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South Australian Arid Lands Natural
Resources Management Board



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Partnerships in protecting rockholes:
project overview

PARTNERSHIPS IN PROTECTING ROCKHOLES: PROJECT OVERVIEW

Tom Jenkin¹, Melissa White², Lynette Ackland¹ Glen Scholz²
and Mick Starkey¹

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Report to the South Australian Arid Lands Natural Resources Management Board

¹South Australian Native Title Services (SANTS)

²Department for Water (DFW)

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Cover images: Field work participants at Murnea Rock-hole, Moonaree Station and top of granite outcrop at Thurlga Homestead, Gawler Ranges

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SUMMARY

The South Australian Arid Lands Natural Resource Management (SAAL NRM) Board was funded by the Commonwealth Caring for our Country Scheme to undertake a project linking together the cultural and ecological understanding of rock-holes in the Gawler Ranges of South Australia. The 'Partnerships in Protecting Rock-holes' project was delivered through a partnership between the SAAL NRM Board, the Gawler Ranges native title management committee, the South Australian Native Title Services Ltd (SANTS), the Department for Water (DFW) of the State Government and pastoralists from the Gawler Ranges region.

This report provides the background and an overview of the project and puts into context why and how the project has linked Aboriginal, European and scientific values in the assessment and management of rock-holes across the Gawler Ranges. Three other reports have been produced which outline other aspects of the project.

The project was initiated by the Aboriginal people of the Gawler Ranges who wanted to get out on country and care for important places and maintain cultural knowledge. With rock-holes being an important cultural feature to both Aboriginal and European cultures and with little known about them scientifically in the Gawler Ranges, it was a perfect opportunity for a unique collaborative partnership to be developed with the SAAL NRM Board.

The main objectives of the project were to enhance the knowledge and understanding of the cultural, ecological and pastoral value of rock-holes, to raise awareness to allow for protection and management of culturally significant rock-holes, to increase stakeholder engagement in rock-hole management, and to identify and document the specific principles or protocols for engaging the Aboriginal community in such projects.

Rock-holes are of significant value to Aboriginal people living in arid areas of Australia. In the western region of South Australia there is limited permanent fresh water (springs and soaks) and no permanent flowing rivers. For Aboriginal people living in this arid landscape, rock-holes provided a crucial water supply and also facilitated access to a wider area and a larger range of resources. Aboriginal routes in arid areas were largely governed by the occurrence and distribution of rock-holes with tracks radiating out from them.

Many of the rock-holes visited during this project are associated with Aboriginal law or *Tjukurrpa* which forms part of a rich cultural landscape passed from generation to generation through story, song and dance. The members of the native title group spoke of these *dreaming* stories during field work which highlights the cultural significance of the rock-holes. Furthermore, the value of water across this arid landscape was emphasised, with rock-holes being well-known and cared for by generation after generation of traditional owners. Rock-holes were also spoken of in terms of traditional productive values, with rock-hole complexes providing important resource utilisation areas rich in bush tucker and bush medicines.

Due to lack of surface water in the Gawler Ranges region, pastoralism was not developed in the area until wells were sunk and watering points were installed across the landscape in the later part of the 1800s. While some rock-holes provided watering points for stock and domestic uses in the establishment of pastoral activities, today bore water is relied upon to water stock rather than the more limited rock-hole supplies. Today, there is the opportunity for both pastoralists and Aboriginal people to work together in maintaining these culturally significant water resources.

The cultural and ecological assessments of rock-holes undertaken on pastoral properties for this project provided opportunities for the Aboriginal community to visit some parts of their country that they had not visited for some time. An important part of the project involved developing protocols that allowed the project to be undertaken in a framework that respectfully met the needs of individual pastoralists and the Aboriginal community.

INTRODUCTION

Project Activities

The project was first initiated in 2008 and undertook a field trip to Wilgena and North Well pastoral leases and visited three sites (Meelera, Micklebar and Bulpara Hill) (Harding and Blesing (2008) and White (2008), documenting their cultural and ecological information.

In 2009 further field trips were undertaken and another annual report was produced by Jenkin et al (2009) which documented the cultural information provided on the field trips and protocols for undertaking this type of work.

In 2010 the team has produced a series of collaborative reports that succinctly presents the information that this project has collected from 2008 to 2010. Some of the information presented in this report has been reproduced from White (2008) and Jenkin *et al* (2009). The following four reports have been produced for the SAAL NRM Board for the 2009/2010 funding period:

- The **Overview Report**: providing the background and context of the project including the cultural and ecological value of rock-holes;
- The **Field Assessment Report**: outlining and describing the site assessments undertaken during the project and allowing for future field assessments to be added to the report;
- The **Management Plan**: a cultural and ecological land management strategy for the Gawler Ranges native title claim group; and
- The **Database Report**: detailing the cultural and ecological database which stores and manages data collected during project field work including rock-hole locations and cultural and ecological assessments.

Project Objectives

During 2009/10, the project included the delivery of three main components. Firstly, further field work to assess the cultural and ecological value of additional rock-holes including the recording of traditional ecological knowledge. Secondly, to prepare a cultural and ecological land management strategy for the Gawler Ranges, and thirdly to develop a cultural and ecological database to store and manage project information.

This project has the following natural resource management and community objectives and aspirations:

- To raise awareness and improve the protection and management of culturally significant rock-holes and waterholes of the Gawler Ranges;
- To provide a database of rock-holes and waterholes for the Gawler Ranges Native Title Management Committee (GRNTMC) and other Aboriginal community members, landholders, NRM regional bodies and government agencies as deemed appropriate by the GRNTMC;
- Fill key knowledge gaps regarding the cultural, ecological and productive (values) importance of rock-holes and waterholes in the Gawler Ranges native title claim area;
- Provide the Board with ecological data and cultural knowledge to assist in the protection and management of rock-holes and to increase stakeholder engagement;
- Develop spatial data for the location and cultural importance of rock-holes and waterholes in the Gawler Ranges native title claim area.
- To document specific principles or protocols for engaging the Aboriginal community in such projects.

This project has the following objectives and aspirations for the GRNTMC and family:

- To get back on country;
- Enable GRNTMC to look after rock-holes and associated landscapes which are of great cultural significance.
- For GRNTMC to exercise native title (cultural) rights and interests across pastoral lands, including sharing of knowledge and teaching of young people;
- For the GRNTMC to develop sustainable partnerships with key stakeholders including pastoralists.
- For the GRNTMC to secure meaningful employment to care for environmental and cultural heritage.

Project Methods

In delivering the project, the project team utilised a range of social and ecological research methods.

With respect to social research methods, these centred on field-work with on-country qualitative interviews and conversations being the principal means by which data was obtained. Members of GRNTMC were interviewed by project team members to record cultural values of rock-holes, discuss management options and aspirations.

In terms of ecological research methods, the project team undertook field-work and collected, analysed and reported the data in four main areas:

1. Plant species, including culturally important plants e.g. food, medicine and artefacts.

2. Ecosystem values (baseline qualitative data giving a site overview and identification of key aquatic refuges) and ecosystem threats (identification of any feral or domestic animal impacts).
3. Condition assessment based on vegetation attributes of spatial integrity, nativeness, structure integrity, age structure and debris.
4. Using information from 1,2 and 3 to determine the sites restoration potential, investment priority and joint (cultural and ecological) management recommendations

Desktop research and analysis was also undertaken prior to, and following the fieldwork. This included some historical research and spatial analysis to identify potential rock-hole locations. In addition, the project team liaised with the region's pastoralists to share the project objectives, negotiate access to lease areas and arrange times to meet and discuss ways forward for the project.

The fieldwork for the project initially focussed on Wilgena pastoral station in the north west of the Gawler Ranges native title claim area, and has since expanded to other pastoral stations across the Gawler Ranges native title claim area (see Table 1). Selection of rock-holes for the survey was dependent on vehicle accessibility to enable elders to visit the sites.



Figure 1. Tandaie Rock-hole on Thurlga Station.

Table 1. Rock-holes visited on stations in the Gawler Ranges in April and June 2009 and April and June 2010

Pastoral Lease	Site	Date(s) Visited
Kokatha	Blue Dam	April 2009 only
Kokatha	Pilleuta	April, June 2009 & April 2010
Koweridda	Yarunda	April 2010
Moonarie	Dingo Hill	April & June 2010
Moonarie	Murnea	April 2010
Thurlga	Tandaie	June 2010
Thurlga	Spring Hill	June 2010
Thurlga	Hudson's	June 2010
Thurlga	Homestead	June 2010
North Well	Meelera	October 2008
North Well	Micklebar	October 2008
North Well	Tomato Camp	April and June 2009
North Well	Tunkillia	April and June 2009
North Well	Arcoordaby	April and June 2009
Wilgena	Bulpara	October 2008 & April and June 2009
Wilgena	Mullina	June 2009 only
Wilgena	Darebin	June 2009 only
Wilgena	Moolkra (clay-pan)	June 2009 only
Wilgena	Pildinga	not found
Yardea	Yardea H/S	June 2010
Yardea	Kulkulla	June 2010
Yardea	Artaming	June 2010

BACKGROUND AND CONTEXT

This section provides the background elements of the project and illustrates key aspects and concepts and introduces the region of the Gawler Ranges. The section brings together the scientific and cultural components of rock-holes to illustrate their significance. The policy and regional context of the project is also presented including native title rights and interests and Aboriginal connection to country and engagement in natural resource management. The section draws on some of the information from previous annual project reports (see Harding & Blesing 2008; White 2008; Jenkin *et al* 2009).

What are rock-holes?

A rock-hole is typically referred to as a gnamma, which are holes/pools that contain water and are commonly found in granite outcrops especially on the top of granite domes (inselbergs) across Australia. The word 'gnamma' is of Aboriginal origin and comes from the Western Desert group of languages that are spoken over a large proportion of the arid areas that extend from South Australia into the Northern Territory and Western Australia (Bayley 1997; Bindon 1997).

The Aboriginal people involved with this project did not use the term 'gnamma' and prefer to use the word 'rock-hole'. The term gnamma may be used in this report when citing other people's work who use this term in the Australian scientific community including Bayly (1997, 1999), Bindon (1997), Campbell (1997) and Timms (2006).

Bayly (1999) groups' gnammas into two basic forms: pits and pans and describes them as follows:

- Pit-gnammas are typically hemispherical in shape and sub-circular in outline with a large depth to surface area ratio and often contain water for extended monthly periods (Figure).
- Pan-gnammas have flat floors and sloping sidewalls with a small depth to surface area ratio and often contain water for a limited time of weeks rather than months (Figure). Pan-gnammas are highly irregular in outline and it is common for one pan-gnamma to grow into another.

Both types of rock-hole occur on the upper surfaces of inselbergs where the inclination is less than 20 degrees (Bayly, 1999) indicating a threshold for rock-hole formation.

Soaks are associated with granite outcrops and are the zone where run-off from rainfall occurs. Due to the aridity of the Gawler Range climate, rather than using the term 'soak' which describes these features in higher rainfall areas; these features will be referred to as fringe pools (Figure).



Figure 2 An example of a pit rock-hole (right), a pan rock-hole (bottom left) and a fringe pool (top left) in the Gawler Ranges

Aboriginal people, early white explorers (Harvey Johnston, 1941; Bindon, 1997) and scientists (Bayly 1999, Pinder 2000, Bayly, 2001; Timms, 2006) concur that rock-holes are filled by localised rainfall events, whereby the sub-catchment (rock-face) funnels water into the holes and depressions. The duration of water in the rock-holes is dependent upon a number of factors including; rainfall frequency, sub-catchment area, evaporation rate, size and depth of the hole.

Significance and Values of Rock-holes

Rock-holes have a range of ecological, cultural and socio-economic values. This section outlines the scientific (western), cultural and historic and productive values and significance of rock-holes.

Scientific Significance of Rock-holes

Scientifically, rock-holes have received only sparse and scattered attention in relation to their aquatic flora and fauna inhabitants, though on a world scale the best studied rock-pools include those studied in Western Australia (Jocque et al, 2010). Of animals species found in rock-holes, the Australian continent has the highest number of species recorded. At roughly around 200 this is probably reflective of the study effort when compared to other continents (Jocque et al, 2010). That being said, the scientific study of rock-holes in arid areas of Australia is still very limited with no prior studies conducted within the vicinity of the Gawler Ranges. The closest studied rock-holes are located further south on the Eyre Peninsula, near Wudinna and Minnipa (Timms, 2006), and in the Northern Territory, near Papunya and Uluru (Bayly, 2001; Timms, 2006).

Coping with variable climatic conditions is the most significant survival strategy faced by granite outcrop plants and aquatic invertebrates. Few organisms can tolerate the harsh rock surface environment and they tend to be occupied by crusts of lichens, though outcrops in higher rainfall areas often have extensive moss swards (Hopper et al, 1997; Bayly, 1999). In heavier rainfall areas such as the southwest of Western Australia, up to 200 plant species have been recorded in some rock outcrops, including many endemics. Species richness and local endemism were found to decline with increasing aridity (Hopper et al, 1997).

Plants associated with granite outcrops are not largely recorded for South Australia except for a few plants listed in Bayly (1997). This project provided a unique opportunity to not only survey the plants at rocky outcrops but to record traditional knowledge of plants associated with these landscape features. One plant of significance is the granite mudwort (*Limosella granitica*) which is recorded as restricted to granite outcrops across the southern Gawler Ranges region of the Eyre Peninsula in South Australia. Granite Mudwort is listed as a vulnerable species and is nationally protected under the *Environment Protection and Biodiversity Conservation Act* (1999). There are five recorded sub-populations thought to contain approximately 500 individual plants in the region. This project has identified additional sites outside of the recorded range adding to the knowledge of this vulnerable plant species. A

more detailed literature review for this project on plants associated with rock-holes can be found in the annual report produced for this project in White (2008), while the outcomes of plant surveys from 2009 – 2010 field-trips are detailed in White et al (2011).

A variety of crustaceans of microscopic size and larger macro invertebrates like clam shrimp, fairy shrimp, copepods, cladocerans and ostracods occur in rock-holes shortly after they fill with rain-water (Bayly, 1999; Bayly, 2001) (Figure). These animals feed from detritus, bacteria and algae to rapidly mature and deposit thick-shelled resting eggs that remain in the sediment once the pools dry out. These eggs can endure high temperatures and may lie dormant for several years until heavy rains renew the pools and the life cycle repeats itself. Timms (2006) found two large species of clam shrimps (branchiopods) in pan-gnammas on the Upper Eyre Peninsula and twelve species in Western Australia. Other larger invertebrates like midges, backswimmers, and beetles also inhabit granite rock-pools and prey upon crustaceans; unlike crustaceans they do not produce drought-resistant eggs and will fly to more permanent bodies of water for refuge during the drying of a rock-hole. The occurrence of tadpoles at rock-holes will indirectly influence primary productivity and macro invertebrate richness due their presence increasing nutrient availability in a rock pool by their sediment processing habits (Bayly, 1999; Jocqué et al, 2007).

A more detailed literature review for this project on aquatic and terrestrial fauna associated with rock-holes can be found in the annual report produced for this project in White (2008).

Considerations when cleaning rock-holes

Based on the literature review (White, 2008) and consultation with Aboriginal people from the Gawler Ranges, effective management of rock-holes must consider the protection and conservation of aquatic fauna in rock-holes. The project recommends that:

When cleaning sediment from rock-holes it is recommended that soil from the top and bottom layers be put to the side, then once the rest of the soil is removed, the soil that was put to the side should be put back into the rock-hole so any dormant aquatic flora seeds and fauna eggs will be there to germinate and hatch when the next rainfall inundates the rock-hole.



Figure 3. Two types of macro invertebrate crustaceans of Branchiopods, fairy shrimp (left) and clam shrimp (right) that may occur in rock-holes

Cultural Significance of Rock-holes

Water in the arid Australian landscape has played a significant role in Aboriginal settlement and occupation. Consequently, the knowledge and careful management of these resources has been and continues to be vital to Aboriginal occupation within these areas.

Aboriginal law assigns direct responsibility to look after water sources, adhere to protocols and pass on knowledge through song and narrative. Certain water supplies have deep cultural and ceremonial significance and are often associated with Aboriginal law or *Tjukurrpa*. For Aboriginal people across Australia, granite outcrops where rock-holes exist not only provided a crucial water supply in the arid areas but also facilitated access to a wide range of resources such as medicinally important plants, bush tucker, tool implements and hunting areas for animals that also used the rock-holes as a water source (Bindon, 1997). Further details on the dynamic relationship held by Aboriginal people with land and water is outlined below and also in the annual project report Jenkin *et al* (2009).

Accordingly, Aboriginal routes were largely governed by the occurrence and distribution of rock-holes with tracks radiating out from them in many regions. The topography and water supplies in the western portion of South Australia determined the direction and position of Aboriginal routes (Harvey Johnston, 1941). Rock-holes were also a reliable source of water lasting for some months and were used to allow Aboriginal travel between ephemeral sources utilising game and plants responding to local rainfall.

Historic and Productive Value of Rock-holes

In South Australia, Edward John Eyre named the region as the Gawler Ranges in 1839. On his journey, Eyre procured water from rock-holes that had recently filled from rain but were fast evaporating. Due to his expedition not finding any permanent sources of water, further European exploration into this area did not occur again until 1857 (Robinson et al, 1988). The 1857 expedition of Stephen Hack reported first-rate salt-bush country with wide green well grassed valleys. However, Major Warburton's report in 1858 on the value of the land was not as glowing as he pointed out that the water supply was sourced solely on a few rock-holes "whose content may supply twenty to thirty natives visiting the area once or twice a year, but would be inadequate for even a hundred head of cattle" (Robinson et al, 1988). This statement by Warburton further acknowledges the value of rock-holes for Aboriginal peoples as a water source.

Despite the lack of surface waters in the Gawler Ranges, most pastoral leases were taken up in the early 1860s. Yardea station was one of the first and the importance of water soon became apparent when the Yardea rock-holes became dry and horses had to be taken 10 miles to be watered at Conical Hill. The first wells subsequently started being sunk in 1864 to secure more permanent and reliable water resources for pastoralism.

The European settlers in the Gawler Ranges did, however, continue to recognise the value of the granite domes as water collection areas. This is evidenced by a number of 'improvements' with cemented stones walls around the base of granite domes and rock-holes to direct water run-off into a larger collection point to increase water storage at a site (Figure).

Camels accessing water from rock-holes in the Gawler Ranges most likely started after 1879 when Afghan camel teams were first used west of Port Augusta (Robinson et al, 1988). Camel teams replaced bullocks for hauling fencing, well-sinking and wood-carting materials and it was locally known that they used the rock-holes for water in a similar fashion as they did along the camel pad supply route from Fowlers Bay to Coward Springs. Camel teams were also used in carting railway sleepers when the train line was first established in the Tarcoola area, again it can be assumed they would have utilised the rock-holes as a water source.

It can be surmised that Aboriginal people, explorers, Afghans and pastoralists all have a connection with and value rock-holes as landscape features important to their culture and heritage.



Figure 4. An example of a stone wall built around the base of a granite outcrop at Mt Wudinna on the Eyre Peninsula to capture rainfall run-off.

Native Title interests in the Gawler Ranges

The project recognises the specific rights and interests and knowledge held by members of the Gawler Ranges claim group with respect to rock-holes and other elements of country. While the project is not connected to the legal processes for the resolution of native title, it is making important contributions to respecting and facilitating the exercise and protection of native title interests through a collaborative and cooperative framework.

The *Native Title Act 1993* (Commonwealth) has provided opportunities for the legal recognition of Indigenous people's rights and interests in country. It has also offered opportunities for native title claim groups to negotiate with other stakeholders in regard to their respective rights and interests, principally through the making of Indigenous Land Use Agreements (ILUAs).

The Gawler Ranges native title claim was filed with the Federal Court in September 1997 (Federal Court: SAD6020/98) on behalf of the Gawler Ranges claimants who identify as Kokatha, Barngarla and Wirangu peoples. The claim area lies wholly within the SAAL NRM Board region and covers over 50,000 sq km to the west of Port

Augusta and north of Wudinna (Figure 5). The claim area includes some 30 pastoral leases and three National Parks.

Over a four year period the Gawler Ranges native title claim group negotiated directly with pastoralists and successfully concluded 24 ILUAs in May 2008 (NNTT 2008: 5). These pastoral ILUAs confirm the Aboriginal access rights under Section 47 of the *Pastoral Land Management and Conservation Act 1989*. The agreements also importantly establish relationships and protocols for access and the protection of Aboriginal heritage as well as the ongoing nature of pastoral operations. This project builds on the foundation established by the negotiations and the ILUAs, to enhance understandings and working relationships between the Gawler Ranges native title claim group and pastoralists in jointly caring for country.

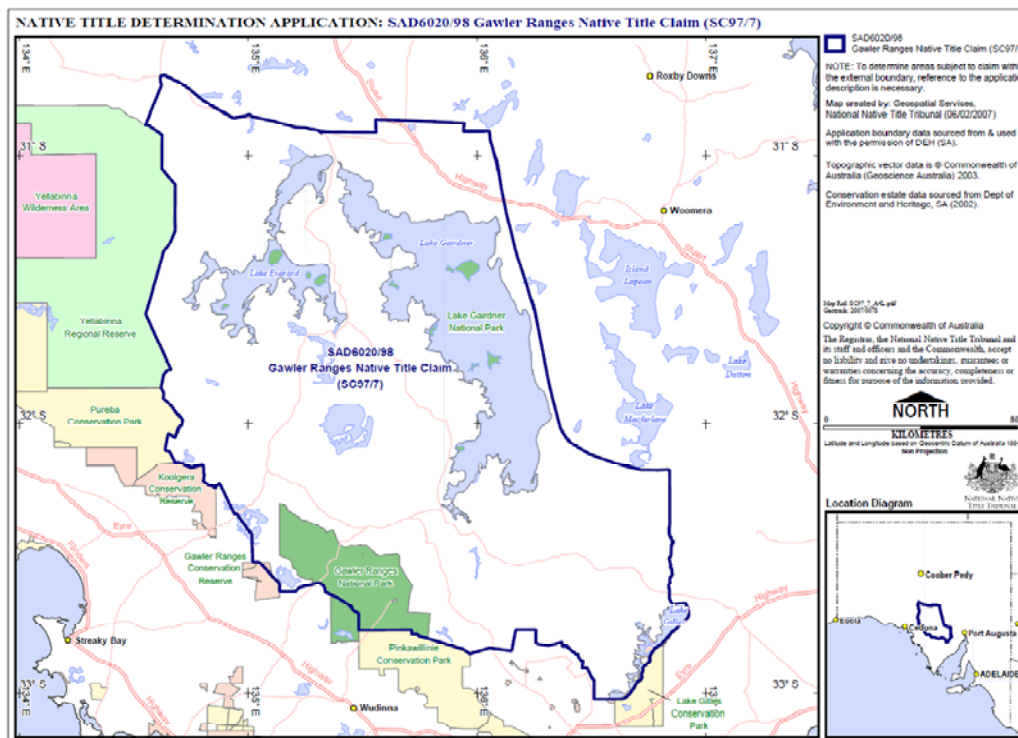


Figure 5. Gawler Ranges Native Title Claim Area including reserves under the National Parks and Wildlife Act SA (1972) (Copyright NNTT)

LAND, WATER AND INDIGENOUS PEOPLES

The land is a sacred entity, not property or real estate; it is the great mother of all humanity. (Graham 2008: 181)

Indigenous Australians have strong connections to the environment, to 'country'. According to Rose (1996: 8) country is multi-dimensional and "consists of people, animals, plants, dreamings, underground, earth, soils, minerals and waters, surface water and air". Country is all encompassing: "There is sea country and land country; in some areas people talk about sky country. Country has origins and a future; it exists both in and through time" (Rose 1996: 8). Traditional lands were sustaining, not only providing the materials for survival, subsistence and development, but also being elemental to cultural beliefs and customs. Aboriginal law and creation or 'dreaming stories' assert and communicate connections between Aboriginal people, culture and country (Graham 2008; Gould 1969). As Graham explains:

Stories are like our archives, detailing how Creator Beings from under the earth arose to shape the land and to create the landscape. There are myriad variations of the story, but the theme stays the same. (Graham 2008: 182).

Aboriginal people believe in custodianship of the land rather than western notions of ownership, and hold a non-human centred, holistic view of the cosmos that incorporates a strong land and water ethic (Graham 2008; Weir 2008; Rose 1988, 2004).

Water is "a sacred and elemental source of life" (Langton 2002: 43) for Indigenous Australians. Water features and sources (rock-holes, soaks, wells, rivers, claypans and springs) form important elements of the cultural and sacred landscapes (Rose 1996). The knowledge and careful management of scarce water resources in arid Australia was central to Aboriginal occupation.

Looking after water sources in accordance with Aboriginal law and custom is an important responsibility, which requires traditional knowledge and authority. Aboriginal water knowledge is passed on through law, dreamings and associated customs and maybe expressed in song and dance (Toyne *et al.* 1996). Long sequences of named waterholes are often 'recorded' in song and story and 'mapped' as part of a complex cultural and ecological knowledge system (Cane 2002; Gould

1969). It is this knowledge and the practice of Aboriginal laws and customs which this project aims to facilitate and support with respect to the management of rock-holes in the Gawler Ranges.

Indigenous peoples and water resources planning and policy

Approaches to water planning, development and management have largely proceeded with little regard to Aboriginal people's knowledge of water places or their rights and interests in the 'resource'. When the Intergovernmental Agreement on a National Water Initiative (NWI) was signed at the 25 June 2004 Council of Australian Governments meeting, this represented a substantial policy change with recognition given to the "the special character of Indigenous interests in water"(Jackson & Morrison 2007: 23).

Under the NWI, all state and territories committed to:

- include indigenous representation in water planning;
- incorporate indigenous social, spiritual and customary objectives and strategies;
- take account of the possible existence of native title rights to water.

Under the NWI there should be Indigenous representation in water planning with incorporation of Indigenous social, spiritual and customary objectives and strategies for achieving these objectives. Governments are now in the early stages of implementing the NWI objectives and "formally recognising Aboriginal relationships with water for spiritual, cultural and economic purposes" (Simpson, 2008).

To date, the implementation of the NWI has had mixed success in terms of improved Indigenous participation in water planning and increased access to water resources (Calma 2009; Jackson 2009; Jackson & Morrison 2007). The recent assessment of the implementation of the NWI found:

It is rare for Indigenous water requirements to be explicitly included in water plans, and most jurisdictions are not yet engaging Indigenous people effectively in water planning processes. The Commission notes that Indigenous groups are, at their own initiative, currently developing the capacity to participate more fully in water planning processes.

(National Water Commission 2009: 27)

In South Australia, the NRM Boards engage with relevant Indigenous communities in developing water allocation plans with the manual *Engaging South Australian*

Aboriginal Communities in NRM (DWLBC 2008) providing guidance to NRM officers (National Water Commission 2009: 26). However, there remains no statutory requirement for Indigenous participation in planning and no mechanisms to allocate water specifically to Indigenous purposes (Jackson 2009: 41). It is understood that the State government is considering further policy responses to the Indigenous requirements of the NWI.

Aboriginal Engagement in NRM

Over the last 20 years, there has been an increasing involvement of Aboriginal people in environmental management projects. This has mirrored a growing appreciation of the environmental knowledge held by Aboriginal people and the associated sustainable management approaches that have been practiced for thousands of years (Northern Land Council 2006; Baker *et al.* 2001a; Davies *et al.* 1999). These projects often are undertaken in partnerships, bringing together Indigenous peoples with scientists and other western experts in a two-way learning process.

Indigenous employment is increasingly seen as an important aspect of such projects being a key aspiration for Indigenous groups and also a key building block for sustainability (including through the support of the Commonwealth's Working on Country program). The success of such projects and programs are characterised by an evolving inter-cultural relationship being developed.

PROJECT COMMUNICATION

The project had a steering committee with representatives from each stakeholder group with additional members from the Pastoral Board and Aboriginal Affairs and Reconciliation Division. The committee assisted with project direction, resolved any issues and used its members to communicate project updates and findings back to each of the stakeholder groups.

A detailed review for how this project engaged with the Aboriginal community can be found in the annual report produced for this project in Jenkin *et al* (2009). The following section summaries some key points from that review and also draws upon communication within the project team.

Aboriginal engagement, participation and collaboration

This project was founded on Aboriginal engagement and participation. A comprehensive manual or guide to Aboriginal engagement has been well covered in other sources, perhaps most comprehensively in the publication *Engaging South Australian Aboriginal Communities in Natural Resources Management — A Practical Resource Manual* (DWLBC, 2008). More specific aspects of engagement have also been subject to considerable community research including the *Desert Knowledge CRC Protocol for Aboriginal Knowledge and Intellectual Property* (Calma, 2009) and the Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) *Guidelines for Ethical Research in Indigenous Studies* (AIATSIS 2000). The NRM manual on engagement talks of five levels of engagement with information sharing, consultation, involvement, collaboration and partnerships (DWLBC 2008: 64). As a partnership, this project adhered to all five levels of engagement.

Principles and Practices for Aboriginal engagement and participation

In this project, we adhered to a principle based approach to engagement. That is, seeking to adhere to a number of principles from which follow various engagement processes, practices and initiatives. In presenting the following summary of some of the principles and practices that underpinned the delivery of this project, it is not to say that all aspects of engagement were as successful as they might have been. The full report on principles of engagement from this project can be found in the annual report (Jenkin *et al* 2009) and are summarised below.

Some Principles for Engagement

It is important that Aboriginal people are involved early and in all aspects of the project including scoping, planning, development, and implementation and reporting.

Other principles underpinning research and project partnerships must provide for:

- Informed consent.
- Open, transparent and appropriate communication.
- Shared understandings.
- Mutual recognition, respect and support.
- Relationship building.
- Cooperation and collaboration to achieve shared goals, fulfil shared responsibilities and deliver mutually beneficial outcomes.

Putting Principles into Practice

Some of the key steps taken in engaging with the Gawler Ranges native title claim group through this project are summarised from Jenkin et al (2009) below:

- Engaging with the right people
 - A management committee was elected by the broader Gawler Ranges community and was authorised to make various decisions on behalf of the community.
- Developing the project
 - Spending time building relationships and understandings between project team and NTMC members.
 - Developing clear and appropriate communication material
 - Listening, learning and actioning.
 - Respecting decision-making processes of the members and committee including in relation to timing and authority of some members.
- Agreeing on participation
 - Gender (a gender mix was identified to give cultural separation in knowledge, authority and responsibilities).
 - Cultural knowledge (involving certain elders and senior people with specific knowledge).
 - Representation (different family or language group members needing to be represented).
 - Age (e.g., the need for younger people to be involved to look after elders and also to learn from elders).
- Out in the field
 - Knowledge not being able to always be shared with all Aboriginal people, or all members of the project team.

- Knowledge of particular places (etc) varying between Aboriginal participants and the right to speak for country being potentially only held by certain members.
- The existence of cultural protocols for visiting some places with respect to gender and/or cultural knowledge and status.
- Recognising when knowledge is shared in the field but is to remain confidential and not reported on as part of the project.
- The existence of cultural protocols around the taking of samples (e.g. plant specimens) and taking of photographs.
- The demands of field work in remote locations particularly for Aboriginal elders.
- Reporting on the Project
 - Report writing has been done by the project team (SANTS and DFW), a preferred process would've been to undertake a collaborative writing process with selected members of the Gawler Ranges.
- What next
 - Addressing and/or managing expectations of the Aboriginal community
 - The expectations of the project were discussed during the collaborative development of the project through open and honest communication.
 - The limitations of what the project could deliver were also discussed.
 - If expectations are not able to be met it is important to make this known to Aboriginal project partners.

Community engagement, participation and collaboration

Firstly it was important that the project team members had cultural awareness, maintained open communications and was reflexive to ensure that project and field work was conducted in a respectful manner. In terms of field communications, this involved group debriefing sessions and also discrete conversations with some members to ensure protocols (etc) were followed and any issues were addressed wherever possible.

Pastoral engagement was done mostly via telephone conversations or emails, and when out on country the team would try to meet face to face with the pastoralists and explain the project in more detail. Prior to attending field trips the pastoralists were contacted to confirm access to the lease and discuss rock-hole locations. Pastoralists at times assisted the project team in identifying sites and joining the team for the day to share pastoral history and build relationships. During the field trip pastoral history was also recorded whilst at the sites or during general conversations.

A management workshop was also held in regards to gathering information from pastoralists for the Management Plan, and then a draft copy was sent out to all pastoralists within the Gawler Ranges region for comment.

PROJECT OUTCOMES

The Gawler Ranges Native Title Management Committee (GRNTCMC) members have been vital players in the establishment and delivery of this project. It was the aspirations of some of the members which prompted a partnership approach to assessing rock-holes and identifying cultural and ecological management options. Through a successful partnership with the SAAL NRM Board, SANTS, GRNTMC and DFW, this project has grown to offer a cooperative framework for the cultural and ecological assessment and management of rock-holes in the Gawler Ranges claim area. In doing so it meets the compatible but often different objectives of the project partners including Aboriginal people of the Gawler Ranges who want to get out on country and care for important places and maintain cultural knowledge.

From 2008 to 2010, the project team visited 21 sites across seven pastoral leases (Wilgena, North Well, Kokatha, Moonaree, Yardea, Koweridda, Thurlga) (Table 1). Overall, from participation in the field trips, this saw 17 Aboriginal people from the Gawler Ranges community attend field trips and reconnect to traditional sites and country. The collective cultural and ecological site assessments from the field trips are presented elsewhere in White et al (2011). The project has to date delivered a number of outcomes and findings including:

- Engagement of Aboriginal people in the delivery of NRM projects and outcomes, including through the application of traditional and cultural knowledge;
- Mapping and ecological and cultural assessment of 20 rock-holes;
- Recording of cultural and ecological information and values of rock-holes and associated landscapes with improved understandings of these places;
- Development of positive relationships between Gawler Ranges native title claimants, DfW, SANTS and SAAL NRM Board;
- Continued support from pastoralists for the project with (limited) recording of pastoral knowledge and values of rock-holes;
- Identification/confirmation of important principles, protocols and practices for engaging Aboriginal people in NRM projects and outcomes;
- Development of cultural and ecological land management strategy;
- Development of cultural and ecological database with training provided to members of Gawler Ranges native title claim groups.

An aspect that was underestimated during the initiation of the project was the importance of communication. The project had originally scoped steering committee meetings, field trips and annual reports as a means of communicating the projects

direction and accomplishments to all parties and stakeholders. Other communication tools were also developed during the project which included; scientific presentations at community native title meetings, publishing a brochure, development of a heritage database, and having a community land management workshop. Nevertheless, three years into the project there remains uncertainty amongst some members of both the Aboriginal and pastoral community regarding the role and delivery of the project. It is recommended for similar projects that have a variety of stakeholders involved that a communication strategy is developed upon project initiation.

This project has developed a methodology for recording the cultural and ecological value of rock-holes, and developed relationships between community and government that would enable the project to be expanded over the entire region. At the time of writing this report, the Gawler Ranges native title claim group with the South Australian Native Title Services Ltd had been successful in applying for funding to continue this project. The project will continue to culturally map and scientifically understand and record more about rock-holes in the Gawler Ranges to enable the development of a collaborative approach that allows for the acceptance, understanding and coexistence of Aboriginal, pastoral, scientific and natural resource management cultures into the future.

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