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**Aboriginal Management and Planning for Country: respecting and sharing traditional knowledge**

Summary report on Subprogram 5 of the Ord-Bonaparte program

Kylie Pursche  
Kimberley Land Council

# Aboriginal Management and Planning for Country: respecting and sharing traditional knowledge

**Summary report** on Subprogram 5  
of the Ord–Bonaparte Program

Kylie Pursche  
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Australian Government  
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Kimberley Land Council

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Cover photos:

Top left: Franklin Bray, Lachlan Bray and Nora Badngarri at Violet Valley for ground mapping work.

Top right: Glenn Wightman, Stan Brumby, Joe Blythe, Doris Ryder, Jack Lannigan and Bonnie Deegan on Lamboo station undertaking field work for the Jaru Plants and Animals project.

Bottom left: Mona Ramsay, Peggy Patrick, Lena Nyadbi, Phyllis Thomas at Camel Creek as part of the Kija Plants and Animals project.

Bottom right: Jeff Janama welcoming people to country on Pumpkin Island, Lake Argyle.

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# Acronyms

## and abbreviations used in the report

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|       |  |
|-------|--|
| AgWA  | Department of Agriculture, Western Australia                 |
| ATSIC | Aboriginal and Torres Strait Islander Commission             |
| CRC   | Cooperative Research Centre                                  |
| CSIRO | Commonwealth Scientific and Industrial Research Organisation |
| GIS   | geographic information system                                |
| GPS   | global positioning system                                    |
| KLC   | Kimberley Land Council                                       |
| KLRC  | Kimberley Language Resource Centre                           |
| LWA   | Land & Water Australia                                       |
| NRM   | natural resource management                                  |
| OBP   | Ord–Bonaparte Program  |
| OLW   | Ord Land and Water   |
| WA    | Western Australia  |
| WRC   | Waters and Rivers Commission                                 |



The Ord–Bonaparte Program (OBP) was an integrated natural resource management (NRM) research and development program based on a partnership between the Australian Government, the Western Australian State government, local agencies and organisations, and the regional community in the East Kimberley. It was managed by a Governing Board comprising: an independent Chair; representatives of the five major funding partners — initially Land & Water Australia (LWA), the Commonwealth Scientific and Industrial Research Organisation (CSIRO), Agriculture Western Australia (AgWA), the WA Waters and Rivers Commission (WRC) and Agriculture, Forestry and Fisheries Australia; the program’s Chief Executive Officer; and five local community representatives. It aimed to build on existing knowledge and activities in developing effective tools, methods, processes and strategies to underpin policy, planning and management for sustainable use of the region’s natural resources. Crucially, could the Ord–Bonaparte region avoid some of the environmental and land degradation problems gripping southern Australia (<http://www.lwa.gov.au/downloads/PF020185.pdf>)?

The OBP comprised five subprograms defined broadly along the lines of resources in the region and recognising the important role of Aboriginal people and their connection with the landscape: *Regional Resources Futures* (subprogram 1); *Rangeland Systems* (subprogram 2); *Water Resources* (subprogram 3); *Coastal, Estuarine and Marine Resources* (subprogram 4); and *Aboriginal Planning and Management for Country* (subprogram 5). The idea was that there would be much collaboration and information exchange between the subprograms, so as to enhance the success of the program as a whole, and that steering committees would be established to guide each subprogram.

The OBP, which began in 2000, was originally planned as a five-year program. However, the program was ended by the funding partners after a mid-term review in 2003 indicated that there were insufficient resources available to attain the program’s objectives. Elements of subprogram 5 were, however, continued under a new project entitled *Pastoral and Cultural Development Options for the East Kimberley*, starting in 2004.

This paper is a summary of the final report to the Ord–Bonaparte Program, of which Kylie Pursche, research coordinator of subprogram 5, is the author. It was prepared by Clarus Design Pty Ltd and the author. The complete final report can be found on an accompanying CD-ROM.

## Background to subprogram 5: Aboriginal Management and Planning for Country

The primary aims of this subprogram were to ensure that the wealth of knowledge and unique perspectives of Aboriginal people became an integral part of NRM, and to enhance their capacity to participate in regional natural resource planning and decision-making. The OBP recognised the rich traditional knowledge of the Aboriginal people of the Ord–Bonaparte region and their right to “speak for Country” (LWA, undated). For Aboriginal people, the term ‘Country’ is all-encompassing.

*Country in Aboriginal English is not only a common noun but also a proper noun. People talk about country in the same way that they would talk about a person: they speak to country, sing to country, visit country, worry about country, feel sorry for country, and long for country. People say that country knows, hears, smells, takes notice, takes care, is sorry or happy. Country is not a generalised or undifferentiated type of place, such as one might indicate with terms like ‘spending a day in the country’ or ‘going up the country’. Rather, country is a living entity with a yesterday, today and tomorrow, with a consciousness, and a will toward life. Because of this richness, country is home, and peace; nourishment for body, mind, and spirit; heart’s ease. (Bird Rose 1996)*

### Impact of the Ord River irrigation scheme

Research into the viability of harnessing the water of the Ord River for agricultural and horticultural purposes began seriously in 1941 with the establishment of a small experimental farm on the banks of the lower Ord River. Further crop trials led to the Ord development, which involved the damming of the Ord River in the 1960s, including construction of the Kununurra Diversion Dam, followed by the completion of the Lake Argyle Dam in 1972. The area was originally used to grow cotton, but even with heavy use of pesticides such as DDT, the ravages of insect pests led to the collapse of the cotton industry in the early 1970s. A wide range of crops is now grown in the area, including sugarcane, leucaena (as cattle feed), chickpeas, berloti beans, maize, sunflower, melons, mangoes, pumpkin and banana (OLW 2000).

The development of the irrigation area had devastating effects on all aspects of life for the Miriwoong and Gajirrawoong peoples. The Kununurra Diversion Dam was built on Darram ‘Bandicoot Bar’, a special place for Miriwoong people. The damming of the Ord River meant that a huge area of Miriwoong Country was drowned under Lake Argyle.



The Ord River before damming. This is a view upstream from the abutment of the future Lake Argyle dam wall. The area is now under water. The photo shows the place where old stockmen remember bringing cattle to water. Photo by Peter Davies.

Modification of the environment has changed the entire landscape of the lower Ord River. The increase in riparian vegetation and the constant flow of water has had an effect not only on the flora and fauna, but also on the cultural landscape and the ability to carry out a way of life that had been customary for thousands of years.

At a Healthy Country meeting held by the Kimberley Land Council in May 2002, Marjorie Brown from the Kununnura community spoke to Aboriginal people from across the Kimberley, and community and government-agency representatives, about the impact of Lake Argyle:

*Lake Argyle has taken away everything, all our sacred places. Our old people didn't have a say in what happened here. We were moved off our country... Our old people are buried under that water. We have gained no benefit from the dam. It has changed the whole area — all the white sand beaches along the river are gone. Introduced plant species are taking over and we don't know what kinds of chemicals are flowing into our river. It is hard for people to access the river; there are fences and we need to get permission from the Water Authority. We are not involved in any joint ventures and there are not many jobs for our young people...*

Recognising the effects on local Aboriginal communities of the lack of consultation on past land-management decisions, subprogram 5 of the OBP aimed to generate knowledge to reduce the risk that future planning and actions would repeat those mistakes.

### Key aspects of subprogram 5

The *Aboriginal Management and Planning for Country* subprogram was developed as an activity with three key components:

- **Planning for Country** — community-based planning and capacity-building
- **Living on Country** — fundamental ethnobiological research to identify the range of values applicable to *Country* for use in later management planning
- **Using Country** — the application of the planning skills, including outputs from other OBP subprograms, to the management of *Country* and enterprises on *Country*.

There was also a need for government agencies to develop their skills in working, engaging and collaborating with Aboriginal people. In the Ord River catchment area, there are at least eight different language groups and the area is culturally diverse. There is no single, clear-cut way of working with people, and the processes required to do so must be developed using a bottom-up approach. This approach should be collaborative, inclusive and, most of all, participatory.



Gunanurang (the Ord River).

## Subprogram participants

The original scoping study for the subprogram was carried out by staff from CSIRO and built on the project plan designed by the former subprogram Project Leader, Stuart Cowell, and KLC Land and Sea Unit Manager, Mark Horstman.

Subprogram 5 was managed by Kylie Pursche (Research Coordinator, August 2001 to December 2003) from the Kimberley Land Council (KLC), with Field Officers Russell Gallagher (December 2001–September 2002) and Brett Nelson (August–December 2003), with advice and participation sought on all aspects of the projects involved from the Aboriginal Steering Committee. The role of the Steering Committee was to support projects and provide feedback to the Research Coordinator and to Judy Butters, the Aboriginal member of the OBP Board.

## Aboriginal Steering Committee

The area covered by the OBP included the lands of the Kija, Jaru, Miriwoong, Gajirrawoong, Balangarra and Woolah peoples. To have a committee that was truly representative, one would have to include all the traditional estate owner groups within each of these groups, but given, for example, that there are approximately 12–15 different groups within Miriwoong alone, this would require a group that would be too large. The way that the committee was formed clearly demonstrated that people feel that they cannot speak for somebody else's Country and do not want to appear to be doing so in the eyes of the wider community. Nevertheless, it was recognised that there are core principles that Aboriginal people across the catchment are all working to achieve. Committee members agreed that they would share information with their own community members, and that issues relating to specific areas of Country is the responsibility of their traditional owners.



Shown here are most of the participants in the meeting of the OBP subprogram 5 Aboriginal Steering Committee meeting held in November 2003.

## Scoping study

The aims of the scoping study (Cowell and Pursche 2002) were to identify the Aboriginal communities in the region and their connection with different resource uses in the region, and set out planning and management activities already being undertaken in the region.

The scoping study proposed three research projects to the OBP Board:

- Plants and animals of Kija, Jaru Country: Aboriginal knowledge conservation and ethnobiological research in the upper Ord catchment
- Data management, GIS and cultural mapping with Kija and Jaru peoples in the upper Ord catchment
- Capacity-building and two-way learning for Kija, Miriwoong–Gajirrawoong and Balangarra peoples in the lower Ord catchment.

Funding for these was approved by the Board in April 2002.



Judy Butters, the Aboriginal member on the OBP Board, at the Aboriginal Steering Committee information session held in May 2003.

# Project 1:

## Plants and animals of Kija, Jaru Country: Aboriginal knowledge conservation and ethnobiological research in the upper Ord catchment

### Background

This project implemented both the *Planning for Country* and *Living on Country* themes of subprogram 5. It is increasingly recognised throughout the world that Indigenous peoples' knowledge can increase our understanding of a region's ecosystem trends. The benefits of research in this area clearly extend into natural resource management (NRM) in the broader landscape. A key component of Aboriginal land management is to ensure that knowledge is retained and transferred to young people and future generations.

Both Kija and Jaru peoples are actively involved in hunting, collecting and gathering of natural resources, including plants, animals and minerals. For example, people often hunt goanna, bush turkey, or kangaroo, or collect fruits such as konkerberry, bush plum, bush orange or sugarbag. Specific parts of plants and trees are also used as medicines or in ceremonies. It is important for people living in Halls Creek or Warnum, on outstations or Aboriginal-owned stations, that these resources be available and accessible.



Sorting konkerberry.  
Photo by Glenn Wightman.

The Kimberley Language Resource Centre (KLRC) in Halls Creek received partial funding for a 'Plants and Animals' project from the Aboriginal and Torres Strait Islander Commission (ATSIC). This project was originally designed to produce a book with Jaru people. The OBP became a partner in the project, to expand the opportunity it presented for NRM planning by providing resources for a biologist, language specialists, field trips and logistical support from the Kimberley Land Council. This also allowed the project to include the Kija language and therefore the study area expanded to include over one-third of the Ord catchment area.

## Aims

The overall aim of this project was to provide a database of ethnobiological information on plants and animals, contributing to an increase in basic biophysical and socio-economic data to support improved NRM strategies.

The specific objectives were to:

- provide baseline biological information based on Aboriginal perspectives for the upper section of the Ord catchment to add to the region's biological inventory
- add to understanding in the region of long-term ecosystem trends and ecological relationships between plants and animals
- conduct ethnobiological research with senior Kija and Jaru speakers, recording basic information about flora and fauna, including Aboriginal, English and Latin language names, cultural information, distribution, seasonal variation, traditional land-use systems and contemporary use
- record and conserve traditional knowledge to assist with its recognition and application to contemporary management
- establish baseline information on the economic value of local ecosystems to the Aboriginal people
- collect information about potential impacts of land uses (e.g. irrigation, tourism, cattle) on Aboriginal economies (e.g. hunting, fishing etc.)
- provide information links to the other research subprograms in the OBP
- refine the understanding of Kija and Jaru aspirations for NRM.

## Participants

It was a priority for Jaru and Kija people living in Halls Creek, Warmun and surrounding communities and stations that Kija and Jaru language, cultural information and traditional use of flora and fauna in the region be recorded for transmission to their children and future generations.

Priority issues and ways to present the information were discussed and refined at two workshops held in November 2001 and March 2002 between community members and representatives from the KLC, OBP and KLRC.



Checking animal names with zoologists during the Argyle Diamond Mine Fauna Survey.

This project involved Research Coordinator (Kylie Pursche), ethnobiologist Glenn Wightman, linguist Joe Blythe, geographic information system (GIS) consultant Greg Mules (in collaboration with project 2, below), with input from many traditional owners, and the cooperation of the owners of some non-Aboriginal-owned stations. Traditional owners were central to all the field trips and the value of their ‘traditional ecological knowledge’ fully respected.



Participants in the Plants and Animals Workshop held in 2001 (L–R): Doris Fletcher, Tiger Henry, Tanba Banks, Mavis Wallaby, Lawrence Emery (KLC), Angeline Bedford and Lulu Trancollino.



Recording on a field trip at Osmond Valley in October 2002 (L–R): Joe Blythe, Phyllis Gallagher, Churchill Cann, Glenn Wightman, Shirley Drill and Bruce Wungundin.

## Summary of methods

*Site verification:* this included preliminary field research carried out under the direction of traditional owners, and focused on twelve areas in the Ord–Bonaparte region. Most sites had significant cultural, social and economic value.

*Field research:* this took place on each site from June to November 2002, and from March to June 2003. Trips were also made to sites not originally planned, as community commitments or the availability of particular traditional owners changed on a particular day. Field sites were also reviewed, in light of data already collated. Research work included audio, written and photographic recording of plants and animals and their names in the various languages, as well as global positioning system (GPS) recordings of bush tucker, recording seasonal factors, identifying bush tucker that is no longer available, and noting environmental and land-use changes.

*Data access and management requirements:* this involved documentation, collation and confirmation of data and was (and is) an ongoing process. Access to the database and cultural information is determined by each traditional owner group. It is intended to transfer the data to the geographic information system (GIS) project described below.

*Production of information tools:* workshop participants determined that information should be made available through posters, a CD-ROM, a video and a published book.

## Key outcomes and achievements

### Database creation and ecosystem trends

A large database of baseline biological information founded on Aboriginal perspectives for the upper section of the Ord was produced (Wightman 2003). It adds enormously to the region's biological inventory and includes 402 plants and animals from the Jaru language group and 423 from the Kija language group (Table 1). The database also includes spatial information on plant species that were collected and listed in the Northern Territory Herbarium. In addition to the material shown in Table 1, the Research Coordinator collected approximately 350 images, recorded information relating to environmental change, and documented Kija and Jaru peoples' aspirations for natural and cultural resource management.



Glenn Wightman and kids at Ringer Soak looking at photos of the day's work.

In addition, a calendar describing the characteristics of each season and which plants and animals are available as food at different times was drawn up for both Jaru and Kija peoples. Wightman's (2003) report also records information about long-term ecosystem trends. This information will need to be integrated with data collected by the regional Species Information Management System (SIMS) database under OBP subprogram 1 (*Regional Resource Futures*). The potential for this information to provide greater understanding has not yet been fully explored. For example, information about emu, bandicoot and bilby has been recorded and it is highly recommended that it be further analysed in future research under the direction of traditional owners. The Kija and Jaru peoples place extreme importance on the current and future loss of traditional biological knowledge and consider it as a natural resource or, indeed, a land-management issue. "The strength of desire of Kija and Jaru to record this knowledge, and the satisfaction gained from doing so, is difficult to exaggerate" (Wightman 2003).

**Table 1:** Basic statistics of Jaru and Kija traditional biological knowledge recorded during project 1.

|                                | Jaru | Kija |
|--------------------------------|------|------|
| Plant names and uses recorded  | 183  | 201  |
| Animal names and uses recorded | 219  | 222  |
| Total taxa recorded            | 402  | 423  |
| Audio files recorded           | 173  | 174  |
| Image files recorded           | 202  | 263  |
| Field days                     | 31   | 41   |
| Speakers involved              | 33   | 58   |
| Total person field days        | 219  | 302  |

### Land management

Many land-use issues were identified by the Research Coordinator on field trips with traditional owners. They included tenure resolution and progress of native title claims, joint management of conservation reserves, lack of consultation with traditional owners by governments, protection of cultural heritage including rock art sites, and concern about tourism, mining and other economic activities in the area. Many of the issues raised were outside the scope of this project, but the subprogram’s Steering Committee was instrumental in bringing them to the attention of government agencies so they could be discussed further.

### Information products

It was agreed that posters would be a good short-term outcome and would not be difficult to produce, given the ease of using digital cameras. Posters were developed and produced by the Research Coordinator in conjunction with traditional owners. The posters are a record of field work. Project participants would also like to see posters developed for use as educational resources for younger people, and possibly to sell at tourist sites. Field trip reports for project participants have been developed. These are in plain English with photographic documentation. The long-term aim is to produce information and communication tools such as a book, a video and a CD-ROM. “Plant names and uses need to be written down and put into a book so that they will be there in the future. When young Jaru people get older, they will want to know the names and uses of the plants — if all the old people are gone, they will be able to get it from the book.” (Bonnie Deegan)



May Butcher, Doris Ryder, Kylie Pursche, Bonnie Deegan and Stan Brumby at the poster workshop, Halls Creek, 2003.

### Working towards partnerships

This project has enhanced the involvement of Kija and Jaru peoples and their aspirations in local research and development, facilitating the equitable participation of a broader range of stakeholders in regional NRM. When research commenced, there was minimal involvement of Aboriginal people in research and NRM in the East Kimberley. This situation has been turned around and positive experiences have enthused people to continue this work into the future.



The posters were put together by everybody. A large screen was used so that everybody could see the poster being created and make changes if they were not happy with the colours, photos or words.

## Project 2: Data management, GIS and cultural mapping with Kija and Jaru peoples in the upper Ord catchment

### Background

Consultations with people from Warmun, Bow River Station, Violet Valley Reserve, Halls Creek and Kununurra during the scoping phase of the project, identified a strong desire for greater access to information on soils, fauna, flora and groundwater that has already been collected by government agencies, universities and research organisations.

A strength of using geographic information system (GIS) technology is that it can readily incorporate traditional ecological knowledge into integrated NRM activities. The collection of local biological information ensures that the system is developed from the bottom up, with strong community involvement. The capacity to use and develop the CyberTracker interactive software on a hand-held computer was an opportunity for the OBP to be a leader in use of this technology in Australia. The software, which was developed in South Africa, allows large amounts of data to be collected and analysed. Use of icons rather than words means that there are no language barriers to use of the program.



Kylie Pursche making a presentation about the cultural mapping database.

This project related directly to the theme of *Using Country* and proposed to incorporate data collected in project 1 (above) to develop maps for use by the local and regional community and for local community members to be trained in the purpose, use and function of the global positioning system (GPS) and GIS, and the technologies' relevance to the future management of natural resources. The project also had particular relevance to subprogram 1 of the OBP, *Regional Resource Futures*, and the proposed development of a regional information centre.

## Aims

The specific project objectives were to:

- create a database using information from the ethnobiological research (project 1, above) and other spatial information relevant to cultural mapping
- collect individual group and regional map biographies and collate these into a series of composite maps for presentation, education, management and regional planning purposes
- establish and develop the use of CyberTracker, an innovative software program to incorporate — using hand-held computers linked to a global positioning system (GPS) — Aboriginal knowledge into a GIS system
- establish a community-based GIS in Warmun community in collaboration with Aboriginal people from Halls Creek, Warmun, and surrounding stations including Violet Valley, Bow River, Norton Bore and Chinaman's Garden
- provide skills-based capacity-building and training to Aboriginal people in the use of GPS and GIS in the upper Ord catchment.

## Participants

The strategic plan for this project was developed and reviewed with the assistance of the information management system and GIS advisor, Greg Mules. Many people were involved in the project, particularly from the KLC and the Warmun community.

## Summary of methods

*Strategic planning framework:* this provided the details for access, monitoring, compliance and implementation for the project.

*Implementation of the tasks of the strategic planning document:* this component included the following: completion of needs analysis, system design and specifications, data capture and conversion, hardware and software procurement and installation.

There were several other components to this project that were planned in detail, but early termination of the OBP meant that, unfortunately, they did not eventuate. It is hoped that these other aspects of the project will be completed through the new project (see below).

## Key outcomes and achievements

Because of the shortened tenure of the project, many of the original intentions of this project were impossible to complete. There were, nevertheless, several major achievements.

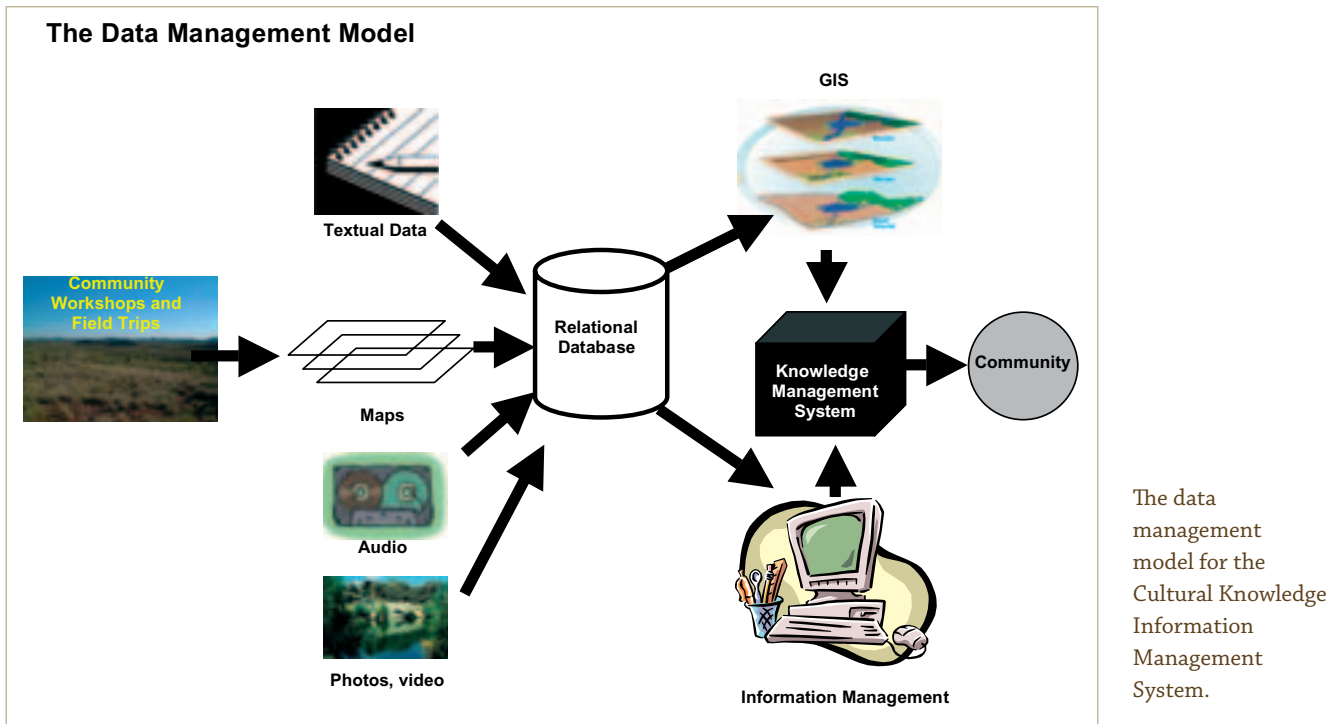
### Database development

In conjunction with project 1, and as already described, a detailed database of plants and animals in the region was developed. Data from the ethnobiological research have not yet been entered.

### Strategic planning

Greg Mules, GIS technician and advisor, produced a *Cultural Knowledge Database and GIS Implementation Plan and Guidelines* that discusses in detail the intentions, aims and goals of the cultural knowledge information management system.

A data management model has been designed. It clearly identifies the relationship between data capture, data structure and linkages to a GIS system. The database will contain textual, audio and visual data, making it user-friendly and multi-purpose. Users of the database will be community members, and it is hoped that the database will not only be useful as a planning and management tool, but also could be used in teaching in schools and the wider community.



### CyberTracker

From a preliminary assessment of the use of CyberTracker, it was decided, for a variety of reasons, that it would not be appropriate to use it until later in the intensive cultural mapping field research component.

### Ground mapping

An exercise was carried out on Violet Valley Reserve (Kija Country) in order to test ground-mapping techniques that had been used successfully in other parts of Australia. The mapping was carried out in a creek bed chosen by the traditional owners, and local resources such as boab nuts, rocks, sticks and stones were used to mark creek crossings, places of cultural significance, infrastructure, and sources of bush tucker. Names of places were recorded and digital photographs taken. The photos will be put together and a map produced with details that can be transferred to topographic maps, satellite images or aerial photos. This activity took longer than anticipated and only half the area intended was mapped.

Although many of the activities planned for this project could not be completed in the shortened time frame, much of the groundwork and essential background research and planning has been done to complete these activities in the future with very little loss of momentum. Much of this incomplete work is considered to be of high priority for the new project (see below).



The ground mapping work was favourably received by participants and people are eager to complete this work and also carry out similar exercises in Warmun and surrounding stations of Kija Country. As one lady said “we can do this anywhere and for all Kija Country, even sit down in Warmun and do it”.



Sandy and Madigan Thomas talk about where things should go on the map.

## Project 3: Capacity-building and two-way learning for Kija, Miriwoong–Gajirrawoong and Balangarra people in the lower Ord catchment

### Background

This project was born after discussions with Miriwoong people in the township of Kununurra who identified a range of issues to do with the management of Country, the Ord River Irrigation Area and effects on the Ord River from this land use and other activities including tourism, expansion of township and Shire planning, pastoralism and industry.

For Aboriginal people to make informed decisions about land use and NRM, a primary project focus was on information-sharing, communication and conceptualisation of ‘land management’. How Aboriginal people’s needs and aspirations fit into the OBP, or how the OBP could be adapted to meet those needs, was explored through this subprogram. Western-style land management must be integrated with traditional land management systems. Minimal attention to this type of work in the Kununurra area meant that subprogram 5 started with little on-ground action having taken place.



Dick Pasfield (Ord Land and Water) and Leith Bowyer (Waters and Rivers Commission), talk with Miriwoong traditional owners about pesticide use in the Ord Irrigation Area.

A large amount of catch-up work was necessary. Capacity-building required institutional links with other service providers, including the Kimberley College of TAFE, CSIRO, universities and government NRM agencies. It was envisaged that the project would be two-fold: within the realms of subprogram 5, and also within other OBP subprograms, to ensure that ‘cross-fertilisation’ of projects occurred.

This project linked directly to the subprogram theme of *Planning for Country*. Capacity-building in this context is multi-layered and is a broad term for “actions with enable Indigenous people to be more effective and active in managing their lands and their lives” (Hill 2002). Aboriginal people have their own system for looking after and caring for Country which includes a whole range of factors: access to Country, being able to carry out ceremonial and cultural obligations on Country, ability to go hunting and fishing on Country, recognition as the traditional owners of that Country, being able to make a living from economic development on Country.

A key principle underpinning the concept of ecologically sustainable development is equity to access of information, resources, and policy input. For Aboriginal people, this has not been the case. Where information is available, it is often presented in ways that are not conducive to Aboriginal ways of learning or show no respect for Aboriginal land management expertise. Rather it seeks to impose a compartmentalised way of looking at the environment and its resources by promoting Western scientific thought and practice. There is minimal institutional support provided to Aboriginal people from the East Kimberley to learn about government and non-government NRM initiatives, or to be involved in decision-making about the future sustainable development of the region. As Aboriginal people gain title to more land in the region, they need to be equitably involved in NRM decision-making at the sub-regional and regional levels.

## Aims

This project commenced with the following objectives:

- assist the integration of subprogram 5 with the other subprograms of the OBP, particularly subprograms 1, 3 and 4
- provide two-way information flow between scientific researchers and Aboriginal people in the upper and lower Ord catchment
- provide baseline information about ecosystem trends of the lower Ord River
- improve Aboriginal peoples' skills base to enable use of land-management tools such as GISs and GPSs and develop key skills in surveying, collecting research data, and understanding research and planning, ecological systems and development of information products
- establish cross-institutional links between the Kimberley College of TAFE and tertiary institutions such as Batchelor College to provide enhanced training and support for local Aboriginal people
- provide for culturally appropriate collaborative environmental education to take place in conjunction with the Waters and Rivers Commission, language centres and local schools
- support alternative career pathways for Aboriginal people in the field of NRM.

In the original five-year plan, the first two years of the project were to be spent establishing and building relationships, mapping NRM issues and starting ethnobiological work. The remaining two-and-a-half years were to be spent implementing planning activities and building on work carried out: for example, looking at possible commercialisation of wildlife or bush tucker species; aquaculture and tourism ventures; input into water allocation planning processes; and development of management and property plans on both large and small scales. Considering that the subprogram ended up having only a two-year lifespan, and that the first six months were spent completing the scoping study, the achievements of the project are impressive and provide a sound basis for future continuation of the activities.

## Participants

Aside from direct discussions with Miriwoong people, the project was informed through first-hand observation with Aboriginal organisations, government agencies and institutions including the Mirima Language Centre, the Department of Indigenous Affairs, the Wunan Foundation, the Waringarri Resource Centre, ATSIC and the Argyle Diamond Mine.

## Key outcomes and achievements

### Collaboration

While many valuable and highly anticipated collaborative projects within the OBP were planned, because of the early demise of the program, few actually occurred. However, the strong collaborative research of project 1 was one example of successful work which straddled both that project and the objectives of this one (enhancing cooperation and two-way learning). Another example of fruitful cooperation was between subprograms 3 and 5. Ephrem Kennedy, a local Miriwoong person, participated in a number of the water-quality sampling runs on the Lower Ord with Duncan Palmer, a subprogram 3 researcher. Ephrem gained valuable knowledge and experience in working with equipment, understanding time frames of research and obtaining data, data management, and use of the GPS. Had the OBP continued, it was intended that more local people would be involved in work of this type.



Ephrem Kennedy (left), a local Miriwoong person, worked with Duncan Palmer, collecting samples on the lower Ord River.

### Ranger conference and related training

More than 20 Kimberley people, over half from the East Kimberley, attended the *Aboriginal Rangers Conference* in Kakadu in August 2002. A report from the trip was produced by the Research Coordinator and the KLC Land and Sea Unit. The full report provides lists of issues and concerns that Kimberley people have about land use and land management on their Country, and recommends a comprehensive ranger training program in the Kimberley.

As a primary outcome of attending the conference, negotiations between the KLC and the Kimberley College of TAFE, Kununurra, were successful in providing a short course for Miriwoong people, *Introduction to Landcare*, in October 2002. In early 2003, Miriwoong people again enrolled in the ranger course and focused on an accredited course that is part of the Conservation and Land Management Training package, *Weeds and Industrial Practice*. Training continued in the second semester with an Aboriginal short course focusing on the communities of Molly Springs, Police Hole and Ningbingi (Carlton Hill station). A product of this is the report prepared by the Molly Springs (Woojilawarrim) community.



Kimberley participants in the Ranger Conference held in August 2002.

This short experience through the project has provided a foundation for the local community to build upon. There are now established links with educational providers and Miriwoong people in this area of training. Miriwoong people themselves have also developed their own ideas of how they would like to see this work progress. There has been much discussion by Miriwoong people about the employment of Aboriginal rangers at Lake Argyle, Lake Kununurra, Lower Ord, Molly Springs, Mirima National Park and at outstations and communities, including Yirralarlem and Cockatoo Springs.

The Waters and Rivers Commission and the KLC have developed an agreement so that local Aboriginal people can be employed on a contractual, casual basis. Whilst this has not been used regularly, it has occurred on occasions and it is hoped that this will continue into the future.

#### Surveillance for weeds and animal pests

Subprogram 5 has highlighted a major concern by Aboriginal communities about the invasion of their land by introduced plant and animal species. Through project 3, and discussions between AgWA and KLC, a *Pests, Plants and Animals Awareness and Information Strategy for Aboriginal Communities in the East Kimberley* has been developed. Many Miriwoong and Gajirwoong people regularly cross over the Western Australian/Northern Territory border to visit remote communities, which places them in a unique position of being able to keep a watch for species that they have never seen before, or that are encroaching on new areas, and their involvement could prove invaluable in national surveillance strategies.

A key outcome from the Strategy has been the development of a successful partnership between the Cooperative Research Centre (CRC) for Australian Weed Management, AgWA and KLC for a part-time Aboriginal Liaison Officer position to be based at the KLC Kununurra office and work predominantly with communities in the Keep River and Kununurra region. There is also interest from the Indigenous Land Corporation and there is potential that once this position is operational, further funding may be received to make the position full-time or, alternatively, for two part-time positions to operate in the East Kimberley.



Noel Wilson (AgWA) talks to Miriwoong rangers about pest and weed problems.

### Aboriginal involvement in land and water management

Sound relationships were developed with the government natural resource management agencies responsible for the Ord catchment that are based in the township of Kununurra. The May 2003 information session with government agencies, organised by the Aboriginal Steering Committee, was viewed as a milestone by the local community. Participants came from both government and non-government organisations, including the Indigenous Land Corporation. The issues raised in this workshop were the precursor to the establishment of the working group on pesticide and water quality issues. Other key outcomes included the funding of the CRC Weeds Aboriginal Liaison Officer position.

The Ord Land and Water Management Plan (OLW 2000), whilst comprehensive in detailing land-use issues and practices, failed to include local Miriwoong people. This is an issue that is clearly recognised by OLW and, under project 3, there has been a determined effort to develop a relationship and dialogue between Miriwoong people and the OLW Coordinator. The KLC was supportive of the recent initiative of translating sections of the Plan into Miriwoong and Kriol for radio broadcast. OLW has also been an active party in meeting with and discussing Miriwoong people's concerns regarding water quality and other NRM issues associated with Lake Argyle and the Lower Ord. The OLW Coordinator (Dick Pasfield) is also a member of the Aboriginal Steering Committee.



Ephrem Kennedy with passionfruit weed at Buttons Crossing in 2003.

### 'Ribbons of Blue' project, Halls Creek

The need for a culturally appropriate program was highlighted at meetings and discussions with traditional owners conducted under the subprogram 5 scoping study.

An East Kimberley Ribbons of Blue Strategy was developed by the Research Coordinator with the State Coordinator of the Waterwatch Program and local Waters and Rivers Commission staff. This initiative involves school students and the wider community

in water-quality testing and related activities. From this, a Halls Creek Ribbons of Blue Pilot Project was developed and implemented, with funding provided by the Waters and Rivers Commission. Ms Michele Martin, a language worker from the Kimberley Language Resource Centre, was selected as coordinator of the pilot project. Planning sessions took place in September and October 2003, and successful field excursions were undertaken in May 2004. One field trip involved visual site assessments at Caroline Pool, followed by testing of the chemical and physical properties of the water, and identification of small aquatic animals. A second trip involved Year 7 and 8 students testing the water at Elvire River, both above and below the dam wall. The success of the pilot project will see this work continue in Halls Creek and extend into Warmun and Kununurra in line with the East Kimberley Strategy. The Australian Government's Natural Heritage Trust will fund this work.

### Communication activities

Sound relationships have been developed with the Miriwoong and Gajirrawoong peoples. The Miriwoong rangers completed a report from their first-term training *Introduction to Landcare*, which has been distributed to local agencies in Kununurra and community groups including the Shire of Wyndham–East Kimberley, Ord Land and Water, and the Waters and Rivers Commission. Under project 3, an application for funding was submitted under the Natural Heritage Fund to produce a video on *Aboriginal Management and Planning for Country*, as requested by the Aboriginal Steering Committee. This application was successful and it is planned that the video will be produced during 2004.

Several external activities were carried out through this project to communicate the work of the subprogram to the broader community. Examples include:

- providing information about the OBP, including subprogram 5, through stalls at National Aboriginal and Islander Day Observance Committee (NAIDOC) events, local agricultural shows, and the 2003 National Landcare Conference
- having newspaper articles about Miriwoong ranger training published in the *Kimberley Echo*
- distributing an audio CD, *Answers to Environmental Questions, 2003* (produced by LWA) to radio networks.

Halls Creek students testing the water at Caroline Pool. Photo by Jane Rapkins.



## Summary of outcomes and achievements of subprogram 5

The work of subprogram 5 has achieved a number of significant outcomes:

- improved relationships with traditional owners from the Ord River catchment
- better understanding of the cultural diversity and make-up of the catchment area
- collection of a large amount of basic information about the plants, animals, environment and resources of the East Kimberley
- better understanding of the challenges to implementing field research activities in the East Kimberley
- identification of institutional factors and resource limitations that can impede research and Aboriginal involvement in NRM
- establishment of an organisational framework in relation to NRM in the East Kimberley
- identification of key land-use issues and concerns from Kija, Jaru, Miriwoong and Gajirawoong peoples.

The work carried out in these projects is the first time that collaboration has involved Aboriginal people to this degree in the East Kimberley. The projects formally involved Aboriginal people in scientific research and acknowledged the importance of their wealth of knowledge.

The inclusion of Aboriginal people and recognition of their knowledge and concerns as equally important to NRM issues identified by scientists, is an enormous step forward for the East Kimberley region.

This work was carried out over a range of subject areas including collation of baseline biological information, recording of environmental change and ecosystem trends, spatial distribution of plant and animal resources, monitoring land use and land management issues, feral pests, plants and animals and water quality sampling and pesticide use.



Pamela Simon (Miriwoong traditional owner) tells people about concerns she has for tourists going into places when they have not been welcomed to Country.

Scientific research is an integral component of NRM. It is hoped that researchers, resource workers in NRM, government agencies and community groups will learn from this report. It should be clear that the dedication that Aboriginal people in the East Kimberley have to become equal partners in NRM planning and decision-making is serious and crucial. It is vital that investment in similar programs continues into the future, ensuring that Aboriginal people are equitably involved and their knowledge and place in the East Kimberley firmly recognised.

Subprogram 5 has been highly successful in establishing a foundation to continue research in the region. Natural and cultural resource management have progressed a step forward and planning activities in the East Kimberley region are now more inclusive than they were in the past.

When subprogram 5 ended at in December 2003, the participants put together a list of recommendations for work that they felt important be continued or completed through a new project or other means. These recommendations are provided in an appendix.

## Where to from here?

Despite the decision at the mid-term review to end the OBP, subprogram 5 was considered to be one of the successes of the overall program. In late 2003, Land & Water Australia approached several organisations to see if there was sufficient local support and interest to continue the investment in research and development that had started under the OBP. A draft research proposal for 2004–2006 was developed with input from, in particular, KLC, AgWA, the CRC for Tropical Savannas Management and the Indigenous Land Corporation. This new proposal came to be called *Integrated cultural and natural resource management options for pastoral land in the East Kimberley*. LWA was the majority funder of the proposed research and the LWA Board, at its December 2003 meeting, approved the funds sought. The November 2003 meeting of the Aboriginal Steering Committee was an opportunity for the KLC to discuss the draft proposal. It is hoped that many of the activities left unfinished, and discussed above, will be continued through this new project, which is managed by the CRC for Tropical Savannas Management. Some of the major tasks to finish are:

- incorporating the enormous number of place names identified in project 1 into the interpretative materials under development
- more fully incorporating Aboriginal knowledge into regional NRM and planning
- development of a comprehensive database with information relevant to Kija and Jaru Country is crucial for Aboriginal management and planning for Country. When linked to a GIS system, the database will provide an interactive decision-support tool to assist future local and community-based planning. GIS is a land-management tool whose visual application and adaptability for cultural mapping purposes make its use appropriate and relevant for Aboriginal people.

## Conclusions

Aboriginal people in the East Kimberley know how they want to develop their future and, in most cases, how they would like this to be carried out. Institutional impediments, such as power imbalances, lack of resources, lack of recognition for traditional ownership and traditional management systems of knowledge, and the lack of a whole-of-government approach to funding for NRM make progress very difficult for people living in small communities and outstations.

Many of the challenges outlined in this paper are influenced and exacerbated by the ongoing issues of land title and the huge cultural differences between those from 'orthodox' NRM organisations and Aboriginal communities. The challenge then is to understand and respect these differences and devise strategies that seek to satisfy these competing needs, or at least strive to reach compromises that acknowledge these differences.

For sustainable development to be achieved in the region and for the cultural integrity of the area to be recognised, celebrated and promoted, State and Australian Government agencies must commit adequate resources to involve Aboriginal people in NRM and to assist them in meeting their aspirations. They must also listen, take the time to meet the people about whom they are making decisions, and learn from them. In the period that subprogram 5 was running, at least 10 senior traditional owners died. The vast amount of knowledge about Country that went with them is lost forever.

The future of the region lies in the balance between environmental, social, cultural and economic outcomes. Investment in research and development — particularly that which recognises Aboriginal knowledge and best practice principles of action and participatory research — will benefit all the people of the Kimberley region in providing better planning and a better appreciation of the environment. Biodiversity conservation, maintenance and promotion of cultural diversity, economic opportunities and social cohesion are imperatives for a successful future.



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# Appendix

## Recommendations arising from Ord–Bonaparte Program (OBP), subprogram 5 — Aboriginal Management and Planning for Country

### East Kimberley Regional Issues

- The development of an East Kimberley Aboriginal Resource Management Strategy should be resourced and completed. The report should have a map of the East Kimberley area, photos of Country, flora and fauna, names of places and documentation of key cultural and natural resource management issues from the relevant sub-regions. The report should focus on the Ord and Keep River catchments, including the areas of Halls Creek, Warmun, Kununurra and Wyndham.
- A Cultural Heritage Management Plan for the Ord Catchment should be funded by the Department of Environment (Waters and Rivers Commission; WRC), Agriculture Western Australia (AgWA), Kimberley Development Commission, Conservation and Land Management (CALM), Department of Indigenous Affairs, and other relevant state government agencies.
- The Cultural Heritage Management Plan should be overseen by the Aboriginal Steering Committee.
- Funding should be sought for a Kimberley Land Council (KLC) Kununurra-based natural resource management (NRM) facilitator to carry on the work that has begun in subprogram 5 and will not be continued under the new project, *Pastoral and Cultural Development Options for the East Kimberley*.
- Local and regional NRM committees, such as Ord River Water Managers Group (ORWMG), Ord Land and Water (OLW), East Kimberley Land Conservation District Committee (EK LCDC) etc. should include appropriate Aboriginal representation on their committees wherever possible.

### Aboriginal Steering Committee

- The Aboriginal Steering Committee should be recognised as a strong voice for continuing involvement in land management and planning. The Committee should continue for another two years under the new project.

- The Aboriginal Steering Committee plays an important role in the management and development of Aboriginal NRM. This needs to be recognised in the current management structure set up by government and by all stakeholders in NRM in the East Kimberley.

### Aboriginal Ranger Programs

- The Kimberley Land Council should investigate holding a meeting in the East Kimberley to discuss ranger programs, including training and employment options. The meeting should include traditional owners from across the East Kimberley region.
- The Kimberley Land Council should be resourced to organise and facilitate such a meeting through government NRM agencies and other relevant government agencies including local government and the Kimberley Development Commission.
- The funding of ranger programs needs to be investigated, including National Park rangers, community rangers, fisheries rangers and female rangers. Aboriginal rangers should be full-time, paid positions. Government and non-government organisations need to develop this in consultation with Aboriginal groups in the East Kimberley region.
- Funding opportunities should be provided for East Kimberley Aboriginal people to carry out educational field trips, including visiting other Aboriginal people to learn from what they are doing and get ideas from them. A visit to Nitmiluk National Park in Katherine is recommended and could be resourced by either state government NRM agencies and/or the Kimberley Development Commission.
- Options for developing and running the Conservation and Land Management Program in the East Kimberley with the Kimberley College of TAFE using a block-style method of learning should be investigated.
- A working group should be established with the Aboriginal Steering Committee, Kimberley College of TAFE and the Kimberley Land Council, other relevant

Aboriginal organisations — Waringarri, Kimberley Region Economic Aboriginal Corporation, Wunan, Kimberley Group Training, Aboriginal and Torres Strait Islander Services (ATSIS) — and government agencies to develop a comprehensive ranger training program in the East Kimberley.

### Ethnoecology Research

- Ethnoecology research should continue to be supported by both state government agencies and research institutions in the East Kimberley.
- The following organisations be approached to secure funding to complete the final component of the Kija and Jaru plants and animals work: Argyle Diamond Mine, Land & Water Australia, Salay Mally Mining, Department of Education, Australian Government Department of Environment and Heritage, Rio Tinto, and ATSIS.

### Capacity-building Initiatives

- The Ribbons of Blue Program should continue within schools and the expansion of activities in the Halls Creek, Warmun and Kununurra areas should be supported so that it can include detailed monitoring work in the East Kimberley area. This work should be funded through the Natural Heritage Trust.
- Information products should be recognised as a key method of sharing information about Aboriginal people's aspirations and cultural values in the East Kimberley. Resources should continue to be sourced to develop posters, radio and television advertisements, videos, books, and newsletters. Topics to be covered include: looking after Country better, cleaning up rubbish, looking after water better, and the dangers of swimming in bad water or irrigation channels.
- Funding should be sought to produce an East Kimberley newsletter on NRM issues for dissemination to Aboriginal communities.
- Capacity-building programs such as ranger training and other training initiatives should be a priority for state government agencies and non-government organisations.
- The Aboriginal Management and Planning for Country Video should secure funding through the Natural Heritage Trust Envirofund. The video should be managed in conjunction with the Aboriginal Steering Committee.

### Cultural Mapping and GIS

- A small workshop should be held regarding cultural mapping and geographic information systems (GIS) projects with other people involved in similar projects in northern Australia. Possible funding could come from the Cooperative Research Centre (CRC) for Tropical Savannas Management.
- The cultural mapping database and GIS project is important for Aboriginal people of the East Kimberley. This work should continue over the next 2–5 years.
- Further funding should be sought to develop a comprehensive GIS network and build up the institutional capacity of the Kimberley Land Council to administer this system.

### Weeds and Feral Animals

- The CRC for Australian Weed Management (CRC Weeds) Aboriginal Liaison Officer position should continue and is an important position for the East Kimberley and natural and cultural resource management.
- The *Pests, Plants and Animals Information and Awareness Strategy for Aboriginal People in the East Kimberley* should be implemented and continue to be supported by both AgWA and KLC.
- The Indigenous Land Corporation commitment to contribute funding for the CRC Weeds officer position should be followed up by the KLC and AgWA.

### Policy Initiatives

- Gender equity should be applied in research and development and cultural and NRM planning. This should be recognised by research institutions, government agencies and non-government agencies by ensuring that both women and men are employed to work on field research activities and as researchers.
- Collaborative and participatory research protocols should be developed by the KLC and endorsed by the Governing Committee for distribution to researchers, research institutions, government agencies and community groups with an interest in NRM.
- Aboriginal people from throughout the Ord catchment — including Kija, Jaru Miriwoong, Gajirawoong, Balangarra and Woolah people — should be involved in scientific research activities. Opportunities for collaboration with researchers should be optimised to allow for maximum benefit

in relation to biodiversity conservation, cultural diversity and recognition of native title rights and interests. This should include government-agency-sponsored research including CALM, WRC and AgWA.

- Land unit assessment and land management planning work should be supported by an East Kimberley Aboriginal Land Management Planner. Such a position should be funded by the Indigenous Land Corporation, ATSiS and other NRM agencies and based at the KLC Land and Sea Unit. This position will support Aboriginal property owners including pastoral stations, outstations, and reserves.
- Joint management of Mirima National Park and other conservation reserves and crown lands in the Kununurra region should be progressed in line with Western Australian state government policy released in 2003 and the aspirations of Miriwoong and Gajirawoong people. Areas that have been identified for joint management include Lake Argyle, Mirima National Park, Parrys Creek lagoon, Lake Kununurra, Purnululu National Park, and the Lake Argyle Regeneration Area.
- Joint management of Purnululu National Park and conservation reserves, and crown lands in the Warmun and Halls Creek region should be progressed in line with Western Australian state government policy released in 2003 and the aspirations of Kija and Jaru traditional owners.
- Cultural indicators should be developed with traditional owners for conservation reserves, national parks and jointly managed areas. These indicators will assist in ongoing monitoring and evaluation of the areas' cultural integrity.

## *Economic Development*

- The proposed but not implemented subprogram 5 project *Alternative Economic Opportunities for Aboriginal People in the Ord Catchment: Tourism, Agriculture and Horticulture* should be re-evaluated and considered for funding from alternative sources, including the Kimberley Development Commission, Sustainable Regions, Shire Wyndham East Kimberley, ATSiS, Indigenous Land Corporation.
- An Aboriginal tourism strategy for the East Kimberley should be developed that identifies issues related to existing mainstream site usage and the development of Aboriginal tourism enterprises.
- A desktop study of alternative economic opportunities in the East Kimberley that fit within the realm of ecologically sustainable development should be funded. This study would examine Aboriginal businesses statewide and throughout Australia.
- Employment of an Aboriginal Business Development Officer at the KLC should be investigated to work with Aboriginal people in the East Kimberley.
- The Argyle Diamond Mine should assist with developing traditional owner aspirations in cultural and natural resource management.

