Nyikina and Mangala
Mardoowarra Wila Booroo
Natural and Cultural Heritage Plan

Providing information to plan for and manage activities on Nyikina and Mangala country while protecting culture and the environment.

John Watson, Anthony Watson, Anne Poelina, Neville Poelina, William Watson & Jo Camilleri on behalf of Nyikina and Mangala custodians.

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Acknowledgements

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This document is dedicated to the struggle and leadership of our elders.
GLOSSARY

Aboriginal
Aboriginal and Indigenous are terms used interchangeably to describe Australia’s original inhabitants

Babakaman
a place on Mangoorll (Manguel Creek)

Balginjirr
the traditional name for Lower Liveringa Homestead, also written as Balkanyjirr

Bangarrikhan
Fraser River

Barniy
goanna

Barooloo
catfish

Bilankoordany
barramundi (also Walja)

Bindinyan
a billabong on the Mardoowarra near Upper Liveringa

Binyinga
Skeleton Lake

Biyalbiyal
freshwater sawfish

Bookarrarra
Nyikina word for Dreamtime, the Beginning, which represents integration of the past, present and future

Booroo
land, country

Bunuba
language group of people from the upper Fitzroy River area

Dambalkoodany
a billabong on the Mardoowarra

Djarrardoo
near Deep Creek, boundary between Nyikina and Yawuru country

Doodoodoo
the area around Mount Wynne containing artesian springs

Elder
senior person of responsibility and decision maker who is respected in traditional society

Gooniyandi
language group from the east of the Mardoowarra

Jamandi
hill kangaroo (Megaleia rufa)

Jangoonan
Logues Spring

Jarlmadanka
the traditional name for Mt Anderson

Jarlmadangah-Burru
a contemporary Nyikina community established in the Mt Anderson precinct several kilometres from Mt Anderson Station

Jarlmankoonan
sheep camp in Yawuru country

Jarrgangayarr
Lake Alma

Jarramba
Cherabun

Jibinyma
barramundi, large

Jikada
Myroodah Crossing

Jirrkaliy
Geegully creek

Jipuku
rock wallabies

Joombarn booroo
Mt Clarkeson

Joorroo
snakes

Kooban
billabong north of Lanyji Lanyji towards the mouth of the river

Koojikan
spring between Dampier Downs and Yaka Munga

Koombarrananjal
Roebuck Plains

Kooroo
big rock near Camballin where Jandamarrra drowned

Kalard
place near Yeeda Plain estuary

Kalayannayi
Clanmyra Pool at Jirrkaliy

Kalbarrkoo/
Kalkoolbarkoo
freshwater crab (Austrothelphusa transversa)

Kalbaya
raft

Kalkardin/Karlikabin
Honeymoon Spring near Jarlmadangah
(same name also refers to ridges near Udialla)
Kandri a contemporary Kriol word for country
Karajarri language group from the saltwater and desert country to the west of Nyikina and Mangala
Kardiya/Guddeeyu A term that refers to strangers to this land, in contemporary terms used to refer to ‘white’, Caucasian people
Karlbinan Scorpion Hill
Karnajinangany/ kinanyji echidna
Karnamoongkarraboo a special billabong on Luluigui Station
Karnanganija emu
Kirriwi water rat (Hydromis chrysogaster)
Koonjainingooroo all the different creeks in the Camballin area
Koorahayi Koorahayi Nyikina people who belong to the upper region of the Fitzroy River
Koorbiji Eucalypt tree (Eucalyptus flavescent)
Kooowinya freshwater crocodile
Kujikan a big spring on Mangoorll (Manguel Creek)
Kunjainingooroo Camballin Floodplains
Lambawooroo bush cucumber, bigger one
Langkoor northern brush tail possum (Trichosurus arnhemensis)
Lanyji a place on the Mardoowarra
Lanyji Lanyji Lanyji Crossing on the Mardoowarra
Limar poison stick
Linannyoordany a Nyikina word for feeling, emotion, spirit
Lirban place of an important story, also name of community near Camballin
Lirrinkiny a Nyikina word for fresh water mangrove
Lirrinkiny soap wattle (Acacia colei)
Liyan a Nyikina word for feeling, emotion, spirit
Looma a place on the Mardoowarra
Majala a Nyikina word for woman
Malabooroo Valentine Island
Malankarr giant olive python (Liasis olivacea)
Malabooroo community near Valentine Island
Mamirrina Luluigui Crossing on the Mardoowarra
Mandikaboo Old Dampier Downs
Mangala custodians belonging to country south of lower Fitzroy River
Mangoorll Manguel Creek
Manyoorrkar Dead Man’s Hole
Mardoowarra Nyikina name for the Fitzroy River
Marrjabin mussel (long one from billabongs)
Marnin a Nyikina word for man
Mayarda Nyikina word for pelican. Misspelled as Myroodah in general usage
Midarra Golden Bandicoot (Isodon auratus)
Mijirikan boundary within Nyikina country near Noonkanbah
Moorrool Moorrool significant site west of Lanyji
Moulamen Le Lievre Swamp
Ngaboojarra  bush cucumber, smaller one
Ngaloowinyan  culturally significant hills near Looma
Ngalyak  blue tongue lizard
Nganka baloo  message stick
Nganyingan  Telegraph Pool, a billabong on the Mardoowarra
Ngarri  devil, spirit
Ngirridany  barramundi, small
Ngoorroo Ngoorroo  Chestnut Pool
Nimarlkarn  stunted paperbark (Melaleuca nervosa)
Nyarlku  bilby
Nyikina  custodians belonging to country around the lower Fitzroy River and King Sound
Nyikina-Mangala  native title holders for the claim encompassing both Nyikina and Mangala country
Nyinyi  Mowla Bluff
Oongamooloo  warning, to stay away
Oongalka  firestick tree (Premna acuminata)
Oongalkada  Udialla Springs
Roomboony  waterhole near Upper Liveringa
Wagurr  Pandanus spiralis growing in spring country
Walankarr  Edgar Ranges
Wajjarrarra  Yeeda Plain estuary
Wabada  water goanna (Varanus varius)
Walyja  barramundi, medium
Warloongarriy  narrative song which tells the story of the journey of Woonyoomboo, our first human ancestor to travel up the Fitzroy River: the song is our creation story
Warloongarriy nooloo  a specific regional corroboree performed to the warloongarriy
Warramba  floods in the wet season
Wila  waterholes, living water
Wiliji  rock wallabies
Wiliyanoo/kakaroor  mussel (big, fresh water type)
Wiliyalkany  permanent waterhole on Jirrkaliy (Geegully Creek)
Wilyan  billabong on the Mardoowarra near Willare
Windinngoorroo  17 Mile Dam
Woorloobarda  place on Nerrima Creek
Woonyoomboo  the first man from the Bookarrarra who created the billabongs along the Fitzroy River. All Nyikina people link their heritage to the genealogy of Woonyoomboo
Yallaroo  place near Bidan, traditionally a camping area
Yimardoowarra  Nyikina people who belong to the Lower region of the Fitzroy River
Yirala  Snake Creek (Uralla Creek)
Yiriman  name of a hill, also name of the youth diversion project
Yoongooroonkoo  serpent who made Mardoowarra with Woonyoomboo
Yungngora  language group from the east, near Noonkanbah
THE MARDOOWARRA
WILA BOOROO
NATURAL AND CULTURAL
HERITAGE PLAN
PART 1: ABOUT THE MARDOOWARRA WILA BOOROO PLAN

Children need to learn why they are here today. Good thing to learn guddeeyu (kardiya) ways but important also to learn our own culture. Need to sit together on ground. That is your Law.
John Watson, Nyikina, 1984 (KALACC 2006).

INTRODUCTION
This is a plan for Nyikina and Mangala country.

*Maboo nganka mandajarra:* this Plan is a message stick. It tells people an important message for our country. We are sharing this message stick far and wide to let people know of our plans and invite them to talk with us about how we can work together.

We, the Nyikina and Mangala custodians, have developed this Plan to guide decision making on our country, both to look after country and provide a strong future for our people and communities. This Plan was conceived by our leaders to address concerns we have had over many years about what was happening to our country, and what was being proposed for it by others. It brings together both traditional knowledge and science to set direction for our future: for us and others.

This Plan will:

- Guide actions to protect natural and cultural values, and manage priority areas;
- Give direction for both the use and conservation of the Fitzroy River, and other important areas within Nyikina and Mangala traditional lands;
- Guide decisions about future enterprise developments that ensure natural, social and cultural values are protected.

We have made this Plan to help government agencies, researchers, industry and the wider Australian community to better understand and respect our rights and responsibilities for our country. We ask everyone to support and respect this document, rather than developing their own plans for our country.

*Our aim is for all government agencies to come through our governing structure to work side by side with us, not against us, in collaboration in building our future.* Anthony Watson

This Plan covers the entire Nyikina-Mangala Native Title Claim area (Figure 1), covering over 27,251 km². We are starting at the Nyikina and Mangala nation scale to establish priorities for our country, and we will work from this scale upwards to inform other regional processes in the Fitzroy Valley and the Kimberley.
MAKING THE PLAN
This project was initiated by Nyikina and Mangala custodians as a partnership between Jarlmadangah-Burru and WWF-Australia (WWF), guided by a partnership agreement. As the scope of the project widened to encompass the entire Nyikina and Mangala claim area, the partnership project was continued by Nyikina and Mangala Aboriginal Corporation (NMAC) and WWF-Australia.

Senior elders approached Tanya Vernes from WWF-Australia to work with them to develop this Plan. WWF is a global conservation organisation who has been working in the Kimberley to support caring for country activities for over a decade. WWF was keen to support country-based planning for the lower Fitzroy River, given their involvement on smaller projects in the past (such as funding for sawfish research) which clearly showed the importance of the lower Fitzroy River for cultural and natural values. As a conservation organisation WWF’s interest is protection and management of country, and assisting communities and individuals to achieve this. Supporting custodians to undertake country-based planning is a WWF priority.

We made this Plan by combining scientific knowledge with the valuable knowledge and cultural guidance of Nyikina and Mangala custodians. The Plan records the knowledge that we hold in a way others can understand. It also recognises country and culture together, as it is in traditional systems of Law, knowledge, governance and management of country.

The plan was made in six steps:
1. WWF technical report written from published reports and maps, which custodians checked for accuracy;
2. On-country trips and meetings recorded cultural values and identified issues, cultural resources provided (eg maps);
3. All Information put together to show the whole picture (the Plan);
4. Meetings brought people together with the Steering committee to discuss and check information;
5. Draft plan submitted to steering committee for approval;
6. Plan finalised and published.

A steering committee of Nyikina and Mangala custodians, including senior elders, guided the project, provided key information and determined what could or could not be written in this Plan. This was especially important to ensure no restricted cultural information was included: only information that is allowed to be known and publicly discussed is included in this Plan.

We have also developed supporting documents such as our annual ranger workplans to guide implementation.
One of the workshops held at Udialla to bring together this plan
© T. Vernes
REPORT STRUCTURE
We have divided our Plan into four priority management areas within our country (Figure 1):
- Moorool Moorool — King Sound
- Mardoowarra — Fitzroy River main channel
- Koonjaningooroo — Camballin Floodplains, and
- Nyinyi/Walankarr — Mowla Bluff and Edgar Ranges
These areas were chosen as priority areas because they are under the most pressure. For each of the four areas we present information about special places, natural and cultural values, threats, opportunities for appropriate enterprises, management priorities and steps to get there. Although this Plan focuses on the four priority areas, all country within our nation is valuable to us, and in time we will include other areas for management.
In the final section we outline strategies, actions and partnership opportunities to guide the implementation of our Plan over the next five years.
Aboriginal communities and major waterbodies of the Nyikina-Mangala Native Title Area

Map produced by Isabella Amouzandeh, WWF Darwin
Map: G:GIS/GIS_Finished_maps/Western_Australia/Aboriginal_communities_and_major_waterbodies_of_the_Nyikina-Mangala_Native_Title_Area.pdf

Figure 1: Nyikina-Mangala Native Title area
MARDOOWARRA WILA BOOROO
NATURAL AND CULTURAL HERITAGE PLAN

BACKGROUND

CONNECTION TO COUNTRY

Nyikina people identify themselves as yimardoowarra, meaning people who belong to the Mardoowarra: the lower region of the Fitzroy River. The river sustains our life and is central to our culture and heritage. All people, Nyikina and others, must respect the Fitzroy River to ensure both people and country remain healthy and safe, and that the river continues to provide sustenance. Nyikina people have many stories, in particular the Woonyoomboo creation story. The Woonyoomboo story is from Bookarrarra, the Beginning. These cultural stories continue to provide the direction for behaviour and activities on country: ours and those of visitors to our country.

In the late 1800s when European settlers began taking over the country for pastoralism, Aboriginal people across the Kimberley were taken off their country and moved to missions and ration camps. Around this time Mangala people were forced north to Nyikina country. Mangala people grew up learning and respecting Nyikina ways on country, and now share their interests, lifestyle and culture with Nyikina people. The Nyikina-Mangala Native Title Claim is proof of this ongoing shared responsibility for country.

Traditional Owners live at several communities within our country including Looma (pop 400-500), Pandanus Park (popn. 90), Jarlmadangah-Burr (pop 80), Jimalakadunj (pop 50), Bidan (formally Bedunburru) (pop 15-20), Balginjirr (pop 25) and Udialla (pop 6). Custodians also live in towns, such as Broome and Derby, and other communities throughout the Kimberley.

The Fitzroy River travels through country belonging to several other language groups who also hold strong cultural connections to the river. The Yungngora people of Noonkanbah are our neighbours to the east, Gooniyandi lies further east along the river system, and Bunuba country is in the upper reaches of the river at Fitzroy Crossing.
Nyikina people and the Fitzroy River

We are the Nyikina people of Western Australia. Our country covers both sides of the lower reaches of the Fitzroy River. We call the river Mardoowarra. We call ourselves yimardoowarra. That means ‘belonging to the river’.

Our Mardoowarra sustains our life and is central to our cultural beliefs. It provides us with food from its waters and from the plants that drink from it. We believe that a giant serpent made the Mardoowarra long, long ago and that he still lives there. We have a story about that. The serpent’s name is Yoongoorrookoo. When people behave disrespectfully, Yoongoorrookoo can get very cross. He might drown somebody or cause a flood. It’s not only Nyikina people who can upset him — anyone can do it, so we all have to know how to behave at the river.

During the wet season from December to about March each year, there is lots of rain: that’s when the Mardoowarra can really flood. It has a 25 mile floodplain and carries so much water that only the Amazon River can beat it for volume. Then when the rain stops, the water flows into King Sound and some goes underground. That’s when it looks like our Mardoowarra is just a series of billabongs and flat ground. It is constantly changing and always interesting.

Reproduced with permission from Madjulla Inc (2007)
Nyikina contemporary culture

Our ancestor, Woonyoomboo, was the first man to travel up the Mardoowarra, the Fitzroy River. Today he can still be heard along the river singing out. We believe he transformed into the Rufous Night Heron. The Warloongarriy song tells his story, and teaches the importance of survival, of helping each other and being responsible. The story is known to many Aboriginal people. How Nyikina people take on these stories effects the way we think and act. The stories show the Nyikina relationship to the river, land, people and spirit (liyan). They give us meaning and help to reinforce where we have come from, who we are and who we can be.

When the story is sung and danced it is known as warloongarriy nooloo, and involves a partnership between the Elders and young people, connecting with each other and the physical and spiritual experiences of the past, present and future. It is the way to keep up the health and wellbeing of people, language and culture.

Young people along the river are taught creation songs and stories so that they understand the depth of their inherited connection to Woonyoomboo, the Mardoowarra and the history of the area. It gives meaning to their relationship with kandri.

Being responsible for singing about and caring for special sites maintains and strengthens the shared memory of all Nyikina people, providing Aboriginal people along the Mardoowarra with a way of feeling and thinking as one.

Reproduced with permission from Anne Poelina (2009).
About WWF-Australia

WWF-Australia is part of the WWF International Network, the world’s largest and most experienced independent conservation organisation. It has close to five million supporters and a global network active in more than 100 countries. WWF’s mission is to stop the degradation of the planet’s natural environment and to build a future in which humans live in harmony with nature, by:

- conserving the world’s biological diversity;
- ensuring that the use of renewable natural resources is sustainable; and
- promoting the reduction of pollution and wasteful consumption.

WWF achieves this by working on the ground with local communities, and in partnership with government and industry, using the best possible science to advocate change and effective conservation policy.

WWF is committed to sustaining the unique biodiversity of the spectacular Kimberley region through partnerships with local people. We recognise the interdependence between cultural heritage and ecological values, and this has formed the basis of our approach to conservation in the Kimberley for the past decade.

OUR HISTORY

We need to recognise old people who have gone before us, storytellers, who are part of where we are now. This is all part of the story of how we're building the Nyikina and Mangala Nation.

Anne Poelina, Udialla workshop, August 2009

As the traditional custodians of Nyikina and Mangala country, we have been managing the natural and cultural heritage of our lands since Bookarrarra. Today, we realise the value of sharing this information if we are to look forward together. We have prepared this Plan as a message stick, sent far and wide to tell others about our Plan and call people together to work with us to protect our history, our heritage and our culture.

This Plan stems from over 20 years of hard work, investment and leadership from Nyikina and Mangala people in the past and present. Nyikina and Mangala community leaders have been working hard together to change our position of oppression and disadvantage. This change is critical to building a collective vision. We are working with young people and cultural mentors to improve our life circumstances. We are strengthening and documenting our methods in a culturally appropriate and technically competent way. Nyikina and Mangala people have been involved in founding many strong initiatives in our region; the Kimberley Land Council, Kimberley Law and Culture Centre, Norforce, Magabala Books, Kimberley Regional Fire Management Project and the Yiriman Project are all examples of this.

We have an emerging leadership capacity within the community to go forward with success.

The Kimberley land rights movement started on Nyikina country 33 years ago in 1978 and a consent determination for our native title rights is imminent. We have worked closely with all levels of government and industry to ensure clear and informed controls and decisions are in place for the management of our country. We are pleased with the Indigenous Land Use Agreement we have in place with our local government: it shows clearly the positive and cooperative relationship we share with our local shire and we invite other agencies and industries to engage with us on the same level.
Yiriman Project

Yiriman is a Nyikina name. It’s a hill that sticks out a mile, and don’t matter where you look from, as long as it’s out in the open, that you can see that. Well…what Yiriman does, the organisation, is about young people that dropping out of school, or petrol sniffing, or getting in trouble with police. And as everybody knows that they send kids down to Perth, Longmore. But my idea was when they send kids down, when they come back, they’re experts. They can rob cars, they rob anything. They learn all these things from other people, other boys down there, and I didn’t want that idea of our kids getting sent down there. So, I strongly believe that this organisation is doing a good job.

John Watson, New Legend 2006, p139

Yiriman was established in 2001 by elders across four language groups to address the high rates of self harm and substance abuse in our youth. The project provides opportunities for youth to reconnect with their culture in remote and culturally significant places, away from negative influences. By building strength and resilience, Yiriman is helping young people to return to their towns and communities and live in a healthy way. Yiriman has worked with the community to establish groups of male and female rangers as well as cultural programs, and which are ongoing. Yiriman is recognised nationally as a leader in youth diversion activities.
Cultural beliefs, values and practices continue to guide cultural management of our land and water. Custodians maintain extensive knowledge about country, based on culture and heritage. Elders continue to contribute time and knowledge to ensure caring for country activities and decisions relating to land and its people are sound. Passing on this knowledge remains a crucial aspect of land management or caring for country.
Traditional Ecological Knowledge

Traditional knowledge remains the fundamental aspect of land management. Scientific knowledge can both validate and complement this knowledge system. A good example of this is the joint expedition to the springs in the Jirrkaliy/Walankarr area in 2004, where custodians explained the location and movement of groundwater systems right across the desert. Scientists were able to verify this information from western knowledge.

There are many other examples of traditional ecological knowledge in use, perhaps one of the most commonly known is that of fish poison. Lucy Marshall explains:

*Majala... we put them in the bag. Make the little raft, to [take] them in deep water... Stop the water from going over to another pool, fill it up with mud... Kalbaya, make little raft, tie 'em up with a creeper like this one, from river creeper... grow along the bank. Everybody line up, all the heap, right along the bank from paperbark tree and up on the other side of the bank. And everybody walk in now, woman and man and... go in, go in there, everybody all walk in, got their stick, they carry them like this... Everybody sing out too, then you start banging now, bang bang, alright, 'cause that water bin rubbish. The first thing come out, sawfish, stingray, shark, they're the ones gotta come out 'cause they urinate the water, fish don't die. Then the catfish, and... all the other fish come out. This time now [December], we would be down there poisoning if we could find a little waterhole... Poison them, ah see the barramundi now. First one they get 'em, first fish they kill 'em... SINGS OUT koolooloolooloo... that's the serpent belong to call, call, frighten one... you get more fish, you can cook 'em and you can carry 'em home. Then we finish, pull the brush out, let the water go. Everybody gotta.*

Lucy Marshall
While Nyikina people have lived in this country for thousands of years, Europeans only came to the district in the late 1800s, following traditional routes (see Tindale 1974) and bringing with them the birth of sedentary lifestyles, religion (the establishment of missions) and pastoralism (development of stations). There was also ‘blackbirding’ (slavery) for the pearling and pastoral industries and the introduction of diseases, such as influenza, measles and leprosy, for which institutions such as Bungarun were established. There were some violent times and atrocities committed, such as killings, rape, chaining and floggings against Aboriginal resistance as well as deaths and massacres. The Mowla Bluff massacre in the 1920’s, in which three or four hundred people were killed, is one of our most tragic memories. Throughout these times, although some people were taken away, many Nyikina and Mangala people remained on country. Many worked in the pastoral industry and married into Nyikina families and these families continue to live on Nyikina country to the present day.
LAND TENURE

The current land tenure within the Nyikina-Mangala Native Title area is predominantly pastoral lease with only Mt Anderson and Mowla Bluff managed by custodians (Figure 2). There are two Indigenous Land Corporation (ILC) owned leases: Udialla and Myroodah/ Luluigui. The ILC promised these properties will be returned to the Nyikina and Mangala working group pursuing Native Title. There is a mix of freehold and special agricultural lease over Udialla Springs (Oongkalkada), two Aboriginal Lands Trust (ALT) freehold (Bidan and Looma Aboriginal communities) and two ALT reserves (Bidan, 58.44 ha and Mt Anderson, 723 ha).

We are working towards the transfer of ALT leases to NMAC starting with Jarlmadangah-Burru leases being transferred to Jarlmadangah-Burru Aboriginal Corporation (JBAC). We are interested in pursuing Indigenous Protected Areas (IPAs) over our Nyikina and Mangala traditional lands, in particular the ILC properties. With the divestment of Udialla Springs, we are seeking to work shoulder to shoulder with the ILC for the pastoral and business management of Myroodah/Luluigui.

Figure 2: Nyikina-Mangala native title map showing tenure.
NYIKINA-MANGALA ABORIGINAL CORPORATION

We are building the leadership and governance capacity of NMAC through collaborative partnerships with our Riverside Communities. A structure similar to the corporate structure below (Figure 3) will be established as the Prescribed Body Corporate (PBC) which will be the legal entity to manage land, water and other natural resources on behalf of the claim group. However, such a structure first needs to be approved by all parties including Nyikina and Mangala traditional owners, Western Australian government and the National Native Title Tribuneral (NNTT). NMAC is the body acting until it has been accepted by all parties.

NYIKINA AND MANGALA CORPORATE STRUCTURE

Nyikina and Mangala Aboriginal Corporation Members

Board of Directors

community & economic development
research planning & development
tourism & ranger strategy
pastoral management land NRM
community cultural development
housing & works

Boaln (Boalnburnu) Balginjirr Oongkalkada (Udallla Springs) Jarlmadangah Burr Looma Pandanus Park Mt Anderson Station

Riverside Communities within the Nyikina-Mangala Claim Boundary

Figure 3: Nyikina and Mangala Concept Plan

The Mardoowarra Wila Booroo Plan is part of the overall NMAC strategic planning process. We think of this as branches of a boab tree, rooted strongly in the community, with each branch showing different areas of need (portfolios) to take care of our community beneath it. This Plan incorporates aspects of each of the portfolios, especially ‘Tourism and Ranger Strategy’ and ‘Pastoral Management/Land NRM’.

Nyikina and Mangala people have commenced a Strategic Planning Process for sustainable livelihoods through an action research project with the Tropical Rivers and Coastal Knowledge (TRaCK) research program. The appointment of a senior research fellow will assist in brokering partnerships and implementing some of the actions in this Plan.
OUR POLICIES
Our policies (in preparation) will provide guidance on how we, and our partners, approach management of our country. We ask partners to respect and abide by our policies and protocols on Nyikina and Mangala country.

Underlying all of our policies and protocols is the position that we, as Nyikina and Mangala custodians, are the first owners of this country, and must be included and respected as such. We are not just another ‘stakeholder’ to be consulted through the regular processes, but owners of this country whose identity and meaning is created through our relationship with our country, and whose responsibilities carry far beyond those of anyone else.

PROTOCOLS FOR WORKING ON COUNTRY
Advice should be sought through NMAC; the Body Corporate will become the Prescribed Body Corporate, for any matters regarding Nyikina and Mangala land and culture. NMAC will seek the advice and guidance from elders who have kept a strong connection to country and who have authority to speak for country. Our benchmark for collaboration is based on the Australian Heritage Commission (2002) Ask First, A guide to respecting Indigenous heritage places and values.

RESEARCH PROTOCOLS
We expect research partners to talk to us from the very beginning through NMAC. This includes research on our country or in the broader Fitzroy River catchment to address catchment-wide issues such as weeds, feral animals, fire and tourism management. We will support and approve projects that address the priorities of the Nyikina and Mangala people. Researchers should also budget for payments to custodians including rangers and Elders at an appropriate fee that respects their level of expertise. All research should be carried out under an agreement with NMAC, based on AIATSIS Guidelines for Ethical Research in Indigenous Studies.

RECOGNITION OF TRADITIONAL ECOLOGICAL KNOWLEDGE (TEK)
When external scientists and other people work with Nyikina and Mangala on their country, it is essential that Traditional Owners are acknowledged as ‘scientists’ and afforded the same respect and remuneration. Custodians’ knowledge of country is the basis for land and cultural management. Traditional knowledge is empirical and has been tested for thousands of years in the most rigorous laboratory: for survival on country.

WORKING SHOULDER TO SHOULDER
We work in collaboration with our partners shoulder to shoulder on an equal standing, with respect for what each stakeholder can bring to our joint projects. We will work with partners who talk with us in good faith and in a two-way conversation, learning from each other. We ask our partners to take the time needed to explain and prepare information in a format and language everyone can understand, and incorporating our perspective.

SKILLS TRANSFER AND CAPACITY BUILDING
We will look at every opportunity to build skills development and employment of Nyikina and Mangala people in all areas. Our priority is the empowerment of rangers for enforcement of some powers so that we can better manage country, for example, tourism management. The precedent has been set in other areas already for this, and we will look to these examples to develop our processes.
UNITED NATIONS DECLARATION ON
THE RIGHTS OF INDIGENOUS PEOPLE

The UN Declaration on the Rights of Indigenous Peoples is the benchmark to ground natural resource management, including water rights and usage. Any planning and development around land, water and natural resource management in the Fitzroy Basin must include local Traditional Owner representation. Furthermore, any planning or development must incorporate Aboriginal social, spiritual and cultural values, as Aboriginal knowledge as a science is critical to understanding country, and for our human rights to be protected.

OTHER POLICIES IN PREPARATION

- Integrated asset management
- Research planning and development for the whole of the native title claim area
- Bio-sequestration
- Bio-prospecting
- Introducing new species to country (eg forestry)
NYIKINA AND MANGALA COUNTRY
PART 2: NYIKINA AND MANGALA COUNTRY

It’s more than Native Title: it’s about building a life on country.
Anthony Watson, Udialla workshop, August 2009

Nyikina and Mangala country extends from the mouth of the Lower Fitzroy River to the Great Sandy Desert in the West Kimberley region of Western Australia. The Fitzroy River runs right through our country, linking people in the riverside communities and linking us culturally and spiritually.

Our people’s lifestyle is based on water: its seasonal availability, location, quality and type, whether it be the river, small waterholes or springs. But water has meaning beyond the need to drink and sustain life, because as custodians we see ourselves as an integral part of the landscape, the Mardoowarra, and our cultural values are strongly associated with water rights and responsibilities. We continue to move around our country maintaining and visiting sites, places and continuously expressing our cultural traditions.

We have strong cultural stories and traditional knowledge associated with the Fitzroy River and the annual cycle of flooding. Warramba, the big river flows in the wet season wash through the pools and cleanse them. The freshwater springs are important to us for cultural reasons, some are inhabited by spiritual beings — water snakes. Permanent pools are kajan wila or living water: they provide drinking water and food like fish, crustaceans and reptiles, but their importance goes beyond food and there are often complex layers of values known only to us. Flooding across the plains is a very important event, as this brings the fish and other animals to pools and creeks a long way from the main river. These become important food and medicine sources for us as the main river dries up.
Cultural heritage sites continue to create and maintain continuous links between people and the land. There are a large number of heritage sites within our country, and these are protected under national heritage legislation (Environmental Protection and Biodiversity Act 1999, the Aboriginal and Torres Strait Islander Heritage Protection Act 1984) or state legislation (Aboriginal Heritage Act 1972).

Within our Native Title area there are 167 Aboriginal Heritage Sites registered under the Aboriginal Heritage Act 1972, administered by the WA Department for Indigenous Affairs (DIA). It is important to understand that whether sites are listed or not, they are still protected under this legislation (see: www.dia.wa.gov.au/Heritage/SitesSurveySearch).

There are also two sites listed on the Register of the National Estate: Rice Hill ID 101098 (also known locally as Rose Hill) and Camballin Floodplain — ID 18366. We have also put forward our river for National Heritage listing under the EPBC Act. The Kimberley Land Council led the National Heritage Assessment process in 2010.

Whilst heritage lists at all levels of government are important in providing the identification and protection of special places, it should be noted that those listed are but a fraction of those that exist. Nyikina and Mangala people are the custodians of all heritage sites on their country, regardless of their size or scientific significance. All sites are important links to past and present cultural traditions. These range from sacred sites, rock art shelters and the locations of burials, to the occurrence of habitation sites, stone tool quarries, even individual stone artefacts. These material cultural remains and the stories, language and practices associated with them and places on Nyikina and Mangala country are the persistent links that we, the yimardoowarra people, have to this country.

NATURAL AND CULTURAL VALUES

Our country covers a large area of river, desert, escarpment and sea country, and is home to many different plants and animals, some only found in the Fitzroy catchment, or the Kimberley (endemic).

The river is a central place in Nyikina cultural belief and spirituality. It is also a place for fishing and hunting, where we gather medicine and bush tucker and take our children to learn cultural stories, law and language. The river, lined with tall shady red gums (*Eucalyptus camaldulensis*), Cadjeput (*Melaleuca leucodendron*), and large stands of Pandanus (*Pandanus aquaticus*) is also a pleasant place to relax and reconnect to country.

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1 Indigenous Heritage Places — Aboriginal and Torres Strait Islander Heritage Protection Act 1984 preservation and protection from injury or desecration of areas and objects in Australia and in Australian waters that are of particular significance to Aboriginals in accordance with Aboriginal tradition.
Legend

Vegetation Type

- Eucalyptus camaldulensis +/or E. microtheca woodland or Dicanthium spp. grassy low woodland
- E. microtheca or E. gymnoteles or E. acroleuca +/- Excoecaria parvifolia +/- E. tectifica grassy low woodland
- Low open woodland of Lysiphyllum cunninghamii, Grevillea striata + Triodia pungens hummock grass understorey
- Astrebla pectinata +/or D. fecundum closed tussock grassland
- Lakes + lagoons, sometimes ephemeral +/- fringing woodlands, shrublands, herblands, sedge grasslands
- Adansonia gregorii, L. cunninghamii, G. striata low open woodland with ground layer of T. spp., and/or Ch. spp., and/or D. fecundum
- C. dampieri, C. zygophylla tussock grassland with A. ancistrocarpa open scrub + T. pungens. T. interpunctata tussock grassland
- C. dichromophloia, C. setosa low open woodland with T. pungens, T. bitextura hummock grass understorey
- E. tectifica, C. grandifolia woodland with Sehima nervosum, Sorghum spp. or Ch. spp. tussock grass understorey
- E. brevifolia +/or E. argillacea low open woodland with T. intermedia, T. pungens or T. bitextura hummock grass understorey
- Ch. fallax, D. fecundum tussock grassland wooded with A. spp., E. spp. low trees
- T. pungens +/- T. intermedia hummock grassland sparsely wooded with C. dichromophloia +/- E. brevifolia +/- C. terminalis low trees
- E. tectifica, C. grandifolia woodland with Sehima nervosum, Sorghum spp. or Ch. spp. tussock grass understorey

Data Source: Vegetation of the Australian Tropical Savannas (Fox et al.) 2001, © Environmental Protection Agency, QLD
We depend on many different kinds of food from the river, like fish, crocodiles and their eggs, turtle eggs and freshwater mussels. We use many plants here for food, tools and medicinal purposes. We are also looking to new ways of using our plants that meet our economic needs as well as our more traditional subsistence and cultural needs. One opportunity we are exploring is the potential of carbon stores in our native vegetation and through fire management as a potential carbon offset for enterprise development. Another is the pharmaceutical development of a traditional analgesic from the majala plant, currently under two registered patents.

Where the river runs into the King Sound is our sea country. The river creation stories for Nyikina people are in this area and it is also an area of great biological diversity, especially for aquatic life: fish, prawns, cherabun and the highly endangered sawfish.

Inland, open plains of Spinifex, grasslands and woodlands are where we hunt for kangaroo, emu and bush turkey. The rocky escarpments contain places of high cultural significance such as the hills we call Jarlmadanka, Koojikan and Ngaloowinyinan. They also have rainforest pockets with water seeping out through the rocks and caves, creating pools. These are cool places to escape the heat of the day, shaded with fig trees (*Ficus sp.*), ferns and other rainforest species, providing shelter to many different plants and animals.
There are springs and wetlands throughout our country, especially in the south, and some rivers travel underground, linking our responsibilities with our neighbours. The presence of animals, especially those in the desert, is strongly linked to water sources.

*Animals come off Jirrkaliy, they live and die on the amount of water there.*

Anthony Watson

Desert animals, such as *nyarlku* (bilby) and *kinanyji* (echidna) rely on our traditional management of fire. We maintain springs in the desert, providing life and sustenance to many animals. In this way, humans play a distinct role in the survival and distribution of animals in the dry country. That is why the importance of the natural values cannot be separated from our cultural way of life, and maintaining the health of one ensures the health of the other.
Some of our animals have disappeared over time, and some of our plants and animals are threatened. Our old people record the extinction of *midarra*, the Golden Bandicoot (*Isodon auratus*) from within our country during the last few decades. Many animal species have become extinct in the region. We know of 12 species of bird, 13 reptile, 23 mammal and seven freshwater fish species that are threatened in our region. Seven threatened plant species are recorded for our country and another eight in the region (Appendix 1 lists threatened plants and animals).

In addition to threatened species, the Australian government has also listed several threatening processes or ecosystems in our country, needing urgent action:

- Camballin floodplain is in fair condition but is affected by several major threatening processes including altered river flows and feral animals (predominantly pigs and grazing pressure causing trampling and erosion);
- Riparian zones within the area are in good condition, however changed fire regimes, river flows, and grazing pressure are key threatening processes. Changed river flows are of particular concern, causing severe erosion across the landscape, affecting watercourses and river vegetation;
- Several threatened (vulnerable) ecosystems are intertidal mudflats (pollution is an increasing threat), landscape vegetation, and permanent ephemeral wetlands/damp lands (threats include fire and grazing).

**ISSUES AND THREATS**

There are many threats that cut across and beyond our country such as grazing, fire, feral animals, weeds, tourism/recreational fishing, mining, damming, erosion and water extraction. We are worried about the long term effects of these threats to the health of our country. Developing management strategies and well resourced activities to address these threats is vital for us to protect both the natural and cultural values of our country. Issues and threats in the four priority areas are discussed in more detail in the following section (Part 3). Even though they present difficulties, issues and threats are also opportunities for us to develop ranger programs, employment or enterprise development (See ‘Steps and Resources’ Part 4).

**TOURISM, RECREATIONAL FISHING AND HUNTING**

Tourism is continuing to grow as the local population increases, but it remains unmanaged on our country by the shire or governments. Tourism, recreational fishing and hunting are big problems for us and we are concerned about unmanaged access causing damage to plants, animals and country.

**GRAZING**

Grazing continues to be a major land use in over 80% of the Fitzroy catchment. The many wetlands and bores draw in cattle and feral animals resulting in soil compaction, erosion and siltation. If past damage from intensive grazing is addressed and best practice management put in place, pastoralism can be a good enterprise opportunity.

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2 Seven mammal species have become extinct in the Dampierland IBRA region and 21 within the Great Sandy Desert (GSD), which partially overlap with the Nyikina-Mangala Native Title area. The government has divided Australia into 85 country types called ‘IBRA regions’, see [http://www.environment.gov.au/parks/nrs/science/bioregion-framework/ibra/index.html](http://www.environment.gov.au/parks/nrs/science/bioregion-framework/ibra/index.html)
FERAL ANIMALS
Camels, pigs, donkeys, cattle, horses and cats have reached high numbers across our country. Our old people have noticed native animals decline, while fox numbers increase during the last ten years, mainly in the south. The cane toad is likely to build up to large numbers along the river, threatening goannas, northern quoll and some snakes.

FIRE
Across northern Australia the long term health of country is threatened by fire: frequent, intense, hot fires late in the dry season. Traditional fire burning declined as people were moved off country and their traditional lands were leased to pastoralists to grow sheep and cattle. With the exclusion of Aboriginal people to the land, traditional burning practices were not maintained. Excess grass and poor land management practices increased fire loads resulting in uncontrolled wild bush fires, damaging fire sensitive species (e.g. rainforest patches) and threatening the small animals dependant on coverage and food sources.

WEEDS
Most of Nyikina and Mangala country is free from weeds, but some areas are being choked out by Noogoora Burr (*Xanthium strumarium*) and now Rubber Vine (*Cryptostegia* spp.). The Noogoora Burr, Prickly acacia (*Acacia nilotica*) and Parkinsonia (*Parkinsonia aculeata*) are increasing. Mesquite (*Prosopis* spp.), neem (*Azadirachta indica*) buffel grass (*Cenchrus ciliaris*), couch grass (*Cynodon dactylon*), rubber tree (*Calotropis procera*), and bellyache bush (*Jatropha gossypifolia*) are also problems in some areas.
IRRIGATED AGRICULTURE

The failed Camballin Irrigation system, established by the Australian Land & Cattle Company in the 1960s, impacted heavily on our land and culture. Erosion is a major issue that continues today. Chemical contamination is another concern and we have noticed a decline in kangaroos and emus over time. We are concerned that if there is not integrated water management and monitoring the health of our land, animals and people will be adversely affected.

Failed irrigation structures left from 1960s © T. Vernes

Severe erosion undercutting river red gums (*E. camaldulensis*) on the Mardoowarra © T. Vernes

TAKING WATER

During the 1990s the proposal to dam the Fitzroy, Durack and Margaret Rivers at Dimond Gorge was opposed heavily by local communities along the Fitzroy River, and finally rejected in 1998. Damming the Fitzroy River would mean changes too great for us to accept. However, the ongoing threat of water extraction (e.g. Tenix canal proposal) remains a concern as all around Australia people look to the north, especially large flowing rivers like the Fitzroy, to take water for agriculture, industrialisation or to supply towns like Broome. These pressures are growing as people in the south use up their water and climate change takes hold.

There are already 25 groundwater licences in the catchment, drawing about 2 GL per year (community or agricultural bores), plus pastoral bores (not measured). There are three surface water licences in the catchment, including 6Gl per year at Liveringa Station for irrigation of fodder crops. There is currently no allocation plan or limit set for the Fitzroy River catchment.
EROSION

Changed river flows as a result of irrigation and road infrastructure two decades ago, have caused severe erosion, changing the land from flat ground to deep eroding gullies with gaping holes forming each year near the river. The erosion grows like a living animal across our country, eating away at the roots of trees until they collapse into new gullies. Historical aerial photographs show more flooding and erosion of channels in recent years. We are disappointed that government does not pay attention to this increasing problem.

OWNERSHIP OF WATER

Ensuring ownership of water by Traditional Owners in line with protection of our natural and cultural values remains a significant issue for us, especially as research interest and development proposals for the Fitzroy River have grown over the past decade.

CLIMATE CHANGE

Nyikina and Mangala people maintain traditional knowledge about climate change on our country, for example, sacred sites that were once on land now occur in the sea as the sealevel has risen. However, we need to get a better understanding of climate change occurring rapidly today from human impacts. We are worried how this will affect our country, plants, animals and our culture. We have already noticed changes in animals on our country and different seasonal patterns. We also need to work out how we will prepare for these changes and how we can reduce our own contribution to climate change impacts.

MINING

Mining is a significant industry on our country, and is a potential threat. Around the mouth of the Fitzroy River coal, diamonds, salt and phosphate deposits are found, and further up river diamonds, zinc, copper, lead, tin and silver. However, only sand mining at the river mouth is currently active (Figure 4).

ACCESS

Denying custodians access to traditional land and activities (e.g. some pastoral managers or the quarantine area), and controlling access of other people (tourists, locals including Aboriginal people) and their behaviour on country are the main access issues. Often people do not respect the country by leaving rubbish behind or hunting without permission by Traditional Owners.

River is there for everyone to enjoy, but can’t misuse it.

Tina McMahon
Mining and exploration sites of the Nyikina-Mangala Native Title Area

Legend

SITE TYPE
- OPENPIT MINE
- CROSS REFERENCE
- DEPOSIT
- EXPLORATION SITE

SITE STAGE
- SHUT DOWN
- PROPOSED
- OPERATION

Inset: Location of Nyikina-Mangala in WA

Map produced by Isabella Amouzandeh, WWF, Darwin
Map/GIS/GIS_Finished_maps/Western_Australia/Mining_and_exploration_sites_of_the_Nyikina-Mangala_Native_Title_Area.pdf

Figure 5: Mining and exploration sites of the Nyikina-Mangala Native Title Area (2009)
MANAGEMENT PRIORITIES

Over the years we have contributed to planning reports and workshops for the Kimberley, the Fitzroy catchment and for specific areas within our own country. We have updated and included relevant priorities and actions in our Plan from these many reports including:

- Walankarr Jirrkaliy Healthy Country Project;
- Jirkaliy Creek Study;
- Springs in the north GSD study;
- Sawfish Project reports (TSN, KLC and Murdoch University);
- Kimberley Regional Fire Management Project;
- NHT Rivercare Reports;
- KLC caring for country reports;
- NRM Rangelands/Kimberley reports.

Summaries of priorities from these documents are listed in Appendix 2.

Beginning at our country scale we are striving for ecological integrity and biological diversity for a healthy Fitzroy Basin. To do this we need to build on our capacity to manage country in both traditional and western ways and establish country-wide programs.

Management priorities across our country include:

- Building the leadership and governance capacity of NMAC to manage the six riverside communities, land, water and natural resources within the Nyikina-Mangala Native Title Area;
- Building research capacity of Traditional Owners in partnership with government, corporate sector and universities;
- Conducting an Integrated Asset Management Assessment to identify social, human, cultural, landscape and economic values within the Nyikina-Mangala Native Title area;
- Planning and developing tourism management strategies e.g. develop signage, access and camping places, education and awareness;
- Building a sustainable ranger strategy for natural resource management e.g. patrols, tourism management, education and awareness, biodiversity monitoring;
- Investigating and developing opportunities for appropriate enterprises e.g. tourism, pastoralism, bush medicine;
- Maintaining sustainable patterns of resource use (wild harvest) for a dynamic and sustainable future;
- In partnership with key stakeholders, developing best practice management for pastoral properties;
- Improving water planning including recognition of Aboriginal social and cultural values, cultural requirements and quality of life of those living in the Fitzroy Basin;
- Developing a broad scale fire management program and investigating potential for carbon trading;
- Developing baseline data to support biodiversity benchmarking and long term monitoring for rare and endangered species or communities;
- Contributing to a catchment cane toad prevention and management strategy, including biodiversity surveys along with control and rehabilitation activities after its arrival;
- Developing a NMAC cultural database including cultural mapping, as an ongoing exercise to enable custodians to maintain their physical and spiritual connection to country, and pass on the knowledge for management of our native title rights and interests;
• Developing a heritage documentation and protection program to protect our country from growing pressures of mining, tourism and development;
• Investigating options and declaring sanctuary zones at priority sites within Jirrkaly, Walankarr, Camballin and Mardoowarra.

STEPS AND RESOURCES

_We’re focusing on strengths, not deficits._
Anne Poelina, Udialla workshop, August 2009

Our country and the skill, expertise and knowledge of our people, provide many opportunities and resources to implement this Plan. One of the first steps is to build the governance of the NMAC to manage country, and we will continue to work with Northern Australian Indigenous Land and Sea Management Alliance (NAILSMA) Tropical Rivers and Coastal Knowledge (TRaCK) to investigate sustainable livelihoods options and development of our Strategic Plan (2010).

There are no government National Parks or Nature Reserves within the Nyikina-Mangala Native Title area. We believe that self-management of protected areas, for natural and cultural values is the best way to look after our country. The Indigenous Protected Area (IPA) program provides an opportunity to contribute towards a sustainable Culture and Conservation Economy within Nyikina and Mangala country, and we are considering areas for IPAs. We may also investigate other options that allow decision-making, ownership and management by custodians, including a private protected area, National or World Heritage Listing and Conservation Covenants.

A large amount of research has been carried out on the Fitzroy River by various research institutions, such as Murdoch University, University of WA, and community research projects funded by the Threatened Species Network and NHT. These important and collaborative research projects provide initial data, and we would like to see the continuation of research activities that address our priorities.
We will continue to engage with the Kimberley Land Council, Northern Australia Indigenous Land and Sea Management Alliance (NAILSMA) Indigenous Water Policy Group and relevant agencies, to seek Indigenous water rights so that we can benefit from water resource management to sustain our cultural practices and our economic future (see http://www.nailsma.org.au/projects/water_policy.html). We have also been active in developing the Mary River Statement (http://www.nailsma.org.au/nailsma/forum/downloads/NAILSMA_Mary-River-Statement_Web.pdf) which sets out the principles and recommendations for water allocation and use in northern Australia.

Community owned and driven enterprises will be encouraged. These must be in line with cultural lifestyle, complement current land uses in the area (i.e. established pastoral areas) and continue to protect natural and cultural heritage values. We aim to provide employment for local Indigenous people, with real wages. Through our strategic planning process we will look to combine research, land management activities such as rehabilitation, monitoring, or tourism management with enterprise development and meaningful partnerships. These areas will be supported with an Integrated Asset Management Assessment due to commence in 2010.

The development of a Nyikina and Mangala tourism plan is a priority. Existing and growing tourism in the region provides entrepreneurial opportunities to bring in much needed management and derive a sustainable income. This may be through the development of access and camping areas, or the development of individual tourism enterprises such as river walks or cultural tours. Rangers will play a crucial role in tourism management, providing maintenance of camping areas, education, awareness and patrolling.

Nyikina and Mangala rangers are currently employed on a contractual basis through the Australian Government’s Working on Country (WOC) program and also through fee-for-service contracts. WOC provides a secure basis (up to five years) upon which to develop a sustainable ranger program. There is a pool of six rangers who are well trained and skilled in a variety of land management and research techniques, and two more positions started in early 2010. Jarlmadangah-Burr would currently developing a business plan for the ranger program, incorporating elements such as fee-for-service opportunities, e.g. water sampling, pest and disease monitoring with AQIS, and fire management.
3

PRIORITY MANAGEMENT AREAS
PART 3: PRIORITY MANAGEMENT AREAS

AREA 1: MOORROOL MOORROOL (KING SOUND)

Moorrool Moorrool, or King Sound, is about 100 km long with tidal flats on the north-western coast of Nyikina country. It has the highest of all Australian tides (11.8m) and the second highest tide in the world (after the Bay of Fundy in Canada). Mangrove communities cover an area of approximately 800 km², and many waterbirds forage in the mudflats of the river mouth. King Sound is a popular place for recreational fishing.

Nyikina people have strong cultural connections to the King Sound right up to One Arm Point in Bardi Jawi country. Moorrool Moorrool is the Bookarrarra story relating to the springs that existed in this area before there was a river. The river came after, linking them together near the King Sound.

This area also includes the surrounding country of Moorrool Moorrool as far as Djarrardoo (near Deep Creek) in the west, taking in Mt Jowelanga, and Derby in the east. Bidan and Pandanus Park Communities are also within this area.
3 PRIORITY MANAGEMENT AREAS

IMPORTANT AREAS

BROKEN WAGON POOL
There is an important story at this place about the creation of the Fitzroy River and Woonyoombooo.

BANGARRIKAN (FRASER RIVER)
The Fraser River is about 70km long, flowing east-west across Mt Jowelanga and Yeeda stations into King Sound, west of Derby. This is a culturally important area. People from Bidan go out to this area on a regular basis. The country is scrubby and wild. This is also an important area for plants and animals, especially birds, fish and crocodiles. Many big saltwater crocodiles are found here as this is a quiet place with little disturbance. There are important stories and places here, one is about red ochre that children are not allowed to touch or they will get sick.

WALJARRARRA (YEEDA PLAIN ESTUARY OR ‘CUTTING’)
This is where the Yeeda River runs into the marsh at King Sound. Here the freshwater meets the saltwater, creating big pools of brackish water good for breeding and spawning areas for fish, cherabun, barramundi and other species. Kalard is a significant spiritual place near here. The country used to be flat but now the river runs on two sides.
MALABOOROO (VALENTINE ISLAND)
This is a good place for fishing. Some people have blocks of land there too and we’d like to work in with the residents of those three communities. Our rangers could work with these communities to make sure the beach front is well managed.

MANYOORRKAR (DEAD MAN’S HOLE)
Manyoorrkar is a big swamp at the foot of Mt Clarkson with large numbers of pelicans and geese. Snakes and crocodile live there too because it flows down to the saltwater near Logue Creek. Although it’s a deep waterhole it dries up in dry season.

JOOMBARNBOOROO (BILBY HILL OR MT CLARKSON)
Joombarnbooroo is a hill where bilbies nest and where they can be seen at night time. Kinanyji or echidna (porcupine) is also found there. You are discouraged from climbing Joombarnbooroo, or digging there.

KARLBINAN (SCORPION HILL)
Karlibinan (Scorpion Hill) is near Logue Creek. This used to be a camping area, for when people went to Lanyji. To the west of Karlibinan is Nilabablica soak, or ‘Old government well’. People used to camp there because they knew there was soak water in the creek, then they would continue their journey. There are other wetlands in this area, like the one near Bidan, where many birds congregate in the wet season.

BIDAN (LOCATION OF THE COMMUNITY)
People would pass through this country on their way to visit other family, for ceremony, or when travelling and hunting, learning bush skills as they journeyed through country. Nyikina people and other groups to the west, would pass through here, like a crossroad, on the way through from Koombarrananjal (Roebuck Plain) to Udialla, or Jarlmankoonan to Lanyji and Yeeda.

YALLAROO (EAST OF DJARRARDOO)
There are important species of bush medicine plants near here and the plain was traditionally used as a camping spot when people were travelling through country.

DJARRARDOO (NEAR DEEP CREEK)
This is the Nyikina-Yawuru boundary. There is a waterhole at this place, with ngarri, or devils living here. Traditional owners and neighbouring tribes would not camp at this place after dark.

MT JOWELANGA (YEEDA OUTSTATION)
This is a special place. The billabong near the homestead and at the back is important for many birds and other life. There is a quarry there at the moment, mining Kimberley colourstone.
NATURAL AND CULTURAL VALUES
Most of this area is remote and relatively undisturbed with high biodiversity:

- Brackish water is a spawning area for many species such as fish, prawns and crabs;
- The River mouth to Willare Bridge includes healthy vine-thicket areas supporting rich bird and bat communities; high numbers of waterbirds feed in the mudflats along the river and at the river mouth;
- The Fitzroy River and its estuary support one of the strongest populations of the critically endangered Freshwater Sawfish (*Pristis microdon*) in the world;
- The critically endangered Dwarf Sawfish (*Pristis clavata*) also occurs in the lower reaches of the river;
- The King Sound is the only place where the critically endangered Northern River Shark (*Glyphis sp. C*) is known to occur in Western Australia, and one of only four places in the world;
- Salt water comes from the mouth of the Fitzroy River right up to Logue Creek;
- Up to 15 species of mangroves are found in this area, with the most diverse and dense stands near the mouth of the Fitzroy River. At other places mangroves keep growing towards the sea, but at Moorrool Moorrool the mangroves in the estuary are slowly moving inland.
Our river is our life blood; we depend upon the river to feed us.
Tina McMahon

The area has very high social and cultural significance. There are many cultural values that are a part of this area, some of them are:

- There used to be springs where Moorool Moorool is now and this is an important sacred site. There are important stories about about these springs and how the river was formed and about Woonyoomboo and majala seed at the mouth of the river;
- Jindarinbool is the whirl pool within the King Sound;
- This area is an important place to practise cultural activities such as hunting, fishing, visiting important places and speaking language;
- *Biyalbiyal* (freshwater sawfish) is one of the many fish species of the Fitzroy River that appear in stories from the Bookarrarra. Other species include *jibinyma*, *walyja* and *ngirridany* (large, medium and small barramundi), *koowaniya* (freshwater crocodile), *linykoorra* (saltwater crocodile), and the *barooloo* (catfish). All of these fish alongside plant species contribute to environmental indicators that have been observed for generations of Indigenous people in the region to assist in reading country to determine seasonal changes;
- Evidence of the original crossing of the Fitzroy River at Lanyjilanyji can still be seen at low tide, and parts of the original road from Broome, through Willare to Fitzroy Crossing, are still used by local communities;
- There are a number of heritage sites listed in the area registered under the Aboriginal Heritage Act 1972, as well as many other culturally important places and linkages. For example the Boab Prison Tree near Derby is believed to be around 1500 years old and was used to hold prisoners being walked into Derby in the early days.
COMMUNITY ENTERPRISES

There are a number of appropriate enterprises existing in this area which we will continue to support. They provide alternative incomes and livelihoods for us, and they also provide important resources in training, infrastructure and knowledge. For example:

- Emama Nguda Aboriginal Corporation runs a commercial mud crabbing operation on the mudflats near Derby and Kimberley Prawn Company runs an aquaculture operation within the King Sound;
- Pandanus Park Community has an ongoing training program for community sustainability. Building on the partnership with Kimberley Aboriginal Aquaculture Corporation which established some infrastructure and training, the community is also looking to set up an aquaculture grow-out farm for giant freshwater prawn or cherabun for local and domestic markets. The potential exists to move to a commercial fresh water prawn venture with some entrepreneurial leadership and capital investment;
- Bidan is currently in the process of developing a number of initiatives including cultural tourism and youth camps, forestry and pastoral projects such as breeding goats and fencing. Proposed developments also include the establishment of a place for young people to go and obtain life skills on their own country in a safe environment;
- Pandanus Park own the lease for the sand mine. This mining operation is an opportunity to address the silting up of the river and earn some income for this service;
- SDWK Nyikina Mangala ILUA is registered and allows Nyikina and Mangala people to work with the shire in a partnership arrangement for management of the area.
ISSUES AND THREATS
Although most of this area is relatively undisturbed, there are many threats to this part of the country, the biggest being increased pressure from mining, unmanaged access to country, over allocation of water licenses and over harvesting of natural resources.

TOURISM
The richness of fish and other aquatic life where the Fitzroy River flows into King Sound means that this area also attracts large numbers of recreational fishers and tourists. Uncoordinated and uncontrolled tourism is the main issue in this area, with large numbers of visitors camping and fishing in unmanaged sites, often leaving rubbish, creating a maze of tracks, contributing to soil erosion and compaction by vehicles and bringing in or spreading weeds such as Noogoora Burr. There is also a safety concern here as it is easy for those who don’t know the area to get lost on the maze of tracks in an emergency. Tourists and locals often get bogged on the back road and walk back to Bidan looking for help. There is currently no safety system for this area (e.g. satellite phone call station or regular patrols by rangers), nor any effective management by the local shire or government departments. Accumulation of rubbish is an issue: there needs to be one rule for everybody to keep the area clean.

LACK OF MANAGEMENT
The Shire of Derby-West Kimberley recognises management is needed for this area, however the shire doesn’t have the expertise or resources. NMAC would like to negotiate agreements with the shire, Department of Planning and Infrastructure (DPI), Department of Indigenous Affairs (DIA) and pastoralists to co-manage these areas and provide a solution for everyone. We want to negotiate better co-management and co-existence strategies with governments, corporate sectors and others for security of land and joint business arrangements leading up to the 2015 pastoral lease renewal negotiations.
3 PRIORITY MANAGEMENT AREAS

RECREATIONAL FISHERS AND HUNTERS
Kimberley locals and self-drive visitors are the main tourists here. Whilst some people act responsibly, overfishing and fishing outside of season (both fish and cherabun) are major issues in this area. People have been seen drag-netting the river illegally but there are no Fisheries officers regularly checking up on activities. Recreational hunters, such as pig shooters, while providing a service, also pose a risk to people’s safety, damage wildlife and contribute to pollution and the maze of tracks and erosion throughout this area. Given the number of boats on the river, there is concern about bank damage from waves and anchorage, and water pollution from engine oil.

MINING
There are two sand mines operating towards the river mouth (McCorry Brown at Lanyji, and Pandanus Park), Kimberley Colourstone quarry at Mt Jowelanga, and two super phosphate mine tenements at Kent’s bore (see Figure 4). We are concerned about damage to country, such as erosion and future rehabilitation. Heron Resources Ltd. has an exploration lease to mine phosphate along the river, from Lanyji right up to Yaka Munga. There is concern about pollution from this and other mines washing back into the river. Pollution from machinery going into the river, such as loaders to get sand, is also of concern.

AQUACULTURE
There is one aquaculture operation within the King Sound run by the Kimberley Prawn Company (Nyikina-Warrwa boundary) and one commercial mud crab operation run by Emama Nguda Aboriginal Corporation on the mudflats near Derby. We would like to work with these companies to ensure there are good environmental management practices in place and be notified of any major changes or issues.

TAKING WATER
Another major concern is the extraction of water from the ground water and river for pastoral or other use, e.g. some bores on kandri appear to be running 24hrs a day (wasting water) or large amounts of water appear to be lost in evaporation with increasing numbers of turkey nest dams. There is concern about the cumulative impact of these extractions on waterholes and groundwater, and also whether there is monitoring in place to ensure sustainable use.

FERAL ANIMALS
Feral dogs are a safety concern for people and wildlife. Feral pigs and cattle cause erosion, trampling and bring in weeds. Cats and foxes decrease our native animal populations.
WEEDS
Noogoora Burr, Parkinsonia, Rubber Vine and Passionfruit are choking this part of the country. Some places where we used to go fishing are now overgrown with weeds.

From Willare down to Dambalkoodany we can’t get into fishing spots, from Minnie Bridge up its the same. It’s only possible to fish there from boats.
Tina McMahon

Recreational fishers cause greater impacts in those areas where there is less weed cover because they are the only areas where boats can be launched. We are also seeing more Calotropis trees reappearing, since work on their eradication ceased after it was downgraded to P1 on the Declared Plant List for WA.

MANAGEMENT PRIORITIES
The wider Moorrool area is of great importance as a nursery area for fish, cherabun and other aquatic life, and must be maintained in a healthy state. There is a need to ensure that current use and future development does not compromise the values shared by everyone: fishing, subsistence, cultural use, economic and recreational.

The priorities for management in this area are:
• Management of tourists and visitors, including boat regulations, access plan, restrictions (land and river), permits, education, camping areas and fishing controls;
• Ranger activities which include tourism management, feral animal control, weed control, biodiversity surveys and cultural mapping;
• Opportunities for enterprise development in tourism;
• Developing partnership agreements for ranger and tourism management activities across the whole area (tenure blind), including fee for service arrangements with pastoralists, government agencies and local shire;
• Negotiating enforcement powers with DEC, DoF, SDWK to manage tourists and recreational fishers.

STEPS AND RESOURCES
The first step for better management of this area will be the development of a Tourism Management Plan and funding for implementation. This Plan will include identifying areas to allow tourists to visit, closing off some other areas, educational activities, signage and patrolling by rangers and the introduction of a permit system. We will also negotiate agreements with other land managers such as shire, pastoralists and other land users to manage, for a fee, those areas that are visited frequently by tourists and recreational fishers/hunters. We need to develop the ranger strategy and annual work plans concurrently because the rangers will be implementing the Plan.

Tourism creates a positive opportunity to work in partnership with shire, pastoralists and government agencies to create employment. Joint management partnerships will help protect this heavily used area, which has no management at this time. This will provide a solution for us and our neighbours. Ranger activities will focus on tourism management, fish monitoring and cultural mapping.

Funds will be sought for implementing the Tourism Management Plan as well as identifying and training new rangers to manage this area, working alongside existing Nyikina and Mangala rangers. A key concern is safety for our rangers and we will ensure they are well trained to manage visitors, have reliable equipment (including for safety, e.g. satellite phone) and be supported by their communities, partners and local authorities.
Noogoora Burr quarantine area is an example of inadequate provision of government resources and management of this problem, and where investment in Nyikina and Mangala management of country could provide both an opportunity for employment and addressing the problem.

Sand mining in this area provides an opportunity for us to mine in a way that looks after the river and take more control: we could start talking partnerships, not royalties. Other existing sustainable enterprises we are developing in this region should also continue to be supported. Some partners can help fund implementation of this Plan.

Bidan is a small community of dedicated people strong in teaching the Nyikina language and Yimardoowarra culture to our young people. People at Bidan already undertake cultural and natural management of the area, largely without any funding. With funding, Bidan offers a resource that can continue to implement some of the actions outlined for this area.

Just like Bidan, people living at Pandanus Park have a base from which they could undertake some of the management of this area, and there are men and women who are keen to work as rangers.

The town of Derby, in which many of our people live, is also within this area and can be a good base for workers or resources. The Nyikina Cultural Centre will be established at Holman House, and will be an important base for continuation of cultural activities and resources, housing both NMAC and Nyikina Inc (www.nyikinainc.com).
AREA 2: MARDOOWARRA (FITZROY RIVER)
MAIN CHANNEL

You can hear him along the river singing out, that’s the Woonyoomboo
Lucy Marshall (Bidan)

The Fitzroy River is the longest river in the Kimberley (over 700km long), and carries more water than any other river in Western Australia (more than 9,000 GL/yr). Most of the water flows in the wet season when the river becomes a wide raging torrent of muddy water. In the dry season the river has many billabongs (permanent pools) surrounded by thick plant life that is a home for many plants and animals. There are permanent and seasonal swamps, lakes and lagoons along the river, wide floodplains, and large areas of grasslands. Freshwater springs are found throughout the lower Fitzroy catchment. The permanent pools fed by groundwater are the only water sources during the dry season, and are important refuges providing life for both animals and people.

Yimardoowarra hold strong connections to their cultural traditions and continue to recognise the importance of maintaining natural systems, including water resources in all their forms such as springs, creeks, rivers, flood plains/marshes, lakes and billabongs. There are many cultural heritage and historic sites all along the river. The traditional ecological knowledge is repeated through stories connecting Mardoowarra/river, billabong, springs and creeks as living water and our responsibility (and native title rights) to keeping these systems free flowing and healthy for generations to come.

There are two small outstations in this area: Oongkalkada at Udialla Springs, and Balginjirr (Balkinyjirr) at Lower Liveringa Pool.
IMPORTANT AREAS

UDIALLA SPRINGS

Udialla Springs are unique freshwater springs situated near Udialla settlement, or Oongkalkada (Figure 10). It is an area where the Oongalka tree, or firestick tree (*Premna acuminata*) grows in large numbers. The springs flow from the base of low cliffs into sandy areas and peat deposits. There are rainforest plants like pandanus, *Sesbania formosa* and *Eucalyptus* around the springs, surrounded by a dry shrubland valley. Desert animals come here for shelter, such as nyarlku (the bilby), kinamyji (echidna), karnanganyja (emu) and jamandi (hill kangaroo). *Jamandi* also breeds in this area and the springs provide important water and shelter during breeding.

The rich black soils along the spring system here are very good for horticulture and were used in the recent past as large market gardens.

We are concerned for this place, and want to look after it. In 2002 we approached the Indigenous Land Corporation (ILC) who purchased it on our behalf, and committed to return the title to Nyikina people. Nyikina people returned to live here and manage the country in 2002.
JARNGARAKARR AND BINYINGA (LAKE ALMA & SKELETON LAKE)
These two lakes are close together near Udialla. The waterholes are of special value for culture and wildlife. Large white waterlilies (*Nymphaea hastifolia*) occur here alongside the more common purple and blue lilies (*Nymphaea violencia, N. gigantea*). The wetland area around the lakes attracts many birds including wrens, finches and kingfishers as well as the larger water birds like pelicans, brolgas, ibis, cranes, ducks and geese.

Oongarran is a waterhole near Brockman Crossing where the creek comes out from the onion patch. It is a spring-fed creek and the area has many water birds. This area needs protection from recreational hunters. Nyikina and Mangala rangers manage the area as well as monitor the birdlife and conduct baseline studies.
LINANNYOORDANY

Linannyoordany cave in the side of Jarlmadanka (Mt Anderson) is an important cultural site and also provides a refuge for many species. It is a cool place to escape the heat, and many animals are found here including birds, snakes, frogs, lizards, geckos and goannas.

This is also a site of historical significance, being a place of refuge for our people during violent times. Old people, hunted by pastoralists and police, hid in the area and used the tree which grew up through the hole in the top of the cave to access the water below. Our people would camp on top and there are also some burial sites there.

There are many caves on Mt Anderson and along Kalkardin, near Jarlmadangah. Cave systems are central to our cultural beliefs. There are paintings in Linannyoordany cave and in other caves in the area. There have been few scientific studies about these cave systems or the kinds of animals that live there, but several species of stygofauna (animals that live underground) have now been named by scientists.

YIRRALA (SNAKE CREEK)

Yirrala Creek (often incorrectly spelt Uralla Creek) runs off the Fitzroy River at the barrage, and stretches over 100 km through Liveringa and Mt Anderson leases, returning to the Fitzroy at The Cuttings. Some of the creek now flows into the river just before Pandanus Park. Yirrala used to run out and flood onto the marsh, but now with erosion over the past 50-60 years it has changed some of its course and runs back into The Cuttings. This creek has major pools that fill up and remain as permanent pools throughout the dry season (providing water and a place for plants and animals away from the Fitzroy River). These pools act as refuges for many fish, birds and other animals, especially at the end of the dry season.

KUJIKAN (ROSE HILL/RICE HILL)

Kujikan has an important Bookarrarra cultural story about a crab. Scientists have another story for Kujikan, also known as Rose Hill locally, and have listed it on the Register of the National Estate (Rice Hill Lamproite Site No: 101098). Scientists say this small hill (45m high) is an important geological formation, with a rare and unusual rock type found only in the Fitzroy Valley. Studies at this site have allowed geologists to work out how continents have moved (the rate of continental drift), so they consider it an important place to understand how the continent of Australia was made.

3 volcanic lamproite, ‘type location’ for the Miocene 18-23 million years old
BALGINJIRR (LOWER LIVERINGA POOL)
Balginjirr is the traditional name of the Lower Liveringa Ridge which contains many different kinds of fossils and unusual rock formations. The Lower Liveringa Pool is an important habitat and sanctuary for birds, wildlife and is a corridor for a wide variety of native plants and trees. Its natural beauty has drawn Nyikina people to the area for countless generations. Mining exploration is a significant threat to this area.

WOORLOOBARDA
This is a special place for Bookarrarra cultural stories on Nerrima Creek. Birds and other animals who were there in the Dreamtime, like brolga, *karnajinangany* (emu), and *jamandi* (kangaroo), are still there today.

NATURAL AND CULTURAL VALUES
Mardoowarra provides a refuge that harbours many different species of fish, waterbirds, plants and other animals, including threatened plants and animal species only found in the Kimberley, or only in the Fitzroy River (endemics). The Fitzroy River and its estuary are known to be important fish habitat areas, a stronghold for several nationally and internationally threatened species, especially for sawfish species and the Northern river shark. Northern Australia may soon represent the only region in the world where viable populations of Freshwater Sawfish persist. The link between the river and floodplain is very important and must be maintained to protect the ecological values, which include:

- Many tens of thousands of birds congregate on the floodplains in the wet season, especially at Camballin;
- 35 different species of fish have been recorded by scientists in the river (in 21 families) out of a total of 43 species known in the Kimberley, making the Fitzroy River one of the most diverse freshwater fish habitats in WA;
- 18 fish species are found only in this region (endemic), and three of these species are near threatened (Prince Regent Hardyhead *Craterocephalus lentiginosus*, Barnett River gudgeon *Hypseleotris kimberleyensis*, and Greenway’s grunter *Hannia greenwayi*) making the Fitzroy River a hotspot for freshwater biodiversity;
- The dry season pools and billabongs are significant for fish and water birds, and also create an important place for other plants and animals to find water and shelter;
• The river and estuary supports one of the strongest populations of the critically endangered Freshwater sawfish (*Pristis microdon*) in the world;
• The Fitzroy River is an important nursery area for *P. microdon*;
• The river is a place where other threatened species survive, such as the Freshwater Whipray (*Himantura chaophraya*) and the Purple Crowned Fairy-wren (*Malurus coronatus*);
• Dwarf Sawfish (*Pristis clavata*) are also found in the river;
• Threatened species of plants found along the river are *Indigofera ammobia* (at Dampier Downs), *Olax spartea* (near Mowla Bluff), *Goodenia sepalosa* var. *glandulosa* (on Yeeda) and *Goodenia byrnesii* (on Mt Anderson);
• Majala (*Barringtonia acutangula*) is another important bush medicine plant, found mostly on the floodplains;
• Camballin and the lower Fitzroy floodplains are important for three species of frog found only here (endemic species):
  — Mjobergs Toadlet (*Uperoleia mjobergi*) is found only in the lower Fitzroy floodplains;
  — Hidden-ear Frog (*Cyclorana cryptotis*) is found only in the lower Fitzroy and Ord River valleys;
  — Wailing Frog (*C. vagitis*) is found only in the lower Fitzroy and Ord River valleys.

Other important animals:
• *Malangkarr* — the giant olive python (*Liasis olivacea*) has been tracked around Udialla Springs, and another at Bidan. It is thought there are only three in our country usually staying around the hill country near Mt Anderson and upper Liveringa. They are big enough to eat small kangaroos;
• *Kirriwi* — the water rat (*Hydromis chrysogaster*) hasn’t been seen for a long time, about 60 years, and we are worried Kirriwi is endangered or extinct. Places where we used to go and watch them eat shells from river, we can’t find them anymore. We used to catch them for food;
• *Kalkoolbarkoo* — this crab (*Austrothelphusa transversa*) lives in billabongs, not the river. It’s about the size of the palm of a hand. We eat them or use them for bait. There are still plenty around. In the dry season Kalkoobarkoo shuts himself up in the mud until rain comes, then he then comes out. Kalkoobarkoo has an important story;
• *Wabada* — water goanna (*Varanus sp.*) is associated with a special law to do with young girls and is found along the river;
• *Langkoorr* — northern brush tail possum (*Trichosurus arnhemensis*) is usually found along the river but has not been seen in some places for a long time. It is now starting to come back, and there’s a family of five possums living at Udialla.

‘This man has big law.’

John Watson

• *Wiliyanoo, kakaroo, marrjabin* — we have to look a little bit harder now to find mud mussels (*Velesunio ?angasi*) along the river and in the billabongs. Its also more dangerous to collect them because of the increase in numbers and range of saltwater crocodiles;
• *Linykoorra* — there are more saltwater crocodiles (*Crocodylus porosus*) in the river, and they are moving further up the river into the freshwater. This makes it more difficult to get bush tucker or go fishing. This is a problem and we are concerned for people’s safety. We now find saltwater crocodiles at Dambalkoodany, Yirrala, Camballin and Lanyji. We never used to worry from Lanyji up river, but now we worry about crocodiles in these places.
The river is central to our lives and we visit it often. It is an important place for cultural activities: an area to hunt for traditional food, collect medicine and tell traditional stories according to the seasons. Some of these values include:

- **Visiting country** — Yimardoowarra people continue to move around their country maintaining and visiting sites, places and always expressing their cultural traditions;
- **Seasons** — The seasons are not only about the food that can be hunted but also about what is good to be eating at certain times to stay healthy e.g. eating turtle when they are fat;
- **Permanent pools** are very important culturally and are known as ‘living water’, providing drinking water and food like fish, cherabun and turtles;
- **Warramba** (flood) in the wet season washes through the pools and cleans them;
- **Freshwater fish**, crocodiles and their eggs, turtle eggs and freshwater mussels are important food sources;
- **There is a range of cultural sites** registered under the Aboriginal Heritage Act 1972;
- **Oongkalkada** is a traditional trading and ceremony ground. This is one of the places where Nyikina people were taught their dance and song. The area is also considered neutral country for other language groups to visit and travel through the area. Many strangers to the land have come and sat and fixed their spirit over time, healing their body and mind;
3 PRIORITY MANAGEMENT AREAS

- Udialla Station is also an important historical place for our people. It was a sheep station and then mainly used for horticulture. It later became aration camp. Many Nyikina and Mangala people were bought to Udialla by force, kept by force and then sent to nearby pastoral stations to work. Some of these people often return and share their stories. Some of our old people from this time are buried here;

*Camping at Old Udialla Station © S. Yu*

**cultural recording**

There are places along the river where cultural mapping has recorded some of the rich cultural knowledge of Nyikina people. For example, beginning in the early 1970s (1978-2004) extensive doctoral dissertation field work conducted by Dr Browyn Stokes with Nyikina people including Mrs Gladys Johnson and Mrs Lucy Marshall resulted in an extensive Nyikina word list and data base of maps and names of kandri.

**COMMUNITY ENTERPRISES**

Oongkalkada Inc. currently operates a wilderness camp at Udialla Springs and is in the process of establishing a training centre to offer Indigenous vocational training and traineeships. Training will initially focus on the areas of cultural tourism and land management and is hoped to extend to small business, aquaculture, permaculture and new technologies. There is also a vision to develop a centre for sustainable living at the property.

Balginjirr community members in partnership with Madjulla Inc. are developing the Majala Wilderness Centre; a commercial enterprise offering tours and accommodation in a remote Indigenous environment, targeting a market niche for business conferences and university or educational programs. Balginjirr community members are developing natural resource management of wild harvest products and the propagation of bush foods.

Madjulla Inc. and Nyikina Inc., with the support of the Shire of Derby West Kimberley, recently secured 25 acres just outside of Derby where the Nyikina Culture Centre will be established. The Nyikina Culture Centre will be an innovation and technology hub for building cultural industries in the region.
ISSUES AND THREATS

Uncontrolled tourism, weeds, feral animals, erosion of wetlands by stock and burning at the wrong time of year are the most urgent issues needing attention. Past farming failures and changed river flows continue to threaten the health of our country. Damming of the river or creeks in the catchment is an ongoing threat. Quickly approaching is the very real threat of the cane toad. Along with the existing sand mines on the river, we are threatened by the proposed large scale mining within the Fitzroy Basin. In order to minimise threats, consideration must be given to the sensitive biodiversity hot spots and threatened plant, bird and animal species disappearing from the Mardoowarra landscape.

GRAZING

Uncontrolled or overstocking of cattle causes erosion at waterholes and on the river banks and soil compaction and siltation on the floodplains. Aboriginal groups all along the Fitzroy River have noticed pools becoming unsuitable for fishing because of sediment build up. At Udialla, uncontrolled cattle are wandering in and frequently getting stuck in the springs, causing damage to the fragile system.

FERAL ANIMALS

Cane toads will threaten the wetlands and river system when they get to the Kimberley, as well as threaten our food sources such as goanna. Pigs are a problem along the river and at springs, trampling soil and plants and polluting the clear water. They might also carry diseases harmful to humans.

WEEDS

Noogoora Burr (Xanthium strumarium) is found all along the river, especially in the quarantine area, where it is left to grow and spread. Rubber Vine (Cryptostegia spp.) and Mesquite (Prosopis spp.) are both found at Yeeda Station. Parkinsonia (Parkinsonia aculeata) is found along the floodplains of the river. Neem (Azadirachta indica) is threatening natural spring vegetation at Udialla Springs.

FIRE

Burning at the wrong times is a threat to the environment as a whole. Fires for pastoral management are often started at times when animals are breeding and bush food plants are preparing to fruit. Through the implementation of this Plan we hope to secure funding to re-establish traditional fire management practices.
3 PRIORITY MANAGEMENT AREAS

TOURISM
Unmanaged camping and tourist activity causes pollution, erosion and general damage to popular areas along the river. Firewood is also taken by tourists, leaving riverbank areas with no places for small animals and lizards to nest. Some places on the river, from Dambalkoodany down, are impacted upon heavily by recreational fishers and tourists. Sometimes it looks like a caravan park with tourists camped down there for weeks, but with no toilets, water or rubbish facilities these places are seriously under threat.

RECREATIONAL FISHING AND HUNTING
The area around the lakes is a popular hunting and fishing area. We are very concerned about the damage caused by people camping and leaving their rubbish and toilet paper behind. Pig shooting and cattle rustling are big problems in this area that need to be managed.

There are many popular fishing sites along the river that have year-round unmanaged camping, fishing and hunting. It is mainly people who live and work in the towns of Broome and Derby who visit these sites and have done for many years, but the situation is causing a lot of damage to our river.

- Threatened species like the freshwater sawfish (*Pristis microdon*) are often thrown on the bank to die when caught by fishers, to avoid them getting hooked on their lines again;
- Dinghies create waves that cause erosion on banks;
- Pig hunters and recreational activities such as 4WD bikes make a network of tracks and cut up the country, causing erosion and degrading the country, especially in sensitive areas;
- Taking too many jarramba (cherabun), or taking small ones, or females with eggs is also of concern;
- Overfishing is of great concern to us as it may deplete stocks which means we may not be able to rely on fish for subsistence and cultural responsibilities (e.g. in sorry time).
The Shire of Derby West Kimberley has acknowledged that these are popular recreational sites that need management but there is no funding to resource this. Some of these areas include:

- Mangkoowila is at the mouth of the river
- Nganyingan or Kooban (Telegraph Pool)
- Lanyji Lanyji (Lanyji Crossing)
- Pelican Pool near Sawfish Point and the mouth of the Fitzroy River
- Sawfish Point is the fishing spot closest to the mouth of the Fitzroy River
- Lirrban is a water hole on Yeeda station
- Mamirrina is Luluigui Crossing
- Karnamoongkarraboo is a special place on Luluigui Station
- Cuttings
- Kenty’s Pool
- Wilyan is a pool off the river between Yeeda and Willare, just down from the road house
- Dambalkoodany situated south from Lanyji Lanyji on the opposite side of the river,
- Bindinyan is the UpperLiveringa billabong
- Roomboony is a water hole near Upper Liveringa
- Windinngoorroo is 17 mile Dam
- Koordoo is a big rock near Camballin associated with dreamtime Jandamarra being.
- Mijirikan is the boundary on a river crossing between Big/Upper and Small/ Lower Nyikina country, near Noonkanbah.

EROSION

Dams, roads and other infrastructure have changed the flows of the river, causing damage across the landscape. Erosion resulting from road and dam levee constructions and irrigation infrastructure has caused significant and worsening erosion problems on Mt Anderson pastoral property. The changing flow of water is causing sand banks to build up along the river and change permanent pools and water courses.
3 PRIORITY MANAGEMENT AREAS

TAking Water
Although past proposals to dam the Fitzroy, Durack and Margaret Rivers at Dimond Gorge or create a pipeline to Perth were rejected, the threat of damming, diverting or taking large amounts of water from the river for development remains. Decreased water quality due to pastoral runoff and stock degradation is also of great concern, especially as runoff back into the river is not monitored. Already some groundwater is brackish.

MIning
We are concerned about mining pollution (current and future mines) affecting our environment, especially our food sources such as mussels. Proposed mining along the Liveringa Ridge will negatively impact on water quality, biodiversity, threatened species such as the freshwater sawfish, bush food consumption and quality of life for our people. Such large scale development is a direct threat to carbon banks, water quality and water supply: our valuable resources. This proposal is premature and in direct contrast to our aspirations, including the recent National Heritage Listing across the Kimberley region. The Culture and Conservation Economy is a better alternative for us as it will generate sustainable livelihoods on country for generations to come.

Dog Baiting
We are concerned about how aerial dog baiting using the poison 1080 affects our wildlife, as we have seen many animals such as emu or crocodiles eating the baits and getting sick or dying.

Hunting
Some Aboriginal people, even our own people, aren’t being taught properly how to hunt at the right times or what the restrictions are, and we are worried that this might lead to many animals disappearing through overhunting.

Bush Tucker
There is a real concern that there is not as much bush tucker around as there used to be. There used to be more food all along the river, like lambanoo, bush cucumber, witchety grub, turkey, chewing gum and makabala, but these have almost disappeared. We don’t know why this has happened but we’ve noticed the decline over the past 30 or 40 years. It is important to get the country back to being healthy.

4 The Western Australia Department of Water has invested in a three year hydrological study of the relationship between underground and surface water of the Fitzroy region, and is only in its first phase of research and planning.
MANAGEMENT PRIORITIES

Mardoowarra has the potential for ranger and tourism activities to both address threats to country and provide meaningful employment and income. We are also setting aside areas for enterprise development, such as bush food plantations, bush medicine trials and mining activities that do not compromise our values.

The priorities for management in this area are:

- Management of tourists and visitors including access, camping areas, permits, signage and education;
- Ranger activities including tourism management, feral animal control, weed control, biodiversity surveys and monitoring (sawfish, rivershark, river vegetation and water quality) and cultural mapping and site surveys along the river;
- Ongoing fish fauna studies into species diversity, population, range, reproduction biology and genetics;
- Undertaking long term monitoring and population genetics of freshwater sawfish, and removal of impediments to fish migration right along the river and including Moorrool Moorrool;
- Continue satellite tracking research project, tagging and awareness raising programs for Freshwater Sawfish with rangers, elders and other community members;
- Managing fire burning and reducing carbon emissions;
- Keeping track of river health by recording both scientific and cultural knowledge;
- Investigating opportunities for enterprise development through sustainable livelihoods on country e.g. tourism, bush medicine;
- Developing partnership agreements for ranger and tourism management activities across the whole area (tenure blind), including fee for service arrangements;
- Implement seasonal fishing restrictions for some species such as barramundi or cherabun/jarramba, for both tourists and locals;
- Cattle management actions (fencing, bores) to protect significant sites (e.g. Linangurrug) and wetlands (e.g. Udialla springs).
STEPS AND RESOURCES
Just like Moorool Moorool, the first step for the river is to develop a Tourism Management Plan and set in place agreements for better management of tourists and visitors (fee for service, negotiated agreements with shire and pastoralists on common issues). Alongside this Tourism Management Plan we want to ensure our ranger strategy is sustainable and can continue to be built upon for better management of country and better opportunities for our young people. We will work with WOC (Working On Country), KLC (Kimberley Land Council), Yiriman and JBAC to do this. Jarlmadangah-Buru provides a strong base for the current ranger program, and for supporting other activities on country. Rangers are already highly skilled and trained, but we will continue training to build new skills as new rangers come on and new areas are developed. We will work with Oongkalkada Inc. and TAFE to progress training.

We would like to keep working with good research partners like Murdoch University for freshwater fish and river health monitoring, and bring in new research partners that can help us with integrated water and fire management and carbon trading.

There is a potential to create a wildlife and fauna sanctuary at Oongkalkada, protecting animals from danger as well as introducing captive breeding programs. We will investigate this through the sustainable livelihoods research with TRaCK.

Our seven riverside communities can contribute expertise, skills, people and other resources for land management and sustainable enterprise development.
AREA 3: KUNJANINGOOOROO
(CAMBALLIN FLOODPLAINS)
Camballin Floodplain is about 30,000 ha and is an important place for many waterbirds. Over 38,000 individual birds have been recorded here belonging to 67 different species. Some birds travel here every year from Japan and China. Even in dry years the floodplain, wetlands, creeks and rivers can have around 20,000 water birds.
This is an important breeding area for long neck turtle (*Chelonian sp*) and freshwater crocodile (*Crocodylus johnstonii*) and there are many different kinds of lizards here.
Swamps like Le Lievre, Moulamein, Seventeen Mile Dam, and Snake Creek are places for birds to shelter and feed. Le Lievre Swamp has the largest floodplains, and this is well known as an important place for waterbirds. The forests along the river are important places for birds to nest and roost.
This area has an important cultural story and is of great cultural significance. There are many cultural sites and also historical places from the pastoral days in this region. When the Australian Land & Cattle Company started up irrigation and blocked the river with the barrage in the 1960s we were forced out of the area and prohibited from fishing, and erosion started along the river and across the landscape.
Jarlmadangah-Burru, located on Mt Anderson lease, and Looma Community, near Myroodah crossing, are both in this area.
NGOORROO NGOORROO (CHESTNUT POOL)
Ngoorroo Ngoorroo is a deep permanent pool on the lower Fitzroy River. It has healthy tall trees such as *Melaleuca leucadendron*, *M. argentea* and *Eucalyptus camaldulensis* lining steep banks, as well as many other plants and animals.

MOULAMEN (MOULAMEN AND LE LIEVRE SWAMP)
These are important wetlands for birds to shelter and feed. It is a major breeding area for the Australian Pelican (*Pelecanus conspicillatus*). Moulamen has the story for the emu that took off with the plum, and there is an old plum tree there from this story. This place was given a French name, Le Lievre, which means hare, maybe because of all the bilby that used to live in this area.

JIKADA (MYROODAH CROSSING)
Jikada is close to the Looma community. It is one of the few places you can drive across the river. The Nyikina word mayarda means pelican and refers to the large flocks of pelicans seen in this area. Myroodah crossing is a popular fishing and camping place, bringing many issues and concerns for the management of the area.

LOOMA
Looma is a community situated at the base of Ngarloowinyan, a culturally significant landmark, which is the place for a well known Nyikina story about a blue tongue lizard (*Ngalyak*) and her children. It is not permitted to climb these special sites behind Looma community.
PRIORITY MANAGEMENT AREAS

DOODOODOO AND MOUNT WYNNE (ARTESIAN SPRINGS)

Doodoodoo is an area near Paradise Station containing artesian springs. The springs have warm water bubbling out all the time. People used to wash their clothes in the hot water. There are paintings in a nearby rock shelter.

NATURAL AND CULTURAL VALUES

Camballin Floodplains are best known as one of the most important places for waterbirds in the Kimberley.

- The floodplains and wetlands are important places for waterbirds to feed and breed, holding water for a long time into the dry season;
- Over 38,000 birds have been recorded here, including 67 species of waterbird, 19 of which are listed on Australia’s international treaties5 for migratory birds;
- Even in dry years the floodplain, wetlands, creeks and rivers support over 20,000 water birds;
- The link between the river and floodplain is essential to keep these systems healthy;
- Camballin is listed as a Nationally Important Wetland and is on the Register of the National Estate because of its importance as a place for waterbirds. This means it is given greater protection by the government and a priority for Commonwealth funding applications;
- Ramsar is an international treaty signed by the Australian government that recognises important wetlands around the world. Camballin meets requirements for being listed as a Wetland of International Importance under this treaty;
- Internationally significant species: Australian Pratincole *Stiltia isabella*, and 19 different migratory birds that travel between Australia and Asia (listed under JAMBA/CAMBA treaties);
- Nationally significant species: Wood Sandpiper *Tringa glareola* and Marsh Sandpiper *T. stagnatilis*;
- State importance: major breeding refuge for the plumed Whistling-duck (*Dendrocygna eytoni*) and the Wandering Whistling-duck (*D. arcuata*), Pacific Heron (*Ardea pacifica*), Great Egret (*Egretta alba*), Glossy Ibis (*Plegadis falcinellus*) and Magpie Goose (*Anseranas semipalmatus*);
- Two threatened species, the Yellow Chat (*Ephthianura crocea*), and Freckled Duck (*Stictonetta naevosa*), have been recorded at these wetlands;
- At Camballin, the feral animals (pigs) and cattle grazing pressure (causing trampling and erosion) along with changed water flows are considered threatening processes by the Australian government who has listed the floodplains as a threatened ecosystem;
- The government also lists wetlands in our country as vulnerable ecosystems because of fire and grazing pressures;
- Before the floods start people go to the springs and billabongs to hunt crocodile and turtle that have migrated from the river during dry times. As the river stops running and the pools dry up, they move to the deeper billabongs and springs. These animals are hunted not just as a food resource but also important medicine when hunted at the right time.
- At places like Upper Liveringa, there were many geese and ducks. Our old people used to hunt for their eggs for food. There are also many cultural sites and stories for this area, and historical places from the pastoral days such as the homestead and shearing sheds at Mt Anderson.

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5 Japan-Australia Migratory Bird Agreement, and the China-Australia Migratory Bird Agreement.
6 Freckled duck is also a Priority 4 state listed species
COMMUNITY ENTERPRISES

Jarlmadangah Burru currently runs a cultural centre, community store, community school and successful tourism business (JBAC Bush Adventures and Kimberley Dreamtime Adventure Tours (KDAT)). Jarlmadangah-Burru provides a leading example of a successful community development model.

Mt Anderson Station is a pastoral enterprise operating over 330,000 acres near Jarlmadanka, and run by Nyikina Cattle Company. This station is an important part of Jarlmadangah-Burru community, with ten community people employed at the station. It also offers a place for learning about the pastoral industry and runs pastoral training courses.

ISSUES AND THREATS

The main threats in this area are those that change the wetlands, including wetlands being damaged from stock, tourists and weeds, taking water, changing flows and putting in dams/barrage which causes erosion among other problems.

CATTLE AND FERAL ANIMALS

Cattle grazing, trampling and erosion are major threats to the Camballin floodplain and the wetlands that occur there, and this is affecting waterbirds and the places they feed or breed. Most of the Camballin area (Djada (Jada) land system) has severe degradation. Pigs are also causing trampling and erosion of wetlands. Packs of dogs roam this area and some pastoral properties, like Liveringa, are losing cattle.

WEEDS

Many native grasses have been replaced by introduced grazing plants like buffel grass. Because the land is suffering (degraded) *Eremophila longifolia* is now growing in parts of the floodplain like a weed and changing the habitat. Noogoora Burr is also threatening the ecosystem here.
TOURISM
Similar to other areas, uncoordinated and unmanaged tourism is a major issue, including impacts of erosion, weed transport, overfishing and pollution. In some cases this extends to damage of heritage sites. In some cases cultural sites have been desecrated, gravesites removed and rock formations stolen. For example, skeletal remains and significant rocks have been removed from Doodoodoo. There is a high number of campers/visitors to this area, and they often leave behind rubbish such as beer cans and toilet paper, and damage trees for firewood. Pig shooters and recreational activities such as 4WD biking make a network of tracks and cut up the country adding to erosion and degradation. There is the possibility of tourists getting lost on this network of tracks and their safety is of concern for us. Over-fishing or fishing at the wrong time of year is also an issue here.

IRRIGATED AGRICULTURE
The failed Camballin Irrigation System, established by the Australian Land & Cattle Company in the 1960s, impacted heavily on our land and culture. When it shut down in 1980s because of inaccessibility, flooding damage and insufficient dry season flows, it left the land scoured, eroded and degraded. The physical structures were also left: Seventeen Mile Dam (on Yiralla Ck), the Fitzroy River Barrage, pump houses, levees and a storage silo, as well as a legacy of lasting land degradation, erosion, altered species distribution, disruption of flooding, and disruption to the cultural life and traditional lands of the Nyikina people.

The changed flows are considered threatening processes by the Australian government which has made Camballin floodplain a threatened ecosystem and put the river banks and vegetation at risk, and are causing severe erosion across the landscape.

Pesticide run-off is also a concern. Taking water and installing dams and pivots for irrigated cotton/crops at Camballin and surrounding areas, or other purposes (e.g. pipeline outside the catchment) is an ongoing threat to the health of the river.

Infrastructure continues to impact on river health. The Barrage diverts water into Yirala (Snake Creek) and is a barrier to flooding, fish migrations and cherabun movement. It acts as a bottleneck where bull sharks can sit to take their prey easily, including the threatened sawfish. It has been proposed that the Barrage be removed, or a fish passage installed. A stakeholder group is currently investigating options for a fish ladder (Fitzroy Fishway Project), however, we recommend alternative cost effective strategies for management of the whole area.

EROSION
One of the major issues in this area is erosion caused by irrigation infrastructure: Seventeen Mile Dam and Fitzroy River Barrage (both privately owned). Floods are causing erosion of levee banks, canals and other irrigation infrastructure. Seventeen Mile Dam is damaged, and although the Barrage is no longer operational it continues to divert water. Because neither dam is being maintained they are both being eroded and are themselves causing serious landscape erosion when floods are high. Although there are some warning signs, we are concerned about people’s safety around the Seventeen Mile Dam and the Barrage, which are unsafe structures.
LIVERINGA /IRRIGATED AGRICULTURE
The floodplains have been changed severely by agricultural activities over the past 30 years. Liveringa Pastoral Company has a license to take 6,400,000 kL/yr of water from the Fitzroy Barrage/Yirrala Creek off-take over three years between July 2009–June 2012 for pastoral use and irrigated crops. Local communities have reported fish kills in the past in Liveringa Pool, and this might happen again if the irrigation area is not managed properly.

GRAZING
Cattle grazing, trampling and erosion have damaged the floodplains, and grazing is still occurring over most of the area.

ACCESS
Fencing of pastoral properties also restricts access to areas where custodians have rights to visit and are required to maintain cultural responsibilities, such as the fence around Liveringa. Negotiated access to pastoral properties is encouraged.

MINING
We are concerned that mining proposals near Paradise Station might threaten the springs there. There are also uranium tenements in this area by the company USF, who have taken the name Majala for their project. This is offensive to us. We are opposed to uranium mining as the damage to people and environment is too great a risk for us to bear. For us, there is no discussion; uranium should stay in the ground. Rey resources have also proposed coal extraction and are currently in the exploration phase. We do not support an open cut mine to mine coal. Burru energy are also in exploration phase for oil. We may consider proposals with a small footprint if they meet our cultural and environmental requirements.
MANAGEMENT STRATEGIES
This area forms a natural and cultural sanctuary zone and allows for many important ranger activities that could also provide income, such as tourism management and fee for service.

The priorities for management in this area are:

- Management of existing and increasing tourists and visitors, including access, camping areas, permits, ranger patrols and fishing restrictions;
- Ranger activities including tourism management, feral animal control, weed control, biodiversity surveys and monitoring (comprehensive study on waterbirds, fish health and fish populations, water quality and off-take, sawfish) and cultural mapping and site surveys along the river;
- Implementing cattle management for protection of priority wetlands and heritage sites by fencing and providing alternative watering sites for cattle and feral stock;
- Implementing river health remediation works, such as tree planting to reduce erosion, remove barriers to river flows and fish migrations (e.g. fishway) and negotiate removal or maintenance of irrigation infrastructure causing significant erosion;
- Recording a baseline of cultural heritage sites within the Native Title Area;
- Monitoring of fish populations by rangers and Murdoch University, as part of the license conditions for the Liveringa water extraction started in Nov 2009.

STEPS AND RESOURCES
Jarlmadangah Burru provides a strong base for the current ranger program and for supporting other activities on country. We will look at ways to build the program to support rangers right through the different areas, alongside the Tourism Management Plan. We are also building our existing tourism enterprise at Jarlmadangah. Jarlmadangah school is a strong resource to continue to build up children’s cultural education programs.

Looma community is the third biggest living centre in the Shire of Derby West Kimberley, after Derby and Fitzroy Crossing, with a population between 400-500. There is a tourist camping ground at Looma and the community is interested in developing tours on the river, as well as constructing an art and craft centre. We would like to work more with the people of Looma in our tourism management planning. Community members would like to establish ranger-based land and water management initiatives to build a skilled workforce locally to manage environmental and cultural resources.

We would like to build new partnerships with pastoralists to assist better protection of the wetlands in this area from cattle grazing and from the problems with irrigation infrastructure. Working with pastoralists and the Fitzroy Fishway Project, we would like to solve some of the problems caused by the irrigation infrastructure. There is a need to develop an integrated land and water management plan to reduce erosion, changes in water course and water quality which goes beyond the single idea of a fish ladder.
AREA 4: NYINYI/WALANKARR
(MOWLA BLUFF/EDGAR RANGES)

Walankarr is an escarpment range covering about 10,000 km², dividing the Great Sandy Desert and the river country. It is also the meeting point of three Aboriginal countries: Karajarri to the west, Nyikina to the north and Mangala to the south. It’s an important place as a refuge for many plants and animals, especially threatened animals like the bilby and rare plants like the pandanus at Logues Spring. Jirrkaliy and Manguel creeks drain northwards from these ranges.

Nyinyi (Mowla Bluff) has always been an important landmark for people travelling into the area from the desert. Jirrkaliy and Manguel Creek are like a traditional highway, where people walked up and down between the river and the desert. Nyinyi acted as a reference point on this highway because when people were walking up from the desert it can be seen from a long way south.

We want to look after this country and make sure our young people learn about this area.
IMPORTANT AREAS

JIRRKALIY (GEEGULLY CREEK)

Jirrkaliy drains north off Walankarr and goes into the Fitzroy River. Jirrkaliy has cliffs, springs, wetlands and permanent waterholes like Wiliyalkany and Kalayanmayi (Clanmyra Pool) which are fed by underground water. In some places the creek goes underground. In other areas, springs form mounds of minerals or peats, which are very rare in Australia.

Jirrkaliy holds water for many desert animals like jamandi (red kangaroo), nyarlku (bilby), kinanyji (echidna) and mulgara and provides life for different animals than along the river. Fish such as Bilankoordany (barramundi) and kuwanyaa (freshwater crocodiles) live in the pools here. The area is a natural hatchery for egg-laying animals such as barniy (goanna), joorroo (snakes) and kinanyji (echidna) as the soft sand makes it a good place to lay eggs.

This area has many traditional water sources and living areas of our old people.
MANGOORLL (MANGUEL CREEK)
Mangoorll feeds a chain of freshwater pools, soaks and springs. The creek travels underground in places, feeding the springs where it reaches the surface and eventually going into the Fitzroy River near Udialla. Where Mangoorll goes underground at Kujikan there is a big spring. At Babakaman the creek is above ground and has barramundi in the pools. It is surrounded by thick paperbark forest where many small but important springs come up under the trees, some only about one metre wide. Where the creek goes underground there are salt deposits on the surface, over ancient limestone. Not much scientific information is recorded for this creek but the springs are culturally significant and the important story for this place continues to be passed on to young people.
The pools are important watering holes for many birds and animals: both freshwater and saltwater birds live or nest in this area, such as pelicans, ibis and sea eagles. These freshwater springs have rainforest plants like wagurr (*Pandanus*), *Sesbania formosa*, shrubs and ferns (*Acrostichum sp*). Most of the springs around Mangoorll have been disturbed and polluted by cattle.

Mangoorll springs and soaks are also important to scientists because of the ancient formations of calcrete, peat mounds and silica mounds. Because they are rare they are important on an international scale, and should be protected. There are many fossils at the end of the creek.
JANGOONAN (LOGUES SPRING)

Jangoonan, at the northern end of Walankarr, is the only place to find a rare stand of pandanus (*Pandanus spiralis var. fammeus*), which is nationally threatened species found nowhere else. The spring is under threat from weeds, cattle and unmanaged fire.

MANDIKABOO (OLD DAMPIER DOWNS)

Mandikaboo is near the border of Karajarri and Mangala country. It is like an oasis in the desert, on the western edge of Walankarr (Edgar Ranges). The waterhole there is icy cold, and there’s not much fish but good bird life. Big animals also come to this waterhole. Mandikaboo has a dreamtime story for crocodile.

WILA (DESERT WATERHOLES)

Desert waterholes are crucial for desert life: wila bring life to both people and animals and are important culturally. Soaks and springs form many of the waterholes. In the dry season, soaks are the only water source for plants and animals, enabling them to survive the harsh dry season.

NATURAL AND CULTURAL VALUES

Walankarr, Jirrkaliy and desert wila are all extremely important for biodiversity, acting as a refuge for many different plants and animals.

- Walankarr has rainforest pockets and gorges that provide shelter for plants and animals;
- Walankarr is a refuge especially important for threatened animals like the bilby (*Macrotis lagotis*), Alexandra’s Parrot (*Polytelis alexandrace*), the Plumed Pigeon (*Geophaps plumifera mungi*) which only occur in this region (endemic), and the blackfooted rock wallaby (*Petrogale lateralis*);
- Big red and grey kangaroos live off the water holes;
- Although it’s a long way south in the desert, the waterholes here have bream and barramundi;
- Kilu (*Pseudantechinus ningbing*) is a small mouse with a clean tail that had not been found for 30 years until recorded in 2002 at Nyinyi on a Yiriman research trip;
- Walankarr is also a place where rare plants are found, like *Ptilotus kenneallyanus*, *Pityrodia ovata*, and in the gorges figs like *Ficus platypoda* and *Ficus opposite var indecora*; *Keraudrenia katatona* and *Pityrodia chorisepala*.
- The threatened plant *Pandanus spiralis var flammeus* is only found at Jongoonan.
At Jirrkaliy near Walankarr there are rock wallabies (wiliji, jipuku, or marla) and small animals like the dunnart (Smitturopsis psammophila) and mulgara (Dasycercus cristicauda) (or Pseudantechinus) which aren’t found in many other places;

Walankarr and Jirrkaliy are internationally significant places because they tell the story of how the land formed. It was the first place studied in Australia that tells a story of wetter times followed by dry times that filled up the valley with desert dust which was then eroded by the creek. It shows where there was an old saltwater reef and giant clam shells have been found here. These features and the formation of rare mound springs in this area are all considered eligible for listing and protection under the Environmental Protection and Biodiversity Act (EPBC);

Green Spring, Big Flow and Little Flow are artesian bores on Nerrima station that have hot water gushing out under pressure and are influenced by the moon: when its full moon the water comes up like the tide does at the coast.

This area might not be visited as often as river places by custodians because some places are more remote and difficult to access, but its importance for maintaining cultural values is still strong.

Jirrkaliy contains many traditional water sources and traditional living areas of our old people;

Jirrkaliy, Walankarr and Mangel creek are areas of great significance to custodians and there are important places to practice cultural activities;

People maintain springs in the desert, providing life and sustenance to many animals, whilst passing on cultural knowledge;

Places like mound springs, Walankarr and Jirrkaliy, and the fossils they contain of old marine life are geological sites that are of great importance on a global scale;

This is an area we have earmarked for an Indigenous Protected Area (IPA). Ranger and conservation activity could become part of sustainable livelihoods in this area.
ISSUES AND THREATS

Many different kinds of plants, mammals, birds, lizards, frogs and insects have been recorded at Walankarr, but there is concern they are declining\textsuperscript{7}. The main threats to this area are the lack of traditional fire practices and impacts by weeds and feral animals (including stock), leading to a decline in biodiversity. The damage by feral animals to waterholes in this area is very serious. Other issues are increasing such as uncontrolled tourist activity and recreational hunters/fishers.

FERAL ANIMALS

Foxes and feral cats at Walankarr and Jirrkaliy hunt the wildlife. Many animals which were plentiful during childhood of our elders are now extinct or almost so. Even bilby numbers have dropped in the last few years. This is thought to be because of increasing feral animals and also because fire isn’t being done properly.

At Jirrkaliy, one of the major threats to both the land and water is the big numbers of cattle in the area. Cattle have trampled vegetation, stopped plants from coming back, introduced weeds and increased erosion. They have also damaged creek banks, waterholes and springs by trampling and polluting waterholes, especially along Jirrkaliy Creek and at the base of Walankarr. Cattle are changing the landscape in a big way.

Alongside feral cattle, horses and pigs are eroding and polluting wetlands and waterholes, especially in the south of this region in Jirrkaliy and Manguel Creek systems, and springs such as Lirrima. Further south, in the desert rock holes and springs, camels are a problem, eating native vegetation, eroding and polluting waterholes.

FIRE

Walankarr is an area critical to the survival of small (critical weight range) mammals. Better fire management here would help to protect them and other plants and animals, and keep the country healthy. Big hot fires are also harming plants and wetlands (springs). These fires are happening too often in the late dry season.

WEEDS

Jangoonan (Logues Spring) is threatened by Parkinsonia and Mesquite. Manguel Creek is threatened by rubber vine. Weeds are being brought in and spread by feral animals which also help the weeds along by trampling the vegetation and eating the native plants.

TOURISM

Tourist access is increasing and there is no management. Rubbish and other pollution is being left behind by people visiting the area. The Indigenous Tourism project intends to open access to this area, however there is some concern that increasing access could harm current activities such as traditional hunting. More research and action are needed.

RECREATIONAL FISHING AND HUNTING

At Jirrkaliy and Mangoorll (Manguel Creek), off-road vehicles (such as 4WD bikes) and hunting pigs and cows is causing damage to the fragile area.

\textsuperscript{7} A biological survey of Walangkarr in 1980 recorded 213 plant, 24 mammal, 121 bird, 40 reptile, 6 amphibian and 949 insect species (McKenzie 1981). The Walangkarr Jirrkaliy Healthy Country Project surveys in 2002 recorded a total of 67 vertebrate species—10 mammal; 43 bird; 11 reptile; 3 frog; a much lower number of species sighted (especially small marsupials).
MINING

Old Mowla Bluff and Nyinyi are threatened by oil and gas mining. Coal exploration is already occurring just south of Jarlmadangah-Burru. The salt mine near Koojikan (Fromme Rock) is exploratory at present, but there is constant interest from miners in this area. We are concerned about impacts of mining on country.

MANAGEMENT STRATEGIES

Walankarr and Jirrkaliy are refuge areas for protection. It is important to manage fire so that small animals can be protected. There are not many opportunities here for enterprise development outside of tourism at present. Establishing IPAs provides one way to fund protection of this area, alongside cultural and natural heritage management. We will work with the Karajarri custodians to determine any future decisions about this area.

Our priorities for management in this area are:

• Implementing traditional burning regimes;
• Developing a sustainable ranger strategy and implementing fire management activities, feral animal and weed eradication, biodiversity research (freshwater species, baseline information at important sites such as Babakaman) and monitoring;
• Protection of priority wetlands and heritage sites from cattle and feral stock through mustering, fencing and providing alternative water sources;
• Undertaking biodiversity surveys before and after feral animal and fire management programs are implemented as a means of monitoring success;
• Investigating mechanisms that can provide protection of areas through legislation or other effective means, such as an Indigenous Protected Area (IPA);
• Developing a Tourism Management Plan for existing and increasing tourism;
• Heritage surveys to record material culture present in the area.

STEPS AND RESOURCES

We want to look after this country and ensure our young people learn about this area, as we have talked about for some time. One of the first steps is to work with Karajarri and other Mangala Traditional Owners to begin negotiations on the development of an application to the IPA Program. Walankarr is vested as vacant crown land. The Department of Environment and Conservation (DEC) has proposed the Edgar Range to become a Nature Reserve. Further consultation and planning is required with the respective Traditional Owners to develop a co-existence and co-management model for this area.

Partnerships in research and tourism may be useful to assist planning and also for undertaking biodiversity surveys and ranger training. Where possible, we will work at integrating these activities into future developments.
IMPLEMENTING THE PLAN
PART 4: IMPLEMENTING THE PLAN

Who else is out there who’s interested in investing with us to build a nation?
Anne Poelina, Mardoowarra Wila Booroo Planning Workshop, August 2009

OPPORTUNITIES FOR PARTNERSHIPS
Implementing the Mardoowarra Wila Booroo Plan will require strong partnerships and collaboration, based on mutual respect and understanding.

One of the first steps in implementing the Plan will be an Implementation workshop to provide an important opportunity for partners to discuss our objective and strategies and work with us to develop actions and agreements; it will be an opportunity to get involved. The next crucial step is the employment of a land management coordinator to facilitate implementation of this Plan.

We have set out some suggestions on how partners can work with us, on how to achieve the goals in this Plan, based on existing policies and commitments of each department or organisation. We welcome other ideas and suggestions from these and other agencies and organisations wanting to work with us on how we can work together.

COMMONWEALTH GOVERNMENT (ICC, DEWHA, DAFF, AQIS, ILC, DEEWR)
- DEWHA, through the IPA Program, provide support for our investigations of an IPA over all or parts of Nyikina and Mangala country, and if we proceed support implementation of our plan to manage country for both cultural and environmental protection;
- AQIS provide training and technical support to enable rangers to support AQIS in their activities and extend current and future contracts which will help us monitor, patrol and protect our country;
- ILC support custodians in developing opportunities for enterprise development on Myroodah/Luluigui, with a clear property management and divestment plan in place;
- DEEWR and DET support tourism training and employment strategy through the financial assistance available through the Indigenous Employment program

STATE GOVERNMENT AGENCIES (DoF, DEC, DAWA, FESA, DIA, DEET, DAHS)
- DEC support Traditional Owners IPA consultations and self-management of Walankarr by Nyikina and Mangala;
- DEC and DAFWA assist with funds and expertise for priority weed and feral animal control and management;
- DAFWA provide technical support and expertise to reduce erosion from levee banks, canals and other irrigation infrastructure;
- DoF support Traditional Owners to negotiate seasonal closures for some fish and crayfish species, and management of other species;
- DIA assist custodians to record and protect cultural sites;

LOCAL GOVERNMENT (SHIRE OF DERBY-WEST KIMBERLEY)
- Work together with us to define access, camping areas and tourism management with custodians for priority tourism management zones identified in this Plan;
- SDWK negotiate enforcement powers of rangers through by-laws;
4 IMPLEMENTING THE PLAN

- Consider fee-for-service opportunities with our rangers for management of high-use tourism sites and ranger patrols;

NON-GOVERNMENT ORGANISATIONS (NGOs)
- Kimberley Land Council (KLC) continue legal support and advice on development of agreements, and assist negotiation of enforcement and control powers and fee-for-service arrangements;
- Networking and peer support through the KLC Land & Sea Unit, especially the Kimberley Ranger Initiative and support biodiversity monitoring;
- Environmental Groups (WWF-Australia, ACF) provide an advisory role on the Steering Group for implementation of the Plan and development of the Strategic Plan and support research and management of threatened species, including the freshwater sawfish;
- RCG contribute NRM funds for priority weed and feral animal control and management;
- Continuation of Yiriman cultural programs such as back to country trips, women’s and men’s projects (e.g. traditional products) developing young leaders and positive identity (work/life/cultural skills) and knowledge transfer;
- Continuation of cultural maintenance programs with KALACC.

RESEARCH ORGANISATIONS (TRaCK, Murdoch University)
- Contribute funds to employ a Coordinator and implement research activities in the Plan;
- Provide traineeships/research capacity building exchange opportunities;
- TRaCK support implementation workshop (Research Officer and funding) and development of an IPA application to DEWHA;
- Murdoch University continue freshwater fish and water quality monitoring in partnership with custodians;

BUSINESS/TRAINING ORGANISATIONS
(e.g. IBA, DEWR, Skillshare, Jobs Futures, TAFE, KRSP):
- Contribute expertise, training and funds for the development and implementation of a tourism management plan;
- Assist with technical advice and training for sustainable enterprise development;

TOURISM ORGANISATIONS (WAITOC, TWA)
- Contribute expertise, training and funds for the development and implementation of a Tourism Management Plan;

PASTORALISTS
- Work with us to negotiate agreements on issues in common e.g. tourism management, weed eradication and feral animal control;
- Negotiate with us to determine access agreements for natural and cultural management, and protection of sites.
RECOMMENDED RESOURCES

Curtin University (1997) Jarlmadangah: Listening to a Community (video recording), Curtin University of Technology, Media Productions, Centre for Educational Advancement, Perth, Western Australia.


Jarlmadangah Buru community: www.jarlmadangah.com

JBAC (2000) Jarlmadangah Mob (video recording), Jarlmadangah Burru Aboriginal Corporation (JBAC), Jarlmadangah Burru, Western Australia.

JBAC (2001) Living In Harmony–Promoting Life for Indigenous Young People (video recording), Jarlmadangah Burru Aboriginal Corporation (JBAC), Jarlmadangah Burru, Western Australia.

JBAC (2002) In the Tracks of Woonyoomboo (video recording), Jarlmadangah Burru Aboriginal Corporation (JBAC), Jarlmadangah Burru, Western Australia.


Madjulla Inc (2007) Birrajarkoo: Bush Plants of Nyikina country, Western Australia, Madjulla Inc, Broome, Western Australia.


Majala Incorporated: www.majala.com.au


Nyikina Incorporated: www.nyikinainc.com


WWF-Australia: www.wwf.org.au

Yiriman Project: www.yiriman.org.au
ABBREVIATIONS

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<td>DoF</td>
<td>Department of Fisheries, Western Australia</td>
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<td>DPI</td>
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<td>CAMBA</td>
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APPENDICES

Appendix 1: Threatened plants and animals recorded on Niyikina and Mangala country

Appendix 2: Priorities summarised from past planning documents relevant to Niyikina and Mangala country

Appendix 3: Cultural maps

3.1 Key map
3.2 Bangal Bangal
3.3 Kakanbaloo
3.4 Yooloowaja
3.5 Jirrkaliy
Threatened animal (fauna) species recorded within the Nyikina-Mangala Native Title area listed as threatened (Commonwealth, state or international), at risk (Australian Natural Resources Atlas database) or as identified by senior custodians during the Walangkarr Jirkaliy Healthy Country Project (Yu 2004).

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<thead>
<tr>
<th>Common name</th>
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<th>Mangala (M) or Walmajarri (W)</th>
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<th>WA List</th>
<th>IUCN List</th>
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<td>Freckled Duck</td>
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*Source: IUCN Red List, EPBC Act, WA Department of Environment and Conservation, Yu (2004)*
Threatened plant species recorded within or adjacent to the Nyikina-Mangala Native Title area (Source: WA Department of Environment and Conservation)

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<td>Goodenia byrnesii</td>
<td>Not listed</td>
<td>Priority 1</td>
<td>Mount Anderson</td>
</tr>
</tbody>
</table>

Threatened plant species recorded in close proximity to the Nyikina-Mangala boundary

| Dimond Gorge Acacia | Acacia gloeotricha                 | Not listed             | Priority 1| Dimond Gorge                   |
| -                   | Gomphrena cucullata                | Not listed             | Priority 2| East of Derby                   |
| -                   | Goodenia sepalosa var. glandulosa  | Not listed             | Priority 3| Derby, Fitzroy Crossing, Yeeda  |
| -                   | Lepidobrya valleculata             | Not listed             | Priority 3| Derby                           |
| -                   | Triodia acutispicula               | Not listed             | Priority 3| Derby                           |
| -                   | Nympoides beaglensis               | Not listed             | Priority 2| Near Blina on Gt Nthrn Hwy      |
| -                   | Fuirena incrassata                 | Not listed             | Priority 3| 13 km N of McHughe’s Bore, Edgar Ranges |

(Footnotes)

1 The Australian Natural Resources Atlas (ANRA) lists several species at risk and their threatening processes within the two IBRA regions (Dampierland and Great Sandy Desert), within which the Nyikina-Mangala Native Title area sits within. The atlas does not list exact locations, and may refer to sites outside of the Native Title area.
<table>
<thead>
<tr>
<th>Area</th>
<th>Priorities</th>
<th>Priority actions</th>
<th>Recommended strategy</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td></td>
<td>1. Training – fire management, old people, FESA, young people</td>
<td>-</td>
<td>Bungarun report</td>
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<td></td>
<td></td>
<td>2. Cultural recording of places, names of places and animals</td>
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<td>3. Calendar to show when it’s the right time to burn</td>
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<td>4. Ecosystem monitoring</td>
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<td></td>
<td></td>
<td>1. Fee for service activities e.g. AQIS</td>
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<td>Yiriman (2007) Interim report.</td>
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<td></td>
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<td>2. Training e.g. First Aid</td>
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<td>3. Infrastructure – e.g. shelter</td>
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<td>4. Cattle management e.g. restrict access to amphitheatre</td>
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<td>5. Cultural mapping and site surveys along the river</td>
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<td></td>
<td></td>
<td>Catches plans developed</td>
<td>• Catchment plans developed</td>
<td>Kimberley NRM Plan</td>
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<td></td>
<td></td>
<td>• Incorporate Aboriginal cultural values and priorities for water resources</td>
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<td></td>
<td></td>
<td>• Cultural indicators of river health</td>
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<td></td>
<td></td>
<td>• Community based management planning</td>
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<td></td>
<td></td>
<td>• Aboriginal people engaged in planning, protection and monitoring</td>
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<tr>
<td>Main Fitzroy river channel</td>
<td></td>
<td>1. Upgrade status of Freshwater Sawfish under EPBC listing to endangered, and in WA its listing under Schedule 2 (Protected Fish) of the Fish Resources Management Regulations 1995;</td>
<td></td>
<td>Sawfish project report</td>
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<td></td>
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<td>2. Continue Sawfish tagging &amp; awareness activities locally;</td>
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<td>(KLC et al 2004)</td>
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<td>3. Satellite tracking research project in the Fitzroy River;</td>
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<td>4. Remove impediments to access in the Fitzroy River;</td>
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<td>5. Kimberley wide sawfish research</td>
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<tr>
<td>1. Communication and cooperation between community members, indigenous groups, pastoralists, local government, government agencies etc in relation to river health issues</td>
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<tr>
<td>2. River protection, restoration and management projects</td>
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<td>3. Water quality monitoring</td>
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<td>4. Recording of language and traditional knowledge associated with river health in the Fitzroy catchment</td>
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<td>5. Training and support relevant to the management of waterways</td>
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| 1. **Management Blueprint for the Fitzroy River** |
| 2. Manage erosion at priority sites |
| 3. Education (rec. fishers, community, schools, industry, agency) |
| 4. Reduce weed infestations at priority sites |
| 5. Develop recreation management guidelines at priority sites |
| 6. Indicators of river health (ecological & cultural knowledge) |
| 7. Tourism best practice guidelines in priority areas |
| 8. Monitoring program (e.g. TSN sawfish and rivershark, riparian vegetation, water quality) |

| 1. **Document and map showing the broad values of the catchment** |
| 2. Identify priority areas for on ground works |
| 3. Implement some on ground works with partners |
| 4. Promote inclusive research opportunities for catchment residents |

| **Camballin floodplain** |
| 1. Control grazing/cattle to reduce erosion and trampling of waterways |
| 2. Removal of introduced species (e.g. Buffel grass) and replacement with native grasses |
| 3. Maintenance or removal of levee banks, canals and other irrigation infrastructure to reduce erosion |

<p>| <strong>Rivercare Report 03/04</strong> |
| <strong>Rivercare 06/07 Proposal</strong> |
| <strong>FitzCam 07/08</strong> |
| <strong>Livesey 1993</strong> |</p>
<table>
<thead>
<tr>
<th>Location</th>
<th>Actions</th>
<th>References</th>
</tr>
</thead>
</table>
| Walangkarr (Edgar Ranges) | 1. Exclusion of cattle from permanent pools;  
2. Control or eradicate feral animals such as cats and foxes  
3. Protect and conserve remaining CWR mammals  
4. Traditional fire burning techniques be reintroduced to the country to “make it healthy again”  
| Jirrkaliy Creek/Manguel Creek systems | 1. List Jirrkaliy system as national & globally significant geoheritage sites;  
2. Map water sources and design management plan to help protect these areas from cattle, excavation and inappropriate use;  
3. Exclusion of cattle from culturally and scientifically important wetlands (protection of water sources);  
4. Manage pastoral water sources away from natural springs/waterholes and not to impact on groundwater dependent ecosystems. | SRG 2004a          |
| Desert springs and soaks  | 1. List mound-spring wetlands of the northern GSD as national and globally significant geoheritage sites;  
2. Map water sources and design a management plan to help protect these areas from cattle, excavation and inappropriate use;  
3. Exclusion of cattle from culturally and scientifically important wetlands (protection of water sources);  
4. Manage pastoral water sources away from natural springs/waterholes without impact on groundwater dependent ecosystems. | SRG 2004b          |
| King Sound                | No reports listed                                                                        |                     |
1. Exclude cattle from permanent pools;
2. Control or eradicate feral animals such as cats and foxes;
3. Protect and conserve remaining CWR mammals;
4. Traditional fire burning techniques be reintroduced to the country to "make it healthy again";
5. Train young people in land management, using traditional and modern techniques.

1. Develop management plan;
2. Establish a legal process for custodians to manage and protect the Walangkarr Jirka-liy (and Manguel Creek) system;
3. Ongoing collaboration between ecologists and TOs for management of the area;
4. Cultural survey of upper Geegully creek;
5. Map and classify all wetlands;
6. Ongoing support for the bilby project;
7. Best practice management for CWR mammals other fauna and vegetation based on bioregional assessment;
8. Develop fire management guidelines and practices to maintain biodiversity;
9. Ongoing support for the fire control teams;
10. Culturally appropriate archive;
11. Investigate protection mechanisms through EPBC Act, Ramsar and IPA;
12. Wetland management plans.

Yu (2004) WJHCP Jirrka-liy Creek / Manguel Creek systems
List Jirrkaliy system as national & globally significant geoheritage sites;
Map water sources and design management plan to help protect these areas from cattle, excavation and inappropriate use;
Exclusion of cattle from culturally and scientifically important wetlands (protection of water sources);
Manage pastoral water sources away from natural springs/waterholes and not to impact on ground-water dependent ecosystems.

SRG 2004a Desert springs and soaks
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Manage pastoral water sources away from natural springs/waterholes without impact on groundwater dependent ecosystems.

SRG 2004b King Sound
No reports listed

Appendix 3: Cultural maps