the young women — teaching them to hunt right way. Pass it on, pass it on — that's the message.
- More cultural gatherings — camping, hiking. Teach Balanda and Bininj kids about country, culture etc.
- I think it's important that non-Indigenous people have some training in culture.

Create employment

- We need to create new cultural jobs throughout the Park for Bininj people. Not just two or three, but biggest mob for all our Bininj community.

- I think Parks are doing good with seasonal rangers but you need more Bininj people involved.

Respect

- Younger generations should be taught respect for their elders.
- Kakadu has provided a home for us for years and we need to take care of Kakadu.
- It's very important because that's what we have and it's something to have for years.

Parks

- The work you are doing is really important and I'm really pleased at what yous are doing!

2.3.2 Questions for young Bininj/Mungguy

1) How important is looking after culture in Kakadu to you?

- Very important.
- Pretty important.
- For Bininj, looking after culture is very important all over Kakadu.
- Should be important.
- It's very important to me.

To keep culture alive for all generations

- Very important because our younger generation gain knowledge to look after country, understand who they are and where they stand. It's a big part of who we are.
- Pretty important because there is a lot of Indigenous people in Kakadu and it is good to know culture.
- Very important especially for Bininj/Mungguy people. It's good to pass it on to the next generation.

To get out on/look after country

- To practice it more and get out on country.
- To share with tourists and the next generation.
- Pretty important because it is good to teach it to tourists visiting the area.

2) What sort of things need to be looked after?

- Paintings/rock art.
- Mainly country and culture.
- Language, names of place, songs, dances, kinship, the whole system.
- Stories, sacred sites and rock art because they are very important to the old people, and definitely the language because most Indigenous people don't speak English and it's good for people to learn so they can understand, and also good to learn for the young Indigenous so they can pass it down to their kids and also tourists.
- Outstations, rock art, hunting areas.
- Culture, land, rock art.
- Land, country.
- Stories, rock art, Bininj people living, keeping it strong. Also need Bininj people on country.
- Definitely the culture, land, rock art.

3) Whose Responsibility is it to look after culture?

Bininj

- The local Bininj from the Kakadu region.
- Bininj people it's up to us.

Bininj with Parks help

- Bininj people, also park should be more involved.

All stakeholders

- Everybody, Indigenous people and Balanda it's important for Balanda to know Aboriginal way as well so they don't do anything wrong.
- Everybody.
- All our responsibility — share the knowledge so we can all look after it.

4) Who needs to be involved?

Bininj

- TOs.

Elders/old people

- Elders. They got the most knowledge so young people can carry it on.

All stakeholders

- Bininj, Parks and anyone who want to participate.
- Everybody should be involved. It's pretty important in Kakadu.
- Everybody.
- Everybody. Balanda people and Bininj. Everyone needs to look after it otherwise it's going to die out.

5) What is being done well in looking after culture in Kakadu?

Involving old and young people

- Role models.

Parks/NCP working with Bininj

- Park involvement, also educated Bininj with white-fella way.
- It's good Indigenous people are working for Parks and it keeps them to keep their land and culture.
- Parks hiring more Bininj staff is good.

Not much

- Nothing. No one is doing nothing looking after cultures. Little bits but not much.

6) What parts of culture are you particularly interested in?

- Everything. I want to learn my culture and be able to have my culture with me all the time.
- Well I like the walks [stone country fire walks] that Parks do every year.
- Rock art.

- The land and the paintings.
- My own.

7) Is there anything that worries you about looking after culture in Kakadu?

Loss of elders/old people and passing on of knowledge.

- Our knowledge being passed on. Keep in contact with the elders and country so we know the country and stories. Worried about losing stories.

Lack of action

- It will all soon be forgotten if no one keeps it going.
- I'm worried that if we don't look after it we're going to lose it. That's the most important thing.

Drugs/alcohol/disconnection to country

- Yeah a lot of things — drugs.

Humbug/from Balanda/Balanda influence

- Just how Balanda do things because they different a bit to how Indigenous people do it in Kakadu because they might be doing the wrong things.

No worries

- Not really

8) Are there ways we can look after culture better? (in Kakadu) combined with What would help you as a young Bininj person look after culture better? (what opportunities need to be created? e.g. more Bininj involvement? Teaching young people?)

Bininj passing on knowledge

- Living and being with family so they can teach me about country and culture.
- Old people, show my generations about culture, language, stories.

Take time to learn

- Get closer to Bininj elders before they pass to give more information to the younger generation. Parks involvement.

Make opportunities to learn and get out on country

- More cultural activities. Need more role models.
- Do more things. Take people out. Do things with elders.
- Yeah going out more often with elders.
- More elders and young generation sitting together and talking about culture and going out on country.
- Go out on country more.
- Go out on country more, especially with the older ones. Listen to what they have to say.

9) What sort of things do you do to keep you culture strong? combined with What sort of things do you do, or want to do to keep your Bininj identity and culture strong?

Speak language

- Speak language and keep it strong.
- Speak language especially to the kids.

Go out on country

- Hunting.
- Practice my culture — try and keep it that way — fishing, hunting, sacred sites.
- Influence my family to go camping and fishing, talk to the kids in language, keeping talking about culture, ask questions.
- Go out with family camping, hunting, and fishing and walk the land.
- Go bush with my family, they teach me and show me my country which helps me learn about my country and culture.
- Fishing, take young generation camping, fishing, cook bush tucker, language.
- I go out bush a lot with my Dad, sister and brother they teach me a lot of things and show me around my country. It really helps me learn about my country and culture a lot more.

Look after elders

- Look after the older generation left behind.

Listen and learn

- I do bits and pieces. Try and listen. Listen to what my aunties have to say.
- Listen to what my aunties tell me. Take time out to spend time with them (my aunties).
- Try and listen — listen to what my elders have to say.

Teach tourists

- Try and pass it on, like talking to tourists and teaching others.

Other

- Respect the land.
- Not sure.

10) How well do you think Bininj knowledge is being passed on to the next generation?

Not very well/sort of OK

- It's being passed on OK but it could have been done better. There's a lot more to be heard from older people.
- Not very well.
- Not really, [they are] not interested.
- Yeah kind of.

11) What do you think should be done about looking after culture in Kakadu to make sure it is passed on to future generations?

Teach language/bush tucker on country

- Taking Bininj out to land and showing them how to look after things and keeping it the way it is.
- Getting elders to take younger ones out, teaching them what to do and language and hunting.

Strong families

- I think the family should be interacting with each other, supporting each other and making great ideas together to help look after culture in Kakadu and keep it strong.

Workshops like this/formal learning

- There should be more workshops for younger Bininj people.
- More workshops like this.

Identify Bininj leaders

- Learn a bit more. Do more things. Find the right person to listen to.
- Need more people to talk for us.

Park staff work with Bininj

- Keeping records for younger generations to read up on. More interaction with Parks with Bininj people. Walks and talks so tours have culture interaction.

Other

- Language, some can't understand language. Bush tucker, what kind of bush tucker.

Don't know/anything

- Not sure.
- Don't know.
- Anything really. Help out Bininj people, keeping their culture strong.

12) Is anything stopping kids today from learning Bininj ways and culture?

Nothing/no/not really

- Nothing.
- Not really.

Distractions: school/games

- Kids not interested. Too busy worried about games and stuff like that.
- School. They don't teach, not interested.

Distractions: drugs/alcohol

- Drugs, alcohol. They don't worry about the bush, school, culture. They hang around town too much, they don't worry about culture. The older people trying to get younger generation back out bush.

13) Are there any ways you would like to be involved in looking after culture in Kakadu?

Land/rock art management/Parks

- Get involved with rock art and culture.
- Get involved in rock art.
- Get more involved with culture.
- Yes, you learn both ways with Parks — Bininj ways to look after and manage the land.
- Yeah, I would like to help out more, like organise hunting days.

Employment

- Get more young Bininj work on the park (x2).

Learn from elders

- To really go out there, get on country with young people and learn more with the older people to learn and listen.
- Getting old people out on country with the young ones and revisiting places.

Other

- Not sure.
- Anyway I can help out.

14) Is there anything you think we need to find out that might help look after the culture? (any research gaps)

How to protect cultural resources

- Find out what is the best way to keep it, whether it's book, documenting culture or other ways.

Record/learn from existing knowledge

- Getting old people talking with young people, and talk about boundaries and the stories.

Other/not sure

- A lot.
- Not sure.
- Yeah.

15) What do you want to learn about Bininj culture?

Everything

- I want to learn everything that the elders know so that when I'm older I can pass it on to the next generation.
- Everything.
- Do things the right way and look after the country.
- Yeah I want to learn more culture because I really didn't learn much because my mother passed away and I didn't want to learn it from my aunties.
- I need to learn more about culture, language, kinship.
- It's just learning and knowing from the Indigenous people what you got to learn about the culture, and I'm always learning from my Dad and stuff.

16) Do you have any message for other young Bininj about looking after culture?

Actively learn about/maintain culture

- Go out more with the parents and elders, listen to the stories and cherish the time with them. One day they (young Bininj) will be the ones to be telling their children the way their parents taught them.

Take time to learn

- Yes. Don't lose your culture, keep following, listening, watch and learn. Help the old people.
- Spend more time with elders so you can pass your culture on.
- Never forget your language and your culture because those things really come in handy at most times. — why you burn country and it's always important to do it the cultural way.
- Go out and go and learn about it. Listen to what elders have to say. Learn about respecting the land.
- Go out with old people, listen to them when they tell stories and ask questions. Find out about what you want to know.

Other

- Respect it and learn about it and look after it.
- No.
- Stop alcohol, drugs and go to school.

17) Do you have any message for older Bininj about looking after culture?

Teach others

- To hold on to what they have and to tell stories to the younger ones.
- Yes. Encourage young people to take them out on country to hunt for food. Language, stories, everything they need to know.

No/not sure

- Not really.
- No (x2).

Other

- Learn all you can while you're young because you don't want to learn later.

Any other comments?

Stay on country/keep your culture strong

- How do you look after culture? Show the young generation about bush tucker so they can show their kids.
- Participate in teaching culture. Interact with culture talk. We can live in the modern world as well as having out culture ties.
- No (x 3)

2.4 Discussion

The definition of cultural heritage that is used in this paper is that [Heritage is] "being in place, renewing memories and associations, sharing experiences … to cement present and future social and familial relationships. Heritage [isn't] only about the past – though it [is] that too – it also [isn't] just about material things – though it [is] that as well – heritage [is] a process of engagement, an act of communication and an act of making meaning in and for the present" (Smith 2006 p1)

What is meant by cultural heritage has changed significantly over recent decades, and there have been differing approaches in both definition and application (Ross 2010; Sullivan 2005). Traditionally the term cultural heritage would have referred to built or monumental remains of cultures. The current view, however, is far more inclusive and incorporates a much wider scope, including intangible cultural practices such as language and music (Director of National Parks 2011). This is supported by Mosler (2009) who talks about cultural landscapes, including tangible components like archaeological evidence, topography, land use patterns, settlements and flora and fauna, but also intangible elements such as "sociocultural values, traditions, memories and identities" (Mosler 2009 p26). In Kakadu National Park, the management of cultural heritage is therefore equally about the ongoing living culture as it is about tangible aspects such as cultural sites (Director of National Parks 2011).

What, then, do we mean by cultural heritage management? The park's Cultural Heritage Management Strategy gives us a comprehensive definition: "Cultural heritage management is all the processes of 'looking after' cultural heritage, whether they come from ancient traditional practices or using new media and technology such as video, and computers. Management is simply the act of planning, organising and working together to achieve an outcome using the resources available efficiently and effectively. Management is not a modern concept. It applies equally to the way traditional owners and managers organise ceremonial activity or plan a fishing or bush collecting trip as it does to the activities that go on in an office and are written on paper" (Director of National Parks 2011 p12).

So why is the management of cultural heritage important? Readers of this paper should certainly be in no doubt as to its importance to the participants in the survey as shown by the results presented in this paper, whether they be young or senior Bininj/Mungguy.

The 5th Plan of Management describes Kakadu National Park as an Aboriginal living cultural landscape where strong relationships exist between Bininj/Mungguy and their country, ongoing traditions, cultural practices, beliefs and knowledge. (Director of National Parks 2007). This has led to the park being included on the World Heritage List under the World Heritage Convention for both its natural and cultural values (Director of National Parks 2007). The Alligator Rivers Region, which includes Kakadu, is also on the Register of the National Estate under the *Australian Heritage Council Act 2003* because of its national significance to the Australian people. Consideration has also been given to including the park as a whole, or individual sites in the National Heritage List or Commonwealth Heritage List under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (Director of National Parks 2007). Clearly the cultural heritage of the Kakadu region is significant on a number of levels.

A stated aim of this paper was to provide Bininj/Mungguy with an opportunity to represent their views on cultural heritage directly to other participants at the cultural heritage workshop and subsequent readers of these proceedings. The result is a record of what a selection of Bininj/Mungguy thought and felt about the cultural heritage, and its management, in the park.

So what do these results tell us? They provide an important and strong story. They identify a wide range of key issues, perceptions, and concerns from a good cross section of all the Bininj/Mungguy clan groups from the Kakadu region. The degree of commonality across the two generations and both genders is also very important as it suggests that all respondents thought similarly on most issues.

Some of the main themes included:

- Looking after culture is very important and it is everybody's job — both Bininj/Munnguy and Balanda. In particular the need for park staff to work closely with Bininj/Mungguy was highlighted.
- A strong desire for younger Bininj/Mungguy to be involved, but also concern that many are not interested and/or are being distracted by various social issues.
- Considerable concern was expressed regarding the danger of losing culture due to elders passing away and information not being passed on and learnt by the younger generations. The loss of language was specifically highlighted by several interviewees.
- There was strong recognition of the need for cultural heritage to be a living heritage, which should be maintained through the ongoing practice of culture — going out on country, hunting, fishing, gathering; speaking language, learning songs and dances and performing them and learning stories from elders whilst being on country
- The need for Bininj leaders and role models was expressed by both senior and younger Bininj/Mungguy alike.
- There was a desire articulated by many interviewees for active engagement in the management process, either as on-the-ground managers themselves, or in partnership with national parks, or via workshops to provide two way training and direction from both Bininj and Balanda experts.
- The essential need for knowledge transfer, largely from elders directly to younger generations — particularly on country – was acknowledged by most respondents.
- There are concerns regarding decreasing funds for looking after culture.
- Almost all respondents saw their cultural heritage as being more than something from the past. They placed an equal emphasis on both the tangible and intangible aspects of heritage.

While it is acknowledged that there are some limitations in the data presented in this paper (largely in the sample size), the fact that the issues raised capture the views of the broader population is supported by the contents of the 5th Kakadu Plan of Management (Director of National Parks 2007), and "*An-garregen. A strategy for cultural heritage management in Kakadu National Park*" (Director of National Parks 2011). Both these documents were developed through wide consultation with traditional owners and relevant Bininj/Mungguy. When these documents are examined, it is clear that the views of the respondents to the surveys quoted in this paper are entirely consistent with those

of the broader Indigenous community of the region, as well as those of park management staff and other stakeholders.

It is now accepted practice that in managing cultural heritage appropriately it is essential that the views and perspectives of the people to whom these resources are significant are incorporated (Godwin and Weiner 2006; Greer 1999:116; Morphy 1993). It is also essential that they are fully involved in every stage of the process from planning and implementation to monitoring of cultural heritage programs.

The views and issues raised in this paper are therefore highly relevant to any discussion on cultural heritage management in Kakadu.

2.5 Conclusion

This paper illustrates that there is a strong interest in, and a commitment to, the management of cultural heritage in Kakadu by the respondents to the survey questions. There can be no doubt as to the significance of cultural heritage to the broader community of traditional owners and other Bininj/Mungguy of the Kakadu region, but also to the regional, national and international community. There can also be no doubt as to the importance of properly managing cultural heritage and that there is considerable obligation to do so under the relevant legislation and international conventions.

The information presented should assist in the implementation of *An-garregen. A strategy for cultural heritage management in Kakadu National Park* (Director of National Parks 2011) and inform the park's new plan of management which is currently being developed. It should also inform the development and implementation of other key management plans and strategies for Kakadu National Park, including strategies for the management of feral animals, weeds, fire, or climate change. This approach reflects how Bininj/Mungguy and park management approach looking after country in Kakadu, where both nature and culture are inseparable and continuously intersect and interlink on a daily basis. There are no Bininj/Mungguy gunwok (language) terms that equate exactly with the Western concepts of 'culture' and 'nature'.

There is a strong desire to do more to protect and maintain the region's cultural heritage, but a lack of clarity as to what actions should be taken or what resources are available. In many ways it still needs to be demonstrated how park management and other stakeholders (including Bininj /Mungguy themselves) can best respond to the issues raised by Bininj/Mungguy interviewees, and how this best informs the management of Kakadu.

Other researchers in this area emphasise that the management of living heritage places needs to be accomplished in conjunction with the current understanding of the meaning of those places (Byrne 2005). This recognises the ongoing relevance of heritage to people today and the need to combine their relationships with their historic and current heritage, including their actions in the present (Ross 2010).

As long as the resources are available, managing physical sites is not difficult, and Kakadu over time has a good record in this area. But managing or sustaining the living cultural heritage is not as easy because it is open to interpretation, personal views, and biases.

This is an area where Kakadu can definitely provide leadership both in policy and practice. The desire expressed by respondents for more active engagement provides an

opportunity to achieve this through suggestions such as holding more workshops in the future, and facilitating more opportunities for the involvement of Bininj/Mungguy, including through direct employment.

This makes the need to set out a framework, to work closely with the traditional owners and other Bininj/Mungguy, to plan and implement cultural heritage management programs one of the most critical actions for the management of cultural heritage in Kakadu National Park into the future.

It is appropriate to close with the vision that was set out by the Kakadu Cultural Heritage Working Group that worked together to develop the park's cultural heritage strategy:

"Ours is a living culture and today we have two laws – Bininj and Balanda together. We must continue teaching Bininj way because some things are almost floating away. We're running out of time.

We must look after what old people want - Keeping the culture and spirit of this country for next generations. Now is the time to hold onto our life on country and look after the cultural heritage of Kakadu National Park.

Bininj and Parks staff together will take more 'cultural care' in the way we look after the heritage of Kakadu. This means teaching young people on country, looking after rock art (and other places that remind us of the responsibilities we have) and remembering the historic places and stories Bininj and Balanda share. Protecting and guarding sacred sites and areas like sickness country is the most important of all. Everyone must respect this, Bininj and Balanda alike.

Cultural heritage comes before tourism. It is our living cultural heritage that makes Kakadu World Heritage, and tourism in Kakadu depends on it.

Cultural and natural heritage are equally important to Bininj. There must be equal priority in allocating resources to them. They must be looked after together. If we don't work hard now on cultural heritage there is a lot at risk: "We lose it, lose it, lose it ... it will get smaller and smaller until it is dust and the wind will blow it away".

The cultural heritage of Kakadu National Park is all of our responsibility. We need all people including Park management, the Director and the Minister to support us in doing this.

(Director of National Parks 2011 p7)

Acknowledgments

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APPENDIX 1 QUESTIONAIRE FOR SENIOR BININJ
KAKADU CULTURAL HERITAGE WORKSHOP

FOCUS QUESTIONS FOR TRADITIONAL OWNERS AND RELEVANT INDIGENOUS PEOPLE

Interviewer to explain the purpose of the questions, and what the information will be used for. By presenting the information at the Cultural Heritage Workshop and writing it up as part of the workshop proceedings the aim is to:

- Make sure that people at the workshop are aware of the views of TO's
- Make sure the views of TO's are properly considered by KNP in its management of cultural resources.
- Make sure that TO's are involved as much as possible in managing cultural resources in KNP.

Name of interviewer ----------

Name of interviewee----------

Date ----------

Does the informant give permission given to use the information as described above (tick) YES ----------NO. ----------

Does the informant give permission to be filmed and the footage used to produce a DVD to help present the information to the workshop (This will not be for sale)?

(tick) YES ----------NO. ----------

QUESTIONS

1) How important is looking after culture in Kakadu to you?
2) What sort of things need to be looked after?
   (prompts for interviewer – Rock art, Stories, Sacred sites, Language)
3) Whose responsibility is it to look after culture?
   (If people just say Parks ask them what role they themselves have.)
4) Who needs to be involved? (in looking after culture in Kakadu)
5) What do you think should be done about looking after culture in Kakadu?
6) What is being done well in looking after culture in Kakadu?
7) Is there anything that worries you about looking after culture in Kakadu?
8) Are there ways we could look after culture better? (in Kakadu)
   (e.g. more Bininj involvement? Teaching young people?)
9) What sort of things **do you do** to keep your culture strong?
10) Are there any ways you would like to be involved in looking after culture in Kakadu
11) Is there anything you think we need to find out that might help look after the culture? (that is any research gaps)
12) Do you have any message for young Bininj about looking after culture in Kakadu?

Any other comments?

Are you happy for your name to be mentioned or do you just want your answers to be put with general comments? (tick) YES ----------NO Just general comment. --------

APPENDIX 2 QUESTIONAIRE FOR YOUNG BININJ - KAKADU CULTURAL HERITAGE WORKSHOP

FOCUS QUESTIONS FOR YOUNGER GENERATION (16 to 25)

Interviewer to explain the purpose of the questions, and what the information will be used for. By presenting the information at the Cultural Heritage Workshop and writing it up as part of the workshop proceedings the aim is to:

- Make sure that people at the workshop are aware of the views of young Bininj
- Make sure the views of young Bininj are properly considered by KNP in its management of cultural resources.
- Make sure that young Bininj are involved as much as possible together with elders in managing cultural resources in KNP.

Note for anyone under 18 Parent or Guardian's permission and signature is required.

Name of interviewer ----------

Name of interviewee----------

Name of Parent or Guardian _____

Date ----------

Does the informant (Parent/Guardian) give permission given to use the information as described above (tick) YES ----------NO. ----------

Does the informant (Parent/Guardian) give permission to be filmed and the footage used to produce a DVD to help present the information to the workshop (This will not be for sale)? (tick) YES ----------NO. ----------

QUESTIONS

1. How important is looking after culture in Kakadu to you?

2. What sort of things need to be looked after?

3. (prompts for interviewer – Rock art, Stories, Sacred sites, Language)
4. What parts of culture are you particularly interested in?
5. How well do you think Bininj knowledge is being passed on to the next generation?
6. What do you think should be done about looking after culture in Kakadu to make sure it is passed on to future generations?
7. Is anything stopping kids today from learning Bininj ways and culture?
8. What would help you as a young Bininj person look after culture better? (what opportunities need to be created)
9. What sort of things do you do, or want to do to keep your Bininj identity and culture strong?
10. Are there any ways you would like to be involved in looking after culture in Kakadu
11. What do you want to learn about Bininj culture?
12. Do you have any message for other young Bininj about looking after culture?
13. Do you have any message for older Bininj about looking after culture?

Any other comments?

Are you happy for your name to be mentioned or do you just want your answers to be put with general comments? (tick) YES ----------NO Just general comment. --------

3. The Rock Art of Kakadu: past, present and future research, conservation and management

S K May[3], P Taçon[4], D Wright[5] and M Marshall[6]

"I worry about that place …

Secret place.

That got painting there,

Inside cave.

It got to be looked after because

My father, granddad all look after.

Now me,

I got to do same.

If that painting get rubbed off

There might be big trouble.

That story important."

Big Bill Neidjie in Neidjie et al. 1985:49

3.1 Introduction

Kakadu National Park (henceforth, Kakadu) is one of the world's greatest rock art provinces, providing a visual record for stories about people living on country for tens of thousands of years. The rock art draws thousands of tourists each year and has attracted researchers from countries around the world. Rock art was an important reason why Kakadu was put on the World Heritage List. For local Aboriginal people, rock art sites are a significant storehouse of traditional knowledge with the act of producing rock art a powerful tool for educating clan members (especially children) about different aspects of 'culture'. In this paper we briefly review previous rock art research and look at the future of rock art conservation, management and research in the park. The paper is divided into three sections:

- Rock art studies in Kakadu
- Observations arising from review
- The future of rock art in Kakadu

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3.2 Rock art studies in Kakadu

Over five decades of rock art research and management has occurred in Kakadu. To date, 5362 rock art sites have been recorded in the Kakadu cultural heritage database by park staff (e.g. Sullivan and Haskovec 1986, 1987a), researchers and consultants (e.g. Chaloupka et al 1985; Gunn 1987a; Gunn 1987b). These sites are largely located along the Arnhem Land Plateau, its outliers and on top of the plateau itself. Most rock art sites consist of paintings and stencils, but there are also some beeswax art, prints and a few drawings and engravings. As this is not the place to describe the research, management and conservation of this extraordinary legacy in great detail, a summary is presented in the table below.

Table 1 Overview of rock art work within Kakadu Park with research work in **bold**. This should not be seen as definitive.

Year	*Site*	*Persons Involved*	*Actions*
1845	**Central part of Park**	**L. Leichardt**	**Made some observations**
1962	**Southern part of the Park**	**W. Arndt**	**Recorded oral histories from three Nargorkin story sites in "Sickness Country".**
1968-69	**Ubirr**	**J. Jelinek**	**Intensive recording during the Czech Expedition to Arnhem Land (Jelinek 1978).**
1986-69	**23 galleries throughout the Kakadu**	**J. Jelinek**	**Focused on the evolution and role of rock art in traditional *Bininj* society. Jelinek looked at technique and composition, style, regionalism and chronology, subject matter, and social meaning.**
1968-69	**Deaf Adder Gorge sites**	**E. Brandl**	**Systematic analysis of Kakadu rock art. Identification of chronological sequence of 'styles' (e.g. 'Mimi' art precedes 'x-ray' art; Brandl 1988).**
1970's	Kakadu-wide	D. Gillespie	The main focus during the 1970's was the causes of rock art deterioration, chemical composition of the pigments & conservation treatment options.
	Ubirr and Nourlangie	D. Gillespie and traditional owners	Sites surveyed and documented and detailed visitor management strategy was created.
1970s	**Kakadu-wide**	**G. Chaloupka**	**Surveyed more than 263 sites in the park and provided a chronology of the Arnhem Land plateau rock art that incorporates four broad artistic periods: pre-estuarine, estuarine, freshwater and contact .**
1970s	**Kakadu-wide**	**D. Lewis**	**Survey and recording.**
1978	Ubirr	D. Gillespie & G. Chaloupka	First silicone driplines installed.
1979-1980	Ubirr and Nourlangie		At a cost of over $500,000 Nourlangie and Ubirr are developed for tourism.
1979	Various sites	L. Rivett	Detailed photogrammetric recording of a number of rock art sites.
	Various sites	**A. Watchman**	**Undertook geochemical analysis of Kakadu rock art focusing on mineralogy, chemistry, petrology, analysis of the ground and surface water of the rock art sites, and the nature of the salts that impact the rock art in Kakadu.**
1980's	**Kakadu-wide**	**G. Chaloupka and R. Gunn**	**A number of cultural surveys within the Park (e.g. Chaloupka *et al* 1985, Chaloupka and Kapirigi 1981, Gunn 1987a, 1987b).**
1980's	**Kakadu-wide**	**ANPWS as well as P. Taçon, D. Lewis and R. Gunn**	**Systematic recording of rock art sites, Focused on:** **~ Location and physical description;** **~ Recorded with photography and in written form;** **~ Damage and causes;** **~ Recommendations for management and conservation;** **~ Ethnographic information; and** **~ Site assigned a significance rating** **Lewis (1988), divides art into four phases: Boomerang, Hooked Stick/Boomerang, Broad Spear-thrower and Long Spear-thrower.**

Year	*Site*	*Persons Involved*	*Actions*
1980s	**Balawurru, Deaf Adder Creek, Amarrkanga, Canon Hill and the Northern corridor**	**G. Chaloupka and traditional owners N. Kapirigi, B. Nayidji and G. Namingum**	**Located and mapped sacred sites, dreaming paths and associated religious information in the Bunidj, Mirrar Erre and Badmardi clans' estate and continuous estates with particular reference to Deaf Adder Creek valley. Also completed for the Northern Outliers. Located and mapped 356 sites.**
1981	**Deaf Adder and Nourlangie sites including Nawalabila, Blue Paintings, Anbangbang**	**R. Jones and ANU team**	**Excavated below rock art panels.**
1983	**Kakadu-wide**	**D. Gillespie and ANPWS**	**1,200 sites are now recorded, although entire Park has not been surveyed. The sites are generally found along the edge of the escarpment and on the outliers of the area. At this time the preservation of the sites is thought to be good.**
1983	**Ubirr, Cannon Hill, Mt. Gilruth, Mt. Brockman, and Deaf Adder Creek**	**A. Watchman**	**Investigation into the geology and weathering of rock formations in the Park. Finds that quartzite in the north is more weathered than that in the south.**
1984	Ubirr (boardwalk and western side of the warrior frieze), Anbangbang (main gallery), Nourlangie, and Blue Paintings	L. Rivett	Photogrammetry undertaken at sites to monitor the deterioration of the paintings, rock surfaces, loss of colour, change of pigment, changes in salt deposits and water rush.
	Mt Brockman	H. Sullivan	Photo documentation of sites.
	Namarrgon-Lightning Dreaming	**H. Sullivan**	**34 sites documented along with traditional knowledge.**
		A. Watchman	**Investigation into salts.**
1985-1989	**Kakadu-wide**	**P. Taçon**	**Australia's first rock art PhD from both an ethnographic and archaeological perspective: From Rainbow Snakes to 'X-ray' fish: the nature of the recent rock painting tradition of Western Arnhem Land (1989). Determined a strong correlation between the forms and sub-styles of recent rock paintings, linguistics and mythology associated with Ancestral Beings, the landscape and past events (numerous publications, e.g. Taçon 1993). 1170 sites visited; 312 recorded.**
1985	Nourlangie	H. Sullivan and I. Haskovec	Detailed photographic survey.
	Ubirr, Nourlangie, Blue Paintings and Nanguluwurr	H. Sullivan and I. Haskovec	Large amounts of infrastructure undertaken at sites, including: signage, painting of installations and the placement of rangers at the sites throughout the year to guide tours and patrol the sites.
1985 onward	Kakadu-wide	I. Haskovec	Major conservation works undertaken during this time. Focus was to minimize the damage that was caused between the paint and the surface of the rock by expansion and contraction and installation of driplines.
1986	**Yuwengayay (Referred to as the Leichardt Gallery by G Chaloupka) Deaf Adder Gorge**	**H. Sullivan & I. Haskovec**	**Believed to be one of the most important sites in the Park dating to at least 5,180 ± 180 KA (Kaminga & Allen 1973: 82)** **~ named Balu-uru site 4 by Brandl in 1973;** **~ 1974 Chaloupka wrote report naming the site Yuwengayay;** **~ Ethnographic recording by Taçon in 1985 & 1986;** **~ 1986 exfoliated in wild fire in October;** **~ Field work undertaken. During this time the site was surveyed, weather conditions documented and recorded and photo survey was completed – water soaks and other causes of deterioration were mapped; and** **~ Monitored water, solar radiation, humidity, cryptogrammic growth, insect damage, vegetation damage, physical damage.**
		J. Clarke and N. North	Hired by ANPWS as rock art conservation consultants.

Year	*Site*	*Persons Involved*	*Actions*
1987-1988	Various sites	J. Clarke, N. North and I. Haskovec	Studies into the accumulation of salts on rock art and the chemistry of the rock. Range of synthetic consolidants and surface treatments trialled. Findings are: the discovery of Sveite a mineral found only in Kakadu and Venezuela. Gypsum the most common agent which causes alterations in the rock art and atmospheric sulphur compounds. Found that the salt forms in the air rather than from groundwater. Investigations showed that salts were found both on the surface of the paintings and within the paint layers.
	Various locations		In collaboration with the chemistry centre of Western Australia, a monitoring program assessing the levels of reactive atmospheric sulphur dioxide and hydrogen sulphide in the Park.
1987	Koongarra Saddle (Mt Brockman)	J. Clark, N. North and I. Haskovec	Trial site for sealants.
	Namarrgon- Lightning Dreaming	J. Clark, N. North and I. Haskovec	Trial using the ceiling section, which had been sampled previously. 10 treatments were applied of 30 x 30 cm PVB treatments.
	Nourlangie (large rock shelter to the west of the main art site)	J. Clark, N. North and I. Haskovec	Turtles and large white fish located at the top of the shelter and a section of deteriorated paintings (on vertical surface- at southern end of the shelter) treated.
	Nanguluwurr	J. Clark, N. North and I. Haskovec	Trialled on small painted rock at front of the gallery. Contains paintings of multi-coloured fish. Treated with 3 treatments on the surface facing west (receives direct sunlight) and on a north facing surface which doesn't receive any sunlight.
	Some Deaf Adder sites	J. Clark	Treated with silicone, although never monitored due to access restrictions.
	White Cockatoo Dreaming	J. Clark, N. North and I. Haskovec	Turtle painting treated.
1989	Nourlangie-Anbangbang	I. Dangas (chief conservator), J. Clark, and I. Haskovec	Restoration of paintings at Anbangbang main gallery.
1990-1995	Kakadu-wide	P. Taçon and C. Chippindale	Survey and recording of rock art sites older than 4000 years, especially Dynamic Figures, Yam Figures and Simple Figures. First detailed full recordings of large panels. Refined and reconciled Chaloupka's and Lewis's chronologies. Information obtained from hundreds of sites. Numerous publications.
1990's	Lightning Man Art site	I. Haskovec	Cleaning and consolidation of deteriorating paint layers.
	Inclined Gallery, Nourlangie Rock	I. Haskovec	Large white wallaby painted, and hand stencil were removed based on the wishes of the traditional owners.
1992	**Southern part of the Park**	**R. G. (Ben) Gunn**	**Interpretation of Gimbat art styles and stone and bone arrangements in terms of the Bula cult. Also interpretations of Mikinj art site.**
1992	Yuwengayay	A. Thorn	Conservation and intervention at the site. Removed accretions, dust, salt, insect structures, re-attaching flaking paint, removing dislocated pigment from water washed areas, and consolidated the pigments.
1992 - 1994		**E. Nelson, G. Chaloupka, P. Taçon & C. Chippindale**	**Extensive study to provide a register, description and radiocarbon chronology for beeswax art (e.g. see Nelson et al. 2000).**
1993	Yuwengayay, and three other major art sites	A. Thorn	Condition survey of rock art sites including: Moisture survey; microscopic investigation; insulation.

Year	*Site*	*Persons Involved*	*Actions*
	Yuwengayay and Ubirr	A. Thorn	Conservation undertaken to: ~ determine solubility parameters of the salt contained within the pigments; ~ develop and test methods of salt removal; ~ lab test conservation techniques including (hydrophobic consolidants); ~ document site condition in preparation of conservation treatment; ~ carry out removal of dust, salts and insect structures; ~ reattach flaking paint; ~ remove dislocated pigment from water washed areas; ~ consolidate pigment as necessary; ~ grout fissures open to water wash; ~ prepare conservation plan for the site; and ~ obtain information on the humidity and temp of the site. At Ubirr focus of humidity and rock surface temperature as well as immediate micro environment.
	Jawyon Country		Dry season site visit and conservation work undertaken.
	Anbangbang	Artist K. Smilit- National Center for the Arts in New Deli	Anbangbang replica project: copied panel, survey and photographic data was collected in 1994. In 1995 it was constructed in studio - displayed in the South Australian Museum.
1997-1999	Nanguluwurr	D. Lambert	Training program: included pigment monitoring photographs and colour monitoring measurements. Drip lines used and assessed air abrasive technique taught for the removal of dust over the pigments. Also removed dust using soft paint brushes.
2004	Ubirr		Names engraved at site dry brushed off and then wet brushed. Believe the graffiti was caused by a school group. In the report there was an interest in identifying the school and then the culprits and turning them over to law enforcement.
2005	Bardedjilidji		Removal of stick figure that was engraved into the rock by the use of dry and then wet brushing.
	Red Lily		Graffiti near Red Lily in Manilakarr estate. Sand blasted the paint because it was nowhere near the rock art.
2008	Blue Painting Site		Fence erected to stop feral animals from walking past the barrier. Based on the amount of human footprints, it is thought that there is little visitor impact to the site.
	Mt Brockman	D. Linder, T. Mahney and team	Removal of names scratched into the rocks by dry and then wet brushing.
	Nawalabila - Deaf Adder	D. Linder, T. Mahney and J. Price (Scientific Pest Management)	Visited to treat termites.
	Nawalabila - Echidna	*as above*	Treated gallery.
	Nourlangie and Blue Painting Site	*as above*	Driplines installed. Sites show water damage (exfoliation), damage from lichen and water wash.
	Ubirr	*as above*	Check interpretation, drip lines checked and replaced, wasp nest removal and spider webs cleaned off of art.
2009	Kakadu Headquarters	IPPHA, ANU and Griffith U. (S. K. May, P. Taçon and M. Johnson (Marshall))	Conservation and management training course primarily for Bininj rangers.
2011	**Bindjarran**	**D. Shine, D. Wright and M. Marshall**	**Archaeological excavations and rock art analysis (in collaboration with the Nayinggul family).**
2010 - 2015	**Kakadu – various locations**	**M. Marshall**	**PhD rock art conservation and management research.**

Year	*Site*	*Persons Involved*	*Actions*
2014	Kakadu Headquarters and various places on country	Numerous Indigenous and non-Indigenous participants from across Australia, southern Africa and elsewhere	9 day workshop on rock art conservation and management resulting in the publication: Agnew, N., Deacon, J., Hall, N., Little, T., Sullivan, S. and Taçon, P.S.C. 2015. Rock art: a cultural treasure at risk. Getty Conservation Institute, Los Angeles.
2015	**Mt Brockman**	**I. Johnston, J. Hayward, P. Taçon, G.O'Loughlin and others.**	**Survey and documentation of rock art sites for the Mirarr community.**

3.3 Observations arising from review

3.3.1 Research

While various detailed reviews and analyses of Kakadu rock art research can be found elsewhere we restrict ourselves to two observations:

1. While much surveying and research has taken place on rock art in the area now known as Kakadu (primarily by Brandl, Chaloupka, Chippindale, Gunn, Haskovec, Jelinek, Lewis, Sullivan and Taçon), very little of this research has fed through to management practices. The majority of researchers were not working for the Park (Sullivan & Haskovec are the exceptions) and, while most returned copies of reports, theses, some images and some site coordinates to Parks staff, most research maintained more of an importance in academic rock art research circles than for management purposes. When researchers were given research permits from the Park, most were not required to return specific site information to bolster the park's archive. This is despite the fact that the best way to conserve site information is to fully record it.
2. There has been a major drop in independent research since the mid-1990s (see Table 1) and park based staff research since 1996. Since 1995, there has been no review or evaluation by Parks Australia (previously ANCA) of rock art conservation techniques or standards in the park (although Marshall is currently reviewing three sites within Kakadu as part of her doctoral research). No rock art specialists have been employed to record/manage rock art since 1996, with a sharp drop in visits by park staff to rock art sites following a decision by traditional owners and ANCA to focus on recording oral histories and sustaining traditional cultural knowledge. Reasons for the drop in independent research include the perceived difficulty of obtaining permits through multiple government and non-government organisations.

3.3.2 Conservation

Site protection and management has been an ongoing concern for Bininj and Balanda. Park staff have a long history of protecting and managing rock art in Kakadu with activities varying from vegetation removal and general site maintenance, detailed scientific analysis of pigments to installation of silicon driplines and removal of graffiti (see Table 1 and May et al. 2012). Again, we make a few observations relating to major issues that are impacting rock art sites in Kakadu.

1. There are obvious environmental considerations such as damage from water, vegetation, insects and birds, animals (native and feral), fire, biological growth and mineralisation (such as salts) and erosion. There are also human impacts, including dust possibly from cars and building/mining work and damage of open and restricted sites by tourists (e.g. graffiti, touching art etc.). It is

important that rangers are trained in rock art monitoring and conservation and empowered to raise/address issues should these arise.

2. A major element contributing to all of these problems has been the lack of continuity in rock art conservation programs and information management. Other issues include a paralysis stemming from the sheer number of rock art sites that need to be managed, limited budgets provided for cultural as opposed to natural heritage and a push for staff to focus on tourism rather than heritage management and conservation (May et al. 2012). With this in mind it is necessary for a rock art management plan to be developed and maintained by Kakadu staff and cultural heritage (including rock art and archaeology) alongside natural heritage to be identified as a priority when allocating funding.

3.4 A new era of rock art management and research in Kakadu?

We have shown in the sections above that there has been a major reduction in research/site visits within Kakadu since the mid-1990s. Considering the international significance of Kakadu's rock art (a priority in the park's world heritage listing) and its value to Bininj this situation is disappointing. Rock art attracts thousands of tourists to the park every year. Investment in cultural heritage is required to maintain this situation. As one of Kakadu's major assets, we suggest the following:

1. Rock art (and more generally cultural heritage – see Wright et al's paper on archaeology in this volume) conservation and research needs to be a Kakadu National Park priority.
2. A Kakadu rock art management team needs to be developed. This team could involve Indigenous and non-Indigenous rangers and researchers working in Kakadu. A rock art conservation specialist should be asked to train members of the team in basic rock art recording and conservation. We recommend the appointment of a coordinator to lead the team on country with for example KIRP (Kakadu Indigenous Ranger Program, day labour, park staff and/or local Indigenous ranger groups.
3. A primary role for this team would be to monitor, conserve and record sites in Kakadu. This would include sites open to the public (including Ubirr and Nourlangie), and those that have not been visited for many years. We also recommend implementation of regular on-country surveys to locate sites, consider their significance, monitor their condition and record rock art for future generations of Bininj and Balanda. The team could work independently and/ or alongside stone country, fire management teams.
4. Major conservation works should only be undertaken as a last resort and only conducted by reputable professional rock art conservators.
5. The effectiveness of artificial (silicone) driplines should be reviewed.
6. Continue to make use of the Cultural Information Management System (CIMS) that is located in NCP at HQ to assist with the management of rock art information. Support may still be required for the input of past data, and researchers/consultants should assist with the provision of data in the appropriate format for any work at rock art sites in the park. District staff should also be encouraged to use the database for monitoring purposes.
7. Involve Bininj, including young people, in all aspects of rock art management. Site visits provide a good way for traditional owners to pass on

knowledge and skills to future generations. A possible link can be drawn to the community ranger program.

8. Apply for grants from various sources (e.g. ARC, cultural heritage programs, etc.). It may be possible to designate a certain amount from each entrance fee to a Kakadu cultural heritage program and advertise this to the public. Kakadu could seek matching funds from federal government. Other innovative funding strategies should be investigated (e.g. sponsorship, crowd funding, etc.).
9. Develop a rock art methods manual for Kakadu staff that relates to documentation, monitoring, management and maintenance of sites.
10. In light of this review we further suggest that independent research should be encouraged, particularly when this is linked with conservation/management objectives of Bininj people and Kakadu National Park staff. These objectives should be made clear to researchers applying for permits to work in Kakadu.

3.5 Conclusion

Kakadu's remarkably rich cultural heritage including its rock art is fundamental to its international, national and local significance. Rarely is the evidence of the relationship between people and landscape as long, rich and diverse as that found in Kakadu. The combination of the ancient rock art and archaeological sites, together with the ongoing living traditions of Aboriginal people is globally recognised to be of outstanding universal value – something to be valued by all humanity. Thus it is imperative we all work together to better protect and understand it for future generations. As Big Bill said 'It got to be looked after … That story important'.

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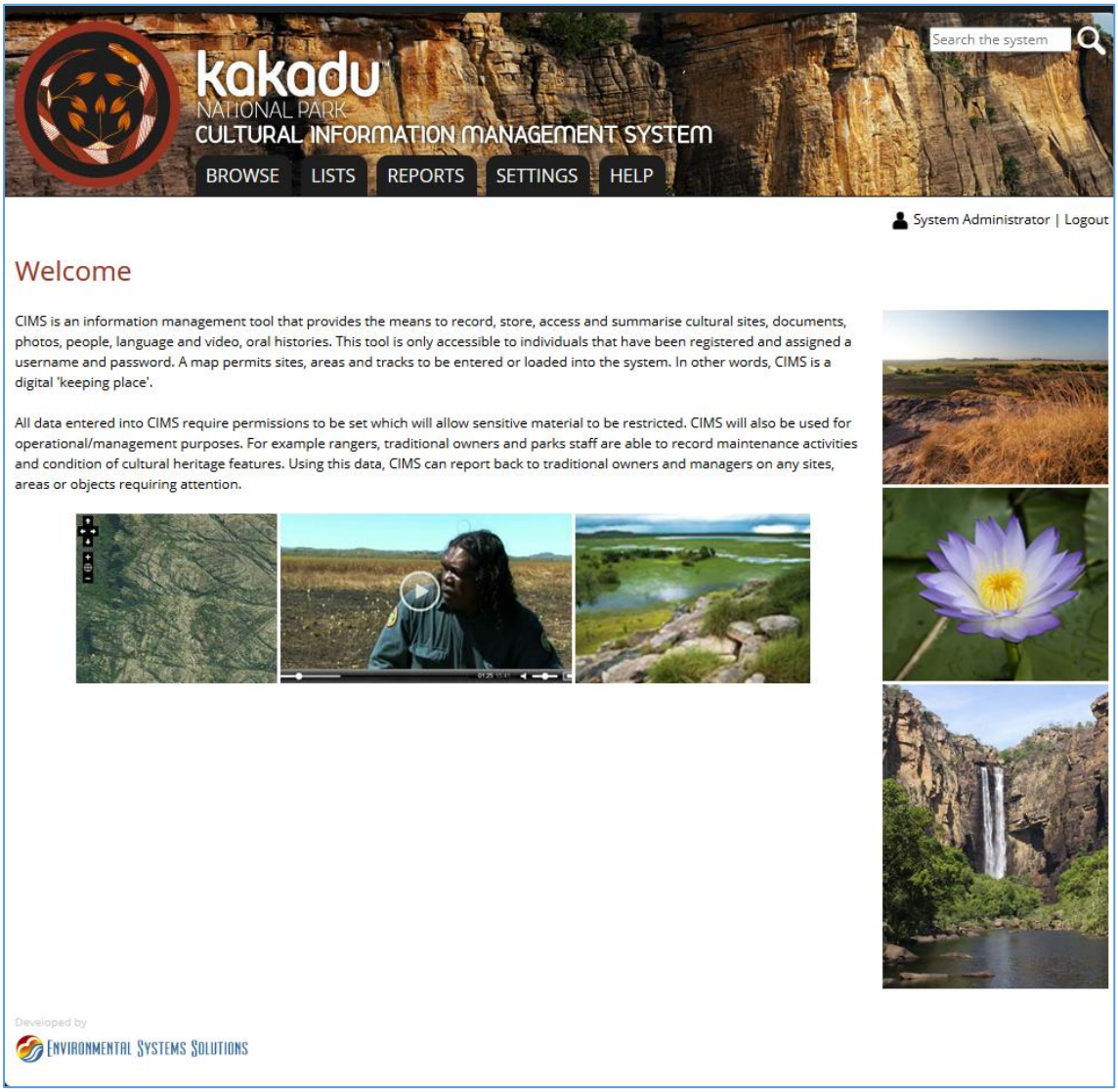
4. Cultural Information Management System (CIMS) Kakadu National Park

G MacLaren[7]



4.1 Overview

The Cultural Information Management System (CIMS) at Kakadu National Park(KNP) provides a mechanism for authorised individuals to archive important documents, video and photographs describing cultural sites, areas, tracks, traditional knowledge and other heritage assets and values. CIMS is a computer based database system. Data is stored using a security model that reflects a diverse set of cultural and organisational protocols that exist throughout the region.

Significant volumes of archived materials including historic site cards, photograph negatives, audio and video tapes are securely stored at KNP. Recently many of these

[7] Environmental Systems Solutions

materials have been digitised, formatted and transferred to CIMS. CIMS now provides a single point of access to these materials that can be accessed and interrogated readily.

CIMS has been developed to provide a range of functions and benefits that include the following:

- A single point of call for accessing information relating to traditional knowledge, cultural sites, objects and other cultural entities and values
- A significant reduction in the risks of losing cultural heritage information
- A leading edge cultural heritage information management practices to other World Heritage National Parks
- A tool that will help KNP meet obligations under the EPBC Act 1999 and to conform with the agreement with the World Heritage Organisation
- Opportunities for Bininj to retain and maintain information relating to heritage assets including objects, sites and knowledge
- A foundation for systematically monitoring and protecting important sites and areas of cultural and natural significance throughout KNP

Mobile data recording tools have recently been developed for park staff to help them collect information describing cultural sites and the various activities carried out at these places. Data collected using these tools can be regularly transferred to CIMS and provides the consistency needed to extract meaningful and insightful data summaries.

In future, CIMS has the potential to be used as a management tool allowing traditional owners and park staff to schedule site recording, maintenance and conservation activities. By registering planned activities and associated outcomes within CIMS, data summaries can be generated on demand to provide budget summaries and to generate prioritised task lists for workers.

4.2 Components of the KNP CIMS

There are several core modules within CIMS, each of which work together to provide functions for storing, searching and reporting cultural heritage information. The most significant capabilities of each module are described below.

4.2.1 Browse

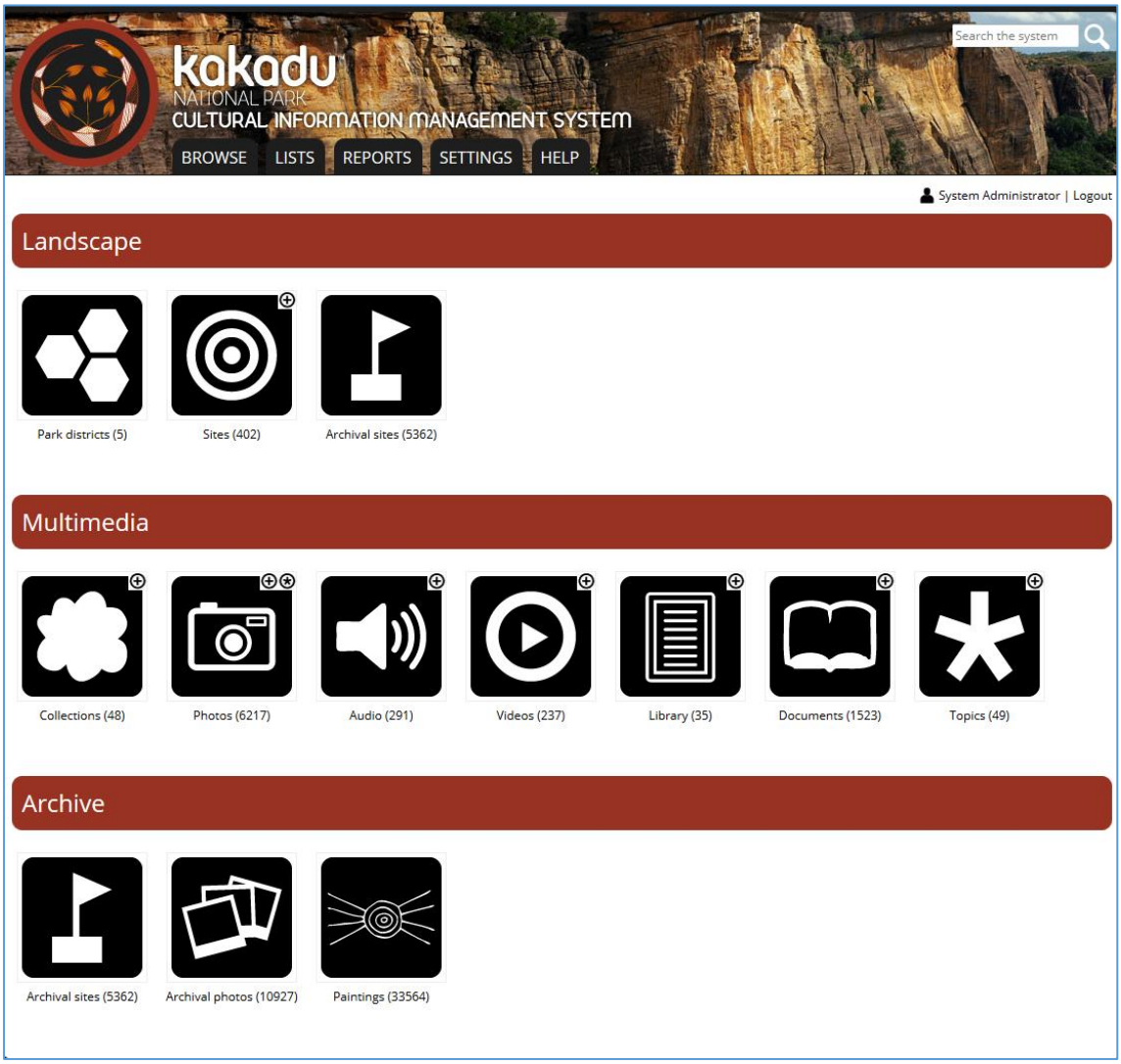


Figure 1 The browse page

This browse module provides a list of all types of data entry forms (represented by a variety of different icons) that can be filled out and added to the system. (Figure 1 illustrates a selection of icons that are available on the browse page.) The forms have been designed to contain a series of questions used to describe various characteristics of park districts, historic sites, rock art sites, site maintenance activities, photos, videos, documents, oral history recordings, people and general topic areas. (Figure 2 shows how multiple instances of a photo form can be filled out to ultimately present a list of thumbnail or preview images). Relationships between submitted forms can also be defined. For example, a form called "Cultural Sites" can be filled out and submitted to describe the location and characteristics of a site that physically exists in the landscape. For this site any number of photos and videos can be linked. Account holders (or "Users" as they are referred to in this document) of CIMS have the ability to add, edit and delete these linked entries.

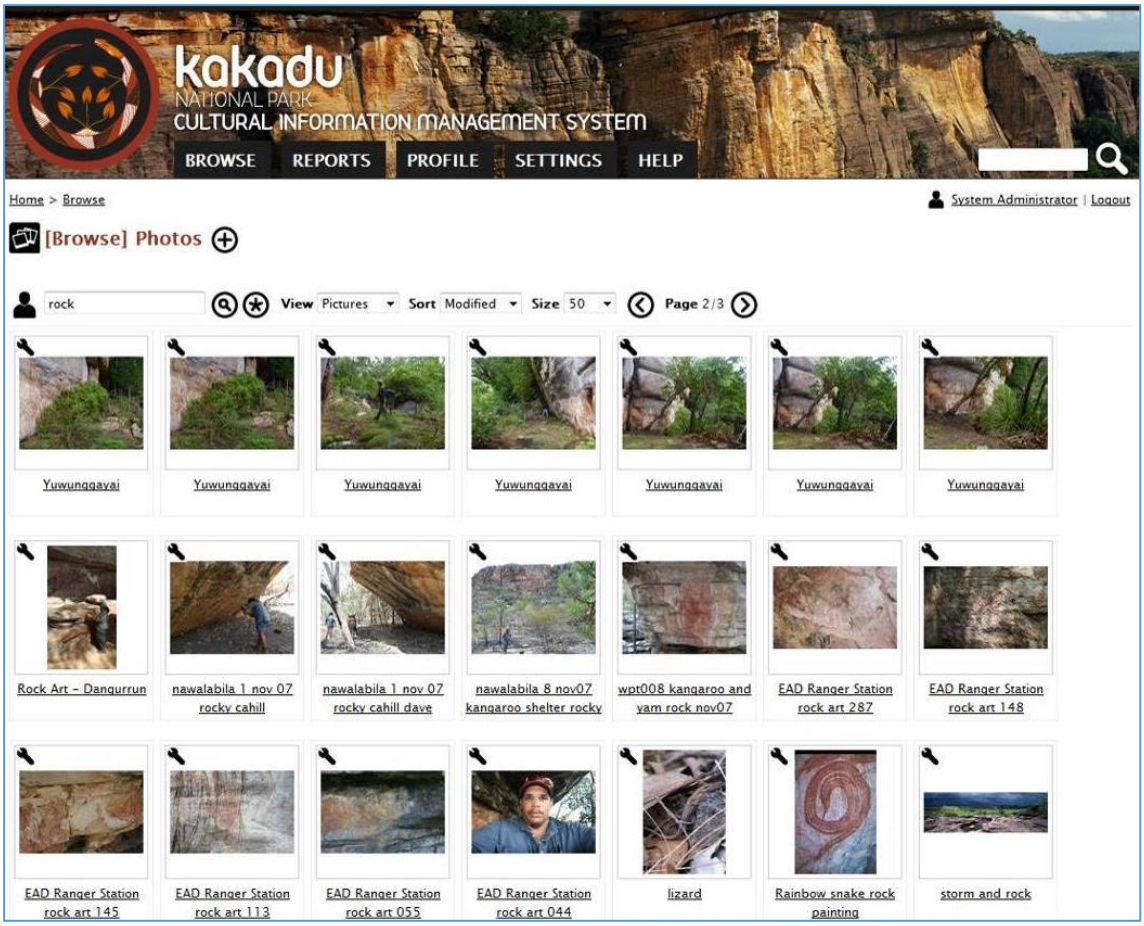


Figure 2 A preview of photographs that are contained within CIMS

This section of the CIMS also presents the user with an interactive map (with tools for zooming and panning) containing satellite imagery and topographic contextual map layers that can be switched on and off. On top of any contextual layer, cultural sites and other landscape features recorded within CIMS can be displayed. The user is able to obtain more information about any feature by selecting it from the map. Figure 3 shows the map interface with red markers depicting the location of recorded sites.

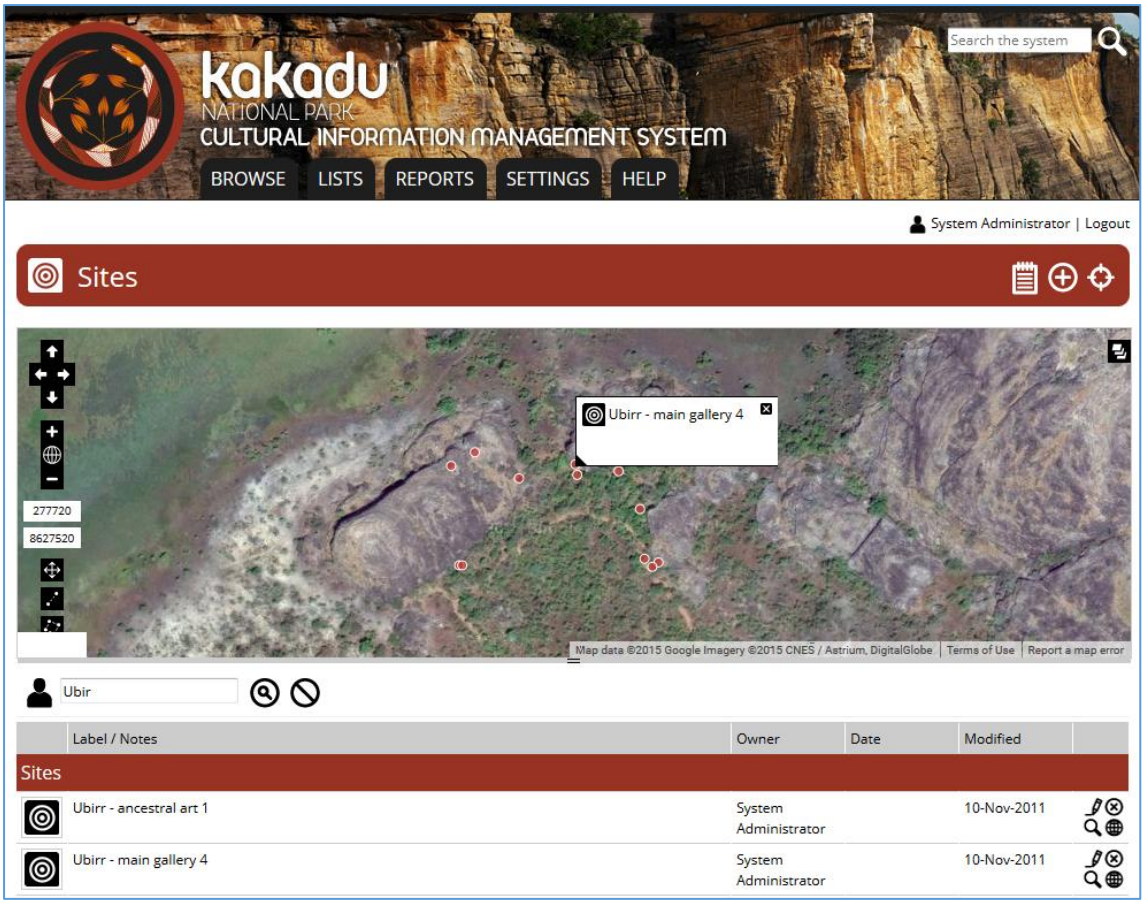


Figure 3 A map interface showing the location of a selected site in the landscape

When a map feature (e.g. cultural site) is selected the user is presented with all of the selected features attributes that have been previously recorded. A listing of all records associated with or linked to this feature (e.g. photos, videos, documents) are also displayed on this page.

4.2.2 Reports and data summaries

This module is where the information within the system is summarised into a variety of formats. Summaries are used to extract specific pieces of information from the database, such as listing which sites need to be revisited in the coming field season. System administrators are able to design and add additional reports. The reports can summarise any information entered into the system and can produce results in tabular, graphical or map/GIS dataset form for use in other data analysis and/or presentation software. Currently CIMS contains a range of reports that can be executed at any time. These reports include:

- Tables showing attributes of sites that contain rock art
- Tables showing management recommendations for sites that have large numbers of rock art paintings
- A map of sites and their associated photographs within each district
- Charts showing numbers of paintings within different style categories
- Charts showing numbers of multimedia recordings by type

4.2.3 Search

The search facility is used to find particular data entry forms within the system. Keywords are specified by the user to find all records containing a reference to the search words. This search tool allows users to quickly find information in the system that they are entitled to see. By using the permission set when entering the information, only results that the user has permission to view will be returned as search results.

4.2.4 Help

The help section provides access to a repository of all support materials, including help documentation and instructional video tutorials. These materials are of particular use for new account holders with limited previous experience using CIMS.

4.2.5 Settings

This module is only accessed by system administrators for adjusting the system. This module contains a suite of functions to customise the design of data entry forms, construct and share reports, set up and authorise user accounts and any lookups/lists used in the system. The functionality contained in this module is beyond the needs of most users wishing to view, add and update information within the system.

4.3 System security and consideration of cultural protocols

The security and protection of sensitive information is central to the design of CIMS. Each user/account holder with access to the system is assigned a role by a system administrator which determines whether the user has the authority to add, edit and/or delete information or simply just to view information. Currently this system administration role is played by a selected KNP staff member however this may change in future when the demand for interacting with CIMS increases significantly or when KNP traditional owners express a need for the governance arrangements to change.

Each user is given a profile, which defines the user groups that the user belongs to and stores basic contact details. For example, user groups are set up to represent gender, clans and families. When a user is granted access to the system, they will be included as members of the appropriate groups by the system administrator.

When a user with authority to add/edit items in the system creates an item, they must define which other users groups have permission to view the item created. To access the system, a user must login using a password. They will then be able to access a page showing all the items they have created. When navigating or searching through the system, the user will only be returned results to which they have permission (as defined by the users who created the item).

4.4 Integration of existing cultural information

Over the years a large diversity and volume of data describing various aspects of history and the cultural landscape have accumulated. Many of these archived materials have been securely archived in storage facilitates provided by KNP. In order to make rock art site and oral history recordings more accessible efforts have been made to review, format and transfer these materials into CIMS. Approximately 6000 photographs, 4000 cultural site recording cards and 1000 audio/visual catalogue records have been transferred to CIMS and can be viewed by individuals with an authorised account.

4.5 Data collection tools

Typically, paper forms and digital cameras have been used in the field to collect information describing the location, characteristics, condition and activities undertaken at sites. This method has required that traditional owners and staff physically transcribe the information from the paper sheets and photographic images from the camera into CIMS. Efforts have been made recently to improve the efficiency in the way data is collected from the field then entered into CIMS using mobile data collection devices. KNP uses similar technologies for the collection of weed control activities. These tools have been modified to suit the requirements of cultural site recording. CIMS has also been modified recently so that any cultural site information collected from the field using a mobile device can be transferred seamlessly into CIMS without the need for manual data transcription. Some preliminary training activities have taken place with park staff and traditional owners to encourage further site recording work with the use of these mobile technologies.

5. Do you speak Australian? Reviving and promoting the use of Kundjeyhmi in Kakadu National Park

M Garde[8]

But we will have true reconciliation when millions of Australians speak our Australian languages from coast to coast. It is then that we will have the keys to our landscape, our history, our art, our stories. The Australian languages, and the literatures and cultures that live or have lived through them, are the most important things we have in Australia. Their revival, growth and use in all social, political, educational, commercial and cultural domains are the most important matter for Australia's future.

Noel Pearson

The Australian, May 21, 2011

Regardless of what you might think of Noel Pearson's politics, his commitment to a new place for Australian languages in modern Australia, evident in the above quote, is both visionary and challenging. In our own local context, this challenge involves moving from an acknowledgement of the value of Australian languages and their place in Kakadu National Park in policy and plans of management to action that focuses on maintaining their intergenerational transmission. We often hear about the inscription of Kakadu National Park on the World Heritage List for both its natural and cultural values. The Indigenous Australian languages spoken by the traditional owners of the park are representative of such cultural values, most of which are in many ways intangible in nature and largely inaccessible to anyone outside of the relevant speech communities. The general consensus that Australian languages are an important part of our national cultural heritage is hardly disputed these days. What is needed is ongoing long term resourcing of programs that facilitate advanced learning of the languages of Kakadu National Park and the development of resources that can underpin such programs. Some of these matters are controversial and can sometimes elicit strong opinions from members of the speech communities as well as others with interests and responsibilities in the maintenance of Kakadu's cultural values. Strong feelings and debate are something we should welcome in this discussion, as linguistic diversity in Kakadu National Park is in serious trouble, and it is time for us to think about how we should address the rapid loss of this very important part of Kakadu's cultural heritage.

5.1 How many Indigenous languages of Kakadu are still spoken in the Park?

It may come as a shock for many to learn that the linguistic diversity of Kakadu National Park has suffered severely in the past few decades to the point of complete annihilation. Almost every single Indigenous Australian language of Kakadu National Park has either disappeared from use or is in serious decline. You can see the approximate location of these languages and their names in figure 1. This decline is however not only a phenomenon of recent times. Most languages of the park disappeared well before the

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park was established as part of the trauma of early colonisation in the region. These languages, and even their names, have disappeared totally out of the memories of most people who live and work in the Kakadu region. As you are reading this now, just pause for a moment and think about how many names of Kakadu languages you can list off the top of your head. Most of you will know names such as Kundjeyhmi and Jawoyn and perhaps a few of you might know about the Limilngan language, once spoken in the north-west of the park. Linguists think there were at least about a dozen or so distinct languages once spoken within the boundaries of Kakadu National Park. That means twelve or so distinct languages (not to mention dialectal variation within each of these languages) in an area about the size of a small European state, or one third the size of Tasmania. Of these twelve Indigenous languages of the Kakadu region, Kundjeyhmi is the sole surviving language still spoken within the park, but there are no children speaking this language fluently any longer (although some are part-speakers and are making efforts to learn the language). That means that within a generation, there is a distinct possibility that every Indigenous language once spoken within the park's boundaries will have been silenced.[9] As the park is listed for its cultural as well as natural values, should this not provoke some discussion about the park's World Heritage List status? Should it as a result, be declared "World Heritage in Danger" under article 11 (4) of the the UNESCO 1972 World Heritage Convention? There is a very good case for at least a discussion about it.

One regional language that remains viable however is Kunwinjku. With children still learning this language and a total speech community of at least 1500 speakers, Kunwinjku is not only becoming a regional lingua franca but it may also be affecting the viability of other small language groups in Western Arnhem Land. The heartland of Kunwinjku was originally the Kumadderr (Goomadeer) River district in Western Arnhem Land but in the early twentieth century there was a large shift of Kunwinjku speakers westwards into the mission at Gunbalanya. Today Kunwinjku is spoken by almost all Aboriginal people in Gunbalanya and also by a number of people living in Kakadu. Kunwinjku and Kundjeyhmi are dialects within a chain of related varieties which linguists sometimes refer to as Bininj Kunwok (Evans 2003). Whilst it is possible that Kundjeyhmi may very well disappear as a viable language of the Park in the foreseeable future, Kunwinjku seems a little more secure as it is presently being learnt by children.

5.2 The death of languages and what to do about it

The death of a language is a complex process. As in other parts of Australia there are many factors that contribute to the demise of language but there are two main factors in nearly all situations involving small language groups. Firstly, some widespread social trauma or disruption to linguistic vitality is central. Australian Aboriginal languages have usually suffered less when protected (even to some small extent) by isolation from the effects of social trauma associated with colonisation. That helps explain why some of the languages of Arnhem Land usually (but not always) display relatively better indicators of vitality than those spoken by groups in more settled parts of Australia who have been

9 Over recent decades North Australian Kriol has replaced traditional languages over a large area of Kakadu National Park but I am not including Kriol as a 'traditional' language in this discussion (although Kriol reflects a traditional Aboriginal grammar and phonology but draws its lexicon from English). Most Aboriginal people who identify as 'Jawoyn' now speak Kriol as their first language.

subjected to the effects of colonisation for much longer. The second component in language death is domination by a competing language usually associated with power, prestige and demographic weight.

The early disappearance of most of Kakadu's languages was associated with the disruption of colonial contact — dispossession of land and associated frontier violence, new diseases and recreational drugs collectively caused the destruction of Aboriginal societies and a catastrophic reduction in population. Some languages disappeared with few or no records of their grammatical structures and lexicons (e.g. Ngaduk, Gonbudj, Bugurnidja and Ngomburr). For others we know only fragments about their grammar and cultural heritage (e.g. Erre, Urningangk, Mengerrdji). A few other Kakadu languages, now moribund or extinct, have had more extensive documentation. Jawoyn for example is no longer spoken but there may be one or two fluent speakers still alive in 2012. Grammatical descriptions and lexicographical materials are available as a result of the extensive documentation conducted over many decades by linguist/anthropologist Francesca Merlan (e.g. Merlan and Jacq 2005a, 2005b). Important salvage work and grammatical description also exists for Gaagudju and Limilngan thanks to the long-term work by linguist Mark Harvey (Harvey 2001, 2002). Such documentation may assist with the possible revival of such 'dormant' languages at some time in the future, but this is an extremely difficult process once a viable speech community no longer exists.

Whilst the early disappearance of most of Kakadu's original languages was a result of the first wave of colonial disruption in the Top End of the Northern Territory, more recent reductions in linguistic diversity in Kakadu National Park have been due to the second factor discussed above10 — the effects of a powerful and pervasive competing colonial language. Settler colonialism is an ongoing process. With the demise of Jawoyn, the Kundjeyhmi language is today the sole surviving Indigenous Australian language of Kakadu National Park. It is not being passed on to children and the youngest speakers are now middle-aged. Kundjeyhmi is a member of a dialect chain that linguists refer to as Bininj Kunwok 'the people's language' (Evans 2003, thus hereafter I refer to Aboriginal people as Bininj). With the establishment of the parks administration, the Ranger mine and the services available in Jabiru town, Bininj in Kakadu have been almost exclusively required to interact with English speakers in English and English alone. There has been no established regime of bilingualism in the park, although in recent years interpreters are being employed from time to time by organisations such as the Northern Land Council and the Parks Service. The use of interpreters however is more a reflection of the historical failure to establish more widespread bilingualism in speech communities on both sides of the cultural divide, although there are many more bilingual Bininj than there are non-Aboriginal speakers of both English and an Australian language. There is of course no single entity charged with monitoring the vitality of Kakadu's Australian languages. As the park is listed on the World Heritage List for cultural values, and as the articulation of these values includes reference to the Indigenous language(s) spoken in the park, part of the responsibility for language monitoring and promotion should rest with agencies such as the Park Service as well as perhaps the Commonwealth and Territory Departments of Education. To some extent these responsibilities are being discharged in an intermittent and piecemeal fashion, but it may be a case of too little too late.

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10 For an account of this early history of colonialism and Aboriginal life in the Top End, see Ritchie (2009) and Levitus (2009).

Some non-Aboriginal people in the Kakadu region have expressed the view that maintenance of Australian languages is solely the responsibility of the speech community. Certainly, languages die when adults stop speaking them to younger generations, but factors that affect such disruption and downgrade the prestige and utility of a minority language are frequently external and in many respects out of the control of the speech community. If you attended the Kakadu National Park Cultural Heritage workshops in May of 2011 you will recall the heated discussion that took place in relation to the question of why children are no longer speaking Kundjeyhmi. It was an important and animated debate and appropriately it took place in both Kundjeyhmi and Kunwinjku. Bininj often feel torn from both sides. Historically, many Bininj were discouraged and in some cases punished severely for speaking their mother tongues in school, mission and other social welfare institutions. For generations they have been drowning in an ocean of English and now they are being asked why they no longer speak Kundjeyhmi to their children by those of us concerned with managing cultural heritage in Kakadu National Park. If you are a visitor or even a resident of Kakadu National Park, what evidence is there in public spaces that Kundjeyhmi actually exists? In relation to literacy and Australian languages, I often get asked why I bother working with my Bininj colleagues to produce public signs, literature and digital resources in Bininj Kunwok — "nobody can actually read it". The population of those literate in Bininj Kunwok is small, but it's not surprising given that there has been nothing produced to read and no commitment from funding bodies to conduct sustained programs of vernacular literacy and language resources for Bininj.

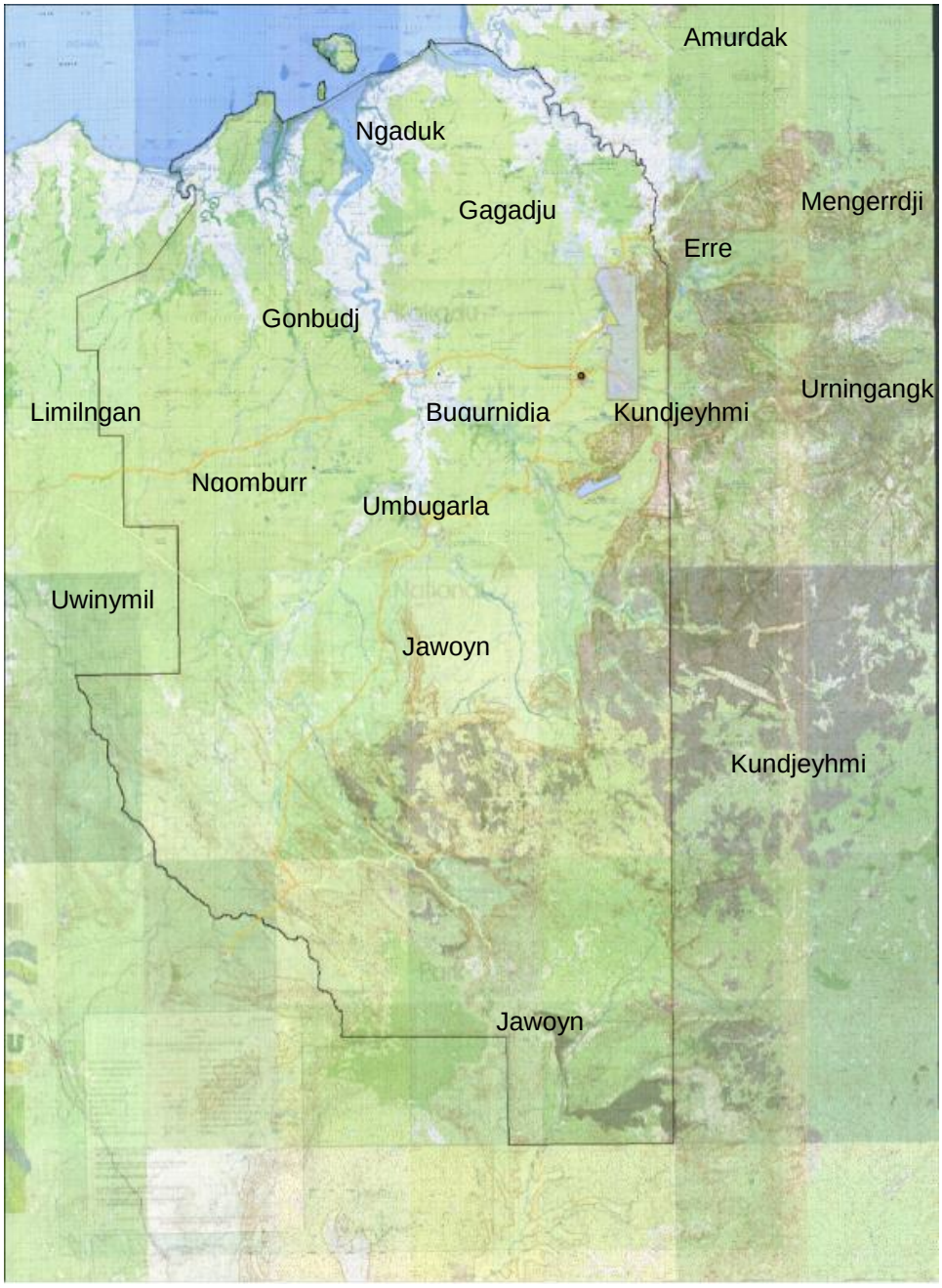

Figure 1 The languages of Kakadu National Park

The decline of Kundjeyhmi is also effected by the ongoing administrative interaction required between members of the small Kundjeyhmi speech community and the juggernaut of monolingual English-speaking agencies and organisations of the Kakadu region. It is well known in Kakadu that many traditional Aboriginal owners of land in the park are engaged almost full-time in attending meetings relating to community and organisational administration and consultation. As bilingual participants are in the minority, meetings and consultations with Bininj are mostly conducted in English. As a linguistic minority, speakers of Australian languages in the park are not in a position of power to insist that a bilingual approach to business should be the order of the day. There are also many logistic problems associated with achieving bilingualism within intercultural domains. Trained interpreters are few in number and there is generally a feeling amongst Bininj that interpreting entails taking a position or opinion in relation to

the issue being discussed. Resources for those non-Aboriginal people who wish to learn Kundjeyhmi or Kunwinjku have also been sparse, although this problem is now being addressed as part of the Bininj Kunwok Language Project which is supported by the Commonwealth Government's Indigenous Language Support program. Whilst increasing the use of interpreters is helpful in some contexts, the main focus should be on ensuring that children continue to learn and use Kundjeyhmi on a daily basis. The goal is to promote the use of the language in both public and private contexts. To ensure vitality, Kundjeyhmi needs to be spoken in offices, school classrooms, shops and other public spaces and we need to make the language more visible as well as audible. As the service centre for a World Heritage listed National Park, the town of Jabiru would be a more interesting place with an increase in bilingual signage. For most tourists, Kundjeyhmi is an invisible feature of the cultural heritage which is supposed to be an attraction for those who visit the Park.[11]

5.3 Literacy issues — orthography

Part of the challenge to the monolingual English mindset involves educating people about the differences between the spelling systems of English and Australian languages. The orthography for Kundjeyhmi was designed by linguist Nicholas Evans in 1987 as part of a consultancy from the Parks Service. As Kundjeyhmi and Kunwinjku are dialects of the same language, Evans quite sensibly recommended the use of the orthography that was already being used in Gunbalanya for Kunwinjku (and had been in use since the 1960s). After all, both dialects have exactly the same phonemic inventories because they are varieties of the same language. Unless you are trained in how to use the orthography of a language, you cannot necessarily use it effectively to read or write (regardless of your ethnic heritage — literacy is not genetically inherited). Many of us feel we can claim expertise in orthography design based on the premise that we can read and write in English. The roman letters used for English, it is assumed, will have the same sound values in any other language. This of course is not true. Think of the sound represented variously by the letters **ch** or **tch** in English as in 'church' or 'match'. The same sound (which linguists call a voiceless palato-alveolar affricate) is written as **č** in Czech, **c** in Indonesian and Malay, **kj** in Norwegian, **tj** in Faroese, **tx** in Basque, **ç** in Albanian, **tsch** in German and so on. The point is that the symbols we use (e.g. one or more letters in the roman alphabet) to represent a particular sound are based largely on arbitrary decisions. Once you know what sounds are associated with a particular orthographic symbol, then you can read the word correctly (even if you don't understand the language).

Every language has a different phonemic inventory and therefore symbols need to be assigned to each phoneme. One ongoing difficulty English speakers have with the Kunwinjku orthography is based on the fact that unlike English, there are no voiced-unvoiced consonant distinctions such as in d~t, b~p, g~k. In English the meaning of a word can change depending on which of the pair of these sounds you choose e.g. dart~tart, big~pig, gill~kill. In Kunwinjku and Kundjeyhmi there is no such voiced~unvoiced distinction and sometimes the /g/ phoneme will sound like [g] (e.g. at the start of syllables) and other times [k] (at the end of syllables). There is therefore no need for two different symbols to represent one single phoneme. As a result we only need one of each of these pairs. The designers of the Kunwinjku orthography chose **k**, **b**

11 For more information see Bininjgunwok.org.au

and **d**. To native speakers of English however, the /g/ at the start of a syllable in Kundjeyhmi sounds like [g] and at the end of a syllable it sounds like [k]. To the ears of Bininj Kunwok speakers, there is no phonological difference. Thus, in order to ridicule this spelling system, the name of the language "Kunwinjku" is pronounced by the orthographically naive as if these letters held the same sound values as they do in English- *koon-whinge-koo*. "Why don't you spell words in these languages the way they sound" I once heard as a complaint from a student at a beginner's Kundjeyhmi language class in Jabiru. In fact, we do spell them with a phonemic alphabet that is entirely consistent, unlike in English e.g. rough, bough, through, though.

Resistance to the Kundjeyhmi and Kunwinjku orthographies is a product of monolingualism and a lack of awareness about the arbitrary nature of sound-to-symbol correspondences. This kind of resistance — a refusal to allow a departure from the dominant monolingual mindset — can manifest itself in subtle ways. Have a look at the signage vandalism in the photo of the Djarrdjarr road sign on the Arnhem Highway (figure 2). The digraph (two letters for one phoneme) for the palatal consonant sound at the start of each syllable is written **dj**. The letters **d** in the digraph have been peeled off by someone (a tourist? mining company employee? park ranger?) who felt that the place name should be spelt Jarrjarr, as it might be in English. That's quite an act of dedication to go to all that trouble, but it reveals something of a colonial assimilationist anglophone mentality — "I cannot tolerate difference, make it look like English spelling". Actually the sound represented by the roman letter **j** in English is called a voiced palato-alveolar affricate, as in **jump** and written [ʤ] in the International Phonetic Alphabet. The sound represented by the **dj** digraph in Bininj Kunwok is not the same and is known by linguists as a palatal stop (IPA [ɟ] or [c]). These are similar sounds but not the same. The designers of the Kunwinjku and Kundjeyhmi orthographies could very well have decided from a variety of possible symbols, but they chose **dj**.

Figure 2 Orthographic colonialism in place name spelling

I have worked as an interpreter in Kakadu National Park for some 15 years. I recall the amusement if not shock of some members of the park's Board of Management the first time I interpreted at a board meeting in the late 1990s. Apart from the novelty of a non-Aboriginal person speaking an Australian language, there was also amusement at the idea that the board meeting should even be conducted in Kundjeyhmi, such was the colonial conditioning that some Bininj board members had experienced over the course of their lives. Gladly, that has all changed and the Kakadu National Park Board of Management now makes every effort to obtain the services of an interpreter at board meetings. But an ongoing problem is that accredited interpreters are few and the demand is great. The Park Service is of course not the only institutional source of English language exposure in the region. Obviously every community organisation, enterprise and government agency engages with Indigenous clients and members exclusively in English. Very few non-Aboriginal residents of Kakadu National Park have managed to learn Kundjeyhmi

or Kunwinjku. The reasons for this are not hard to establish, so let's examine a few of these.

Very few people who come to Kakadu National Park and Western Arnhem Land for employment settle in the region on a long-term basis. Those that do, survive in the dominant Anglo-Australian culture without any need to learn an Australian language. Bininj are expected to interact with non-Aboriginal people exclusively in anglocentric terms and by so doing cross-cultural interaction is conducted in a bare-bones mode that limits intellectual exchange and in turn reinforces many of the cultural stereotypes that each culture holds of the other. For the many monolingual speakers of English (both Indigenous and non-Indigenous) who do wish to learn a language such as Kundjeyhmi or Kunwinjku, there are few formal resources available. Few people end up developing the kind of friendships with fluent speakers of Kundjeyhmi or Kunwinjku that can facilitate regular and long term language learning. If learning an Australian language from a native speaking language teacher is not practical for most learners, then the next option is to learn from written materials. These however are in short supply. To design and produce learner's guides, dictionaries, digital resources and school curriculum materials from scratch takes years of work. Such work ideally requires a team of dedicated and well-resourced specialists. Over the last three years as part of the Federal Government's Indigenous Language Support program a group of experienced Bininj language specialists and myself as the project linguist have been working to raise the public profile of Bininj Kunwok and to produce resources that assist others to learn, maintain and teach the language. Ideally the region needs a language centre with dedicated long-term funding and a team of linguists and native speakers with expertise and experience in teaching, interpreting and cultural heritage management.

The linguist and language acquisition specialist Mary Louise Pratt points out that all language learning requires five conditions which require a high level of commitment from language learners. These are:[12]

- time
- effort
- desire
- input from native speakers and language learning resources
- possibilities of use

In addition to learning how to speak another language, literacy also requires a further condition — detailed instruction. Considering the small size of the Kundjeyhmi speech community in Kakadu National Park, we might conclude that these conditions are almost impossible for most language learners to achieve. The situation is less difficult in Gunbalanya however, where the vast majority of the population speak Kunwinjku. On the other side of the cultural divide, Bininj have been compelled to learn English and are much more cross-linguistically aware, forced as they are to assimilate to the colonial program of English speakers who have flooded into their lands. As an illustration from the domain of place names in Kakadu National Park, consider the following discussion from Kunwinjku speaker and Madjinbardi resident Mark Djandjomerr who is talking about the traditional walking route from Madjinbardi to Gunbalanya:[13]

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12 Public lecture, University of Melbourne 9 August 2012, available for viewing at http://youtu.be/MdYCZngzIug

13 This text is an extract from a recording of an interview with Mark Djandjomerr made by David Vadiveloo in August 2012. I am grateful to both for allowing it to be used here.

(1)

MDj: *mani ngarringarrnghmang mani ngarribale::: kore ngarrirey*
we made our way through the rock country and kept going this way

bolhno kabolhyo, Bininj bolhno
there's a track there, an Aboriginal walking route

kabale kabebme kore kabirridjowkke
it keeps going all the way to where we cross over the river

Border Store kabirriyime Balanda, Border Store
at the Border Store, that's what European people call it "the Border Store"

O East Alligator kabirriyime Balanda
or European people also call it the "East Alligator"

Bad Kalarabirr Djowkkeng kabolkngeyyo bu kunbolkngey Bininj ngad Kalarabirr Djowkkeng kabirriyime.
But the name of that place, which is what we Aboriginal people call it, is Kalarabirr Djowkkeng ['the old lady crossed over'].

Whilst most Bininj Mark's age know both the Kunwinjku and various English names for this area of the East Alligator River, how many Balanda ('non-Aboriginal people') know the Kunwinjku or Kundjeyhmi names for sites in this area?[14]

In referring to many place names in his story, Mark constantly provides both the Aboriginal and non-Aboriginal names for places he is talking about. Here are some further examples taken from the same recording:

(2)

MDj: *Bad man(e) Djarradjin kurebeh birridurrkmirri kore Muirella Park*
but over at Djarradjin, they were working there at "Muirella Park"

kabirriyime Balanda, bad ngad Djarradjin karribolkngeybun
That's what Europeans call it, but we call it Djarradjin.

(3)

MDj: *Nane Balanda birrimwam kuribe bolkbuyikabeh walembeh birrimwam.*
These white people have come from another place. They have come from the south.

Balanda kabirriyime bedda "down south".
These non-Aboriginal people, they say "down south".

In (3) Mark is referring to his awareness of cross-cultural difference in spatial reference. In the Australian languages of Kakadu and Western Arnhem Land, directions across landscapes using terms such as 'up' and 'down' are largely related to drainage patterns of watercourses. Across the Top End, rivers largely flow from the south to drain into the sea in the north. South is therefore "up(stream)" whilst "down" is usually associated with

14 This place name is a Bininj Kunwok equivalent of the original Erre language name which refers to the ancestral journey of Warramurrungundji, a female creator being who carried many children in her dilly bag and distributed them at each sojourn along the route she took, thereby creating the apical ancestor of each of the many language groups of the region.

a northerly direction. Saying therefore "down south" as we do in English is quite a marked expression for Bininj, departing as it does from the association of "south" in Kundjeyhmi and Kunwinjku with "on top, up high, upstream". Again, this is evidence of a higher level of cross-cultural awareness on the part of Bininj, whilst non-Aboriginal people can live for years in this region and never gain any awareness or interest at all in these differences.

5.4 Why support minority languages like Kundjeyhmi?

All state authorities and agencies in Kakadu National Park have a responsibility to both safeguard and promote the use of Australian languages in the park. This requires the development of formal policies that facilitate language services and daily communicative practices that are designed to maintain the use of minority languages in Kakadu and Western Arnhem Land. A concerted effort from the speech community, Park Service, schools, other agencies, associations and local businesses is needed to arrest the current decline. Full-time language specialists (native speakers and linguists) are also essential in programs and services designed to revitalise minority languages. The Indigenous languages of the park are recognised as an integral component of the cultural values of Kakadu National Park which need to be included in cultural heritage management strategies. The significance of language within this suite of cultural values and justification for dedicating resources to maintaining their vitality is not always widely appreciated.

In terms of justification for the maintenance and promotion of minority languages, rights-based arguments are now well established and have their origins in various international covenants and declarations on the rights of linguistic minorities (de Varennes 1997). As already mentioned, heritage-based arguments for the maintenance of the Indigenous languages of Kakadu fall within the domain of the Park Service whose existence is predicated on the guardianship of the cultural values of the park, including the use and intergenerational transfer of Indigenous languages. What is less well understood are arguments based on the links between linguistic and biological diversity, now frequently referred to as biocultural diversity (Maffi 2001). Central to this idea is the notion of the co-evolution of humans and the natural environment over thousands of generations. Over the millennia, human societies have developed a myriad of cultures and languages which have developed as a response to human interaction with distinctive environments. Australia's Indigenous languages encode knowledge of unique environments, natural species and places, and are a repository and cultural resource for the management of many different ecological communities. As a result, Australian languages are now also playing an important role in the management of Indigenous lands (see Garde et al 2009) as part of what is now referred to as Indigenous hybrid economies that combine aspects of state, market and customary sectors (Altman 2011).

In addition to these ecological angles, there are of course many sociolinguistic realities, particularly those associated with language and identity that justify allocating resources to ensure that the Indigenous languages of Kakadu National Park survive into the future. Speaking an Australian language it seems is also linked to youth wellbeing with speakers of such languages being 'less likely to engage in high risk alcohol consumption and illicit substance use, than those who did not speak an Indigenous language. They [are] also less likely to report being a victim of physical violence' (Australian Bureau of Statistics 2011). There is also now a substantial body of evidence demonstrating the advantages of bilingualism across a range of cognitive skills which suggests that there is much to be

gained on a number of fronts from encouraging the maintenance of Australian languages.[15]

In the decades that have followed the establishment of Jabiru as a town focused on both mining and (conversely) the conservation of nature, the lack of resources dedicated to the maintenance of Australian Indigenous languages and their absence in public domains has sent a subtle message to young Indigenous people — 'your languages are an impediment to progress and community development which must be eliminated'. This tacit message has contributed to the situation in Kakadu National Park where parents no longer speak their ancestral languages to their children. Whilst it may be too late for Jawoyn, there is at least some hope remaining for Kundjeyhmi if present revivalist awareness develops further momentum and resources are allocated to support ongoing language maintenance programs.

This unnecessary loss of linguistic diversity is a tragedy for future generations in Kakadu National Park. This is not an argument about choosing between English or an Australian language but rather an appeal for multilingualism and at least bilingual facility in both English and Kundjeyhmi. There exists now a wealth of cultural and linguistic documentation of the Kundjeyhmi language which could be used as an intellectual asset for the educational institutions of the Kakadu and Western Arnhem Land regions. Incorporating these resources, which are forms of genuine cultural interest from Bininj, into school curricula and training programs for Indigenous rangers would send an important message to the Kundjeyhmi speech community — that Kakadu's Indigenous languages are both a local community and national asset and an effort is being made to raise them to the level of prestige they deserve.

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15 For a selection of recent research on the cognitive advantages of bilingualism, see Kovács & Jacques 2009, Werker, Byers-Heinlein and Fennell 2009, Diamond 2010, Bialystok and Craik 2010, and Sebastián-Gallés *et al* 2012.

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6. Talking to People

R Levitus[16]

6.1 Introduction

I began work in Kakadu National Park in 1981. At that time uranium mining was beginning at Ranger and Nabarlek and the project to monitor the social impact of uranium mining on the Aborigines of the Northern Territory was half way through its five year life, based at Gunbalanya. That project wanted to know more about what had happened in the Alligator Rivers region before uranium was discovered. At the same time, Stage I of Kakadu National Park had been declared in 1979, and the Parks Service wanted to know more about what had happened in the Kakadu area before it became a national park. The first land claim had been decided, and the Aboriginal population of the park area had increased, with people moving in from Pine Creek, Gunbalanya and other places. So there was a good number of old people available to talk to, including a number who could remember back to before World War II, both in the park and elsewhere. I was hired to do a year's research on the social history of the region, and arrived at Nourlangie, now called Anlarrh, which was then a park ranger training camp, in June.

From the work I did then and over the years that followed, I want to talk about the attitudes and feelings that people have displayed when they have been involved in research on history and cultural heritage. This includes people who have been asked for their stories, and those who have done the asking.

6.2 The people we ask

When we ask people about the things they have done in their lives or about their knowledge of Aboriginal culture, we are not just asking them to remember information. We are also asking them to identify themselves with particular images or versions of who they are as people. The way they respond to this can vary in surprising ways.

6.2.1 The Tom Cole project

When I started collecting information from old people about the work they had done, I quickly found that the main form of employment had been in the buffalo shooting industry. A number of white shooters were well remembered because they had returned to the area for several seasons. One of those shooters was Tom Cole who had worked between the Wildman and South Alligator Rivers in the 1930s. Several people who had worked for him were still alive, but they thought he was dead. Then one day when I was working in the Northern Territory Archives in Darwin, I met Helen Wilson who worked for the Chief Minister's oral history program, and she told me that Tom Cole was still alive in Sydney. I contacted him, arranged a visit, and found that he had photographs and diaries, that his memory was still good, and that he was interested in having the history recorded. I proposed to Dan Gillespie of the Parks Service that Tom be brought up to the park, that we re-introduce him to those of his old workers who were still alive, take him back to visit his old camps, and make a film about it (McKenzie 1985). Dan agreed

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and Tom and the film-maker, Kim McKenzie, arrived for a month's work in July 1984. In the meantime I told the relevant Bininj that Tom was coming back and asked for their help in making the film.

One very old lady, Carla Ngalyorrun, lived at Nourlangie and had been one of my most important informants on social history. She had worked in Tom's camps and one of his photos showed her as a young woman salting a buffalo hide. I told her when to expect Tom to arrive. When we drove into her camp, I alighted from the car first and walked towards her, with Tom coming a short distance behind. Her eyesight having faded over the years, she approached me and whispered urgently 'Is this Tom Cole?'. When I confirmed this for her and introduced them, she rushed forward, jumped up on Tom, threw her arms around his neck and gave him a big kiss. Tom, who knew her as Curlew, stepped back, laughing in surprise. Carla continued in animated style, making joking comments at Tom's expense, talking in a circle of people as Kim filmed the interactions.

We hoped that the central scenes in the film would show the reconstruction of a buffalo camp and the processing of a hide, involving Tom and his former workers, at one of his old camp sites. After a good deal of looking around country and discussion, we settled on Alec Hole on the Wildman River as the best location. Unfortunately for Carla, this was out of the question. She was by now probably in her 70s and very thin, she had a very bad back, and found any vehicle travel, much less a long drive over a corrugated dirt track to Alec Hole, difficult to bear. But then as departure time drew near, she changed her mind and insisted that she had to come. She said she had to be there to make sure that we got the right story. So we travelled down the track to Alec Hole in a series of vehicles. When we arrived, Carla emerged from one of the lead vehicles, barely able to walk, almost crawling, looking for somewhere to lie. A swag and blankets were spread out for her. I wondered what we had done to this poor old woman, and doubted that she would be in any condition to participate further in the filming.

We carried on. With the group of buffalo industry veterans – Tom, Norman Ross, Talking Billy Gunbunukga, Peter Panquee, Mick McGuiness, Minnie Alderson – and other local people, we built a shelter of boughs and branches as Tom would have had for drying hides, then shot and skinned a buffalo and brought the hide back to camp, where it was washed in the waterhole and then brought up onto the bank for salting. Kim filmed as Tom stood supervising and Bill and others began applying the salt, commenting on the authenticity of what they were demonstrating for us. Then from the left, old Carla walked slowly onto the scene, knelt down next to the hide and began rubbing in the coarse salt, instructing everyone how it had to penetrate well into the hide. For me, her appearance turned the event into a triumph, something that we had planned and worked for coming together completely before our eyes. She was making sure that we got the right story.

Before Tom arrived in the park, I had tried to ensure that everyone who had known him was advised of his return and invited to join in the project. However, there was another old woman, Sarah Marridjarradj, who I did not tell, because she had been known by another name during her time in the buffalo camps so that at first I did not realise who that name referred to, and I had never spoken to her and so did not know her history. By the time the project was under way I realised that she had been another of Tom's workers. I explained to Tom and Kim where her camp was located at Mudginberri, and they drove off in the hope of another positive encounter to film. When they returned an hour or two later, they reported a non-event. They had found her fishing at Jabiluka billabong. When they approached and Tom called to her by her former name, old Sarah

packed up her fishing gear and walked back to her car. She refused to acknowledge them other than to say 'Don't call me Kitty'. Tom took a philosophical attitude to this rejection.

The Tom Cole project had brought people face to face with a large part of their past and invited them to identify with it. Carla, like some others, welcomed this chance to demonstrate their identities as buffalo men and women. Carla grabbed on to it so hard it almost killed her. For Sarah, who had become a Christian, what she was in the buffalo camps was not what she was now, and she did not want to be reminded of that earlier time.

6.2.2 Traditional knowledge

When the new land rights and sacred sites laws were introduced in the Northern Territory in the 1970s, suddenly senior Aboriginal people found that whitefellers were asking them new questions about sites and dreamings, genealogies and myths. For their whole lives up to that time, these old men and women had been valued by whitefellers for the work they could do. Now, suddenly, they were being asked for stories. Some people, like Bill Neidjie, proved themselves good at being, and willing to be, both kinds of person, a competent worker and a cultural custodian. Others were different. One old man from Jim Jim had spent a long working life in jobs away from his own country, eager to prove his worth to his white bosses. But when whites started asking these new questions about his traditional country, he had few answers. Other people who had lived in his country, while he was away, could tell more about it than he could. The way he had lived his life meant he could not now be who he was expected to be in the new era of recognition for traditional culture. He had been caught out by history.

Just as the Tom Cole project showed how people could respond differently when presented with the image of what they had been in their working lives, so another project showed different responses to this new role of traditional custodianship. When Kakadu expanded to include the former Goodparla and Gimbat stations, it meant a large area of northern Jawoyn country was included in the park and Jawoyn people from south of the park were being consulted over management questions. In 1997 the Parks Service asked me to define the limits of Jawoyn management responsibility in Kakadu. I approached this question by taking a band of country that stretched across the park from east to west, extending from areas in the south that I knew to be clearly Jawoyn, to areas in the north that I knew to be clearly non-Jawoyn. It covered the southernmost parts of Stages I and II and the northernmost parts of Stage III of the park. Within that band I identified about thirty places that could serve as a focus for consultations, and also identified those patrilineal clan territories that covered the zone of country that was the subject of my investigation. I then proceeded to locate the traditional owners of those clan estates to ascertain from them the language affiliations of the selected places and the people who should be consulted over management questions. Some of the places were Goodparla station homestead, a series of locations along the southern escarpment of Kakadu Stage I, and crossings on the Kakadu Highway.

There were no outstations in this area, so everyone who had any knowledge of or traditional interest in it lived at varying distances from it, and some had no greater experience of it than driving through it along the Pine Creek road, which later became the Kakadu Highway. While a few old people were able to provide information regarding language and places, generally people had pursued their lives in other directions and knowledge of this country was thin. But just as the Tom Cole project had shown that

people could take different attitudes to their own life histories, so this Jawoyn boundary project revealed different attitudes to the role of traditional owners.

One man, who had lived in Jawoyn country to the south of the park, had recently learned that one of the escarpment sites was an important place for his clan, and was planning to visit with a park ranger to receive a briefing on planned tourist developments there. He declared himself ready to be consulted in future over the site. Another man, who had lived in Kakadu since its declaration and had spent some time working as a ranger, was aware that his traditional estate included some of the southern escarpment, but was happy to leave management responsibilities for those places to a member of another local family whose own country was further north, but who was already closely involved in park management and had longstanding familiarity with that southern area from his early years of travelling on horseback with his father. In yet another case, two brothers, who could claim attachment to the Goodparla area from their paternal grandfather, now lived at Beswick and regarded themselves as Kunwinjku, following their father who had spent some years in school at Gunbalanya. They did not wish to exercise any responsibility for the Goodparla area. Their lives were lived elsewhere now, one had his own family, and they did not identify with Jawoyn language or places.

At the other extreme, as uranium mining in the north of the park has shown, people will insist on their rights as traditional owners to know and control what is happening on their country. That may apply even to places that have been damaged or left unused for many years. In 1989 I was asked to do the sacred site clearance for the environmental impact statement for the proposed army firing range on Mount Bundey station, immediately west of the park. Several of the people I consulted in the Humpty Doo – Howard Springs area referred me to an old Limilngan man, Felix Holmes. Driving around the area, he saw no problem with the firing range proposal. The country was clear, he said, and the army could have it.

But before doing that work, he directed me north down the Point Stuart road to a location in his country where half of a large stone circle lay in the grass alongside the road, and the other half had been obliterated by the grader that had widened the road. He gave me names for the place, the ceremony that had been performed there, and the old man who was boss for the ceremony. He said the place was a dreaming site. He had never been in 'business' there, indeed he said that the ceremony had not been performed there in his lifetime and the ceremonial boss had died before he was born. He had been working on the cotton crop at Kununurra when the road was made. Later when he and Bill Neidjie came looking for the place, they discovered what had been done. He said that they both worried and became ill. They went to see Clyde Holding, then Minister for Aboriginal Affairs. Felix complained that the road had been put through with no consultation with him or other traditional owners. 'We get nothing', he said, standing next to the remaining half of the stone circle, but it's 'our site!'. He declared to me that the place was still a dreaming site, never mind that it was 'buggered up'.

6.3 The people who do the asking

In the 1990s there was an idea current in the park that when doing history research, Bininj should be interviewed by Bininj, and whitefellers should be interviewed by whitefellers. One reason for this was that Bininj interviewers could use language and thereby get better answers to their questions. From my academic point of view, I was never happy with this idea. It seemed to me to impose an artificial division that assumed that there was only one purpose for doing historical research, and which also misunderstood the nature of buffalo country history.

When I taught a class of some younger Bininj on documenting oral heritage, one thing that became apparent was that they were mainly interested in collecting stories from their own families and areas, or from people with whom their families had had close historical relationships. They wanted stories for the information content, both for their own satisfaction and to have something to show their own kids. As another woman said, stories add to the family. They felt uncomfortable, and thought it improper, that they should ask questions of people from whom they felt distant, or do research trips into their countries. Whitefeller researchers feel no such constraints. We do not start out with any social position that makes us related to some and unrelated to others, so we begin equidistant from everyone, and the stories that interest us are all those that allow us to build a more comprehensive picture about whatever subjects we are researching, and the research interests that we bring with us have a wider frame. What we find out about this area, we want to put against what is known about other parts of Australia, or other parts of the world.

Another noticeable difference, and one that is related to the first, was a different attitude to inconsistencies in the information collected. Bininj students felt frustrated when they encountered different versions of a story or different locations for a named place. This frustration arises I think because the younger generation of Bininj often have the idea that there are knowledgeable old people available who can give them the true story about country, or about things that happened in the past. It is disconcerting for young Bininj who are interested in discovering the true stories for their family and country, to be presented instead with uncertainty and disagreement. An escape from this problem is to rely on the word of the one old man or old lady to whom one is most closely related, and discount any inconsistent sources. There is sometimes disparagement expressed about what is said in books.

On one field trip there was an argument between two people about site locations, one a dreaming site and the other a camp site they had used in earlier years, in an area that had seen significant environmental change. Two junior members of the family were interested in recording their seniors' knowledge. After the discussions had gone on for some time, one of them gave up, saying in effect: 'I don't care if we do anything else now. I'm not learning anything. These people keep on changing their story. I hope Robert hasn't written all this stuff down. I'm confused. I don't know what the story is here.'

But even when I started my work in the 1980s, when there were more knowledgeable old people around, there was difficulty in getting an agreed and reliable account of matters. A whitefeller approach to this situation is to record everything, compare the field data with any other sources available and try to make judgments about the relative quality of the data from each source. One might then try to figure out how it all fits together, or

alternatively, one could ask what lies behind the differences. So in the case above, I had indeed written down what both of the disputants in this instance had said, and if a third version were available, say from a land claim book or other document, I would have noted that too. So for whitefeller researchers, disagreements and inconsistencies are certainly a difficulty, and a very common one. But taken in a larger research context and more widely defined range of academic interest, they are not fatal to the research effort. They have to be regarded simply as part of the knowledge-environment of the area. And as such, they may themselves be revealing.

In July 1934, some crocodile shooters were camped at Corroboree Camp on the Mary River. There were three white men, Jack Gaden, Bill Jennings and Harry Stewart, one Aboriginal man, the Umbugarla man Butcher Knight, and two Aboriginal women, Ruby and Kapa. Butcher was on one side of the billabong attending to the horses when Gaden and Jennings fired some shots into the river bank below where Butcher was standing. When he returned to the camp, he challenged them as to why they had fired shots in his direction. They responded jovially, telling Butcher they were only joking, smoothing over the incident by offering food and rum. After the others had gone to bed, Butcher sat alone, drinking the rum and brooding. In the early hours of the morning, he took a rifle. With his first shot he killed Bill Jennings and Kapa, lying together. His second shot hit Jack Gaden in the hand. Gaden put his hand to his head and fell down, the blood on his head making it appear he was dead. His third shot inflicted a wound on Ruby from which she later died, and then hit a dog behind her. Harry Stewart escaped. After Butcher's arrest he was tried in the NT Supreme Court and sentenced to death. This was commuted to life imprisonment. In 1942 the Japanese bombed Darwin, and a judge went to Fannie Bay Gaol and announced to the prisoners that they were to be released, that they should go back to their countries, sit down quietly and make no trouble, although no-one minded if they felt like killing some Japanese.

Butcher's account of this incident and of the court case that followed was long and detailed. But we also have two other accounts, one written by David Ritchie (1998) from his oral history research with people at Humpty Doo, and another written by Mickey Dewar (1999) from her archival research on the history of Fannie Bay Gaol, where Butcher spent seven years. These two accounts are at variance with one another and with Butcher's own account in important respects, including his motive for the killings and what he did in the days afterwards. Such inconsistent versions can certainly be confusing, but may equally be of interest for a number of reasons. From the three Corroboree Camp stories, separately and in combination, we can try to arrive at an accurate account of what happened and why, but we can also learn something of Butcher's own personality and world view, and about the way the surviving white men, the police and the court, interpreted what he had done, and more again about the significance of the story for the way people in that area understood their own history and relations with the white settlers.

As this example suggests, the idea that Bininj should talk to Bininj and whitefellers to whitefellers also misunderstands the nature of history in the buffalo country. This is something that became plain to me during my first field period in 1981, when I did an interview, again with Butcher, that I found so surprising that it convinced me to stay in the area and keep doing research. He was telling me about the Morag initiation ceremony that was practised on the South Alligator wetlands when he was young. He remembered that at the end of one ceremony, the novices were spoken to by one of the ceremonial bosses who had looked after them during the hard law that they had been subjected to.

He told the novices to go and work for the white man in the buffalo camps, to work well and not run away, and when the work was over and they were given holidays, to bring the tucker and tobacco and other goods that they were given by the white man back to the old men who had looked after them in the Morag. Butcher's story showed me how completely intertwined the histories were. Here were the senior men bringing white man's business right into the middle of the most Bininj of all things, an initiation ceremony. The history of the buffalo country was not composed of separate histories for Bininj and whites, it was all one history. To get a good picture of it, you have to be able to talk to everyone.

6.4 Getting on with it

Now in mid-2011, there are three projects on park history for people to think about. On one of them a lot of work has already been done, one is about to begin and will go until the end of the year, and the third is so far just an idea. The first is a history of Mudginberri station. This will produce a film, the latest edit of which has been screened at this workshop, and which will be produced in long and short versions for people with a particular historical interest and for park visitors. The project will also produce a written history based on interviews with a range of people who lived and worked at Mudginberri, and on research in the archives. The second is a historical and heritage assessment of three sites in Kakadu. These are Munmalary station, Nourlangie camp or Anlarrh, and the old pub at the Jim Jim Creek crossing on the old Pine Creek road. Some books have been written by people who ran these places: John Lord for Munmalary, Judy Opitz for the Jim Jim pub, and Allan Stewart for Nourlangie. They are a good start, but we really need information from others, especially any of the many Bininj who knew these places, to provide other perspectives and experiences that those authors don't talk about. The third project, so far just an idea, is to look at the time before transport around the park became dominated by Toyotas. The idea is to talk about how people moved on foot or horseback, the routes they took, where they camped, the bush tucker they found, the fires they lit, places they avoided, and incidents that happened. There are plenty of middle-aged Bininj who can remember travelling around the park area as kids with their parents, who could help document a human geography of the park that has since been changed by roads and vehicles. So for all three of these projects, we need to know who has information that could help. We would welcome their involvement.

Finally, for researchers like myself who have been working on park projects over many years, the electronic technology that has become available since we started, and the new information management plan that the Parks Service is adopting from the Cultural Heritage Management Strategy that Sally May and others have prepared, mean that we now have a responsibility to make information from our work available for the park electronic archive. That will be a big job and will take time. A lot of material is already held by Parks and awaits proper cataloguing and sometimes digitisation. Beyond that, the new ways of storing and presenting information that are offered by new technology also invite us to think about how they might be used for the kinds of information we have.

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7. The archaeology of Kakadu: past, present and future

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"Locking cultural heritage away is the best way to lose it"

NaGodjok
Cultural heritage workshop 2011

7.1 Introduction

At the cultural heritage workshop in April 2011 one of us (DW) talked about archaeological research in Kakadu National Park. This talk culminated in a discussion between Bininj (traditional owners) and Balanda researchers on the application of archaeology to future cultural heritage work in the park. This paper presents results from the workshop and integrates Bininj and Balanda perspectives on future directions for archaeology in Kakadu. The paper is intended primarily as a reference point for park staff and Bininj traditional owners, and should not be used as an overview of all archaeology within the park. The paper is divided into four sections:

- What is archaeology?
- Archaeology in Kakadu
- Do archaeological sites need our protection?
- The future of archaeology in Kakadu

7.2 What is archaeology?

Archaeology is the study of how people lived in the past based on physical evidence of their activities. Physical evidence includes cultural materials (e.g. shellfish, bone, stone tools, ochre), features (e.g. fire places, shell mounds) and sites (e.g. old camps, stone tool quarries). Archaeology can contribute to Bininj knowledge about country. Like rock art, archaeological sites can be disturbed or destroyed by natural erosion or human activities and so need our protection.

Archaeologists learn about important places through the following methods.

- **Surveying** involves walking through country with traditional owners. Cultural materials and sites are recorded using photography, mapping and detailed written descriptions. When combined with oral histories, survey is useful for finding vulnerable sites and providing knowledge to be passed on to future generations. By

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keeping an eye on important places and recording information for each site it may be possible to protect these from natural (e.g. rising seas, feral animals) or human (e.g. building projects, fire) damage.

- **Excavation** involves digging a small hole in the ground (often 1x1m to 2x1m). As the hole gets deeper, soils, bone, shell etc usually get older than the materials that come from above. This is because soil layers continue to form (and then become buried) each time leaves, wood and grasses etc decay, or as sand erodes off the escarpment and outliers. By charting the distribution of archaeological materials through the soils it is possible to better understand what people were eating and how they were living over long periods of time.
- **Analysis** involves the inspection of excavated materials. The site age can be shown by radiocarbon dating organic materials such as charcoal, shell or bone. Changes in what people ate can be looked at through bone, shell and plant remains (e.g. nut fragments, seeds, tuber fragments) or organic residues that may be found on stone tools (e.g. plant and animal remains). Stone tool analysis can test how far people were walking to get the material used to make these tools. Finally changes in vegetation around a site can be assessed through microscopic plant remains (e.g. pollen and phytoliths), which may survive in the soil.
- **Basic analysis** can be done on country (soil and rock) but most materials (stone artifacts, bone, shell and charcoal) will need to go off country for specialist analysis, as specific laboratory conditions are required. All these materials can be returned once the analyses are completed.

7.3 Archaeology in Kakadu

Archaeological research has played an important role in the promotion of Kakadu as an area of World Heritage by

- roviding evidence for human settlement that is amongst the oldest in Australia (e.g. Malakunanja II, now known as Madjedbebe)
- providing a continuous record of human settlement, which is rare in Australia
- confirming long-term Bininj connection to country
- providing valuable insights into human responses to environmental change through time (http://whc.unesco.org/en/list/147)
- providing some of the earliest evidence for art in the world

Archaeology has also assisted Aboriginal communities develop cultural tourism programs, work towards Native Title claims and raise international support (via media) for restricting/managing development on their country (see for example "Mirarr Gunwarddebim project" http://www.mirarrrockart.net/).

Archaeological research spans 50 years (see table 7.1) focusing on escarpment country (e.g. Allen and Barton 1989; Jones 1985; Schrire 1982) and floodplains (e.g. Brockwell 1992; Clark and Guppy 1988; Meehan et al. 1985; Woodroffe et al. 1988). Within escarpment country archaeological excavations have targeted rock shelters, raw material quarries (stone and ochre), and stone/bone arrangements. Floodplain sites comprise stone artifact scatters and mounds/scatters of shellfish and soil. Currently, 194 floodplain

sites are listed on the park's GIS register. Many more are likely to be found should their study become a priority in Kakadu.

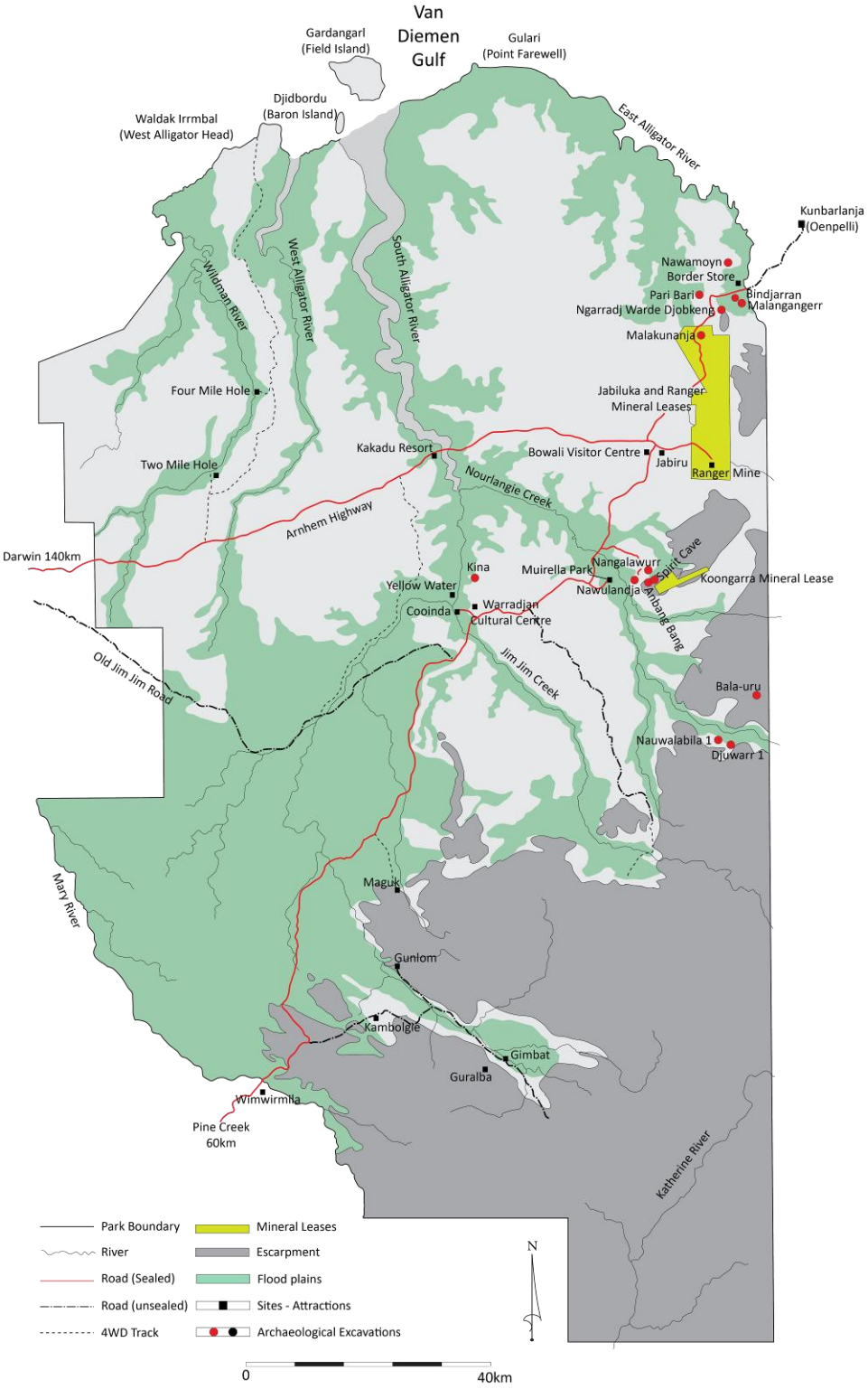

Figure 7.1 Location of key archaeological excavations in Kakadu National Park (after Kamminga and Allen 1973; Schrire 1982; Jones 1985a; Kakadu Management Plan 2007)

Table 7.1 Excavations and location of collected materials (based on table provided in the Cultural Heritage Management Plan for Kakadu 2011 (Appendix 4). Please note that the information provided in this table is incomplete. Further research needs to be undertaken for this to be a complete record.

Year/s	Researcher/s	Main excavation sites	Current location of collected material
1964-66	C. White (Schrire)	Paribari, Nawamoyn, Jimeri I, Jimeri II, Malangangerr	Museum and Art Gallery of the Northern Territory, Darwin
1972-73	H. Allen, J. Kamminga	Ngarradj Warde Djobkeng, Malakunanja II, Daberr, Nauwalabila, Balawuru, Nangalawurr and Nawulandja	Museum and Art Gallery of the Northern Territory, Darwin
1977	H. Allen	Ngarradj Warde Djobkeng	Department of Anthropology, University of Auckland, New Zealand
1981-1987	R. Jones, B. Meehan, J. Allen, I. Johnston, S. Brockwell	Anbangbang I and II, Djuwarr, Spirit Cave, Yiboiog, Blue painting site, Ki'na, Nauwalabila I, Kumunkuwi, Kun-kundurnku	Partially destroyed during the Canberra bush fires of 2003
1987	C. Woodroffe, J. Chappell	A-P	-
1988	R. Jones, M. Smith, R. Roberts	Malakunanja II, Malangangerr	-
1991-93	P. Hiscock	N/A	Australian Nature Conservation Agency (now Environment Australia)
2007+	S. Brockwell, J Stevenson et al.	Floodplain sites	NA
2011	D. Shine	Bindjarran (nr East Alligator River Ranger Station) - PhD	Monash University
2012	C. Clarkson, B. Marwick, L. Wallis, M. Smith, R. Fullagar,	Malakunanja II (Madjedbebe)	University of Queensland, University of Woolongong

7.3.1 Settlement activity in Kakadu

Early phase (50 000–7 000 years ago): At the start of this period sea level was approximately 120-140 metres lower than it is today with the Alligator Rivers and floodplains yet to develop. The climate was drier and cooler than it is today, although seasonal wet and dry climates were already in place.

Archaeological research in the Alligator Rivers region suggests that people have been living in rock shelters on the escarpment (and outliers) from at least 50 000 years ago (Schrire 1982; Jones 1985; Roberts et al. 1990; 1993; 1998). Rock shelters continued to be occupied during the subsequent 40,000 years (e.g. Ngarradj between 25 000–18 000 years ago; Malakunanja II (Madjedbebe), Nauwalabilla, Nawulandja between 18 000 and 7000 years ago) (Allen 1989). During this time people were using grindstones, ground axes and large quartz flakes and cores (e.g. Schrire 1982: 239). Recent excavations by Dr. Chris Clarkson and others at Malakunanja II have shown that the early dates from studies in the 1980s are likely to be correct (publications forthcoming). A pre 45 000 year age for settlement has also been confirmed by recent excavations at Nawarla Gabarnmang, south of Kakadu National Park (David et al. 2013).

The absence of sites pre-dating 7000 years ago on the floodplains is because sea levels were much lower at this time. The floodplains have formed as sea levels have risen over the last 7000 years burying sites that formed at earlier times.

Middle phase (7000–4000 years ago): Scientific research suggests this was a period of major environmental change (Woodroffe et al. 1988). By 7000 years ago temperature had increased and sea level had reached approximately 4 to 6 metres below current level. By 6000 years ago seas flooded the Kakadu plains. Pollen and seed records suggest that vegetation changed from woodland and open forest to grasslands and large mangrove swamps (Woodroffe et al. 1988). These habitats offered opportunities for new plants, animals and shellfish.

Archaeology suggests that environmental change was marked by settlement change with people moving down from the escarpment onto the floodplains (e.g. Pari Bari and Jimeri) and outlier sites (e.g. Anbangbang I, Nangalwurr and Bindjarran) (Allen 1989; Jones 1985; Shine et al. 2015). Increased settlement of floodplain sites suggests that people were making use of new foods. You can see evidence for this in the saltwater shellfish found at many of the outlier rock shelters for example: Nawamoyn dating to 8 182 to 7 679 calibrated years ago (ANU-53), Malangangerr at 7,231 to 6 490 cal. years ago (GaK-627), Malakunanja at 7 463 to 7 013 cal years ago (SUA-251) and Malakunanja II at 7 679 to 6 664 cal years ago (SUA-264) (Kamminga and Allen 1973; Schrire 1982; Allen and Barton 1989). At Nawamoyn and Ngarradj the archaeological materials become dominated by shellfish soon after the establishment of the mangroves, approximately 7 000 years ago (Brockwell et al. 2011: 5).

Freshwater species (e.g. turtle, fish, swamp birds, mussels and plants) are also present showing that Bininj were exploiting freshwater lagoons during this time. This change in subsistence was marked by a change in stone tools, from large flakes and cores to small projectile points, scrapers and edge-ground axes (Schrire 1982: 239).

Late phase (4000–present): After 4000 years ago there was a gradual transition in the lowlands from saltwater estuaries to freshwater floodplains. During the subsequent 2500 years the mangroves retreated and were replaced by grasses and sedge. The rich freshwater Kakadu wetlands of today date to the past 3000 years (Allen 1989: 99).

During the past 3000 years the quantity and size of open sites (artifact scatters, shell mounds) on the floodplains (e.g. Yiboig, Spirit Cave) increased suggesting larger groups of people were using this area. Increased occupation of floodplain sites after 3000 years ago is expected to reflect a growth in population and the emergence of a rich saltwater/freshwater wetland in Kakadu (Jones 1985: 292).

After 1500 years ago there was a further increase in the size and quantity of sites (e.g. Kina) on the floodplain (Allen 1989). Sites associated with this period include shell and earth mounds and scatters of bones from freshwater animals (e.g. turtle, fish, and swamp birds) and freshwater mussels. During this period there was a significant reduction in rock shelter settlement at Malangangerr, Nawamoyn, Ngarradj, Malakunanja II and possibly Paribari (Allen 1989: 113). The only occupied shelters were found close to stable freshwater lagoons or rivers (e.g. Nawulandja and the Anbangbang sites). Increased site size suggests that new foods supported a larger Bininj population and that people lived in larger groups.

7.3.2 How old is the rock art?

Archaeology is able to provide important information about the age of rock art. This is possible by dating organics used in rock art (e.g. beeswax) or excavated next to pieces of worked ochre that may have been used for art. A minimum age of rock art can sometimes be obtained by dating minerals overlying rock art. In Kakadu, the best record

comes from Nawalabila I in Deaf Adder Gorge (Jones 1985). A peak in excavated ochre occurred between 0-2000, 3000–4000 and 6000 years ago. An additional peak was recorded just before 12 000 years ago with small fragments continuing down to 25 000 years ago. This information was used to provide a maximum age for the dynamic figure art at the site of 12 000 years ago, which corresponded with the most prolific period of artifact deposition. A similar (possibly older) record of buried worked ochre is likely to exist at Malakunanja II (Madjedbebe) as shown through recent excavations at the site (Chris Clarkson pers. comm. 2013). Elsewhere in Arnhem Land a buried rock art panel was excavated at Nawarla Gabarnmang in Jawoyn country which dates to 28 000 years ago (David et al. 2013).

7.4 Do archaeological sites need our protection?

As recognised by many Bininj at the workshop, archaeological sites continue to be destroyed in Kakadu. It is not just rock art sites that need our protection. Coastal plains are currently only 0.2-1.2m above mean high water levels. Rising seas and expanding mangroves have been responsible for the disappearance of many sites along the floodplain, especially on riverine and coastal margins (including those on the banks of Wildman River) and this situation is likely to intensify over the coming decades. In a recent risk assessment a large portion of the East Alligator River floodplain was identified as liable to flooding within the next 20 years due to climate change (see: http://www.climatechange.gov.au/sites/climatechange/files/documents/03_2013/kakadu-coast.pdf). Meehan et al. (1985) estimated that a total archaeological assemblage of 25,000,000 archaeological artefacts could be found on these floodplains, implying that any flooding would have a major impact on our knowledge of Aboriginal settlement in the region. While it is the floodplain sites that are most obviously under threat, escarpment and outlier sites are also damaged by pigs, tourists and changed fire regimes (to name a few). We are losing important sites and with them long-time stories about people.

7.5 The future of archaeology in Kakadu

At the cultural heritage workshop in April 2011, many Bininj were receptive to future archaeological research in Kakadu. A deceased senior traditional owner from the Oenpelli region expressed the opinion that "locking cultural heritage away is the best way to lose it" (NaGodjok Pers. Com. 2011). Considering the significant loss of sites within Kakadu National Park and the economic and social significance of cultural heritage to Australia (and more specifically Kakadu Parks and traditional owners) we strongly agree with this and suggest the following:

a) Cultural heritage (including rock art and archaeology) conservation and research should be a priority.
b) It would be useful for Kakadu Parks to have a team trained in cultural heritage skills who could undertake on-country surveys (including site recording and risk assessment). To do this, people need basic training in survey and potentially rescue excavation by a specialist (preferably one employed by Kakadu). Should disturbance be observed at large site complexes or significant sites, action should be taken to mitigate this and specialist advice sought. From an archaeological perspective, caves and rock shelters with undisturbed soil, intact mounds of soil or shell and human burials are some of the sites that should be considered significant. It may also be useful for a manual to be written for recording and conserving archaeological sites.

c) It is important that high-risk areas (such as those identified above) are surveyed, assessed and recorded by park staff and researchers. Some sites may be conserved and others lost. Any information saved provides future generations with a better understanding of the people who occupied this region.
d) There are many highly significant sites in Kakadu (including some over 40 000 years old). It is important that these sites are monitored. A coherent monitoring strategy needs to be devised that will identify any damage/changes to the site. Other sites are yet to be found. Archaeological research should be encouraged (and regulated) within the park, enabling academics (in collaboration with Bininj and park staff) to document, monitor and protect significant places.
e) The centralised database (CIMS) is a great initiative and should be continued. This should include archaeological (not just rock art) sites, with all survey data (from park staff and researchers) being entered. This will allow rangers to revisit these sites to check for disturbance and will provide a valuable tool for understanding the big-picture of past activities. Kakadu Parks may wish to make data submission a condition when issuing research permits, with further permits put on hold until this data is provided.
f) If archaeology is to continue in Kakadu National Park, Bininj traditional owners have made it clear that better communication is needed between researchers and Bininj. Protocols need to be formed which regulate the removal of cultural materials off country and ensure their return. Such standards are reasonable in the current climate of ethical, community based research.

Community archaeology may be a good direction for future research in Kakadu (see Shine et al. 2013; Shine et al. 2015; May et al. In Press for recent examples within and adjacent to Kakadu National Park). This involves traditional owners at all stages of the research process including development of research questions, fieldwork and publication of results. Archaeologists can be a resource for communities who wish to find out more about their important sites, to develop cultural tourism initiatives or assist with the protection and promotion of sites. In the future, Bininj should be trained in archaeological field procedures, especially survey, recording and monitoring of sites. In this way they can eventually play a lead role in archaeological investigations and the protection of their own cultural heritage.

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