

Indigenous involvement in environmental and heritage management

Authors:

Rowena Brown and Peter Creaser (eds) Alinytjara Wilurara NRM Services, South Australia and the Australian Government Department of the Environment and Heritage; Sean Kerins, Northern Land Council; Jane L Lennon, Jane Lennon and Associates; Mona Nugula Liddy, Daly River Community Reference Group

Citation:

Brown, R and Creaser, P (eds), Kerins, S, Lennon, J and Liddy M 2006, 'Indigenous involvement in environmental and heritage management', case studies prepared for the 2006 Australian State of the Environment Committee, Department of the Environment and Heritage, Canberra, <<http://www.deh.gov.au/soe/2006/integrative/indigenous/index.html>>.

Introduction

Although Australian Indigenous people have cared for their country as an ongoing commitment, in recent times the percentage of land owned and managed by Indigenous peoples has been slowly rising.

Another relevant change has been a growing recognition and appreciation of Indigenous knowledge of the land and the sea and its biodiversity, and management techniques to achieve sustainable development of the land and sea for all Australians.

In *Australia State of the Environment* 2001, the Australian State of the Environment Committee said:

Outcomes of the return of Indigenous land are a cause for hope, but not for complacency. Certainly more land can now be conserved in the traditional way, but more land means more responsibility, and the support for this responsibility is not yet present in any integrated way. Much of the land being returned to Indigenous peoples is degraded... One of the challenges for the management of the Australian environment is to ensure for Indigenous peoples a strong capability for management of land which they control. This requires effective support mechanisms provided in a culturally suitable way. (ASEC 2001).

For *Australia State of the Environment* 2006, the committee decided to seek information on Indigenous involvement in environment and heritage management in a different way. Case studies were sought from both Indigenous people and people supporting Indigenous groups or committees.

The four case studies are:

- the Northern Territory's Daly River catchment planning exercise.
- Progressing natural resources management with Aboriginal communities in South Australia—the Aboriginal Lands Integrated Natural Resource Management Group and Alinytjara Wilurara Natural Resource Management Board.
- the Caring for Country Initiative, Northern Land Council
- Lake Victoria: a study on Indigenous involvement in environment and heritage management.

This selection is not intended to be representative of the ways Indigenous people are involved in environmental and heritage management. The four case studies show a diversity of approaches to land and sea management. Some of the initiatives have been in existence for 10 years or so, some for less time. All of the initiatives were ongoing as at December 2005.

The South Australian case study illustrates innovation in the natural resource management (NRM) field where the Aboriginal Lands Integrated NRM Group is the first NRM region to be managed by a board entirely composed of Aboriginal people. In this area of South Australia, Indigenous people's knowledge of the land and its biodiversity is being captured in technical ways, for example by the use of notepad computers to record sightings of local birds and animals. This knowledge is being directly connected to scientific knowledge and to policy to improve the condition of the land resource and the ability of the Indigenous people to gain economic benefit from the areas.

The case studies illustrate the complexities that are part of the ongoing engagement of Indigenous people with management of their country. The deep commitment of the Waignayu people in the Daly River region to their river and the surrounding catchment is told directly by one of the participants in the Community Reference Group. She tells of the struggle to understand the technical language and to have Indigenous knowledge incorporated into the Daly River Catchment Land Use Plan. It illustrates the very different ways people have of seeing the world. As a footnote, the Community Reference Group's report was made public in November 2005 and a new catchment management advisory group has been established.

There have been other successes in environmental and heritage management where Indigenous people have been instrumental, along with the relevant agencies that have given support and funding for this consultation and planning to occur. The Lake Victoria case study, where the Lake Victoria Advisory Committee, comprising traditional owners and others, and with financial and resource support from the Murray-Darling Basin Commission, has advanced the protection of Indigenous burial sites on the lake shores of an operational water storage area on the Murray River. The process has not always been straightforward, and has required goodwill and understanding from all participants to achieve a result that benefits all groups.

The scale of environment and heritage issues faced by Indigenous owners is illustrated in the Northern Land Council case study, where a network of some 34 community-based Aboriginal

natural and cultural resource management programs have been established and continue to increase in number with the support of the council.

The Northern Territory's Daly River catchment planning exercise

Author:

Mona Nugula Liddy, Wagiman representative on the Daly River Community Reference Group

Background

In 2003 the Northern Territory Government set up a community reference group (CRG) to prepare a land use plan for the Daly River catchment. The group was formed following expressions of public concern over land clearing and extraction of water for irrigated agriculture and mixed farming. There are many Aboriginal language groups in the catchment and their views needed to be taken into account. Mona Liddy was selected to represent the Wagiman, whose land is in the heart of the Daly region where they have established their own Ranger group and are undertaking many land management activities. Wagiman are also developing businesses such as arts and crafts, bush harvesting, soap making and cattle.

Mona Liddy tells her story of being involved in the Daly River Community Reference Group

I am a female senior Wagiman who was elected by my elders. This was a significant role, and gave my right to be involved with the decision making for my people, also to protect my people's right to the water.

I found it a struggle being in the minority. There were three female members on the committee out of 18 representatives; also, I was the only Aboriginal woman present. There should have been more women. There is women's business *and* men's business. I would have liked to have a Wagiman male there. I think that is an issue for everybody, in the Aboriginal way.

My Uncle said to me, 'Daughter, "don't let that river dry up'. This itself was a big ask from my elders.

Many other traditional people from the other country around the Daly also asked for my advice or assistance regarding our united stands for our river.

My passion and inheritance for this country comes from my mother and my grandparents. I remember when I was growing up my mother and aunties said to me: 'We sent you to the white man's school so that you can learn their ways, then you come back to us and you marry up the two up, this you teach to us. We show you the old ways and you show us the new ones'.

I found this allowed me to balance up my way of thinking, and to be a wise person in my community; this is all about true leadership.

In the past the government and pastoralists did not accept traditional owners as land managers; they saw us as doing nothing with our country.

Having me on the Reference Group shows that things are changing from the old way of doing things; it showed to the others that my uncle and the elders had faith in me and trusted me in their place. My community teachings helped me in terms of leadership and empowerment.

I was proud to be on this committee, as it gave me the opportunity to have a say in policy making decisions, and to promote reconciliation amongst black and white.

This in itself was a unique experience seeing black and white coming in unity, and forming partnerships with each other.

I sat and observed how the white man conducted their business on my country, and hear the words 'my country' expressed from black and whites to the government.

During the CRG meetings many conflicts arose amongst committee members and scores were settled outside the meeting. I felt sometimes like an alien when this happened, as the topic of the disagreement was economic value, my value was to protect my cultural heritage and my home; I did not want my home to be a memory.

I found out a lot of the white people felt they had more of a say, because of their status in the white community, and they had money in their pockets. (Money talks.)

I felt like saying, 'You are an impostor, this is my country'.

Some of the CRG members did not mean to be disrespectful to my traditional culture; this was due to their ignorance or not having the opportunity to mix with our people.

The committee were keen for traditional owners to share their stories and knowledge at the meetings, but due to the short timeframe this could not be achieved.

I'm still coming to terms with it. The whole process was so rushed.

We were supposed to go out and talk to all the other groups — that never happened.

We should have gone out to other people's country and to talk amongst ourselves. It made people ashamed to come to those public meetings that the government held. They didn't want to talk up in front of all those white people. They were really angry for being left out of the process. It made them feel very angry when they came to those public meetings and they had to be on the outside looking in.

Overall there was a lack of Indigenous submissions, involvement, and public speakers.

The whole thing was set up for educated whites. It was very technical and hard to take it all in. The talk, decisions, went round and round in circles. No decisions were reached. A lot of people just didn't know. We had insufficient knowledge, and the talk of water allocation and water trade-offs scared a lot of people. The language they used and the place names were

different to what we use. We have different names for the places they often talked about. I couldn't picture it.

You can't just talk about the river issues at the table. It should be like show and tell. When you see it you can think about it; we feel it as a part of us. It's our life.

The white decision makers should see it through our eyes.

We have seen changes throughout our country and it's a part of our sad history. The white people talk about adaptive management; we the traditional owners are now experts on this, due to the changes from when the first white man walked onto our land. Our existence depended on us adapting to their changes, changes to our river system, change of climate, changes of introduced species that affected the food chain, changes that kill our way of life, its history repeating itself, but due to these changes we are still here.

I didn't have the opportunity to go out to my own country to get up-to-date knowledge — we visited a lot of non-Indigenous places, like the farms, the research station, power and water site at Katherine, we cruised up the Daly to look at the banks and saw a large crocodile caught in a trap, not many wildlife was seen or recorded.

I was determined to stay and committed to attend these meetings, taking in all of the white man's jargon and their scientific data and the usage of technical terms.

But why isn't our cultural knowledge recognised and accepted by the scientific community?

Every meeting we had six or seven reports to go through. Fancy having a community Aboriginal person having to deal with aquifers, biodiversity, all that jargon, and the scientific data. It was so overwhelming.

I got tired of hearing the government owns the water.

During this process the committee each had an equal say, this was due to the experience and professionalism of how the chairperson conducted these meetings.

I did have an input from a Wagiman's perspective, but I could not speak of another traditional owner's country.

I didn't agree with the 'share the pain theory'—make a compromise now and then sort out the problems later. The price is higher for Aboriginal people. It's our home. We were thinking about the Murray and the Darling. At the end of the day the Daly is our home. We will stay there forever. The business people and many farmers can just sell up and go.

I was asked, 'Did you think you made a difference?'

I think so. By just being there, they could not ignore me, there were a lot of people that didn't know that Wagiman people existed, and did not understand my cultural values.

Overall the draft report was completed, an Aboriginal Reference Group was formed and we are meeting on a regular basis.

Finally we have a voice.

Further information

The CRG has released their report in November 2005. It is available on the Northern Territory Government's website (<http://www.ipe.nt.gov.au/whatwedo/dalyregion/index.html>). A preliminary study of Aboriginal perspectives on land and water use is also available on this website, or from Sue Jackson at CSIRO Sustainable Ecosystems, Darwin (sue.jackson@csiro.au). The new catchment management advisory group has been established and Mona and Willie Hewitt represent the Daly River Aboriginal Reference Group on that new group. For more information about the Aboriginal Reference Group, contact Marc Wohling at the Northern Land Council (marc.wohling@nlc.org.au).

Progressing natural resources management with Aboriginal communities in South Australia—the Aboriginal Lands Integrated Natural Resource Management Group and Alinytjara Wilurara Natural Resource Management Board

Authors:

Rowena Brown and Peter Creaser Alinytjara Wilurara NRM Services, South Australia and the Australian Government Department of the Environment and Heritage (eds)

Background

The Aboriginal Lands Integrated Natural Resource Management Group (ALINRMG) was established as part of the Australian and state governments' Natural Heritage Trust II initiative to identify regional NRM issues, and actions to address those issues. In South Australia, membership of the ALINRMG originally evolved from membership of the SAMLISA (Strategy for Aboriginal Managed Lands in South Australia) Steering Committee. The SAMLISA Steering Committee, forged through long-term partnerships and commitment to Aboriginal involvement in NRM, included representatives from the South Australian Aboriginal Lands Trust, Maralinga Tjarutja, Anangu Pitjantjatjara Yankunytjatjara, the Indigenous Land Corporation and supporting state agencies such as the Department of Primary Industries and Resources, South Australia; Department for Environment and Heritage; Department of Water, Land and Biodiversity Conservation; and the Department for Aboriginal Affairs and Reconciliation.

The ALINRMG expanded further in the past few years, eventually consisting of 15 members who have made a significant contribution to the planning and management of South Australia's natural resources. Key achievements have included:

- development and implementation of an accredited NRM plan and investment strategy
- provision of high-level advice to enhance Aboriginal participation and decision-making in NRM
- provision of specialist advice and direction to support the transition and implementation of the South Australian *Natural Resources Management Act 2004*
- securing financial support to ensure Aboriginal communities across South Australia receive ongoing support and investment for their natural resource management priorities.

Success factors

The success and achievements of the ALINRMG can be attributed to a variety of factors, some of which include:

- strong governance and leadership to guide overall direction and manage change
- long-term commitment to improve the condition of our natural resources
- partnerships and mutual agreement with government and service providers
- meaningful participation and involvement in all levels of planning, decision making, investment, delivery, and monitoring and evaluation
- ongoing community participation and support
- trust and interpersonal relationships, especially those developed and maintained over an extended period of time
- proactive administration to support the direction and achievement of NRM outcomes
- capacity building and access to technical and facilitation networks.

Current arrangements

In accordance with requirements of the South Australian *Natural Resources Management Act 2004*, the recently appointed Alinytjara Wilurara Regional NRM Board now have the task of building on the success achieved by the ALINRMG. Appointed in July 2005, the Alinytjara Wilurara (Pitjantjatjara for north-west) NRM Board has responsibility for delivery of Natural Heritage Trust and related NRM programs, as well as statutory responsibility for the sound management of the region's natural resources.

The Alinytjara Wilurara NRM Board consists of nine members appointed for their skills and expertise in the management of the region's natural resources and Aboriginal culture. The Board has a strong partnership approach, working in close collaboration with state and Commonwealth agencies such as the Departments of Water, Land and Biodiversity Conservation, Aboriginal Affairs and Reconciliation, and Environment and Heritage.

The Alinytjara Wilurara is the first and thus far only NRM region in Australia that is entirely managed by a board of Aboriginal people. The Aboriginal approach to caring for country has always been integrated and holistic. For Aboriginal people, the environmental, economic,

social and cultural aspects of natural resource management are not separate, but inextricably and seamlessly linked. This report provides some examples of how the ALINRMG and the Alinytjara Wilurara Board have continued to make progress on strengthening linkages of NRM to social, cultural and economic outcomes.

Integrated Natural Resources Management Plan accredited

The accredited Aboriginal Lands Integrated Natural Resources Management (INRM) Plan and Investment Strategy (2004–2007) was developed through extensive consultation with Aboriginal communities, the three major Aboriginal Landholding Authorities (Maralinga Tjarutja, Anangu Pitjantjatjara Yankunytjatjara and Aboriginal Lands Trust), state and Commonwealth government agencies, non-government agencies and other regional Indigenous NRM bodies. An additional investment strategy was developed during 2005 to cover the next three years to 2008. This current investment strategy programs includes (2005–2008):

- resource protection and management of threatening processes
- enterprise development and sustainable agriculture.

Programs identified within the INRM Plan include:

- traditional land management and knowledge transfer
- communication and education
- monitoring and evaluation
- program management and administration
- transitional arrangements (supporting transfer of investments from Alinytjara Wilurara to other regions).

While scientific data forms a basis for the INRM Plan, equally important is traditional Indigenous environmental knowledge of regional communities. Traditional cultural and environmental knowledge has been recognised by the ALINRMG and the Alinytjara Wilurara Board as the backbone of their overall philosophy and approach.

Land management practices to maintain Indigenous culture

The Alinytjara Wilurara NRM Board recognises that the physical connection between Aboriginal people and their traditional country has been severely affected by their treatment since European settlement. The ongoing engagement of Aboriginal people with their land through traditional land management practices is an important step in natural resource management on Aboriginal lands and supports the maintenance of Aboriginal culture.

Some of the projects which focus on the maintenance of culture include:

- supporting traditional practices, such as rockhole cleaning, that help sustain natural resources

- supporting activities for teaching younger Aboriginal people by elders regarding traditional land management practices.

Minyma Tjuta Caring for Country and Culture

On the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands in north-western South Australia, women play a pivotal role in the management of natural and cultural heritage. Anangu women, called Minyma in their own language, bring unique knowledge and perspectives to land management and planning. Minyma contribute to land management plans and are key decision makers about the format and location of land management work. Traditional cultural practices of Aboriginal people support the maintenance of ecological systems and are also a vehicle for passing on culture to younger generations. On the APY Lands Minyma participate in recording, visiting and cleaning rockholes and sites, monitoring threatened species, controlling feral animals, patchburning and survey work. Minyma also play a key role in training and sharing knowledge with school students and children.

Supporting preservation of culturally important places—planning and knowledge transfer

Officers from APY Land Management met in early 2005 with the traditional owners of Apara to discuss setting up a management plan for the central APY Lands. Traditional owners have been impressed with the Indigenous Protected Areas (IPA) progress at Walalkara and Wataru and would like to develop an IPA-style management plan for the area encompassed by the Tjala (honey ant) Tjukurpa Dreaming.

Senior traditional owners were also able to pass on their traditional knowledge of the area to the children and future custodians. The Apara springs are important culturally but have been damaged by feral cattle, horses and camels (cattle were recently removed from near the springs by the Amata Cattle Company). The group plans to remove horses and camels. They would like to control foxes and cats and hope to reintroduce the many small mammals that were endemic but have now disappeared from the area (in the lifetime of the oldest members of the groups).

Integrated cultural practices with land management practices

In 2004–05, a number of projects supported the integration of cultural and land management practices such as:

- threatened species management
- feral carnivore and herbivore management
- cultural heritage and site protection
- monitoring and evaluation
- tourism and sustainable economic development.

Specific examples are provided in the case studies below.

Tracking with Cybertracker

Anangu of the APY Lands have been working with Anangu Pitjantjatjara Yankunytjatjara Land Management to use traditional ecological management and scientific tools and knowledge to look after country. The APY Lands contain many threatened species and species with limited distribution. Traditional owners use the Cybertracker, where a global positioning system unit is linked up to a touchscreen notepad computer with icons of animals, to record their observations. The Cybertracker is useful for recording tracks and sightings of a range of threatened species, examining and recording their home range for future plans and protection strategies. Children are taught by older people in the community how to track animals and how to record these tracks in the Cybertracker system.

Acknowledgment: Anangu Pitjantjatjara Yankunytjatjara Land Management Team

The Itjaritjari Project—a marriage of contemporary science and traditional knowledge

During the meeting of the Aboriginal Lands Community Landcare Officer Network in the APY Lands in May 2005, Joe Benshemesh and traditional owners from the APY Lands talked about their work looking at the Itjaritjari or Southern Marsupial Mole (*Notorcytes typhlops*). This nationally endangered mole is a very secretive animal and Joe said that in all the time he had been researching the habits of the mole he had only actually seen one twice. Joe talked about the habits of this animal and about the research he is doing with the community to help everyone understand more about them and how to look after these curious animals into the future. Joe thought that there may still be quite a few around but said it is hard to know because they live under the ground and rarely come out. Traditional owners, however, were able to share their experiences and observations of this secretive animal, with a wealth of local knowledge on their movements and behaviour. The Itjaritjari Project is a great example of how traditional knowledge of Anangu (people), combined with contemporary scientific methods, is working to help generate an improved understanding and an upcoming recovery plan for the secretive Itjaritjari.

Acknowledgment: Anangu Pitjantjatjara Yankunytjatjara Land Management Team

Improved economic, social and environmental viability of the land

The following case study is an example of improving the social, economic and environmental viability of the land with Aboriginal communities.

Dinahline bushtucker plot

At the Dinahline bushtucker plot and orchard north of Ceduna, the integration of training through on-ground works and business enterprise development is generating culturally relevant employment for Indigenous people. With the assistance of the Reedy Creek Nursery, Dinahline community members established a trial plot that was used to determine which plant varieties were most suited to local climatic conditions. A semi-commercial plot was

subsequently established. When planting was completed in January 2005 there were more than 15 000 plants in the ground, including desert raisins, quandongs, Tanami apples, muntries, bush bananas, rock figs, conkerberries, native oranges, desert yams and saltbush. Profits generated through the Dinahline project feed back into the community. The Dinahline bushfood project has an ongoing grower's contract with Outback Pride, which guarantees a market for its produce. The Indigenous Land Corporation provided co-investment for this project.

Acknowledgment Aboriginal Lands Trust of South Australia, NRM Team

Indigenous community members return to country

The following case study describes how NRM projects supported by the ALINRMG have enabled Aboriginal community members to return to country, share their knowledge and experiences with younger generations and, at the same time, make a significant contribution to regional natural resources management outcomes.

Threatened species management on the APY Lands

On the APY Lands, elders and schoolchildren have played an integral role in the protection of threatened species and other native flora through the control of feral herbivores. Aboriginal community members have been active participants in visual searches and spotlighting for native and feral animals, the placement of baits, and counting scat numbers and tracks. Additionally, the expert knowledge of trackers has been an important component of monitoring the impact of baiting programs. The feral carnivore project has provided an opportunity for Anangu elders to share traditional knowledge with younger generations and children to re-engage with their traditional country. Species of cultural significance to Anangu have been protected. In recognition of the expertise and knowledge of Anangu, fees have been paid for the services they provide.

Measures of success—the importance of monitoring and evaluation

The ALINRMG and Alinytjara Wilurara Board have long recognised the need for accurate and informative measures of success. Their accredited INRM Plan and Investment Strategy identifies that monitoring and evaluation is needed to assess the effectiveness of actions and investments and, also, provide a basis for changing actions where necessary (adaptive management). Regional monitoring and evaluation needs relate to the targets identified within their INRM Plan, and is required at several levels including:

- Outputs—measuring the actions being implemented. These could include the length of fencing established to protect important areas, the number of hectares revegetated or the number of rockholes rehabilitated.
- Environmental (resource condition) outcomes—measuring the responses of the environment to the actions that are being implemented. This could include changes in

water quality in rockholes that have been rehabilitated or the number of native plants that have re-established after removal of weeds.

- Social and economic outcomes—This could include the number of people becoming involved in NRM, trends in health and wellbeing or the increased production resulting from a particular NRM program.
- Expenditure.

The ALINRMG and Alinytjara Wilurara NRM Board have developed an integrated monitoring program to establish comprehensive baseline scientific data for the region. As part of this program, they have also developed creative and innovative mechanisms such as a monitoring and evaluation scorecard to evaluate the achievements and success of the Alinytjara Wilurara Region and its activities. The scorecard can be used for:

- self-evaluation of project and program outcomes
- identification of risks of project failure
- formal evaluation of project and program outcomes.

The scorecard can measure a wide variety of outcomes, including social, economic and environmental, as well as internal management performance and capability.

Challenges

What is most inspiring about both the ALINRMG and Alinytjara Wilurara NRM Board is how they have managed to overcome logistical, language, cultural and socioeconomic challenges often not encountered by other INRM groups or boards. These challenges, although having placed them under significantly more pressure than other INRM groups and boards in South Australia, have made the ALINRMG and Alinytjara Wilurara Board more determined and proactive in their efforts to generate a range of outcomes (social, cultural, economic and environmental) for the benefit of all Aboriginal communities in South Australia.

Partnerships to help address these challenges have been developed by the ALINRMG and Alinytjara Wilurara with Aboriginal land managers, communities and landholding authorities working with government and non-government agencies. They have also made significant progress in developing collaborative programs with other INRM regions in the state and interstate. Significant progress in this area has been achieved through sheer perseverance and the determination of the ALINRMG and Alinytjara Wilurara Board and their staff to enhance community engagement at all levels.

The region faces a serious challenge because there are not extensive data sets for all resources within the region. Parts of the region have virtually nothing to use as a basis to start management actions. Much of the effort in the 2004–05 and subsequent years will be to develop these data baselines.

Additional information

This case study was written in August 2005. For additional and updated information on the Alinytjara Wilurara region or any other information presented in this document, please refer to the website at <<http://www.aboriginalnrm.com.au>>.

Acknowledgments

Ms Lorraine Rosenberg, General Manager, Alinytjara Wilurara Natural Resource Management Board.

References

Aboriginal Lands Integrated Natural Resource Management Group (2004). *Integrated Natural Resource Management Plan for the Aboriginal Lands Integrated Natural Resource Management Region of South Australia*. Aboriginal Lands Integrated Natural Resource Management Group, Inglefarm South Australia.

<http://www.nrm.sa.gov.au/2_Integrated_NRM_SA/4_Status_of_the_Regions/nrmmain.htm> accessed 8 July 2004.

Alinytjara Wilurara Natural Resources Management Board 2005, *Natural Resources Management Investment Strategy for the Alinytjara Wilurara NRM Region*, Alinytjara Wilurara Natural Resources Management Board, Adelaide SA.

Caring for Country Initiative, Northern Land Council

Author:

Sean Kerins, Northern Land Council

Indigenous people in the Northern Territory living on Aboriginal-owned land face a complex range of natural resource management issues. As Aboriginal lands are some of the most bio-diverse in Australia, they face many of the same land and conservation management challenges as much of the 'Top End', for example, the need for wildfire management and the control of weeds, feral animals and other pests. In many regions there are limited resources, community capacity and skills to deal with natural resource management. As a result, in 1996, the Northern Land Council (NLC) established the Caring for Country Unit, in response to traditional owner aspirations, to help Aboriginal people living on country preserve healthy landscapes for future generations. In the ten years since its initiation, the Caring for Country Unit has worked closely with traditional landowners and managers to successfully set up a

network of formalised land and sea management programs, often referred to as Aboriginal Ranger groups, throughout the ‘Top End’ of the Northern Territory.

The NLC is a statutory authority established under the *Aboriginal Land Rights (Northern Territory) Act 1976* to represent the interests of Aboriginal people and help traditional Aboriginal owners claim and manage their land. The NLC region covers an area of 195 000km² in the northern half of the Northern Territory and, of this, approximately 50 per cent of the land, including 85 per cent of the coastal/intertidal zone, is Aboriginal-owned. Much of this Aboriginal-owned land contains biodiversity hotspots of both national and international significance. In the Northern Territory only 0.43 per cent of land has been cleared, compared to Victoria where 62.7 per cent has been cleared or New South Wales with 29.3 per cent. With this in mind, Aboriginal people face the ongoing task of managing vast areas of intact country in a sustainable way in the face of a myriad of introduced threats with little resources. The approach of the NLC through its Caring for Country Unit is to work collaboratively with a range of Aboriginal and non-Aboriginal agencies to build local capacity to institute effective management of land and sea resources. The role of the Caring for Country Unit is to broker delivery of appropriate advice, education and training, and resources for Aboriginal land and sea managers, based on good participatory planning.

The broad network of community-based Aboriginal natural and cultural resource management programs throughout the NLC region continues to grow both in number and by consolidating existing programs. There are now 34 community-based land and sea management programs operating over about 50 per cent of the NLC region and employing over 350 people, including both men and women rangers. There is a strong focus on local capacity building and training in order to build the skills and resources of communities to manage these programs in the long term. Intensive consultation and coordination underpin these ranger programs, allowing Aboriginal people to determine how the programs are carried out. The community selects its own local rangers as workers and they are supported through the Community Development and Employment Program (CDEP). The ranger groups also provide a formalised structure for the transfer of traditional knowledge from old to young, as well as being a vehicle for the training and employment of young Aboriginal people living in remote areas.

These programs tackle a range of natural and cultural resource management issues, including weeds, fire and feral animal management, sacred site protection, coastal zone surveillance, resource-based enterprise development, monitoring of marine species (for example turtles, dugong), fauna relocations, marine debris management and Indigenous pastoral projects. Given the complex suite of natural resource management issues, Aboriginal landowners and managers are increasingly recognising the need to apply two sets of knowledge to land and sea management—traditional ecological knowledge and contemporary, science-based knowledge. Within the Caring for Country program both sets of knowledge are given equal value and are used to complement each other. The establishment of formalised land and sea management programs throughout the Top End has proved a successful way of fusing these two approaches to land and sea management.

To support the ranger groups' activities the Caring for Country Unit has developed partnerships with a number of external agencies including Territory and Federal Government departments, the Indigenous Land Corporation, various research bodies such as the Tropical Savannas Cooperative Research Centre and the School of Environmental Research at Charles Darwin University, peak Aboriginal organisations such as the North Australian Indigenous Land and Sea Management Alliance (NAILSMA), and funding agencies such the Natural Heritage Trust. Some successful examples of such partnerships include the Mimosa Management Program, the crazy ant eradication program, the quoll island reserve project, the turtle and dugong project, the Indigenous pastoral project and the marine ranger network. All are designed to manage land and sea, and build community capacity for sustainable economic development.

The Caring for Country Unit has achieved successful outcomes on a variety of levels. In environmental terms, the ranger groups have made significant inroads towards fire, weeds, feral animal and marine management, in particular the eastward and westward spread of the weed *Mimosa pigra* and a new regime of early patchwork burns on Aboriginal lands. Other issues include the reengagement of Aboriginal people in the pastoral industry, and wildlife protection and utilisation programs. At a community level, the development of the ranger programs has seen the confidence, skill and commitment of its participants increase significantly. The Caring for Country Unit continues to receive requests to initiate new programs with Aboriginal people utilising their own money to fund land and sea management on their country. As more communities join the ranger network, Aboriginal peoples' ability to care for country and manage fire, erosion and pests will also increase. This growing capability is already recognised at a national level, with Aboriginal rangers' expert knowledge of country seeing them fulfil vital, although still in a CDEP capacity, roles both in border security and quarantine protection.

The long-term goals of the Caring for Country Unit are to consolidate and enhance existing community-based programs as well as extend community-based programs into areas where there are gaps, the creation of new partnerships while formalising and strengthening existing partnerships and the initiation of employment or enterprise that can fund land management activities. Presently, the Caring for Country Unit remains dependent on short-term external grants which is problematic in that short-term funding inhibits long-term planning, and much staff time is spent on grant applications and acquittals rather than focusing on on-ground community initiatives. Maintaining and building capacity under these funding arrangements creates major challenges. Active land and sea management may well be the most viable form of employment in remote Aboriginal lands and community-based involvement in natural resource management has been shown to bring significant economic, environmental and socio-cultural benefits. Through the formalised land and sea management programs, with the support of the Caring for Country Unit, Aboriginal people have demonstrated that they have the commitment, skills and location to address both opportunities and challenges in natural resource management to meet targets of local, national and international importance.

Lake Victoria: a case study on Indigenous involvement in environment and heritage management

Author:

Jane L Lennon, Jane Lennon and Associates

Background

Lake Victoria is located west of Wentworth and north of the Murray River in south-western New South Wales (Figure 1). There is extensive evidence of Aboriginal occupation of the shores of the lake and surrounding dunes spanning the past 18 000 years.

In 1994 about 240 burials were found in six burial grounds on the Frenchmans Islands, at the southern end of the lake. Burials were made in the low sand ridges that became islands after 1927 when the lake level was raised by water regulation. The higher lake level led to increased erosion of areas previously rarely flooded and exposed much Aboriginal cultural material.

The presence of large numbers of burials and the natural landscape of the lake and its environs are important components of its spiritual and cultural significance to the Barkindji Aboriginal people.

Modern Lake Victoria sits within a larger Pleistocene lake bounded on the north and west by sand plains and on the east by a high lunette, a dune formed from windblown fine sands from the lake floor and beaches. Pre-regulation, the high water level was about 21 metres AHD. South of the lake, stretching from Rufus River about 30 kilometres east to the junction of Frenchmans Creek with the Murray is a low floodplain covered with creeks, billabongs and ancient meanders. The vegetation pattern is strongly related to the nature of the landscape: river red gum woodlands line the rivers, creeks and southern lake shore, black box dot the flood plains away from channels and the higher ground is open with low chenopod shrubs and some casuarina woodland.

Lake Victoria is a major water storage operated by SA Water on behalf of the Murray-Darling Basin Commission (MDBC). A system of regulators, channels and levees were originally constructed in the 1920s, allowing water to be diverted into the lake from the River Murray via Frenchmans Creek and released from the lake back to the River Murray via the Rufus River. Releases are made to supplement flows in the River Murray to meet South Australia's entitlement flow, to assist in mitigating the impacts of surface water salinity and to provide enhanced environmental flows in the Murray.

The MDBC recognised the significance of the lake to the Aborigines and acknowledged the potential of lake operations to cause damage to Aboriginal relics or to exacerbate foreshore erosion. Due to the need to continue operating Lake Victoria as a water storage, the MDBC applied in April 1998 for consent to destroy, deface or damage an Aboriginal relic/place

under Section 90 of the New South Wales *National Parks and Wildlife Act 1974*, as well as for a permit to disturb relics under Section 87 of the Act. The application did not seek permission to destroy, deface or damage or any burials. All known in situ burials (now numbering over 400) have been protected by extensive sand nourishment and protection works involving revegetation at Lake Victoria. Where it was not practical to protect the burials in situ, the Barkindji elders agreed to removing the remains and reburying them in the dedicated cemetery established for this purpose.

The MDBC commissioned an extensive environmental impact statement (EIS) in support of the application. The EIS identified that continuing storage operations had significant impacts upon the Aboriginal cultural heritage (Hope 1998) and that, together with the regulation of the River Murray, the operation of Lake Victoria has also had an adverse impact on the surrounding environment, particularly the floodplain east of the lake. The main impacts are waterlogging caused by constant inundation, and land salinisation caused by rising groundwater.

Operations

The MDBC's objectives for the management of Lake Victoria are to balance the cultural, spiritual, social, economic and environmental values of the lake. They have been implemented through investigations, operational changes, on-ground works and greater community involvement in management to improve the environment of Lake Victoria. To this end, the 18 conditions of the consent that permitted continuing operation of Lake Victoria as a major water storage required:

- formalising the Aboriginal elders' role in decision making about the management of their heritage at Lake Victoria by the establishment of a Lake Victoria Advisory Committee. Wherever possible, conservation and protection works would be undertaken by members of the local Aboriginal community
- establishing a communications strategy involving the Aboriginal community with historic and traditional ties to the lake and wider community interests, including land owners and water users who benefit from the lake's water supply
- preparing a cultural landscape plan of management that recognises the significance of the Lake Victoria environment and its spiritual significance to the Aboriginal people. The plan provides for work to protect cultural sites and rehabilitate the natural environment where possible, to minimise further environmental degradation and for continued monitoring and reporting
- changing the previous operational practices at Lake Victoria to enable the establishment and maintenance of native vegetation on the foreshores and within the littoral zone so as to minimise damage to Aboriginal relics or to the foreshore of the lake
- recognising that the MDBC would continue to manage the Lake in accordance with the relevant New South Wales legislation and the Murray-Darling Basin Agreement.

The permit and consent were issued for a period of eight years to allow changes in operating strategies and application of the specific consent conditions. These are now under review.

What has been achieved?

The Lake Victoria Advisory Committee, with a majority of Barkindji elders, was established by the MDBC in 1996 and formally recognised by acceptance of the consent conditions and plan of management in 2002. It has met on average three times each year to discuss work programs and issues, and has been supported by a dedicated project officer over the period.

SA Water appointed an Aboriginal man as Cultural Heritage Manager to oversee all the on-ground works at the lake. These have involved:

- maintaining burial protection works with seasonally recruited local Aboriginal staff, perimeter site inspections at low water and after storm events
- recording any new cultural heritage material exposed
- assisting with repatriation of local skeletal remains from museums
- controlling feral animals
- installing-water supply lines to divert stock from the lake shore
- controlling access to the lake
- assisting in the scientific monitoring of both flora and geomorphological conditions.

The Barkindji Elders Council (BEC) members assist with selection of recruits, pipeline route surveys and site inspections.

Communication has varied, relying on personalities and levels of commitment on both sides. Currently the BEC only want to be consulted on consent condition issues within the lake area and not the rangelands, yet there is a logical interaction of heritage protection covering both areas. The MDBC provides resources for the BEC to meet (sitting fees and transport) but not for wider community consultation, so there is a need to consider partnership funding of a wider community education program. Community education has occurred via newsletters, radio talks, memorial days at Rufus River, newspaper interviews, visitor information in tourism outlets, the current construction of the information shelter at the lake and schools education programs.

In 1999 a working group of Advisory Committee members, including three Aboriginal persons, prepared the Cultural Landscape Plan of Management. The final draft was accepted at the end of 2001 after delays in agreeing on conditions for monitoring erosion and revegetation. Annual reports summarise the monitoring surveys.

The Lake Victoria Operating Strategy is a companion document to the Plan of Management (MDBC Technical Report No. 2002/01). Its central principle is that the water level is to remain at the 27-metre high water mark for as short a time as possible during spring and summer, and be drawn down quickly for irrigation so as to minimise the inundation of perimeter vegetation protecting cultural heritage sites.

Indigenous interest and involvement in monitoring lake operations remain high, with regular site visits and questioning of the scientists and engineers involved. Despite monitoring of transect profiles since 2001 by Dr Wayne Stephenson, it is unclear what the long-term shoreline behaviour of Lake Victoria will be, and whether it is in a state of equilibrium following the raising of the lake or whether it is still responding to that previous operating regime. Maintenance of perimeter transect markers is crucial to this work and fixed stations have recently been installed with BEC approval.

Revegetation has been conducted manually on the Frenchmans Islands with excellent results. Natural regeneration has also occurred. This is a source of delight to the elders and to those involved in the work. Vegetation monitoring conducted by Dr Ian Sluiter from 2001 to 2005 shows that, in general, the condition of vegetation improved as indicated by an increase in plant biomass and cover of the southern lakeshore vegetation between 26 and 27 m AHD after the floods of 2003. However, there has been a marked deterioration in the biomass and plant cover of terrestrial vegetation on the lunette on the eastern side of the lake, possibly due to stock grazing on Snake Island; kangaroo populations, which need monitoring and treating; sheep grazing on the foreshores of Talgarry and Nulla Stations; and rabbits existing at high levels on the lunette.

The Lake Victoria Rangelands Action Plan covers landholdings with frontage to Lake Victoria itself and/or to channels of Frenchmans Creek and Rufus River. Management issues identified include salinisation, vegetation decline, protection of Aboriginal heritage sites, degradation of the cultural landscape, wind erosion and declining rural productivity. Barkindji elders have been involved but remedial solutions lie with the landholders.

Despite frustrations arising from changing personnel, technical concepts and language, bureaucratic delays in implementing recommended works and seasonal conditions, the involvement of the Barkindji elders in the management of their cultural heritage has been a very positive development. The Lake Victoria Advisory Committee has been a model, with MDBC financial and personnel support, perseverance by the committed elders and local landholders, and frank meetings where issues are aired and resolved. Changes recommended by the committee are now part of the operations of SA Water at the lake. The next challenges are for the Barkindji elders to organise successors from the next generation and to undertake their own administrative support in monitoring protection of cultural heritage. However, the younger generation do not seem so interested in 'bones and stones'. The agenda has been gradually shifting to issues such as full-time employment, a task beyond the core business of lake operations, and future ownership of properties neighbouring the lake, which have been purchased by government agencies to facilitate grazing controls (and hence protection of cultural heritage) on the lake foreshore.

References

Hope J 1998, *Lake Victoria: finding the balance—a response to the competing interests of cultural heritage, environment and resource use*, Background Report No. 1, Murray-Darling Basin Commission, Canberra.

Hope J, Shawcross W, Orchard K and Quinlan D 2002, 'Cultural Heritage of the Lake Victoria Rangelands', River Junction Research for the Lake Victoria Rangelands Management Action Plan. Unpublished report for the Lake Victoria Rangelands Management Action Plan, Wentworth, NSW.

Murray-Darling Basin Commission 2002, *Lake Victoria Cultural Landscape Plan of Management*, Murray-Darling Basin Ministerial Council, Canberra.

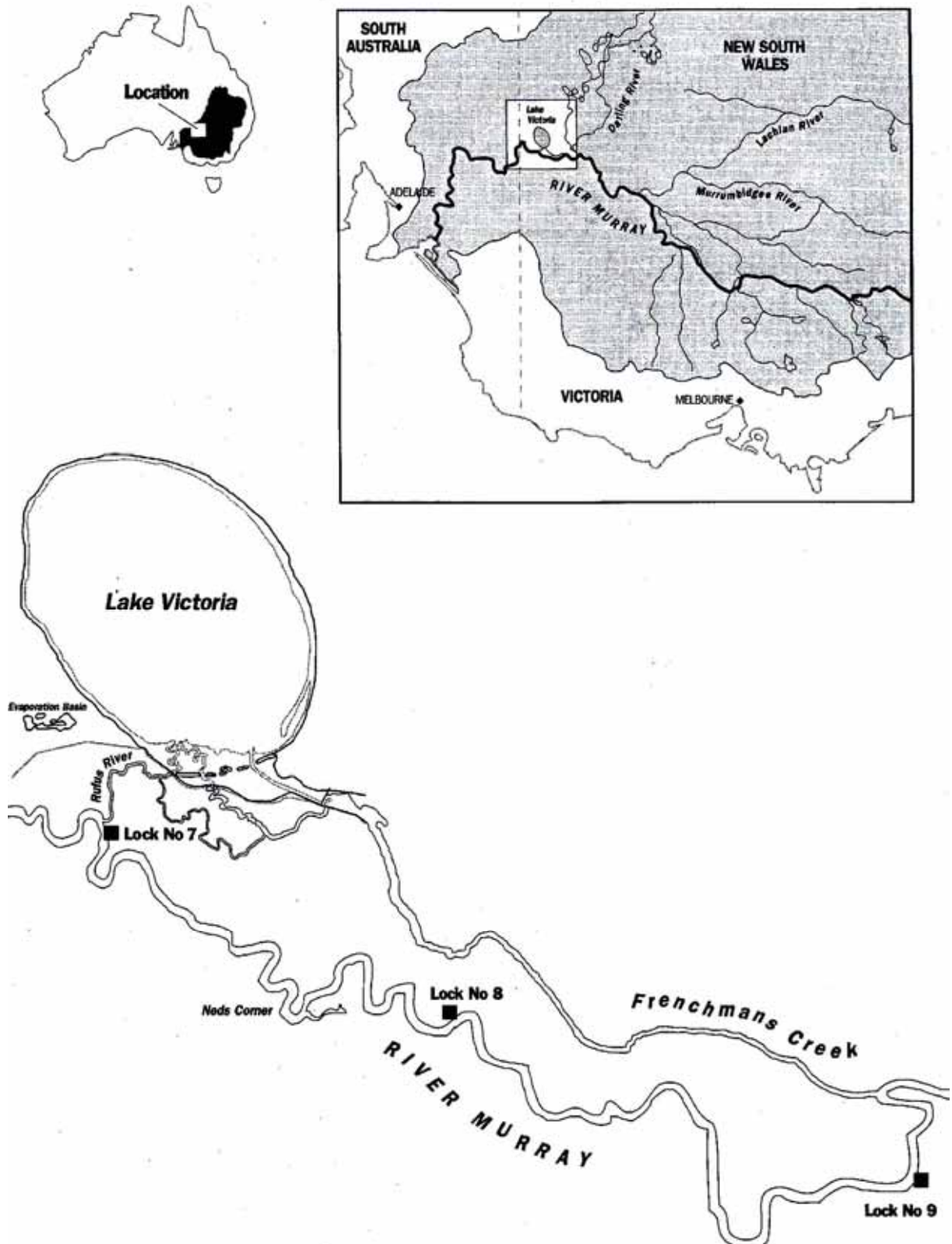
Murray-Darling Basin Commission 2002, *Lake Victoria Operating Strategy*, MDBC Technical Report No. 2002/01, Murray-Darling Basin Ministerial Council, Canberra.

River Murray Water, *Lake Victoria annual reports*, July 2002–03, 2003–04, 2004–05, Murray-Darling Basin Commission, Canberra.

Sluiter IRK 2005, *Flora and fauna of the Lake Victoria area, Southwest New South Wales, No. 9, Analysis of vegetation monitoring sites at Lake Victoria in May–June 2005*, Ogyris Ecological Research Report No. 2005/03, unpublished report to the Murray-Darling Basin Commission, Canberra.

Stephenson W and Thornton L 2005, *Lake Victoria Monitoring Programme: assessment of shoreline change 2005*, University of Melbourne, Melbourne.

Figure 1: Location of Lake Victoria





Lake Victoria Advisory Committee's inspection of regeneration and sandbag repairs, East Moon Island, July 2005 (JL)



New protection works layout, east toe of Snake Island, July 2005 (JL)



Left and below: Elders going on inspection, east shore of Lake Victoria, July 2005 (JL)

