Indigenous water values, rights and interests in the Flinders and Gilbert catchments

A technical report to the Australian Government from the CSIRO Flinders and Gilbert Agricultural Resource Assessment, part of the North Queensland Irrigated Agriculture Strategy

Marcus Barber[1]

[1]CSIRO Ecosystem Sciences, Brisbane

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The Strategy was guided by two committees:

(i) the **Program Governance Committee**, which included the individuals David Crombie (GRM International), Scott Spencer (SunWater, during the first part of the Strategy) and Paul Woodhouse (Regional Development Australia) as well as representatives from the following organisations: Australian Government Department of Infrastructure and Regional Development; CSIRO; and the Queensland Government.

(ii) the **Program Steering Committee**, which included the individual Jack Lake (Independent Expert) as well as representatives from the following organisations: Australian Government Department of Infrastructure and Regional Development; CSIRO; the Etheridge, Flinders and McKinlay shire councils; Gulf Savannah Development; Mount Isa to Townsville Economic Development Zone; and the Queensland Government

Director's foreword

Northern Australia comprises approximately 20% of Australia's land mass but remains relatively undeveloped. It contributes about 2% to the nation's gross domestic product (GDP) and accommodates around 1% of the total Australian population.

Recent focus on the shortage of water and on climate-based threats to food and fibre production in the nation's south have re-directed attention towards the possible use of northern water resources and the development of the agricultural potential in northern Australia. Broad analyses of northern Australia as a whole have indicated that it is capable of supporting significant additional agricultural and pastoral production, based on more intensive use of its land and water resources.

The same analyses also identified that land and water resources across northern Australia were already being used to support a wide range of highly valued cultural, environmental and economic activities. As a consequence, pursuit of new agricultural development opportunities would inevitably affect existing uses and users of land and water resources.

The Flinders and Gilbert catchments in north Queensland have been identified as potential areas for further agricultural development. The Flinders and Gilbert Agricultural Resource Assessment (the Assessment), of which this report is a part, provides a comprehensive and integrated evaluation of the feasibility, economic viability and sustainability of agricultural development in these two catchments as part of the North Queensland Irrigated Agricultural Strategy. The Assessment seeks to:

- identify and evaluate available soil and water resources
- quantify the productivity and scale of opportunities for irrigated agriculture
- quantify development costs and benefits and their distribution amongst different users.

By this means it seeks to support deliberation and decisions concerning sustainable regional development.

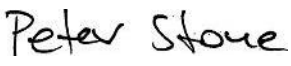
The Assessment differs from previous assessments of agricultural development or resources in two main ways:

- It has sought to 'join the dots'. Where previous assessments have focused on single development activities or assets – without analysing the interactions between them – this Assessment considers the opportunities presented by the simultaneous pursuit of multiple development activities and assets. By this means, the Assessment uses a whole-of-region (rather than an asset-by-asset) approach to consider development.
- The novel methods developed for the Assessment provide a blueprint for rapidly assessing future land and water developments in northern Australia.

Importantly, the Assessment has been designed to lower the barriers to investment in regional development by:

- explicitly addressing local needs and aspirations
- meeting the needs of governments as they regulate the sustainable and equitable management of public resources with due consideration of environmental and cultural issues
- meeting the due diligence requirements of private investors, by addressing questions of profitability and income reliability at a broad scale.

Most importantly, the Assessment does not recommend one development over another. It provides the reader with a range of possibilities and the information to interpret them, consistent with the reader's values and their aspirations for themselves and the region.



Dr Peter Stone, Deputy Director, CSIRO Sustainable Agriculture Flagship

The Flinders and Gilbert Agricultural Resource Assessment team

Project Director	Peter Stone
Project Leaders	Cuan Petheram, Ian Watson
Reporting Team	Heinz Buettikofer, Becky Schmidt, Maryam Ahmad, Simon Gallant, Frances Marston, Greg Rinder, Audrey Wallbrink
Project Support	Ruth Palmer, Daniel Aramini, Michael Kehoe, Scott Podger
Communications	Leane Regan, Claire Bobinskas, Dianne Flett[2], Rebecca Jennings
Data Management	Mick Hartcher

Activities

Agricultural productivity	Tony Webster, Brett Cocks, Jo Gentle[6], Dean Jones, Di Mayberry, Perry Poulton, Stephen Yeates, Ainsleigh Wixon
Aquatic and riparian ecology	Damien Burrows[1], Jon Brodie[1], Barry Butler[1], Cassandra James[1], Colette Thomas[1], Nathan Waltham[1]
Climate	Cuan Petheram, Ang Yang
Instream waterholes	David McJannet, Anne Henderson, Jim Wallace[1]
Flood mapping	Dushmanta Dutta, Fazlul Karim, Steve Marvanek, Cate Ticehurst
Geophysics	Tim Munday, Tania Abdat, Kevin Cahill, Aaron Davis
Groundwater	Ian Jolly, Andrew Taylor, Phil Davies, Glenn Harrington, John Knight, David Rassam
Indigenous water values	Marcus Barber, Fenella Atkinson[5], Michele Bird[2], Susan McIntyre-Tamwoy[5]
Water storage	Cuan Petheram, Geoff Eades[2], John Gallant, Paul Harding[3], Ahrim Lee[3], Sylvia Ng[3], Arthur Read, Lee Rogers, Brad Sherman, Kerrie Tomkins, Sanne Voogt[3]
Irrigation infrastructure	John Hornbuckle
Land suitability	Rebecca Bartley, Daniel Brough[3], Charlie Chen, David Clifford, Angela Esterberg[3], Neil Enderlin[3], Lauren Eyres[3], Mark Glover, Linda Gregory, Mike Grundy, Ben Harms[3], Warren Hicks, Joseph Kemei, Jeremy Manders[3], Keith Moody[3], Dave Morrison[3], Seonaid Philip, Bernie Powell[3], Liz Stower, Mark Sugars[3], Mark Thomas, Seija Tuomi, Reanna Willis[3], Peter R Wilson[2]
River modelling	Linda Holz, Julien Lerat, Chas Egan[3], Matthew Gooda[3], Justin Hughes, Shaun Kim, Alex Loy[3], Jean-Michel Perraud, Geoff Podger

Socio-economics	Lisa Brennan McKellar, Neville Crossman, Onil Banerjee, Rosalind Bark, Andrew Higgins, Luis Laredo, Neil MacLeod, Marta Monjardino, Carmel Pollino, Di Prestwidge, Stuart Whitten, Glyn Wittwer[4]

Note: all contributors are affiliated with CSIRO unless indicated otherwise. Activity Leaders are underlined. [1] TropWATER, James Cook University, [2] Independent consultant, [3] Queensland Government, [4] Monash University, [5] Archaeological Heritage Management Solutions, [6]University of Western Sydney

Shortened forms

AHMS	Archaeological and Heritage Management Solutions
CLCAC	Carpentaria Land Council Aboriginal Corporation
CSIRO	Commonwealth Scientific and Industrial Research Organisation
FGARA	Flinders and Gilbert Agricultural Resource Assessment
GSD	Gulf Savannah Development
GWRP	Gulf Water Resource Plan
ILC	Indigenous Land Corporation
ILUA	Indigenous Land Use Agreement
IWPG	Indigenous Water Policy Group
MITEZ	Mount Isa to Townsville Economic Zone
NAILSMA	North Australian Indigenous Land and Sea Management Alliance
NCRM	Natural and Cultural Resource Management
NGISG	Northern Gulf Indigenous Savannah Group
NGNRM	Northern Gulf Natural Resource Management
NQIAS	North Queensland Irrigated Agriculture Strategy
NRM	Natural Resource Management
NQLC	North Queensland Land Council
ONA	the Australian Government Office of Northern Australia
SGC	Southern Gulf Catchments
SIR	Strategic Indigenous Reserve
SQNTS	South Queensland Native Title Service
TOR	Terms of Reference
TRaCK	Tropical Rivers and Coastal Knowledge Research Hub
UNESCO	United Nations Educational, Cultural and Scientific Organisation

Units

MEASUREMENT UNITS	DESCRIPTION
GL	gigalitres, 1,000,000,000 litres
ML	megalitres, 1,000,000 litres
L	Litres
km	kilometres, 1000 metres
m	Metres

Preface

The Flinders and Gilbert Agricultural Resource Assessment (the Assessment) aims to provide information so that people can answer questions such as the following in the context of their particular circumstances in the Flinders and Gilbert catchments:

- What soil and water resources are available for irrigated agriculture?
- What are the existing ecological systems, industries, infrastructure and values?
- What are the opportunities for irrigation?
- Is irrigated agriculture economically viable?
- How can the sustainability of irrigated agriculture be maximised?

The questions – and the responses to the questions – are highly interdependent and, consequently, so is the research undertaken through this Assessment. While each report may be read as a stand-alone document, the suite of reports must be read as a whole if they are to reliably inform discussion and decision making on regional development.

The Assessment is producing a series of reports:

- Technical reports present scientific work at a level of detail sufficient for technical and scientific experts to reproduce the work. Each of the 12 research activities (outlined below) has a corresponding technical report.
- Each of the two catchment reports (one for each catchment) synthesises key material from the technical reports, providing well-informed but non-scientific readers with the information required to make decisions about the opportunities, costs and benefits associated with irrigated agriculture.
- Two overview reports – one for each catchment – are provided for a general public audience.
- A factsheet provides key findings for both the Flinders and Gilbert catchments for a general public audience.

All of these reports are available online at <http://www.csiro.au/FGARA>. The website provides readers with a communications suite including factsheets, multimedia content, FAQs, reports and links to other related sites, particularly about other research in northern Australia.

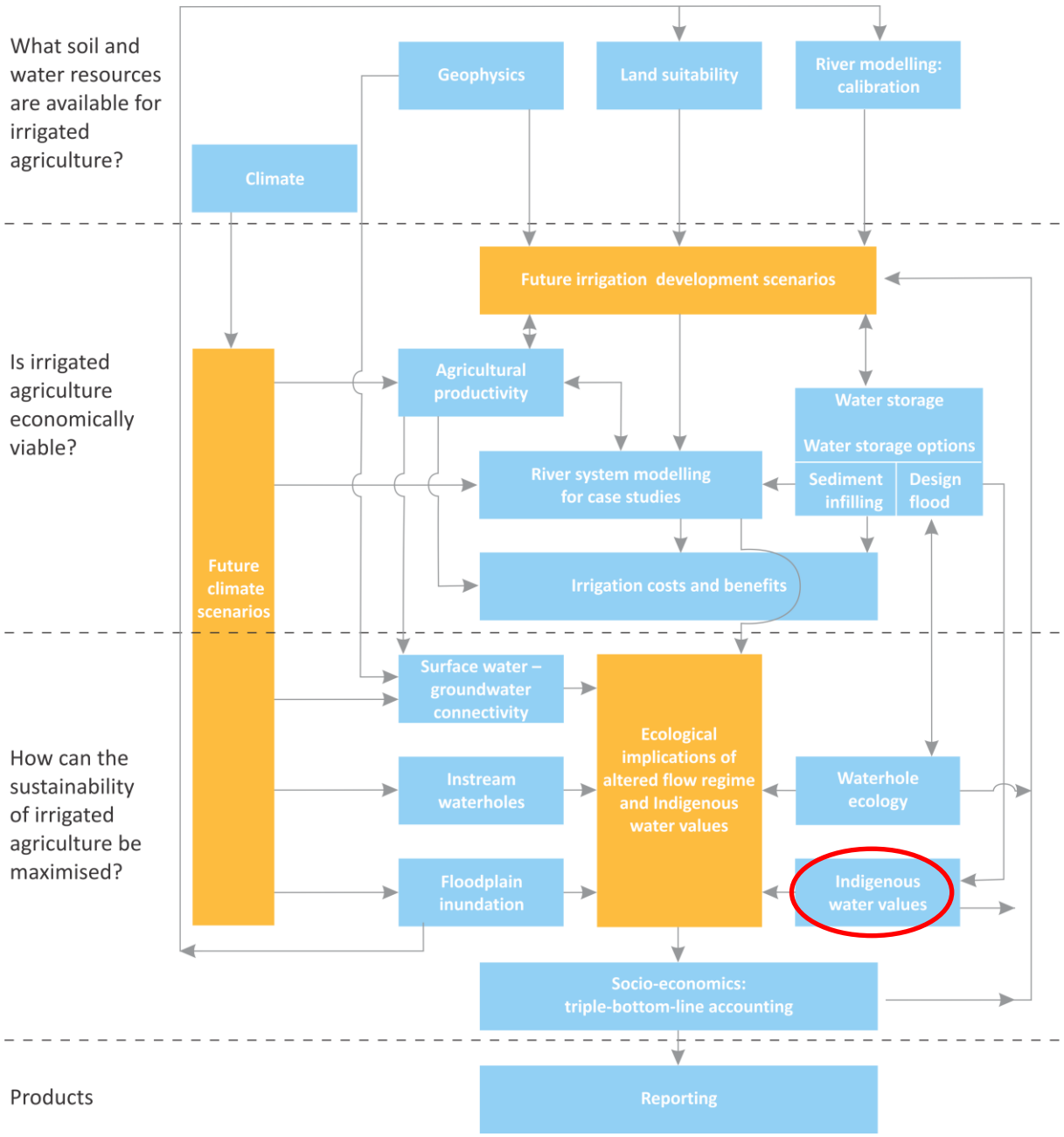
The Assessment is divided into 12 scientific activities, each contributing to a cohesive picture of regional development opportunities, costs and benefits. Preface Figure 1 illustrates the high-level linkages between the 12 activities and the general flow of information in the Assessment. Clicking on an 'activity box' links to the relevant technical report.

The Assessment is designed to inform consideration of development, not to enable particular development activities. As such, the Assessment informs – but does not seek to replace – existing planning processes. Importantly, the Assessment does not assume a given regulatory environment. As regulations can change, this will enable the results to be applied to the widest range of uses for the longest possible time frame. Similarly, the Assessment does not assume a static future, but evaluates three distinct scenarios:

- Scenario A – historical climate and current development
- Scenario B – historical climate and future irrigation development
- Scenario C – future climate and current development.

As the primary interest was in evaluating the scale of the opportunity for irrigated agriculture development under the current climate, the future climate scenario (Scenario C) was secondary in importance to scenarios A and B. This balance is reflected in the allocation of resources throughout the Assessment.

The approaches and techniques used in the Assessment have been designed to enable application elsewhere in northern Australia.



Preface Figure 1 Schematic diagram illustrating high-level linkages between the 12 activities (blue boxes)

This report is a technical report. The red oval in Preface Figure 1 indicates the activity (or activities) that contributed to this report.

The orange boxes indicate information used or produced by several activities. The red oval indicates the activity (or activities) that contributed to this technical report. Click on a box associated with an activity for a link to its technical report (or click on 'Technical reports' on <http://www.csiro.au/FGARA> for a list of links to all technical reports). Note that the Water storage activity has multiple technical reports – in this case the separate reports are listed under the activity title. Note also that these reports will be published throughout 2013, and hyperlinks to currently unpublished reports will produce an 'invalid publication' error in the CSIRO Publication Repository.

Executive summary

This is a report from the Indigenous water values, rights and interests component of the Flinders and Gilbert Agricultural Resource Assessment (the Assessment). The Assessment examined possibilities for water and agricultural development in the catchments of the Flinders and Gilbert Rivers in North Queensland. As part of the Assessment, CSIRO staff undertook scoping research to investigate Indigenous water values, rights and interests in the catchments, Indigenous perspectives on natural resource development generally, and local Indigenous development opportunities and aspirations. The goal was to address the existing information needs with respect to Indigenous water issues in these specific catchments to provide foundations for further community and government planning and decision making.

Based on the Terms of Reference (TOR), the Assessment focused on highlighting key conceptual issues and principles with respect to Indigenous people, as well as generating a representative set of Indigenous water values, rights and interests. The Assessment focused on data gathering and individual consultations, and so did not attempt to conduct community-based planning or to identify formal Indigenous group positions on any of the matters raised. However it does provide firm foundations for such processes to occur in the future. The Assessment also contributes significant additional material to the relatively small amount which currently exists about Indigenous perspectives on agricultural development. Summaries of the material in this report are included in the summary reports of the entire Assessment focused on each individual catchment.

The research approach was adopted partly due to the geographic context, scope, and timeframe of the Assessment. The Flinders and Gilbert catchments are characterised by large geographic scale, poor existing documentation of Indigenous people and interests, and a dispersed Indigenous population. There are also significant variations in:

- residential patterns
- the existence, location, and stability of local Indigenous group corporations
- land council representation
- native title status
- Indigenous catchment management structure.

At project commencement, the development options associated with the NQIAS were also geographically unspecified and of significant interest to downstream groups. These conditions made a catchment-scale scoping approach important to pursue.

The report contains 7 Chapters and 4 Appendices. To frame the study, the introduction describes some key concepts and principles as they relate to Indigenous Australians. These include ‘culture’, ‘country’, ‘values, rights and interests’, ‘engagement’, ‘stakeholder’ and Indigenous understandings of ‘development’. Particularly important to note is the way that ‘values, rights and interests’ encompasses both formally recognised rights but also a broader range of attributes that are important to Indigenous people. The diverse potential meanings of ‘engagement’ (ranging from consultation to participation to control) are also significant, as mismatches in interpretation of that term can substantially affect the outcomes of attempts to engage. The issues of culture and country, of the meaning of engagement, of water planning, and of the pathways to sustainable development provided in Chapter 1 form the main contextual frame for this study.

The study was primarily based on face to face interviews with senior members of the major contemporary Indigenous groups in the respective catchments. These were supported by further information from the relevant literature. The groups are the Ewamian, Tagalaka, and Kurtijar people in the Gilbert catchment, and the Yirendali, Wanamara, Mitakoodi, Kalkadoon and Gkuthaarn and Kukatj people of the Flinders catchment. Indigenous people have lived in Australia for many thousands of years, developing strong connections to important places and significant knowledge of the wider landscape. The violence and dispossession that occurred during European colonisation had deep and ongoing effects on both individual

Indigenous people and the cultures and societies they were part of. Areas within both catchments remain relatively under-populated by Indigenous people because of this history. Nevertheless Indigenous people and the groups they belong to have a range of landholdings, native title applications and determinations, and land use agreements across the two catchments, and more are in progress.

These holdings are an important focus for discussions about water and about sustainable development in the catchments. Indigenous aspirations combine economic viability and sustainability with a range of wider social, cultural and environmental goals – care for the country, respect for the knowledge and authority of elders, collective governance arrangements, meaningful employment for young people, etc. As a group, Indigenous people are socially and economically disadvantaged, but also custodians of ancient landscapes. Therefore short to medium term social and economic needs must be balanced with long term cultural, historical, and religious responsibilities to ancestral lands. Indigenous people also have clear preferences about the processes adopted to achieve development, as well as about the types of development desired. Particular developments are judged based on a range of criteria in addition to economic viability. These include the timing and level of Indigenous consultation, Indigenous roles in project oversight and governance, opportunities for Indigenous participation and partnership, and social and environmental impacts.

Key principles and issues emerging from the interviews include local histories and memories of the past, Dreaming beliefs, hunting and fishing, the importance of recognition and ownership (including native title), group boundaries, and access to traditional lands. Particular obligations to past and future generations to care for the country properly are identified, and these are complemented by spatial responsibilities to near neighbours and downstream groups. In terms of conservation and land management, the role of Indigenous knowledge in effective management and the growing significance of Indigenous ranger programs are important issues. Ranger programs are a key focus for Indigenous employment and development aspirations. Principles of Indigenous ownership relevant to non-Indigenous activities on Indigenous lands are also considered and summarised here under the headings of consultation, compliance, and compensation.

The overall importance of water is demonstrated by clear statements regarding its significance from research participants across both catchments. Despite this, the Gulf water resource plan had very limited Indigenous consultation and therefore Indigenous knowledge of water planning in the area is relatively limited. Key water issues for Indigenous Australians include:

- ensuring enough water to maintain healthy landscapes (environmental flows)
- access to water sites
- maintaining adequate supplies for human consumption
- securing sufficient water reserves for current and future economic activity
- deriving benefits from water development and water use

Appendix A contains a report identifying protections afforded to Indigenous people with respect to water planning, legal and policy issues (Jackson and Tan, 2013). Governments have committed to including Indigenous representation in water planning and to accommodating customary objectives and native title requirements. However progress in water planning implementation has been slow, and implementation is crucial to Indigenous aspirations and participation in ongoing development initiatives.

In terms of water development, major Indigenous concerns identified in this study include the impacts of water extraction, dam scale and location, dam failure, inundation, effects on animals, the consequences of intensified land use (weeds, erosion, water quality, chemicals, salinity, etc.), and cumulative impacts from other industries. Indigenous people are particularly vulnerable to negative impacts, affecting Indigenous estimations of the risks associated with development. In terms of preferences for water development, the general trend from most to least favourable was:

1) flood harvesting to supply smaller, off-stream storages
2) bore and groundwater extraction
3) smaller in-stream dams constructed in side tributaries or branches which did not restrict all of the river flow

4) large in-stream dams in major river channels.

Developments which provide amenity and recreational opportunities in locations which are geographically accessible to Indigenous people without vehicle transport were also favoured.

The report identifies cultural heritage as a significant issue. Key aspects from the interviews are the ongoing damage to known existing sites and the information needs with respect to the heritage values of traditional lands now potentially subject to development proposals. Tenure and residential changes have made some areas inaccessible for long periods, and the lack of knowledge is hampering Indigenous capacities to respond to the development options being canvassed. Appendix B contains a report (McIntyre-Tamwoy et al., 2013) which identifies that riverine and aquatic areas are strongly correlated with cultural heritage sites, and the areas of development interest in both the Flinders and Gilbert catchments are likely to contain important cultural heritage. The report concludes that further information is required via:

- a catchment/regional thematic history that identifies significant themes and contact and post-contact places of importance
- a comprehensive survey of proposed storage/development areas in partnership with the relevant Aboriginal community and/or Aboriginal Cultural Heritage Body
- detailed disturbance mapping using GIS techniques, so as to refine predictive models.

At the catchment scale, Indigenous management plans and aspirations are clearly articulated for the Gilbert catchment and surrounding region through the work of the Northern Gulf Indigenous Savannah Group (NGISG). These include care for the country, access, revival of cultural knowledge and traditions, partnerships, and policy development and implementation. In the Flinders catchment, there is no separate catchment-level Indigenous planning and consultation entity such as NGISG. However Southern Gulf Catchments (SGC) is currently reviewing their Indigenous catchment management arrangements with a view to establishing a more permanent catchment-scale consultation structure.

With respect to Indigenous development plans and aspirations, wider natural and cultural resource development principles and aspirations were formally articulated at a recent Indigenous development forum in Kakadu (NAILSMA, 2013). The forum emphasised: respecting local traditional owners as the primary decision makers about local partnerships; ensuring local benefits through the creation of shared benefit agreements; value-adding to existing activities; and economic diversification for greater long term sustainability. Many of these principles are directly applicable to the Flinders and Gilbert catchments, and from the research results, three primary interrelated development goals are identified:

- greater ownership of and/or management control over traditional lands
- the retention of Indigenous people in the region and the resettlement by Indigenous traditional owners of their country in the upper catchments
- improvements in the overall social and economic status of Indigenous people

The key issues affecting the sustainable and significant resettlement of the catchments include: the social, economic and institutional investment in existing residential locations; land ownership and local recognition in the catchments; employment and training opportunities; intergenerational skill sharing and relocation adjustment issues for younger people; and access to social services. There are clear relationships between land ownership, retention/resettlement aspirations, and business development possibilities. Land ownership in towns can be useful, but it is rural land ownership that appears to be particularly important in creating desirable conditions for resettlement amongst the research participants interviewed. Work in natural and cultural resource management (NCRM) is particularly valued and Indigenous ranger programs can play a crucial incentivising role, as well as a significant role in regional coordination. The creation and sustainable funding of such programs is a high priority for individuals from groups across the catchments.

Data analysis from the Assessment highlights the importance of group or community-based planning processes to future progress. These will assist Indigenous people in prioritising desirable options for their own natural and cultural resource management and development. It will also assist in further interactions and negotiations with government and developers. Such planning can reduce transaction costs on both sides and increase the chance for Indigenous people to benefit from externally-generated economic and business development. In terms of water issues, this kind of process can incorporate:

- generating formal statements of water values and priorities
- training in water planning
- catchment management and strategic coordination
- awareness raising and further specification of cultural heritage and native title rights
- preferences and options for water development.

In relation to wider development, group or community-based planning can assist communities to prioritise options for development. These options can include initiatives such as establishing or improving residence on traditional lands, establishing or strengthening local corporations, establishing Indigenous ranger programs, acquiring rural landholdings, establishing stand-alone Indigenous businesses, building partnerships with non-Indigenous businesses, and focusing on employment and training outcomes. All of these were aspirations which emerged during the research, but which different groups may prioritise in different ways.

There is strong ongoing interest from all levels of government in establishing appropriate foundations for sustainable economic development, particularly in rural and regional areas. Indigenous people desire to participate in sustainable economic activity in rural northern Australia. A range of private interests underpinned by government endorsement, enablement, and strategic investment is the most likely outcome in the Flinders and Gilbert , indicating the significance of engaging across sectors. Indigenous people wish to protect the long term health of their traditional lands and the resources, cultural heritage, and ecosystems they contain. Indigenous people can also act as a substantial enabler of appropriate development, and have a range of existing plans and aspirations regarding resettlement and retention, business development and employment, land ownership, and natural and cultural resource management.

Preface Figure 2 Einasleigh River near the Gulf Development Road, Gilbert catchment

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1 Introduction

1.1 Terms of Reference and research context of the Assessment

1.1.1 THE ASSESSMENT

This report is the output of one component of the Flinders and Gilbert Agricultural Resource Assessment (the Assessment). The Assessment was overseen and undertaken by the CSIRO as part of the North Queensland Irrigated Agriculture Strategy (NQIAS). NQIAS is an initiative funded by the Federal government Office of Northern Australia (ONA) and the Queensland government. The NQIAS examines possibilities for water and agricultural development in the catchments of the Flinders and Gilbert Rivers in North Queensland (Figure 1.1). The Assessment was a scoping study that identifies constraints and opportunities with respect to possible water and agricultural development and to lower the barriers to further investment. It involved investigation into issues such as soil and water resources, water storage options, viable crops, environmental impacts, economic and demographic issues, and Indigenous values, rights and interests. This report provides a broad, catchment-scale survey of the relationship between Indigenous people and water, as well as material focused specifically on water and agricultural development issues, impacts, and aspirations.

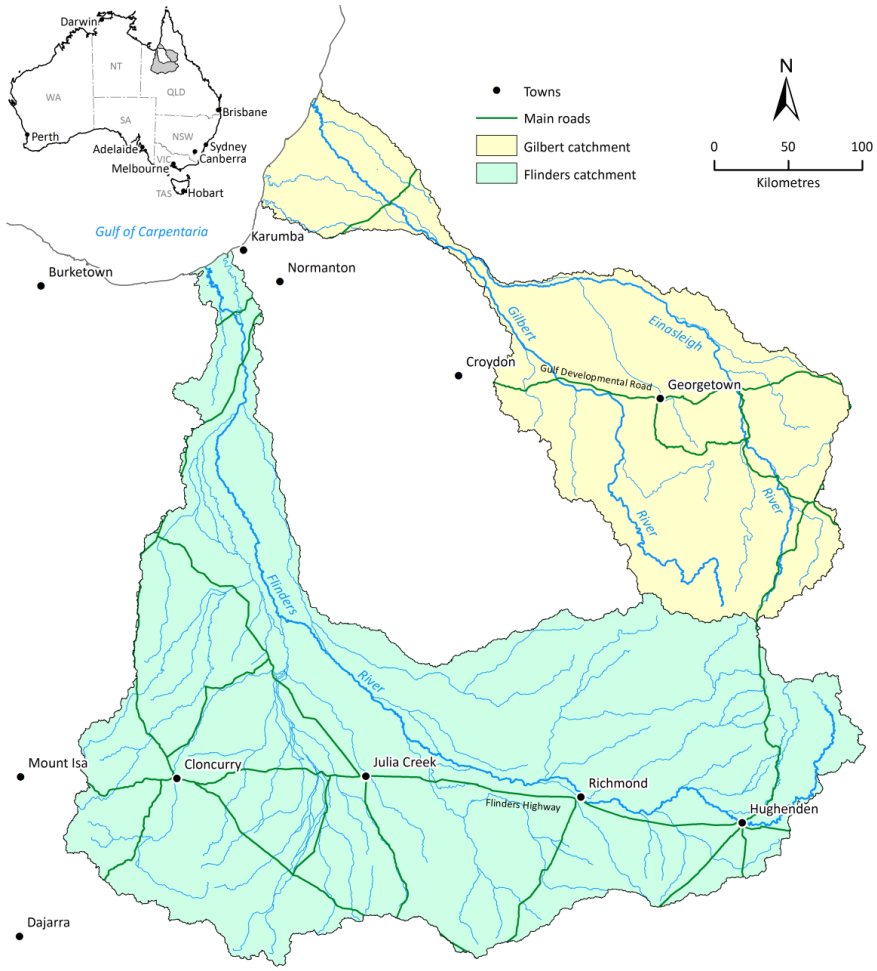

Figure 1.1 Flinders and Gilbert catchments, North Queensland

1.1.2 TERMS OF REFERENCE

Terms of Reference (TOR) for the study were devised based on the general requirement of the ONA for further advice about the implications for Indigenous people of water and agricultural development in these catchments. These TOR were refined as investigations progressed and further information about the catchments was obtained. The final TOR for the Indigenous component of the Assessment was that it investigate and report on:

- general principles and issues for understanding Indigenous interests in water and agricultural development
- the context for contemporary Indigenous residence in and connections to the Flinders and Gilbert catchments (pre-history, history and geography)
- key contemporary Indigenous groups and organisational arrangements
- Indigenous values associated with water and riparian landscapes in the catchments
- Indigenous water rights and interests recognised in policy and legislation
- potential cultural heritage issues associated with water and agricultural development
- Indigenous needs and aspirations in relation to water planning and catchment management
- Indigenous needs and aspirations in relation to water and agricultural development
- additional steps which may facilitate positive Indigenous participation in future development and lower the barriers to investment in such development.

These TOR were used to guide the research process and the content of the current report. However the way in which the investigation proceeded was heavily influenced by the circumstances within the catchments, and so these will be briefly noted.

1.1.3 RESEARCH CONTEXT AND SCOPE

The geographic context and scope of the research task was crucial to how it was conducted. Taken as a whole, the Flinders and Gilbert catchments are characterised by:

- large geographic scale
- poor documentation of existing Indigenous values, rights and interests
- a dispersed Indigenous population.

There are also complexities in formal Indigenous residence and representation in these catchments. These include:

- significant variations in the numbers of Indigenous people residing locally
- significant variations in the numbers of recognised native title holders/traditional owners residing on or close to traditional lands
- diversity in the existence, location, capacity, and governance stability of the Indigenous corporations associated with local groups
- patchiness in the representation by land councils, with
    - Indigenous groups from the same catchment represented by different land councils
    - some groups internally divided in terms of current land council representation
    - some groups electing to have no land council representation
- differences in the status of native title claims, with
    - some claims having already being settled and declared
    - some applications registered and in process
    - major areas having no current native title applications registered (but with applications in preparation)
    - some locations possibly receiving competing or overlapping applications in the future.

With respect to less formal regional catchment and national representative bodies, there are also:

- variations in local Indigenous group connections with catchment management groups, as Indigenous staffing and representative structures vary between the catchment management organisations
- differences in awareness and political positioning of local groups (and land councils) with respect to wider national-scale Indigenous advocacy and representative structures such as the North Australian Indigenous Land and Sea Management Alliance (NAILSMA).

In addition to the above circumstances, at project commencement, the development possibilities associated with the NQIAS were provisional, exploratory, and geographically unspecified. This meant that it was not appropriate to simplify the project by reducing the research scale to discrete locations or groups within the catchments, as any locations chosen may have subsequently emerged as low priority in development terms. Significant changes to water use upstream would also affect Indigenous groups downstream, further suggesting that a catchment-scale investigative study was the appropriate course.

However the overall timeframe for the NQIAS meant that any catchment-scale study needed to be a 'rapid response' scoping assessment of Indigenous water values, rights and interests. This approach focuses on participation by key individual research participants from the relevant groups to generate a representative set of issues and perspectives. It has been used previously by the lead researcher (Barber and Jackson, 2011a) and the data generated can be taken as an appropriate marker of issues that are relevant to the Flinders and Gilbert catchments as a whole. Such an approach also limits the time and resource investment in the project required by any one individual or group involved, an important fact in a situation where development possibilities remain unfinalised. However, such a process provides foundations for wider group-based consultation and planning processes, but it cannot substitute for them. The research conducted indicates that such group and community-based planning processes will be crucial to further progress with respect to Indigenous people and water and agricultural development proposals in this area.

1.2 Report audience and content

1.2.1 REPORT AUDIENCE

The formal client for this research is the ONA, but the report is intended to be public and potentially readable by a wide audience. This incorporates

- local, State, and Federal government staff
- local Indigenous elders and leaders
- staff in Indigenous, NRM, and other non-government organisations
- non-Indigenous residents of the catchment
- members of the general public.

Given the above context and constraints, this report provides a regionally-specific assessment designed to assist non-Indigenous decision makers in understanding general Indigenous valuations of water, wider connections to country, and the rights and interests attached to those. It highlights likely issues to be raised in future discussions with Indigenous groups about community planning, development proposals and Indigenous business aspirations. The report also assists Indigenous decision makers (local, regional, and national) in understanding the specific residential, ownership, natural and cultural resource management, and development issues for Indigenous people associated with these particular catchments.

The recent attention given by government to northern Australian development has been welcomed by key Indigenous forums and leaders, but concerns about the pathways adopted to achieve that development (including about aspects of the NQIAS) have also been expressed (NAILSMA, 2012; 2013). Indigenous people have clear preferences about the processes adopted to achieve development, as well as about the types of development desired. Particular developments are judged based on a range of criteria in addition to economic viability. These include the timing and level of Indigenous consultation, Indigenous roles in project oversight and governance, opportunities for Indigenous participation and partnership, and social and environmental impacts.

1.2.2 REPORT STRUCTURE

The report contains 7 chapters. Following this introductory chapter 1, chapter 2 describes the research methods and location. This includes discussion of the available literature, the history and geography of the area as it relates to Indigenous people, the research contributors and the wider set of environmental, social, economic and historical values associated with human populations in the catchments. Chapter 3 describes key principles about Indigenous people, culture and country in the Flinders and Gilbert catchments, with particular reference to issues of natural resource rights and management. The chapter begins with key Indigenous voices and historical memories of life in the catchments, shows how water and culture are intertwined, discusses the ownership of the country, introduces the obligations and responsibilities to past, present, and future generations, and the identifies Indigenous needs to preserve natural and cultural resources, particularly cultural heritage. Indigenous owners' responses to the activities of non-Indigenous people are considered under the headings of consultation, compliance, and compensation. In this way, Chapter 3 provides general foundations for the specific focus on water and agricultural development in Chapter 4. Chapter 4 demonstrates the importance of water to Indigenous people, followed by discussion of existing water planning activity, comments about environmental change, and a review of concerns about development impacts. Chapter 5 outlines Indigenous plans and aspirations regarding social and economic development in the catchments. This includes resettlement, land tenure, business development, employment and training, water planning and development, and natural resource management. Chapter 6 provides a concluding analysis and recommendations for next steps and potential pathways for Indigenous and non-Indigenous decision makers based on the findings of the current research. Of particular importance here are group-based and catchment-scale planning processes, and local-scale NRM and business development initiatives that would support both participation in such processes and Indigenous residence and resettlement generally. Chapter 7 contains the references cited in the report.

The report also includes significant additional components as Appendices, including two separate professional reports commissioned by the CSIRO. One report, reprinted here as Appendix A, examines Indigenous issues with respect to water planning law and policy (Jackson and Tan, 2013). The second, reprinted as Appendix B, examines Indigenous cultural heritage issues (McIntyre-Tamwoy et al., 2013). These appendices provide additional supporting material about two of the most important issues with respect to water and agricultural development in the Flinders and Gilbert catchments. The information and consent forms used in the study appear as Appendix C. Appendix D contains a range of recent national and international Indigenous declarations and policies relating to water. These are an important wider reference point for the material in the report focused directly on the two catchments.

The remainder of Chapter 1 provides some general principles and key issues for understanding Indigenous interests in water and agricultural development. These are primarily directed at a non-Indigenous readership and partly arise from the specific circumstances of the Assessment. They provide context to the material which follows in subsequent chapters. There are brief discussions of some key concepts as they relate to Indigenous Australians, including water and development, 'culture', 'country', 'law', 'values, rights and interests', and different ways of understanding what is meant by 'engagement' with Indigenous communities. Water planning is briefly considered, followed by some specific reference to recent forums about sustainable Indigenous development and plans for the ongoing management of ancestral lands. These key concepts address the need for conceptual framing in the TOR and provide a wider context for the study.

1.3 Indigenous Australians, water and development

Indigenous people have lived in Australia for many thousands of years. In that time they developed strong custodial connections to important places and significant knowledge of the wider landscape. The violence and dispossession that occurred during European colonisation had deep and ongoing effects on both individual Indigenous people and the cultures and societies they were part of. In many cases, including the Flinders and Gilbert catchments, these effects involved dispersal and dislocation from traditional lands.

Nevertheless, Indigenous people across Australia assert and maintain important cultural, historical, and emotional ties to these areas. In many cases, people also rely on these lands for a range of practical material and economic support, and as a result, these areas also become a major focus for contemporary social and economic development ideas and aspirations. The aspirations can take many forms, but usually combine economic viability and sustainability with a range of wider social, cultural and environmental goals. Indigenous people understand themselves as members of a socially and economically disadvantaged group, but also as upholding a long tradition of custodianship over ancient landscapes. This requires balancing short to medium term social and economic needs with long term cultural, historical, and religious responsibilities to ancestral lands.

Water is crucial to life, and there is much evidence of the importance of water to Indigenous Australian societies. Archaeological and heritage studies demonstrate the importance of permanent water sites to pre-colonial Indigenous habitation, and these studies are often supported by evidence from Indigenous oral traditions. Water sites were a major focus of conflict during the colonial period as they were valuable to incoming colonisers as well as to Indigenous people. In the current context, key issues for Indigenous Australians can include:

- ensuring enough water to maintain healthy landscapes (environmental flows)
- access to water sites
- maintaining adequate supplies for human consumption
- securing sufficient water reserves for current and future economic activity
- deriving benefits from water development and water use

Water resource development is usually undertaken to foster wider economic and social development: securing adequate water supplies; managing wastewater; and/or protecting major assets from excess water. Indigenous people have strong aspirations for economic development and the opportunities it creates. These aspirations very often focus on activities that provide sustainable long-term employment on traditional lands. There are successful examples of this in a range of locations, including the Gulf.

1.4 Country, culture, and law for Indigenous people

The terms ‘country’, ‘culture’ and ‘law’ are crucial concepts for Indigenous Australians when communicating in English about their values, rights and interests. With respect to ‘country’, Indigenous Australian identities are strongly connected to particular places and to the wider land and waterscapes that encompass them (Bradley, 2010; Langton, 2006; Morphy, 1991; Myers, 1991; Rose, 1996; 2000; Strang, 2009; Williams, 1986). Indigenous people often use the English term ‘country’ to collectively describe those places and landscapes as an integrated whole, where particular named sites are key points in a wider regional matrix (Myers, 1991; Strang, 1997). The use of the term ‘country’ also implies a sense of ownership by people whose origins lie within that area, and a sense of responsibility for it. This has some similarities with the way citizens of Australia understand themselves as part of a ‘country’ which they both collectively own and have obligations towards, including to protect it.

Indigenous people understand themselves as connected to their country in a range of ways (Munn, 1973; Myers, 1991; Rose, 1996). Firstly, places are part of the network of kinship relationships understood to exist between human beings, plants and animals and other features in the landscape (Rose, 2005). Alongside this kin relationship, people connect themselves to country through physical presence in the landscape, through knowledge of its characteristics (including seasonal and long term changes in it), through practices and activities related to it such as hunting, singing, and dancing, and through the relationships with other people that are formed through the country they share (Bradley, 2010; Keen, 1994).

The English term ‘culture’ has been used by many Indigenous Australians to describe the knowledges, practices, and relationships that bind people to one another and to the landscape. ‘Culture’ is a widely used term with a range of meanings, but the Indigenous usage emphasises the jointly held knowledge and collectively undertaken activity. A second important aspect of Indigenous understanding of culture is shown by the use of the English word ‘law’ to describe these activities - ‘culture’ and ‘law’ are sometimes used interchangeably by Indigenous people (Barber and Jackson, 2011a; Keen, 2011). This demonstrates

that 'culture' in the Indigenous sense has legal, political, and moral force - it refers to the guiding principles and commitments that should govern peoples' lives, not to rapidly changing 'popular' culture often suggested by wider English usage. Many Indigenous people talk about the unchanging nature of this law and culture, and how this is different from non-Indigenous laws, which seem to constantly change. However, in the same ways that change in non-Indigenous law should be and is governed by underlying principles that are far more stable, so 'unchanging' Indigenous law is a dynamic tradition that has been obliged, and sometimes forced, to adapt to new circumstances for its existence to be sustained. That adaptation process has been more or less successful depending on the circumstances, but it has always relied on stable and enduring principles.

The crucial sustaining role of culture and country, and of the laws and practices that are associated with them, also place a heavy obligation on current custodians to protect and pass on as much as they can to subsequent generations. In relation to the country (both land and waters) people consider themselves simultaneously as owners, guardians, custodians, advocates, beneficiaries, relatives and dependants. When the terms country, culture and law are used in this report, it is these broader but nevertheless specifically Indigenous meanings that are intended. They are crucial to understanding Indigenous responses to specific issues associate with traditional lands, including water and agricultural development.

1.5 Values, rights and interests

The report regularly uses the phrase 'values, rights and interests' in discussing Indigenous peoples' relationships with water and with the landscape generally. This is because each of the terms in this phrase highlights a different aspect of Indigenous perspectives that those engaging with Indigenous people need to consider. Some working definitions below demonstrate how these terms express different aspects of Indigenous relations:

- Value – refers to what people consider important, worthy, of merit and significance. It can also refer to underlying principles or beliefs that drive estimations of importance.
- Right – can refer to what is morally or ethically correct, but in this context also refers particularly to what is legally recognised as just and valid.
- Interest – refers to people having a share, involvement, concern, or claim in something.

Each of these terms has strengths and weaknesses in characterising Indigenous peoples' individual and collective stake in matters such as the development of water and land. 'Values' is in many respects the broadest term, encompassing anything that people believe to be significant or important, as well as the underlying principles which inform that belief. 'Rights' encompasses a narrower range than values, but rights have the strongest force with respect to others (assuming the rights are recognised as such). 'Interest' identifies a share or stake in something, but also directly implies the involvement and interests of others in that same thing – the claim being made is not fully exclusive. Indigenous perspectives about land and associated resources come from a standpoint of prior ownership and sovereignty, but discussions about development may see a range of more specific values, rights, and interests expressed. Decision makers and those engaging with Indigenous people need to keep in mind the complementarities and distinctions between Indigenous values, rights and interests in land, water, and in the economic developments that may emerge from that resource base.

The way that the terms above are understood can significantly affect the development of key planning and development processes. Taking 'values' in natural resource management as an example, they are often broken down into subcategories – economic, social, environmental and sometimes, cultural. This categorisation reflects the 'triple-bottom line' approach to ecological sustainability, as well as the more recently perceived need to incorporate (Indigenous) cultural issues in policy and planning. Social values have been harder to define and quantify than economic and environmental values in 'triple-bottom line' processes, but have received increased attention in natural resource management policy and practice. Cultural values have provided a further avenue for broader thinking about the significance and use of natural resources but have rarely been explicitly defined in the Australian context. There are no nationally endorsed guidelines for how best to account for 'cultural values' in any NRM activity, including water

management, and the distinction between 'cultural' and 'social' values is also unclear (Jackson, 2006; 2011). Even though processes of culture formation are universal in human beings (Strang 1997:178) , the 'cultural' category is commonly associated with spiritual significance in general and with Indigenous heritage values in particular (Head et al., 2005). For instance, the National Water Quality Management Strategy's guidelines for protecting 'environmental values' reveal a spiritual and exclusively Indigenous focus to its interpretation of a subsidiary concept called 'cultural value'. 'Values, rights, and interests' is a useful phrase to describe collective Indigenous relations with water, but meaning given to key terms can have important implications for processes of consultation, recognition, planning, etc. about them.

1.6 Indigenous engagement and stakeholder consultation

1.6.1 UNDERSTANDINGS OF INDIGENOUS ENGAGEMENT - CONSULTATION, CONSENT, BENEFIT, PARTICIPATION, PARTNERSHIP, AND CONTROL

Greater recognition of Indigenous people and of their values, rights and interests in natural resources has led to a greater emphasis on engagement with them by both the public and private sectors. However what is meant by engagement can vary considerably and confusion about that term can significantly affect both the intended engagement process and the likelihood of a successful outcome. Indigenous engagement processes associated with the NQIAS have received some critical commentary (NAILSMA, 2013) and it is important for all parties to consider what forms of Indigenous 'engagement' are appropriate for future water and agricultural development in the Flinders and Gilbert catchments and elsewhere. To facilitate that consideration, some major variations in what the term might mean are noted here. The list below is presented in increasing order of Indigenous involvement:

- Consultation – a frequently adopted term, often used interchangeably with 'engagement'. Consultation can be a formal requirement in legislation and policy, including native title. In Indigenous communities, consultation about the development of natural resources is expected to be an extended dialogue that begins early in the process of proposal development. This provides time and scope for learning about and suggesting modifications to any proposal. However consultation can often be understood by others as the provision of limited information for a short period about a proposal that has already been conceived and developed. Engagement can be understood as consultation, which in turn can be understood in range of ways. The further categories of engagement listed below rely on some level of consultation to be effective – basic consultation is a pre-condition.
- Consent – consent implies that, following such a period of consultation, a right to refuse exists and may be exercised. In Indigenous contexts, the power to formally withhold development permission is restricted to limited areas, but engagement processes may nevertheless involve a combination of consultation and consent. Obtaining such consent may require a range of additional categories of engagement beyond consultation. Some key ones are noted below.
- Benefit – engagement itself may not have a direct benefit for Indigenous people, indeed it may involve a potentially significant cost as consultation processes take time, resources and attention away from other important issues. However a crucial part of engagement about future development may be the negotiation of direct benefits for people. Benefits may involve a single, one-off transfer of money or other resources disconnected to the development itself or a staged series of benefits connected to the progress of the development, including benefits such as training and employment.
- Participation – benefits such as training and employment programs that directly relate to development proposals involve the direct participation of Indigenous people, and this is another potential meaning of 'engagement'. Engagement as direct participation has been a popular model in recent natural resource developments, particularly in the mining industry, which has employed significant numbers of Indigenous people in recent years.
- Partnership - one potential constraint to the acceptance and popularity of participation is where control over that participation rests. Partnership implies shared responsibility and control, and for

that reason is often the model of participation preferred by Indigenous people. Partnership can be both a part of effective engagement about resource development and a consequence of it.

- Control – The strongest form of engagement from an Indigenous perspective is when control over both the engagement process and the outcome rests with Indigenous people themselves. Control over consultation and consent processes regarding resource development, over the operations associated with resource extraction, and over the benefits accrued from such developments, remains an important aspiration for Indigenous people across Australia. Indigenous control over actual resource development may be a step beyond what is commonly considered as Indigenous engagement, but at the very least it is important to consider how control over the engagement process is distributed.

It is important to be clear about what is meant by 'Indigenous engagement' when it is taken to be a necessary component of natural resource management and natural resource development. The above list is not comprehensive, but indicates how the term can be understood in different ways. Without clarity about the meaning of the term, one party to any engagement may believe that the process of 'engagement' has been sufficient, while another may believe that the process has barely begun, or is being undertaken on inadequate or improper foundations and cannot succeed. Identifying any significant difference in perspective about what constitutes appropriate engagement is an important first step in understanding what kind of agreed compromise position is required.

1.6.2 INDIGENOUS PEOPLE AND STAKEHOLDER CONSULTATION

One further aspect of Indigenous engagement and consultation processes needs to be noted here in the context of understanding Indigenous perspectives about water and agricultural development. Stakeholder models have been an important and popular method of consultation for natural resource management and development planning, and remain crucial to progressive planning toolkits for a wide array of applications. However for Indigenous Australians, stakeholder models of consultation have been and continue to be problematic. Two major challenges are identified here and both are relevant to water and development issues in the Flinders and Gilbert River catchments.

The first challenge relates to the way that stakeholder models generally depict individual stakeholders, and their interests, as equivalent and of the same order. This can be useful in limiting the direct influence of particularly powerful interests, (like other stakeholders, they only occupy 'one seat at the table'), but from an Indigenous perspective, it erases both an extended pre-history of prior occupation and the significant colonial violence and dispossession that followed it. Indigenous people understand their position as fundamentally different from, and prior to, all other stakeholders. From this perspective, rather than being participants, the most appropriate Indigenous role is one of traditional owner oversight and control over a stakeholder consultation process in which government and development proponents participate as stakeholders alongside other equivalent non-Indigenous community interests. In such a scenario, the final decision about how best to use stakeholder input to inform development decisions rests with Indigenous people. Successfully undertaking stakeholder consultations requires a range of skills and capacities which may not exist in all Indigenous contexts, so this scenario may not be realisable even if other powerful interests were to agree to it. Rather the 'inverted' stakeholder model described above is useful to highlight the conceptual, ethical, historical and political challenges posed to Indigenous people by the conventional stakeholder models popular in contemporary natural resource planning.

That conceptual and ethical challenge leads to the second challenge - practical issues with Indigenous participation. There are many Indigenous people with substantial skills in participating in (and operating) stakeholder consultation processes. However the time and resources required for participation and the language, content, and tone of stakeholder discussions can be significant barriers to effective engagement. In addition, there are diverse political and linguistic boundaries across Indigenous Australia. These, combined with formal Indigenous restrictions on 'speaking for' country which belongs to others, places particular pressures on Indigenous representatives involved in natural resource planning discussions across large areas (such as river catchments). The restrictions upon speaking for and about country belonging to others can make it difficult for Indigenous representatives in such forums to contribute, even when they

have the time, knowledge, and linguistic skills to do so. Neither this point, nor the previous point about pre-historical residence should be taken as suggesting Indigenous people should not be involved in existing or planned stakeholder consultation processes. Rather the goal is to identify how such models (which are often taken as a progressive solution to planning and development challenges), pose particular difficulties for Indigenous participation. This has direct relevance to future catchment management, and regional development planning processes discussed later in this document.

1.7 Water planning and Indigenous people

Further large scale development in the Flinders and Gilbert catchments will require significant revisions to existing water plans. Indigenous Australians have specific values, rights and interests that water resource developers and managers need to consider. A further analysis of Indigenous rights and interests in water planning and water-dependent development is provided by Jackson and Tan in Appendix A. Key issues identified in that study include:

- that State and Federal governments across Australia are in the early stages of formally recognising Indigenous peoples' relationships with water
- governments have committed to including Indigenous representation in water planning and to take account of native title and other formal Indigenous customary interests
- despite this commitment, progress in addressing and incorporating Indigenous water interests and rights in water planning has been slow in general, and is variable across jurisdictions
- a range of legal and policy instruments have been developed and/or applied, the most notable being including Indigenous Reserves in water allocation and Indigenous Land Use Agreements (ILUAs) covering land and associated water use

Water planning in the Gulf has taken place (DNRW, 2006), and although Indigenous consultations were one component of that activity, the scale and appropriateness of that activity has received some criticism (Ayre and MacKenzie, 2012; MacKenzie, 2008). Of particular ongoing concern to Indigenous people and analysts is the degree to which existing Indigenous disadvantage may be exacerbated in the future by the failure to allocate or reserve water for future Indigenous economic activity. Future water-dependent economic development by and for Indigenous people may be constrained by insufficient allocations or over-allocation to other water users. Small Indigenous reserve allocations exist for some North Queensland rivers and much larger allocations have been proposed elsewhere, notably in the Roper River in the Northern Territory (Jackson and Barber, in press). At this point, Indigenous interests in water are only partially encompassed by existing water law and water planning processes. As a result, this report identifies a wider set of values and interests evident during the research, as well as describing the formal rights and associated obligations and requirements which emerge from current policy and legislation. As a minimum, decision-makers in the Flinders and Gilbert catchments will need to consider and act upon formal legal and policy requirements with respect to water planning. However, enabling long-term Indigenous participation in development in these catchments may require a range of steps beyond the minimum requirements specified in legislation.

1.8 Regional development and sustainable Indigenous livelihoods

Indigenous perspectives are crucial to successful regional development in northern Australia, not least because of the growing role of Indigenous people in land and wider environmental management (Hill et al., 2013). Hill et al. (2013) note this increasing role as one of the major trends of the past two decades, and key drivers include the recognition of Indigenous rights and interests in land and natural resources, markets for land management services, the role of customary obligations, Indigenous leadership, improved public and private investment, and progress towards co-management. Conditions attached to particular kinds of land tenure may limit the ability of Indigenous people to progress certain kinds of development (Dale et al., 2013) and/or constrain levels of Indigenous control over land, but at the least, co-management remains an important aspiration in many contexts (Bauman et al., 2013). In the Flinders and Gilbert catchments, the

increasing role of Indigenous people is reflected in the ongoing registration and/or recent declaration of native title claims, in the purchase of land by Indigenous corporations, and in the growing roles and responsibilities of Indigenous people in land management.

Indigenous land ownership and/or management responsibilities are important aspirations in their own right, but are also crucial foundations for wider Indigenous aspirations about development and sustainable livelihoods in regional and remote areas. Recently, two major Indigenous forums have articulated further strategies for achieving sustainable Indigenous development, one held at Mary River in 2012 (NAILSMA, 2012), and one held in Kakadu in 2013 (NAILSMA, 2013). These meetings have been important in re-expressing existing Indigenous priorities with respect to economic development and in introducing new ideas and concepts designed to promote the recognition of Indigenous interests. Key issues and concepts identified in the 2012 meeting included:

- frustration with existing failed models of development and the desire for cohesive strategies that include and integrate land, water and all people
- direct reference to the United Nations Declaration on the Rights of Indigenous Peoples and the recognition of Indigenous rights and responsibilities that it requires.
- the creation of a North Australian Indigenous Framework for Economic Development (Framework) to unambiguously articulate Indigenous goals and preferences to both public and private sectors.

The Framework was a major outcome from the 2012 meeting, identifying goals and strategies under 5 key areas: economics and commercial priorities; culture and heritage; conservation; employment and infrastructure; and governance (NAILSMA, 2012).

The 2013 forum built upon the work of the 2012 forum, identifying additional issues and further relevant concepts (NAILSMA, 2013). Key to the 2013 forum was the development of 'a commercial framework that could assist Traditional Owners to attract and engage with investors, development proponents and governments in a way that did not create negative social, cultural or environmental impacts' (NAILSMA 2013: 1). This was to be achieved through the development of an Indigenous Prospectus. Such a Prospectus is designed to fulfil the following objectives (NAILSMA 2013:7):

- to use a familiar format to communicate with skilled non-Indigenous private sector and philanthropic investors about
    - the areas of opportunity for investing in north Australian Indigenous lands and people
    - the required processes
    - the benefits of that investment
- to emphasise Indigenous people as major existing investors, as the owners and managers of
    - key infrastructure
    - land and water assets
    - local traditional knowledge
    - private and community enterprises
- to extend the general commercial focus of a prospectus to
    - include social, cultural and environmental indicators important to Indigenous people
    - emphasise the cultural and Indigenous law obligations about the sustainable management of land and waters
- to identify how Indigenous business aspirations should relate to major national government documents and policies (such as 'Australia in the Asian Century', 'Feeding the Future', and 'Closing the Gap')

A progression in the approach is evident between the two forums. The emphasis of the first forum was upon international obligations and developing the Framework to facilitate Indigenous interaction with both public and private sectors. The second forum adopted the prospectus approach to emphasise private sector investment in the context of national policies and priorities, rather than international declarations and obligations. This shift reflects a wider trend in investment in Indigenous lands – the growing importance of the private sector - as well as Indigenous frustrations with progress following the release of the 2012

Framework. Appropriate guidance for private sector investment is clearly a crucial priority for Indigenous development leaders.

The significant private sector interest in agricultural development in the Flinders and Gilbert catchments makes the outcomes of the recent development forums of direct relevance to this study. In arguing for a 'prospectus' approach, the second Forum report identified that such a document 'needs to be clear and regionally relevant' (NAILSMA 2013: 33) and that separate regional Prospectuses may be required to properly achieve this. The report further states that generating such guiding documents requires general community understanding of what a prospectus is for, community agreement that producing one is needed, and the in-kind support and participation to complete it. In the Flinders and Gilbert catchments, one important consideration is how a prospectus might articulate with existing community-driven planning and management documents (Hill, 2008) and with plans by wider regional development organisations such as Gulf Savannah Development (GSD) and Mount Isa to Townsville Economic Zone (MITEZ). Even if it is not adopted for local reasons, the prospectus approach highlights the need to identify Indigenous interests and capabilities. These can then be related to private sector interests and activities, wider regional development plans and aspirations, and government roles and responsibilities.

1.9 Summary: key concepts and issues

The above sections outline the terms of reference and the research context for this study, the scope and structure of the report, and some key principles and issues for interpreting the content which follows. The Assessment required catchment-scale research across a geographically and politically complex area, resulting in a research focus on key individuals from relevant groups rather than a group-based consultation approach. The goal of such research is to identify issues which would inform and assist future group-based planning processes and/or scoping for developments undertaken at sub-catchment scales.

Indigenous Australians have an extended pre-colonial and colonial history of interactions with water resources, and these underpin contemporary valuations and aspirations with respect to water development and water use. Indigenous concepts such as culture, country, and law are identified as governing how people relate to one another and to their surroundings. These concepts are reference points for people in making specific responses about water and associated development. 'Values, rights and interests' is the term used in the report to express the multiple ways in which Indigenous people value, share, own and are connected to water. It also expresses how some of those ways are increasingly recognised in policy and legislation. The concept of 'engagement' is discussed, both to identify potential confusions in Indigenous and non-Indigenous understandings of the term which may arise, and to note a sequence of potential meanings for engagement which are also applicable to wider development discussions. The limitations for Indigenous people of stakeholder models are also noted, as these are a commonly favoured model of engagement. Water planning issues are briefly identified, as Indigenous people now have specific recognition in water planning processes and changes to existing water plans will be a key component of any water-dependent development in the catchments. Lastly, possible development in the Flinders and Gilbert catchments occurs in the context of the growth in Indigenous land tenure and management responsibility, as well as recent Indigenous forums about sustainable development and local livelihoods in regional and remote areas. These forums have reviewed government obligations as well as private sector opportunities. The finalised outputs from the forums reflect an increasing focus on Indigenous roles in attracting private sector investment on Indigenous lands. The TOR and research context, as well as the concepts, definitions, and issues identified above, provide important framing context for the detailed results and analysis from the Flinders and Gilbert catchments presented below.

Figure 1.2 Flinders River near Harrogate Station

2 Research methods and location

2.1 Introduction

Chapter 2 reviews the research methods, some resources available in the relevant literature, and provides more extended detail about the geography and history of the catchments. Key issues discussed with respect to methods in 2.2 include:

- the general approach - a preliminary investigative project aimed to identify issues for further consideration
- research ethics – the process for identifying relevant Indigenous organisations, groups and individuals, gaining informed consent, and maintaining anonymity
- field interviews – the creation of a preliminary list of topics, the number of participants, analysis of the results, and data confirmation
- project staff – including both CSIRO staff and consultants with cultural heritage, water policy and law expertise
- Indigenous oversight – the context of the study, the lack of formal Indigenous oversight over the Assessment and NQIAS, and the provision of appropriate foundations for Indigenous oversight of future work

The primary emphasis of the project was field consultations, but reviews of relevant literature in four key areas are provided here in 2.3. These are:

- water and Indigenous Australians - including links with international initiatives
- Indigenous community-based planning
- Indigenous people and agricultural development
- Indigenous people and the Flinders and Gilbert catchments

These literatures directly and indirectly inform the analysis provided. The catchment-specific literature underpins the brief descriptions of the geography (2.4) and history (2.5) of the respective catchments. Both catchments are characterised by evidence of long-term pre-colonial Indigenous occupation but low current Indigenous populations in the towns on the eastern side of the catchments. This is primarily a legacy of past colonial processes. However a range of Indigenous ownership and access agreements exist and these are outlined. Existing water developments in the catchment are briefly described, as is the current state of mining exploration and development. The relationship of Indigenous values to the social and environmental values of the wider community in the catchment community is also noted.

2.2 Research methods

2.2.1 GENERAL APPROACH

The goal of the research was to provide general foundations for understanding Indigenous people's relationships with water in the two catchments, and to inform future discussions about particular developments. As noted in Chapter 1, the Indigenous component of the Assessment did not seek formal Indigenous group positions on any matters raised, nor should the opinions expressed by individual research participants be taken as the final positions of those individuals. The research was investigative and exploratory, aiming to highlight key Indigenous values, rights and interests, and major issues and aspirations that may be significant to water and agricultural development in these catchments. This general approach was based on the assumption that particular Indigenous individuals and groups have encountered and considered issues related to water and agricultural development to this point that others

have not. This was borne out by the findings of the field research. The preliminary phase summation generated by the Assessment is therefore intended as a resource which all Indigenous groups can refer to in subsequent planning and development discussions. The Indigenous component of the Assessment shares existing knowledge and opinions to create a common baseline for further consideration, discussion and future planning across and by the groups involved. The evaluation and refinement of development options undertaken by the other components of the Assessment provides further shared foundations for this process.

2.2.2 RESEARCH ETHICS

Prior to the commencement of the fieldwork component of the project, the research aims and proposed methods were reviewed by the CSIRO Social Science Human Research Ethics Committee (CSSHREC). Also submitted as part of the application was the information sheet and the free, prior and informed consent form (see Appendix C). CSSHREC approval was given and CSSHREC oversight continued throughout the project. In the preliminary phase of the research, key local and regional Indigenous organisations were identified and contacted through an iterative series of internet searches and telephone referrals. This included land councils, local group-based Indigenous corporations, and catchment management agencies. The objectives and intended methods of the research were explained, copies of project information and consent forms provided, and further direction taken about people and organisations who should be contacted in the preliminary scoping and identification stage of the Assessment. Strong direction was received from local corporations that local level consultation should be prioritised, with land councils and other regional organisations playing a secondary supporting role in that process. Key individuals nominated by the local group organisations were then approached for interview during planned field trips.

Participation in the project was entirely voluntary. Potential research participants were provided with clear explanations of the research process and outcomes through a combination of telephone, face-to-face, and written contact prior to them making any decision to participate. During initial contact, the project information sheets and the written consent form were supplied. It was also made clear that participation would be on an individual basis, but that comments would appear in the report under a group identifier. This would retain anonymity but also provide a level of geographic specificity. Wherever practicable, research participants were afforded an extended period (of 1 month or more) after first contact by research staff to allow time for further consideration and consultation before making a decision to participate. After this process had taken place, verbal consent was sought and then confirmed through the participant signing the consent form. These forms are retained by CSIRO staff in a secure location. Further information about the interview, data confirmation, and project output review processes appears in 2.2.3 below.

2.2.3 FIELD INTERVIEWS AND DATA CONFIRMATION

Preliminary telephone consultations identified important issues and emphases in local Indigenous relationships with water. Prior to commencement of the fieldwork, these were augmented by issues and topics identified in other water studies undertaken by the research team and/or evident in the research and policy literature. Historical and ethnographic literature in regional and national databases was also investigated and key information incorporated into the analysis.

The combined list of topics was then investigated in formal, semi-structured face-to-face interviews with key Indigenous elders and managers across the major groups represented in the catchments. The final number of individuals interviewed from any group depended on the group size and individual availability for interview, but at least one key senior representative from all of the major groups represented in the catchments was interviewed, making a total of 25 people. Interviews were undertaken in Cairns, Yarrabah, Mareeba, Dimbulah, Georgetown, Normanton, Mt Isa, Cloncurry, Richmond, Hughenden, Townsville, Brisbane, and Cherbourg.

A range of formal presentations were also made to major meetings of the relevant Indigenous groups wherever practicable. Formal presentations at meetings organised through the relevant land councils were

made to the Tagalaka, Ewamian and Kurtijar people in the Gilbert catchment, and to the Gkuthaarn and Kukatj in the Flinders catchment. An additional meeting was held with Yirendali people residing at Cherbourg.

The data from the literature and interviews was iteratively analysed using NVivo qualitative analytical software to identify major themes and key findings. Key information and research participant comments from the interviews were identified, extracted, and then formally checked with the respective research participants as both an accurate reflection of their views and as able to be used in further analysis and public presentation.

The resulting information and analysis was then combined into a draft research report. This was disseminated to local Indigenous research participants and key Indigenous stakeholders for further comment, correction and confirmation. The report was augmented by further presentations to group meetings. The resulting feedback was incorporated into a revised draft report, which was then subjected to scientific peer review and further community comment prior to finalisation.

2.2.4 ASSESSMENT STAFF AND INDEPENDENT CONSULTANTS

The initial CSIRO research team comprised Marcus Barber and Sue Jackson. Jackson left CSIRO for Griffith University in the early stages of the Assessment and from that point on the project was managed and conducted by Barber. Barber is an anthropologist with 13 years research experience investigating the relationship between Indigenous people and water. Jackson was retained as an independent consultant to the CSIRO advising on water policy issues. She collaborated with a specialist in water law, Poh-Ling Tan, to provide the CSIRO with expertise on:

- existing Australian Indigenous rights and interests in water
- options for appropriate Indigenous recognition and Indigenous roles in contemporary water policy and planning processes
- Indigenous issues relating to recent agricultural developments (including key policy and statutory matters, recognition, participation, and benefits).

Their report to the CSIRO is reprinted in full as Appendix A.

The Assessment also sought additional consultancy expertise in the area of cultural heritage. Discussions with Indigenous groups across the two catchments were undertaken to identify potential candidates with local profile and experience. The practitioners selected were Ms Michelle Bird, who has substantial experience as a cultural heritage field consultant with multiple groups in both catchments, and Dr Susan McIntyre-Tamwoy, an expert on North Queensland and Cape York cultural heritage formerly based at James Cook University (JCU) and now employed at Archaeological and Heritage Management Solutions (AHMS) in Sydney. Assisted by Fenella Atkinson at AHMS, these consultants provided desktop expertise of relevant issues as well as scoping advice about what full, field-based cultural heritage assessments of the developments modelled in the Assessment storylines would require. They also provided heritage expertise on the specific issues related to possible dam sites in the dam infrastructure report of the Assessment (Petheram et al., 2013). Their final report about wider cultural heritage issues is reprinted as Appendix B. All the research staff and consultants involved in the provision of information in this report are experienced senior practitioners in their respective fields with a significant track record in Indigenous water issues and/or north Queensland cultural heritage.

2.2.5 INDIGENOUS OVERSIGHT AND GOVERNANCE OF THE NQIAS

The experience of the research staff was important in mitigating the effect of the geographic scale and political complexity of the catchments on the Assessment. It was also important in mitigating some of the effects of the absence of any formal Indigenous consultation, oversight, or governance structures for either the Assessment or the wider NQIAS. The geographic and political scale and the time available for the Assessment made it unviable to establish catchment-scale, group-based bodies to provide direct

Indigenous input and oversight to the Assessment. Instead the Assessment focused on investigations which would enable the establishment and resourcing of such bodies in the future.

Local group-based oversight of the Indigenous component of the Assessment was not feasible, but establishing structures at the governance level of the NQIAS based on an agreed combination of staff from land council, catchment management, and/or regional indigenous representative bodies would have been beneficial to the conduct of the Assessment and to the wider reception of the outputs. Informal comments about this issue were received by research staff during the fieldwork from a range of interested parties, were made in professional reviews of the outputs of the Indigenous component of the Assessment, and were made in public documents by Indigenous regional management agencies. The establishment and resourcing of such Indigenous consultation, steering and oversight structures is an important issue to address in any future work in these catchments and in any similar work undertaken elsewhere. Nevertheless, although the NQIAS did not take place with formal Indigenous oversight, the Assessment has met the objective of investigating local circumstances and thereby aiding the future establishment of such Indigenous consultation and governance structures in the Flinders and Gilbert catchments.

2.3 Literature review and available information

2.3.1 WATER AND INDIGENOUS AUSTRALIANS

The recent focus on the relationship between water and Indigenous Australians has emerged alongside, and been informed by, an international focus on water and Indigenous people. Indigenous people have long advocated for the importance of their perspectives, and this advocacy has been able to attract greater international attention over the past 15 years. In 2000, the United Nations Educational, Scientific, and Cultural Organisation (UNESCO) organised an inaugural session on 'Water and Indigenous People' at the Second World Water Forum, and a subsequent session at the Third World Water Forum in Kyoto, Japan in 2003 culminated in the Kyoto Indigenous Peoples' Water Declaration (World Water Council, 2003). Indigenous people have retained a profile at subsequent events, and a statement generated in Australia was presented to the 2009 Water Forum in Istanbul (NAILSMA and UNU-IAS TKI, 2008). Further statements have been generated specifically for the Australian context (NAILSMA, 2009). These have been crucial documents to refine Indigenous peoples' thinking about water issues and to brief the wider non-Indigenous communities about Indigenous perspectives and priorities. They are reprinted below as Appendix D.

Reflecting the result of Indigenous advocacy and interest from government policy makers, the amount of research and literature describing how Indigenous Australians relate to water is growing. The published research shows how Indigenous Australian societies give meaning to water and examines the place of water in their formalised systems of knowledge and social institutions (Barber and Rumley, 2003; Barber, 2005; Cooper and Jackson, 2008; Jackson, 2004; Jackson, 2006; Morphy and Morphy, 2006). There is a northern focus to this literature, including the Kimberley and the Northern Territory as well as the Wet Tropics (Maclean and Bana Yaralji Bubu Inc., 2011; Toussaint et al., 2005; Yu, 2000), the Mitchell catchment (Strang, 1997), and the Brisbane River catchments in Queensland (Strang, 1997; Strang, 2009). Important work has also been conducted in the Murray-Darling Basin (Maclean et al., 2012; Weir, 2010).

This literature demonstrates how water is an important feature of the Indigenous cultural landscape, with symbolic dimensions that attach individuals and groups to water bodies. Indigenous people and groups conceptualise water sources and rivers, as with the land, as having derived from the actions of mythic beings during the Dreaming, when the world attained its present shape and the socio-cultural institutions governing water use were formed (Barber and Rumley, 2003; Barber, 2005; Barber and Jackson, 2011a; Barber and Jackson, 2011b; Keen, 2003; Morphy, 1984; Morphy, 1991). There are stories relating to water represented in myth, painting, film, and dance, as well as the local customary practices, beliefs and ideas associated with water (Morphy, 1984; Morphy, 1991; Strang, 2009; Toussaint et al., 2005). This has been called the 'intellectual use' of water (Trigger, 1985).

However, many of these same studies also reveal the material and economic use of water according to Indigenous custom. Water is of economic significance to Indigenous people. It provides the foundations for

the Indigenous harvest and distribution of wildlife in general and of aquatic life in particular (Altman and Branchut, 2008; Finn and Jackson, 2011; Jackson et al., 2011). Indigenous people sometimes changed the local land and waterscapes to improve their harvest, as river flows were manipulated with the construction of fish traps, weirs and small dams in numerous Australian river systems (Barber and Jackson, 2012a; Tan, 1997). This kind of activity is recorded in ethnographic sources from the Flinders catchment (Roth, 1897) and may also have taken place along the Gilbert River.

Some research about Indigenous people and water has pointed to the connections between Indigenous landscape constructions and valuations and those held by non-Indigenous groups and individuals (Goodall, 2002; Strang, 1997; 1999; Strang, 2009). Such studies highlight the importance of understanding how cultural meanings and environmental perspectives are formed. It demonstrates how human-water interdependence is common to all peoples, and this can provide some important insights into collaborative approaches to the management of water and water-dependent development (Jackson et al., 2012). Indigenous understandings of the significance of water incorporate its value as a resource in its own right as well as for the resources for physical sustenance it provides. These are the values that are most familiar to non-Indigenous people. But the significance of water for Indigenous Australians also encompasses mythology, identity, and social connection, and the interrelationships between these different valuations. All of these values are evident in the findings from the Assessment appearing in Chapter 3 and 4.

2.3.2 INDIGENOUS COMMUNITY-BASED PLANNING

The Assessment did not attempt to directly facilitate group discussions and/or conduct community-based planning processes. However it does aim to lay foundations for future community and catchment planning through the conduct of the interviews, presentations and knowledge sharing during the fieldwork, and the production of appropriate outputs. The other components of the Assessment will enable any such development-focused planning to take place with a greater degree of focus and realism in terms of likely development options. Participation in wider community-based planning will be beneficial prior to and alongside of any specific development planning. Such processes will require additional investment, but there is now considerable expertise in conducting such planning in Australian Indigenous contexts and an associated history of successful outcomes (Agius et al., 2004; Agius et al., 2007; Dale, 1992; Davies and Young, 1996; Hibbard and Lane, 2004; Hoffmann et al., 2012; Howitt, 2010; Jackson, 2011; Jackson and Robinson, 2010; Jackson et al., 2009; Lane, 2006; Lane and Hibbard, 2005; Moorcroft et al., 2012; Smyth, 2008).

Recent Indigenous management planning has often had a conservation focus, particularly with respect to the creation of Indigenous Protected Areas and Indigenous or Community Conservation areas (Davies et al., 2013; Hill, 2011; Hill et al., 2012). However such defined areas are increasingly encompassing multiple tenure regimes and can encompass a wide array of social and economic aspirations in addition to seeking conservation outcomes (Altman and Kerins, 2012; NAILSMA, 2013). Planning models which address this kind of geographic and aspirational diversity will be important in the Flinders and Gilbert catchments. In general terms, key principles such as interdependence, diversity, and authenticity in dialogue have been identified as necessary to collaborative planning (Booher and Innes, 2002; Innes et al., 2007). It has also been noted that sustainable futures are not deliverable without government and developer attention to Indigenous rights, the development of good relationships with Indigenous peoples, and support for good governance that enables both autonomy and responsibility within communities (Howitt, 2010). Clear lessons are available from other areas, but the involvement of local catchment and wider north Queensland regional Indigenous planning expertise will be crucial to the success of future planning processes in the Flinders and Gilbert catchments.

2.3.3 INDIGENOUS AUSTRALIANS AND AGRICULTURAL DEVELOPMENT

The agricultural development context of the Assessment makes it useful to identify literature and policy activity about that topic as it relates to Indigenous people. In terms of past activity, Indigenous Australians have an extended pre-history of landscape manipulation using fire that in recent times has been termed

'firestick farming' (Bliege Bird et al., 2008; Jones, 1969) and there is also evidence for the manipulation and use of water at a landscape scale (Barber and Jackson, 2012a). During the colonial era, many Indigenous people were displaced by agricultural and pastoral activity, particularly in the fertile and valuable lands of southern and eastern Australia. However in northern Australia, Indigenous people formed an important labour force for colonial pastoralism (Curthoys, 1987) and they remain involved in the industry to this day, including in North Queensland.

In contrast to pastoralism, the low level of agricultural activity in north and central Australia where Indigenous land ownership is concentrated has meant that Indigenous involvement in agriculture has been more restricted. The growing amount of rural land passing back to some form of Indigenous control (Hill et al., 2013; Holmes, 2010) combined with improved technology and rising food, fibre and biofuel prices may alter this situation. The chances of Indigenous participation in agricultural development in the future appear to be increasing. However in their analysis of the prospects for agricultural development on Indigenous lands, Alexandra and Stanley (2007) identified a range of necessary requirements for further progress. These included sustained funding, capacity building and mentoring, robust community and commercial structures, sound business and commercial models, and governance improvements. The limited involvement of Indigenous people in agriculture also means that the number of relevant literature and policy documents is also limited. Nevertheless, some key current features of the current landscape can be noted here – the policy landscape, agricultural initiatives by the Indigenous Land Corporation (ILC), the horticultural 'broker' role played by Centrefarm in Central Australia, and the comprehensive Indigenous agreement associated with the Ord Irrigation Project. Further details about these appear in Appendix A.

Policy settings relating to Indigenous people and agricultural development appear to be sparse and intermittent. In the 1990s, the National Aboriginal and Torres Strait Islander Rural Industry Strategy (ATSIC and DPIE, 1997) aimed to support Indigenous landholders in developing rural industries. However minimal implementation and auditing appears to have occurred after the development of the policy. As a result it has not been extensively used, although it may have had some indirect influence on local and regional project planning (Alexandra and Stanley, 2007). Until it ceased operating in 2012, the Federal government climate change initiative 'Australia's Farming Future' contained a rural Indigenous component. There are also active Federal policies in relation to forestry and aquaculture - a National Indigenous Forestry Strategy and an Indigenous Aquaculture Strategy. These are aligned with broader economic, business, and employment development initiatives associated with the commitment of the Council of Australian Governments to Closing the Gap. However the general level of policy activity specific to Indigenous agricultural development appears to be low.

The activities of the Indigenous Land Corporation contrast with the low level of wider policy activity. The ILC is a Commonwealth government statutory corporation which assists Indigenous peoples to acquire and manage land (ILC, 2013). It has strongly prioritised the development of Indigenous agricultural business in recent years, and directly oversees a range of land-based Indigenous enterprises. The ILC strategy aims to bring Indigenous land into economic production to create employment and development benefits, and to regionally integrate these businesses wherever possible to increase productivity and profitability (ILC, 2011). The ILC produces state-based strategies (ILC, 2007) and collaborates with State jurisdictions. In Western Australia, the ILC has a joint venture with the Department of Agriculture and Food called the Indigenous Landholder Service. This was established to support Indigenous pastoral and agricultural producers and increase economic benefits to landholders. It focuses on technical support, governance development and business management mentoring. The ILS won the 2010 Premiers Award and 2011 Economic Development Australia Awards Indigenous Economic Development award and has been considered as a model for other jurisdictions, including Queensland and the Northern Territory. The ILC has purchased one pastoral leasehold in each of the Flinders and Gilbert catchments, in 2000 in the Flinders and 2012 in the Gilbert (see 2.4.4). The organisation plays an important ongoing role in the transfer of legal tenure to Indigenous control and in assisting Indigenous owners to maximise economic returns from their lands. It has a clear role to play in discussions of future agricultural development in the Flinders and Gilbert catchments.

In terms of Indigenous-owned start-up agricultural business, Centrefarm is an Indigenous-owned company that specialises in brokering the economic development of Indigenous lands in central Australia, specifically

with respect to horticulture (Davies et al., 2010). It emerged from an Aboriginal Horticulture Strategy developed by the Central Land Council and the Indigenous Land Corporation in 1999. This strategy identified strong Indigenous landowner interest, suitable crops, potential funding sources, and joint venture and long-term lease arrangements. Centrefarm acts as a horticultural broker to reduce transactions costs for investors. It facilitates agreements with Indigenous owners, secures planning approvals, organises water licences, and attracts commercial growers, but its services have expanded to include all aspects of remote Indigenous economic development (see http://www.centrefarm.com). However the logistics of remote areas and skills shortages in local labour have limited the attractiveness to investors of Centrefarm activity and indigenous employment aspirations have not been fully realised (Maru and Davies, 2011). The model used by the ILC requires a greater investment by local Indigenous groups in any enterprise. Nevertheless Maru and Davies (2011) conclude the 'broker' model Centrefarm represents has been valuable and is needed to improve Indigenous employment and livelihood outcomes in remote Australia.

The highest profile agreement relating to Indigenous involvement in and benefits from a specific agricultural initiative is that for the Ord River Irrigation Scheme in the Kimberley. This is outlined in more detail in Appendix A. The original Ord scheme was initially developed without consideration of Indigenous rights, needs, and interests, and involved the flooding of key sites and the dispossession of Indigenous lands. The agreement, which attempted to resolve issues created by the scheme, was an Indigenous Land Use Agreement (ILUA) negotiated between the State of Western Australia and the Miriuwung Gajerrong people. It aimed to recognise Indigenous claims to land, mitigate the impacts of existing developments, and adopt a partnership approach for future stages of the Ord development.

The overall agreement involved compensation for compulsory land acquisition and reparations for past impacts, but also the establishment of a new Indigenous corporation to: manage the benefits received under the agreement; operate an economic development unit; and hold and acquire land (farm lots, commercial/industrial and residential land). The agreement required any developer of Ord Stage 2 to negotiate a benefits package with the Indigenous corporation, including an Indigenous employment strategy with targets, opportunities for Indigenous business ownership, consultation about project design, heritage protections, and so on. Further supplementary funding for areas of identified need were included: health and well-being; housing; employment, education and training; municipal services; family and community services; justice; and culture and heritage. Significant funding for new conservation parks was provided, with the intention that these would devolve to operational Indigenous control. Notably, the Ord Final Agreement did not include rights to water for commercial purposes for traditional owners, and it has been the subject of recent criticism by prominent Indigenous leaders associated with the development (Anderson, 2013). Nevertheless, a further doubling in size of the Ord Irrigation Area (Stage 3) is now under discussion.

2.3.4 INDIGENOUS PEOPLE IN THE FLINDERS AND GILBERT CATCHMENTS

The literature about the Indigenous inhabitants of the Flinders and Gilbert catchments is relatively sparse in comparison with some other locations, but there are some early accounts and key sources available. Some archaeological work about the pre-historical period has been published in the research literature, particularly in the eastern Flinders (Morwood, 1990; Morwood and Godwin, 1982; Wallis et al., 2004a; Wallis et al., 2004b). The results of further archaeological and cultural heritage work appear Appendix B.

The history of the wider Flinders River district is documented in a number of sources (Dawes, 1986; Gray, 1964; 1965; Henry, 1883). The explorers Frederick Walker in 1861 and William Landsborough in 1862 made the first documented expeditions through the middle and upper Flinders (Fauvenec, 1967; Landsborough, 1862) followed rapidly by pastoralists such as Ernest Henry (Henry, 1883). Mining (Lees, 1899 [1986]) and pastoral development affected the continuity of Indigenous occupation, but later ethnographic work by Roth contained further important observations of Indigenous life along the Flinders (Roth 1897).

The history of the Etheridge area of the Gilbert catchment is summarised in work by Wegner (Wegner, 1990; 1993). The primary accounts and observations of Indigenous people from the early colonial era were made by explorers and pastoralists. The Leichardt expedition (Leichhardt, [2004]1846) passed by edges of

the modern day Etheridge Shire, and the notes from the 1964 Jardine expedition along the Einasleigh (Byerley, 1949) are also an important source of early observations.

Recent, group-specific bibliographies generated by the Aboriginal Institute of Aboriginal and Torres Strait Islander Studies and by research for native title processes contain further sources about the groups in the area (AIATSIS and Galvin, 2008a; 2008b; 2010a; 2010b; 2011a; 2011b; 2012a; 2012b; 2012c). Recent references directly relating to Indigenous people and water are sparse, but there are some relevant documents. An unpublished workshop presentation about general Indigenous perspectives on water has been produced by a senior member of a group associated with the Flinders (Hill, 2006) and the Carpentaria Land Council Aboriginal Corporation (CLCAC) recently investigated attitudes to specific water allocations for Indigenous people amongst groups in the wider Gulf (CLCAC, 2012). Southern Gulf Catchments recently undertook a stakeholder survey of water and environmental values in the Flinders River (Pollock and Parker, 2013) but were unable to generate Indigenous survey responses as part of that study.

2.4 Geography of the Flinders and Gilbert catchments

2.4.1 PHYSICAL GEOGRAPHY

Detailed information about the geography of the two catchments is available from a range of other reports in the Assessment. The information presented here provides geographic context for the presentation of Indigenous values, rights and interests in the area. Both catchments have the highly seasonal rainfall associated with the Australian tropical zone as well as considerable variability between years depending on the intensity and location of monsoonal troughs. This leads to equivalently high variability in runoff and stream flow. Both rivers flow a considerable distance in a westerly direction to discharge into the Gulf of Carpentaria – 1,004km for the Flinders River, 610km for the Gilbert River (Figure 1.1). The eastern side of both catchments are geologically complex. Rock type and stratification is crucial to groundwater flow, so relatively little is known about the groundwater of the two catchments or about the interactions between groundwater and surface water over such large geographic areas.

Permanent surface water sources are typically small in scale, but provide crucial resources and habitat in an otherwise dry region of Australia. Permanent water sources are likely to be particularly vulnerable to disturbance from a range of sources - livestock, feral pigs, ponded pastures, bore-drain construction and cane toads (Burrows, 2004). There is a series of important and sensitive wetland systems and regionally important vegetation ecosystems extending across both catchments. These provide important terrestrial and aquatic habitat for a broad range of common, rare and threatened species. The Einasleigh and Desert Uplands is a designated biodiversity hotspot and several wetlands in the catchments are included in the national Directory of Important Wetlands in Australia (Blackman et al., 1999), mostly on the coastal plains. These are part of suite of contemporary management tools and overlays (National Parks, forest reserves, Nature Refuges, etc.) designed to protect key ecological values in the area. The importance of coastal and intertidal assets is reflected in two Queensland-government declared Fish Habitat Areas located along the coastal zone within the region - the Staaten-Gilbert area and the Morning Inlet-Boyne River area, which extends into the Flinders River estuary. While many fish and crustacean species utilise the Gulf waters, from a conservation perspective the most significant and vulnerable species occurs in both freshwater and coastal estuarine areas - the freshwater sawfish (*Pristis microdon*). This is listed as *Vulnerable* under the commonwealth EPBC Act, *Endangered* on the 2000 IUCN Red List of Threatened Species and *Critically Endangered* in SE Asia (DSEWPAC, 2012).

There are a range of regional vegetation communities in the Flinders and Gilbert catchments, primarily not endangered but some of concern (Burrows et al 2013). In general, the flat, grassy plains of the Flinders catchment were highly attractive to colonial pastoralists for sheep and latterly cattle grazing, meaning disturbance has occurred over a long period. The Gilbert catchment has been less suitable for agricultural activity, but pastoralism along the riparian corridors has occurred for almost an equivalently long period, and the early and extensive mining activity in the Gilbert catchment had a range of negative effects on plants, animals, and terrestrial and aquatic habitats.

2.4.2 EXISTING WATER DEVELOPMENT

The context of the Assessment makes some brief notes about existing water development in the catchments worthwhile. Relative to catchments further to the east, the development of water storage infrastructure has been minimal. In the Flinders catchment, around 57% of the total water storage capacity of the region is comprised of Lake Moondarra and Julius Dam (MacKenzie, 2008). The Copperfield or Kidston Dam on the Gilbert River formerly supplied the Kidston goldmine, which has been closed since 2002. Small instream dams and weirs service townships, provide stock and domestic water and supply water for mining and irrigation. Small scale cropping on both catchments has been supported by private irrigation works, and additional water harvesting was used establish Lake Fred Tritton in Richmond. The lake has water quality issues but provides significant recreational amenity to local residents. A range of water storage and irrigation schemes have been investigated over time, and the proposals emphasise the value of potential agricultural and wider economic diversification, associated jobs and improved services, and have been strongly supported by local Shire councils. However development proposals have also been resisted - a 2001 forum in Richmond heard concerns by downstream and conservation interests regarding irrigated agriculture, particularly cotton (MacKenzie, 2008). A Land and Water Assessment report considered two major storage proposals – the in-stream Green Hills Dam on the Gilbert River and the O'Connell Creek off-stream storage in the Flinders catchment. The Gilbert River storage was rejected due to the lack of a viable use, the Flinders River storage on the basis of flow variability and soil constraints. A further proposal for a supply at Mount Beckford in the Flinders River was also discontinued (MacKenzie, 2008). These decisions were made on technical grounds, but the objections to the initial storage proposals and to the decisions to abandon them show how community aspirations about future development in these catchments varied in both sectoral and geographic terms. However interest in water development has remained strong, most recently demonstrated by the Gulf Savannah Development (GSD) investigation of the Gilbert catchment (GSD, 2009) and the wider impetus for the current NQIAS study.

2.4.3 MINING EXPLORATION AND DEVELOPMENT

The Flinders and Gilbert catchments are subject to a range of mining interests (Figure 2.1 and Figure 2.2). Past mining activity has had a significant social and environmental impact, particularly in the Gilbert catchment east of Georgetown and in the Flinders catchment around Cloncurry. Ongoing mining activity is concentrated in the Cloncurry region, but significant potential exists for other mineral extraction, notably coal in the eastern Flinders catchment. Mining development can bring significant prosperity to some regional areas. However the impacts of that development are highly variable geographically, can create or intensify social and income inequalities, and place significant pressure on infrastructure and services. It is estimated that there are currently 30-50 mines in the Cloncurry region, many of them smaller mines without dedicated cultural heritage and/or Indigenous community relations staff (L.Terrell, Cloncurry Shire, pers.comm). Overall, mining development has generated a range of impacts in the Cloncurry region, including pressure on water and sewage infrastructure, property prices, planning rules, and the environmental oversight of mining activities (L.Terrell, Cloncurry Shire, pers.comm.). Water supply is currently a constraint on further mining development (Andersen, 2013).

While some Indigenous people and groups have been able to benefit substantially from mining development, as a population, Indigenous people can also be particularly vulnerable to rising income inequality, rising costs of living, and pressure on social services. Many of the challenges associated with rapid regional development through mining are currently evident in Cloncurry. Agricultural development may provide a less valuable economic return than contemporary mining, but it generally has a slower pace of development and if undertaken properly, should not rely on non-renewable, point-source resource extraction. Labour force requirements may also vary. This suggests that the impacts of agricultural developments and the opportunities they create will differ from mining as well as from the pastoral activity it may augment or replace.

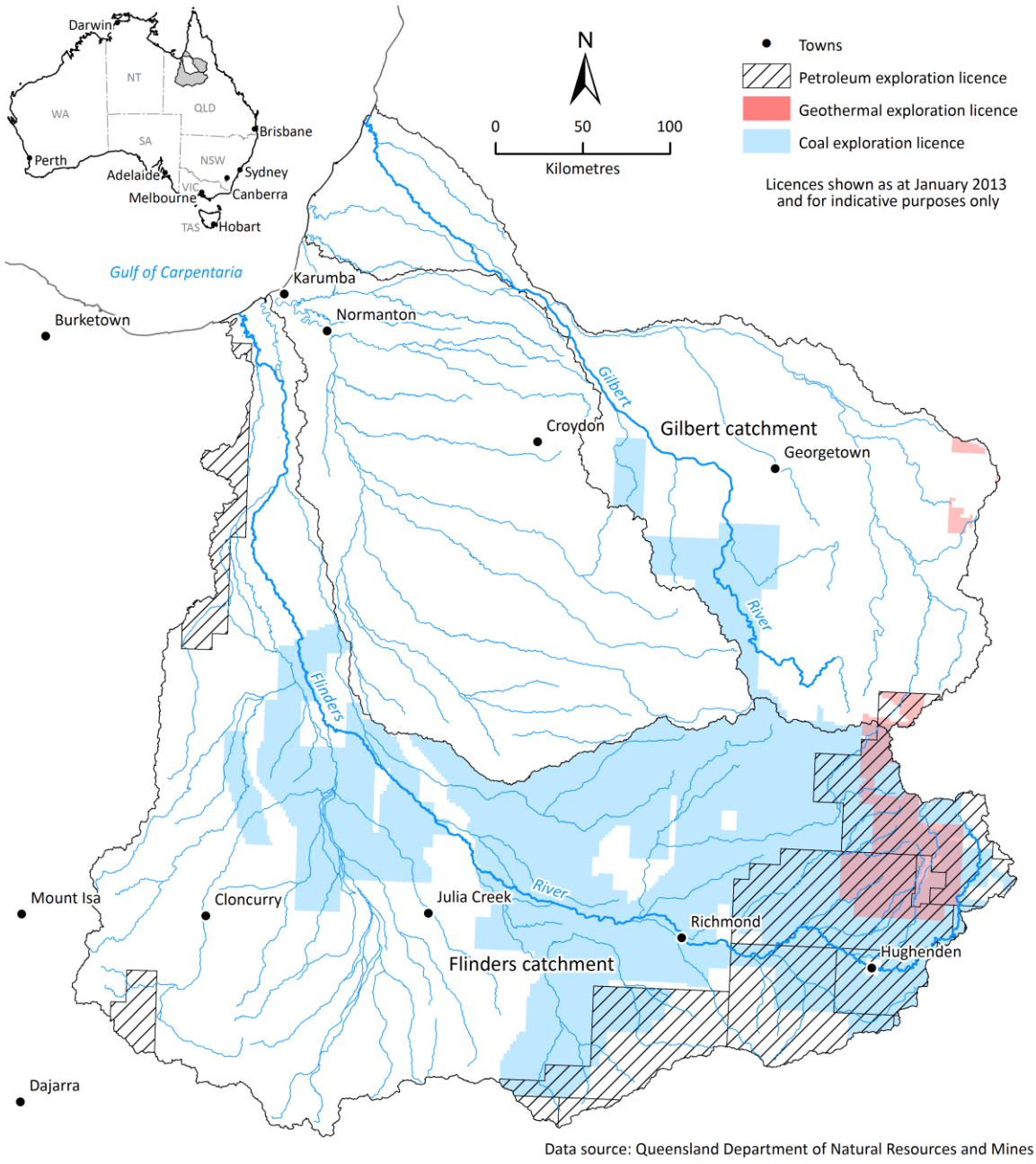

Figure 2.1 Energy exploration licenses in the Flinders and Gilbert catchments (Data Source: Queensland Department of Natural Resources and Mines)

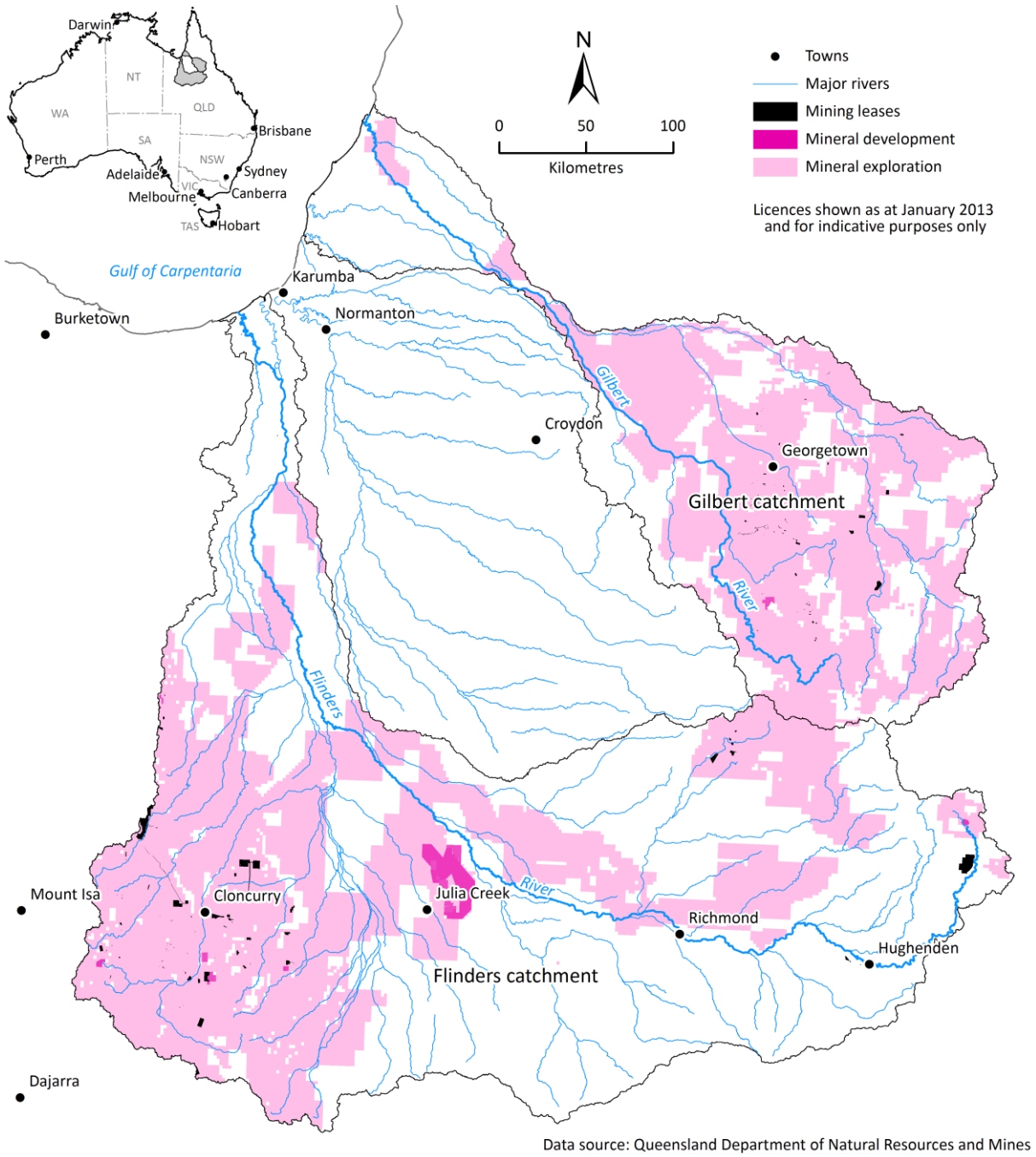

Figure 2.2 Mineral exploration licenses in the Flinders and Gilbert catchments (Data source: Queensland Department of Natural Resources and Mines)

2.4.4 CATCHMENT DEMOGRAPHY

ABS census data shows a significant decline in the overall populations of both the Flinders and Gilbert catchments from 2001-2011. This was supported by strong anecdotal statements by research participants about individuals and families leaving the area, largely for employment reasons. The Indigenous population has been more stable, but the data shows that although Table 2.1 shows Indigenous people continue to live throughout the Flinders catchment, they are concentrated in the downstream shires. The proportion of the population that is Indigenous is comparable to Queensland as a whole in the Richmond and McKinlay shires of the Flinders catchment, while Cloncurry and Carpentaria contain a high proportion of Indigenous people. This pattern is repeated in the Gilbert catchment (Table 2.2), with the Etheridge shire containing a similar proportion of Indigenous people to the rest of Queensland, in contrast to the higher proportion in the downstream Carpentaria shire.

Table 2.1 Major demographic indicators for the shires in the Flinders catchment, 2011

	FLINDERS	RICHMOND	MCKINLAY	CLONCURRY	CARPENTARIA	QLD
Total Population 2011	1,792	827	1,050	3,229	2,054	4.33m
Total Population 2001	2,191	1,050	1,387	4,828	4,844	3.37m
Change in population 2001-2011 (%)	-18.2	-21.2	-24.3	-33.1	-57.6	28.5
Indigenous population 2011	111	47	42	703	756	.156m
Indigenous population 2011 (%)	6.2	5.7	4.0	21.8	36.8	3.6

Source: (ABS, 2011)

Table 2.2 Major demographic indicators for the shires in the Gilbert Catchment, 2011

	ETHERIDGE	CARPENTARIA	QLD
Total Population 2011	894	2054	4.33 m
Total Population 2001	1474	4844	3.37 m
Change in population 2001 to 2011 (%)	-39.3	-57.6	28.5
Indigenous population	31	756	.156m
Indigenous population (%)	3.5	36.8	3.6

Source: ABS (2011)

2.4.5 INDIGENOUS OWNERSHIP AND MANAGEMENT REGIMES IN THE CATCHMENTS

The colonial history and contemporary land tenure regimes have significantly altered where Indigenous people live. Places in the region which were important residential sites in the past are now not permanently inhabited, and for a range of reasons, particularly accessibility, some may rarely be visited. Areas which are not frequently visited may be crucial in peoples' lives, sustaining a distinct individual and group identity as well as connections to past ancestors and future descendants. This ongoing importance is reflected in a range of tenure and management regimes adopted by Indigenous people with traditional connections to these areas. Native title, ILUAs, and pastoral leasehold are the three major ways in which contemporary Indigenous people from the Flinders and Gilbert catchments exercise some degree of management control over large areas of traditional lands. Figure 2.3 and Figure 2.4 show the current situation with respect to these tenure and management types.

With respect to native title in Figure 2.3, a sizeable determination exists on the western side of the catchment for the Kalkadoon people, and two other major areas have applications in process – the Yirendali in the upper reaches and the Gukthaarn and Kukatj in the area of the river mouth. The application by the Yirendali is close to determination. Applications by the Gudjala and Yulluna people also overlap the catchment edges. Mitakoodi and Wanamara people have attempted to register applications to claim areas concentrated on Cloncurry and Richmond respectively, but for various reasons these attempts have failed to this point. However further work on revised Mitakoodi and Wanamara applications is currently underway. A previous application under the Ngawun name over country west of the Wanamara people was also not pursued after preliminary investigation suggested that in its current form it was unlikely to meet the relevant requirements (J. Hill pers.comm). This indicates that despite the broader structural problems with native title processes and particular difficulties in local circumstances, there is strong ongoing interest in native title recognition from groups in the area.

In the Gilbert catchment, the Tagalaka people achieved a successful determination in late 2012 (Federal Court of Australia, 2012). This determination includes provisions for non-exclusive hunting and fishing rights and for the right to take and use the water for personal, domestic and non-commercial communal purposes. Ewamian people have a native title application registered and it will be declared before the end of 2013 with similar provisions. The Kurtijar people lying downstream in the Gilbert catchment do not have

a current native title application registered but preparations are ongoing to prepare and submit an application for registration soon. Native title groups (such as the Ganggalida and Garawa) with connections to southeastern Gulf estuarine and marine environments potentially also have an interest in water and agricultural development in the Flinders and Gilbert catchments.

Figure 2.4 shows both ILUAs and pastoral tenure belonging to Indigenous people. ILUAs have been generated for Kalkadoon territory, for areas of Mitakoodi traditional country adjacent to Cloncurry, and for a section of Yirendali territory in the Flinders catchment, and over both Ewamian and Tagalaka territory in the Gilbert catchment. In terms of pastoral tenure, financial assistance from the ILC in partnership with other funding bodies has seen 3 major properties return to Indigenous hands. The Kurtijar people own, reside upon, and operate a major cattle station in the lower Gilbert catchment, Delta Downs. In 2012, the Ewamian took responsibility for Tallaroo Station after it was purchased by a partnership between the ILC and a conservation organisation. They currently maintain a residential base for land management activity there. In the Flinders catchment, Middle Park Station has been owned and managed by Indigenous people through the Woolgar Valley Aboriginal Corporation since an ILC transfer in 2000. The corporation board contains representatives of the Wanamara, Ngawun and Mbara peoples. The station is currently leased out for pastoral purposes.

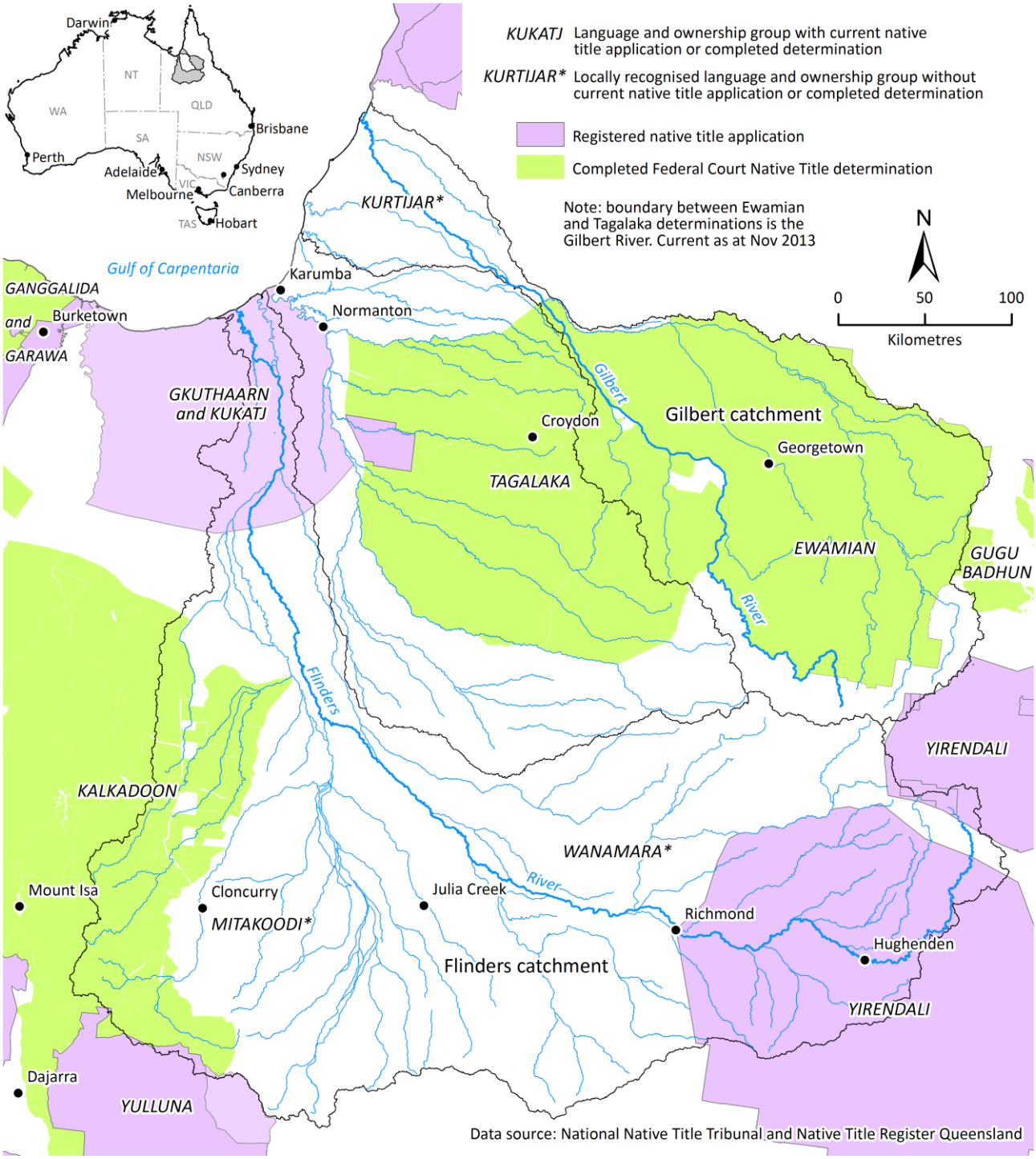

Figure 2.3 Current native title determinations and applications in the Flinders and Gilbert catchments (data source: National Native Title Tribunal and Native Title Register Queensland)

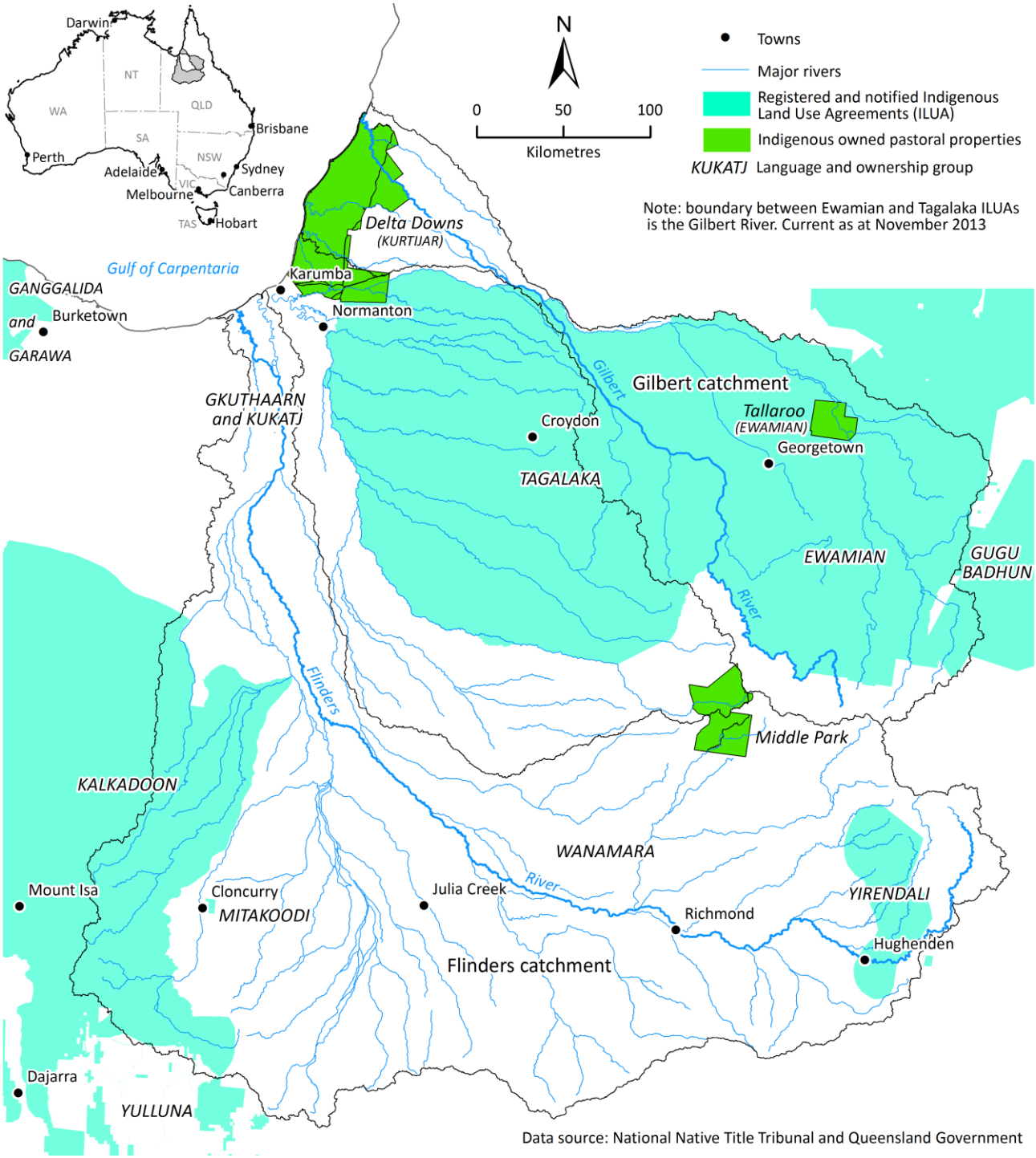

Figure 2.4 Indigenous Land Use Agreements and Indigenous-controlled pastoral leases in the Flinders and Gilbert catchments (data source: National Native Title Tribunal and Native Title Register Queensland)

2.4.6 INDIGENOUS RESIDENCE

Table 2.1 and Table 2.2 show that Indigenous people are concentrated on the western side of both catchments, with the eastern areas less heavily populated. The tables include those who are part of recognised local ownership groups as well as residents who identify as Indigenous but have their origins elsewhere. Indigenous residents who were not identified as being part of major owning groups were not a major focus of the Assessment, so the comments about residence below are focused on those associated with current or impending native title applications. The concentration of owners on the western side of both catchments also means that residential location differs from the group and tenure boundaries identified above. Taking recognised ownership groups as the focus, the following residential patterns exist:

- significant populations of Ewamian people reside in the Atherton tablelands and Cairns rather than on native title land. The primary objective of the Ewamian corporation, based in Mareeba, is to encourage resettlement of traditional lands in the upper Gilbert catchment
- the country of the Tagalaka people incorporates both the Gilbert and Norman catchments. The majority of Tagalaka people reside in Croydon and Normanton in the Norman catchment and in Mt Isa and the Atherton tablelands. Current resettlement aspirations focus on the Croydon area of the Norman, but incorporate potential residence in the upper Gilbert catchment
- the Kurtijar people predominantly reside in Normanton, Karumba and other communities in the south-eastern Gulf. The Normanton Rangers have Kurtijar staff and operate on Kurtijar lands, particularly Delta Downs Station
- the Gkuthaarn and Kukatj reside in Normanton and Karumba, as well as other communities in the south-eastern Gulf. The Normanton Rangers have Gkuthaarn and Kukatj staff and operate on Gkuthaarn and Kukatj lands
- significant numbers of Mitakoodi people reside in the Cloncurry and Mount Isa area as well as in larger towns on the east coast of Queensland
- significant numbers of Kalkadoon people live in and around Mount Isa, and further populations live in communities in the wider south-eastern Gulf and in towns on the east coast of Queensland.
- the Wanamara people reside outside the catchment, predominantly in Yarrabah and Cairns
- a small number of Yirendali people reside in Richmond and Hughenden in the Flinders catchment. The remainder reside further east and south in Townsville, Brisbane and missions such as Cherbourg

The primary pattern in both catchments is of lower Indigenous populations in the eastern and upper reaches of the rivers, and of increased presence in the western and lower reaches. These patterns of residence and dispersal reflect a combination of involuntary relocation, voluntary movement to seek job and other opportunities, and kinship and family links. Research participants from every group expressed a strong desire for conditions that would enable more of their people to reside on their own traditional lands. These conditions included changes to tenure regimes, access to employment and wider economic opportunities, and appropriate social and health services.

2.4.7 INDIGENOUS ORGANISATIONS AND REPRESENTATION IN THE FLINDERS AND GILBERT CATCHMENTS

As noted in the introduction, the Indigenous organisational and political structures within the catchments are quite diverse. Three levels of organisation will be noted here: 1) local Indigenous corporations based on recognised traditional owner groups 2) Indigenous land councils involved in native title and related management, and 3) Indigenous representation in catchment management organisations.

2.4.7.1 Local Indigenous corporations

Indigenous corporations based on local groups can be highly significant representative structures and were crucial in enabling the current study. These corporations are usually governed by a board composed of key members of the relevant language or native title group and act for the interests of the group in a range of

matters from local service provision and advocacy for rights in land and natural resources. In the Gilbert catchment, the Ewamian Aboriginal Corporation has an office and full-time staff based in Mareeba and also oversees the activities of the Ewamian Rangers. The Kurtijar Aboriginal Corporation based in Normanton has similar resourcing levels and acts for Kurtijar interests as well as assisting with the ongoing management of the Kurtijar-owned Delta Downs Station. The Tagalaka people have a corporation but this organisation lacks the resources for a permanent office and paid staff, affecting the profile and level of coordination it is able to generate.

In the Flinders catchment, the Yirendali and Wanamara peoples both have local corporations but do not have permanent offices and/or paid staff. The Mitakoodi people had a corporation with a permanent office and paid staff in Cloncurry during the period of the research, but this organisation has experienced some financial and governance difficulties in recent times which may affect its continued operation. The Gkuthaarn and Kukatj people did not have a major corporation at the time of the research, but this is likely to be generated as the native title application progresses.

2.4.7.2 Land councils

Indigenous land councils in the catchments play differing roles in local affairs depending on the organisation, but are primarily focused on native title issues. Group association to and/or representation by Indigenous land councils varies across the catchments. In the Gilbert catchment, the Ewamian and Tagalaka people are assisted in native title and related matters by the North Queensland Land Council (NQLC), based in Cairns. The Kurtijar people are assisted in native title and related matters by the Carpentaria Land Council Aboriginal Corporation (CLCAC), also based in Cairns.

In the Flinders catchment, the CLCAC are also assisting the Gkuthaarn and Kukatj peoples. The Mitakoodi situation is more complex, with native title issues being managed simultaneously by the South Queensland Native Title Services acting for one group of applicants, and by independent consultants acting for another group. The Wanamara have been previously represented in native title matters by the North Queensland Land Council (NQLC), then moved to adopt an independent consultancy model for native title assistance, but are now revisiting NQLC support for a revised application. The Yirendali people do not have formal land council affiliation and the determination of their native title application is likely to occur soon.

The above situation indicates the importance of the respective land councils to discussions with local Indigenous groups about the ownership and development of natural resources. It also indicates the risks of significant reliance on consultation with land councils alone, without also engaging in contact and consultations at the local group level. Even within groups directly assisted by land council representation, the degree of reliance on the land councils varies, often in direct relationship with the strength of the local group-based corporation.

2.4.7.3 Indigenous representation in catchment management and water planning

The two catchments also differ in terms of current Indigenous representation in catchment management. The Gilbert catchment is one of the catchments overseen by NGNRM. This organisation has housed and supported the NGISG since 2002. NGISG is staffed and run by Indigenous people from NGNRM catchments - the long-term coordinator, Ron Archer, is not from the Gilbert catchment, but is a key leader of a group within the wider NGNRM boundaries. The NGISG is guided by a management plan and a board comprised of key representatives from the traditional owner groups with territory within the NGNRM catchments (NGISG, 2010). This includes representatives from the Gilbert catchment groups. Although securing adequate resources is an ongoing challenge, Indigenous catchment management plans and aspirations, have been clearly articulated by NGISG for the Gilbert and other catchments. These include care for the country, access, revival of cultural knowledge and traditions, partnerships, and policy development and implementation.

The Flinders catchment is overseen by SGC. In the past SGC has relied on key Indigenous employees and/or directors to provide sufficient Indigenous input to its operations. These operations have included a series of successful Indigenous knowledge projects (see 3.7.1). There is currently no separate catchment-level Indigenous planning and consultation entity such as NGISG in the Flinders catchment. However, the

changed staffing at SGC and altered development conditions within the catchments means that revised models for catchment-level Indigenous consultation and planning are currently under consideration (B. Wilson, SGC, pers.comm).

Both the Flinders and Gilbert catchments are incorporated into the water planning process for the wider Gulf region. Limited water planning consultation was undertaken with Indigenous people at the time of the creation of the current plan, but no standing arrangements existing for Indigenous representation in water planning and allocation in either catchment.

Figure 2.5 Cumberland Chimney Lagoon, Gilbert catchment

2.4.8 SUMMARY OF INDIGENOUS GROUP TENURE, RESIDENCE, MANAGEMENT AND REPRESENTATION ARRANGEMENTS

Table 2.3 summarises the existing situation with respect to the major Indigenous groups across the two catchments in terms of ownership, residence, management, and representation. Alongside the geographic scale, the timeframe, and the limitations on existing information, the diversity represented here was a major reason for the adopting an investigative research approach in the Assessment. The table below shows significant variations in existing capacity, resourcing, and ability to participate in natural resource management decision making. Combined with the population profiles given above, it also suggests that groups will have different aspirations and orientations when it comes to the opportunities provided by development – some will be more focused on opportunities and resources for existing residential populations, others will be focused on resettlement. Similarly, some groups already have entities such as Indigenous ranger programs that are a major aspiration for groups without such organisations. The table also shows that certain situations, such as the lack of participation in water planning, are common across groups. The issues summarised in this table will feature in the comments provided in Chapters 4 and 5, and returned to in Chapters 5 and 6.

Table 2.3 Summary of current Indigenous group tenure, residence, and natural resource management arrangements

GROUP FEATURE	EWAMIAN	TAGA LAKA	KURTIJAR	YIRENDALI	WANA MARA	NGAWUN	MITAKOODI	KALKA DOON	GKUTHAARN AND KUKATJ
Catchment	Gilbert	Gilbert	Gilbert	Flinders	Flinders	Flinders	Flinders	Flinders	Flinders
Key townships	George Town	Croy-don	Norm-Anton	Hugh-enden	Richmond	Julia Creek	Cloncurry	Mount Isa	Normanton
Significant number of people identifying primarily as group member	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Group ownership of town land on traditional country	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Not Applicable
Infrastructure on town land	Yes	No	Yes	No	Yes	No	No	Yes	Not Applicable
Local Indigenous corporation with paid staff and office	Yes	No	Yes	No	No	No	Yes	Yes	No
Ownership of significant rural land	Yes	No	Yes	No	Yes	No	No	Yes	No
Significant residential presence on traditional lands	No	Yes	Yes	No	No	No	Yes	Yes	Adjacent
Indigenous ranger program operating on traditional lands	Yes	No	Yes	No	No	No	No	No	Yes
Native title application currently registered	Yes	Yes	No	Yes	No	No	No	Yes	Yes
Native title claim determined	Yes	Yes	No	No	No	No	No	Yes	No
Current ILUAs	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No
Native title representation/assistance from land council	Yes NQLC	Yes NQLC	Yes CLCAC	No	NQLC	No	Divided QSNTS/No	Yes CLCAC	Yes CLCAC
Formal Indigenous catchment and natural resource management entity	Yes NGISG	Yes NGISG	Yes NGISG	No	No	No	No	No	No
Indigenous representation in water planning	No	No	No	No	No	No	No	No	No

Having summarised the current situation for Indigenous people in the catchments, it is important to briefly note the historical circumstances that led to them. These circumstances directly affect Indigenous attitudes to current and future water developments.

2.5 History of the Flinders and Gilbert catchments

2.5.1 PRE-COLONIAL INDIGENOUS SOCIETY

2.5.1.1 The Flinders catchment

The Flinders catchment contains evidence of Indigenous habitation stretching back many thousands of years. The published archaeological record for many locations is relatively sparse, reflecting a lack of attention by both researchers and non-Indigenous local people, the impacts of colonisation and development, and unreliable preservation conditions along the river frontages. Research in the eastern reaches of the Flinders has occurred (Morwood, 1990; Morwood and Godwin, 1982; Wallis et al., 2004a; Wallis et al., 2004b), with Morwood providing a date of 9000BP at Mickey Springs. This is certainly a conservative figure, as there is reliable evidence for Indigenous occupation of the wider highlands until at least 15000BP (Morwood, 1990; Wallis et al., 2004b) and a recent date of 28000BP from the adjacent Norman catchment (Wallis et al., 2009). Hearths generated by Indigenous cooking fires in the Richmond area are of far more recent origin, but demonstrate significant use of the lowlands and floodplains by Indigenous people in the centuries prior to colonisation (Wallis et al., 2004b).

In the late 19th century Roth documented a range of ethnographic data about Indigenous people in the Flinders catchment, notably in the Cloncurry region (Roth, 1897). He details a range of food gathering practices, including the gathering of seeds, honey, edible plants, molluscs, insects, and crustaceans as well as hunting small reptiles and marsupials, birds, emus and kangaroos. These activities would have required the use by Indigenous people of a diverse range of environments, and at times may have entailed the modification of those environments. The use of fire as a hunting and land management tool was widespread across Indigenous Australia (Gammage, 2011) but of particular interest to this study are Roth's observations regarding Indigenous dam and weir construction (Figure 2.6): 'these dams, which may be used again and again, season after season, constructed of rocks and stones, have "breaks" in them (AA in diagram Fig. 224) through which the water rushes on to platforms (BB) built immediately below' (Roth 1897: 94). Roth goes on to describe other fishing techniques, including multi-person fish drives using bundles of grass pushed through shallow waterholes and the water quality manipulation using particular tree species. Such water management and manipulation is an increasingly well documented feature of Indigenous riverine contexts from across Australia (Barber and Jackson, 2012a).

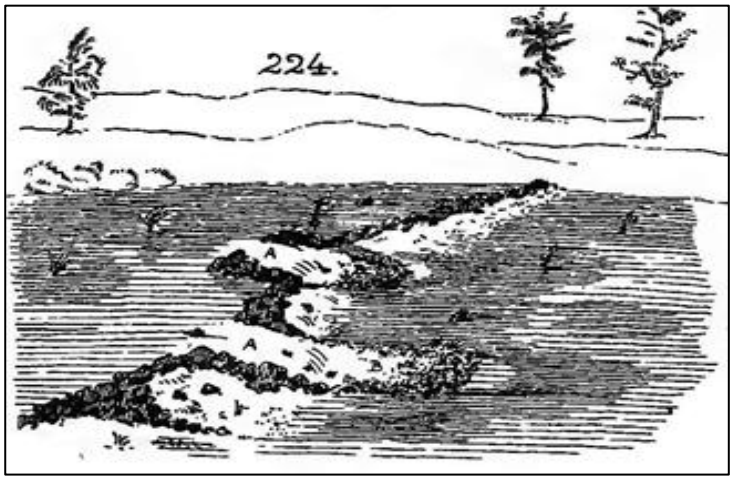

Figure 2.6. Diagram of an Indigenous dam from the Flinders catchment (Roth, Plate XI, 1897: 243)

2.5.1.2 The Gilbert catchment

The Gilbert catchment contains evidence of Indigenous habitation stretching back many thousands of years, but the published archaeological record is sparser than the Flinders catchment. This reflects a lack of attention by both researchers and non-Indigenous local people and to a far lesser degree the impacts of colonisation and pastoral development. However from a water resources context, observations from the early explorers are useful. Wegner reports that Leichhardt skirted the eastern boundary of the Shire of Etheridge and that he described human occupation around lagoons and waterholes:

Large lagoons full of fish or mussels form a greater attraction to the natives than a stream too shallow for large fish, and, from its shifting sands, incapable of forming large permanent holes. Wherever we met with scrub with a good supply of water, we were sure of finding numerous tracks of the natives, as game is so much more abundant where a dense vegetation affords shelter from its enemies." April 13 (Leichhardt, [2004]1846)

More extensive material appears from the Jardine expedition of 1864. The Jardines journeyed along the Einasleigh (Byerley, 1949) and noted a 'great many fishing weirs were observed in the channels of the river, from which it would appear that the blacks live much, if not principally, on fish. They were well and neatly constructed' (Byerley, 1949, Sept 11 entry). Four days later the Jardines again passed natives who were fishing in a large lagoon and, as no hostility was evident, the men were able to witness fish spearing using a long heavy four-pronged spear, barbed with kangaroo bones. On October 18, the party observed a 'mob' of natives possessing reed spears and a large stone axe and cooking fish by a waterhole. Other observations (Oct 21 and 26) noted Indigenous people camped near waterholes and the October 26 entry goes on to describe that group as 'puddling a waterhole for fish' and possessing reed spears tipped with hardwood, flint, fish bones, and iron. They also possessed fishing nets 'differently worked to any yet seen, and very handsome; a sort of chain without knots.' Two other observations (Oct 14 and 18) note the absence of grass along the river due to Indigenous lit fires, presumably for hunting purposes. It is possible that burning along the river edges was a tactic to deter the presence of the cattle the Jardines were also moving. However as this was early in the documented colonial period, a purpose related to Indigenous food sources seems more likely. Wegner (1993:27) repeats an observation from the early colonial period that Indigenous people swam underwater down the flooded Einasleigh to spear horses (Black, 1931). Extrapolating from the colonial material and examples from elsewhere, Wegner describes a picture of seasonal dependence on water resources with 'the population spreading across the land and into the ranges in the wet season, and contracting back to the rivers in the dry. Once the rivers had stopped running, they would have further contracted to the permanent water-holes and lagoons and the spring-fed creeks' (Wegner 1993:133). This is consistent with seasonal movements reported from other tropical locations (Keen, 2003). Wegner goes on to identify the many aquatic and riparian foods in the area: mussels, waterlilies, crocodiles, edible plants, birds, and game which needed water. Although the sources are fragmentary rather than systematic, the general picture they suggest is of active habitation of the region by a substantial number of people who were using locally available and appropriate technologies to exploit aquatic and riparian resources.

2.5.2 COLONISATION

2.5.2.1 The Flinders catchment

The Burke and Wills expedition encountered Kalkadoon people, whose contemporary territory incorporates areas of the Flinders catchment (Federal Court of Australia, 2011). The first documented explorers of the eastern Flinders catchment were the expeditions of Frederick Walker in 1861 and William Landsborough in 1862 (Fauvenec, 1967) searching for the lost party of Burke and Wills. They were closely followed by pastoralists who from 1863 took up large leases such as Hughenden (Henry, 1883) and Lammermoor Stations (Morwood, 1990). In 1868 the first of a number of gold rushes on the Gilbert River led to a further influx of Europeans and increased pressure on local Indigenous people. Several historical sources (Loos, 1982; Morwood, 1990) document the spearing of settlers and their stock by Aboriginal people - from Hughenden Station, Robert Gray estimated that during the 1860's between 10 to 20% of the white population was killed during Aboriginal attacks (Gray in Loos 1982:45). The retaliatory 'dispersal' of

'Aboriginal troublemakers' by local land holders and later by Native Police, who were stationed at Hughenden from 1870 (Gray, 1913; Morwood, 1990) was far more devastating. MacGillivray estimated that the 'Oonoomurra' from the Flinders River numbered 200 people in 1865, but no more than 100 by 1880 (MacGillivray, 1886). By the end of the 1870s, the combination of disease, malnutrition and colonial violence had resulted in the deaths of large numbers of people and substantial disruption to traditional ways of life.

In subsequent decades, the survivors were further dispersed, forcibly relocated, or moved voluntarily to towns, missions and other settlements outside the catchment including places such as Yarrabah and Palm Island in North Queensland, and Cherbourg and other reserves further south. Some people found work in the pastoral and mining industries. Mining was primarily concentrated in the Gilbert catchment, but sections of the Flinders catchment were also important in early mining activity. Richmond was established in the 1860s, but did not prosper until the 1880s when the Woolgar Goldfield was opened up to the north. The influx of predominantly Chinese miners saw the townships of Upper and Lower Woolgar established, and at its peak Woolgar had 5 hotels and a vineyard (Anon, 1989). By 1900 most of the mines in the area had closed, but the impacts of mining on the Indigenous inhabitants were already severe. The first bores in the Richmond area were sunk in the 1890's as the country was opened up for pastoral use and the railway link from the east arrived at Richmond in 1904 (Bird, 1998). In general terms, fewer Indigenous people remained in the upper and middle reaches of the Flinders catchment than in the lower reaches. In 1897, Roth was appointed Northern Protector of Aboriginal People and in 1900, he opposed the practice of driving Aboriginal people off leasehold runs:

These runs are held only on grazing rights – the right to the grass – and can only be upheld as against people taking stock, &c., through them. It certainly is illegal for station-managers, &c., to use physical force and threats to turn blacks (or Europeans) so travelling off such lands. Carrying the present practice (might against right) to a logical conclusion, it would simply mean that, were all the land in the north to be thus leased, all the blacks would be hunted into the sea. (Roth, cited in Federal Court of Australia 2011)

2.5.2.2 The Gilbert catchment

The first documented case of colonial presence in the Etheridge area was Leichhardt's expedition in 1845, and brief mentions of sightings of Indigenous people (but not significant contact) appear in journeys by Gregory (1856) and MacKinlay (1861) (Fauvenec, 1967). More substantial contact occurred with the Jardine (1864) and MacDonald (1865) expeditions, but the general character remained one of avoidance, armed defensiveness and occasional uses of gunfire and violence by the colonial parties (Wegner 1993: 136-137). The pastoral settlement of areas to the south and east of the Etheridge area occurred rapidly during the 1860s, and Wegner (1993:138) notes that hostilities occurred as a result of colonial attitudes, cultural misunderstandings, and competition for food and water resources. The last was particularly important, as pastoral homesteads and outstations were sited close to permanent water, leading to considerable conflict (Curthoys, 1987). As Wegner describes:

'Keeping the blacks out' meant shooting at any Aborigine to be found on the plains and river valleys necessary for grazing sheep and cattle, which was disastrous for a people who depended on the rivers and permanent creeks for most of the year. (Wegner 1993: 139)

The cattle themselves also trampled and ate traditional plant foods used by Indigenous people, leaving them with little choice but to retreat to the higher ranges. These provided shelter, but in some places were waterless and therefore devoid of food. Attacks on cattle stations, their animals and their owners may have been both retaliation for past attacks by colonists and a direct attempt to gain food. The gold rushes of 1869-70 brought police to the area, but Indigenous people were entirely unprotected from attacks by white colonists, and miners and pastoralists remained vulnerable. That vulnerability is evident in the story of the desertion of Gilberton (Reynolds, 1993). The town was established and grew rapidly following the discovery of gold in the area in the late 1860s, numbering several thousand by the early 1870s. An initial attack by Indigenous people on Chinese mining camp increased tension and fear, but it was the news of gold on the Palmer River to the north in August 1873 that caused the majority of the population to leave. The remainder (approximately 100 people) still included many Chinese miners, but when they departed following further attacks, the remaining Europeans also decided to go when police were redeployed to the

Palmer River. Reynolds (1993: 52) deemed it probable that Gilberton was abandoned 'largely through fear of the blacks' and this is certainly how it is remembered in northern folklore. The ranges provided some protection to local Indigenous people for another decade, but colonisation continued and mining restarted once the Palmer rush had subsided. Mining was particularly problematic for Indigenous people, as armed men were scattered throughout a wide area, competing for resources and monopolising and polluting water supplies. Figure 2.7 below shows a plate from an early text about mining in the Etheridge and displays both the prominence of water for colonisers and some of the tensions created by their presence (Lees, 1899 [1986]).

Figure 2.7 Photographic collage of early colonial mining on the Etheridge River goldfields (Lees, 1899 [1986]). The bottom left and top right panels both involve activities ('ground sluicing' and 'prospecting in the ridges') which displaced Indigenous people and degraded water quality. The bottom centre panel, entitled 'danger' contains an Indigenous man in the background aiming a spear at the miner

By the mid-1880s, starvation, the threat of further violence, and inconsistent access to water forced the remaining Indigenous inhabitants of the region to settle on the fringes of various towns in the area. The number of Indigenous people living around Georgetown in particular was substantial, and complaints about begging, prostitution and disease made by colonists led to a range of government and police actions (Wegner, 1993). A Reserve was considered in 1887-1888, but dismissed on the grounds that the soil and climate was unsuitable for agriculture and so the government would bear the cost of establishment as well as feeding and clothing the residents. The lack of a major Reserve or mission substantially affected Indigenous population levels in the upper Gilbert catchment thereafter. The use of Indigenous labour for domestic and stockwork for much of the 20th century meant that some people were able to access the area, but often from a base outside the catchment, such from the Reserve at Croydon.

2.5.2.3 Continuity of connections and traditions

The pressures of colonial violence and forced relocations made the maintenance of pre-colonial connections and ways of life difficult. Pre-colonial indigenous societies were characterised by decentralised systems of power and authority based on age, knowledge, ability and gender. Combined with a strong respect for individual autonomy and freedom, this created flexible governance systems at the local level as well as the ability to make regional connections as and when appropriate. Decisions were made and negotiated collectively by people sufficiently knowledgeable and experienced for their opinion to be taken seriously. However these systems were not visible in the way that the parliaments, courts, and police forces of the colonists were, and many colonists failed to recognise the existence of Indigenous governance. Those who did recognise some form of governance often attempted to impose a system that suited their needs, such as creating one representative 'chief' through whom all business and communication with Indigenous communities could be conducted. It is difficult to maintain a system of governance and authority when powerful 'actors' in the situation either do not recognise the existence of the system or do not acknowledge that it has authority over their actions.

This circumstance has been an ongoing challenge for Indigenous peoples, particularly in relation to how country has been managed and how decisions have been reached. At any given time, the current custodians of the knowledge of a given territory and its people have significant obligations to protect and pass on as much as they can to subsequent generations. Through processes of introduction, education and, in some cases formal kinship adoption, those with direct ties to the country can bring people with strong connections elsewhere into relationship with the powers resident in the landscape. These kind of processes have been particularly important in such situations where colonial impacts have been significant. In the present day, connections to the land are asserted and maintained throughout the catchment by Indigenous people with a range of genealogical, traditional, and residential ties to it. While some of these connections are formally recognised through government and/or legal processes, others are well-known and respected locally but have yet to receive formal external recognition.

Multiple names (and naming variants) and overlapping territories are a common feature of early historical accounts of Indigenous Australians. While some variations may be due to simple miscommunication and mistranscription, the complex nature of Indigenous territorial and social systems also played a role. In such systems, several (correct) alternative answers could be provided to questions about personal or group identity and associated territory. One contemporary parallel are the various answers to the question 'where are you from?' which may prioritise suburb, city or town, state, or nationality depending on the context. Larger regional Indigenous language groups contained named subgroups with stronger associations with particular parts of the overall territory. Individuals were enmeshed within complex kinship relationships which related to these groupings, but also crosscut them in regularised patterns according to systemic rules and conventions. The size of territories, and the rules, conventions and kinship systems which related people to territory and to one another, varied across Australia, but the existence of such ownership systems, rules and conventions seems to have been universal (Arthur and Morphy, 2005; Keen, 2003).

In the Gilbert catchment, some early information on ceremonial, initiation and marriage patterns was documented (Mathews, 1898), but social systems in this area did not receive the attention they received elsewhere. Tindale identifies four main traditional linguistic and territorial groups: the Ewamin, Tagalak, Jangaa and Wakamin, but Wegner (1993: 132) notes considerable overlap between the described territories of these groups in Tindale's account. In the Flinders catchment, Roth writing in 1897 uses group names and territorial associations consistent with the present day groups centred on the wider Cloncurry region – Wanamara (Woonamurra, Wanomara), Mitakoodi (Mayi-thakurti) and Kalkadoon - as well as a range of other group names and identifiers. Other historical sources from the same era identify Yirendali (variously Jirandali, Yeerunthully) with the upper Flinders River (Morwood, 1990). Alongside the above group identifiers associated with current native title and other tenure and land management regimes, other less common group names, variants, and identifiers recorded for Indigenous people in the catchment include Mayi-Yapi, Mayi-Kulan, Ngawun, Mbara, and Gugu Badhun (Horton, 1994).

2.6 Wider ecological, social, economic and historical values

This report focuses on Indigenous values, rights and interests in the Flinders and Gilbert catchments in general, and in water and agricultural developments in particular. However in maintaining that focus, it is important to note that the values attributed to Indigenous people have correlates in other groups and individuals in society (Strang, 2009). As Ayre and McKenzie (2012) argue, identifying 'cultural values' as solely related to Indigenous people, and even more, that all that Indigenous people value can be articulated and identified as 'cultural' is problematic. In planning terms, it can marginalise or 'compartmentalise' (Jackson, 2006). Indigenous people, and fail to recognise the way in which scientific and bureaucratic agendas are also the product of particular cultural influences and values, albeit contrasting ones at times. All human beings have values and concerns that can be categorised as social, economic, historical, ecological, recreational, etc. The lack of familiarity with Indigenous values within wider Australian society makes reports such as this one useful, but to presume that only Indigenous people value landscapes in cultural terms is misleading. The need for research into a range of human values has been noted in documents about dam development in the region (GSD, 2009) including such things as aquatic ecosystems, human consumption, primary and secondary recreation, visual amenity, cultural and spiritual values, industrial use, aquaculture, drinking water, irrigation, stock water and farm water supply, and so on. Values that do not involve the direct use of a resource can be harder to define and identify than those involving use, but can be equally, if not more influential on how particular resource developments are perceived.

3 People, culture and country in the Flinders and Gilbert catchments

3.1 Introduction

Chapter 3 of this report contains comments from the field research with Indigenous research participants from the two catchments, as well as selected observations and notes from the wider literature. The comments are organised in subjects rather than by catchment or group, and progress from comments that demonstrate relevant underlying principles and themes to more specific remarks about water, environmental change, and development impacts and aspirations. Some issues are common across the two catchments; others are specific to particular catchments or to particular areas and/or people within a catchment. However ongoing relationships between groups across space and time are an important feature of Indigenous societies, and two key topics below are intergenerational and downstream responsibilities respectively. This means that issues from one location are important to other locations and other people. It also means that there are strong correlations between Indigenous perspectives and best-practice holistic catchment management and development impact assessment processes.

The chapter progresses in sequence, beginning by introducing some key Indigenous voices and historical memories of life in the catchments. It then shows how water and culture are intertwined, using two important matters often raised by Indigenous people when talking about culture - beliefs (the Dreaming) and activities (in this case hunting and fishing). This provides foundations for demonstrating a range of further values – the ownership of the country, obligations and responsibilities to past, present, and future generations, and the need to preserve natural and cultural resources, particularly cultural heritage. These in turn provide foundations for the emergence of appropriate protocols for non-Indigenous people, represented here by comments about consultation, compliance, and compensation. Chapter 3 provides principles and foundations for Chapter 4, which focuses more directly on issues of water and agricultural development.

3.2 Indigenous groups in the Flinders and Gilbert catchments: history and memory

Indigenous people have lived in the catchments for many thousands of years. Colonisation effects have driven where and how people lived, but historical memory and the stories of the elders about the past are nevertheless important in contemporary knowledge, identities and attitudes:

Our great ancestors, years ago, our people used to live on banks and permanent water points. But then the pastoralists came and put the homestead there, where the people lived, pushed them out. And they are battlegrounds, massacre sites. They done all that through here, used the black trackers to find where they are living. Those sites are important memory sites, a lot of people tell stories about them. There were records there, on Esmeralda station, but it burned down. On my Dad's side, my grandmother, she went on and lived to 100 years old. She spoke about them, about the massacres. Granny told us about that. The protector and the missionaries were tough on that, did not want us talking our language and our history. But Granny did it.

Senior Tagalaka C

I am the eldest of the Ewamian, 80 years old and uncle to everyone. I was taken away as a 'half caste' child at 5 years old and sent to the mission near Kuranda. My brother was taken too. We grew up at the mission, but when we turned 18 we got a special pass from the mission to come back and visit. We had to show that pass to the police in each town as we went. Sometimes we even camped at the police stations. We came,

but we weren't allowed to stay and work in the Gilbert area, not then. Some of my family stayed behind when we were taken, but they have all passed away now, like Daisy Green and her son Donald. Some younger ones are staying now at Tallaroo. Georgetown was a tough place before, but things got better, once I was living there. Them days are gone, we can fight the case now.

Senior Ewamian A

I can remember my father taking us back to Georgetown as young kids – 9, 10, 11. He would have to get that permit, talk to the police. We would go there to visit family. The old man would always talk to us about Forest Home and Green Hills, those important places. We could not go there, it was too hard - getting transport, and then permission from the farmer. But he would always talk about that. Georgetown was a tough place in those days. You were on your own if you went into the pub. Now it's different, some of those old people have gone, and the young people are not so hard, they all grew up together.

Senior Ewamian C

I'm talking on behalf of Croydon and Georgetown. Those areas where my family comes from and where I grew up. In the past we used water for growing things, like a little garden. But we had to bail the water, and carry it. Cart it. We needed it for washing, cooking, those things. At that time it was hard to visit Tagalak country. We didn't have our freedom then. We stayed in Croydon, but my father and mother worked on the stations. My father went to work on Strathmore. Sometimes my mother worked there too, and we would stay with families. They told us where the good waterholes were, what sort of fish you could get there. My father and mother often talked about our country, Gilbert country.

Senior Tagalaka A

When I was a teenager I left school and went working on the cattle stations. [I was] sending money back to help my family, support my brothers and sisters. Mount Surprise, Spring Creek, Rosella Plains, Jutson at the Gilbert River. My brother used to work here at Tallaroo. That's when i got to see my country, working as a cattleman. My brothers too, and my sisters, they worked at the house, as a cook or a maid.

Senior Ewamian C

I've been here in the Flinders 64 years. I was born in Julia Creek but came here when I was about 2, living 14 years in Richmond. I been a ringer, shearer, fencer. Living and working all around here.

Senior Yirendali D

Our grandmother used to talk about the old days, what they done. When she was young they used to walk to Chillagoe, hunting and trading. They used to go across the Staaten river, everyone met up there. When the white man took over, then the old people weren't allowed to tell us much, when you are in an Aboriginal reserver you could not move much. They were sent were they were told to go. Until Dad got an exemption under the Act. But when we was kids we'd go out hunting and camping, getting goanna, killing birds with a shanghai. We'd see Little River, or the Gilbert River on school holidays.

Senior Tagalaka D

My grandfather was born at Cobbold Gorge, and was left at the door of the station. That is where we get our name, from [the pastoralists at] Robin Hood Station. I never spoke to them about that.

Senior Ewamian E

My grandfather was taken to Yarrabah in 1903. He had no brothers, but his sisters went to Cherbourg and they had big families. My father went back to the Flinders as a teenager, working at stations around Milungera and Richmond. My aunties also went back, working around Maxwellton. Dad had lots of brothers and sisters. I have too.

Senior Wanamara A

There is a massacre site out there, the last massacre site of the Tagalak people. It is a dry area, so the old people would have been living there, right on the Gilbert.

Ron Archer, NGISG

3.3 Culture

When speaking English, Indigenous people often describe their 'culture' as a crucial attribute. Culture is a complex term with a range of meanings, even in technical usages. What is frequently emphasised by Indigenous people are interrelated principles, beliefs and activities – stories, laws, songs, dances, kin relationships, hunting and fishing practices, and so on. Two elements will be highlighted here – religious beliefs about the landscape (often known as the Dreaming) and hunting and fishing activities.

3.3.1 DREAMING

Indigenous creation beliefs did receive some attention in Gulf water planning documents, as reflected in an explanation in the economic and social assessment report for the GWRP:

Indigenous stories explain the world's creation through the exploits of mythical ancestors. These origin myths form the basis of the laws governing all aspects of traditional behaviour. Under Indigenous law, each group is obliged to look after the dreaming places, or sacred sites, created by the ancestral heroes and to hand on the traditional songs, stories and ceremonies that commemorate the ancestors' adventures in that territory. (DNRMW, 2006b)

Water is often a crucial focus for Dreaming narratives, and serpents are particularly associated with water places:

When you look at Cobbold Gorge, that is where the Robertson River comes out, further down. The springwater comes out of the sandstone into the creek, then into the Gilbert River. It never dries. That water is never capped. The story goes that if the spring is there, there rainbow serpent keeps it flowing. You get rid of that flow, you have no serpent...Water has power, spiritual connection. The rivers are boundaries. The serpent sits under the spring water, sits there.

Senior Ewamian E

There are spiritual ones in the rivers, the serpent created the rivers as he went on.

Senior Mitakoodi A

They are part of our Dreaming, the serpent in that downs country, where it gets really hot. The Flinders always has the waterholes here and there. We find a lot of activity on the riverbank camps and scatters. The river was the main one, part of our living, our Dreaming.

Senior Wanamara A

Other Dreaming beings are implicated in the creation of the country and with water in particular:

We still carry our Dreaming there, the two hawk brothers fought over a firestick. The stick fell down onto that country. We are Downs people, we traded with the Tagalak, we made nets out of Spinifex.

Senior Wanamara A

There are totems, catfish Dreaming down there. We only take what we need. It is there to share. We always know that there is someone coming after us.

Mitakoodi D

Us Ewamian, we are all bird people. When people pass on, they become part of the country. When I look at the country I see my ancestors. That's why when I see irrigation, it is disturbing, because we also have that connection beneath the ground. As time goes on, that's where everything goes. It gets buried. It will affect all that, the country itself. The connection to the country is through the water, without that we don't have country. Without water - the rivers and waterholes, birthplaces and story places – we are nothing.

Senior Ewamian B

The ecosystems, the species, lots of those animals are Dreamtime totems. The chosen ones, that's your Dreaming, you need to look after that one, and protect the environment where it feeds, nests and lives.
Senior Yirendali C

These Dreamings are understood as ancestors to living people and so they underpin the values and principles in more formal statements about the country produced by living people. This includes such documents as contemporary management plans:

I give thanks and praise, to honour our Yirendali Ancestors; our "Elders" and kinship families; and the power of self-worth that commit strong belief to uphold our continued existence, exercise and enjoyment of Yirendali values and patterns.

Acknowledgement by James Hill (Hill, 2008)

3.3.2 HUNTING AND FISHING

Indigenous people across Australia frequently emphasise how their culture is bound to particular places, and to particular ways of interacting with those places. This can include undertaking formal ceremonial activities such as dancing, singing, and painting, avoiding powerful or dangerous places, protocols for introducing new and unfamiliar people to sites, and talking to ancestors while on the country (Barber and Jackson, 2011b; Biernoff, 1978; Morphy, 1984). Hunting and fishing, and the resources and sensory experiences they provide, are also stressed as crucial to ongoing Indigenous cultural and kinship connections:

The two river systems join into one. That's the main hunting area for us. The different seasons are there for different things. Just before the wet, it is the sharks, then the big white catfish and the cherabin come in the wet, and we collect heaps. There is plenty, there's always feed. In the wet season you can't get wallabies, but the dry season that's the time they fatten up. There are also the bush plants that come up around the river. Djungala, bush cucumber, comes up along the river. People love to go out there when the rivers are running. Sometimes there are crocs, but people know when to go into the water and when not to. We go neck deep into the water to get bait and fish.

Senior Gkuthaarn and Kukatj C

I was down there yesterday and saw heaps of fish, barramundi catfish. You could just see them swimming in the water. I caught a big mob in fifteen minutes. But we spread it around, make sure when we are getting food that we don't always go to the same areas. We send it back to our families. Those old people love to get a taste of fish from the country. They wait for it, those old people. They know it is coming and they really want that taste of the country.

Senior Ewamian C

Georgetown and Croydon both had soaks, before they built that dam. We used to catch tiny perch in that water, at Croydon. We used to go to Little River, fishing. My mum and dad were working at Strathmore, fishing. Sometimes we would see the Gilbert in flood, and the goanna would get washed down. We would get food from the flood. In some places the water would last a lot longer, and we would go there. Lots of times, Aboriginal people didn't camp on the river, they camped on the flat areas, then they walked to the river for hunting.

Senior Tagalaka B

I think [agricultural development] could cause work for Tagalaka. But there's got to be a time where we go on that place, hunting up there. There's got to be water there, for fishing.

Senior Tagalaka D

That bush is still used, for hunting kangaroo and goanna. Fishing in the waterhole. We are living here now, but we go when we are visiting family.

Senior Yirendali C

We have a lot of recreational activities and that, people go camping, fishing, taking the kids and teaching them. And with our bush tuckers and bush medicines, we don't want those springs to dry up. We want to be able to protect them.

(Kalkadoon representative, cited in Ayre and McKenzie 2012)

Downstream in the catchment areas, a number of witness statements in the recently lodged Gkuthaarn and Kukatj claim contained comments about fishing and hunting visits to rivers in the claim area, including the Flinders catchment (Clare Farley, P&E Law, pers. comm.) and coastal and estuarine fishing was noted in the Gulf water planning process as being particularly important to Indigenous communities:

The majority of traditional fisheries are concentrated on coastal and estuarine areas within two to four hours of travel by boat from communities. The fishing includes line fishing, crabbing, hunting dugong and collecting molluscs and crustaceans. The Gulf river deltas contain some of the Gulf of Carpentaria's most biologically productive marine areas. Reliance by Indigenous people on native food sources for subsistence continues today. The mangroves are a foraging ground for Indigenous groups in search of mud shells (large bivalves), crabs, carpet snakes and flying foxes. The fringes of the mangroves also provide large holes or hollows for native bees nests. It is estimated that subsistence production may account for up to 23 per cent of all foodstuffs consumed by Indigenous communities (DNRMW, 2006a).

The practical resource gathering activities of hunting and fishing are one important component of Indigenous cultural life, and Dreaming beliefs about the landscape are another. They show how Indigenous connections with country are simultaneously material and spiritual, grounded in everyday experiences but also part of wider cultural and ancestral connections. Both also underpin Indigenous conceptions of ownership of land, water, and associated resources, which is the subject of the next section.

Figure 3.1 Eastern Creek, Flinders catchment

3.4 Ownership and access

Indigenous people understand themselves as the prior and continuing owners and custodians of the traditional lands they claim. In pre-colonial times, formal boundaries may not have been as clearly demarcated as those that exist today for mapping and native title claim purposes, but the owners of key areas were known, and it was those people who would be expected to negotiate formal arrangements and demarcations when disputes arose. The disruption caused by colonisation affected boundaries and demarcations, and the main effect has been the reduction of some internal complexity and the resulting use of broader regional group and linguistic identifiers to cover wider areas of country. Despite the retention of a strong sense of ownership, colonisation also substantially affected people's ability to access

particular areas. In recent times, that ownership has been recognised through native title processes, and access has been enabled through ILUAs. The following section reviews comments related to these issues.

3.4.1 OWNERSHIP, BOUNDARIES, AND ACCESS

The comments below demonstrate a sense of ownership and responsibility for resources, as well as how that responsibility was demarcated based on geographic features, particularly rivers:

We got our boundaries. The high points, like the mountain ranges. The high points and the rivers. The river is a boundary. But we share the river itself. In the past, there were rules about using and sharing, the water and the fishing. I heard about those old people, growing up on the river, catching fish with a spear or with their bare hands.

Senior Ewamian C

The rivers are also part of the boundaries between the peoples.

Senior Mitakoodi D

The river systems identify our boundaries. They are part of our dreaming.

Senior Wanamara A

Creeks and rivers, that's all for the boundaries. My father used to tell me, the Tagalaka and Kurtijar worked together for years like this [hands clasped and intertwined]. We are married into each other. My grandmother, she told us about the boundaries of the Tagalaka people. About the lands up the Norman River, to Woolgar mine - the site of some trouble - east to the Gilbert. They used the rivers as a boundary, that's why we used the river as a Tagalak boundary. We met with the Ewamian, did our research the old blackfeller way, walking the country. Seeing where they cut the bark for the canoe, cut the trees. Down here [Normanton] they could not use them easily. Too many crocs. But up there, you could see them.

Senior Tagalaka C

MacKenzie (2008) describes the significance of riverine corridors and waterholes as sites of habitation, and note that Memmott (2004: 49) identified how the river systems operated as divides between the coastal territories of Indigenous nations in the Gulf Plains region. Such geographic demarcations had kinship and descent consequences - claims of ownership and the identification of roles and responsibilities in ongoing management were based on this combination of geography and kinship relationships. The current management plan for the Yirendali people not only contains management actions, but a section identifying key ancestors and their descendants who are considered the most appropriate people to be both monitoring and undertaking management action.

However although lines of ownership and responsibility were retained, colonisation affected Indigenous access to traditional lands. Although employment in some industries, particularly the pastoral industry, provided some capacity to visit traditional lands, constraints on access are clearly evident in comments and recollections about life in the catchments:

At that time it was hard to visit Tagalak country. We didn't have our freedom then. We stayed in Croydon, but my father and mother worked on the stations. My father went to work on Strathmore. Sometimes my mother worked there too, and we would stay with families. They told us where the good waterholes were, what sort of fish you could get there. My father and mother often talked about our country, Gilbert country...Belmore station, Station Creek, we used to go fishing there. Ventures, another place on the Gilbert River. There was no car. But sometimes we would put a big family on the truck. Go out for a picnic, to fish.

Senior Tagalaka A

When the white man took over, then the old people weren't allowed to tell us much. When you are in an Aboriginal reserve, you could not move much. They were all sent where they were told to go. Until Dad got an exemption under the Act. But when we was kids we'd go out hunting and camping, getting goanna, killing birds with a shanghai. We'd see Little River, or the Gilbert River on school holidays.

Senior Tagalaka D

The pastoral industry provided a major means for people to access traditional lands, and many of the current generation of elders saw the country via this means earlier in their lives. However the decline in Indigenous involvement in the pastoral industry means that despite the removal of formal constraints on movement such as police permits, incidental access is now more difficult in terms of logistics, resources, and relationships with current landowners.

It is the same up in there, a place called Agate Creek, there is springwater there. The Chinamen had a camp. 25 years ago I seen it up there. I want to take my kid and show him, but I got to get a permit [permission from the farmer] to go back. I know I am from that country, but I got to get a permit.

Senior Ewamian E

We need funding for Tagalaka people, having the time to go through that area, check for gravesites, camping areas. We can identify [where] we don't want you going in to this area. You can see where the camp [archaeological campsite] is. We are not stopping them from building it, but we want to show where it goes. We need money for someone to come out and work with us. We know where it goes. If they are going to put a dam there, we need cultural heritage to come in.

Senior Tagalaka D

Access can be hard. I've seen a lot of my country doing clearances for roads and that, but there is so much that we can't get to, that needs to be checked. People knew where all these significant places were, and there are lots that have been documented, but lots where we have not been. We need money and we need access.

Senior Yirendali C

Strong local relationships can be crucial to ongoing access, as Senior Yirendali A commented that access was rarely an issue for her as she and her family were so well known in the area where they lived their whole lives. However on a broader community level, access issues can make publicly accessible recreation and fishing zones like Chinaman's Dam near Cloncurry particularly important for local Indigenous people (L. Terrell, Cloncurry Shire, pers. comm.). The Cloncurry area is one of a number in the Flinders catchment where formal recognition of prior Indigenous ownership is yet to be finalised through the native title process, meaning that Indigenous territorial boundaries and claims of ownership remain outstanding. However this is not the case in the Gilbert catchment, which is discussed in more detail below.

3.4.2 NATIVE TITLE

Native title constitutes formal recognition of prior and ongoing Indigenous interest in the land, and lines of descent and geographic boundaries are two of the key features in native title processes. Rather than necessarily involving full freehold ownership, contemporary native title recognition is primarily achieved through the recognition of a series of ongoing rights and interests with their origins in Indigenous traditions. Such rights are necessarily limited, particularly with respect to water, as they are difficult to prove, and much is extinguished by common law and legislation (see Appendix A).

In terms of local data, a section of the recent determination from the Tagalaka native title claim in the Gilbert catchment makes clear that land and water are treated differently in native title terms, particularly in situations where exclusive possession to land is recognised:

Subject to paragraphs 9, 10 and 11 below, the nature and extent of the native title rights and interests in relation to the land and waters described in Part 1 of Schedule 1 are:
(a) other than in relation to Water, the rights to possession, occupation, use and enjoyment of the area to the exclusion of all others; and
(b) in relation to Water, the non-exclusive rights to:
- *(i) hunt, fish and gather from the Water of the area;*
- *(ii) take and use the Natural Resources of the Water of the area; and*
- *(iii) take and use the Water of the area,*

for personal, domestic and non-commercial communal purposes.
(Federal Court of Australia, 2012)

A later section of the Tagalaka determination shows how the distinction between land and water is less significant when non-exclusive rights are being granted, but equally that the rights conferred across both zones are very limited - general access and rights to hunt, fish, camp, and undertake a range of activities considered to be a part of traditional Indigenous cultural life. This list or 'bundle'of individually listed rights is in contrast to the generalised exclusive rights to land identified in the extract above:

Subject to paragraphs 9, 10 and 11 below the nature and extent of the native title rights and interests in relation to the land and waters described in Part 2 of Schedule 1 are the non-exclusive rights to:
(a) access, be present on, move about on and travel over the area;
(b) camp on the area and, for that purpose, erect temporary shelters on the area;
(c) hunt, fish and gather on the land and waters of the area for personal, domestic and non-commercial communal purposes;
(d) take, use, share and exchange Natural Resources from the land and waters of the area for personal, domestic and non-commercial communal purposes;
(e) take and use the Water of the area for personal, domestic and non-commercial communal purposes;
(f) light fires on the area for domestic purposes including cooking but not for the purposes of hunting or clearing vegetation;
(g) conduct ceremonies on the area;
(h) teach on the area the physical and spiritual attributes of the area; and
(i) maintain places of importance and areas of significance to the native title holders under their traditional laws and customs and protect those places and areas from physical harm.
(Federal Court of Australia, 2012)

The other determination in these catchments is for the Kalkadoon people over areas of the Flinders River and it contains similar provisions for non-exclusive rights to both hunt and fish and to take and use water for personal, domestic and non-commercial communal purposes (Federal Court of Australia, 2011). Some research participants commented critically on the constrained set of rights that are granted through native title, and on the need to share culturally restricted information in order to negotiate such rights. However the comments below about the recent Tagalaka determination demonstrate that native title recognition is genuinely valued and important to local people. From their perspective it can provide a context and foundations for appropriate negotiation, and for a greater respect for the cultural significance of the land and its owners:

We, the elders, past and present, live, love and respect this precious land. Today, tears are not of sorrow, but of glory for the return of our land.

Janet Busch, speaking about the Tagalaka native title determination (Petrinec, 2012)

It [discussions about development] should all stay on hold, until we got our country back. December 11 [2012]. It is not about money, it is about respect for the land. Right now it is not home for me, I won't feel really comfortable there until we get it back. The companies are ripping holes in it, putting things in the rivers. Everything should stay on hold, then when we get it back, then we will talk together.

Senior Tagalaka E

Graziers are touchy about native title, but that is not the problem. It is just the acknowledgement of the cultural significance. It does not take their land. We have to build up a relationship, working together.

Senior Kurtijar A

Native title was there, and I had to talk with the pastoralists, engage with them: 'we are not here to take what you own, we are here to protect what is there.' Particularly the heritage sites and the waterways.

Senior Yirendali C

3.4.3 INDIGENOUS LAND USE AGREEMENTS

A significant driver of the interest in native title is because of the wider agreements that can emerge from such recognition, even prior to formal determination. ILUAs have been a crucial tool for the negotiation and management of pastoral relations. The significance of the ILUA which enabled the Ord settlement has already been noted, but ILUA developments in the eastern Gilbert catchment are also noteworthy. At the time it was signed in 2004, the Kidston Station ILUA was reported as the first instance of a collective of graziers signing a formal agreement with traditional indigenous landowners to enable access to multiple pastoral properties for camping and hunting. The agreements were voluntary commitments, but in an effort to protect significant sites from damage, also included steps for pastoralists to consult with elders before making improvements to the property. Comments made about ILUAs indicate their political and practical importance from an Indigenous perspective, as well as their potential utility for other land users:

This recognition that we are the traditional owners of this country means a lot... [pastoralists] aren't used to sitting down and making agreements with black fellas, but times got to change and I think this is the start. From now on the relationships between black and white, hopefully, will mend.

Ron Richards (Hodge and Digirolamo, 2004)

When the ILUAs came in, I remember one pastoralist was very concerned, he thought they would take his country and his stock. But the ILUA is just for access, for hunting turkeys and fishing where our people used to.

Senior Tagalaka C

The pastoralists should talk to the TOs and get the ILUAs done to protect them. Then you have 3 stages of protection – the TOs, the shires, and the graziers. Mining companies and government don't care, they'll come and take what they want in the night. As a community, you live together, you work together, you are all talking the same argument, to manage and to protect. Otherwise they'll just come in and smash everything to get big dollars. If we do the ILUAs with fishermen and the shires, we stick together.

Senior Kurtijar A

The irrigation developments need ILUAs with us to give them real security. The new leases require the pastoralists to improve the land.

Senior Yirendali B

ILUAs continue to be important for a range of applications, including for managing mining arrangements such as the Ewamian agreement for the Agate creek mine signed in 2011 (Anon, 2011). In terms of water planning, ILUAs have also been discussed as a possible means for managing water allocation issues within Indigenous groups themselves as well as between Indigenous groups and other water users (CLCAC, 2012). However comments by a senior Ewamian member indicate ongoing problems with ILUA processes in terms of reaching agreements, variations between parties to the negotiation, and ensuring time and financial resources to enable and maintain the agreement:

Access is still a big problem. The ILUA is there, and we want those agreements. But a lot of places don't want to sign them, and every pastoralist has got a different idea. The bloke down the road has a different idea, the bloke next to him different again. We need to do those negotiations, but sometimes we can only do it on the weekends. A lot of them are up for renewal. But a lot of people don't want blackfellers on their property. There could be a sacred site and burials and we can't see them. We do the right thing, ring them in advance, tell them how many people. One bloke, he wants to show his property to tourists and they won't go there to look at cattle. He's going to show them the heritage sites and the rivers, but he is not letting us on to see our own places.

Senior Ewamian C

The comments above indicate the significance of Indigenous boundaries and ownership, as well as the degree to which government and legal attempts to recognise that ownership are valued. But they also highlight challenges to and for Indigenous ownership relating to ongoing access to country, to the limited

rights and recognitions obtainable from formal legal processes, and to the resource limitations that constrain effective agreement making and implementation.

3.5 Obligations and responsibilities

As the preceding sections show, Indigenous ownership and connections with the country incorporates cultural beliefs, practical activities such as hunting and fishing, boundary demarcation, engagement with current options for recognition, and ongoing aspirations for access. These features in turn entail a series of obligations and responsibilities – to the country, to ancestors and future descendants, and to those living elsewhere, particularly downstream. In contexts such as the Flinders and Gilbert catchments, the maintenance and regeneration of sustainable Indigenous lives into the future is particularly important, involving the sharing of cultural knowledge, care for the country, and economic aspirations.

3.5.1 OBLIGATIONS ACROSS TIME – INTERGENERATIONAL RESPONSIBILITIES

The long residence times, continuity of Indigenous cultures, and beliefs about the ongoing presence of ancestors in the landscape creates a strong basis for an ethic of intergenerational responsibility. Living people have obligations to the ancestors and elders both past and present, as well as to future generations, because all are connected to the same traditional lands. The following comments demonstrate this:

Water is the main one. When we are gone, our future is still here. We'll always be here. We are looking at the big picture, for the younger generation

Senior Mitakoodi A

Future generations, they'll continue living off the land here, caring for the country. We need to think of them. By doing heritage, we are looking after our culture.

Senior Yirendali A

I'm a heritage officer, but I'm standing there with an initiated lawman behind me, with the elders behind me. The river systems are the lifeblood of the land.

Senior Mitakoodi C

Our serpent, he is a traveller, he created all those rivers and channels. We don't own the country, we are looking after it, for the future generations.

Senior Yirendali C

I don't want to see it where, 100 years down the track, those people will be saying 'my grandfather really messed up putting that dam there'. They've got to spend the money, make that viable. Do it properly, first time. Do something up to the standard. Imagine [it in] 20 years time. I'm thinking about the mob that will come along. I've seen the Indians in America, Washington State. They signed up the leases and now they can't do anything with their land, there are towns and cities there. The young generations are saying 'our forefathers stuffed up on this deal'.

Senior Ewamian E

Obligations to future generations are not just about conservation and preservation, but also about building a sustainable economic presence on the country, reversing some of the effects of past colonisation, and providing opportunities to revive and maintain cultural traditions:

We are starting it now. We've got Tallaroo, the rangers. They live there, they go to town, get meat and bread. We need to get more people back there. Some of those young people have not been there, it's going to be hard but we got to try. We need to set up the land, a meeting place, something to enjoy the waterhole and fishing and hunting.

Senior Ewamian A

We've got to try and change the lifestyle of these kids. If we don't do something about it now, they're gone. This generation is changing and they're losing interest in wanting to be ringers.

Mr Edwards, speaking about the employment and training of young people on the Kurtijar cattle station Delta Downs (Andersen, 2009)

This combination of intergenerational responsibility and the transfer of knowledge and skills is clearly evident in the management plan written for the Yirendali people:

I am honoured and indebted for the use of the Indigenous Cultural and Intellectual Property rights (ICIP) of my Ancestors, and for Mother Nature's special gifts of life, that have entrusted me with the wisdom, courage and spiritual strength to guide me to bring about change and influential leadership in cultural and legal redress for the purpose of protecting our values, wealth and prosperity that accords fair treatment and quality of life style choice for our children today and our children of the future.

James Hill (Hill, 2008)

Key components of the management vision in the Yirendali management plan also emphasise young people and the future

- *To build strong educational building blocks for sustainable social and economic growth*
- *To set in place strong binding agreements that provide security and protection for our children and their children's children: and*
- *To build strong relationships that will equally share in power, responsibility and accountability to provide a high quality of equal shared benefit to all: especially the First Australians (Hill, 2008).*

The focus on intergenerational responsibility, particularly the creation of opportunities and the transfer of skills to younger people, is also evident in broader documents focused on Indigenous development and/or water development. The CLCAC analysis of a Gulf Strategic Indigenous Reserve noted that traditional owners consulted about the issue had said that any money earned from water trading should be used to support community projects, particularly education programs for the maintenance of traditional knowledge and for youth leadership, and infrastructure to support residence on country (CLCAC, 2012). A significant outcome of the 2013 Kakadu development forum was the creation of a Future Generations Panel to give younger people a voice in development issues and support skills and knowledge transfer (NAILSMA, 2013).

3.5.2 OBLIGATIONS ACROSS SPACE - DOWNSTREAM AND NEIGHBOUR RESPONSIBILITIES

Complementing Indigenous obligations to past and future generations on their own traditional lands are the obligations Indigenous people have to groups which are near neighbours or occupy land downstream from them. Traditional ties and intermarriage between groups can mean that near neighbours are often direct relatives, but obligations could also extend beyond immediate and direct kinship relationships. Of particular importance to this study are responsibilities to those living downstream, and this principle is clearly evident in comments made by research participants, incorporating concerns about Indigenous inhabitants, but also about non-Indigenous people and industries:

The thing is those people downstream. If anything happens up the top end, then it goes down. It should not be stuffed up. Those Kurtijar, and the Gulf fishermen. I heard somewhere that this area is the richest place in the Gulf. If they change that river, it goes downstream.

Senior Ewamian D

There are all those people downstream, thousand people we've got to think about. And then there is the Einasleigh for us, if something happens up there, if they start messing about up the stream, it comes to us.

Senior Ewamian C

It is always on my mind - What about the people down this way (around Normanton)? Miranda, Delta, Stirling. The water coming off that area goes to them - the next door neighbours.

Senior Tagalaka B

I'm worried about if the water is getting down to them. It is terrible for animals, if there is no water. It needs to be kept running, only take what you need. There are others downstream.

Senior Yirendali A

Downstream, we got to think about that. Some of the family are from around this area. My wife is from the Delta area.

Senior Tagalaka D

About the pesticides, I got to speak to them chemical blokes, our blokes got to know what to use. There's the fish industry downstream. Like the rubber vine, we wanted to burn them at the right time, wait for the fuel and the dry season and burn them, not use all the chemicals. We got to made aware of that, by those chemical blokes, what you can do and can't do. Delta, Miranda, fisheries, them poor buggers [downstream], they got to live somehow. So that water is important.

Senior Tagalaka C

Downstream, well there is a cattle industry on the Gilbert, businesses down there. They are a neighbouring tribe, we got to stop a lot of things happening here.

Senior Ewamian E

However other research participants in the Gilbert catchment are focused on the economic potential and the economic effects of water development more than on the environmental impacts downstream:

I can't see that the river has changed that much in the last 20 years. Maybe a few sand changes. Look at the mango plantation. They are doing really well. If our people object to the dam itself, well to me, it's a good thing. I can remember when the pastoralists were carting water. Georgetown is going down, pretty dead now, nothing but the shire and the cattle. They need to build it up.

Senior Ewamian A

Once the flow gets past us, then it is up to the next mob. I'm a great believer in looking after yourself. But I know the fishermen, the fisheries people. We had a meeting in Karumba. I asked 'where are they, who is looking after them? The pastoralist is well looked after - he'll get a weir if there is no dam. But the fishermen need support too.

Senior Tagalaka C

Nevertheless, social obligations flow up and downstream, and the Kurtijar and the closely related Gkuthaarn and Kukatj people are particularly sensitive to the downstream effects of development, as the river mouths of both the Flinders and Gilbert Rivers flow into the south eastern Gulf area:

People are pushing cotton but I am worried about the chemicals. They say they can use genetically engineered cotton, but generally cattle and cotton don't mix. The Flinders is a major river system for the Gulf, and the chemicals can get into the cows and into the food chain. The flows into the sea are also an important issue. If we have a drought on the country, we also have a drought in the sea. The Gulf needs the water.

Senior Kurtijar B

If you stop the natural flow, you stop the fish and the breeding system, the prawns and other things. They need freshwater to breed, migrate. Different chemicals, and pests and weeds, they are also the issue. Rubber vine, we have been trying to get on top of it for 10 years. The [Delta Downs] property was sold because of it, you could not get to the river, you'd get jerked off the horse. But if people upstream don't do it, it just comes back. The floods come, bring the rats and the pigs, the weeds re-seed. Every second year we are seeing new stuff. We've told the rangers, the chopper muster pilots, to take photos, GPS, look at the pig numbers. It is part of our plan, our management plan.

Senior Kurtijar A

Senior Gkuthaarn and Kukatj A: I think testing might be good. You'd have to do testing. That Georgetown mango farm is right next to the river, maybe things are coming in from there. There is the flood flow, but also the low flow. And it goes out into the ocean
Senior Gkuthaarn and Kukatj B: Seagrasses and everything.
Senior Gkuthaarn and Kukatj A: Whatever lives close to the shore, dolphins, turtles, fish. They might be affected.
Senior Gkuthaarn and Kukatj B: The mouths of the rivers are all shallow sand bars.
Senior Gkuthaarn and Kukatj A: There might not be an impact straight away, but eventually over time, you may get some sort of damage from upstream.

The focus here is on the Flinders and Gilbert catchments, but the complex hydrological flows through Yirendali country make the issue of water development across their wider territory particularly important for Yirendali people. Water from their lands to the south of the catchments under study is believed to flow all the way through to the Eyre basin:

We can't just build a dam up there, and destroy neighbouring country. It is a matter of respect, and all parties need to be aware of it. 'Aboriginal' is all across Australia to me, we are one people. Downstream is a part. And the animal life, they don't stay in one place. Surface water goes both ways from our country, even down to Lake Eyre. What is underneath, they are finding more and more through exploration – water is running everywhere.

Senior Yirendali C

Indigenous people have a range of obligations across time – obligations to ancestors, elders, young people, and future generations are all important in maintaining good relations with one another and the land. Alongside these obligations are a range of obligations to neighbours, and in the case of water, particularly neighbours lying downstream of surface and/or of groundwater flows. There are clear correlations between these sets of responsibilities and contemporary best practice land and catchment management, suggesting that greater involvement of Indigenous people in such processes would be mutually beneficial in the context of increasing development in Gulf catchments.

3.6 Cultural heritage

The general sense of intergenerational responsibility has an important contemporary focus in the need to preserve cultural heritage. Cultural heritage has a number of components, including:

- archaeological sites (such as artefact scatters, hearths, stone tool knapping areas, scarred trees and stone arrangements)
- places associated with traditional stories or traditional knowledge
- places of historical importance
- places of contemporary importance (e.g. for recreational uses or for the resources they provide) that are important today (such as food or ochre-getting places or places used for recreational purposes).

The broad term incorporates historical heritage associated with non-Indigenous people, but it is popularly understood to refer to Indigenous people in particular. In fact, Indigenous interests can sometimes be taken to be fully exhausted by issues of native title and cultural heritage. The wider perspective adopted here is directly intended to counter that view, providing a fuller and more sustainable account of Indigenous values, rights and interests, and of Indigenous development plans and aspirations. Nevertheless, the material below indicates the significance of cultural heritage matters to Indigenous conceptions of ownership and obligation with respect to traditional country (land and water).

The *Aboriginal Cultural Heritage Act 2003 (ACHA)* protects heritage sites regardless of the tenure status of the land and protects areas whether or not they actually contain physical evidence of the past, rather than just physical items. Penalties for failing to protect Indigenous cultural heritage values consist of individual fines up to $100,000; corporate fines of up to $1,000,000; Land Court injunctions; and Ministerial stop orders for harmful activities. Agreements in the form of Cultural Heritage Management Plans (CHMP) are

now an important tool in heritage management. They describe the heritage values of the relevant area and the protocols needed to maintain them, and are mandatory in situations of high-impact developments. Further desktop professional advice and analysis of this topic was commissioned as part of this study. Heritage analysis relating to the immediate vicinity of proposed major storages was incorporated into the dam infrastructure report of the Assessment (Petheram et al., 2013). Analysis of wider heritage issues associated with water and agricultural activity is contained in the separate consultants report, reproduced here as Appendix B.

Cultural heritage is a crucial area of ongoing concern, current activity, and future potential for Indigenous people with broad-ranging ramifications. In their study associated with water planning in the Gulf, MacKenzie noted an explicit link made between cultural heritage and both environmental protection and community development:

Land is precious to us, that's the mother, that's the identity, that's all about caring for country. And obviously cultural heritage is linked to that, but its more than that, its about an educative process and its about building the capacity of everyone in our community to have an understanding of how to utilise all of the resources on country to keep it sustainable. (Anonymous Indigenous respondent in MacKenzie, 2008).

The current Yirendali management plan also identifies the high regard given to the cultural landscape, linking it to ownership (title and possession), as well as ongoing livelihoods (Hill, 2008). In highlighting the overall importance of cultural heritage, the section below focuses on three major issues – damage to heritage sites, the strong relationship between heritage sites and water, and the ongoing lack of information about these catchments with respect to cultural heritage. These both reflect and enhance the key issues evident in the professional heritage analysis produced in Appendix B.

Figure 3.2 Grinding grooves at Tallaroo Station, Gilbert catchment

3.6.1 DAMAGE TO CULTURAL HERITAGE

The interview results clearly showed ongoing concerns about damage to heritage sites, some in the recent past, some going back decades. The causes vary, and include inundation from water development, incidental damage from pastoral activity, and wilful or deliberate destruction:

The Kidston dam, we did not know about it, we weren't consulted. And just think of all the cultural stuff there. And not one traditional owner got a job in the mine there. There must be employment coming along

too. Everyone might agree to the mine, but don't forget about the cultural sites, how is that side going to be protected?

Senior Ewamian C

We need to know what the impacts are, what people are going to do. There are permanent sites, fireplaces. There was a 400 year old fireplace where the new lake is [in Richmond], but no one had any interest in it. We need to be there, monitoring the digging activity, not just walking on the ground looking. Sometimes the digging brings things up.

Senior Wanamara A

The cattle destroy the art, rubbing against them, rubbing it off the walls.

Senior Yirendali D

One farmer built a dam right on an initiation ground. He was told not to do it but did it anyway.

Senior Mitakoodi C

They wanted to pump out water to put on the road on that property. They could have taken it from the top waterhole, but just because the lower hole was deeper, they knocked all the trees down to get to the lower hole. That was an important place.

Senior Tagalaka E

Women used the rivers and the water for childbirth. There was a big birthing site and that pastoralist blew it up. The spring was there, and would flow all the time. But they did not know it would go with the moon, when the moon was full, the spring would flow and the river was full, when the moon was small, it was only a trickle.

Senior Mitakoodi B

The negative impacts of development on cultural heritage are serious and ongoing, and are perceived by some Indigenous people to constitute significant infringements on natural and cultural property rights (and therefore subject to redress under property law) rather than infractions of the relevant cultural heritage act. However research participants also noted considerable improvements in how heritage issues are handled over time, and that at times it is necessary to sacrifice some heritage value in order for important projects to continue:

20 years ago they did not worry about Aboriginal people, now they have to. They were destroying a lot of history, thousand year old stuff. Now they are starting to wake up.

Senior Ewamian A

If we can move those tools or objects, we move them, if we can't move the site, then maybe we need to sacrifice it to let the job go on. We don't want to stop it. Australia has to go ahead, if the country goes broke, I will go broke too.

Senior Wanamara A

3.6.2 CULTURAL HERITAGE AND WATER

Water-related development poses particular risks for cultural heritage, as there is a clear relationship between water sources and past and present Indigenous habitation. MacKenzie (2008) noted the heritage significance of riverine corridors (that may include habitation sites, and rock art sites, especially in areas of sandstone and granite), and waterholes in black soil country. As one example, well excavation in Cloncurry in 2008 led to the discovery and disturbance of a burial site that was also identified as a camping and hunting ground (Osborne, 2008). The strong association between water and heritage is supported by comments from participants in the current research:

There is cultural heritage all along that river, everything connects to the source. Old people camped along the rivers, the main areas, the sources and springs. When that river comes up, you get new things, artefacts coming from the banks.

Senior Mitakoodi B

When we do cultural heritage, we know that people can't go without water. So we when we are checking the river areas, we know that even if we can't see anything, people must have been camping here. You never go anywhere without water. The fireplaces, when you see them, they sometimes had heating stones, for cooking. So there must have been people there for a while.

Senior Yirendali A

My elders in the early days, they used to live off the water, for fishing, drinking, survival really. Water and waterholes. Where you see waterholes you'll see lots of paintings and stuff. In the Robertson, the sandstone rock, the water flows out and into pools. Wherever you see a pool, you can see where they have been, sharpening tools on the rock. Aboriginal people used water for different purposes. To me it's very important.

Senior Ewamian A

Attention to specific water sites is crucial, but the nature of the terrain and of Indigenous occupation means that heritage assessments must cover a wider area of potential habitation:

Lots of times, Aboriginal people didn't camp on the river, they camped on the flat areas, then they walked to the river for hunting. We need to see where they are going to be farming, see what is there. The flood might be 10km wide, and the waters can be spread out from the main channel. So sometimes the camping areas might be 20km (away).

Senior Tagalaka B

3.6.3 CULTURAL HERITAGE INFORMATION NEEDS

The spread of potential habitation sites combined with the large scale of the catchments makes the cultural heritage assessment task a significant one. The depopulation and access restrictions resulting from colonisation has decreased baseline heritage knowledge amongst the remaining Indigenous population, yet the ongoing cultural obligations described above and the increasing importance of native title and related statutory regimes make an adequate baseline of cultural heritage information critical for contemporary Indigenous managers. As a consequence, the information needs in this area, and the necessity for adequate resources to address them, emerged regularly in comments made during the fieldwork interviews:

We need to look at all those areas. We haven't been up that way, walking up through. We are wanting to go out and do it, to walk that area. It won't take a day - it will take a week or a month. But we need to do that, we want to do that. It is very important to us, very, very important that we should know what is there. Once they are washed out and gone, they are gone. Those scar trees and grinding areas we would know them when we see them. It is important to get up there and do that work. We can move the stone axe, but not the big grinding rock, the trees where the boomerang is, or the shield. Some trees, they got the marks where they get the honey out, or get the possum. Sometimes there are fruit trees on the bank, we can smell the blossom, the wild figs.

Senior Tagalaka B

We have so much to do in terms of mapping those areas. We are still in the process, 4 or 6 years and still going. ...But there is not enough time to get all this mapped. This is where our things are, but the water will go over that. Like the conservation mob, they want to look after plants and stuff but don't worry about the ancestors. I'd like to see all my old ancestors protected too.

Senior Ewamian C

For me the biggest issue is cultural heritage, all the old people buried there. They will get flooded. It's like flooding Bob Katter's father or Campbell Newman's father. We did a Ewamian rangers project through Wild

Rivers using the map, recording the history. There might be 12-20 sites in that flooded area (the Green Hills site). We focused on that area because of the dam proposal. We spent four days there, and it is tough country.

Senior Ewamian B

We'd like to know what is on the ground before they dig it up. We want to know where the old people have been, what they have been doing. It is very important to me to know that. You don't find artefacts on the basalt so much, where the miners are drilling. It is the gorges where all the water and food is. But it is hard for us to get there. The little stony ridges, it would take time to do them. But there must have been water there.

Senior Yirendali A

There could be a lot of people buried up there, we don't know. We did not get told about that. We heard a bit about it, but not that much. It would be a shame to lose it all.... Only last week, some of the elders were talking, we need to be walking there, when there is holidays on. We should, as Tagalaka people, go on the land, identify some of the places where this might go on. Janet said they had some people. In the old days, when people died, you just buried them where they are. Family from our side. There could be a lot of old people up there. Even people from Chillagoe. When you stop to think about it, people moved around, people lived off the land, healthy. There could be burials of family from elsewhere there too.

Senior Tagalaka D

They need to do a site survey, walk the Gilbert on both sides, Tagalak and Ewamian, record the waterholes and look for the soaks. When you find those soaks, you can dig them with a stick. The wallabies know, you can see where they have smelled the water and dug the ground. Near the soaks you can see the grinding stones nearby. The old people knew where that water was, knew that the wallabies knew. We took photos of that, a waterhole just surrounded by animal tracks, no footprints. You need to read that country properly. The old people knew that.

Ron Archer, NGISG

In terms of riverine areas, the dynamic quality of the river flows can reveal new artefacts and sites over time, making repeat surveys of key areas important:

One year you can have a flood and bury things, next year you get a little flood, and things get cleared, you can see them. We need to look through those areas to see what is clear. We don't know what is out there.

Senior Tagalaka B

The river will run, and then it spreads out, 50-70 miles wide. The water slows, and all the stones settle. There is a fresh layer of artefacts or material each time, but the gravel diggers take it without knowing. Sometimes we've found 100 or 140 artefacts in 100 metres, cherts, etc. Lots of archaeologists who come here don't recognise it, because they are not exposed to it.

Senior Mitakoodi C

The key issues identified in this section are damage to heritage sites, the proximity to water being a significant predictor of sites, and the information gaps about the heritage landscape. In the absence of major resources to address this situation, one strategy adopted by Indigenous managers has been to attempt to register rivers, or river reaches, as cultural heritage sites or areas. Two groups in the Flinders catchment have investigated this possibility in recent years in an attempt to manage and protect both cultural heritage assets and the associated water resources that sustained their formation. Further and more detailed technical information about Indigenous cultural heritage issues is available in Appendix B.

3.7 Conservation and land management

Cultural heritage management and protection is one component of wider Indigenous obligations to manage and protect traditional lands. Indigenous land and natural resource management has been occurring for

millennia, but in recent years it has received more formal attention through a range of means (Altman and Kerins, 2012; Hill et al., 2013):

- being acknowledged by government departments in wider assessments of land management activities
- having Indigenous roles and representatives in regional NRM organisations such as SGC and NGNRM
- having Indigenous management regimes formalised in management plans such as the Yirendali plan
- having Indigenous knowledge recognised in scientific and natural resource management assessments
- the provision of funding support for Indigenous-oriented projects from programs such as Caring for Our Country
- and the formalising longer term management capacities in entities like Indigenous ranger organisations.

These actions have substantially increased the profile and economic footprint of Indigenous land management activities. The increased recognition they represent has been complemented by a greater Indigenous awareness of conservation management concepts and terms such as habitat, species, overharvesting, and introduced pests:

We are trying to preserve the water, for the habitat and the species. They had a sandalwood factory at Hughenden. It's a significant tree, for bush medicine, for the aroma. We shut that down, they were taking too much. We've got to look after the flora and fauna, the wildlife, the soil, the ecosystems. The grasses, they are significant to, the seeds, we ground them for flour, and they are food for the animals.

Senior Yirendali C

They need to look after the water, monitor it. If they pollute the rivers, it will also kill the fish. The rubber vines choke the native trees. We've got to be able to manage it.

Senior Yirendali A

If you don't worry about it, there will be nothing. If the miners want to move a tree, we won't let them. We don't let them knock it down, just to putting in a road.

Senior Mitakoodi B

The Indigenous employees and Indigenous-oriented activities hosted by the regional NRM groups NGNRM and SGC have played an important role in enabling the involvement of the wider Indigenous community in formal land management activities. Both SGC and NGNRM (through its support for the NGISG) have assisted the sharing of new knowledge associated with natural resource management as well as fostered existing Indigenous knowledge of traditional lands.

3.7.1 INDIGENOUS KNOWLEDGE

Knowledge exchanges between scientific and Indigenous approaches remain an important aspiration for Indigenous people working in natural resource management contexts across Australia. This can include exchange opportunities associated with water planning and water development (Ayre and MacKenzie, 2012), but more often traditional knowledge studies are driven by partnerships with conservation and NRM bodies. In the Gilbert River, NGISG has undertaken a range of projects with this focus, including a biodiversity research partnership with James Cook University (NGISG, 2009) that exchanged important information about the saw-shelled turtle (*Wollumbinia latisternum*) and a range of Indigenous knowledge and traditional owner coordination projects which have led to national and international exposure of NGISG activities (R.Archer, NGISG, pers.comm.).

In the Flinders catchment, Indigenous knowledge has been the focus of a range of projects through SGC. One was a Traditional Knowledge Recording Project in partnership with the Mitakoodi Juhnjlar Aboriginal Corporation to digitally record traditional and contemporary stories relating to natural resource

management for health, food, medicine, tools, biodiversity protection and other cultural purposes (SGC, 2008). A more recent collaboration has resulted in a book about Mitakoodi medicinal knowledge (Connelly and Wallis, 2013) and Mitakoodi people have also produced books about food knowledge (Ah Sam, 2006). A further SGC project involved a partnership between traditional owners, the CLCAC, the Rural Fire Service, and NAILSMA (Anderson, 2008). It focused on traditional fire knowledge, and the way that early burning thinned out wooded country to produce 'green pick' for hunting and food gathering later in the dry period. This enabled people to avoid travelling long distances to find food, but had the added effect of establishing fire breaks which prevented late season wild fires, something that is crucial to wider fire management in the present day.

Indigenous pastoral knowledge has also been crucial to the operation of stations such as Delta Downs, including minimising the impact of extreme events such as floods (Andersen, 2009). Indigenous knowledge remains an ongoing source of pride across Indigenous Australia. Fostering such knowledge is a crucial aspiration for Indigenous people as it continues to be important to Indigenous peoples' everyday lives and to managing contemporary landscapes.

3.7.2 INDIGENOUS RANGERS

The Indigenous-oriented activities associated with regional catchment management agencies are crucial to contemporary Indigenous involvement in management, but they have been joined in recent times by Indigenous rangers operating at smaller scales, often based on local groups. These ranger programs are very popular with Indigenous groups and wider local communities, and the establishment and/or growth of these ranger organisations is a key aspiration for all groups across both catchments (see Chapter 5). Two ranger programs currently operate in the region – the well-established Normanton Rangers, and the recently established Ewamian Rangers. The Normanton Rangers were initially restricted to the designated Wild Rivers areas of the Staaten and Morning Inlet, but have since expanded into fencing for biodiversity on Delta Downs Station, bird colony surveys, marine turtle and ghost net work, fire management, weed eradication, and pig shooting - they have shot 32,000 pigs in the Gilbert catchment since 2009 (M. Hogno, pers.comm.). These activities have significantly increased the profile and popularity of the group amongst graziers, who have seen direct benefits to their properties from ranger activities. The recently established Ewamian Rangers are based in Mareeba and have concentrated their activity on Tallaroo Station, which was recently purchased through the ILC and is being managed by the Ewamian people. Tallaroo and the Ewamian Rangers are very important to long term Ewamian aspirations for their country.

Similar to the information needs about cultural heritage documented above, there are clear information needs with respect to wider land management. Surveys, assessments, and mapping of flora and fauna are emphasised in both existing and proposed Indigenous conservation management activity. Regular surveys are crucial to ongoing work by the Normanton Rangers, and key milestones in the Yirendali management plan include the establishment of a knowledge management database and the mapping of cultural and natural heritage sites. The emphasis on survey work is consistent with discussions in broader forums, as the 2013 Kakadu development forum noted the need for comprehensive natural and cultural resource mapping in order to identify appropriate areas for development (NAILSMA 2013: 35).

3.8 Consultation, compliance, and compensation

The cultural attachments to traditional country experienced by Indigenous people lead to a sense of ownership, to a sense of obligation to near neighbours and to past and future generations, and to ongoing attempts to appropriately manage natural and cultural resources. These foundations lead in turn to a series of expectations with respect to the activities of non-Indigenous people on Indigenous lands. Such expectations are multi-faceted, relating directly to the discussion of the potential meanings of 'engagement' highlighted in Chapter 1, but three key issues emerge from the research results presented here – consultation, compliance, and compensation. Consultation refers to early and regular ongoing communication about activities undertaken on traditional lands. Compliance refers to the need to adhere to agreed protocols and principles as well as formal policy and legal requirements. Compensation refers to

the need for appropriate recompense in situations where traditional lands are negatively affected, where non-compliance occurs, or where Indigenous opportunities are constrained by the activities undertaken.

3.8.1 CONSULTATION

Consultation is the first and most crucial stage of engagement with Indigenous people by non-Indigenous people focused on management and development issues. It is a potentially complex area, with a range of possible protocols and models being useful or applicable depending on the circumstances. Rather than an extended discussion, a series of examples are presented here to highlight key points. The first of these is the identification of the appropriate people and organisations with whom to speak, and the appropriate locations for those discussions:

The foundational principle of talking to the right people for that country is critical. It is also important to acknowledge regional cultural differences and local protocols, as too is acknowledgement and consideration of requisite legal requirement possessed by land councils.

(NAILSMA 2013: 31)

In relation to location, there are Indigenous protocols and restrictions about speaking whilst present on other peoples' lands and/or speaking about country for which one is not an owner. MacKenzie (2008) noted that two of the three formal Indigenous consultations about Gulf water planning were held on Kalkadoon country, constraining the role that Indigenous participants from elsewhere were able to play in those forums. High-capacity individuals are frequently called upon to be involved in a wide array of policy discussions relating to natural resources of the region, and this can place them in a difficult position and also stretch their capacity to contribute.

Location and identifying the correct people with whom to speak is important, but so is the timing of initial contact. Consultation with Indigenous groups can often occur after development plans have been scoped and formulated, rather than at the early stages of formulation:

They made that plan [for the Green Hills dam], but only spoke to us right at the end. They should talk to the people on the land first, but we seem to be the last ones that people go talk to. We have to get everyone together, and hear about what is happening at the start.

Senior Ewamian D

It may initially appear desirable to undertake Indigenous consultation once project objectives have been outlined and scoped as potentially feasible. At that point the need for the conversation and the object of focus is clearer. However making major progress in project scoping prior to undertaking Indigenous consultations can leave people feeling excluded about crucial early decisions regarding lands and resources over which they believe they have a moral and legal claim. A potentially useful analogy here for non-Indigenous urban residents is how they would feel if a development proponent were to request a feedback meeting with them as the homeowner regarding a scoped proposal for developing their back yard. The most common reaction would be that the homeowner would be expected to be consulted prior to, rather than after, the formulation of the proposal. The analogy is not perfect, but does suggest some of the problems that can be created by leaving Indigenous consultation until a later stage of project development. The recent development forum also noted that engagement means 'engagement from the beginning to the end' (NAILSMA, 2013: 31), emphasising the need for consultation to be ongoing rather than an individual event.

In terms of the consultation itself, attention to the content and conduct is crucial. MacKenzie (2008) noted further problems with the Gulf water planning process:

The highly bureaucratic and technical nature of both the process and the discussion was not considered to be conducive to effective indigenous representation, and there was no opportunity to feedback into the process in a way that prioritised indigenous values (MacKenzie 2008:52).

MacKenzie describes how community presentations to Indigenous groups in that process were not sufficiently tailored to the audiences, with the presentations relying on a high level of water science knowledge and generally being more suited to irrigators and local government staff.

A further risk for Indigenous people in such consultations is that the nature of group decision making processes will not be properly respected. This report contains a range of opinions from individuals across the two catchments rather than formal group positions and such a process can yield important information. But open consultation as a part of group decision making can also carry some risks:

One of the problems with consultation is people ask everyone and then only listen to the often smaller group who agree with what they want to do.

Ron Archer, NGISG

Divisions during processes of group decision making are common, and may require a range of support structures for them to be successfully negotiated. The northern development forum identified the need for formal support to enable Indigenous partnerships for economic development:

For broader agreement to Indigenous partnerships (not just participation) in economic development, participation protocols allowing for access to Federal funds to support robust institutions and adequate resourcing for partnerships are required (NAILSMA 2013: 31).

Partnerships need to be built on appropriate participation protocols and robust institutions, and these both require and enable effective group consultation and decision making processes. In the Flinders and Gilbert catchments, some existing consultation processes have been operating effectively, others less so. One significant challenge for both the eastern Flinders and eastern Gilbert catchments is the low numbers of traditional owners who currently reside there. This increases the logistical and transaction costs associated with consultation. Relatively low rates of local residence can also decrease the opportunities for informal contact between local parties and such contact during the periods between formal negotiations can be crucial to securing successful resolutions. The sustainable and economically and socially viable re-settlement of traditional country remains an ongoing aspiration amongst groups across both catchments.

3.8.2 COMPLIANCE

A second key expectation amongst Indigenous owners can be summarised as compliance. This incorporates less formal 'good faith' agreements, but also the need to transfer those into formal requirements of relevant policy and legislation:

Protocols need to be legislated or formalised and adhered, and if they are not followed, there must be consequences (NAILSMA 2013: 31).

From an Indigenous perspective, policy and legislation is important, but ensuring compliance is also a matter of resources to police the requirements:

The legislative tools are there, but what is required is resourcing. Resourcing to enact, and compliance and enforcement. At the moment there is only one officer in Mount Isa examining compliance with the conditions of EPA exploration licenses. It is rubber stamping rather than real oversight.

Senior Yirendali B

The water licenses have got to be policed. There has got to be follow up. We send damage to heritage sites to the DERM people, but it sits in a basket. We need positive outcomes, action.

Senior Mitakoodi A

Is the (water) volume going to be policed? Ok, there is extraction, everyone gets a license, but the government and the council do not police it. They get a gravel license, dig it anywhere, but it is not monitored and policed. They sell sand out of the river. The river is always nice, and you can dig anywhere and get water. If that water is stopped, it is all going to dry out.

Senior Mitakoodi D

Compliance requires a combination of legislative instruments and appropriate resources, but also a level of trust between parties working the land. This is particularly so for Indigenous people in situations where resources are lacking and where policy and legislative instruments deprioritise Indigenous interests relative to other parties:

The legislation is only good if you can make it work out there, for all landowners. But it comes back to how you measure. What are the flows that will support Indigenous people? The grazing and mining interests always come first, the traditional owners are just tacked on at the end. Forming those relationships with the graziers is crucial, then you can work. Then the trust can be built.

Ron Archer, NGISG

Compliance is a key issue for Indigenous people in interacting with those working on their traditional lands. But compliance requires a range of steps, resources, and relationship building to be successful.

3.8.3 COMPENSATION

Compensation is a third component of Indigenous expectations about non-Indigenous people residing upon and using the resources associated with traditional lands, as well as for damage to cultural and natural heritage. Usually thought of as financial payments, compensation can also be in the form of employment or other kinds of resource exchanges. Regardless of the form, the need for benefits flowing from the use of Indigenous lands is an important and ongoing principle:

We know what the Gilbert River is like. If it's a dam, it's got to be right. There's enough water there. I said to GSD, straight as a shotgun, is there going to be employment from it? If there is, then we would agree with it. Me and the others. That is the question - what is it doing for our people? CDEP might be going. (so) I want to see it [the dam] happen. And if those jobs don't come, then we want royalties. We had the land taken from us for so many years, only now we are getting it back. When the mining comes, the royalties go to the pastoralists. It makes my blood boil! But sometimes the other elders hit back - you'll get nothing if you don't speak.

Senior Tagalaka C

As traditional owners, we need to benefit from this water business. Employment, but also compensation, because we are going to compromise and lose all of those places - our culture and heritage.

Senior Ewamian C

The principle of benefits returning to Indigenous people is important, but so is the form that return takes. During the consultation period, some research participants expressed a desire for more time to reflect on the most appropriate form for this to occur with respect to future water and agricultural development.

Compensation, I need to think about that one. The miners always want to come, they have the dollars. I told them no, we must wait until we are ready to talk. We don't want to hold them up if there is work for our kids, but we have to be ready. The jobs from anything, mining or farming, the jobs should go to local people. We want to see local people doing it.

Senior Tagalaka B

Water (allocation) licenses is something we could look at. I heard about it at Broken Hill. But we've got to be careful, this is not the Northern Territory, Queensland is different. If they don't run with it, maybe we should seek compensation. Get one set payment then let people get with their business. They don't want Aboriginal people screaming for their rights. Everything is totally different here - stolen wages, we did not get compensated. We need to discuss it with the other traditional owners.

Senior Wanamara A

Compensation, well it all depends. I'd need to think about that.

Senior Ewamian E

The principle of benefits being returned to traditional owners was consistent across the research participants. However it was clear that there was individual caution about expressing 'on the spot' opinions about the form such compensation should take (money, jobs, water allocations, etc.). This reflects both the respect accorded to group decision making and wider community knowledge of the difficulties that inappropriately structured or directed benefits can cause.

3.9 Summary

The preceding sections outline key issues and principles with respect to Indigenous culture and country. Major aspects include the significance of:

- memories of physical presence on the landscape to personal identity and credibility to speak about the country
- hunting and fishing activity and the wider spiritual and cosmological significance of the landscape to Indigenous culture
- boundaries and group identities (include native title groups) to ownership
- issues with contemporary access to traditional lands owned by non-Indigenous people
- obligations to past ancestors and future descendants, as well as those living downstream, to care for the country
- cultural heritage and understanding and preserving the past history of Indigenous use of the landscape
- desire for an ongoing role in environmental conservation and land management
- expectations regarding the conduct of non-Indigenous people operating on Indigenous lands, summarised here as consultation, compliance, and compensation.

These general principles and issues provide crucial foundations for understanding Indigenous perspectives regarding water and agricultural development, which is the subject of the next chapter.

Figure 3.3 Cobbold Gorge, Gilbert catchment

4 Indigenous people, water and agricultural development in the Flinders and Gilbert catchments

4.1 Introduction

Chapter 4 focuses more closely on water values, environmental and development impacts and Indigenous development aspirations. The general importance of water to Indigenous people is clearly evident, and it is a key driver of the strong seasonal changes characteristic of the tropical north. Knowledge of that seasonality, combined with observations of recent environmental change, shape Indigenous perspectives on water planning, development, and extraction. A series of key risks associated with development are identified in the comments below.

The comments from the interview participants are more detailed with respect to water than agriculture, and this reflects that, with the exception of Delta Downs, local Indigenous people are not directly involved in pastoral and agricultural production, although there are lease arrangements in place for some locations such as Tallaroo and Middle Park Stations. If the likelihood of major agricultural development in these catchments continues to grow, a further set of initiatives may be required to canvass Indigenous responses to that process. This may include formal EIS and cultural heritage processes, but also a range of formal discussion about Indigenous participation in local agricultural initiatives.

4.2 The importance of water

The high value placed upon water is clearly evident from the statements of all the Indigenous participants in the study. In particular water is related to life, to the balance of elements of seasons, and to the sustaining role it has for plants, animals, and people:

Water is life, it gives life to all living things, plants and animals. It is a necessity of life for all creatures. As Indigenous people, we have 7 seasons, we burn off during the dry season, we know where to burn. You have got to be one with the land. If you upset the balance of mother nature, you are in trouble. The river is like the veins, running through our body. It pumps blood and life.

Senior Kurtijar C

Water is sacred and honoured as the life force that is an inherent property embodying our spiritual, social and emotional sense of belonging.

James Hill (Hill, 2006)

Water is the survival of life. It is one of the main elements of the world. Water and fire, that was how my people controlled the habitat. Water is the richest thing going.

Senior Yirendali C

Water is worth more than money. There are two good things about water, it can give life if it is respected, and take life if it is abused. A lot of people are careless, not thinking, drowning in the floods. Water gives life to everything, plants, bird life, animals, humans. It is the main resource for everything really.

Senior Kurtijar A

Water is the main thing, water is life. It is mother earth, it is survival. Maybe that sounds like something different to hear, but nothing lives without it. Then you have fire, the balance, certain seeds do not germinate without it.

Senior Ewamian C

If there's no water, we don't live, if there is too much water, we die. We have to have water for plants, trees, birds and animals. The animals know where to find it, digging in the soak.

Senior Tagalaka B

The earth is our mother, the water is our blood. We have to look after our heartbeat.

Senior Ewamian B

All people want water, they need it. If you have not got water, how can you survive? Water is for people, for fishing. It plays a big part, for the land. The waterholes that are always there are really important. For animals, wildlife and cattle. Any animal has got to have water.

Senior Tagalaka D

The river is very important. It has water to drink, it has food for fish and for ourselves. It is the place where our ancestors camped along the river. They did not go far, they could not carry the water too far. Everyone needs water to live. Without it there is nothing for anyone.

Senior Mitakoodi A

Water is a drawing point for people. Even when there is no water in the river, there is shade, it is cooler there. We go there together.

Senior Mitakoodi D

Water is important for drinking, for the wellbeing of animals and fish. No one can go without water, it is top priority.

Senior Yirendali A

Water, well we'd be stuffed without it. No water and you can't live there. I seen people spending so much carting water, going broke over it.

Senior Yirendali D

Water is important to survival, food wise, for the fish and animals, the bird life. That (Gilbert) is rugged country, it dries up in a lot of places.

Senior Ewamian E

Water is a matter of life and death, an important commodity, especially in the Downs. The rainforest area has creeks everywhere, but the Downs can be drought country. Only some waterholes are permanent, there are sacred spots near there. Water is needed for hunting, the animals would go there. It is a cycle that water creates, part of Aboriginal culture. Water is very important.

Senior Wanamara A

The overarching and consistent significance of water for Indigenous people is very clear from the above comments. It is a key balancing element in the landscape - sustaining animals and plants, counteracting the effects of fire, driving and responding to seasonal changes, providing markers of past human habitation, generating food, drawing people together to recreate, and supporting key industries such as pastoralism. Too much water or too little is destructive, and the extremes noted in the comments above reflect the strong seasonal patterns in the tropical landscape of these northern rivers.

4.3 Seasonal and environmental change

As is clear from the comments about balance above, the strong patterns of seasonal change are seen as an important part of the natural cycle, and of the human health and wellbeing which relies on that cycle. The larger water flows of the wet season are viewed as particularly important:

Water running down flushes everything out. The floods clean it out so you can drink it, give you that clean source of water. Sometimes, if the water is kept there for a long time and does not get a flush out, it is no good. Climate change, you might get a drought for 3-4 years, then the water is not good to drink and the wet season may not flush it out. The flood flow is important to the river system.

Senior Ewamian E

There are waterholes 20 or 30km from the sea, but they go salty. If the flood flow does not come, they stay like that, salinity. We need that freshwater flowing through all the time, to stop that salinity.

Senior Kurtijar C

We can't swim in the river until it has done a couple of flood runs and then it is clean. What if that run is not there, or there is only one?

Senior Mitakoodi D

The flood flows are crucial for maintaining water quality, but in concert with inappropriate land management practices, they can be quite destructive:

There have been four big floods in the Delta in the past 4 years. I've seen the effects myself. Erosion, creeks becoming rivers. The Gilbert is a big single river upstream, but downstream it is very different. There is not a lot of saltwater inundation, maybe only 10-20km maximum is tidal.

Senior Kurtijar C

The Gilbert is the major source of water for Delta, for Morr Morr. Over the years, with all the past floods and cyclones, the salinity has taken over, taken all the goodness. All the topsoil has gone, causing erosion problems. Right now we can only use 65%, not 100%.

Senior Kurtijar A

There is real potential for erosion. The Gilbert is such fragile country, people need to understand.

Senior Kurtijar B

Natural variations within large scale seasonal patterns complicate assessments of longer term and/or permanent change, but there are clear statements about permanent changes in both catchments, changes which are generally viewed negatively:

I've not seen them myself, but my relatives saw jewfish and sharks at Millungera and further upstream, swordfish as well. You don't see those things now.

Senior Yirendali B

It used to be we could go out and catch fish. Now there is not much water there. I've seen that change, hardly any water in the creek.

Senior Tagalaka A

It is a big river system, lots of waterholes. But those waterholes are slowly vanishing. We are worrying about the carrying capacity of our land. About the evaporation.

Senior Kurtijar C

Where the salt is, the ground is soft, boggy, and we lose the cattle. Lots of the main waterholes have dried up, and the water is brackish sometimes. The Walker Creek comes from the Norman side, and the Norman broke the banks, took the salt up. Now there is a salt flat, 20km wide, right up the guts. They talk about climate change, it started 40 years ago. Where salt water meets the fresh, that has moved up about 5km. There's been a change in the lagoon on the Gilbert River where we are pumping from. There is more sand coming down, filling in that lagoon. Where we are pumping from now, we might need to move. If we dig out the dam, we are just as bad as the others. Pumping from the sand.

Senior Kurtijar A

It is a lot hotter. We used to have a camp along the fence line, just in the sun. You could not do that now. Maybe we are spoilt by air conditioning, but I think it is hotter.

Senior Yirendali A

The weather has changed now. You don't know when it is going to rain. Years ago, you did. It seems there is a bit less now. You don't see too many things getting around, animals. Lots of roo shooters these days, less of everything else. You see the odd one around when it rains.

Senior Hughenden resident

I can remember seeing on the Flinders, fish dying just before the rains came. Maybe a lack of oxygen. But once the water has run over the causeway, it should be right. Then a couple of years ago, the river flooded up, dropped back, flooded up again, and then when it started to drop down again, the fish were dying then. It should not have happened then. Catfish, barra, cherabin coming up onto the bank and dying. There were big fish there.

Senior Gkuthaarn and Kukatj B

The context in which development proposals are put forward is crucial to the kind of responses they generate. Indigenous people are interpreting such proposals against a background of high seasonal variability and long term environmental change that is usually perceived negatively. Such 'baseline' viewpoints amplify concerns about development proposals and the necessity for management structures and management action. The volume, timing and quality of water are key features of the above observations of environmental change.

4.4 Water planning and allocation

4.4.1 INTRODUCTION: THE NATIONAL WATER INITIATIVE

The National Water Initiative (NWI), signed by the Federal, State and Territory governments, is the overarching policy framework guiding Australian water management (Jackson and Tan, 2013). It reflects and extends the major policy reforms introduced in the 1990s and brings these together into one agenda which incorporates, among other things, integrated catchment management, tradeable water rights, full accounting of resources and use, regional water planning, and environmental allocation. Improved regional water planning is the foundation of the NWI. All States and Territories must prepare surface and ground water management plans for areas of critical concern (e.g. in areas that are over-allocated) through processes that are committed to consultation and community involvement, and settling trade-offs between competing outcomes.

The significance of water to Indigenous people and the perceptions of recent environmental change make appropriate involvement in water planning and allocation crucial. Indigenous needs in relation to access and management are recognised, and some jurisdictions, such as Queensland, are legally required to include Indigenous representatives on water management advisory bodies. The parties to the NWI agreed that planning processes should:

- include Indigenous representatives
- incorporate Indigenous social, spiritual and customary objectives
- potentially allocate water to current native title holders
- take account of native title rights that are yet to be determined.

Despite the existence of the NWI guidelines, water plans have rarely addressed Indigenous requirements specifically. Indigenous groups involved in water planning have strongly advocated for sufficient environmental flows, and water plans have therefore often implicitly assumed that sufficient environmental flows will meet Indigenous social, cultural or spiritual requirements. In other words, Indigenous interests are protected by limits on extraction by others, rather than by specific Indigenous entitlements (see Appendix A). The existence of such an Indigenous reserve allocation can overcome two

barriers to justice in the Australia system of water allocation (Jackson and Langton, 2012; O'Donnell, 2011). Firstly, as 'late entrants' to a water market with economic aspirations that are still taking shape, Indigenous people could be assured of access to water for commercial purposes. Secondly, the reserve also allows those 'indigenous people without land rights or native title guaranteed access to water for development purposes' (O'Donnell, 2011, p. 237). The following section provides some specific detail and evidence relating to water planning in the Flinders and Gilbert catchments. Further detail about the legislative and legal issues associated with Indigenous people in water policy and planning appears in Appendix A.

4.4.2 WATER PLANNING IN THE FLINDERS AND GILBERT CATCHMENTS: THE GULF WATER PLAN

I think traditional owners should be involved in deciding how to share the water. It needs to be done fairly. Not too many licences, water is precious. There's not enough to go around.

Senior Yirendali A

If they can give us something, we are the owners. Water should come to us.

Senior Mitakoodi A

The only existing water planning and allocation processes in the Flinders and Gilbert catchments were undertaken as part of the Gulf water planning process. Despite the high proportion of Indigenous populations in some catchments, the level of Indigenous consultation undertaken across the multi-catchment Gulf water planning area during that process was low (Ayre and MacKenzie, 2012). This meant that consultation undertaken in individual catchments was even lower, particularly in the Flinders and Gilbert catchments where Indigenous residential populations are also low. Queensland water resources plans have had Indigenous specific engagement processes, but the Gulf water plan did not contain significant ones.

As a result of the history and conditions surrounding the Gulf plan consultations, at the beginning of the research period, the level of knowledge of water development and water planning amongst research participants was relatively low. During the research period, participants' general knowledge of water planning issues was improved by:

- consultations undertaken during the research
- the competitive allocation of the remaining reserve allocation in the Gulf water plan
- strong public interest in and discussion about water development infrastructure and irrigated agriculture
- informal water planning capacity-building discussions with Indigenous experts

Formal capacity-building in relation to water planning was not an objective of the current research, which was focused on agricultural development possibilities. However, improved information flow emerging from the research enabled further consideration of Indigenous peoples' preferences and aspirations in water development and water planning. The comments in this report reflect that learning process. Based on their analysis of the Gulf water plan consultation process, Ayre and MacKenzie (2012) argue that applicable lessons from cultural heritage management processes would be useful to develop best practice in water planning. In a separate but related document, MacKenzie (2008) describes the resource and training constraints on regional water staff before advocating community engagement methodologies in water planning, including:

- better communication techniques
- processes to improved community understanding and capacity to contribute to water planning
- training and professional development for agency staff and science providers in facilitating community collaboration in planning and research;
- Indigenous specific engagement strategies for identifying the implications of water plans for
    - cultural heritage,values and practices
    - economic development opportunities

- better methods for engaging people in impact assessment, future scenario building, and predictive modelling
- knowledge and information systems able to handle different knowledge frameworks
- decision-support systems for rigorous and transparent trade-off analysis in decision-making.

4.4.3 INDIGENOUS RESERVES

Across northern Australia, the most pressing water planning issue in recent times has been the issue of Indigenous reserves. Supported by NAILSMA, the Indigenous Water Policy Group (IWPG) have advocated for Strategic Indigenous Reserves (SIR) in water plans for 'the economic purposes of Traditional Owners in the plan area and (to) strengthen their participation in resource management decisions (NAILSMA 2013: 20).' The most significant recent allocation has been in the Roper River in the NT (Northern Territory Government, 2011), but the Mitchell River in north Queensland has had a longstanding Indigenous reserve allocation. In Queensland, the most important Indigenous reserve allocations in recent times have come as a consequence of Wild Rivers declarations under the *Wild Rivers Act 2005*, as that Act requires the establishment of an Indigenous reserve allocation for declared rivers. The Staaten River was assigned a nominal 1000ML under the Gulf water plan on this basis (DERM, 2010).

However the creation of reserves for Indigenous purposes in other undeclared catchments covered by the Gulf plan appears to have received no public discussion at the time of plan consultations. Plan documentation indicates 'the intention that unallocated water would be available to support Indigenous interests was clear' (DERM, 2010). The 2010 Consultation Report for the Gulf Resource Operations Plan went further, noting that there were amendments to the plan 'requiring the chief executive to consider the social and economic aspirations of traditional owners in making decisions about the release of water from unallocated water reserves' and also requiring him/her 'to consider the effect of granting entitlements from the unallocated water reserves on Indigenous cultural values and the social and economic wellbeing of Indigenous communities' (DERM 2010: 13). However in both catchments, unallocated water reserves have now been fully allocated to non-Indigenous agricultural interests, although one successful recipient in the Gilbert catchment has indicated intentions for a partnership arrangement with local Indigenous people.

Knowledge amongst Indigenous people about both the general and Indigenous-specific features of water planning is low amongst the resident Indigenous population, let alone those who have traditional connections in the catchments but reside elsewhere. Amongst those who have heard of it, the prospect of Indigenous specific allocations is perceived to be a positive one:

I think water licenses for us is a good idea. To own something, own that water. We might get some money, and businesses, water is essential for them.

Senior Yirendali A

Our own allocation sounds like a good idea. We did not know before that we could get something like that.

Senior Ewamian E

Further CLCAC investigations of Indigenous opinions and possibilities regarding SIR allocations for southern coastal Gulf regions included consultation with Gkuthaarn and Kukatj peoples associated with the lower Flinders catchment, and the Kurtijar people associated with the lower Gilbert catchment (CLCAC, 2012). That report is discussed in more detail in 5.7.1 below. Despite the lack of success thus far outside of designated Wild Rivers, Indigenous-specific allocations continue to be raised by Indigenous organisations operating in the area, and the potential dam developments make the issue a more pressing one:

If a dam goes on the Gilbert, what rights do people have to that water? How much can they get? Can they sell or lease it to famers?

Ron Archer, NGISG

4.5 Development risks and impacts

4.5.1 INTRODUCTION

Indigenous people in the Flinders and Gilbert catchments are aware of an array of risks and impacts associated with water and agricultural development. These reflect knowledge of existing environmental features of the catchments, concerns about environmental change documented above, awareness of problems with similar developments elsewhere, concerns about cumulative impacts from other existing or proposed developments, and the vulnerabilities of their own communities and lifestyles to particular kinds of impacts. The list presented here is not comprehensive, but demonstrates the kind of concerns that may be raised in formal consultations about developments.

Figure 4.1 Chinaman's Dam, Cloncurry, Flinders catchment

4.5.2 WATER EXTRACTION

Indigenous concerns about the impacts of potential extractions relate to groundwater connectivity in the Flinders catchment, the impact on local springs in the eastern Gilbert catchment, and the general preference for flood harvesting over bores, and bores over dams:

The fact that the upper Flinders is a recharge zone is also significant. There used to be lots of springs in the black soil country of the Flinders, but they started to fail when all the bores were dug. Now that many bores have been capped, the springs have started to come back.

Senior Yirendali B

My vision is that I'd like to see flood pumping happen. Pump out of the wet season flow into tanks that service what you grow there. It is better than bores. We don't know what the underground water is up to. If they do bores, it might take the water down and dry the springs out. The bores affect the spring water on the sandstone escarpment. Those springs have been there millions of years. But bores is better than a dam I

think. With the dam, people down the bottom of the river will be asking what we are doing - the Gulf fishers, the big cattle properties. Bores I don't see as big a problem, because the flood will still come every year. The dam might change the flood cycle for fish down on coastal country. We got to think about that.

Senior Ewamian E

We are on the edge of the Artesian basin. We have to wait for the rain to come if they are going to take water.
Senior Mitakoodi D

But if all that water flow changes, if the dam comes and takes the water, it has a big effect on all those animals – wallabies, fish, freshwater prawns. There is life in those rivers, but if the water does not come, it goes too low, too shallow and the water gets too hot for them. If we don't get enough coming down.

Senior Gkuthaarn and Kukatj C

4.5.3 DAM SCALE, LOCATION AND CONSTRUCTION

Ideas and concerns about dams reported during consultations related to the size, location, construction risks, sediment loads, downstream impacts and lack of knowledge about the performance of existing structures:

If a big dam came up, it would be a concern for us. Very much so....The rivers change everything. The majority of the water in flood comes down, fills the waterholes. The dam would affect that. Most definitely.

Senior Kurtijar C

With a good flush through the Karumba fishermen get a good season down in the saltwater. But if all that gets caught by some dam, then it will stuff it all up. We need a good flush out every year, we say that.

Senior Gkuthaarn and Kukatj C

The Etheridge is wider than the Gilbert. The rivers are wider. The ranges up there are good places to capture water, and a better area to service the farmers.

Senior Kurtijar A

I would not like to see them dam the Gilbert, the main channel. If they are going to dam, make it viable, just the little rivers running into it, not the main one. I talked to Warren Devlin about it when I saw him in town. This is a wild river in the flood time. It flows real fast. One time six of us took our horses to the river for a drink, and that bank fell in. We were all in the river, only just got out, that river was really wild, and the bank fell. If the dam is going to be there, it will have to be a real good dam.

Senior Ewamian C

The Gilbert has so much water come down, in the wet season. I don't mind the catch and storage of the runoff, but it's not viable, not to weir and dam. There is too much sand in the wet season. It will cost so much money to dredge. Have a look at Kidston dam in Copperfield. And then the water quality too, that is a problem.

Senior Ewamian B

If you start damming it, the river will divert itself again. You are not fixing problems, you are creating them.

Senior Kurtijar A

They dug out the creek, tried to make it go a different way. But it still flows the same way.

Senior Hughenden resident

They dozed the guts out of the river down there, took trees out, but the river still runs in the same place. There has been not much change.

Senior Yirendali D

We need to get more feedback on that Kidston dam. How it is now, how it was 30-40 years ago, what the water quality is like. A lot of sand goes down that river, makes the dam a bit shallow. We heard talk of Kidston filling with sand. If a new one comes, how are we going to get rid of it, and fix up the new ones they build?

Senior Ewamian E

One emphasis in the comments above is the replenishing role of the flood flow. A second emphasis is the dynamic sediment loads and sand movements and the instabilities that creates for attempts to create permanent structures (or excavations) in the river channel. From an engineering perspective, these may have technical solutions, but the need to examine past attempts carefully is emphasised here in order to avoid further mistakes.

4.5.4 DAM OVERFLOW AND FAILURE

The high sediment and sand loads carried by flood waters is one risk associated with dam development, but recent experience elsewhere in Queensland has also heightened concerns about storage management, overflow, and the potential for failure:

Where it is stored, what damage could that do? Like the Brisbane floods that time. What happens when the water gets big and lets go?
Senior Mitakoodi B

I hate to think of damming it up, then all of it letting go.
Senior Tagalaka A

The increased size of the dams under consideration increases the management and engineering complexity and the environmental and human risks associated with the structures.

4.5.5 PERMANENT INUNDATION

A further impact of dam development that was noted was the direct inundation of land that may be valuable for residential and/or cultural heritage reasons:

A grazier may be going to be flooded out, lose his home. The station is called Green Hills.

Senior Ewamian B

I'm worried about that old [Ewamian] uncle. At Green Hills, that is where his mother is buried. There'll be no more Green Hills if that dam happens. And that pastoralist there will have to get moved, he will lose his home. Maybe handed down from generation to generation that place.

Senior Tagalaka B

Most of our artwork is higher up on the Robinson River, sandstone country. Green Hills itself, my father worked there, my mother worked there. If they dam, it depends how far the dam backs up on the Robertson River.

Senior Ewamian A

This dam at Green Hills, it will take up a lot of space, back up a lot. Green Hills will be underwater, and there is a burial and a massacre site there too. Bora grounds are also there. All these things may go underwater. I know what is there. Other people might think it is good, but do they really know what is in that country? We'd like to get more research for [preparation for] if they do go ahead.

Senior Ewamian E

Our sacred sites, the dam can back up and cover it, destroy it, or cause erosion.

Senior Yirendali C

Inundation is one of the most visible impacts of dam development, and the concerns above reflect the significance of the issue.

4.5.6 ANIMALS

The effect of water development on plants and animals was also noted, particularly fish migrations. Also considered was the human activity that relies on those animal populations, including both commercial fishing by non-indigenous people and hunting and fishing by Indigenous people for subsistence:

There is a weir down there, but how will the fish get past. The fingerlings, the fish that need to breed. You see them in the water when it is low.

Senior Yirendali A

I'm worried about the impact on the swordfish.

Senior Ewamian B

When the dam comes, it might affect the animals, the fish.

Senior Mitakoodi B

We had a meeting in Mareeba, and on the way we met one councillor in Georgetown. He was talking to me about the dam. It has to have a causeway, and fish steps to let the fish move. Migrate.

Senior Kurtijar C

If they did dam up there, I'd be wondering about the effects on the bird colonies.
Senior Gkuthaarn and Kukatj A

How long will the water last in those dry areas? Water supports the fish and the wildlife. There is also the Indigenous hunting and gathering side, the fish and the turtles are food.
Senior Gkuthaarn and Kukatj B

The commercial fishermen may also have issues. Everyone is part of that country.

Senior Ewamian B

We got fish, prawns,crabs in the Gulf. There is a big crab industry in the Gulf there. The water coming down affects them.

Senior Ewamian E

Importantly, the strong social and religious connections between people and other creatures means that negative effects on animals and plants have negative implications for people themselves:

It is because of this sense of belonging that any adversity or stress to any creatures, land and water country causes physical and spiritual unwellness to indigenous people

James Hill (Hill, 2006)

4.5.7 LAND AND WATER USE

A range of concerns about the impacts of increased or intensified agricultural use of land and water resources were expressed by research participants in the study. These included the impacts of pastoral activities (particularly on cultural heritage), concerns about weeds and erosion, and water quality issues, especially salinity and chemical use.

4.5.7.1 Pastoralism

The sheer scale of pastoral operations, particularly in the Flinders catchment, created monitoring, management and oversight problems for Indigenous people. Cultural heritage was perceived as particularly vulnerable to damage:

We need to document all these people coming in, doing projects there and there. The main concern is to engage with pastoral lease holders. It is a big country and we can't get around.

Senior Yirendali C

We've had dreaming sites already damaged from pastoralists.

Senior Mitakoodi B

Pastoralism does more damage than anybody else, because they are all over. The miners and the government are ok on cultural heritage, they want the surveys, but the pastoralists aren't always as good. The cattle wander through the rock shelters. But the area is so big, you'd need 40 rangers to cover it. We get on good with some of the pastoralists. But the fence lines, the bores, and the tanks can do lots of damage. The problem is too broad to deal with. We are working with the pastoralists on riparian fencing, a project in conjunction with SGC. It is important to educate the pastoralists about the damage.

Senior Mitakoodi C

If they start clearing land for those farms, well they should come and see us when they clear it. This is my problem now. The pastoralists are putting in fencelines without consulting us. There might be a place they should not go, but then we find a fence goes straight through that. We need more research on the cultural heritage, for clearing and the dam. People need to be there from start to finish of that job.

Senior Ewamian E

Further intensification of farming activity associated with water development is also seen to potentially create issues for both industries.

You've got to watch putting these things together. If you got cows and cotton, you might get two headed cows, like Chernobyl. We are living in the 21st century. We need to look at past mistakes.

Senior Wanamara A

Figure 4.2 Cotton irrigation, Silver Hills Station, Flinders catchment

4.5.7.2 Weeds and Erosion

A further set of impacts associated with intensified farming practices are weeds. Weed problems are understood to be exacerbated by general increases in human traffic, but also by the particular distribution methods adopted by weed species:

Also the weeds. We'll get more people and cars in that area. Say you got bananas in there. They come early, attract east coast people to work, and they got seeds in their shoes, and it gets into the soil. There needs to be control of those things if we are going to go ahead.

Senior Ewamian E

We got weeds there, prickly acacica is spread by cattle but bellyache is spread by the water. You see heaps of those in Hughenden, Richmond.

Senior Gkuthaarn and Kukatj A

When water is the mechanism of distribution, cumulative negative impacts are experienced downstream by poor weed management upstream:

We are downstream and we cop the problems generated upstream. The rubber vine was like that, and the grader grass, asbestos grass. They started up the top of the Gilbert and came down here. Delta Downs is a delta, it fans out over 100kms in the flood.

Senior Kurtijar B

The activities required for agriculture when compared with pastoralism can pose particular risks for weed mitigation, particularly in riparian areas:

We grew a small area on Delta, and once we ploughed it, none of the native grasses came back, the only thing that came back was weeds, kapok and so on. You have to keep ploughing it. Farmers have to realise that if they get into this stuff, you can't suck it and see, you have to commit.

Senior Kurtijar B

The problem is when they plough and farm close to the river. The weeds come up where they plough and then they get transported down the river.

Senior Kurtijar C

The comments above emphasise the potential irreversibility of some land use decisions in general and of agricultural intensification in particular. This is a crucial point for Indigenous people, who see themselves as inextricably tied to the landscape over lifelong timeframes and do not have the flexibility to move geographically to avoid the problems created by inappropriate past land management practices in a particular location. Erosion and weed infestation are interrelated problems, and erosion was given as another example of the problematic effects of poor land management:

You got to watch it when they take the trees out. You get erosion, and all that topsoil goes. It all goes and flows down the the Gulf. The roots are holding the country together, and when they go, then it all goes.

Senior Ewamian C

We need more research on soil erosion in that area. What happens with the clearing to stop the soil running into the river?

Senior Ewamian E

Erosion not only degrades the land, but affects water quality. This was another concern expressed in relation to farming and land management.

4.5.7.3 Water quality

The relationship between water quality and plant and animal life was another source of management concern. It was seen to directly affect human populations and ecosystems, including marine and coastal ecosystems:

There are fish, birds, kangaroos, even humans swimming in that water. Murri kids or stockman's kids. We got to keep it clean.

Senior Wanamara A

I'd never like to see the river polluted, the fish disappear. It might stop certain trees growing, the bird life, the marine life. The fish swim upstream, and they won't come if it is not good. I would not like to see that system where it cannot support itself.

Senior Ewamian C

4.5.7.4 Chemicals

The general issue of water quality was raised in a specific way through concerns about the chemical inputs associated with agricultural intensification. These concerns relate to observations of agricultural activity elsewhere, as well as general knowledge of the potential for the dispersal and accumulation of chemicals in the environment. Of particular concern was the capacity of rivers to transport chemicals downstream:

The spraying for the mango farms, I've seen it happen elsewhere [than the Gilbert]. It gets in the air, everything. Not only wildlife, but humans too. They say they are not spraying much and then they do. Anything to be first, to get the biggest mangoes. Competition between the farmers, that goes on all the time

Senior Ewamian C

We don't know if they are putting any chemicals in there to grow those plants. The cane farmers put things and it goes to the Reef.

Senior Ewamian E

We are wondering what is going on up there, what chemicals are being used. We drink the water at Delta, use it for the station. We hunt and fish there, and the chemicals might be in them, in those animals. The cattle are the main asset for Morr Morr, for the business, and they must be clean.

Senior Kurtijar C

The chemicals coming down, whatever they are using goes into the soil, the food.

Senior Mitakoodi B

The comments included consideration of low impact land management strategies. This includes avoiding chemical use altogether as well as using strategies to manage water quality:

I was a director for Morr Morr [Pastoral Corporation], and we had all the rubber vine. They wanted to aerial spray it. But we were worrying about the chemicals, and we said no, just burn it. We did not want those chemicals there.

Senior Kurtijar C

They need to try and grow things in an environmental way, maybe organically. It needs to be low impact, dilute the chemicals, don't use planes which push chemicals for miles.

Senior Wanamara A

I've seen the Walsh River, with all the farming around Dimbulah. I've seen dead fish there, the chemicals. Maybe they need settling dams like mining people, settling the water before it goes back into the river.

Senior Ewamian C

The river only runs a couple of months and that's it. You've got to be careful in the low flow, using a lot of pesticides might have an impact.
Sernior Yirendali D

Mining development is also important in terms of water extraction and water quality. Exploration licenses exist for a wide range of locations throughout the catchments, but current mining activity is concentrated in the area around Cloncurry. Contamination of water by mining activity is an ongoing issue (Raggatt, 2010). Observations of unusual water characteristics in the area were attributed to mine releases on two separate occasions:

I remember Cloncurry got caught up in the flood and the water was running three different colours. Maybe because of the mine back around near the railway station. That's another thing too, all the stuff that goes into the river.

Senior Hughenden resident

You'll be sitting there and the Cloncurry river runs muddy, then it is crystal clear, then it is muddy again. It must be the mines releasing chemicals. In the past it was drinkable, but now it is a bit iffy to drink it. Green blue algae. And all that digging of sand and gravel without a permit. I'm concerned about all the drilling and diversions around Cloncurry. There are burial sites, women's birthing sites, campsites, fish traps, men's ceremony sites and areas important for traditional medicines.

Senior Mitakoodi C

Regardless of whether the exact causes of particular water phenomena have been properly identified, the cumulative impacts on water quality of water and agricultural development on top of mining activity is likely to be a source of ongoing concern amongst the Indigenous people in the Flinders and Gilbert catchments.

4.5.7.5 Salinity

Water quality and land management are interconnected with salinity issues. Salinity is an increasing serious problem for Delta Downs, and a reduction in the flow of the Gilbert catchment is a serious concern as it is believed it will worsen the existing issue:

There is salt there. The manager at Delta has put in a wall to stop it moving up. If the water flow goes down, the salt might move. We might have a group of freshwater animals in a particular area that area endangered, especially if it is only in that particular area. If you change the water, you are not only wiping out food areas, habitat, but also maybe even the species that rely on it.

Senior Gkuthaarn and Kukatj A

There are waterholes 20 or 30km from the sea, but they go salty. If the flood flow does not come, they stay like that, salinity. We need that freshwater flowing through all the time, to stop that salinity.

Senior Kurtijar C

Cutting the flow makes the salt move up a lot more. It is only 10km from the property boundary now. The king tides push the salt up. We need that flow coming down, coming out of the Gilbert.

Senior Kurtijar A

Salinity has economic impacts on the pastoral business, but also wider effects on the animals and plants reliant on supplies of good quality freshwater. Water quality is also significantly affected by a range of non-pastoral activities, notably mining.

4.5.8 INDIGENOUS VULNERABILITY TO NEGATIVE IMPACTS

Older Indigenous people who migrated to camps in smaller and less developed towns in the region recall an earlier period when water was a rare and therefore more valuable resource:

When we moved down here [to Normanton], there was no water here. We had to bail water to do washing, cooking, both. Sometime we had to pay for a taxi to take us six mile out of town to wash the clothes. We would bring water back in a can or a bottle. Getting water was work for us.

Senior Tagalaka A

The experience of limited domestic supply (and of limited delivery infrastructure) informs people's present day valuations of water resources. Upstream development combined with the variability of the climate also leads to assessments of Indigenous vulnerability to losses of supply when camping on the country:

Even when there was no water in the river, we could dig the soak, leave it overnight, and next morning it would be full of clear water. But what would happen if they are going to block it off?

Senior Mitakoodi B

We need those places to drink, we are always looking for deep spots, and they need to be there. We still drink that water. We love our bush tea and we always take that water out, out of those waterholes. And we get a bucket, tip it on ourselves. We don't want to be poisoned down the bottom there, because of what is happening upstream. We use that water to cook with. We still need that water, we still use it, we depend on it.

Senior Gkuthaarn and Kukatj C

In contemporary times, Indigenous dependence on domestic supplies is augmented by the water needs of the commercial operations they run:

The main water sources for us, the Walker, the Smithburn, and the Gilbert, they are for cattle and for human beings. The impacts come on the business and the land.

Senior Kurtijar A

The station owners, if they are not getting water, then they might go out of business. If the impacts come, the downstream business might also lose jobs.

Senior Gkuthaarn and Kukatj A

These combined dependencies are emphasised in geographic terms – Indigenous people live in the area rather than in centres of national decision making. Yet as the 'grass roots', they are vulnerable to decisions made elsewhere based on a different set of concerns:

These are grass roots concerns, that is where we are. Not in Canberra or Brisbane, we are the grass roots here. Delta and Morr Morr is our Reserve Bank. If it fails, we fail. Who benefits from that development? Farmers upstream or cattle owners downstream? If they block off the Gilbert, we'd be buggered. Our country and our station is our livelihood and our heritage. We want to pass on something good for future generations, something improved for their own livelihoods.

Senior Kurtijar C

Indigenous people occupy a complex position with respect to development impacts. They are often economically and socially marginalised, as well as culturally and existentially dependent on the long term sustainability of local landscapes. They therefore can bear considerable risks associated with the negative impacts of development. When locally resident, they may be able to benefit from development. However when they do not reside locally, geographic marginalisation can combine with economic and social marginalisation. For non-residents, there is a decreased chance of receiving positive benefits from development activity that degrades the quality of Indigenous land, yet the general cultural and existential ties to land can still make such negative impacts of significant concern. The relationship of positive benefits to negative impacts is clearly of crucial importance in Indigenous assessments of development proposals.

4.6 Summary

Indigenous people have a diverse array of water values, rights and interests in the Flinders and Gilbert catchments and a strong desire to be involved in the ongoing protection, development and management of the catchments. The preceding sections use comments from interviews with senior managers and leaders in the catchment to highlight Indigenous valuations of water, water planning issues, and attitudes to water and agricultural development impacts.

In general, the water values of Indigenous people in the Flinders and Gilbert catchments are found to be broadly consistent with studies of Indigenous water values from elsewhere (Barber, 2005; Barber and Jackson, 2011a; Barber and Jackson, 2011b). Although the current study represents a preliminary scoping

analysis, this correlation with other studies provides an additional degree of confidence that the general issues, principles, and responses outlined above constitute a reliable initial guide.

Key aspects include the overall importance of water to Indigenous people and the observations of seasonal and environmental change. These drive valuations and assessments of the current health of water assets and of the wider landscape. Such assessments in turn drive attitudes to the wider planning, allocation, and extraction of water, and to Indigenous roles in managing that process. Such assessments also inform attitudes to the potential risks and impacts of development - dam location and construction, cumulative impacts on plants and animals, and the particular risks faced by the Indigenous population. The understanding of potential risks and impacts both inform and counterbalance Indigenous aspirations regarding development. These aspirations are reviewed in the next chapter.

5 Indigenous plans for social and economic development in the Flinders and Gilbert catchments

5.1 Introduction

Chapter 5 describes some key social and economic development aspirations for Indigenous people associated with the Flinders and Gilbert catchments. It also identifies further aspirations and conditions associated with proposed water and agricultural development options. The chapter provides a representative rather than a definitive list of options, plans, and aspirations. The diversity of options highlights the need to undertake community/country-based planning processes in the future alongside catchment planning processes to identify local level priorities and integrate them with wider catchment objectives. Within the diversity of options, three primary interrelated goals can be identified:

- the resettlement of depopulated areas by Indigenous groups from that country
- greater ownership of, revenues from, and/or management control over traditional lands
- improvements in the overall social and economic status of Indigenous people.

These overarching goals are expressed through a range of more specific plans and aspirations. Some key plans and aspirations identified here encompass:

- employment and training opportunities
- business development (particularly land-based business) needs
- partnerships and shared benefit agreements with non-Indigenous businesses
- needs and preferences in relation to water and agricultural development
- water planning and allocation needs
- wider catchment and natural resource management needs.

These are briefly considered in further detail below. This is followed by discussion of the kind of participatory planning processes required to appropriately position, prioritise and endorse relevant options within groups and across catchments. Participatory planning is crucial to ensuring wider group and community support and responsibility for the initiatives that are given priority in planning processes.

Figure 5.1 Hot springs recreation pool, Tallaroo Station, Gilbert catchment

5.2 Indigenous resettlement in the catchments

The resettlement of traditional and designated native title areas remains a primary objective for Indigenous groups in the both catchments where significant depopulation has occurred. There are some variations in the exact forms that such resettlement aspirations take, but they were consistent expressed during the research. Based on the comments expressed by traditional owners in the current study, the key issues affecting a sustainable and significant resettlement of traditional owners to the depopulated eastern areas of each catchment are:

- social, economic, institutional and emotional investment in existing residential locations
- land ownership and local recognition in the catchments
- employment and training opportunities in the catchments
- intergenerational skill-sharing and motivation and relocation adjustment issues for younger people
- access to social and health services in the catchments.

These factors can intersect and interact in complex ways, as some comments from the research participants indicate:

We need to get more people back there to Georgetown and the Gilbert River. Some of those young people have not been there. It's going to be hard but we've got to try. We own two houses there. That was the agreement - we surrender native title over the township and get two houses. They brought ex-army homes up and set them up there, and gave us the land. We tried to get families back, but they said 'I'll go back if I'm guaranteed a job there'. But a lot of them never done ringing, so we needed the Shire to put them up for something. The mayor said 'ok I'll give them something, but they got to have a ticket, license'. But none of them had those qualifications for machinery. The cattlemen could not afford to pay them. They just work themselves, then can only pay during the mustering season, only 6 weeks.

Senior Ewamian A

We want to look after our country. We want to get our own land, but we can't yet. The only thing we can do is come to the ILUAs, but that takes time, to get to know the people involved. The pastoralists, they know some of the old people because they worked on their stations. Then there is the problem of how to get the younger people to reconnect with their land. They are used to Western ways, and where they live now. Many of the old people are gone. We took the young people back to country, it opened their eyes up, made them think, identify who they were again. They grew up in the city, but now they were there. Country identified through the elders, through the archives over 15-20 years, came back. It is hard re-connecting, lots of the old people are gone now, but we are doing it.

Senior Yirendali C

People want to live back in Croydon, young people want to go back. Elders would go if we had a clinic there.

Senior Tagalaka A

The Ewamian rangers needs to be based on Tallaroo, not in Mareeba. All this travel back and forwards. And the Ewamian office needs to be in Georgetown, on Ewamian country. The people are up this way now [Cairns and the Atherton Tablelands], but it needs to happen.

Senior Ewamian E

The above comments demonstrate the intersection of aspirations and challenges – the historical movement off traditional lands led to significant social, residential and organisational investment in other locations, and in younger people becoming used to living in those locations. Town-based residential land may be available but employment is crucial and can be limited by both availability and a lack of skills. Insufficient capital means that rural land ownership is out of reach, and access agreements to rural land are complicated by a lack of interaction with local non-Indigenous residents. Older people may be willing to return to traditional lands to assist younger people, but are hampered by a lack of services, particularly health services. Younger people may not be as motivated to live in rural areas to which they have no preceding life history connection. Key institutions such as local group corporations may be sited in close

proximity to group population centres and have built up assets in those locations, complicating their relocation to recognised traditional lands. All of these factors suggest that targeted resettlement needs to be considered in any community-based planning activity alongside other aspirations. Resettlement of members from elsewhere onto traditional lands may be a low priority for groups with significant existing residence, or for groups without realistic prospects of maintaining ongoing residence. For other groups it may emerge as the main priority.

From the perspective of prospective developers, new water and agricultural development could significantly affect the success of Indigenous resettlement plans. Depending on how such development is structured, resourced and managed, that effect may range from significant hindrance to constructive support. Some key questions include:

- Is the development planned and undertaken with the direct involvement of Indigenous people?
- Does the development weaken or affirm Indigenous ownership and management control?
- Does it improve employment and training opportunities for Indigenous people or exacerbate local skills discrepancies between Indigenous and non-Indigenous people?
- Is the targeted relocation of motivated Indigenous people part of the proposal?
- Are partnerships and shared benefit agreements offered?
- Does a larger, potentially temporary labour force encourage the provision of social and health services or place further strain on existing ones?

The strong intergenerational connections with land that are integral to Indigenous identities would seem to suggest that resettlement will remain an ongoing aspiration. Those connections also provide additional motivation for longer term residence if the short-to-medium term resettlement issues can be managed and ongoing employment is available. This would suggest that investing in such Indigenous resettlement as part of development initiatives may be valuable, provided community-based participatory planning identifies it as a priority and motivated individuals and families are identified.

5.3 Indigenous land ownership and land-based business development

There is a clear and strong relationship between Indigenous resettlement aspirations, land ownership, and the business development possibilities associated with that ownership. Land ownership in towns can be useful, but amongst the older people participating in this study, it is rural land ownership that appears to be particularly important in creating desirable conditions for resettlement. One key issue that would need to be addressed in further research and participatory planning is the degree to which younger people see opportunities in the same terms as older people. Employment in natural resource management and tourism operations may be more highly prioritised by younger people than the ownership of rural land and associated pastoral and agricultural operations. This raises the issue of rural diversification, also considered below. The aspirations for rural land ownership are clearly expressed:

We need a base or a foundation there (in Hughenden/upper Flinders River). Mabo and Lingiari led the way. We are learning all the politics of it all, all the rules and legislation. In the past, we were never taught how to manage, budgeting, management skills. Only pastoral work. And the amount of money does not cater for people's needs. We want to look after the waterholes, and our country. The different green funds have money, but you have to get them. We have some land in the town, vacant land there. Two blocks for setting up an office. But if we could get back some real country there, it would be great if I could get back there. If there was a chance to be part of it, ownership, then I'd be there. But not just drop everything here without something significant there.

Senior Yirendali C

White people have got to make a living, I respect that. I won't touch them if I got land back. We are trying to close the gap. They should not interfere if we are making money. My family are up for living there, if there is jobs there, and accommodation. We want to live on our own station.

Senior Wanamara A

There is nothing better than for us to work our own land. I worked for 8 years on Delta Downs, set it up for 8 years in the BTEC days, and we were the first declared clear in the whole Cape. We need to get out and work it, caring for our country.

Senior Tagalaka C

I was really happy when they started talking about buying Tallaroo. It was straight away a good thing. That was our country, in our area, right in the guts of it. And being a cattleman, I thought, what's a better place to buy than a cattle station? It's in the blood. We are thinking about the future there.

Senior Ewamian C

In the future, maybe we might have a homeland or something like that, back on the country. Pastoral companies don't always like it, but farms, veggies, something to earn money and have a business.

Senior Tagalaka D

5.3.1 PASTORAL AND AGRICULTURAL BUSINESS

The possibilities provided by rural land ownership for pastoral and agricultural business are a key aspect of the aspiration to own land. This includes possibilities both for sale and for local community consumption:

Farming is the main thing for us. We need to do fodder, sorghum. Get quick cashflow, because every station will come and buy it. I don't believe in handouts, we've got to work. Maybe we might do a market garden, just for community food. The CDEP is doing that now in Croydon. But fodder would come before other farming. We are not greedy people, we only want to make enough money for ourselves. We only want to grow enough to feed our people, then grow the fodder.

Senior Tagalaka C

Delta Downs has a motion on its books to apply for a water license. The idea is to grow corn and sorghum, to fatten the cattle. There's another station growing corn on the Leichhardt, so we think it is probably feasible on Delta, even though the land is more susceptible to flooding. We want to add value to the beef, not grow peanuts, or anything.

Senior Kurtijar B

The traditional owners might also want to grow something themselves. There needs to be some support for them. We used to have a garden at Croydon. We would carry the water with yokes. Mostly cabbage, chinese cabbage, and tomato and cucumber.

Senior Tagalaka B

I'd like to see a nursery there, grow our own trees, the kind that grow there. Germinate the seeds.

Senior Ewamian A

The history of Indigenous involvement in pastoralism and the focus of the missions and Reserves on growing food to feed their inhabitants is reflected in contemporary business aspirations associated with rural land ownership.

5.3.2 RURAL DIVERSIFICATION

Owning rural property rather than simply town blocks also opens up a range of other land-based business possibilities. These are useful both in terms of income diversification and the associated social development possibilities:

We got some cattle here (at Tallaroo), just a few, and maybe in the long term, tourism, nurseries for native plants that kind of thing. This is a good place for biodiversity, birdlife, nature. Look at Cobbold Gorge, they got cattle, tourism, a good mix.

Senior Ewamian C

About Tallaroo, I got a lot of ideas. 10 kilometers down the river there is a sand beach for half a mile. We got 35000 hectares. We can put some accommodation there, dongas or something and get the people back out there, the kids out there, back on the country, let them get to know it. This time of year (school holidays) fishing and hunting. But there are also a lot of sheds there. I know how to make artefacts, didgeridoos and all that. I said we can get the young people up there and train them. You know there is hot springs down the back there. I used to call in and talk to [previous owner] Barry Schmidt. I talked to him about the tourists. You would see the tourist vans pull up there, on the road. You still see them, more and more. That caravan park at Mount Surprise is always full. I know the owner and he is turning people away. That's only one part of it, tourism. We've also got cattle on agistment.

Senior Ewamian A

I'd like to see Tallaroo as a research place. Lots of research needs to be done out on that country there. [Research can] put money into the corporation, get the local boys to go out and help. The rangers could be in full control of that part. Also tourism is a part of it. There are hot springs there. People from the south go there for healing. We need to clear up that area, make the walking path visible and safe. Birdwatchers go out there. They could give us a report on what changes they are seeing, where the birds are going and coming. And the plants, the researcher could look at the plants, at what has come from another area. There are lots of birds down in the Einasleigh, hanging around the spring water in that area. Or get a dozen horses, quiet ones, do a horse trail ride with the rangers taking them on a tour. That guide could bring them back in the afternoon.

Senior Ewamian E

We want to live back out on that country at Tallaroo, look after the place. I'm 63 now, I want to retire out there, help the younger fellers. Maybe we'll do tourists and cattle, that's up to the mob to decide.

Senior Ewamian D

We are thinking of a market garden for Delta. We are looking at funding, and at the plants and everything. There is always something to learn, about how the plants will grow. We met Northern Gulf in Georgetown, and the Council here [in Normanton] is all involved. It will be an offshoot of the station, and we will use the extra for feed. Recycle. We've done sorghum there, for the cows. I don't think sugar cane would thrive here. You see it all down on the tablelands. Maybe more citrus trees, like a garden.

Senior Kurtijar C

We were talking to Burman Bioenergy about biodiesel plants on Middle Park, using that tree Millettia. DERM approval was part of it, and there might be big money coming from it. Middle Park is already cleared due to an old gold rush in the area, where they used steam trains. There were 2800 Chinese there, and the town is still there. And there was a dam there built by the miners.

Senior Wanamara A

Business development possibilities afforded by rural land ownership appear to be particularly important to long-term resettlement aspirations amongst older people. This reflects past experiences of life in rural areas, both on the missions and reserves, and on pastoral stations. In combination, rural land ownership and business development can create further possibilities for wider community members to experience traditional country and resettle – the two mentioned here are children and retirees. These broader social objectives are very important to highlight with respect to formal Indigenous tenure over rural portions of traditional country. They represent an additional level of meaning, significance, and land use when compared with standard pastoral and agricultural operations. However they also generate further complexity in the aspirations associated with rural land ownership, giving rise to problems and challenges.

5.3.3 PROBLEMS AND CONSTRAINTS

Rural land ownership is a major aspiration, but along with associated business development, it also brings challenges. These challenges are recognised by research participants, but even when they are identified and steps made to address them, they can still pose major difficulties. Some are common to any rural

enterprise, whereas others relate to specific issues for Indigenous owners (e.g. collective governance and decision making, and institutional skill and knowledge needs). Some problems and constraints with existing or future rural property ownership are identified below:

Whenever you are talking farming, you are talking technology, and big dollars. It is hard to get from government; no one wants responsibility if things go wrong. The impacts happen elsewhere. Production wise the beef industry goes down, the environmental issues, and we end up trying to fix up some clown's mistakes.

Senior Kurtijar A

NRS was one of the funding bodies who helped us buy [Tallaroo Station]. But they got rules. No cattle - we only got 500 head on agistment and for ourselves we can't have hardly any. But there's no point having a property if you can't do what you want to do with it. That agreement with NRS, we are not allowed to have guns or dogs, not allowed to cut down trees. But the cattle are our management strategy. They put those weeds down, NRS says they spread them, but we use the cattle and the fire. And NRS will want us just to focus on Tallaroo, but we have to look after all of Ewamian country. They put a fence around the nature reserve before the sale, before we got there. Now that area is too thick for the cattle to go in, and the cattle that got stuck in there are wild. There have been some contracting mix-ups - people being paid for cultural heritage jobs when they are doing conservation. And now some of the contracts have run out. I like it here, but I can't be here all the time.

Senior Ewamian C

Right now I'm frustrated, because I can't see that much improvement [at Tallaroo]. We need to take a partner in there, someone to set up the van park for us, do it as a proper business. We need to get some backing for that. We've got a special working group for Tallaroo and I talked with them about that. We need to do something down there, but we got no money. If we don't start to have something down there, we are going to start to lose out on opportunities.

Senior Ewamian A

Challenges such as these are negotiable over the longer term. But they affect the speed, the nature, and the sustainability of business development on Indigenous-owned lands. They also intersect with issues relating to wider Indigenous employment and training in the catchments.

Figure 5.2 Mango farm, Gilbert catchment

5.4 Employment and training

Employment supported by properly certified training is identified as a crucial requirement for both successful Indigenous resettlement in the upper catchment, and for general Indigenous support for development in the area.

We also want opportunities for our people. Jobs.

Senior Tagalaka A

There must be jobs for the people if irrigation goes ahead. We have to be involved.

Senior Ewamian B

The jobs need to come first. Jobs for the traditional owners first. They need to get first preference, for truck drive or whatever, whatever farm where the TOs can get a job.

Senior Tagalaka B

Employment is number one for us, it is the main thing.

Senior Yirendali A

Research participants also identified that training needed to be certified, and that the jobs created should be paid at an adequate level given that Indigenous people have good skills to undertake them:

All this CDEP and training. I've never seen people so trained in my life. But the certificates are not recognised outside the gulf. Our people know how to work, but should get good dollars for what they do. And if they are doing that, it needs to be good wages. Not under the award, slave labour.

Senior Kurtijar A

Local jobs for Yirendali people are important. We have got skills in our mob, and people want to go back. We lived in Winton because Dad used to live there. My brothers and sisters are teachers, supervisors. One is CEO for services. In the past, we did not get the supervisor jobs, the manager jobs. Only pastoral work. Now it is a lot better world, an equal world. People can work together as one group.

Senior Yirendali C

The cattle industry was built on the back of blackfellers - Aboriginal people make good stockmen. We've taken it to the next level now and shown that Aboriginal people make good managers. We're giving our kids a future and showing them that they can do it. They don't have to be white or yellow - they can be Aboriginal and they can do it.

Fred Pascoe, speaking in 2002 as Morr Morr Pastoral Company chairman (Smith, 2002)

However there is also a level of concern about whether the jobs promised will actually be created, and whether they will be accessible to Indigenous people or not:

The problem is always that they make promises, but the benefits don't come, we don't get them from the development. They use people from overseas or down south, never locals.

Senior Mitakoodi B

They talk about jobs, but that's just talk, the jobs won't go to us, you can see that from the other areas. But it is up to us as well to take those opportunities if they do come.

Senior Ewamian D

They talk about jobs. I can't see 30 people going up from Normanton to a job in the eastern Gilbert catchment. If a new mine goes out there, and the contractors are put on, they got their own people. It depends on how lenient the contract is, what the conditions are there. Local people, local labour, they only get the chance if the contractor follows them.

Senior Kurtijar C

The motivation of younger Indigenous employees and adequate support for them from both Indigenous and non-Indigenous employers and elders is perceived as crucial to translating employment possibilities into employment. That support needs to include appropriate formal certification such as licensing, but also guidance about money management, recreational activities, and informal encouragement at work in addition to formal training:

People my age, they got big vision, they make plans, but then the young ones don't go to work. Where does that leave us? Our mob needs to get out there and use the chance to do it. The boys want to go out to the mine, but they need the driver's license first. They get that and get a job, but someone needs to follow up with them, talking about budgeting, saving. We need that focus on the younger generation. At the moment it is drugs and alcohol, as soon as they got that money, they race off and do it. Give them vision. Lots of people talk about jobs, but not about the budgeting side. And whoever has the (pastoral) lease needs to encourage the boys to stay on a bit longer. If they do a couple of days work, have a BBQ on Saturday night, encourage them, tell them 'I'd like to see you stay on longer, keep going' and if they do maybe give them a bit more money. But that bloke needs the money and time to be able to do that.

Senior Ewamian E

The aspirations and motivations of potential Indigenous employees is a crucial issue, but was not addressed by the current research project which focused on exploring the views of senior group leaders and elders. Some of these may be prospective employees, so identifying what kind of work motivates young employment-age people will be crucial to the success of any employment initiatives. Nevertheless, high levels of motivation to relocate for significant work and diversified work opportunities were clearly identified:

We don't want to put all our eggs in one basket. We want to work in different ways. And full time, not seasonal work. Why would we go out to Richmond and sit in the aircon or cause trouble? People can do that here [at Yarrabah] if they want. We want to work, and there's no jobs around here.

Senior Wanamara A

5.5 Natural and cultural resource management - Indigenous rangers

Certain kinds of work roles are highly supported across all age groups, and the most prominent of these is natural and cultural resource management. Across northern Australia, such work is increasingly formalised and remunerated through Indigenous ranger programs, which in general are extremely popular with local Indigenous people. The work of existing ranger groups is highly valued and they provide an important aspirational pathway for school-age younger people who seek meaningful local employment. The Normanton Rangers (associated with Kurtijar and with Gkuthaarn and Kukatj lands) and the Ewamian Rangers are both based outside the catchments but undertake activities within them. The sustainable expansion of these existing ranger programs is a significant priority for the communities which guide and support their activities. Those groups currently without rangers also have very strong aspirations to try to acquire them:

We've applied for Caring for our Country funding. We need a ranger setup in the area. We want to protect where the farms are going to be – get those rangers shooting and trapping ferals and brumbies, protecting the country. Croydon people need to get priority, because they are living on the country. We've applied for a grant, $5 million over 5 years, to manage and develop the reserve lands, workshop and business ideas. This includes rangers – we spoke to Gulf Savannah about that - who would cover wider Tagalaka country.

Senior Tagalaka C

We are trying to get rangers, but it is hard to acquire funding. We have had to do that job by ourselves. We are still doing it, but if we had rangers, it would make our (management) job so much easier. We can't wait for DERM, we don't see everything all the time. We've got to assess those areas. We got to be testing the river system every week.

Senior Mitakoodi B

We want those land management roles. We want to map it out, but it's a big country. We are familiar with the open country, the downs country, but up in the mountains, the forest country, the main gorges, we have not seen as much. But the tourists are already there!

Senior Yirendali C

We'd like to look at employment, but there is nothing here at the moment. Only council, railway, and heritage work. We'd like to look at something that is looking after the country, getting kids involved in our culture. Getting work that way. I went up to the Land and Sea conferences, Cardwell and Broken Hill. We need it for our country.

Senior Yirendali A

Participants who have observed the activities of both existing Indigenous ranger programs and National Park rangers identify ongoing continuity and support as crucial to future success:

We want to get rangers up at Middle Park. That is a cultural heritage playground, that area. We thought about tourists around that area, wanting to show Richmond and the caves. We need to have an office in Richmond - Hughenden is not our country. It's good for tourists, who come to town and might want to know the mob of that area. We put that type of thing in our property management plan. But the government got to fund these things. They fund the national park rangers, why not fund us? Working on Country is only a 4 year program and with project funding every year. My nephew has got a ranger group here [at Yarrabah] but it is just a Working on Country mob, nothing permanent or concrete. They need to do like National Parks and employ us permanently. Don't just send us in for 6 months or 12 months, give us a permanent job.

Senior Wanamara A

We want those rangers, but it has got to be ongoing, it can just be a car and an office for a few years. It has got to last.

Senior Mitakoodi D

The desire for the establishment of a ranger program affiliated with the relevant native title/traditional owner group is an extremely consistent research finding across all the relevant participants in both catchments. Sustainably funded ranger work addresses multiple Indigenous aspirations relating to resettlement, care for the country, desirable employment and the management of relations with non-Indigenous people, including both local landowners and visiting tourists. On this basis, combining a group-based Indigenous ranger program with group-based rural land ownership would appear to provide significant foundations for sustainable resettlement and long-term employment in the catchments.

Management challenges for groups who have newly acquired a rural property and/or commenced Indigenous ranger activities are to be expected in the early stages following acquisition. Although desirable and complementary, the two are not necessarily dependent upon one another (successful ranger programs can operate without a group-based rural landholding and a rural landholding can operate successfully without designated natural and cultural heritage managers). However the mutually reinforcing nature of the two initiatives this is recognised by traditional owners who express a strong desire for both. Chapter 6 below discusses the implications of land tenure, employment, and Indigenous resettlement in more detail.

5.6 Wider natural and cultural resource development principles and aspirations

Indigenous property ownership and ranger programs are crucial foundations for Indigenous people in this area, but the vast majority of natural resource development occurs on lands over which Indigenous people do not hold exclusive title. The principles and practices associated with such developments are therefore extremely important. The recent Kakadu forum was critical of some recent government development initiatives and outlined a range of important features of development on Indigenous lands 'to ensure that real benefits accrue from development, and that these benefits change the social circumstances for the wellbeing of their communities and families' (NAILSMA 2013: 1). These features include:

- respect for local Indigenous peoples as the primary decision makers about the development of natural resource assets they are responsible for
  the need to incorporate women and young leaders in discussions about development
- Indigenous engagement and involvement using free, prior, and informed consent principles
- effectively meeting the obligations and requirements of both international treaties and local, regional, and national policy
- whole of government approaches to wider Indigenous economic and social development
- novel communication approaches to attract private investment for sustainable development on Indigenous lands, notably through an Indigenous prospectus approach that articulated Indigenous values and community-based planning priorities with private sector needs
- partnership approaches which ensure that Indigenous people are actively involved in generating the benefits accruing from development, and are significant recipients of those benefits.

These general principles about the potential value of development, the need for adequate controls, and the need for formal agreements about shared benefits are evident in specific comments made by local research participants during the current study:

Development helps the country, creates employment, gives towns a boost, a lift, maybe give us some benefits as well. I'm not against it, it is just a matter of how they do it. We have got to be part of it – consultation, input, participation, benefits.

Senior Wanamara A

With future developments, Shared Benefit Agreements are necessary, They need to have multiple elements – training and employment, wider economic returns, and compensation. We've talked in the past about an agreement for (wild) sandalwood harvesting, where us as traditional owners are employed to do the harvesting and get a percentage of the final value of the product.

Senior Yirendali B

In some cases of non-local residence by traditional owners, strong aspirations for natural and cultural resource management employment on Indigenous-owned property exist, but an alternative model is proposed for wider regional natural resource development projects. This model does not emphasise local employment, but rather early consultation and engagement during project startup to ensure it is appropriate, then benefits in forms which can be transferred and used elsewhere:

As an Aboriginal man, I look at the impact. I don't live out there, so the jobs are less than the other benefits. This time and era, we get compensated, like $600,000 for the power lines. The less people they have involved in it, the better, so we maybe should work up until everything is running smooth, then take the money and go. It does not always have to be money. They could build houses for us here in Yarrabah.

Senior Wanamara A

However in general, the emphasis is on local partnerships, local benefits, value adding and diversification for greater long term sustainability:

We need to operate locally and generate work. Right now the cows get bred and grown here, fattened up further south, killed even further south, then shipped 2000km back up here, which is why a rump in the pub costs $30. We are already trying to get the abbatoir running in Cloncurry. Stage 1 feasibility is done, and we are preparing Stage 2 now. We learned from the cattle ban that we cannot have all our eggs in one basket.

Senior Kurtijar B

The same principles of balancing sustainable local development with wider environmental and cultural needs are evident with respect to the specific issue of water planning.

5.7 Water planning and water development aspirations

Previous sections of this report have demonstrated how much water is valued by Indigenous people, and that there are specific Indigenous rights and interests associated with water. However the current research also demonstrated the low existing level of knowledge of water planning amongst Indigenous people in both catchments. This constrained the degree to which Indigenous people were able to express specific aspirations about water planning processes, allocations, and objectives. Nevertheless, a range of points can be noted with respect to water planning and allocation, water development, and catchment management.

5.7.1 WATER PLANNING AND ALLOCATION ASPIRATIONS

Prior to further releases of water under the Gulf plan and/or significant revisions to the current Gulf water plan, it may be beneficial to all parties to note the findings of the study by MacKenzie (2008). This described the need for better communication, improved community understanding, training and development and specific Indigenous engagement strategies. Consultations for the current study have significantly improved community awareness of the existence of formal water planning. However effective Indigenous involvement in future planning processes will require a range of initiatives to improve knowledge and management effectiveness. Key topics in such initiatives include:

- resources for training and capacity building, the timing for such preparation and who should be involved
  the need for catchment-specific Indigenous consultation and reference groups for water planning
- the links between water planning and catchment and land management planning
- further science and information needs to enable effective water planning.

5.7.1.1 Indigenous reserve allocation aspirations

People are talking about the right to water. Maybe we need to claim that. I agree with that too. That will make it more secure.

Senior Ewamian A

Indigenous reserve allocations already exist in the Gulf water plan because some rivers declared as Wild Rivers under the *Wild Rivers Act 2005* are included in the Gulf planning area, and the Act creates small reserve allocations. The issue of a reserve allocation was not explored in substantial detail pending further community training about water planning. However the general response to the idea of a specific Indigenous allocation was favourable amongst the research participants. The investigation undertaken by the CLCAC Water Facilitator and a consultant at the request of the National Water Commission and Queensland State government is also highly relevant here. It included consultation with Gkuthaarn and Kukatj peoples connected to the Flinders catchment, and the Kurtijar people associated with the Gilbert catchment. Information came from interviews, from feedback at meetings of native title Prescribed Bodies Corporate (PBCs) and native title claim groups in March 2012, and from further discussion and feedback at the Gulf Water Forum in April 2012. At the time of the study, Indigenous reserves had been declared for four catchments - Mornington Inlet, Settlement Creek, the Staaten River and the Gregory River (CLCAC, 2012). In general, Indigenous responses were that:

- traditional owners felt that Indigenous Reserves should be used either by traditional owners on their own country, or collectively by traditional owner owned businesses
- usage proposals which benefit the whole community rather than just the applicant(s) should be favoured
- traditional owners should decide who can apply for an allocation from the Indigenous Reserve before the application is considered by the Queensland government
- management plans should be required with criteria for assessing applications
- Indigenous Reserves should be the property of the native title holders/traditional owners, and should generally be used by them

- opinion was divided as to whether Indigenous non-traditional owners should also be allowed to apply for access
- ownership and management of Indigenous Reserves should be shared equally among the language groups that have rights to that country
- downstream users would not be impacted by water extraction upstream, and it was thought that equal shares would help to achieve this
- ILUAs negotiated between all of the traditional owner groups in the area may be one way to reach agreement on water sharing arrangements between different groups
- a range of models may be required to address different governance and ownership circumstances (e.g. where native title had been determined and where it had not, where land trusts existed, etc.)
- temporary trading or leasing of allocations can occur under strict conditions, and money earned should be used to support community projects or remote infrastructure
- allocations from an Indigenous Reserve must show that they will provide local employment and local benefits (equity share, training, food production, etc.)
- governance and management assistance for Indigenous Reserves is required, incorporating
    - environmental assessment
    - business project support
    - information on other water uses and cumulative impacts
    - consultation with downstream users
- existing Indigenous Reserves in Wild Rivers catchments in Queensland need to continue (even if there are other changes to the legislation) and Indigenous Reserves need to be created in other catchments as well
- Further scientific research in collaboration with Indigenous people is required to examine the health of the river systems.

More extensive information exchange and consultation with Indigenous groups in the Flinders and Gilbert catchments about Indigenous Reserves would be required to establish whether their views are consistent with those supported in the CLCAC results. However some of the groups overlap with the groups involved in this study, and many of the points above are broadly consistent with the underlying principles of the care and management of country outlined in previous sections.

5.7.2 WATER DEVELOPMENT PREFERENCES

With respect to water development in the Gilbert catchment, some participants were positive about major dam construction. This was provided it was sited appropriately and the benefits from construction flowed to Indigenous people and businesses:

The dam on Green Hills, I'd like to see it. The Gilbert has 3 rivers, the Etheridge, the Einasleigh, and the Gilbert, and as long as those others still flow, then there would still be water in the river. It's only common sense. Put the dam back off there, up high, and let the others flow. If you are a pastoralist, and you want to build up, you need to feed your breeding herd, build them up. If that feed is there, then it is good.

Senior Tagalaka C

I've got no problem with other people putting in bores. No problem with a dam. I got up at the Etheridge Shire meeting and said that. As long as our people get a job out of it, set up a base, maybe land for agriculture and those sort of things.

Senior Ewamian A

I think this is a good thing. We need development to supplement existing industries. What works for us is beef cattle, and we need to value add to our product. Fattening cattle needs fodder and irrigation helps with that.

Senior Kurtijar B

I'm not against farming, but I'm against damming the rivers to do it. They need to get that water some other way.

Senior Tagalaka E

Indigenous participants who were residents in the Flinders catchment noted the value of smaller scale water development in easily accessible locations. These could significantly increased recreational opportunities and amenity values for people who had limited access to transport:

If they want to put a dam near Hughenden, they should also put something in the town, not just up in the hills. Somewhere that each person can have the use of that. People don't always have a motor car.

Senior Yirendali A

It's a good thing if they put in a dam, give us somewhere to go, somewhere cooler other than sitting around the house. The Richmond one is there, but it smells a bit, there is crook water in Richmond. There's the one in Cloncurry, Chinaman's [Dam]. I don't think they should put anything right on the watercourse, but put it close so the water runs into it.

Senior Hughenden Indigenous resident

They talked about a town dam, like Station Creek in Richmond. It depends on how they do it. There is millions and millions of water coming down that way [in the Flinders River)] It would last there in a dam, they could let it bank right up.

Senior Yirendali D

A number of people expressed significant concern about water and dam development structures which might substantially alter the stream flow of the river. In some cases, Indigenous water development aspirations were quite explicitly to avoid any further substantial development in order to prevent further negative impacts to traditional country. However where water needs meant that some development was necessary and/or likely to occur, preferences were given about proposed methods. In decreasing order of preference these were:

- flood harvesting to supply smaller, off-stream storages
- bore and groundwater extraction
- where in-stream dams are necessary, that they be smaller and/or constructed in side tributaries or branches which did not restrict all of the flow.

In a similar manner to attitudes within the wider Australian population, Indigenous people have diverse aspirations and preferences with respect to water development. Key aspirations encompass:

- clear assessments of the necessity and advisability of further development
- the use of appropriate techniques to minimise negative impacts
- the need for any development to produce direct benefits for Indigenous people through
    - employment
    - income
    - and/or the enablement of Indigenous businesses
- ensuring that developments incorporate elements which provide amenity and recreational opportunities in locations which are geographically accessible to Indigenous people.

5.7.3 CATCHMENT MANAGEMENT PLANS AND ASPIRATIONS

Water planning is distinct from, but integrally related to, wider issues of catchment management. The significance of Indigenous people looking after traditional lands, and the downstream and intergenerational responsibilities that are an integral part of that 'looking after', have been discussed above. These principles and responsibilities align well with the kind of responsibilities identified in contemporary catchment management processes. SGC in the Flinders catchment and NGNRM in the Gilbert catchment are the relevant catchment management agencies, and they have produced a range of plans and consultation documents relevant to ongoing catchment management in their respective regions. As noted previously,

the Gilbert catchment also has the NGISG, which has operated with the support, endorsement and feedback of the groups from the relevant catchments. This means that guiding documents of the NGISG reflect Indigenous group perspectives regarding catchment management, including those of Gilbert catchment groups. On establishment, NGISG's vision was that 'Indigenous people have increased access to and involvement in the management of land and sea country. Indigenous people will have the resources and skills needed to effectively plan for and sustainable manage land and sea country to meet their aspirations' (NGISG, 2003). The principles outlined in the NGISG development plan to deliver this vision include:

- working together
- maintaining strong Indigenous groups
- understanding Indigenous people as both significant landowners as well as stakeholders in the broader planning and management processes
- recognising Indigenous people as custodians of important knowledge that contributes to the achievement of national, state and regional natural resource management objectives
- undertaking effective evaluation and monitoring to underpin effective policy and program development and implementation

The outcomes sought by NGISG include:

- increased Indigenous access to land and sea country
- stronger Indigenous planning and management
- Indigenous involvement in and influence upon broader natural resource planning and policy development

The actions undertaken by the NGISG are grouped under headings that are consistent with a number of the heading topics in this current report, and with the perspectives regarding water development and water planning provided by individual Gilbert catchment research participants above. NGISG activities remain ongoing, and most recently have included the production of a newsletter, 'Hands on Country' (NGISG, 2013).

In the Flinders catchment, SGC does not have a separate catchment-level Indigenous planning and consultation entity such as NGISG. Instead it has relied on experienced Indigenous staff to undertake relevant local consultation and planning activities across the catchments SGC operates in. The Flinders catchment is geographically the largest catchments SGC is responsible for, and the eastern side of the catchment is several hundred kilometres from the main SGC office in Mount Isa. SGC recently conducted a survey of how people use and value water in the upper and middle Flinders River focusing on a range of values including human use (recreational and business), ecological values, and cultural and spiritual values. Unfortunately, there were no Indigenous respondents to the survey - communication difficulties were noted with two non-resident groups and the third was unable to respond within the timeframe (Pollock and Parker, 2013). The report noted the need for further engagement with traditional owners to arrive at a better appreciation for cultural and spiritual values. The changing circumstances for SGC in the Flinders catchment can be summarised as:

- the arrival of new information from both this study and the SGC survey
- changes in Indigenous staffing and governance arrangements at SGC
- renewed impetus for water and agricultural development
- ongoing Indigenous NCRM and resettlement aspirations

The SGC board has recently moved to revise its model for catchment-level Indigenous consultation and planning, with a structure similar to NGISG under consideration (B. Wilson, SGC, pers.comm.).

In terms of catchment-scale representation, it is also important to note the potential difficulties of asking a single Indigenous representative to speak on behalf of multiple groups and interests. Protocols about speaking for, about, or on behalf of another group or territory are quite strict. These protocols can also make the location of any meeting or representative forum an important issue. Yet both group-level and

catchment-scale discussions and planning processes are crucial to the sustainable long-term management of natural resources. It also seems clear that a stronger and more proactive approach to building Indigenous agency at a catchment scale can be achieved. Such arrangements have also helped broker Indigenous interests back into wider land and water use planning and management processes. This suggests the need for proactive investment in the capacity of Indigenous groups to drive their own country-based planning and development, supported and augmented by wider catchment management entities that coordinate at the catchment scale.

Figure 5.3 Crop spraying, Silver Hills Station, Flinders catchment

5.8 Summary and potential planning priorities

Based on a preliminary scoping assessment with key senior people, it is evident that there is both commonality and diversity in Indigenous plans and development aspirations. The commonalities are found in the aspirations for greater ownership of land and management control over natural resources, and in the resettlement aspirations for depopulated areas. The diversity exists in the ideas for using the assets under Indigenous control, and in the specific group-based needs and circumstances. This situation points to the value of further community/country-based planning processes which have their foundations in common goals but can explicitly consider and prioritise the options and pathways for achieving those goals. The current study explicitly avoided attempting to generate group agreements and positions over such a large and diverse area, but clearly the next phase of development and associated planning and research will require such processes. Such a process needs to be grounded in group consultation, but also aware of wider catchment comparisons and connections.

One example of the kind of thinking required can be demonstrated by reconfiguring Table 2.3 to reflect group-based priorities, needs, and aspirations rather than existing circumstances. Such a table cannot be adequately populated with data by the research undertaken here, as the relevant options have not been generated at the group level, let alone prioritised in group-based planning processes. However some likely basic priorities can be extrapolated from analysing the original Table 2.3. Those groups without an existing Indigenous ranger group or rural landholding are more likely to prioritise these, while other groups who already possess them may focus on other areas of need, such as residential resettlement on traditional lands. The intention would be to undertake planning and prioritisation processes at the local group level and place those in a regional catchment context. This would enable resources to be directed to clearly identified local needs that also improve regional Indigenous management and planning capacity.

Table 5.1 Possible priorities for future group-based planning and regional coordination in the Gilbert catchment

GROUP PRIORITY	EWAMIAN	TAGA LAKA	KURTIJAR
Develop and/or refine group-based plan	Priority 1-5	Priority 1-5	Priority 1-5
Creation and/or major expansion of local corporation	Priority 1-5	Priority 1-5	Priority 1-5
Generate significant residential presence on traditional lands	Priority 1-5	Priority 1-5	Priority 1-5
Secure town land or infrastructure on traditional country	Priority 1-5	Priority 1-5	Priority 1-5
Secure significant rural land on traditional country	Priority 1-5	Priority 1-5	Priority 1-5
Establish ranger program	Priority 1-5	Priority 1-5	Priority 1-5
Major cultural heritage study	Priority 1-5	Priority 1-5	Priority 1-5
Progress native title application	Priority 1-5	Priority 1-5	Priority 1-5
Utilise successful native title determination	Priority 1-5	Priority 1-5	Priority 1-5
Employment in non-Indigenous businesses on traditional lands	Priority 1-5	Priority 1-5	Priority 1-5
Business partnerships with non-Indigenous businesses	Priority 1-5	Priority 1-5	Priority 1-5
Indigenous-run business	Priority 1-5	Priority 1-5	Priority 1-5
Water planning and/or catchment management involvement	Priority 1-5	Priority 1-5	Priority 1-5
Secure Indigenous water reserve allocation	Priority 1-5	Priority 1-5	Priority 1-5
Indigenous prospectus development	Priority 1-5	Priority 1-5	Priority 1-5

It is important to emphasise that Table 5.1 is understood as a signpost for a range of planning pathways rather than a comprehensive list of relevant options or a method for prioritising them. A range of effective techniques and associated practitioners are available to generate participatory and/or community-based plans with Indigenous people. Such techniques can also be used to generate formal Indigenous group positions on wider planning and development issues – identify preferred options for development, rank

undesirable impacts, etc. What the table does do is indicate how local planning priorities complement and articulate with wider regional and catchment patterns of Indigenous capability and prioritisation. This is a crucial process for facilitating further Indigenous involvement in development planning at the catchment scale.

Figure 5.4 Cobbold Gorge tourist resort, Gilbert catchment

6 Indigenous water values, rights and interests and sustainable development pathways

6.1 Introduction

There is strong ongoing interest from all levels of government in establishing appropriate foundations for sustainable economic development, particularly in rural and regional areas. Indigenous interests in natural resources, particularly water and land, are an important factor in the initiation and management of successful sustainable development. Indigenous people wish to protect the long term health of their traditional lands and the resources, cultural heritage, and ecosystems they contain. Indigenous people can also act as a substantial enabler of appropriate development, and have been shown here to have a range of existing plans and aspirations regarding resettlement and retention, business development and employment, land ownership, and NCRM.

Although Indigenous historical and contemporary participation in the pastoral industry has received a degree of attention, there is less information available about Indigenous roles in wider agricultural development. In part, this reflects the relative strength of Indigenous land tenure and residence in northern Australia which is currently dominated by pastoral activity. However it also reflects general orientations in Indigenous-focused research towards traditional Indigenous cultures, colonial and mission histories, native title and cultural heritage, and contemporary Indigenous social and health issues. The current study begins to address the knowledge gap regarding the intersection between water and agriculture in a key location in northern Australia.

In this final chapter, the investigation and preliminary formalisation of Indigenous water values, rights and interests is reviewed, particularly with respect to water planning. The chapter then identifies some pathways for planning for sustainable Indigenous development which are grounded in existing local ideas and aspirations. The emphasis is upon achieving regional coordination, and oriented to wider long term policy goals. The Chapter is organised into key topics: Indigenous engagement; resettlement and rural retention; land ownership and NCRM; water development; and Indigenous business and agricultural development.

6.2 Investigation and formalisation of Indigenous water values, rights and interests

6.2.1 INVESTIGATION

6.2.1.1 Research scope and local participation

Studies of Indigenous water values, rights and interests have been completed elsewhere in the country prior to the commencement of this research, but existing information from the Flinders and Gilbert catchments was extremely limited. The preceding chapters provide key contextual information about Indigenous perspectives on land and natural resources, as well as focused comments about water and development issues. The current study completes a key investigative stage of assessing Indigenous water values, rights and interests in these catchments in a situation where existing knowledge was poorly documented. The research is preliminary and based on individual rather than group consultation, but was undertaken in combination with field visits, literature research and further advice from professionals in relevant sectors. This is an effective method for identifying:

- the scope and diversity of water values

- the individual variations in perspective that underpin such diversity
- the themes and attributes which are consistent across the wider population.

Local interest in the study was consistently expressed, indicating a genuine interest in, and engagement with, issues of water values rights and interests, natural resource management, and development impacts and opportunities.

6.2.1.2 Indigenous water values, rights and interests in the Flinders and Gilbert catchments

The current investigation has revealed a range of values which are consistent with those identified in other Indigenous populations elsewhere. As shown in Chapter 3, the elders and senior leaders interviewed had significant personal histories and memories associated with key locations in the catchment. Such history and memory can form a strong sense of attachment alone, but becomes even stronger when combined with the deep attachment to land encouraged by Indigenous cultural traditions. The beliefs of the Dreaming and the activities of hunting and fishing were the two primary characteristics highlighted here. These are often cited by Indigenous people as crucial aspects of Indigenous culture, but many other attributes could also be included. These attributes are the foundations of a strong sense of prior Indigenous ownership of land and of rights of access. It is these rights that have been upheld in native title law and are intended to be negotiated through instruments such as ILUAs.

Indigenous law goes considerably further in asserting Indigenous ownership over land and natural resources. However with that ownership also come a range of obligations and responsibilities. These include intergenerational responsibilities to both ancestors and descendants, as well as responsibilities to near neighbours and those living downstream. The obligation to protect ancestral lands and non-renewable resources is the motivation for strong and ongoing interest in cultural heritage and in conservation and contemporary land and natural resource management. As owners and guardians of important landscapes, Indigenous people also have a range of principles with respect to non-Indigenous people on Indigenous lands. Three highlighted here are:

- the need for early and ongoing consultation and communication
- the need to comply with requirements and obligations set down in agreements, policies and laws
- the principle of compensation for
    - access and residence on Indigenous lands
    - the use of renewable and non-renewable resources
    - damage to natural and cultural assets.

It is this combination of cultural attributes, rights and obligations that underpin Indigenous approaches to water issues, including water and agricultural development explored in Chapter 4.

Chapter 4 highlights the critical importance of water to Indigenous people and how this is universally expressed. It goes on to note comments about strong seasonal patterns of water flow in the Flinders and Gilbert catchments, and observations of negative environmental change. These provide foundations for discussing Indigenous needs in water planning and allocation regimes and, in combination with the principles expressed in Chapter 3, with the Indigenous aspirations for planning recognition and for water resource rights and allocations for Indigenous people. The preceding sections also provide foundations for Indigenous assessment of development risks and impacts, including water extraction, dams, inappropriate land use, cumulative impacts from other developments such as mining, and specific Indigenous vulnerabilities to negative social and environmental outcomes. Chapters 3 and 4 provide the foundations and context for Chapter 5, which specifically considers Indigenous plans and aspirations for social and economic development in the Flinders and Gilbert catchments. The outcomes of Chapter 5 are discussed in more detail in section 6.3 below.

6.2.2 FORMALISATION AND RECOGNITION

A useful next step following a successful preliminary investigation of Indigenous water values, rights and interests is to begin the process of formalisation, refinement and recognition. The current research suggests that such a formalisation process could include:

- discussions with Indigenous groups about water values, rights and interests
- formalisation of those discussions into statements of group priorities/values about water
- further specification of cultural heritage and native title rights specific to water in the two catchments

General protection for native title interests and for cultural heritage is obligatory under the NWI and the state-based water planning schemes it informs. However local and regional specification of conditions is crucial to ensuring such protections are enabled. In addition, ongoing research (such as this study) and Indigenous advocacy have identified that Indigenous claims stretch beyond the formal rights offered by these legislative tools. This indicates that processes which enable Indigenous people to express and enact a wider array of water values are important. Significant limitations were found in the Indigenous consultations for the Gulf water planning process (Ayre and MacKenzie, 2012) and recent work by the CLCAC (2012) has indicated that Indigenous people have significant interests and aspirations beyond what is included in the current water plan. This suggests greater Indigenous involvement in ongoing water planning processes would be both useful and welcomed. It would enable Indigenous people to more adequately support sustainable development aspirations, both their own and those of others in the region. However a range of measures to improve local capacity to participate are needed. Some key pathways include:

- building on existing Indigenous water knowledge and expertise through focused, catchment-scale skills and capability building in formal water planning
- the establishment of appropriately resourced formal structures for catchment-scale Indigenous water planning consultation
- further catchment-specific discussions regarding Indigenous reserves and tradeable allocations
- further research and information about downstream native title interests in water that water plans need to consider
- further consideration of the articulation of water planning with both water development and catchment management

Involvement in water planning is a crucial pathway for accurately formalising Indigenous water values, rights and interests. It is therefore one component of a wider set of foundations that will underpin Indigenous support for, engagement with, and participation in, sustainable development in the Flinders and Gilbert catchments.

The principles associated with non-Indigenous people on traditional lands are crucial to Indigenous concepts of ownership, and therefore to the recognition and formalisation of Indigenous water values, rights, and interests. Three principles selected here as key examples are consultation, compliance, and compensation. Effective catchment-based water planning needs to encompass all three of these principles – consultation with relevant people and groups, compliance and enforcement of agreements and regulations under the plan, and compensation (including leasing payments) to those whose resource rights are being accessed, used, traded, or infringed. Clearly these are broader concepts applicable to a wider group of people, but it is useful to restate them in an Indigenous context to indicate how water issues are understood. As noted previously, the interconnected nature of Indigenous ownership systems means that 'Indigenous water values, rights and interests' incorporates considerably more for Indigenous people than what is covered by traditional water planning. But the planning process assumes the importance of consultation, compliance and compensation, so provides useful foundations for the process of formalisation and recognition.

6.3 Community-based planning and sustainable Indigenous development options

Indigenous people themselves have a strong desire to participate in sustainable economic activity in rural and regional northern Australia, as statements from recent forums have expressed. In general terms, these plans and aspirations articulate well with government policies in relation to Indigenous engagement, Indigenous socioeconomic status, food security, natural resource management, and regional development. However governments and Indigenous leaders have experienced difficulties in successfully engaging to enact and implement shared or complementary development goals. This has led to recent criticisms of government by some northern Indigenous leaders. However those difficulties have also led Indigenous leaders to reorient towards the private sector as a major initiator of economic development. They have begun to refine concepts and engagement tools suitable for the task – understanding Indigenous people as existing 'investors' in Australian natural resources and developing a 'prospectus' model to encourage partnerships with other non-Indigenous investors. This wider context is highly relevant to the situation in the Flinders and Gilbert catchments, where development seems likely to be pursued by a range of private interests underpinned by government endorsement, enablement, and strategic investment.

As was noted in Chapter 1, 'engagement' with Indigenous people can have a range of meanings, and these models of engagement can equally be applied to development projects – development that might variously involve consultation, assent, benefit, involvement, partnership, and/or control. Consultation is built into many legislative requirements for development. However models which offer increased Indigenous input, participation and control are necessarily favoured by Indigenous people, as they in turn can result in greater involvement and more substantial benefits. The recent northern Indigenous development forums have emphasised attracting private investment to Indigenous lands for this reason, seeking partnerships that more actively involve Indigenous people in deriving benefit from the resources offered by their traditional lands. The goal is not just sustainable development, but sustainable development in particular locations – activities which support the ongoing residence of people in the places that matter most to them.

However, successful development partnership approaches require both partners to clearly identify shared goals and priorities. In an Indigenous context, this highlights the significance of appropriate community-based and/or country-based planning to ensure accurate collective prioritisation. Such collective prioritisation increases the level of community investment in the planning agenda, enhancing the chances for a successful outcome. Clear statements of priorities can also identify mismatches, avoiding the difficulties and the costs of inappropriate business choices and partnerships.

Based on the previous analysis, some key pathways and next steps can be identified. These are interrelated with one another and with water rights and water planning objectives outlined in 6.2, but are grouped here into four categories; community capacity, water development, business development and further information needs.

6.3.1 IMPROVING INDIGENOUS GROUP AND COMMUNITY NCRM CAPACITY

A wide range of issues could be included under the heading of improving group and community capacity. The focus here is on specific initiatives that will improve Indigenous capabilities in natural resource management and planning. These directly support wider resettlement and business development aspirations, as well as water planning initiatives. Four key initiatives that emerge from the current analysis are:

- undertake community/country-based planning with Indigenous groups in the catchments to ascertain development objectives and management priorities
- increase Indigenous NCRM capacity and resettlement viability through the establishment of group-based Indigenous ranger programs in strategic locations
- subject to endorsement from community planning processes, enable options and partnerships to increase group-based rural land ownership

- improve structures and/or resourcing for Indigenous catchment management through the relevant catchment management agencies (NGNRM and SGC).

These initiatives are interrelated and mutually supportive – a single initiative may be successful, but concurrent initiatives will enhance the chances of both. The planning process is the most crucial, as it will lead to the appropriate prioritisation of other initiatives. Some further detail about each initiative will be considered in turn.

6.3.1.1 Indigenous group and community-based planning

The current report provides foundations for subsequent group and community based planning processes. The Yirendali have already generated a country-based management plan (Hill, 2008), but even in this case, revisions and re-prioritisations may be beneficial. The wide geographic scale of the catchments and the dispersal of a significant proportion of Indigenous group members to locations outside of the catchments mean that a group/country/community based planning exercise will need to be well resourced to be successful. However that successful outcome should underpin and improve future Indigenous engagement, prioritisation, and strategic development. It has the capacity to lower transaction costs, both for Indigenous people and for investors and developers on traditional Indigenous lands. Specific models or practitioners who can assist with group and/or community-based planning will not be identified here, but a range of individuals and organisations with regional, State, and national scale foci may be appropriate. Coordination at the catchment scale is emphasised here, but such planning processes may also need to articulate effectively with structures and plans outside of catchment boundaries, for example land council and shire jurisdictions.

6.3.1.2 Indigenous ranger program establishment

Indigenous ranger programs were popular across all participants for their catalysing effect on residence, employment, and community capability, and so will be briefly considered here in more detail. The Flinders catchment currently has no Indigenous ranger programs other than the Normanton Rangers operating at times on Gkuthaarn and Kukatj lands. The mining development around Cloncurry on Mitakoodi country and the proposed agricultural development in the eastern Flinders catchment on Yirendali country suggest these locations may be particular priorities for improved local Indigenous NCRM resourcing. The Gilbert catchment has a significant gap in Indigenous ranger coverage on Tagalaka lands. The residential and native title status of these three groups differs, as does the immediate development pressure on their respective lands:

- The Mitakoodi people have a strong residential presence and a native title claim in preparation, but severe capacity constraints managing existing and future NCRM workload associated with mining development.
- The Tagalaka people aspire to have a ranger program based in Croydon, where there are existing Tagalaka residents but resettlement-based expansion is desired. The rangers would work on Tagalaka land in both the Gilbert and the Norman catchments.
- The Yirendali people currently have a limited residential presence in the Flinders catchment, but substantial NCRM skills amongst senior members of the group, an impending native title determination, an existing country-based management plan, clear aspirations for long-term resettlement, and the potential for significant changes in land use on their country associated with current development proposals.

A fourth group, the Wanamara, also lack a ranger program and desire one. However given their stated aspirations and residential circumstances, there may be business development opportunities associated with Middle Park Station (see below) that emerge as a higher priority in the short to medium term and which could significantly assist future Wanamara ranger program establishment in the medium term. The variations in group positions demonstrates the importance of assessing group circumstances and undertaking group planning before undertaking local community initiatives.

6.3.1.3 Land ownership and infrastructure

The ILC has been crucial to existing Indigenous rural land ownership in these catchments. It also plays an ongoing role in the development of Indigenous lands, particularly with respect to agricultural development. Table 2.3 demonstrated how Indigenous groups are positioned differently with respect to land ownership within the Flinders and Gilbert catchments. The Kurtijar, the Wanamara, and the Ewamian own town property and infrastructure as well as significant rural properties courtesy of ILC purchases and partnerships. The Tagalaka people control the Croydon Indigenous Reserve, but it does not contain infrastructure such as water and sewage supplies, or major dwellings. The Mitakoodi people own some town land and infrastructure, but do not currently own a larger rural property. The Yirendali have town land in Hughenden but no current infrastructure or rural land.

The consistent aspirations for rural land ownership combined with the diversity in these circumstances again emphasises the significance of group-based planning processes. However it also highlights the potential future role of land-ownership enablers, particularly the ILC. Consultation/coordination with the ILC in the light of changing land use in the catchments may be an important step, particularly if partnerships with government and/or private investors can be generated. Securing land ownership is likely to emerge as a major priority from community-based planning processes amongst groups without current landholdings. Other groups with pre-existing properties may also benefit from ILC guidance about maximising the value of their current operations and/or developing new ones.

6.3.1.4 Local and catchment-level NCRM

Previous sections discuss NCRM on the lands of individual groups. As indicated, the suggestions for individual ranger capacity and land ownership are focused on local needs and aspirations, but also take account of the need to expand regional management and coordination capacity. In terms of short-medium term management capacity, three additional steps are identified here:

- the establishment of a formal Indigenous catchment management entity for the Flinders catchment under the auspices of SGC. As noted previously, such a catchment-scale initiative would be significantly strengthened by the increased capacity associated with the establishment of Yirendali and Mitakoodi Ranger groups. Without strengthened local Indigenous NCRM capacity, a regional body may struggle with traction and implementation
- Support for catchment-scale knowledge exchange and capacity building amongst Indigenous groups. These would be particularly useful if new ranger groups could be established. Exchange processes could be led by the successful Normanton Rangers, the most experienced group across the two catchments. Three key foci could be
    - Establishing NCRM activities on non-Indigenous pastoral and agricultural land - incorporating relationship building, project prioritisation, access negotiation etc. The Normanton Rangers began with a more local geographic focus, but have built an important profile and strong local pastoral support for their activities outside of their original geographic locale through this method. The ability to operate on Indigenous-owned land appears to be highly significant to successful Indigenous ranger programs, but 'outreach' activities improves NCRM on local properties, and the status of Indigenous people as contemporary managers
    - Catchment management – members of the Normanton Rangers are the owners and managers of significant downstream lands in both catchments. They are therefore aware of land management issues and impacts upstream that have a significant impact downstream.
    - Further advice on establishing NCRM management plans, both for areas owned and controlled by Indigenous people, and owned and controlled by others
- Environmental and aquatic baselines – water planning processes are obliged to account for existing and future native title in deliberations about allocations and impacts. At present some groups have completed native title determinations, some have applications registered, and some have applications in preparation. Projects that identify, document and monitor existing environmental and aquatic baselines from an Indigenous perspective may be valuable in the context of future development. Undertaken by ranger groups, such asset assessment and monitoring would

complement non-Indigenous aquatic asset assessment and would inform wider catchment management discussions. It may be particularly important for downstream groups like the Kurtijar and Gkuthaarn and Kukatj, but also for groups in areas where significant and ongoing development may be occurring.

A further array of issues and associated actions could be identified here, but the above options are examples of how local initiatives can be mutually supportive, as well as assist catchment level coordination.

Figure 6.1 Hughenden, Flinders catchment

6.3.2 RELOCATION, RESETTLEMENT AND RETENTION

The desire for resettlement and ongoing residence of group members on Indigenous lands was a consistent finding across the research participants from those groups without significant existing residence. The preceding account shows how land ownership and NCRM employment are interconnected aspirations that are consistent with both cultural obligations and community aspirations. This makes them crucial to the foundations of a successful resettlement-based Indigenous sustainable development strategy. They fulfil a range of important needs beyond immediate financial return. In international discussions about water development, resettlement more commonly refers to the need for people displaced by dam developments to find new places to live. In the Flinders and Gilbert catchments, resettlement potentially means Indigenous people returning to live on traditional lands. The historical dislocation and dispossession of Indigenous people can mean that successful resettlement involves recognition and reconciliation as well as more everyday issues of housing and employment. In those areas where Indigenous people have remained living, the issue may not be so much one of return, but rather of ensuring that those who have stayed are not forgoing major opportunities by doing so. This can be particularly important for younger people.

Indigenous resettlement (and retention) on traditional lands is therefore an issue of sustainable development. It relies on work opportunities existing in sufficient quantity and diversity, and that housing, social services, etc. are adequate for long term residence. Creating such conditions can in turn increase the long term regional viability of a wider area, providing an additional labour force, an additional set of customers for local businesses, and a general increase in population and economic activity. The relationship between returning or re-settling traditional owners and existing historical residents (both non-Indigenous and Indigenous) can be a significant issue, but in general the population of these areas is declining, making new residents an asset. Importantly, providing initial relocation and adjustment issues are adequately negotiated, Indigenous people represent a group with an unusually long term and culturally specific commitment to the local region. This is only enhanced by them gaining an increasing care and management role over important places. In general, urban migration seems less likely than for those whose ties do not involve the same level of commitment. Successful re-settlers would seem likely to stay given that solid employment and residential conditions exist.

However, while making these general points is useful, it is the specific conditions and aspirations associated with individual catchments that determine whether sustainable resettlement, and the opportunities that it relies on, is possible. This again emphasises the importance of group planning and prioritisation, particularly in areas where development conditions and economic activity may be undergoing rapid change. There may be only a short window of opportunity for successful resettlement by Indigenous people before those opportunities are taken up by others. In central Australia, Centrefarm acts as a ‘broker’ to lower the barriers to investment on Indigenous lands. In the Flinders and Gilbert catchments, Indigenous people do not generally have significant existing landholdings, meaning this model cannot be used directly. Nevertheless, if Indigenous people desire to live and work in the catchments long term, there may be a role for an organisation that acts as an independent resettlement ‘broker’, assisting people to take advantage of employment and residential opportunities and managing issues created by relocation and resettlement. Given the declining rural population, the need for such a broker will depend on a new phase of development in the catchments. Such development may require an additional set of steps and initiatives.

6.3.3 WATER DEVELOPMENT

The previous steps also enable more effecting Indigenous engagement with water development proposals, and therefore the role of those in wider Indigenous sustainable development aspirations. Assuming that some significant additional water development in the catchments is likely to occur, a range of steps or pathways may be important in meeting Indigenous needs. These include:

- undertaking cultural heritage surveys of key aquatic landscapes and sites likely to be impacted;
- formal group consultations about water development options and preferences (extraction type, location, etc.)

- further negotiation about appropriate employment, compensation, and other benefits during the construction phase of any significant water developments
- Indigenous participation and involvement in formal monitoring of the direct site impact of significant developments
- Support for projects and programs that connect Indigenous roles in water development, water planning and wider catchment management.

A range of views exist about the prospect of further water development in the catchment. These include opposition (based on the potential negative impacts and caution about perceived benefits), through to endorsement of the prospects and the economic opportunities water development may create. This again emphasises the importance of group consultation and planning processes. However the desire for Indigenous involvement in water development planning and implementation was a consistent finding across all participant groups, as was the need for benefits to Indigenous people to flow from such developments. This includes benefits in the construction phase, but also support for Indigenous business enterprises and partnerships that take advantage of the opportunities created by new development.

6.3.4 INDIGENOUS BUSINESS AND AGRICULTURAL DEVELOPMENT

Nominating detailed initiatives regarding Indigenous business would be premature based on the scoping data collected, but some key examples and key points about Indigenous business development can be noted here. These relate to land-based business ideas, issues of diversification and prioritisation, and generating partnerships and investment.

6.3.4.1 Land-based Indigenous business

Indigenous sustainable development aspirations are diverse and incorporate both the development of Indigenous-owned and operated businesses, as well as involvement in other businesses and activities in the region. On Indigenous owned lands, a range of business activities have been proposed including:

- value-adding to pastoral operations
- agricultural activity
- high value forestry (e.g. sandalwood) and biofuel production
- art and craft production
- ecotourism and cultural tourism
- environmental research partnerships

There is a strong aspiration to develop such businesses, but again, identifying best options requires a ‘case by case’ analysis of the specific situation for the groups involved. One example of specific conditions is Middle Park Station in the Flinders catchment, which is governed by an Indigenous board. The station has very high cultural heritage values but was also affected by substantial mining activity in previous eras, leading some degraded and cleared land. The remoteness and low level of Indigenous presence in the area makes intensified food agriculture unlikely, but Wanamara people have previously had significant international interest shown in biodiesel production there. Growth of high-value sandalwood or biodiesel products on degraded land is viewed favourably by some senior Wanamara as a means of gaining income. This could then support group aspirations and further natural and cultural heritage protection elsewhere on the property, including the long term aspiration for a ranger program. The comments from Ewamian research participants about the possibilities for the recently acquired Tallaroo Station are diverse, reflecting both the potential of the station and the need for additional planning and prioritisation to take place. In contrast to Tallaroo, Delta Downs Station is a working cattle station owned and run by Kurtijar people over decades. Its success has relied on a focus on the core pastoral business. This raises the issue of diversification and prioritisation.

6.3.4.2 Diversification and prioritisation

Given the activity list above, one potential challenge is diversification and its relationship to both skill base and governance. Undertaking multiple activities provides insurance against the failure of any single activity,

but also increases management complexity and the need for skills in multiple businesses. This generates additional risks. The collective management structures common with Indigenous-owned properties afford access to a wider set of skills, but also increase the chance of disagreements over priorities and strategic direction. In relation to Indigenous business development in the Flinders and Gilbert catchments, there is a clear need for support for training and development, but also for balancing prioritisation and diversification. Delta Downs Station has relied on live cattle for financial viability, but the ban on live cattle export and the declining value of stock that are not slaughter-ready has increased their interest in value-adding through growing additional fodder. Pastoralism on the Ewamian property at Tallaroo is constrained by conditions associated with the purchase, but the proximity of the property to Georgetown and its natural and cultural features may mean the Ewamian are better served by pursuing a range of options rather than focusing on a single industry, such as pastoralism. All groups have multiple management roles, but based on geography, residence, assets, governance and/or skills, some may more easily be able to sustain multiple business activities, while others may be better off focusing on a single or a couple of closely-related activities. Assessing the respective roles of diversification and prioritisation is a key step in future planning.

6.3.4.3 Partnership and Investment

The issues of prioritisation, governance and investment are critical to wider business partnerships with Indigenous people. A range of options may be useful in improving the opportunities for business to understand and invest in Indigenous people and Indigenous lands in the Flinders and Gilbert catchments. These include:

- the production one or more regional prospectuses to communicate with investors about existing Indigenous assets and opportunities
- further information and training for Indigenous people about the opportunities and constraints of partnerships with private industry, including discussion of the effect of changes in Indigenous resource rights (acquisition of land, granting of native title rights, securing of water rights and allocations, etc.)
- wider regional non-Indigenous community training regarding partnerships with Indigenous people, including models for shared benefit agreements and partnership arrangements, employment and training opportunities, etc.
- creating incentives for Indigenous involvement, including relocation and resettlement allowances, pathways from training to jobs, employer incentives to hire and retain Indigenous staff, etc.
- training for younger Indigenous people about career planning, personal budgeting and money management as well as formal job skills, focusing on living and working in rural and remote areas and/or in agricultural and natural resource management industries.

A full analysis of the potential for Indigenous business development, partnerships and associated investment is well beyond the scope of this report. However the above points indicate some potential options and promising directions for further activity in this area. Such activity would benefit from further assessment of local Indigenous needs and priorities, particularly the needs of younger people of employment age.

6.4 Further research

A scoping study in an information-poor context such as this one was always likely to identify significant information needs and priorities for further work. In the short term, Indigenous information needs about the local riverine heritage landscape in the vicinity and downstream of proposed developments have been clearly expressed. The forced relocations, changes in land tenure, and/or difficulties in accessing the country mean that Indigenous peoples' knowledge of the cultural heritage landscape is uneven – some places are well known, others less so. Knowledge is also unevenly distributed within and across groups for the same reasons. It was also emphasised during consultations that people wished to improve the information base about key areas before development proposals progressed to the formal EIS stage, rather than receiving further information once an EIS had been completed and significant further project scoping

had occurred. Now that the focal areas of likely development have been more clearly scoped through the NQIAS, further landscape-scale cultural heritage survey work in the higher-possibility development areas is a clear priority for Indigenous owners and managers. The expert consultants report (Appendix B) concludes that further cultural heritage information is required via:

- a catchment/regional thematic history that identifies significant themes and contact and post-contact places of importance
- a comprehensive survey of proposed storage/development areas in partnership with the relevant Aboriginal community and/or Aboriginal Cultural Heritage Body
- some archaeological testing of sites or PADs may be necessary to determine the scientific significance of cultural heritage sites
- detailed disturbance mapping using GIS techniques, so as to refine predictive models.

It would be beneficial to undertake further water planning knowledge and skills training for local groups before identifying significant additional Indigenous water planning research priorities. In general, Indigenous research priorities must be developed in consultation with Indigenous people. Therefore some preliminary foundations in water planning are needed to appropriately identify information needs and research priorities. However this identification can occur relatively rapidly during the process of water planning engagement and capacity development, and could in fact be one focus of that activity.

The other significant area of research priority relates to Indigenous development priorities and to Indigenous responses to the range of wider development options currently under discussion. This could form one component of the community based planning activities identified previously. The diversity of possible Indigenous development activities and of the geographic and group contexts in which they might take place makes it difficult to generalise about research priorities in this area. The one crucial generalisation is that local engagement and local planning specificity is paramount to assessing and implementing development options. However some potential research priorities that may enable Indigenous development aspirations include:

- conditions hindering and enabling general Indigenous resettlement and/or retention within traditional lands –'pushes' and 'pulls'
- employment and training preferences amongst younger people – e.g. what career paths are younger people aware of, which do they wish to follow, what barriers to that aspiration exist, and how can local and regional barriers to rural Indigenous economic participation in the Flinders and Gilbert catchments be overcome?
- what are the risks and benefits of agricultural intensification and/or economic diversification on Indigenous-owned pastoral properties?

These kinds of research questions would clearly inform Indigenous planning processes.

In terms of Indigenous responses to wider development, further work could focus more closely on Indigenous preferences, interests and concerns regarding agricultural development. A clearer picture has emerged from the NQIAS of the likely geographic zone of impact, viable crop types, seasonality of activity, rotation and diversification, economic value of the product etc. Such information would be useful as part of ongoing engagement in the catchments about agricultural development, but also in wider studies of community acceptance of rural land use change.

The above points represent a preliminary list of examples of information needs and research priorities. Further consultation at the local and regional level is required to confirm whether such examples are important to prioritise from an Indigenous perspective, or if there are others of greater significance in the current circumstances. The collaborative identification of further information gaps with respect to Indigenous water values, rights and interests is complementary to the other processes identified above - formal group consultations, preliminary field-based cultural heritage surveys of potential development areas, and the improvement of Indigenous water planning skills and knowledge. In combination these activities would increase Indigenous peoples' capacity to engage and participate in wider natural resource protection, management, and development.

6.5 Conclusion

This report addresses the request from the ONA for further information about Indigenous water values, rights, and interests in the Flinders and Gilbert catchment. This request was made in the context of further water and agricultural development in the area. As a result, the scoping study makes particular reference to development issues, impacts and opportunities. The current report provides information about:

- the history and geography of the Flinders and Gilbert catchments as they relate to Indigenous people and water
- general principles for understanding Indigenous perspectives on culture, country, and the management of natural resources
- detailed guidance about the circumstances of local Indigenous groups, including tenure, residence, organisational arrangements and affiliations
- a representative set of Indigenous water values derived from research participants who are senior members of relevant groups in the catchments
- information about Indigenous water rights and interests as they relate to the catchments
- information about cultural heritage issues and interests, particularly with respect to water development
- a representative set of Indigenous aspirations regarding water issues, water planning, and catchment management
- a representative set of Indigenous aspirations regarding water and agricultural development
- additional steps which may facilitate positive Indigenous participation in future development and lower the barriers to investment in such development.

In providing this information, this report meets the terms of reference for the study. It also lays foundations for a range of future processes, notably group/community/country-based planning. Such planning is a crucial step to ensuring successful outcomes for local people from development initiatives under consideration. It also facilitates the effective targeting of resources to local Indigenous group initiatives that will improve ongoing group capacity to engage in discussions of development and catchment management in the future. This combination of improved local capability aligned with regional and catchment coordination is crucial if Indigenous people are to play an appropriately key role in sustainable development and the sustainable management of natural and cultural resources into the future.

7 References

ABS (2011) 2011 Census of Population and Housing.

Agius P, Davies J, Howitt R, Jarvis S and Williams R (2004) Comprehensive native title negotiations in South Australia. In: Langton M, Tehan M, Palmer L and Shain K (eds) Honour among nations? Treaties and agreements with Indigenous people. Melbourne University Press, Melbourne, 203-219.

Agius P, Jenkin T, Jarvis S, Howitt R and Williams R (2007) (Re)asserting Indigenous rights and jurisdictions within a politics of place: transformative nature of native title negotiations in South Australia. Geographical Research 45(2), 194-202.

Ah Sam M (2006) Mitakoodi bush tucker. Black Ink Press, Thuringowa.

AIATSIS and Galvin E (2008a) Selected bibliography of material on the Ngawun language and people held in the AIATSIS Library. Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra.

AIATSIS and Galvin E (2008b) Selected bibliography of material on the Tagalaka language and people held in the AIATSIS Library. Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra.

AIATSIS and Galvin E (2010a) Selected bibliography of material on the Kalkatungu/Kalkadoon language and people held in the AIATSIS Library. Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra.

AIATSIS and Galvin E (2010b) Selected bibliography of material on the Mayi Thakurti/Mitakoodi language and people held in the AIATSIS Library. Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra.

AIATSIS and Galvin E (2011a) Selected bibliography of material on the Agwamin language and people held in the AIATSIS Library. Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra.

AIATSIS and Galvin E (2011b) Selected bibliography of material on the Kurtjar language and people held in the AIATSIS Library. Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra.

AIATSIS and Galvin E (2012a) Selected bibliography of material on the Kuthant/Gkuthaarn language and people held in the AIATSIS Library. Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra.

AIATSIS and Galvin E (2012b) Selected bibliography of material on the Wanamara language and people held in the AIATSIS Library. Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra.

AIATSIS and Galvin E (2012c) Selected bibliography of material on the Yirandali/Yirandhali language and people held in the AIATSIS Library. Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra.

Alexandra J and Stanley J (2007) Aboriginal communities and mixed agricultural businesses: opportunities and future needs. Rural Industries Research and Development Corporation, Canberra.

Altman J and Branchut V (2008) Freshwater in the Maningrida region's hybrid economy: intercultural contestation over values and property rights. Canberra.

Altman J and Kerins S (eds) (2012) People on country: vital landscapes, indigenous futures. The Federation Press, Sydney.

Andersen J (2009) Delta destiny Delta fulfils tribal elders' dream Townsville Bulletin. News Ltd., Townsville.

Andersen J (2013) Northern dams would reinvigorate mining Townsville Bulletin. News Ltd., Townsville.

Anderson F (2013) Ord experiment a 'failure' Queensland Country Life. Rural press, Ormiston.

Anderson K (2008) Managing fire together. Southern Gulf Links Southern Gulf Catchments, Mount Isa.

Anon (1989) Richmond State School Centenary 1889-1989. Richmond State School Centenary Committee, Richmond.

Anon (2011) Renison Consolidated Mines Announces ILUA Signed for Agate Creek Project Australian Company News Bites Stock Report (ASX). News Ltd., Sydney.

Arthur B and Morphy F (2005) Macquarie atlas of indigenous Australia. Macquarie, Sydney.

ATSIC and DPIE (1997) National Aboriginal and Torres Strait Islander Rural Industry Strategy In: DPIE Aa (ed.). Commonwealth of Australia, Canberra.

Ayre M and MacKenzie J (2012) "Unwritten, unsaid, just known": the role of Indigenous knowledge(s) in water planning in Australia. Local environment: the international journal of justice and sustainability, 1-16.

Barber K and Rumley H (2003) Gunanurang (Kununurra) big river, Aboriginal cultural values of the Ord River and wetlands.

Barber M (2005) Where the clouds stand: Australian Aboriginal attachments to water, place, and the marine environment in Northeast Arnhem land. PhD Thesis., Australian National University, Canberra.

Barber M and Jackson S (2011a) Water and Indigenous people in the Pilbara, Western Australia: a preliminary study. CSIRO, Darwin. <http://www.csiro.au/en/Organisation-Structure/Flagships/Water-for-a-Healthy-Country-Flagship/Water-Resources-Assessment/Water-and-indigenous-people-in-the-Pilbara-Western-Australia.aspx>.

Barber M and Jackson S (2011b) Indigenous water values and water planning in the upper Roper River, Northern Territory. CSIRO, Darwin. <http://www.csiro.au/Organisation-Structure/Flagships/Water-for-a-Healthy-Country-Flagship/Water-Resources-Assessment/Indigenous-Water-Values-Roper-River.aspx>.

Barber M and Jackson S (2012a) Indigenous water management and water planning in the upper Roper River, Northern Territory: history and implications for contemporary water planning. CSIRO, Darwin. <http://www.csiro.au/en/Organisation-Structure/Flagships/Water-for-a-Healthy-Country-Flagship/Water-Resources-Assessment/Indigenous-water-management-Upper-Roper-River-NT-report.aspx>.

Bauman T, haynes C and Lauder G (2013) Pathways to the co-management of protected areas and native title in Australia. Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra.

Biernoff D (1978) Safe and Dangerous Places. In: Hiatt L (ed.) Australian Aboriginal Concepts. Australian Institute of Aboriginal Studies and Humanities Press Inc., Canberra and New Jersey.

Bird M (1998) Cultural heritage desktop study, Flinders River dam pre-feasibility study, Richmond District, North Queensland. Northern Archaeology Consultancies Pty Ltd, Townsville.

Black J (1931) North Queensland pioneers. Country Womens Association of Queensland, Charters Towers.

Blackman JG, Perry TW, Ford GI, Craven SA, Gardiner SJ and De Lai RJ (1999) Characteristics of Important Wetlands in Queensland. Brisbane.

Bliege Bird R, Bird D, Codding B, Parker C and Jones J (2008) The “Fire Stick Farming” hypothesis: Australian Aboriginal foraging strategies, biodiversity and anthropogenic fire mosaics. Proceedings of the National Academy of Sciences 105, 14796-14801.

Booher DE and Innes JE (2002) Network power in collaborative planning. Journal of Planning Education and Research 21(3), 221-236. DOI: 10.1177/0739456x0202100301.

Bradley J (2010) Singing saltwater country: journey to the songlines of Carpentaria Allen and Unwin, Melbourne.

Burrows D (2004) A review of aquatic, management issues and needs for the Northern Gulf NRM Planning Region. Australian Centre for Tropical Freshwater Research, Townsville.

Byerley F (ed.) (1949) Narrative of the overland expedition of the messrs Jardine, from Rockhampton to Cape York, northern Queensland. Angus and Robertson, Brisbane.

CLCAC (2012) Managing Indigenous Reserves of water in the Southern Gulf of Carpentaria. Carpentaria Land Council Aboriginal Corporation, Cairns.

Connelly P and Wallis L (2013) Kar-kar : Mitakoodi traditional medicinal plant uses of the Cloncurry Region. Southern Gulf Catchments, Mt Isa.

Cooper D and Jackson S (2008) Preliminary study on Indigenous water values and interests in the Katherine region of the Northern Territory. Darwin.

Curthoys A (1987) Born in the cattle: Aborigines in cattle country. Allen and Unwin, Sydney.

Dale A, Lane M, Taylor B, McAllister R, Marinoni O, Heyenga S, Coggan S, Pascoe S, Ward J and Measham T (2013) Land tenure in northern Australia: opportunities and challenges for investment. CSIRO, Brisbane.

Dale AP (1992) Aboriginal councils and natural resource use planning : participation by bargaining and negotiation. Australian Geographical Studies 30(1), 9-26.

Davies J, Hill R, Sandford M, Walsh F, Smyth D and Holmes M (2013) Innovation in management plans for Community Conserved Areas: experiences from Australian Indigenous Protected Areas. Ecology and Society 18(2), 14.

Davies J, Maru Y, Hueneke H, Grey-Gardner R and Chewings V (2010) Outback livelihoods: employment, sustainable livelihoods and development in Anmatjere region, central Australia. Research report for Desert Knowledge CRC, Project 6.707. Desert Knowledge CRC, Alice Springs.

Davies J and Young E (1996) Taking centre stage: Aboriginal strategies for redressing marginalisation. In: Howitt R, Connell J and Hirsch P (eds) Resources, nations and indigenous peoples: case studies from Australasia, Asia and the southwest Pacific. Oxford University Press, Melbourne, 152-171.

Dawes P (1986) History of Julia Creek and District. . In: Committee JCSSJ (ed.) Julia Creek State School: 75th jubilee 1911-1986, Julia Creek, 19-23.

DERM (2010) Gulf Resource Operations Plan Consultation Report June 2010 Department of Environment and Resource Management, Brisbane.

DNRMW (2006a) Gulf draft water resource plan - economic and social assessment report. In: Department of Natural Resources Mines and Water (ed.). Government of Queensland, Brisbane.

DNRMW (2006b) Gulf draft water resource plan – economic and social assessment report. Queensland Department of Natural Resources, Mines and Water, Brisbane.

DNRW (2006) Gulf draft water resource plan: summary. Queensland Department of Natural Resources and Water, Queensland.

DSEWPAC (2012) Species group report card - sawfishes and river sharks. In: Department of Sustainability E, Water, Population and Communities (ed.). Australian Government, Canberra.

Fauvenec (1967) The history of Australian exploration from 1788 to 1888. Meridian Publishing Company., Amsterdam.

Federal Court of Australia (2011) Doyle on behalf of the Kalkadoon People #4 v State of Queensland (No 3) [2011] FCA 1466.

Federal Court of Australia (2012) Owens on behalf of the Tagalaka People v State of Queensland [2012] FCA 1396.

Finn M and Jackson S (2011) Protecting indigenous values in water management: a challenge to conventional environmental flow assessments. Ecosystems 14(8), 1232-1248.

Gammage B (2011) The biggest estate on earth. Allen and Unwin, Melbourne.

Goodall H (2002) The river runs backwards. T. Bonyhady and T. Griffith (eds), Words for country: landscape and language. University of New South Wales Press, Sydney, 30-51.

Gray L (1964) Journey to Hughenden. Queensland Heritage 1(1), 11-18.

Gray L (1965) Life on the Flinders River (1868-70). Queensland Heritage 1(2), 17-27.

Gray R (1913) Reminiscences of India and North Queensland. Constable and company, London.

GSD (2009) Gilbert River irrigation area: investment report. Gulf Savannah Development, Northern Australia.

Head L, Trigger D and Mulcock J (2005) Culture as concept and influence in environmental research and management. Conservation and Society 3(2), 251-264.

Henry E (1883) An account by Ernest Henry. of an exploring trip resulting in the taking up of Hughenden Station James Cook University Library, Townsville.

Hibbard M and Lane M (2004) By the seat of your pants: indigenous action and state response. Journal of Planning Theory & Practice 5(1), 95-102.

Hill J (2006) An Indigenous perspective on water. State of Queensland. Environment Protection Agency, Brisbane.

Hill J (2008) Yirendali country based management plan. Yirendali Corporation, Brisbane.

Hill R (2011) Towards equity in Indigenous co-management of protected areas: cultural planning by Miriuwung-Gajerrong people in the Kimberley, Western Australia. Geographical Research 49(1), 72-85.

Hill R, Grant C, George M, Robinson CJ, Jackson S and Abel N (2012) A typology of Indigenous engagement in Australian environmental management: implications for knowledge integration and social-ecological system sustainability. Ecology and Society 17(1), 23.

Hill R, Pert P, Davies J, Robinson C, Walsh F and Falco-Mammone F (2013) Indigenous land management in Australia: extent, scope, diversity, barriers and success factors. CSIRO Ecosystem Sciences, Cairns.

Hodge A and Digirolamo R (2004) Landmark deal on black access to farms The Australian. News Ltd., Sydney.

Hoffmann BD, Roeger S, Wise P, Dermer J, Yunupingu B, Lacey D, Yunupingu D, Marika B, Marika M and Panton B (2012) Achieving highly successful multiple agency collaborations in a cross-cultural environment: experiences and lessons from Dhimurru Aboriginal Corporation and partners. Ecological Management and Restoration 13(1), 42-50.

Holmes J (2010) The Multifunctional Transition in Australia's Tropical Savannas: the Emergence of Consumption, Protection and Indigenous Values. Geographical Research 48(3), 265-280. DOI: 10.1111/j.1745-5871.2009.00629.x.

Horton D (1994) The Encyclopaedia of Aboriginal Australia. Australian Institute of Aboriginal and Torres Strait Islander Studies (Aboriginal Studies Press), Canberra.

Howitt R (2010) Sustainable indigenous futures in remote Indigenous areas: relationships, processes and failed state approaches. GeoJournal, 1-12. DOI: 10.1007/s10708-010-9377-3.

ILC (2007) Regional indigenous land strategy 2007-2012: Queensland. Indigenous Land Corporation, Canberra.

ILC (2011) ILC businesses strategic plan 2008-2012. Indigenous Land Corporation, Canberra.

ILC (2013) People, land, opportunity. Indigenous Land Corporation, Canberra.

Innes J, Connick S and Booher D (2007) Informality as a planning strategy - collaborative water management in the CALFED Bay-Delta Program. Journal of the American Planning Association 73(2), 195-210. DOI: 10.1080/01944360708976153.

Jackson S (2004) Preliminary report on Aboriginal perspectives on land-use and water management in the Daly River region, Northern Territory. Report to the Northern Land Council. Darwin.

Jackson S (2006) Compartmentalising culture: the articulation and consideration of Indigenous values in water resource management. Australian Geographer 37(1), 19-31. DOI: 10.1080/00049180500511947.

Jackson S (2011) Aboriginal access to water in Australia: opportunities and constraints. In: Grafton Q and Hussey K (eds) Water Resources, Planning and Management. Cambridge, Cambridge University Press, 601-628.

Jackson S and Barber M (in press) Recognition of Indigenous water values in Australia's Northern Territory: current progress and ongoing challenges for social justice in water planning. . Journal of Planning Theory and Practice.

Jackson S, Finn M, Woodward E and Featherston P (2011) Indigenous socio-economic values and river flows. CSIRO and TRaCK, Darwin.

Jackson S and Langton M (2012) Trends in the recognition of indigenous water needs in Australian water reform: the limitations of 'cultural' entitlements in achieving water equity. Journal of Water Law 22(2/3), 109-123.

Jackson S and Robinson C (2010) Indigenous participation in water planning and governance. Report to the Northern Land and Water Taskforce: Chapter 30. Brisbane.

Jackson S and Tan P (2013) Indigenous rights and interests in water, water management, and development. Report to the CSIRO by the Australian Rivers Institute, Griffith University. Griffith University, Brisbane.

Jackson S, Tan P and Altman J (2009) Indigenous freshwater planning forum: proceedings, outcomes and recommendations.

Jackson S, Tan P, Mooney C, Hoverman S and White I (2012) Principles and guidelines for good practice in Indigenous engagement in water planning. Journal of Hydrology.

Jones R (1969) Fire-stick Farming. Australian Natural History 16, 224.

Keen I (1994) Knowledge and secrecy in an Aboriginal religion. Oxford University Press, London.

Keen I (2003) Aboriginal economy and society: Australia at the threshold of colonisation. Oxford University Press, Melbourne.

Keen I (2011) The Language of Property: Analyses of Yolngu Relations to Country. Y. Musharbash and M. Barber (eds) Ethnography and the Production of Anthropological Knowledge: Essays in Honour of Nicolas Peterson. ANU E Press, Canberra, 123-141.

Landsborough W (1862) Journal of Landsborough's expedition from Carpentaria in search of Burke and Wills. Wilson and MacKinnon, Melbourne.

Lane M (2006) The role of planning in achieving indigenous land justice and community goals. Land Use Policy 23(4), 385-394.

Lane M and Hibbard M (2005) Doing it for themselves: transformative planning by indigenous peoples. Journal of Planning Education and Research 25, 172-184.

Langton M (2006) Earth, wind, fire and water: the social and spiritual construction of water in Aboriginal societies. In: David B, Barker B and McNiven I (eds) The Social Archaeology of Australian Indigenous Landscapes. Aboriginal Studies Press, Canberra, 139-160.

Lees W (1899 [1986]) Croydon and the Etheridge goldfields. S.R. Hampson, Brisbane.

Leichhardt L ([2004]1846) Journal of an overland expedition in Australia: from Moreton Bay to Port Essington, a distance of upwards of 3000 miles, during the years 1844-1845. T and W Boone and Project Gutenberg, London.

Loos N (1982) Invasion and resistance: Aboriginal-European relations on the North Queensland frontier 1861-1897. Australian National University Press, Canberra.

MacGillivray A (1886) The Flinders and Cloncurry Rivers. In: Curr E (ed.) The Australian Race: its origin, languages, customs, place of landing in Australia, and the routes by which it spread itself over that continent. . John Ferres, Melbourne, 340-343.

MacKenzie J (2008) Collaborative water planning: retrospective case studies volume 4.1 - collaborative water planning in the Gulf of Carpentaria. Griffith University, Brisbane.

Maclean K and Bana Yaralji Bubu Inc. (2011) Water Dreaming: Kuku Nyungkal people, water and country in the Wet Tropics. CSIRO, Brisbane.

Maclean K, Bark R, Moggridge B, Jackson S and Pollino C (2012) Ngemba Water Values and Interests Ngemba Old Mission Billabong and Brewarrina Aboriginal Fish Traps (Baiame's Nguunhu). CSIRO, Brisbane.

Maru Y and Davies J (2011) Supporting cross-cultural brokers is essential for employment among Aboriginal people in remote Australia. The Rangeland Journal 33, 327-338.

Mathews R (1898) Group divisions and initiation ceremonies of the Barkungee tribes, and appendix. Journal and Proceedings of the Royal Society of N.S.W. 32, 241-255.

McIntyre-Tamwoy S, Bird M and Atkinson F (2013) Aboriginal Cultural Heritage in the Flinders and Gilbert Rivers: a desktop review. Report to the CSIRO by Archaeological and Heritage Management Solutions. Archaeological and Heritage Management Solutions, Sydney.

Moorcroft H, Ignjic E, Cowell S, Goonack J, Mangolomara S, Oobagooma J, Karadada R, Williams D and Waina N (2012) Conservation planning in a cross-cultural context: The Wunambal Gaambera Healthy Country Project in the Kimberley, Western Australia. Ecological Management and Restoration 13(1), 16-25.

Morphy H (1984) Journey to the Crocodile's Nest: an Accompanying Monograph to the Film Madarrpa Funeral at Gurka'wuy. Australian Institute Of Aboriginal Studies, Canberra.

Morphy H (1991) Ancestral connections: art and an Aboriginal system of knowledge. University of Chicago Press, Chicago.

Morphy H and Morphy F (2006) Tasting the waters: discriminating identities in the waters of Blue Mud Bay. Journal of Material Culture 11(1/2), 67-85.

Morwood M (1990) The prehistory of Aboriginal land-use on the Upper Flinders River, north Queensland highlands. Queensland Archaeological Research 7, 3-56.

Morwood MJ and Godwin LM (1982) Aboriginal Sites in the Hughenden Region, North Queensland Highlands: Research Prospects. Australian Archaeology(15), 49-53. DOI: 10.2307/40286939.

Munn N (1973) Walpiri Iconography. Cornell University Press, Ithaca

Myers F (1991) Pintupi country, Pintupi self: sentiment, place and politics among western desert Aborigines. University of California press, Berkeley.

NAILSMA (2009) Mary River Statement. North Australian Indigenous Land and Sea Management Alliance, Darwin.

NAILSMA (2012) 'Towards resilient communities through reliable prosperity' North Australian Indigenous experts forum on sustainable economic development - first forum report, Mary River Park, Northern Territory, 19 – 21 June 2012. . North Australian Indigenous Land and Sea Management Alliance Ltd Darwin, Darwin.

NAILSMA (2013) NAILSMA 2013. 'An Indigenous prospectus for participating in the sustainable development of north Australia' North Australian Indigenous Experts Forum on Sustainable Economic Development - Second Forum Report Kakadu National Park, Northern Territory, 30 April - 2 May 2013. North Australian Indigenous Land and Sea Management Alliance Ltd Darwin, Darwin.

NAILSMA and UNU-IAS TKI (2008) Garma International Indigenous Water Declaration. North Australian Indigenous Land and Sea Management Alliance and the United Nations University Institute of Advanced Studies Traditional Knowledge Initiative. Viewed 01/02/2011, <http://www.nailsma.org.au/nailsma/forum/downloads/Garma-International-Indigenous-Water-Declaration.pdf>.

NGISG (2003) Northern Gulf Indigenous Savannah Group Development Plan. Northern Gulf Indigenous Savannah Group, Dimbulah.

NGISG (2009) Final performance report, NGISG aquatic biodiversity project. Northern Gulf Indigenous Savannah Group, Dimbulah.

NGISG (2010) Action Plan 2010-12, addendum to the Northern Gulf Indigenous Savannah Group Development Plan 2003 Northern Gulf Indigenous Savannah Group, Dimbulah.

NGISG (2013) Hands on country. In: Group NGIS (ed.). Northern Gulf NRM, Dimbulah.

Northern Territory Government (2011) Draft water allocation plan, Tindall limestone aquifer, Mataranka. Northern Territory Government, Darwin.

O'Donnell M (2011) Indigenous rights in water in North Australia (March 2011). Northern Australian Indigenous Land & Sea Management Alliance. Viewed (last accessed 22 November 2011), <http://www.nailsma.org.au/publications/index.html >.

Osborne P (2008) Well dig uncovers major Aboriginal site The Age. Fairfax Ltd., Melbourne.

Petheram C, Rogers L, Eades G, Marvanek S, Gallant J, Read A, Sherman B, Yang A, Waltham N, McIntyre-Tamwoy S, Burrows D, Kim S, Tomkins K, Poulton P, Bird M, Atkinson F, Gallant S and Lerat J (2013) Assessment of water storage options in the Flinders and Gilbert catchments. A technical report to the Australian Government from the CSIRO Flinders and Gilbert Agricultural Resource Assessment, part of the North Queensland Irrigated Agriculture Strategy. CSIRO, Canberra.

Petrinec M (2012) `Tears of glory' at return. The Cairns Post. Cairns.

Pollock D and Parker S (2013) Healthy waters environmental values, Southern Gulf Catchments region, North West Queensland, upper and Mid Flinders River and associated catchments overlaying the Galilee Basin: report on stakeholder consultations on water environmental values. Southern Gulf Catchments Limited and Queensland Department of Environment and Heritage Protection, Brisbane.

Raggatt T (2010) Fifth mine charged for contamination Townsville Bulletin. News Ltd., Townsville.

Reynolds H (1993) The unrecorded battlefields of Queensland. In: Reynolds H (ed.) Race relations in North Queensland. Department of History and Politics, James Cook University, Townsville, 40-62.

Rose D (2005) An Indigenous philosophical ecology: situating the human. The Australian Journal of Anthropology 16(3), 294-305.

Rose DB (1996) Nourishing terrains : Australian Aboriginal views of landscape and wilderness / Deborah Bird Rose. Australian Heritage Commission,, Canberra :.

Rose DB (2000) Dingo makes us human: life and land in an Australian Aboriginal culture. Cambridge University Press.

Roth W (1897) Ethnological studies among the north-west central Queensland Aborigines. Government Printer, Brisbane.

SGC (2008) Cultural preservation through latest technology. Southern Gulf Links Southern Gulf Catchments, Mount Isa.

Smith K (2002) Traditional landowners stake future on beef The Courier Mail. News Ltd., Brisbane.

Smyth D (2008) Just add water? Taking Indigenous Protected Areas into sea country. In: Smyth D and Ward G (eds) Protecting country: Indigenous governance and management of protected areas. Proceedings of the AIATSIS Conference 2007. Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra, 95-110.

Strang V (1997) Uncommon ground: cultural landscapes and environmental values. Berg, Oxford.

Strang V (1999) Competing perceptions of landscape in Kowanyama, North Queensland. In: Ucko P and Layton R (eds) The Archaeology and Anthropology of Landscape. Routledge, London, 206-218.

Strang V (2009) Gardening the world: agency, identity, and the ownership of water. Berghahn, Oxford.

Tan P (1997) Native title and freshwater resources. In: Horrigan B and Young S (eds) Commercial Implications of Native Title. Federation Press, Sydney, 157-190.

Toussaint S, Sullivan P and Yu S (2005) Water ways in Aboriginal Australia: an interconnected analysis. Anthropological Forum 15(61–74).

Trigger D (1985) The social meaning of water for Aboriginal people in Australia's gulf country.

Wallis L, Smith D and Smith H (2004a) Recent archaeological surveys on Middle Park Station, northwest Queensland. Australian Archaeology 99, 43-50.

Wallis L, Smith H and Smith D (2004b) Investigations of Aboriginal hearth sites along the Flinders River, inland north west Queensland. The Artefact 27, 59-76.

Wallis LA, Keys B, Moffat I and Fallon S (2009) Gledswood Shelter 1: Initial Radiocarbon Dates from a Pleistocene Aged Rockshelter Site in Northwest Queensland. Australian Archaeology(69), 71-74. DOI: 10.2307/27821535.

Wegner J (1990) The Etheridge. James Cook University of North Queensland, Townsville.

Wegner J (1993) Aborigines of the Etheridge shire, 1860-1940. In: Reynolds H (ed.) Race relations in North Queensland. Department of History and Politics, James Cook University, Townsville, 131-147.

Weir J (2010) Murray river country: an ecological dialogue with traditional owners.

Williams N (1986) The Yolngu and their land : a system of land tenure and the fight for its recognition. Australian Institute Of Aboriginal Studies, Canberra.

World Water Council (2003) Indigenous Peoples Kyoto Water Declaration. Viewed 1/02/2011, < http://www.waterculture.org/uploads/IPKyotoWaterDeclarationFINAL.pdf >.

Yu S (2000) Ngapa Kunangkul: living water. Report on the Indigenous cultural values of groundwater in the La Grange sub–basin. Perth.

Appendix A Indigenous rights and interests in water, water management, and development – report to the CSIRO by the Australian Rivers Institute, Griffith University

Sue Jackson and Poh-Ling Tan
Australian Rivers Institute, Griffith University
October 2013

A.1 Executive Summary

The purpose of this report is to provide the CSIRO with a description and analysis of Indigenous water rights and interests with a specific focus on those matters relevant to agricultural development in north Queensland. It was prepared to augment the Indigenous component of the CSIRO Flinders and Gilbert Agricultural Resource Assessment (FGARA) Project, 2012-13.

Recent national reviews of Indigenous access to water (Tan and Jackson 2013; Jackson et al. 2012; O'Donnell 2011) confirm that governments across Australia are in the early stages of formally recognising Indigenous peoples' relationships with water for spiritual, cultural and economic purposes. Australian governments have committed to include Indigenous representation in water planning; to incorporate Indigenous social, spiritual and customary objectives and strategies; and to take account of possible existence of native title to water in water resource planning and management. Despite this commitment, progress in addressing Indigenous water interests and rights has been slow across the continent (Jackson et al. 2012; NWC 2011). This is in no small part due to the lack of research into the interests and rights of Indigenous groups across Australia; competing uses for water; and a lack of knowledge of how best to facilitate integration of Indigenous interests into water resource planning and management.

Since the late 1990s, the significance of water and rivers to Indigenous societies has grown as a topic of interest to researchers, lawyers engaged in native title processes, natural resource management groups, and water resource managers. Within anthropology and geography there have been a number of studies explicitly documenting and analysing the ways in which Indigenous societies attribute meaning to water and the place of water in their formalised systems of knowledge and social institutions (e.g. Strang 2001; Langton 2002, 2006; Yu 2003; Toussaint et al. 2005; Weir 2009; Barber and Jackson 2011a; 2011c). Much of this literature is drawn from ethnographic studies carried out in northern Australia, reflecting a geographical bias in our general knowledge of the water cultures of Indigenous societies. Water is examined as a feature of the Indigenous cultural landscape with significant attention devoted to the symbolic dimension of individual and group attachment to water bodies and to the role of water in connecting people through social institutions that govern resource management. As well as examining the symbolic, metaphorical and conceptual significance of water, studies also reveal the material use of water according to Indigenous custom. A number of commentators refer to water's economic significance as a vital element underpinning the Indigenous harvest and intra-community distribution of aquatic life (e.g. Strang 2001; Altman 2004; Behrendt & Thompson 2004; Jackson et al. 2011).

The articulation between customary and statutory water rights systems has been analysed in the legal and policy literature (Tan 1997; Bartlett 2002; Behrendt and Thompson 2004; Lingiari Foundation 2004; O'Donnell 2011). In brief, this literature describes the property rights granted to Indigenous people in those Australian states with statutory land rights, such as the Northern Territory (Jackson and Altman 2009; O'Donnell 2011); as well as the effect of the Mabo decision and the *Native Title Act (1993)*. The *Native Title*

Act made possible some recognition of Indigenous rights to inland waters under Australian law. Under the Act, rights to hunt, gather and fish for the purposes of satisfying the personal, domestic or non-commercial needs of native title holders can be exercised free from licensing or permit restrictions that otherwise apply to such activities. The same exemption applies to cultural and spiritual activity and other kinds of activity which may be later prescribed, provided the activity involves the exercise or enjoyment of native title rights and interests.

A number of scholars argue that Australian water managers are taking a narrow view of their obligation to protect native title from impairment by over-allocation upstream (Behrendt and Thompson, 2004; McAvoy, 2006; Tan and Jackson, 2013). Establishing native title has become difficult as amendments to the *Native Title Act* and decisions of Australian courts have adopted an overly-specific and restrictive approach to Indigenous rights when compared to other countries (see, for example, Young, 2008).

As a result of implementation of national water policy (the National Water Initiative), preliminary steps are now being taken by some state governments and NRM bodies to ensure that Indigenous people benefit from the expansion of agricultural activity and structural adjustments in the water economy. Some initiatives apply to the water planning context, such as Indigenous specific water entitlements, although so far these apply to very few areas and are very small in volume.

The report shows that the native title framework has been used in a number of situations outside of a water plan to leverage Indigenous access to a benefit stream from water-dependent commercial land-use. Amendments to the *Native Title Act* in 1998 introduced Indigenous Land Use Agreements (ILUA). These are agreements between a native title claimant group and interested parties for the use and management of lands or waters. This report describes the outcomes of Australia's largest and most complex ILUA negotiated in the context of an irrigated agricultural proposal, namely Ord Stage 2 in the Kimberley. In addition to describing the means by which governments and Indigenous organisations are attempting to increase Indigenous access to water, it also describes a range of measures to improve Indigenous participation in the agricultural sector.

Contents

A.2 Introduction

The purpose of this report is to provide the CSIRO with a description and analysis of Indigenous water rights and interests with a specific focus on those matters relevant to agricultural development in north Queensland.

A.2.1 BACKGROUND

The Commonwealth Minister for Regional Australia, Regional Development and Local Government, through the Department of Regional Australia, has requested that CSIRO conduct a regional assessment for water capture to support increased agricultural productivity in northern Australia.

The project follows on from work previously undertaken for the Commonwealth, via the Northern Australia Sustainable Yields project and the Northern Australia Land and Water Science Review of 2009. These projects were instrumental in informing the report of the Northern Australia Land and Water Taskforce (NALWT) that has subsequently guided Commonwealth policy on the development of northern Australia.

Specifically, the NALWT found that opportunities for agricultural development exists in northern Australia, based on the co-location of suitable soils and available water resources. CSIRO's previous work has identified the scale and possible location of soil and groundwater resources, but the possible scale and location of surface water resources (i.e. impoundments) has not been determined.

The Flinders and Gilbert Agricultural Resource Assessment (FGARA) project aims to overcome this knowledge deficit for two prospective catchments: the Flinders and Gilbert catchments of northern Queensland. The Flinders and Gilbert catchments have been identified as potential locations for further agricultural development, subject to finer-scale identification of the land and water resources available, quantification of the potential economic benefits arising from development, and the cultural and environmental impacts associated with development. As part of the Indigenous component of the FGARA study, CSIRO required specialist information relating to Indigenous water rights and Indigenous interests in water management. management and rights.

This desktop review was undertaken in August 2013.

A.2.2 OBJECTIVES

CSIRO requires a brief description and analysis of

- Existing Australian Indigenous rights and interests in water;
- Indigenous people in contemporary water policy and planning processes – obligations flowing out of rights and interests, key issues and trends, best practice examples, National Water Initiative, etc;
- Ways to recognise Indigenous interests in water and options for benefits that may flow from that recognition. Of particular interest are benefits to traditional owners who are not resident in the area, and to Indigenous residents who are not traditional owners;
- Indigenous issues relating to recent agricultural developments elsewhere in regional and remote Australia – impacts, opportunities, lessons, etc.;
- Any key policy, procedural and statutory matters with respect to Indigenous people and agricultural development in Queensland catchments, excluding cultural heritage obligations (which will be addressed by other consultants); and
- Options for Indigenous recognition and Indigenous benefits associated with large agricultural development.

This report only deals with onshore waters and not marine waters. It is primarily concerned with water or "freshwater" on and in the land; rivers, creeks, lakes, and subterranean or ground water.

In a comprehensive report on Indigenous water rights in north Australia, O'Donnell (2011) makes a useful introductory comment relating to the definition of terms and the scope of his survey of water rights. O'Donnell argues that the topic he writes about refers to the 'Indigenous rights in water as the Australian legal system has been prepared to recognise and conceptualise them to date', noting that 'they are not rights in water as Indigenous people recognise, conceptualise and practice them in accordance with their own law' (2011: 23). For example, the exclusive focus on water evident in today's resource management approaches is one that is runs counter to the more unified environmental concepts characteristic of Indigenous world views:

Aboriginal peoples have never drawn a distinction between the land and the waters that flow over, rest upon or flow beneath it. The land and waters are equal components of 'country', all that require care and nurturing, and for which there are ongoing responsibilities (Lingiari Foundation 2002; p. 6).

This report is similarly focused on the rights and interests recognized by the Australian legal system; it makes no attempt to describe the definitions, understandings of customary laws or norms relating to water held by traditional owners of the case study regions. Empirical research being conducted by Dr. Marcus Barber of CSIRO in the Flinders and Gilbert catchments will seek further understanding of the water cultures of traditional owners of those regions.

A.2.3 METHODOLOGY

The material reported here was obtained through literature searches and desk-top review of published and unpublished sources.

A.3 Australian Indigenous rights and interests in water

A.3.1 INTRODUCTION

Water has always been fundamental to the existence of human societies: to settlement patterns, economic development trajectories, environmental philosophies, and governance arrangements (Vorosmarty et al. 2010). Throughout the course of history, the critical need to secure human water supplies has generated a variety of social institutions that control and influence access to water (Bruns & Meinzen-Dick 2005).

Foremost amongst these institutions are property rights regimes. Common property theorists, institutional analysts, and ethnographers have documented examples of institutional arrangements that achieved sustainable water management over hundreds of years. Exemplary among these is the Aboriginal occupation of the Australian continent, which depended on knowledge of water distribution and use of technology to harvest water and aquatic resources for tens of thousands of years (Lloyd 1988; Barber and Jackson 2012).

In many parts of the world, Indigenous peoples maintain customary forms of water governance and management and rely on aquatic environments for their livelihoods and well-being. Customary institutions are founded on social and cultural norms, along with sanctions and dispute resolution mechanisms in the event of a breach of the accepted norms or rules.

The existence of diverse customary institutions that govern the sharing, distribution, and consumption of water has been analysed in many countries, such as Chile (Madaleno, 2007), Indonesia (Lansing, 2007), East Timor (Palmer, 2010, 2011), Australia (Barber and Jackson 2011a; Jackson & Altman, 2009; Toussaint et al. 2005; Langton, 2006), and Kenya (Gachenko, 2012). Analysts have paid particular attention to: (a) the creation of local rights and allocation systems in regions reliant on irrigated agriculture (very often these systems predate colonial rule); (b) the religious foundation of ritual practices that sustain the sanctity and productivity of cultural landscapes; and (c) the hydrological knowledge held by water users. For example, in most parts of rural Africa customary institutions continue to exercise an important role in governance of water resources (Gachenko, 2012).

As growth and development impose increasing pressure on natural systems (Vorosmarty et al. 2010), it is critical that Indigenous communities can access water in order to use and enjoy their lands and maintain the integrity of their territories (Getches and Van de Wetering 2004). The interface between statutory and customary water rights has therefore been a subject of anthropological, legal, and policy analysis (Tan and Jackson 2013; Jackson and Langton 2012; Jackson, 2011; Godden and Gunther 2010; Ramazotti, 2008; Roth, Boelens, & Zwarteveen, 2005; Schlager, 2005; Weir 2009), although it is argued by Bruns and Meinzen-Dick (2005) that changes affecting water tenure have received less attention than changes to land tenure institutions and this bias is readily apparent with respect to Indigenous rights to water which remain poorly defined when compared to land rights (Durette 2007: 2).

A.3.2 INTERNATIONAL STANDARDS

The field of international law has been expanding rapidly but it is difficult to find any express law that protects Indigenous rights in natural resources, especially rights to water (Getches 2012). As a result, Indigenous groups look to the established international law of human rights, cultural rights and emerging law regarding environmental protection. For example, in 2003, Indigenous people declared that they would strive to protect and preserve the availability and purity of water, and exercise their right to cultural and spiritual relationships with water (Indigenous Declaration on Water 2003).

The United Nations Declaration on the Rights of Indigenous Peoples is the most recent and significant manifestation in international law of the modern trend to recognise Indigenous rights, including in relation to water (O'Donnell 2011). It was originally adopted by the General Assembly of the United Nations in 2007 and approved by the Australian Government in 2009.

The Declaration states that with respect to Indigenous people and water there is a right:

- To maintain and strengthen their spiritual relationship with their traditionally owned territories and waters (Article 25); and,
- To approve the commercial use and development of water on their traditional territories (Article 32.2).

O'Donnell (2011) summarises the specific observations made in relation to water and Indigenous people by the United Nations Committee on Economic, Social and Cultural Rights, the body that monitors another international standard, the International Covenant on Economic, Social and Cultural Rights:

Whereas the right to water applies to everyone, States parties should give special attention to those individuals and groups who have traditionally faced difficulties in exercising this right, including women, children, minority groups, indigenous peoples, refugees, asylum seekers, internally displaced persons, migrant workers, prisoners and detainees.

In particular, States parties should take steps to ensure that: (d) Indigenous peoples' access to water resources on their ancestral lands is protected from encroachment and unlawful pollution. States should provide resources for indigenous peoples to design, deliver and control their access to water (p. 26).

While Australia has not enacted domestic laws implementing UNDRIP provisions, it should acknowledge the Declaration's strong moral and authoritative suasion and its potential to influence the interpretation of statutes. For reasons that will be elaborated on in section 3.0, O'Donnell (2011) finds that Australian national water policy and State and Territory water management legislation fall short of standards set by UNDRIP in relation to Indigenous peoples' and water but that these will increasingly constitute a benchmark for future government policy and legislation.

A.3.3 DOMESTIC WATER LAW AND NATIVE TITLE

Burchi has surveyed trends in water law across the globe and argues that:

Despite the social and economic significance of customary systems and practices, their interface with statutory law has seldom been mapped out and regulated in the legislation (2011: 7).

Only a few countries recognise water rights of Indigenous peoples in domestic laws (Getches 2005) and the domestic laws of nations like Australia, New Zealand and Canada have been relatively silent on the water rights of Indigenous peoples:

Generally speaking the common law has not recognised public ownership of water and vests in Indigenous people a customary title to water. This customary title derives from tradition and custom and is limited in its content (Durett 2007: i).

During the colonial and post-colonial period, much of Australia's wealth was built on exploiting water resources for irrigation, mining and urban water supply, involving a progressive exclusion of Aboriginal and Torres Strait Island peoples' interests in water. The Crown regulated the use and management of water and granted licenses to settlers for more than two hundred years before it recognized indigenous rights to land and water and, in the latter case, to a limited extent. It is not simply the historically determined concurrence of colonial settlement and agricultural, pastoral and other land use patterns that excluded Indigenous people from water entitlements and allocations, however (Jackson and Langton 2012; Jackson 2011). Unlike the US, where legal rights to water for Indigenous people were recognized in 1909, in Australia it was not until High Court decision of 1992 that native title was recognized. After 1993, when federal legislation gave statutory recognition to native title, litigation led to recognition of hunting, fishing and gathering rights for the purposes of satisfying the personal, domestic or non-commercial needs of native title holders; they were recognized as the 'bundle' of legal rights and interests comprising native title. However, Indigenous interests were not formally considered in Australian water reform policy documents prepared during the 1990s (Tan 1997; Lingiari Foundation 2002), nor addressed in water resource law until 2000 (Tan and Jackson 2013).

The States maintain primary constitutional responsibility for land and water management, and while each of Australia's eight jurisdictions has implemented its own water reform package with varying rates of progress, only two States – New South Wales and Queensland – expressly recognized the interests of Aboriginal people and Torres Strait Islanders in their water statutes reforms of the early 2000s.

Within water policy discourse, "native title" is often referred to as if there is only one homogenous form of Indigenous rights to land and water recognised by law. There are in fact two models in Australia: a) the land rights model; and b) that conferred by the federal Native Title Act. The land rights model, which predates the Native Title Act, is a State and Territory-based model that grants inalienable freehold title to the Indigenous holders. Prior to Mabo (No. 2), some Indigenous groups had rights in relation to specific parcels of land and water because the Crown had granted those rights and titles under land rights legislation based on a model originating in the Northern Territory (Neate 2002). This legislation generally makes no mention of ownership or rights to inland waters, or indeed any other resource rights (O'Donnell 2004: 102; Altman 2004b; Tan and Jackson 2013). Indeed, each jurisdiction has its own special features that provide for access to coastal water and inland water and those provisions will be discussed in relation to Queensland and New South Wales in section 3.1 below (for a full discussion of the land rights model of water law see O'Donnell 2011; Tan and Jackson 2013; O'Donnell 2004).

The *Native Title Act* followed the groundbreaking decision in the 1992 Mabo decision . Native title is defined in the act as 'the communal, group or individual rights and interests of Aboriginal peoples or Torres Strait Islanders in relation to land or waters' (see s. 223(1)). The *Native Title Act* defined the scope to include rights over waters located within traditional estate boundaries. It confirms governmental ownership of water and minerals, while guaranteeing rights to customary use of resources for sustenance (hunting, gathering and fishing). A right to protect sites or areas of significance that include waters has been recognised as a native title right (Bartlett, 2004). Such rights are subject to existing laws and grants and are more limited than rights attached to land.

One of the principle objects of the *Native Title Act* is to recognise and protect native title. It provides a mechanism for permitting actions that may affect native title, such as granting water licenses. Behrendt and Thompson (2004) discuss how these 'future acts' may affect Indigenous interests in rivers and water in NSW (e.g. whether they are compensable), noting that certain procedural rights of notification will need to be afforded to native title holders. Customary uses protected by the Act are often dependent on the quality and quantity of freshwater (Finn and Jackson, 2011). A number of scholars argue that Australian water

managers are taking a narrow view of their obligation to protect native title from impairment by over-allocation upstream (Behrendt and Thompson, 2004; McAvoy, 2006; Tan and Jackson, 2013).

Establishing native title has become difficult as amendments to the *Native Title Act* and decisions of Australian courts have adopted an overly-specific and restrictive approach to Indigenous rights when compared to other countries (see, for example, Young, 2008). Commentators have noted that native title to water is of limited significance because the burden of proof is "extremely onerous", the content of the right has been "frozen" and the degree of past extinguishment declared by common law and legislation is widespread (Gardner et al. 2009). Gardner et al. (2009) observe that native title to water "had the potential to be of great significance in the allocation and management of water rights in Australia" but this potential "has been denied by the manner of its development both under common law and statute" (p. 255). In a brief period between 1993 and 1998 Indigenous peoples could negotiate rights over water resource developments (Langton 2002); however, amendments to the *Native Title Act* abolished that right.

In relation to freshwater, native title allows a limited, non-exclusive and non-commercial right to use water without the need for a licence. The Act validates types of past actions of government that extinguished native title, provides compensation for some acts where title has been extinguished, and provides administrative processes for determining claims. Native title holders cannot prevent the doing of future acts of water development, but limited procedural safeguards and the right to compensation apply. The native title framework has been used in at least one situation outside of a water plan to leverage Indigenous access to a benefit stream from water-dependent commercial land-use. Amendments to the *Native Title Act* in 1998 introduced Indigenous Land Use Agreements (ILUA). These are agreements between a native title claimant group and interested parties for the use and management of lands or waters. They can be negotiated in areas where native title has, or has not yet, been determined to exist. When registered with the National Native Title Tribunal (NNTT), ILUAs bind all parties to the terms of the agreement. This use of this mechanism in the context of irrigated agricultural land use will be discussed in section 4 below.

A.4 National Water Policy and Indigenous rights and interests

A.4.1 THE NATIONAL WATER INITIATIVE (NWI)

Despite recognition of native title by the historic *Mabo* decision by the High Court in 1992, followed by the *Native Title Act 1993*, which affirmed recognition of native title rights to water as well as land, the 1990s water reforms hardly considered Indigenous societies and their rights to resources.

Reforms in the next decade culminated in the National Water Initiative (NWI) which provides for sustainable use of water, increasing the security of water access entitlements, and ensuring economically efficient use of water. These objectives are to be achieved principally by strengthening environmental flow provisions, removing barriers to markets in water, and providing for public benefit outcomes through water planning mechanisms. Since 2004, when the interests of Indigenous peoples were first placed on Australia's NWI agenda, government parties have agreed that water planning frameworks should recognize Indigenous needs 'in relation to access and management' (para.25(ix)). Indigenous access is to be achieved through planning processes that:

• include Indigenous representation in water planning, wherever possible;

• incorporate Indigenous social, spiritual and customary objectives and strategies for achieving these objectives, wherever they can be developed;

• take account of the possible existence of native title rights to water in the catchment or aquifer area;

• potentially allocate water to native title holders; and

• account for any water allocated to native title holders for 'traditional cultural purposes' (paras 52–54).

Improved regional water planning underpins the NWI (Tan et al. 2012). While water planning can take many forms, the NWI focuses on water allocation. In preparing surface and groundwater management

plans for areas of concern, State and Territory jurisdictions are to follow nationally consistent guidelines for undertaking transparent statutory planning relying on best available information. Jurisdictions are expected to consult and involve communities, including Indigenous groups. Tradeoffs between competing outcomes for water systems are to be considered and settled using the best available science, social and economic analysis and community input.

Three other clauses relate specifically to Indigenous interests. First, water plans are to provide a statutory basis for achieving 'environmental and other public benefit outcomes', and these include 'Indigenous and cultural values' (para. 25 and Schedule B(ii)). Second, Schedule E to the NWI provides guidance for the preparation of water plans, including a requirement to consider Indigenous water use. Third, protection of certain Indigenous heritage values is included as a principle to guide the establishment of water trading rules. According to these principles, restrictions on extraction, diversion or use of water resulting from a trade can be made to manage 'features of major Indigenous, cultural heritage or spiritual significance' (Schedule E, para. 3(v)).

Given the historical neglect of Indigenous water rights, the NWI provides a much needed impetus for considering and addressing Indigenous peoples' requirements for water, as well as improving their participation in water management. However, up until the last few years, these provisions have received relatively little attention from policy makers, water managers and researchers and are arguably the least developed aspects of the NWI (Tan 2009). Implementation of the NWI with respect to Indigenous interests is regarded by the NWC and many independent commentators as incomplete (see for example O'Donnell 2011; NWC 2011). For instance, O'Donnell states that

At the legislative level there is a complete lack of implementation of the Indigenous provisions of the NWI in Western Australia and the Northern Territory and there is partial compliance in Queensland. By the "legislative level" I mean the main water management legislation in each jurisdiction. There are some encouraging signs in both the Northern Territory and Queensland in respect of recent statutory water plans (2011: 17).

The NWI and the statutory frameworks for native title and land rights have also been criticised for being 'insufficiently inclusive in their definition of water property' (Altman 2004: 29; Tan and Jackson 2013; Jackson and Langton 2012). McFarlane (2004) like many others expects that native title rights to water will continue to be interpreted as non-exclusive and non-commercial in nature, allowing native title holders to use and take for domestic purposes only. O'Donnell (2011) however argues that 'there is an emerging native title jurisprudence concerning a right to trade in natural resources, which potentially could include water in the future' (p. 10).

Further criticism has been made of the lack of guidance in the NWI and the competing priorities that privilege non-Indigenous uses over Indigenous access (McFarlane 2004; Jackson and Morrison 2009; Tan and Jackson 2013). McFarlane (2004), for example, attributes the lack of compliance with the NWI to its provisions being expressed in discretionary terms, e.g. "where possible". Although discretion provides flexibility, competing priorities may result in inaction or lack of attention to Indigenous priorities. Tan and Jackson argue

In these circumstances and in a spirit of reconciliation, phrases in the NWI such as "wherever possible" or "wherever they can be developed" should receive a purposive interpretation, referring to measures as being capable of being developed rather than the current ambivalence adopted by most States. A purposive reading would be supported by national targets for improved access to water, procedural standards for inclusion of Indigenous participants and their diverse interests in water planning, and monitoring of progress in implementation of national water policy (2013: 132).

Tan and Jackson (2013) describe the four features of the NWI that have tended to restrict the expression of those and other objectives:

1. the low priority given to Indigenous needs in over-allocated catchments;
2. State government pressures, which result in a lack of clear guidance on balancing competing priorities;
3. procrastination while awaiting native title determinations; and

4. consultations that do not result in equitable access to valuable economic resource rights.

These authors argue that the above features, combined with the restrictions of the native title regime, affect both the degree to which Indigenous people can benefit from the Initiative, as well as the broader benefit the nation may derive from Indigenous participation in key NWI activities.

In its 2009 biennial assessment report, the National Water Commission recommended that processes should make clear how Indigenous groups can pursue their legitimate economic objectives. The 2011 biennial assessment found that consultation processes had improved but noted that progress on providing access to water for a range of Indigenous purposes had been 'patchy' (NWC 2011). The NWC concluded that 'the full intent of the NWI parties commitments on Indigenous interests in water has not yet been achieved' and that many water plans did not consider Indigenous economic development, leaving the 'economic expectations of Indigenous Australians as an unmet demand on the water system' (NWC 2011: 9).

In response, the Indigenous advocacy group, the First Peoples Water Engagement Council, prepared a statement on their rights and interests in water (see http://www.nwc.gov.au/__data/assets/pdf_file/0004/22576/FPWEC-Advice-to-NWC-May-2012.pdf). The Council made many recommendations, and offered principles and advice, recommending that action be taken

… to build on the NWI commitments and provide clear guidance about how Aboriginal rights, needs, priorities and values can be promoted in water planning and management. A national strategy for Aboriginal water issues is the most effective way of achieving these NWI objectives and commitments (FPWEC 2011: 5).

A.4.2 STATE WATER LEGISLATION

Although federal and state governments reformed their water statutes in the early 2000s to implement national water reforms, there is no easily identifiable Australian model of water resource legislation. To date, each jurisdiction has implemented the Council of Australian Government (COAG) water reform package in a different way and with varying rates of progress. For example, water legislation in the Northern Territory makes no express provision for Indigenous interests and the current Western Australian legislation has very limited provision for Indigenous interests. In Tasmania, the only mention of Aboriginal interests is that of river works, i.e. cutting down trees, riparian fencing, flood mitigation etc, and that these should protect natural values including areas of Aboriginal significance. In Victoria, water legislation was only recently amended to refer to recognized rights of traditional owners to take and use water under an authorization order given under the Traditional Owner Settlement Act 2010 (Vic). And the Indigenous engagement elements of the State and Territory water planning policy frameworks vary considerably. For example, South Australia, Tasmania, Victoria, do not specifically provide for Indigenous statutory engagement in the water planning process. The Northern Territory model requires that a Water Review Panel advising the Minister may include a person with relevant qualifications and experience in Aboriginal affairs.

Approaches to allocating water to Indigenous uses and meeting Indigenous values in water quality and river management are inconsistent, ad hoc, and underdeveloped. Only the State of New South Wales (NSW) gives substantial legislative attention to Indigenous benefits and aspirations. However the Basin Plan 2012 requires all jurisdictions in the Murray Darling Basin to consult with Indigenous peoples and provide for their interests in water resource plans: Part 14.

In a report to the National Water Commission, Tan (2009) described the features of every Australian jurisdiction's water law and their Indigenous related provisions. Given the scope of this report, we will only include a description of Queensland's Aboriginal land rights legislation and its water legislation, as well as the water legislation of New South Wales, which is arguably the most comprehensive, to serve as a point of comparison.

A.4.2.1 The Aboriginal Land Act (Queensland)

The Aboriginal Land Act 1991(Qld) (ALA) and its equivalent the Torres Strait Island Land Act 1991(Qld) provide for the grant of an inalienable freehold title or a perpetual or fixed term lease. According to O'Donnell (2011)

- The rights to use water that come with the grant of title under the ALA are those statutory rights provided for under the Queensland Water Act that apply to an owner or occupier of land without the need for a licence or legal authority under that Act.
- These are rights to take and use water by an owner of land adjoining a watercourse, lake or spring for watering stock and domestic purposes. An owner of land includes an occupier of the land, which means a person in actual occupation. This therefore includes the residents of ALA land.
- Other rights to take and use water must be granted under the Water Act 2000 and the owners of ALA land have a statutory preference in that regard to obtain a licence to take and use water from and on that land.

A.4.2.2 Legal provisions for Aboriginal access to water: Queensland's water allocation and management framework

Under the Water Act, all rights to use water are vested in the State. The Act specifies the conditions under which a water entitlement is required for the taking of water and provides for the creation of water resource plans (WRPs) and resource operations plans (ROPs) to allocate and manage water. A number of areas of the State where the river systems have not been highly developed or exploited have been declared as 'wild river areas'. In these areas, the wild river declaration provides for the allocation and management of water.

The Water Act 2000 (Qld) requires that water is sustainably managed and establishes a clear planning framework to provide for separation of existing licences in water from land where hydrologic data is sufficient. The Water Act establishes environmental flows in the State's water resource plans ('WRP') and enables Indigenous participation in water planning (Cranney and Tan 2011). Queensland has a two tier process for water resource plans (WRP) and resource operations plans (ROP). It is after these two planning processes that new tradeable entitlements called 'water allocations' are issued.

Each WRP has a life of 10 years. It sets broad catchment wide standards which are then implemented through the ROP which has the life of its corresponding WRP. Broad provisions found in WRPs include:

- definition of the plan area and nodes or locations on the watercourse where measurements are taken;
- outcomes for sustainable management of water;
- if there is unallocated water available, how much is available and where.

Implementation is left to a second stage, and recent amendments to the Act allow the two stages to be simultaneously entered into. The ROP deals with operational detail including :

- the process for obtaining unallocated water
- the granting of resource operations licences for water supply schemes
- rules for conversions of existing licences to tradable water allocations
- if water is to be traded, the water trading rules
- the water sharing rules for each scheme and watercourse
- specific provisions for monitoring and reporting relating to matters such as water quantity, impact of storage operation on aquatic ecosystems.

Water legislation appears to place a high priority on Indigenous interests (Tan 2009). The definition of 'sustainable management' includes 'recognising the interests of Aboriginal people and Torres Strait Islanders and their connection with the landscape in water planning': s10(2)(c)(v). Despite this statutory recognition, no specific mechanisms are provided in the Act to identify these interests and ensure trade-offs are transparent. This leaves the Act open to criticism that the recognition of Indigenous connections through the water planning process is merely symbolic.

The Queensland NWI Implementation Plan of 2006 refers to separate consultation with 'special characteristics' tailored for Indigenous requirements, such as more than one traditional owner group in a WRP. This Plan also states that 'as native title rights to water have not been legally recognised, Queensland has not been able to make any specific legislative or WRP provisions. However water allocated to protect ecosystem processes acts to protect traditional uses associated with water' (Queensland Government 2006, p27, 28). There are also no relevant performance indicators given for this key action of the NWI.

It is likely that the above statement in Queensland's NWI Implementation Plan does not go far enough to fulfil the intent of the NWI. Indigenous peoples hold title under the land rights model as well as under the *Native Title Act*. Under the NWI there is a general obligation to consult Indigenous communities in their capacity as land holders and users of water (see key actions under Element (viii)), and a specific obligation to consult over Indigenous water issues. Under the *Native Title Act*, rights to water include taking water for drinking and domestic use, and if proven, a right to fish. Further, even if native title claims have not been determined, or Indigenous rights over water not fully defined, the NWI requires that the potential or possibility of native title be considered in planning.

Notwithstanding these reservations, O'Donnell (2011) considers that of all the Australian jurisdictions, Queensland's implementation of the NWI 'is the most advanced as it provides for recognition of Indigenous interests in its water management legislation and partially implements the requirement to meet Indigenous economic needs from the consumptive pool, via the Cape York Peninsula Heritage Act 2007' (p. 17). This recognition will be discussed in the section below on Indigenous water reserves.

A.4.2.3 Special provisions for Indigenous interests or engagement in water planning in Queensland

In Queensland, until recently, Indigenous participation in water planning was largely achieved through the Community Reference Panel (CRP) process. Membership of the CRP was required to reflect cultural interests and in four out of the five catchments in northern Queensland had Indigenous members. In 2011, the mandatory CRP process was abolished and the Minister now has the authority to propose discretionary arrangements for consultation: s 39. This may provide flexible arrangements that better engage Indigenous peoples, for example in most CRPs two Indigenous persons represent all groups within the region which was unlikely to provide satisfactory arrangements for cultural differences, particularly in larger regions where the diversity of Indigenous perspectives may be very high. It is yet to be known how the new discretionary provision will be implemented.

Further non-statutory measures are taken to engage the Indigenous community:

- An Indigenous Working Group (IWG) may be appointed to improve engagement. In the Burnett WRP views were canvassed from 30 clan Indigenous representatives. The IWG met 11 times. An IWG was also set up in the Barron catchment (Department of Natural Resources and Mines 2003).
- Informal 'consultations' may be carried out (see for example the Gulf Plan, Department of Natural Resources and Water (2006).
- Indigenous issues paper may be developed, for example for the Georgina Diamantina catchment.

The Minister and the Department of Natural Resources and Water are under a duty of care not to harm Aboriginal cultural heritage: s 23 (1) *Aboriginal Cultural Heritage Act 2003 (Qld)*. Under that Act, it is likely that the duty extends to having a due diligence assessment for water planning if that process results in deterioration of cultural heritage sites where water is featured, or impacts water related landscape features then agreement with an Aboriginal Party is required. No policy document refers to this and it is unclear and unlikely that due diligence assessment is at present part of the WRP process.

Academics and Indigenous peoples continue to argue for a more comprehensive inclusion of Indigenous interests and knowledge in water planning and management, and given the discretionary powers of the Minister, there is opportunity for these arrangements to occur (Cranney and Tan 2011). The ideal advanced by Cranney and Tan (2011) in their paper on Queensland's circumstances would ideally involves forming collaborative partnerships with Indigenous groups. Queensland's water law is largely dominated by a western scientific paradigm, they argue, whilst Indigenous knowledge is seldom (if ever) involved in the determination of environmental flow requirements (see also Finn and Jackson 2011). Indigenous

participation in environmental flow determinations is essential given that the Queensland government considers that 'Traditional indigenous uses are generally provided for by ensuring there are sufficient environmental flows' (Queensland Government 2006). Their argument is referenced to the Water Act and the Water Resource (Mitchell) Plan 2007 (Qld).

A.4.2.4 Indigenous water reserves

Indigenous water reserves have been implemented in northern Queensland, initially only available from rivers in Cape York. The reserves in the Mitchell and Gulf Water Resource Plans, finalised in 2008, were a direct result of a landmark multiparty negotiated agreement – the 1996 Cape York Agreement and the enactment more than a decade later of the Cape York Peninsula Heritage Act 2007 (Qld). Despite owing their existence to political as opposed to water planning processes, and the conservative amounts allocated, Tan and Jackson (2013) argue that these reserves show that much more can be done to give life to the NWI objectives.

Water allocated through these reserves will take the form of water licences and will thus not be tradeable, unlike the majority of entitlements (called water allocations), which will result from water plans. As yet, there have been no applications made for water from the reserves.

The purpose of the reserves is to help Indigenous communities in the Cape York Peninsula Region area achieve their economic and social aspirations. Tan (2009) acknowledges that these special measures are positive outcomes but provides a number of reasons why their significance should not be overstated:

- The reserves are available in a limited number of areas. Until 2011, the reserves were only available from rivers in Cape York and are a direct result of negotiations between interested parties which led to the landmark Cape York Agreement in 1996 and the Cape York Peninsula Heritage Act which followed in late 2007. In 2011 reserves were made available in the Cooper Creek area.
- The reserves in the Gulf and the Mitchell WRP are not a result of Indigenous engagement in the water planning process. The draft plans which were circulated for public consultation had no mention of Indigenous water reserves.
- It is uncertain whether Indigenous people in the Gulf and Mitchell Catchments were involved in negotiating the amounts allocated through the reserves, therefore it is unsure that the volumes allocated will meet their needs.
- None of the other rivers in the Gulf region which have significant Indigenous populations in their catchment areas have such provisions attached.
- The volumes of water available have tended to be small, at 1,000 ML for the Gulf in comparison to the general reserve which comprises 175,000 ML per annum. In the Mitchell the general reserve comprises 55,000 ML per annum. More recently, the volumes have become larger. In the Wet Tropics Draft Water Resource Plan released in March 2013 for example a strategic indigenous reserve of 5,200 ML has been made available for across 7 catchments/sub-catchments http://www.nrm.qld.gov.au/wrp/pdf/wet_tropics/wt-wrp-overview-report.pdf . The draft plan identifies volumes of unallocated water as the Cape York Indigenous reserve which is only available within the Cape York Peninsula Region. This reserve is for helping Indigenous communities of the Cape York Peninsula achieve their economic and social aspirations.
- Indigenous reserves may be put towards the achievement of economic and social aspirations of Indigenous people, but as yet there is no process for working out how best to identify what these may be.
- Water allocated through these reserves will take the form of water licences and will thus not be tradeable.

A.4.2.5 Wild Rivers Act 2005

The legislation aims to preserve values of a river that has not been significantly altered from its natural state through declaring management areas subject to cap on resources, rules and limits on new development activities. Regulatory controls are imposed conditional upon the ecological status of the management area and this varies from catchment to catchment. Tight controls are placed on riparian zones and high-impact developments. Otherwise lower-impact developments are permitted throughout the

catchment. Currently 12 river systems have declared wild river areas. They are the Fraser, Gregory, Hinchinbrook, Morning Inlet, Settlement, and Staaten (which were the first group of rivers declared in 2007); the Archer, Stewart, and Lockhart (in 2009); Wenlock (in 2010); and Cooper Creek and Georgina/Diamantina Basins (in 2011).

Declarations under the Wild Rivers Act 2005 (Qld) may also provide for Indigenous water reserves. Outside of Cape York, the only other Indigenous reserve has been allocated in the Cooper Creek Water Resource Plan 2011, which was declared a wild river. A small volume of 200 ML for non-irrigation purposes has been set aside for helping local Indigenous people achieve their economic and social aspirations, but as yet there is no process for defining the purpose.

Wild rivers legislation is highly controversial: a number of Indigenous spokespersons oppose the declarations arguing that provisions regulating development within a riparian zone restrict efforts to build an economic base from native title; other Indigenous people have publicly supported wild rivers, particularly the boost a declaration may bring for local environmental management. O'Donnell (2011) describes the potentially threefold effect of the legislation on Indigenous interests and rights in relation to water:

Firstly, in relation to native title - there is no affect – the legislation says so (see the WRA and Acts Interpretation Act). Although if a native title holder wishes to seek development approval (like any other type of landholder) to undertake a commercial activity that is inconsistent with a wild rivers declaration then they will not be able to so. In this aspect their ability to develop their land and waters is restricted even though the native title rights and interests are not strictly affected. Secondly, in relation to land rights – freehold titles held by Indigenous people for example under the Aboriginal Land Act, 1991 is affected and restricted according to the WRA when a river is declared and thirdly it maintains the Indigenous water reserve for economic and social purposes mandated by the Cape York Peninsula Heritage Act 2007 but may limit the economic use of the water (p. 17).

The new Newman Government for Queensland, elected in April 2012, plans to repeal or make substantial changes to the legislation. In February 2013, 16 Indigenous groups in the Lake Eyre Basin joined with graziers, scientists, the tourism industry and the local community to declare that they desired the continuing protection of wild rivers legislation against large scale irrigation and mining in areas of the floodplain. Their call has been supported by Murrandoo Yanner from the Gulf Land Council. In August 2013 the Minister for Natural Resources and Mines announced the dismantling of Wild Rivers Act.

A.4.3 LEGAL PROVISIONS FOR ABORIGINAL ACCESS TO WATER: NEW SOUTH WALES' WATER ALLOCATION AND MANAGEMENT FRAMEWORK

The NSW government implemented the Water Management Act 2000 (NSW) (hereafter referred to as the WMA) after an extensive period of public discussion that included submissions from the NSW Aboriginal Land Council. Section 3 specifically refers to the need to

'recognise and foster the significant social and economic benefits to the State that result from the sustainable and efficient use of water, including:

- *(i) benefits to the environment, and*
- *(ii) benefits to urban communities, agriculture, fisheries, industry and recreation, and*
- *(iii) benefits to culture and heritage, and*
- *(iv) benefits to the Aboriginal people in relation to their spiritual, social, customary and economic use of land and water.'*

The State Water Management Outcomes Plan (SWMOP) 2002 provided targets for the development, conservation, management and control of the state's water sources. Targets were set to enable Indigenous communities to gain an increased share of the benefits of the water economy, to identify water sources, ecosystems and sites of cultural and traditional importance to Indigenous people, and put measures in place to protect and improve these sites, and increase the capacity for Indigenous people's involvement in water management . By 2010 the SWMOP had quietly faded away with NSW having no overarching policy,

except for the NSW NWI implementation plan which states that NSW will provide for indigenous access to water resources, in accordance with relevant Commonwealth, State and Territory legislation. Aboriginal Reference Groups are to be set up, with three in place by 2006, and for Aboriginal cultural and commercial licences, with a Water Trust set up in 2005 and reviewed in 2007.

Section 55 of the WMA provides for native title rights. Behrendt and Thompson argue that s 55 treats the Aboriginal interests in water as merely being co-extensive with native title under the *Native Title Act*. This argument is supported by the fact that in almost every Water Sharing Plan native title rights are given a zero allocation, with a note that 'increase in use of native title rights may occur as a result of the granting of native title rights under the Commonwealth's *Native Title Act 1993'*.

Rules of distribution are established under the WMA: s 60. Native title rights are categorised as 'basic landholder rights' which also include domestic and stock rights and harvestable rights. This is notionally the highest category of rights, and when in an emergency, water sharing plans are suspended under s 49A, first priority is to be given to the taking of water for domestic purposes by persons exercising basic landholder rights, and the taking of water for domestic purposes or essential town services authorised by an access licence. It should be noted that because most WSPs have zero allocation for native title rights any priority for Indigenous access is illusory.

A hierarchy of rights is established under s 58. It relates to different classes of access licences, for example the highest priority under ordinary conditions is given to water utility licences and stock and domestic licences, followed by regulated river (high security) access licences and so on. There is no mention of native title rights in this prioritisation, nor any of the other special categories of Indigenous licences. A water sharing plan may provide for different rules of priority, but it is unlikely that native title rights have been accorded high priority.

In summary, special provisions exist in reference to Indigenous people in New South Wales' water law. Firstly, as noted, a native title holder is entitled under the WMA to take and use water in the exercise of native title rights without the requirement of a licence or administrative approval: s 55. This right extends to the construction of water supply work (meaning water pipelines or pump) on native title land alone. The right does not extend to the construction of a dam or bore without an administrative approval.

Secondly, the WMA specifies that at least two Aboriginal persons be appointed to a management committee: s 13(1)(s). Apart from this, the legislation does not make further provisions for Indigenous engagement in WSPs. The establishment of a Management Committee is at the discretion of the Minister. In the Gwydir Regulated River MC, asking two Aboriginal representatives to comment on Aboriginal interests generally was found to be difficult and culturally inappropriate (Hamstead et al. 2008). In assessing community engagement in NSW's macro-planning process an expert team states that 'Indigenous involvement seemed to be a gap in the process' (Bowmer cited in Tan 2009).

Thirdly, in the macro approach to water plans, policy statements accept that Indigenous values not only relate to cultural and spiritual interests but include commercial use of water.

Fourthly, there are a number of Indigenous specific entitlements, or access licences, available under NSW's water legislation. These are described in the following section.

NSW's water framework has been analysed and criticism have been raised about the material effect of its special Indigenous provisions. Native title rights have been given protection in the water legislation, but in reality, there is no water allocated for Indigenous interests in most water plans. The intense competition over water in NSW is said to be one of the chief causes of the inadequacy of water plans to recognise Indigenous interests (Tan and Jackson 2013). Another problem lies in the conservative stance taken on native title. The NWI requires that water plans take account of the possibility of successful native title determinations. However, except for Western Australia, most State plans suggest that water managers appear to be waiting for native title determinations before assessing the potential requirements arising from successful claims (Western Australian Government 2007). In New South Wales, for example, as of April 2012 there had been only two determinations that recognised native title. Tan and Jackson state that

The slow pace and low numbers of determinations are likely to limit the allocation of water for native title purposes and prejudice potential claimants, especially in south eastern Australia. If Indigenous-specific

allocations are seen as dependent on the legal recognition of native title, then many Indigenous groups may be further dispossessed of customary rights, through no fault of their own. This problem could become especially pronounced in areas where resource use is approaching full development (2013: 137).

A.4.4 QUEENSLAND REGIONAL PLANS: GULF WATER RESOURCE PLAN

The Flinders and Gilbert Rivers catchments fall within the Gulf Water Resource Plan. The Gulf Water Resource Plan includes eight surface water catchments which flow into the Gulf of Carpentaria as well as designated non‐-Great Artesian Basin groundwater resources. The WRP was finalised in 2007 with the ROP in place since 2010.

The water resource plan covers a diverse area which includes a highly developed water system on the upper reaches of the Leichhardt River around Mount Isa as well as several areas where there are low levels of development with some of these designated for the protection of their natural values under the Wild Rivers Act (the Settlement, Gregory, Morning Inlet and Staaten wild river declarations). The water resource plan also allocates water for Indigenous communities to help them achieve their social and economic aspirations under an Indigenous reserve. According to the NWC, the plan establishes tradeable allocations in the Mount Isa region which is the area of greatest consumptive demand. Trading of licences is also possible in a reach of the Gilbert River. In other areas licences remain tied to land and are not tradeable, however, there is little demand for trading in these areas. Only a small proportion of average flows are available for extraction - entitlements for consumptive use represent less than one per cent of the overall mean annual discharge. (NWC; http://archive.nwc.gov.au/library/topic/planning/report-card/queensland/planning-areas/water-resource-gulf-plan).

MacKenzie (2008) reviewed the water planning process in the Gulf of Carpentaria undertaken between 2003 and 2007 by the Queensland Department of Natural Resources and Water and specifically focused on Indigenous participation. In this plan area the Indigenous population is as high as 66% in some of the catchments. He found that effective participation was constrained by the scope of the planning area and the logistical difficulties in undertaking a planning process for an area larger than the State of Victoria, with limited human resources. Interviews conducted for this study revealed that Indigenous consultation processes were 'highly inappropriate and showed a lack of understanding of protocols for engagement'. Indigenous representatives and Community Reference Group members reported the process and discussions to be 'highly bureaucratic and technical' and that 'there was no opportunity to feedback into the process in a way that prioritised indigenous values' (2008).

He further added that:

the structure of CRP meetings additionally precluded Indigenous participation, through a lack of attention to appropriate cultural protocols. For example, as one participant identified, holding two of the three CRP meetings on Kalkadoon country made it impossible for a representative from a different region to speak on behalf of country and its water resources. It was also observed that the area defined as the Gulf for the purpose of the WRP had no correspondence with the accepted Indigenous delineation of Gulf country (2008: 52).

A.5 Recognition and benefit-sharing

A.5.1 INTRODUCTION

Nation states like Australia confront the challenge of meeting multi-faceted Indigenous water requirements within the wider context of intensified competition for freshwater supplies and expiation of historic inequality of access. Indigenous claims for equitable distributions of water entitlements come with an expectation of state recognition of customary systems of water governance, including indigenous environmental philosophies, and parity of participation in state water governance arrangements.

A number of progressive policy initiatives are under development in response to this challenge. Institutional processes have emerged and tentative steps towards establishing water entitlements for customary and commercial Indigenous purposes have been taken in a small number of Australian jurisdictions (Tan and Jackson 2013). In the past decade, opportunities for Indigenous participation in multi-stakeholder water planning forums has grown across the country, with notable initiatives being the Indigenous fora that contributed to the development of the Murray Darling Basin Plan and the First Peoples Water Engagement Council, which has advised the Federal Water Minister since 2010 (FPWEC, 2012). And more recently, Indigenous organisations have vigorously pursued resource rights, as outlined by the North Australian Indigenous Land and Sea Management Alliance (NAILSMA) in their policy statement on Indigenous Strategic Reserves:

Greater utilisation of water resources in northern Australia presents new economic opportunities for Indigenous people. The establishment of the Strategic Indigenous Reserve provides the means to recognise and leverage these Indigenous interests. This is entirely consistent with Government commitments through Closing the Gap. Establishing Indigenous water rights could promote their use in the context of promising futures for water using industries in the north (2013).

According to O'Donnell (2011) there is an emerging consensus concerning the need to establish an Indigenous specific allocation from the consumptive pool and that this is a means of satisfying the NWI requirement to grant water access entitlements to address Indigenous needs (Clause 25 iv).

In addition, there are other means by which the full range of Indigenous rights and interests can be recognised in water allocations and planning. Bark et al. (2012) found that a mix of mechanisms shows greatest promise for overcoming resistance to the recognition of Indigenous water claims.

A.5.2 INDIGENOUS ENTITLEMENTS

As described above, New South Wales and Queensland have developed Indigenous specific water entitlements. More recently the Northern Territory has made a policy change that has seen the creation of a Strategic Indigenous Reserve. The NSW and NT frameworks and initiatives will be described further below.

A.5.2.1 New South Wales

In New South Wales, where competition over water is high, there has been recognition that reliance on native title is not sufficient (Tan and Jackson 2013; Jackson and Langton 2012). Therefore statutory measures, developed with input from Indigenous representative organisations, have been introduced to grant specific Indigenous entitlements to water and public information packages developed (see NSW Office of Water). NSW Native Title Services and the NSW Aboriginal Land Council have over a number of years expressed their dissatisfaction with the effects of the water reforms in that State. For example, in a submission prepared to the Department of Prime Minister & Cabinet on the National Water Initiative Discussion Paper, they recommended:

- Perpetual licence conversions only be permitted where there is an Indigenous Land Use Agreement which protects the interests of Aboriginal people and clearly identifies the extent of any compensation;
- That the Commonwealth obtain independent legal advice as to the legal character of any perpetual licence;
- Intergovernmental agreements should contain express requirements for state governments to prepare clear targets for the identification and protection of Indigenous interests in water and clear targets for increasing their involvement in the water economy;
- Steps should be taken to facilitate and resource paid entry into the water market in a substantial manner. Guidelines should be inserted to provide for the establishment of trusts capable of holding water entitlements for and on behalf of Indigenous peoples.

Over the last 10 years New South Wales has progressively introduced four types of special purpose licenses for Indigenous interests (referred to as Aboriginal in NSW law):

1. Aboriginal cultural access licences;
2. Aboriginal commercial licences;
3. Aboriginal community development licences; and
4. Aboriginal environment licences.

The first, Aboriginal cultural access licences, are not to be used for commercial purposes. They are available only on an annual basis and may be renewed. It appears that they will be granted as a matter of course, on application. Capped at 10 ML per licence per year, they allow holders a small volume of water, and are limited to traditional and domestic uses. It is likely that these licences will only benefit communities not able to successfully prove the existence of native title as those who hold native title already have rights for traditional activities and domestic requirements under the *Native Title Act* (Tan, 2009). Cultural access licences do not appear to be popular and their shortcomings have been noted elsewhere (see Jackson and Langton 2012).

Aboriginal commercial licences are the first of their kind in Australia and may be granted over surface or groundwater and used for any general commercial purpose, including aquaculture and manufacturing. As a rule, special purpose licences are generally not able to be traded, and are not accorded any specific priority under s 58 of the Water Management Act. However, the Aboriginal commercial licences can be traded on a temporary basis. As far as determined, two New South Wales water sharing plans provide for these licences and for similar Aboriginal community development licences: the 2003 Dorrigo Water Sharing Plan; and the 2004 Stuarts Point Aquifer Water Sharing Plan. Land atop the latter is owned by the Kempsey Local Aboriginal Land Council, which has previously grown native flowers on this site and has aspirations for further horticultural crops (Jackson et al 2009). These two types of licences are the most readily available licences to Aboriginal communities.

Since 2011, Aboriginal environmental licences may be granted to supplementary water, i.e. high flows in regulated systems when dams overflow (formerly known as “off-allocation access”) . The first of these licences has been permitted under the Barwon-Darling Unregulated and Alluvial Water Sources Water Sharing Plan (WSP) 2012 . The WSP restricts the total volume taken under this licences to 500 ML per year. Detailed flow rules apply and water is only made available upon written application within the water year. This is an acknowledgement that historical development of water has deprived Aboriginal communities of flows to lagoons and wetlands of significant cultural significance (see Maclean et al. 2012).

A.5.2.2 Queensland

The Indigenous water reserves provided for in Queensland water law and in the Wild Rivers Act were described above.

A.5.2.3 Northern Territory

Current Northern Territory water law does not recognise the need for an Indigenous specific allocation for commercial purposes. Sustained lobbying by Indigenous organisations in the NT and beyond during the past three years has resulted in a significant Australian water policy innovation, the SIR, which is designed to provide economic benefits to Indigenous people from the use of and trade in water (Jackson and Barber in press). An SIR was first proposed in 2009 in the Katherine (Tindal Aquifer) Water Allocation Plan (DNRETAS 2009). The Katherine Plan (2009-2019) mandates 680 mega litres (ML) for Indigenous commercial development if the existence of native title is recognised within five years of plan commencement. This amount of water was determined by the percentage of the plan area under native title claim in 2009 – some 2 per cent approximately. For as long as the native title determination is unresolved, there remains no Indigenous specific allocation.

The Draft Tindal Limestone Aquifer (Mataranka) Water Allocation Plan proposes to regulate the Tindal aquifer and water from springs that feed the Roper River, and includes provisions that substantially amplify the scale and significance of the SIR. The amount specified in the draft Plan is (4 875 ML/year), or 25% of the commercial allocation (Part 5 Clause 20, DNRETAS 2011). In the form contemplated in the Mataranka Plan, the reserve could be accessible by the grant of licenses (entitlements) that are saleable as a temporary trade. The rules surrounding the issue of water licences for that part of the licence pool

designated as a SIR have not yet been developed but will be documented in the implementation strategy for the Plan. As Jackson and Langton (2012) and O'Donnell (2011) argue, the existence of an SIR can overcome two barriers to justice in the Australia system of water allocation. Firstly, as 'late entrants' to a water market with economic aspirations that are still taking shape, Indigenous people could be assured of access to water for commercial purposes. Secondly, the reserve also allows those 'indigenous people without land rights or native title guaranteed access to water for development purposes' (O'Donnell, 2011, p. 237).

Despite the substantial progress it represents from the Katherine plan (and the significant departure from other Australian allocation plans that make no such provision for Indigenous access to water), the magnitude of the proposed Mataranka SIR was regularly raised by Indigenous research participants in a CSIRO study as a significant concern (Barber and Jackson 2011c). A crucial context for that concern is that compared with the Katherine plan area, Indigenous people form a much larger proportion of the resident population of the upper Roper River and are major landowners in the area.

Despite local Indigenous reservations, the 25% allocation represents an order of magnitude increase on the small and highly conditional SIR which was the innovation in the Katherine plan. Wider discussions involving a range of organisations and Indigenous groups about the SIR issue are ongoing and representative groups have called for the Plan to be reviewed every two years to allow traditional owners to 'have a proper say on the Plan, including the SIR' (NAILSMA, 2011). Some doubt has been recently cast over the future of this innovative policy mechanism as a result of a change of government in the Northern Territory in late 2012. In March 2013, the new conservative government announced that it would defer the establishment of the SIR for three years although the draft plan had not been amended at the time of writing. Such developments indicate both the potential level of ongoing contestation about water and the corresponding political risks faced by Indigenous people in trying to gain equitable shares in water resources.

A.5.3 INDIGENOUS LAND USE AGREEMENTS (ILUAS)

Agreement-making is perhaps the most commonly referred to means of satisfying the range of co-existing interests in Australian water management (Craig 2006; Altman 2004). Many authors (Smith 1998; Edmunds 1998; Langton and Palmer 2003) discuss the opportunities and challenges provided by a mechanism of the Native Title Act, the Indigenous Land Use Agreement (ILUA), which can apply to water. Amendments to the NTA in 1998 introduced ILUAs. These are agreements between a native title group and interested parties in the use and management of lands or waters. They can be negotiated in areas where native title has, or has not yet, been determined to exist. When registered with the National Native Title Tribunal (NNTT), ILUAs bind all parties to the terms of the agreement.

The benefits cited include:

- Improvements to relationships between Indigenous people and other parties (Smith 1998);
- Cost savings because ILUAs recognize native title and provide certainty while avoiding litigation (Smyth 2002);
- The establishment of co-management arrangements that meet environmental requirements as well as economic and legal objectives (Goodman 2000; O'Faircheallaigh and Corbett 2005; Langton and Jackson 2013).
- Agreements can provide for access to places as well as protection of heritage (Windle and Rolf 2004)

The native title framework has been used, in at least two situations of which we are aware, to leverage Indigenous access to a benefit stream from water-dependent commercial land use. One of those was the Ord Final Agreement negotiated to further the expansion of the Ord River Irrigation Scheme in 2006. This was a complex and large agreement that is regarded in native title policy circles as a 'comprehensive' agreement (Guest 2009).

In recent years Federal Government Indigenous policy has sought whole of government approaches and with this focus, attention has been given to construing native title as foundation for 'comprehensive settlements' (Macklin 2008) of land related issues (Guest 2009). Guest uses the term 'comprehensive

settlements' to refer to agreements 'necessarily with governments (but could include private interests) which, due to the nature of government responsibilities, have the potential to address governance, economic, social, cultural and/or legal concerns of native title groups' (2009: 5). Since the Mabo decision, many academics and Indigenous leaders have promoted the potential of comprehensive settlements or agreements to improve Indigenous social and economic well-being, often in the context of large regional development proposals or schemes such as the Burrup Peninsula gas hub and associated infrastructure in the Pilbara.

Queensland's State Rural Leasehold Land Strategy comprises legislation, policies and guidelines supporting the use of rural leasehold land for agribusiness. It provides templates for negotiating and entering into ILUA. A Pastoralist who enters into a Pastoral ILUA may apply for a rental discount of 25% over 5 years for resolving native title claims over rural leasehold lands. The template was the outcome of efforts in 2010-11 by the Queensland government, AgForce Queensland, Queensland South Native Title Services and North Queensland Land Council (http://www.nrm.qld.gov.au/nativetitle/dealings/agreements.html).

A proposal to grant freehold title over land presently occupied by 34 Indigenous communities in Queensland is currently under discussion. These lands are held under a mix of legislation including the Land Act 1994 and various Aboriginal and Torres Strait Islander land legislation that has been consolidated under the Aboriginal Land Holdings Act 2013. Most of the land is currently held by a Trustee under a form of land tenure known as Aboriginal and Torres Strait Islander Deed of Grant in Trust. (http://www.nrm.qld.gov.au/indigenous/land/pdf/freehold-discussion-paper.pdf) This discussion paper is not expressly linked to agricultural development but it could provide potential for Indigenous and non-Indigenous enterprises to gain freehold land for small scale farms.

In the Ord Final Agreement, the key policy driver was the government commitment to expand the Ord irrigation scheme. Although concerns were held about the commercial viability of Ord Stage 2, according to Guest (2009), the State considered that the regional economy of the East Kimberley would go backwards unless large scale commercial developments proceeded. A negative East Kimberley economy would create significant social and economic dislocation to which the State would eventually have to respond. The State benefited from the certainty that compensation was settled for any extinguishment of native title and all agreement-related future acts.

A.5.3.1 The Ord Final Agreement, Western Australia

The most significant settlement in the context of this study is the Ord Final Agreement which was registered as an Indigenous Land Use Agreement (ILUA) with the National Native Title Tribunal (NNTT) on 16 August 2006. The Agreement was a negotiated agreement between two parties—the State of WA and the Miriuwung Gajerrong people. The process leading up to the Ord Final Agreement has been described as one of Australia's largest and most complex native title negotiations (Bogan and Hicks 2006). The Miriuwung and Gajerrong peoples lodged their native title claim with the National Native Title Tribunal in April 1994, seeking recognition of their traditional rights over an area of about 8,000 square kilometres partly in the East Kimberley region of WA and partly in the Northern Territory. The claimed area covered the Ord River Irrigation Area, Lake Argyle, Lake Kununurra, the Glen Hill pastoral lease, land subject to mining tenements, part of the Argyle diamond mine and the Keep River and Mirima national parks.

As mediation between the groups proved unsuccessful, the application was referred to the Federal Court in 1995. The decision of Justice Lee that that native title could be proven was appealed and some years later the matter was heard in the High Court. During 2001-2002, the State and the Miriuwung and Gajerrong agreed to adopt a partnership approach to the expansion of the Ord Stage 2 scheme. The Final Agreement was struck in 2005 (for a history of the Ord Agreement see Bogan and Hicks (2006)).

Bogan and Hicks (2006) describe the terms of the agreement:

The Agreement provides the necessary native title consents and heritage clearances over 65,000 hectares of land in the far north of Western Australia to make way for Australia's largest irrigation scheme. The Agreement includes recompense for the 1960s Ord River Scheme. The Scheme saw parts of the historic Argyle pastoral station flooded to create Lake Argyle, thus dispossessing local Aboriginal people. It resolves the Government's compensation liability in respect of Miriuwung Gajerrong #1 (native title holders) and the

Miriuwung Gajerrong #4 native title claimants. The compensation package also provides for the acquisition, extinguishment and impairment of native title over the 65,000 hectares, land that will be utilized for the development of Ord Stage 2 (p. 10).

In addition to resolving issues for agricultural expansion, the OFA provided the opportunity for joint management of the conservation parks in the region (see Hill et al. 2008).

Background

In 2000, when the Western Australian Government proposed to expand the Ord River Irrigation Area, it was obliged under the NTA to consult and negotiate with the Miriuwung Gajerrong people. The land area irrigated in the Kununurra area is approximately 14, 000 ha (Barnett 2013). The Western Australian Government estimated that in 2006-07 the gross value of the irrigated farm activity in the irrigation area was around $80 million.

A Miriuwung Gajerrong Global Negotiations Steering Committee advised the State Government that negotiations on the development of Stage 2 of the Ord River Scheme could not take place until the impacts of Stage 1, caused by building Lake Kununurra and Lake Argyle dams, were addressed (http://www.mgcorp.com.au/index.php/about-us/overview). The Ord River Irrigation Scheme was developed without consideration of the interests, rights and needs of Aboriginal people and when constructed it saw parts of the historic Argyle pastoral station flooded to create Lake Argyle, thus dispossessing local Aboriginal people. The flooding associated with dam construction inundated and/or damaged significant sites, graves and areas of economic, social and cultural value (Barber and Rumley 2003). Barber and Rumley:

Furthermore, the sense of loss of country was/is very painful to Aboriginal people… The loss of land to artificially-created lakes and farmland disrupted Aboriginal connections to land in a spiritual, cultural and material sense. Not only were sites inundated, but Aboriginal access was cut off, thus increasing resentment about restrictions on traditional activities. Hunting, fishing and gathering become problematic with a consequent impact on diet and health (2003: 31).

The Second Stage of the project expects to see the development of large-scale cropping on approximately 33,000 hectares of land to be linked by irrigation channels to almost vast supplies of water from the artificially created Lake Argyle. This will effectively triple the area of land made available to agriculture in the 1960s under the first part of the Ord Scheme (http://www.atns.net.au/agreement.asp?EntityID=2654).

Historical grievances associated with the Ord scheme's social and economic impacts were to be addressed by the Ord Enhancement Scheme, which was to "fix the past" and respond to the Aboriginal Social and Economic Impact Assessment (ASEIA). In June 2004 the Aboriginal Social and Economic Impacts Assessment (ASEIA) Report made 40 recommendations for actions to address the identified impacts and, under the auspices of the Ord Enhancement Scheme (OES), is now being used to address those impacts.

The Ord Global Negotiations with the State sought an agreement to address:

- government acquisition of land for future agricultural and other development;
- compensation to the Miriuwung and Gajerrong peoples for the compulsory acquisition of the land;
- final settlement of native title claims; and
- reparations for the impact of Ord Stage 1 including an appropriate response to the findings of the ASEIA report.

The terms of the agreement

The key benefits for the State from the MG-Ord Agreement are:

- acquisition and extinguishment of native title over 70,000 hectares of land; and
- the Agreement represents full and final compensation for all matters relating to Ord Stage 1, Ord Stage 2, the MG #1 determination and the then undetermined MG#4 application (Guest, 2009).

Other terms of the OFA are described in Hill et al. (2008) and include:

- The establishment of Yawoorroong Miriuwung Gajerrong Yirrgeb Noong Dawang Aboriginal Corporation (MG Corporation) to receive and manage the benefits transferred under the OFA, including funding for 10 years to operate an economic development unit. This provides potential for future jobs and training. In this context, over the past two years, the MG Corporation has established a complex new governance structure and, aside from the main MG Corporation, there are three subsidiary companies that will hold on trust the benefits of the Ord Final Agreement. The representative Governing Committee is shaped by a traditional cultural structure. The 32-member Governing Committee is made up of two representatives from each of the 16 dawang, or traditional land areas, which make up the Miriuwung and Gajerrong native title lands. The benefits are to be shared by all Miriuwung and Gajerrong peoples for community purposes. No individual payments can be made.
- A charitable trust will receive $14 million over a 10-year period for investment.
- Five per cent of serviced farm lots will be transferred to MG Corporation, with an option to purchase a further 7.5 per cent. Release of this land is on hold following the deferral of expressions of interest for the development of Ord Stage 2 by the WA Government.
- An Aboriginal development package (ADP) must be negotiated between the developer of Ord Stage 2 and the MG Corporation before construcction may commence (ATNS website) and must include an Aboriginal employment strategy with targets, opportunities for businesses to be owned or operated by Miriuwung and Gajerrong peoples, consultation about the project design to minimise negative social and cultural impacts, procedures for protection of Aboriginal heritage during development, and an opportunity for Miriuwung and Gajerrong peoples to acquire a further five per cent interest in the project. The ADP also depends on the expressions of interest process, and is also currently on hold.
- Other commercial land—commercial, industrial and residential land in and around Kununurra- will be transferred to MG Corporation. These transfers are under way.
- Community Land—including 19 Community Living Areas (CLAs), eight of which form part of the 55,000-hectare Yardungarrll block—will be transferred as freehold title. These transfers are under way. A further four CLAs are being transferred from the Aboriginal Lands Trust (ALT): Ribinyeng, Worrawoorrem, Kumbarumba(Goorrboome) and Wirrjilwarim.
- Ord Enhancement Scheme (OES) provides for the commitment of $11.195 million over four years to leverage funds to address the to address the recommendations of the ASEIA report. The OES has five key objectives:
    - Provide the Miriuwung and Gajerrong peoples with organisation and financial resources to implement the ASEIA recommendations;
    - Facilitate the involvement of Miriuwung and Gajerrong peoples in local and regional decision-making;
    - Provide a source of supplementary funding for development in the areas of identified need: health and well-being; housing; employment, education and training; municipal services; conservation and land management; family and community services; justice; and culture and heritage;
    - Establish a mechanism that enables service providers to regularly report on their progress; and
    - Develop new and sustainable partnerships and relationships between Miriuwung and Gajerrong peoples, governments and the broader community.

The OES is governed through a management committee with seven Miriuwung-Gajerrong representatives and a representative of the Kimberley Development Commission (KDC). Many government agencies are involved in addressing the needs in the ASEIA report, including the East Kimberley Health Services; the departments of Education, Housing and Works, Environment and Conservation, Community Development and Justice; the Shire of Wyndham; TAFE and the KDC.

The six new conservation areas created under the OFA will be held under freehold title by the Miriuwung-Gajerrong Trustees Pty Ltd and leased to the State to be jointly managed as a conservation park by the MG Corporation and the Executive Director of CALM (now Director General of DEC). Under the OFA:

- $1 million will be available to set up the joint management arrangements and develop a plan of management;
- $1 million will be available for infrastructure in the six new parks;
- $4 million will be available over four years to operate the parks, with a funding review after four years;
- Employment and training will be available for Miriuwung and Gajerrong peoples with a goal of 50 per cent of parks jobs to be held by Miriuwung and Gajerrong peoples within 10 years;
- Miriuwung and Gajerrong peoples have right of access to the parks for cultural purposes'
- Leases will be for 200 years with peppercorn rental; and
- Joint management arrangements and leases will be reviewed every 10 years.
- Notably the Ord Final Agreement did not include rights to water for commercial purposes for traditional owners.

A review of the negotiation process defined the Ord Agreement as a success because it displayed several characteristics, including:

- A measure of good will on both sides;
- A willingness by the parties to re-examine and re-articulate its outcomes as the process unfolded;
- Good support and advice from relevant experts to test the understandings and agreements reached during the negotiation;
- Highly effective lead negotiators on both sides;
- A common communication process operated by both parties, and
- A developing appreciation and understanding of each party's position as the negotiation unfolded (Bogan and Hicks 2007).

A report on comprehensive agreements organised by AIATSIS, describes traditional owner perspectives on a number of agreements, including the following from a member of the MG negotiating team who identified the most positive aspect of the negotiations:

For the Miriuwung and Gajerrong, the most positive aspect of the negotiations was establishment of the Ord Enhancement Scheme. As described above, the Ord Enhancement Scheme is in response to the Fix the Past-Move to the Future report on the Indigenous social and economic impacts of Ord Stage 1. The Report described the damming of Lake Argyle as akin to a natural disaster for local Indigenous people, detailed the shelved reports that described the negative impacts for Indigenous people of this natural disaster and made recommendations on health, housing, education and other social issues that must be addressed to alleviate these impacts… The Ord Enhancement Scheme is the State's primary response to this report. In a real recognition of the Miriuwung and Gajerrong's right to speak for their country on matters other than future acts, the Ord Enhancement Scheme ensures the Miriuwung and Gajerrong have a level of direct control in regional decisions affecting their socioeconomic well-being (cited in Guest 2009).

A further expansion of the Ord Irrigation Area (Stage 3) is now under discussion and may involve Chinese investors. The current Western Australian Government proposal is to double the current land area, with an immediate focus on 8,000 ha in the Weaber plain area, and later in across the border into the Northern Territory. The Premier of WA has described the expansion in the following terms:

The Ord-East Kimberley Expansion is an opportunity to demonstrate significant Indigenous engagement. The project will see the creation of new agricultural land with associated common user irrigation and transport infrastructure. A percentage of the new irrigation land is to be owned by the Miriuwung Gajerrong people who may choose to farm it themselves or partner with others (Barnett, April 5, 2013).

A.5.3.2 Pine Hill ILUA, Ti Tree, Northern Territory

An Indigenous Land Use Agreement (ILUA) on the Pine Hill pastoral lease in the horticultural area of Ti Tree in central Australia was negotiated in 2007, following a development application to grow grapes. The Northern Territory Government purchased the Pine Hill lease in 2000 to secure horticultural development and subsequently negotiated with the traditional owners. The ILUA gave the traditional owners compensation in the form of a 25 sq km. community living area on the Pine Hill pastoral lease, an art centre at Mulga Bore and a horticulture block to develop. In return, native title was extinguished on two other

blocks on the lease where the NT Government wanted to develop. Native title was recognised over the remainder of the area. According to Rea, at least one water licence has been granted to traditional land owners to develop horticultural enterprises (Rea et al. 2008). Aboriginal horticultural company Centrefarm has been assisting with plans for the development of the native title holders' horticultural block.

A.5.4 MARKET-BASED INSTRUMENTS: THE NSW ABORIGINAL WATER TRUST

In light of Australian government commitments to overcome Indigenous disadvantage, Tan and Jackson (2013) highlight the significance of the absence of any explicit obligation on parties to utilise the market-based water policy framework to advance Indigenous peoples' economic standing. This feature of the NWI contrasts with the New South Wales water policy framework discussed above, which includes objects in legislation designed to provide benefits to Aboriginal people in relation to their spiritual, social, customary and economic use of land and water.

The NSW water policy arrangements, which included an Aboriginal Water Trust for the period from 2005-09, provide mechanisms for Indigenous people to generate water-based enterprises, contribute their hydrological knowledge to water planning and to access water licences for cultural and commercial purposes. The NSW mechanisms provide the greatest recognition of special categories of interest to Indigenous people of any jurisdiction, at least in so far as they seek to provide benefits to Indigenous people. Nonetheless, special measures such as the Aboriginal Water Trust of NSW have yet to demonstrate any success in improving Indigenous access to water, and the uptake of Aboriginal licences in that state has been extremely slow (see Tan and Jackson 2013). This section will focus on the Water Trust.

Aboriginal groups in NSW developed a proposal to establish a water trust to overcome the impediments posed by the decoupling of land and water titles in the late 1990s. McAvoy (2006) explains that the Trust envisaged by Aboriginal groups never eventuated:

The Aboriginal Water Trust on the other hand never really got off the ground because the Cabinet approval was for a grants program which assisted Aboriginal people in developing water based enterprises, not buying water licenses (2006).

In 2002, however, in response to the NSW Act's requirement that the management of State water resources benefits Aboriginal people, the Government agreed to establish a Water Trust of $5 million. It aimed to provide an increased level of Aboriginal participation in the water market and to assist water related enterprises. According to the Trust's former Executive Officer (interviewed in 2006), there were twelve proposals in the first round from Aboriginal communities and individuals to access funds for various water-based enterprises and initiatives (Falk pers. comm.). Funding could be provided to Aboriginal communities or individuals for water conservation, water-based infrastructure, water licence purchase, and preservation of Indigenous water knowledge. Applicants were required to have a business plan and be Aboriginal individuals or corporations, or partnerships with 51% Aboriginal ownership. By 2007 no grants had been made due to 'bureaucratic problems' (Rural Solutions 2008) and in 2009 the Trust ceased operating (NSW Office of Water 2012).

The Trust concept remains popular with some Indigenous advocacy groups and is recommended by O'Donnell (2011) and Jackson et al (2009) as a means of ensuring that Indigenous people whose territories are found in over allocated plan areas can purchase water access entitlements.

A.5.5 HERITAGE PROTECTION MEASURES

Water bodies are generally considered of special religious significance by Indigenous people and so heritage protection measures have been sought on a number of occasions in the past (e.g. Boobera Lagoon, NSW; O'Donnell 2004). According to O'Donnell (2011), Indigenous heritage legislation applies to all forms of land tenure including water on and in that land in Australia regardless of who holds or owns the title. As the States have primary responsibility for Indigenous heritage, State legislation is likely to be relied upon should restrictions on water trades require consideration. The protection afforded in all Indigenous heritage

specific legislation is ultimately discretionary, which means that a responsible Minister can authorise destruction or desecration of a significant site or area that includes or consists of water (O'Donnell 2009).

O'Donnell's review of Australian law identifies the Queensland legislation as the one that provides the most comprehensive protection because it

… is based on an area not site and includes both contemporary and traditional values. The Act provides for two different types of legal liability. Firstly, and uniquely it creates a general duty of care (and associated cultural heritage duty of care guidelines) to ensure that an activity does not harm Aboriginal cultural heritage and secondly makes it an offence to "harm" Aboriginal culture. A breach of the duty of care incurs a civil monetary penalty. A person who knowingly or ought to have reasonably known that it is Aboriginal cultural heritage and causes harm is subject to a monetary penalty and if the area is registered also subject to a maximum of two years imprisonment (2011: 15).

In addition to Indigenous heritage legislation, O'Donnell (2011) notes that the *Environmental Protection and Biodiversity Conservation (EPBC*) Act could come into play in protecting certain places of indigenous significance:

The EPBC Act heritage protection provisions provide that places of national heritage can include the protection of Indigenous heritage that includes water or areas of water. The application of the Act to water is broad as the definition of land includes any body of water, whether flowing or not and land includes the subsoil. This includes Indigenous heritage that consists of water on world heritage properties, national heritage places, commonwealth heritage places and wetlands of international importance under the Ramsar Convention (2011: 15).

Water based activities with a potential to impact on Indigenous practices and values include:

- Alterations to river courses through the construction of weirs, dams, or draining of water-bodies (O'Connor et al 1989; Barber and Rumley 2003;Langton 2002; Behrendt and Thompson 2004; Craig 2006; Windle and Rolfe 2002)
- Changes to water levels can affect places of significance such as sacred sites, burial grounds, canoe trees, middens, fish traps, either drowning them or exposing them beyond an acceptable limits (Morgan et al 2007; Barber and Jackson 2011)
- Recreational activities such as fishing, boating and water skiing (e.g. Boobera Lagoon on the Barwon River in NSW (Behrendt and Thompson 2004)
- Commercial fishing, shipping and port operations.

The NWI lists a number of principles for considering the effects of water trading rules on Indigenous heritage (Schedule G). Paragraph 3 (v) allows for restrictions on trade to be made, inter alia, in order to manage 'features of major indigenous, cultural heritage or spiritual significance'. It is not clear what level of input Aboriginal people may have into the assessment process (MacFarlane 2004).

We are not aware of any instances where heritage legislation has been applied to protect significant sites from the adverse effect of water trading. A Queensland study confirms that Aboriginal heritage issues have not been directly considered by water policy (Windle & Rolfe 2002). The indirect and cumulative effects of water use on Indigenous interests deserve further, albeit brief, comment. Assessing impacts on heritage values is likely to be difficult, largely because of the cumulative dimension and the difficulty in proving causation where trans-boundary water impacts are concerned. Behrendt and Thompson (2004) raise the important issue of cumulative impacts of many small developments, such as numerous irrigation licences on Aboriginal heritage places and objects. Presumably in such circumstances technical difficulties may arise in determining a threshold beyond which an allocation would have a significant adverse effect. Techniques of environmental impact assessment may provide some guidance on such matters. Direct Indigenous participation in preparation of comprehensive water plans will be essential in assessing the likelihood and proposing mitigation strategies.

A.5.6 INCLUDING INDIGENOUS REPRESENTATION IN WATER PLANNING

Indigenous systems of customary law dictate that traditional land-owners have a substantive role in land and water management and resource regulation. Hence, Indigenous people hold a particular interest in the environmental governance structures (O'Faircheallaigh and Corbett 2005), and for example, expect to participate fully in management decisions. Indigenous participation in a range of environmental management sectors has previously been described and barriers analysed (Baker et al. 2001; Lane 1997; Lane & Corbett 2005). Much of this literature has been informed by the concept and principles of co-management.

Though it is not made mandatory in the NWI, some of the new multi-stakeholder advisory bodies established to provide community input into water planning have Indigenous representatives. Of the jurisdictions, only New South Wales specifically requires Indigenous representatives to be included on water management committees (see Water Management Act 2000 (NSW), s 13(1)). Nonetheless, a 2009 assessment of the implementation of the NWI found that most jurisdictions are not yet effectively engaging Indigenous peoples in processes, and that Indigenous water requirements are only rarely explicitly included in water plans (NWC 2009). In the most recent assessment of the implementation of the NWI it was noted that "most jurisdictions have improved consultations with Indigenous communities in water planning and management, but have generally failed to incorporate effective strategies for achieving Indigenous social, spiritual and customary objectives in water plans" (NWC 2011: 46).

In what appears as a backward step, the legal provision in Queensland that required consultation via a community reference panel representing cultural, social and economic interests has been recently repealed, and substituted for consultation arranged at the discretion of the Minister. However as we noted earlier, this discretion could be used to support more innovative and wider engagement with Indigenous groups. Regional resource governance structures need to be cognisant of contemporary Aboriginal sociopolitical networks, customary resource rights, and traditional methods of decision-making, although these are not beyond adaptation and transformation (Martin 2003). It is equally important for Indigenous people, who no longer operate in an 'autonomous arena of indigenous values and practices' (Martin 2003; p. 5) to consider how to adapt existing or design new institutions to enhance engagement with mainstream governance structures.

In a special edition of the Journal of Hydrology, Jackson et al (2012) propose a set of principles that, if adopted by water planners as a guide, will improve Indigenous participation in water planning and access to water. These guidelines include ensuring Indigenous people are represented in environmental flow assessment processes and that their ecological and hydrological knowledge is included.

A.5.7 CULTURAL FLOWS

Indigenous people place great importance on the instream values that sustain customary lifeways, and it is this interest that has motivated some Indigenous organisations to advocate for indigenous specific 'cultural' entitlements (such as entitlements for the purpose of 'protecting' indigenous cultural life'). A number of concepts have been adapted or designed to recognise Indigenous values, most notably the 'cultural flow' concept emerging from contributions from Indigenous nations to the Living Murray Initiative (Morgan et al. 2004; Weir 2009). There is also the 'cultural value' or 'beneficial use' concept, under the National Water Quality Management Strategy (see Jackson 2005).

Cultural flows are defined in the following terms:

Cultural flows are water entitlements that (would be) legally and beneficially owned by the Indigenous Nations of a sufficient and adequate quantity and quality to improve the spiritual, cultural, environmental, social and economic conditions of those Indigenous Nations (cited in Jackson and Langton 2012: 116).

The Murray Darling Basin Authority has committed research funds to exploring the concept which, Jackson and Langton (2012) argue, will prove challenging to implement given the multiple values underpinning its definition and the contested nature of water access in that region of Australia.

A.5.8 CO-MANAGEMENT

Co-management represents another means by Indigenous peoples interests in water can be recognised. Hoverman et al. (2012) undertook a review of co-management in the context of water planning as an alternative to management of natural resources solely by the State. The concept of co-management encompasses a variety of arrangements to share management responsibilities between state administrators and the groups dependent on those resources. Hoverman et al. (2012) analysed two co-management boards set up to manage water resources for particular areas under Indigenous Land Use Agreements (ILUAs) or by private resource companies in Western Australia (Office of Native Title 2006, Chamber of Minerals and Energy Western Australia 2007). As discussed above, ILUAs may include rights to water, but these will need to be included in Water Resource Plans as they develop, and at present there are very few that have been completed. The Boards apply to Lake Argyle and the Weeli Wolli Creek. It is worth noting that these co-management boards have been established to focus on water bodies of significant cultural significance for Indigenous communities, and they have been established outside of the water allocation planning process. The Weeli Wolli Creek Board and the context of its establishment is described in more detail by Barber and Jackson (2011b). Apx Table A.1 is reproduced from Hoverman et al. (2012) and describes the features of these management boards.

Apx Table A.1 Co-management boards for water resources in Western Australia (Hoverman et al., 2012; Rio Tinto and Rio Tinto Iron Ore, 2012)

Name of water body	Co-management board	Board responsibilities/charter	Legal arrangement
Lake Argyle	A Traditional Owner relationship committee - comprising 26 Traditional Owner representatives from the Miriwung, Gidja, Malgnin and Woolah peoples, and four Argyle representatives - meets quarterly to jointly monitor the implementation of the Agreement.	The Traditional Owner relationship committee works to implement the following areas of the Participation Agreement: 1. Land rights 2. Income generation 3. Employment and contracting opportunities 4. Land management; and 5. Indigenous site protection.	The Water and Rivers Commission made an agreement with traditional owners (via the Yawoorrong Miriuwung Gajerrong Yirrgeb Noong Dawang Aboriginal Corporation) for joint management of a water reserve along the southern end of Lake Argyle for the purposes of protecting water resources and wetland values, and maintaining and enhancing traditional culture. A negotiated Participation Agreement (registered as an ILUA in 2005, based on Ord Final Agreement) recognises Traditional Owners as the landlords of the Argyle mining lease, while recognising Argyle's right to continue its current mining operations and to establish an underground mining operation, should that prove feasible. It also formally establishes a long-term relationship between the two parties, based on a shared desire to build a better future for Indigenous communities in the East Kimberley. Traditional Owners were represented throughout the negotiation process by the Kimberley Land Council
Weeli Wolli Creek	Banyjima people and the Nyiyaparli people (10 representatives), Rio Tinto Iron Ore (3 representatives), established in 2006	Responsibilities of the board include: • Decisions around environmental management of the discharge of water from Hope Downs into the relevant sections of the creek • Defining and observing the cultural values of the creek • Providing advice and direction to RTIO on water and revegetation monitoring • Establishing and involving traineeships in environmental and water management.	There does not appear to be any legal mechanism in place governing the co-management board for Weeli Wolli Creek however the Hope Downs 4 Iron Ore Project operates in an area with four registered native title claims: Nyiyaparli WAD 6280/98; Ngarlawangga WAD 78/05; Innawonga Bunjima WAD 6096/98; and Martu Idja Banyjima WAD 6278/98.

A.6 Support for Indigenous participation in agricultural enterprises

A.6.1 INTRODUCTION

Little research attention has been given to Indigenous participation in Australia's agricultural sector although there are a small number of studies of bush-food production systems (Walsh and Douglas 2011; Holcombe et al. 2011) and some work has been done on diverse economies and livelihoods in the rangelands (e.g. Davies et al. 2010).

A 2007 study funded by RIRDC (Alexandra and Stanley 2007) explored some of the opportunities for developing more diverse and resilient agricultural systems on Aboriginal land. The study reviewed the prospects, constraints and some practical experiences of developing mixed enterprises on Aboriginal land.

The project aimed to identify and document:

- Opportunities and constraints to integrated property planning and enterprise development;
- Future needs and directions for research and development;
- Opportunities for improving government and industry support arrangements;
- Prospects for improving training, education and technical support; and
- Lessons from emerging models of community based enterprise and land development.

The report concludes that strategies for sustainable systems need to include sustained funding, capacity building and mentoring, robust community and commercial structures, sound business and commercial models and governance improvements. There is also a need for targeted Research and Development to inform these new enterprise models for Aboriginal communities.

A.6.2 BROKERING, CAPACITY BUILDING AND INFORMATION SUPPORT

The role of brokering agents has been studied in the context of remote Indigenous employment opportunities. Based on a study of the Ti Tree (Anmatjere) region in the Northern Territory where government and community services, pastoral and horticultural enterprises offer the majority of employment opportunities, Maru and Davies (2011) found that brokering services assist Indigenous people to make important connections and to learn about work-place norms and expectations. Data from Centrefarm, for example, a local Aboriginal horticulture development organisation, observed that in 2007 there were 78 seasonal and full-time jobs in the horticulture industry but only one Aboriginal person was employed (cited in Maru and Davies 2011).

Brokers who can bridge and link Aboriginal individuals and their dense social networks to potential employers are essential for Aboriginal people to be able to obtain trusted information on jobs and have entrée to employment opportunities. Brokers also foster new norms that mediate the conflicting values and expectations held by potential Aboriginal employees and employers, who are generally not Aboriginal people.

The same study concluded it if employment outcomes are to be improved and livelihood options in remote Australia it is essential to recognise, support and recruit brokers (Maru and Davies 2011: 272).

Since Alexandra and Stanley (2007) noted significant shortcomings in current systems for supporting enterprise and land development on Aboriginal lands, a number of services have emerged to fill this gap.

A.6.2.1 The Indigenous Land Corporation

The ILC is a Commonwealth statutory authority established to assist Indigenous peoples to acquire and manage land, under the Land Fund and Indigenous Land Corporation (ATSIC Amendment) Act 1995. It was set up in recognition that the majority of Indigenous Australians have been dispossessed of their land and would be unable to regain ownership and control of their land through native title processes. The Land Fund was therefore established to complement the Native Title Act. Each year an annual allocation of approximately $45 million (in 1994 values) is transferred from the Land Fund to the ILC. In most years, the

ILC allocates in the order of $28 million to land purchase, $12 million for land management and $5 million for administration costs (ILC n.d.)

The ILC provides Land Management assistance via an annual call for applications and it also assists indigenous land owners to develop agricultural businesses. A strong focus was given to developing Indigenous agricultural businesses during 2007–2012. According to the ILC, as these operations become fully operational, their strategy will be to

…regionally integrate them where appropriate to increase productivity and profitability, which will in turn support our long-term goal of achieving socio-economic development benefits for Indigenous people. Through the operation of our agricultural businesses, Indigenous-held land will continue to contribute to the economic activity of the region in which each business is located and, in many cases, bring large areas of previously undeveloped land into production. These operations are used to increase employment opportunities for Indigenous people and to provide on-the-job training opportunities in pastoral activities and natural resource management. The approach to residential-based training for our businesses is testament to our commitment to closing the gap in Indigenous socio-economic development outcomes through training that leads to employment (ILC 2013: 28).

A.6.2.2 Centrefarm

Centrefarm is an Aboriginal owned company that specialises in the economic development of Aboriginal lands in remote and regional areas, from the 'scoping of economic opportunities through the development application processes and the securing of tenure and water allocations, to the project management of infrastructure development'. It was established in 2002 by the Central Land Council and Aboriginal landowners (Centrefarm 2012) to 'address the challenge of building bridges between remote Indigenous communities and the wider economy by assisting in developing horticulture enterprises on Aboriginal land (Davies et al. 2010).

The initiative emerged from an Aboriginal Horticulture Strategy developed by CLC with the ILC in 1999. The strategy found that Aboriginal landowners had a strong interest in developing commercial horticulture, and identified a number of areas of Aboriginal land with commercial horticultural potential, as well as several suitable crops. The Strategy proposed a joint venture model with long term lease arrangements to develop commercial horticulture, with a priority on Aboriginal training and employment outcomes. The strategy also identified a range of potential funding sources (Central Land Council 2007).

Davies et al. (2010) report that Centrefarm's program includes facilitating agreements with the Aboriginal owners of the Ahakeye Aboriginal Land Trust and native title holders of pastoral lands, notably Pine Hill Station (see section above on ILUAs), securing planning approvals and organising water licences to allow establishment of new horticultural areas on these lands and include commercial farms, a community bush tucker farm near Pmara Jutunta, and a training farm at Adelaide Bore/Woola. Centrefarm facilitated the leasing of Aboriginal land and attracted a commercial grower to establish a new farm growing watermelons at Ali Curung, to the north of Anmatjere region. Production started in 2008 (Land Rights News 2008) after a four year negotiation and approval process for the commercial lease, water licensing and bores.

Originally conceived as a horticultural broker, since incorporation in 2002 the company's services have expanded to include all aspects of economic development (Centrefarm website).

Writing in 2011, Davies et al. said that Centrefarm had forecast the availability of 252 full-time equivalent positions in the horticulture sector for 2013.The authors regarded this as

… an optimistic scenario that depends on securing investors and operators for the various horticultural proposed blocks…This is based on a labour requirement for each 100 ha in horticultural production of 16 FTE jobs for watermelons, and 20 for grapes, mangoes and other crops (Centrefarm pers. comm. 2008). Aboriginal employment in the industry is currently very low. Anmatjere CGC started to undertake grape pruning contracts using CDEP labour in 2007 and this labour pool approach was continued by Centrefarm in 2008 in conjunction with delivery of Certificate 2 in Rural Operations and mentoring of trainees. For Centrefarm this is a strategy to address the limitations that lack of a local skilled labour force puts on the

attractiveness of horticulture to investors, and hence on realising Aboriginal traditional owners' aspirations to build economic opportunity from their land and water assets (Davies et al. 2011).

A.6.2.3 Indigenous Landholder Service (ILS), WA

The ILS is a Western Australian state wide program established to support Indigenous pastoral and agricultural producers focussing on technical support, governance development and business management mentoring increasing the economic benefits to the landholders. It operates at the regional scale. The ILS program is a joint venture between the Department of Agriculture and Food WA and the Indigenous Land Corporation. It is currently working with over 70 Aboriginal properties and produces a regular newsletter (http://www.agric.wa.gov.au/objtwr/imported_assets/aboutus/pubns/ilsnlwinter2013.pdf). Through the ILS program, 14 field staff visit Indigenous-held farms and stations to provide training, advice and extension services to assist the practical management of Indigenous-held properties. A number of Aboriginal properties have secured support to generate environmental management plans for their enterprises and to receive training in governance and business management. The ILS won the 2010 Premiers Award and 2011 Economic Development Australia Awards Indigenous Economic Development award. According to a 2102 newsletter, a working model has been adopted by the Northern Territory Indigenous Pastoral Project and South Australia and Queensland are now investigating a similar approach.

A.6.2.4 National Aboriginal and Torres Strait Islander Rural Industry Strategy

The National Aboriginal and Torres Strait Islander Rural Industry Strategy (ATSIC & DPIE 1997) aimed to provide a strategic framework for rural industries development and the whole of government support for Aboriginal landholders. It recommended actions relating to improving (i) support networks; (ii) information exchange; (iii) training; (iv) planning; (v) resource management; (vi) R&D; (vii) funding opportunities; (viii) business development support, and (ix) marketing assistance.

Alexandra and Stanley (2007) summarise the impact of the Strategy:

The annual reporting required on implementation of the Strategy (arising from its role in implementing the recommendations of the Royal Commission into Aboriginal Deaths in Custody) has not been carried out. However, it is understood that many agencies and groups have made use of the Strategy in planning and implementing local or regional projects.

Since the Strategy was launched in 1997, there has been a continual increase in the proportion of rural land passing into Aboriginal custodianship, without a commensurate increase in resources to build capacity of Aboriginal landholders in land based enterprise development and sustainable land management.

During the same period some interesting models of Aboriginal land use have started to emerge which are successful in social and community development terms and in the creation of non-monetary local wealth. These are challenging some of the dominant preconceptions held by funding agencies, because they appear to "break the rules" of conventional rural enterprise development with their focus on small scale, diverse, labour intensive production.

The Department of Agriculture, Fisheries and Forestry currently has a number of programs designed to support Indigenous land owners to participate more effectively in agricultural activities including:

- Australia's Farming Future;
- Northern Australia Quarantine Strategy;
- Indigenous Aquaculture Strategy;
- Torres Strait Island Fisheries (Protected Zone Joint Authority);
- National Indigenous Forestry Strategy;
- employment and training-related programs, including the National Indigenous Cadetship Project; and
- Landcare Sustainable Practices (under Caring for our Country).

The Department also participates in several interdepartmental committees that focus on the commitment of the Council of Australian Governments to Closing the Gap. These include:

- Australian Employment Covenant
- Indigenous Economic Development Strategy
- East Kimberley Development

A.7 Conclusion

This report describes the existing situation with respect to Australian Indigenous rights and interests in water and Indigenous participation in contemporary water policy and planning processes. Indigenous people have legal interests in water as a result of the Mabo decision and the Native Title Act. This legal recognition and the substantial and growing Indigenous land base constitute a large stake in water resource management for Indigenous traditional owners. Governments have often allocated water entitlements with little regard or knowledge of Indigenous interests in water, however, water reforms passed since these significant legal initiatives have included attempts to improve access to water resources for Indigenous people and to enhance their participation in water planning.

The report shows that water policy and planning is in the early stages of recognizing Indigenous interests in water and that preliminary steps are being taken by some state governments and NRM bodies to ensure that Indigenous people benefit from the expansion of agricultural activity and structural adjustments in the water economy. Indigenous specific water entitlements represent one such step, although so far these apply to very few areas and are very small in volume. Indigenous Land Use Agreements represent a more significant instrument with which parties to native title claims can negotiate access to land and water for agricultural activity and enhance benefit sharing arrangements. We were unable to identify any key policy procedural or statutory matters related to Indigenous agricultural development in Queensland catchments, however, the Ord River Scheme ILUA is an important case that could be examined more closely for lessons and insights that may be applicable to Queensland's north. Queensland's experimentation with social welfare and community development programs, including Families Responsibilities Commission set up in Cape York Peninsula, and land reform initiatives for Aboriginal title and a pastoral land use template to support ILUAs over leasehold land provide other examples that may be explored for their relevance to the agricultural context of the Flinders and Gulf regions.

The CSIRO was particularly interested in policies or mechanisms that provide benefits to traditional owners who are not resident in the area and to Indigenous residents who are not traditional owners. There does not seem to be any policy or strategies related to these two groups except for programs provided by the Indigenous Land Corporation in relation to the second group. With respect to Indigenous issues relating to recent agricultural developments in regional and remote Australia, the National Aboriginal and Torres Strait Islander Rural Industry Strategy appears to be the most comprehensive government program that coordinated policy and activity in this area. Set up in 1997, there has been little evidence of comprehensive review of outcomes. The extension-type model under WA's Indigenous Landholder Services and Centrefarm from the NT offer some promise and could play a role in supporting Indigenous agricultural businesses should there be such interest from Indigenous communities in the Flinders and Gilbert Rivers.

A.8 References

Alexandra J and Stanley J (2007) Aboriginal communities and mixed agricultural businesses: opportunities and future needs. Rural Industries Research and Development Corporation, Canberra.

Altman J (2004) Indigenous interests and water property rights. Dialogue 23, 29–43.

ATSIC and DPIE (1997) National Aboriginal and Torres Strait Islander rural industry strategy. Prepared by FOCUS Pty Ltd, Commonwealth of Australia, Australia.

Australian Heritage Commission (2002) Ask first: a guide to respecting Indigenous heritage places and values. Commonwealth of Australia, Canberra.

Barber, M. and Jackson, S. (2011a). Indigenous people, water values and resource development pressures in the Pilbara region of north-west Australia, Australian Aboriginal Studies 2: 32-49.

Barber, M. and Jackson, S. (2011b). Indigenous values of water in the Pilbara, Published report to Rio Tinto Iron Ore, CSIRO.

Barber, M. and Jackson, S. (2011c). Indigenous water values and water planning in the Upper Roper River, Northern Territory, CSIRO, Darwin.

Barber, M and Jackson, S. (2012). Indigenous water management and water planning in the Upper Roper River, Northern Territory: History and implications for contemporary water planning, CSIRO, Darwin.

Barnett, C. (2013). Correspondence to the Senate Standing Committee on Rural and Regional Affairs and Transport, 5 April 2013.

Bartlett, R. (2004). Native Title in Australia, 2nd ed. LexisNexis Butterworths, Sydney.

Behrendt J & P. Thompson (2004). The recognition and protection of Aboriginal interests in New South Wales rivers. Journal of Indigenous Policy 3, 37–140.

Bogan, R. and Hicks, S. (2006). An Evaluation of the Framework of the Negotiations for the Ord Final Agreement 2006, Office of Native Title, Government of Western Australia.

Bruns, B.R. and Meinzen–Dick, R. (2005). Negotiating water rights. London, UK: Intermediate Technology.

Burchi, S. (2011). Trends and developments in contemporary water resources legislation: A comparative state-of-the-art perspective. Proceedings of the XIV World Water Congress, Porto de Galinha, Brazil.

Craig, D. (2006). Indigenous property rights to water: environmental flows, cultural values and tradeable property rights. In Smajgl, A. and Larson, S. (eds), Adapting rules for sustainable resource us. CSIRO Sustainable Ecosystems, Townsville: 153-172.

Cranney, K. and Tan, PL. (2011) Old Knowledge in Freshwater: Traditional Ecological Knowledge in the Mitchell Catchment, AJNRLP 14: 71.

Davies, J., Maru, Y., Hueneke, H., Grey-Gardner, R., and Chewings, V. (2010) Outback livelihoods: employment, sustainable livelihoods and development in Anmatjere region, central Australia, Research report for Desert Knowledge CRC, Project 6.707.

Department of Natural Resources, Environment, The Arts and Sport (DNRETAS) (2009) Water Allocation Plan for the Tindal Limestone Aquifer, Katherine 2009-2019, Department of Natural Resources, Environment, The Arts and Sport, Darwin. <http://www.nt.gov.au/nreta/water/kwac/wap.html>

Department of Natural Resources, Environment, The Arts and Sport (DNRETAS) (2011) Water Allocation Plan for the Tindal Limestone Aquifer, Mataranka, Department of Natural Resources, Environment, The Arts and Sport, Darwin. < http://www.nretas.nt.gov.au/__data/assets/pdf_file/0017/118070/Draft-Water-Allocation-Plan-Tindall.pdf>.

Department of Natural Resources and Mines (2003). Barron Water resource Plan: Consultation report, Queensland Department of Natural Resources and Mines, Brisbane.

Department of Natural Resources and Water (2006). Gulf Draft Water Resource Plan: Overview Report and Draft Plan. Department of Natural Resources and Water, Brisbane.

Department of Natural Resources (2006). Macro Water Sharing Plans: The Approach for Unregulated Rivers: Report to Assist Community Consultation. NSW Government. (July).

Durette, M. (2007). Indigenous legal rights to freshwater: Australia in the international context, Unpublished paper to the NAILSMA Indigenous Water Policy Group, Synexe Consulting.

English A (2002). More than archaeology: developing comprehensive approaches to Aboriginal heritage management in NSW. Australian Journal of Environmental Management 9, 218–227.

Finn, M and Jackson, S. (2011). Protecting Indigenous values in water management: a challenge to conventional environmental flow assessments, Ecosystems 14(8): 1232-1248.

Gachenko, E. (2012). Water resource user associations in Kenya's Water Act: Real space for customary governance systems or mere tokenism? Journal of Water Law 22(2/3): 124-138.

Gardner, A., Bartlett, R. and Gray, J. (2009). Water Resources Law, Lexis Nexis.

Getches, D.H. (2012) Using international law to assert indigenous water rights. In Boelens, R (Ed) Out of the Mainstream: Water Rights, Politics and Identity, Earthscan, London: 259-280.

Getches, D. H. (2005) Indigenous peoples' rights to water under international norms. Colorado Journal of International Environmental Law & Policy, 16.

Getches, D.H. and S. Van de Wetering (2004) Protecting Indigenous Rights and Interests in Water, Chapter Four,

Godden, L. & M. Gunther (2010) Realising capacity: Indigenous involvement in water law and policy reform in south-eastern Australia, Journal of Water Law 20: 243-253.

Guest, K. (2009). The Promise of Comprehensive Native Title Settlements: The Burrup, MG-Ord and Wimmera Agreements, AIATSIS Research Discussion Paper no. 27, AIATSIS, Canberra.

Hamstead, M., C. Baldwin and V. O'Keefe (2008). Water Allocation Planning in Australia – Current Practices and Lessons Learned. Waterlines Occasional Paper No. 6, April 2008, Canberra: National Water Commission.

Hill, R., Miriuwung and Gajerrong peoples, Hill, D.G. and Goodson, S. (2008). Miriuwung Gajerrong Cultural Planning Framework. MG Guidelines for Developing Management Plans for Conservation Parks and Nature Reserves under the Ord Final Agreement. Endorsed by the Yoorroyang Dawang Regional Park Council. Presented by Miriuwung and Gajerrong peoples. Perth, Kununurra and Cairns, WA Department of Environment and Conservation, Yawooorrong Miriuwung Gajerrong Yirrgeb Noong Dawang Aboriginal Corporation and CSIRO.

Holcombe, S., Yates, P. and Walsh, F. (2011). Reinforcing alternative economies: self-motivated work by central Anmatyerr people to sell Katyerr (Desert raisin, Bush tomato) in central Australia, The Rangelands Journal 33: 255-265.

Hoverman, S., Delfau, K. and Tan, PL. (2012) Developing alternative management models for Indigenous water plans and strategies in Australia's north, Final Report for the NAWFA Sub-Project 3, Griffith University, Brisbane.

Indigenous Land Corporation (2013) People Land Opportunity: National Indigenous Land Strategy 2013-2017, ILC, Adelaide.

Jackson, S. (2011). Aboriginal Access to Water in Australia: Opportunities and Constraints, in Grafton, Q and K. Hussey (Eds), Water Resources, Planning and Management, Cambridge University Press, Cambridge: 601-628.

Jackson, S. (2005). Indigenous values and water resource management: a case study from the Northern Territory. Australasian Journal of Environmental Management 12, 136–146.

Jackson. S., Tan, P. and Altman, J. (2009). Indigenous Fresh Water Planning Forum: Proceedings, Outcomes and Recommendations, Report prepared for the National Water Commission, Canberra.

Jackson, S. and Altman, J. (2009). Indigenous rights and water policy: perspectives from tropical northern Australia, Australian Indigenous Law Review 13(1): 27–48.

Jackson, S. and Langton, M. (2012). Trends in the recognition of indigenous water needs in Australian water reform: the limitations of 'cultural' entitlements in achieving water equity, Journal of Water Law 22(2/3):109-123.

Jackson, S., Tan., P, Mooney, C., Hoverman, S. and White, I. (2012). Principles and guidelines for good practice in Indigenous engagement in water planning, Journal of Hydrology 474: 57-65. http://dx.doi:10.1016/j.jhydrol.2011.12.015.

Jackson, S., Finn, M and P. Featherston 2012. Aquatic resource use by Indigenous Australians in two tropical river catchments: the Fitzroy River and Daly River, Human Ecology 40(6): 893-908 DOI 10.1007/s10745-012-9518-z.

Jackson, S. and Barber, M. (in press) Indigenous water values and resource governance in Australia's Northern Territory: current progress and ongoing challenges for social justice in water planning, Journal of Planning Theory and Practice.

Langton, M. (2006). Earth, wind, fire and water: The social and spiritual construction of water in Aboriginal societies. In D. B. Barker & B. McNiven (Eds.), The social archaeology of Australian Indigenous landscapes (pp. 139-160). Canberra, ANU: Aboriginal Studies Press.

Langton, M. (2002). "Freshwater" in Lingiari Foundation (Eds), Background Briefing Papers: Indigenous Rights to Waters, Lingiari Foundation, Broome, pp 43-64.

Langton, M. and Palmer, L. (2003). Modern agreement making and Indigenous people in Australia: issues and trends. Australian Indigenous Law Reporter, 8: 1-31.

Langton, M. (2006) Earth, wind, fire and water: The social and spiritual construction of water in Aboriginal societies' in Bruno David, Bryce Barker and Ian McNiven (eds), The Social Archaeology of Australian Indigenous Landscapes, Aboriginal Studies Press, Canberra, pp.139–60.

Lansing, J. S. (2007). Priests and programmers: Technologies of power in the engineered landscape of Bali. Second Edition. Princeton, NJ: Oxford Princeton University Press.

Lingiari Foundation (2002). Onshore water rights. A discussion booklet for the Aboriginal and Torres Strait Islander Commission, vol. 1. Lingiari Foundation: Broome.

Lloyd, C. J. (1988). Either drought or plenty: Water development and management in New South Wales. Sydney, Department of Water Resources.

Macklin, J. (2008). Beyond Mabo: Native Title and Closing the Gap, 2008 Mabo Lecture by the Minister for Families, Housing, Community Services and Indigenous Affairs, Townsville, 21 May 2008.

Madeleno, I. (2007). The privatisation of water and its impacts on settlement and traditional cultural practices in northern Chile. Scottish Geographic Journal, 123(3), 193-208.

Maru, Y. and Davies, J. (2011). Supporting cross-cultural brokers is essential for employment among Aboriginal people in remote Australia, The Rangeland Journal 33, 327-328.

Maclean K., Bark, R., Moggridge, B., Jackson, S. and Pollino, C. (2012). Ngemba Water Values and Interests Ngemba Old Mission Billabong and Brewarrina Aboriginal Fish Traps (Baiame's Nguunhu), CSIRO.

McAvoy, T. (2006). Water - Fluid Perceptions. Transforming Cultures eJournal, 1(2): 97-103.

MacKenzie, J. (2008). Water Planning in the Gulf of Carpentaria, Retrospective Case Studies No 4.1, Tropical Rivers and Coastal Knowledge, Griffith University, Brisbane, September 2008.

Morgan, M., Strelein, L. and Weir J (2004). Indigenous water rights within the Murray Darling Basin. Indigenous Law Bulletin 5, 17–20.

NAILSMA Indigenous Water Policy Group (2011). Indigenous people's right to the commercial use and management of water on their traditional territories: An Indigenous Water Policy Position The Strategic Indigenous Reserve, Issues Paper No 17, Darwin.

National Water Commission (NWC) (2009). Australian Water Reform 2009, Second Biennial Assessment of Progress in Implementation of the National Water Initiative, Canberra.

National Water Commission (NWC) (2011). The National Water Initiative – Securing Australia's Water Future: 2011 Assessment, Canberra.

NSW Office of Water (2012). Our Water Our Country: An information manual for Aboriginal people and communities about the water reform process. Edition 2.0. NSW Department of Primary Industries, Office of Water, Sydney, NSW.

Neate, G. (2002). Native title ten years on: getting on with the job or sitting on the fence. Paper delivered to Native Title Update Forum, National Farmers Federation, Carnarvon, Western Australia, 21 May 2002. <http://www.nntt.gov.au>.

O'Donnell, M. (2011). Indigenous rights in water in north Australia, Unpublished report to NAILSMA, John Toohey Chambers, Darwin. Available at www.nailsma.org.au.

O'Donnell M (2004). Briefi ng paper for the water rights project by the Lingiari Foundation and ATSIC. In Background briefi ng papers: Indigenous rights to waters (ed. Lingiari Foundation), pp. 95–105. Lingiari Foundation: Broome.

Ord Final Agreement Indigenous Land Use Agreement (ILUA), Agreements, Treaties and Negoitated Settlements Project, http://www.atns.net.au/agreement.asp?EntityID=2654, accessed 4 August 2013.

Palmer, L. R. (2010). Enlivening development: Water management in post-conflict Baucau city, East Timor. Singapore Journal of Tropical Geography, 31, 357-370.

Palmer, L. R. (2011). Water relations: Customary systems and the management of Baucau city's water'. In A. McWilliam and E. Traube (Eds.), Land and life in Timor-Leste: Ethnographic essays (pp. 141-162).

Canberra, AU: ANU E-Press.

Queensland Government, (2006). Queensland's National Water Initiative State Implementation Plan, Submission to the National Water Commission.

Ramazotti, M. (2008). Customary water rights and contemporary water legislation: Mapping out the interface. FAO Legal Papers Online No. 76. Rome, IT: FAO.

Rea, N. and Anmatyerr Water Project Team, (2008). Provision for Cultural Values in Water Management: The Anmatyerr Story, Land & Water Australia Final Report 18, <http://www.aiatsis.gov.au/research/publications/Land&Water/pr081464.pdf >, accessed 5 August 2013.

Roth, D., Boelens, R., and Zwarteveen, M. (2005). Liquid relations: contested water rights and legal complexity. New Brunswick, NJ: Rutgers University Press.

Schlager, E. (2005). Getting the relationships right in water property rights. In B. Bruns & R. Meinzen–Dick, (Eds.), Negotiating water rights (pp. 27-54). London, UK: Intermediate Technology.

Smith, D. (1998). Indigenous land use agreements: the opportunities, challenges and policy implications of the amended Native Title Act. Discussion Paper No. 163, Centre for Aboriginal Economic Policy Research, Australian National University: Canberra.

Strang, V. (2001). 'Poisoning the rainbow: Mining, pollution and Aboriginal cosmology in far north Queensland' in A Rumsey and J Weiner (eds), Mining and Aboriginal Lifeworlds in Australia, Crawford House Publishers, Adelaide, pp.208–25.

Tan, PL. (1997). Native title and freshwater resources. In B. Horrigan & S. Young (Eds) Commercial implications of native title, pp. 157–190. Federation Press: Sydney.

Tan, PL. (2009). National Indigenous Water Planning Forum: A Review of the Legal Basis for Indigenous Access to Water, Report prepared for the National Water Commission, Canberra.

Tan, PL., Bowmer, K. and C. Baldwin (2012) Continued challenges in the policy and legal framework for collaborative water planning, Journal of Hydrology,

Tan, PL. and S. Jackson (2013). Impossible Dreaming - does Australia's water law and policy fulfil Indigenous aspirations? Environment and Planning Law Journal 30: 132-149.

Toussaint, S., Sullivan, P., and Yu, S. (2005). Water ways in Aboriginal Australia: an interconnected analysis, Anthropological Forum, 15, 61-74.

Vorosmarty, C.J., McIntyre, P.B., Gessner, M.O., Dudgeon, D., Prusevich, A., Green, P., Glidden, S., Bunn, S.E., Sullivan, C.A., Reidy Liermann, C., and Davies, P.M. (2010). Global threats to human water

security and river biodiversity. Nature, 267, 555-561.

Walsh, F. and Douglas, J. (2011). No bush foods without people: the essential human dimension to the sustainability of trade in native plant products from desert Australia, The Rangelands Journal 33: 395-416.

Weir J. (2009). Murray River country: an ecological dialogue with traditional owners. Canberra: Aboriginal Studies Press.

Western Australian Government, (2007). Western Australia's Implementation Plan for the National Water Initiative Department of Water, Perth.

Windle J & Rolfe J (2002). Natural resource management and the protection of Aboriginal cultural heritage. Occasional Paper No. 5. Institute for Sustainable Regional Development, Central Queensland University: Rockhampton.

Young, S., (2008) The Trouble with Tradition: Native Title and Cultural Change, Federation Press, Melbourne.

Yu, S. (2003). Ngapa Kunangkul (Living Water): an indigenous view of groundwater. In: Country: Visions of Land and People in Western Australia. (eds A. Gaynor, A. Haebich and M. Trinca) pp. 33–55. WA Museum, Perth.

Appendix B Aboriginal cultural heritage in the Flinders and Gilbert Rivers: a desktop review – report to the CSIRO by Archaeological and Heritage Management Solutions (AHMS)

Susan McIntyre-Tamwoy[1], Michelle Bird[2] and Fenella Atkinson[3]

[1]Archaeological and Heritage Management Solutions, Sydney / Adjunct Senior Research Fellow, James Cook University.

[2]Northern Archaeology Consultancies, Townsville.

[3] Archaeological and Heritage Management Solutions, Sydney.

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B.1 Executive summary

The Flinders and Gilbert catchments in north Queensland have been identified as potential areas for further agricultural development. This report summarises the known Aboriginal cultural heritage values, focussing on matters relating to archaeology and material culture, of the two river catchment areas and considers what further assessment is required to adequately consider Aboriginal cultural heritage values in any future irrigated agricultural development of the study areas.

While a number of previous surveys for Aboriginal sites have been carried out in the Flinders and Gilbert River catchments, resulting in the identification of a broad range of sites, there has as yet been no systematic comprehensive survey of the catchments. Therefore the report concludes that there is a high likelihood that many Aboriginal cultural sites, including archaeological pre-contact sites, remain undetected and unrecorded. Some of these are likely to be of national scientific significance. Previous studies clearly show that Aboriginal people selectively sited their campsites and focussed many of their activities around major watercourses and drainage lines. Archaeological sites in parts of the catchment area potentially date to the Pleistocene. The cultural heritage potential of these landforms and their immediate surrounds is therefore assessed as moderate to high.

In addition to archaeological sites relating to pre-contact Aboriginal occupation, it is noted that sites that are likely to occur in the Flinders and Gilbert catchments also include both contact and post-contact sites that may have significance to both local Aboriginal and settler Australian communities in the region, and non -archaeological cultural sites that are of spiritual significance to Aboriginal people. Any detailed assessment of the impact of the proposed water storage options will require both systematic field survey to identify Aboriginal cultural heritage protected under Queensland and Commonwealth legislation AND comprehensive consultation with Aboriginal people about archaeological sites and places of contemporary significance. The consideration of wild resource use values for Aboriginal people should be included in such a study.

The report notes that there are both geographic and thematic gaps in survey coverage across the two catchments. To address these gaps it is recommended that a number of actions are taken before significant land use decisions are made. These are outlined in section 6 of the report and include:

- predictive modeling to identify areas with high likelihood of containing potentially significant Aboriginal cultural heritage

- detailed land-use disturbance mapping should be undertaken as it will be an essential component of any GIS-based predictive modeling tool
- comprehensive integrated anthropological and archaeological survey focusing on the identification and assessment of sites
- a regional thematic history, at least at catchment level, that identifies relevant historical themes and targets references to contact and post-contact places in the individual storage areas
- a comprehensive survey of each storage/development area in partnership with the relevant Aboriginal community and/or Aboriginal Cultural Heritage Body which identifies sites and/or potential archaeological deposits (PADs) and other places/landscapes of cultural heritage significance; and which fully addresses the proponent's statutory obligations under the *Aboriginal Cultural Heritage Act 2003*.

It is preferable that investigation is conducted at whole of catchment level to integrate with the planning process and to ensure the best outcomes for Aboriginal cultural heritage. However as noted in section 8.2.6, if this integrated planning does not occur, each of the tasks listed above should still be carried out for any proposed development such as individual water storage areas.

Contents

AUTHORS AND ACKNOWLEDGEMENTS

The report was compiled by Susan McIntyre-Tamwoy (AHMS), Michele Bird (Northern Archaeology Consultancies) and Fenella Atkinson (AHMS), with advice from Marcus Barber (CSIRO). The source of maps and figures is indicated in the captions.

B.2 Introduction

B.2.1 BACKGROUND

The Flinders and Gilbert catchments in north Queensland have been identified as potential areas for further agricultural development. The Flinders and Gilbert Agricultural Resource Assessment (the Assessment), to which this report contributes, provides a comprehensive and integrated evaluation of the feasibility, economic viability and sustainability of agricultural development in these two catchments. This report considers the Indigenous cultural heritage values, both known and likely to exist, in the catchments and what further work is required to satisfactorily address these values in any future development of these catchments. The study area for this project is the catchments of the Flinders and Gilbert Rivers (Apx Figure B.1). Several specific water storage proposals have been identified as part of the Assessment, and the known and likely cultural heritage issues and impacts of these were considered in a preliminary report (McIntyre-Tamwoy, Bird and Atkinson, 2013; see Apx Figure B.6 and Apx Figure B.10 for the potential water storage options considered).

The broadest definition of Indigenous cultural heritage includes both tangible heritage in terms of sites, artefacts and places; and intangible heritage such as beliefs, stories, songs, memories and practices. The definition is based on an understanding of 'culture' as the total of ways of living built up by a group of human beings, which is passed on from one generation to the next; and 'heritage' as that which comes or belongs to one by reason of birth. For the purpose of this report the broad definition is evoked with a consideration of how these Indigenous values may manifest in the study area but with a strong focus on Aboriginal cultural heritage values that are legally protected under the Queensland *Aboriginal Cultural Heritage Act 2003*. This report should be read in conjunction with the report 'Indigenous values, rights and interests in the Flinders and Gilbert Catchments' (Barber 2013).

B.2.1.1 The brief

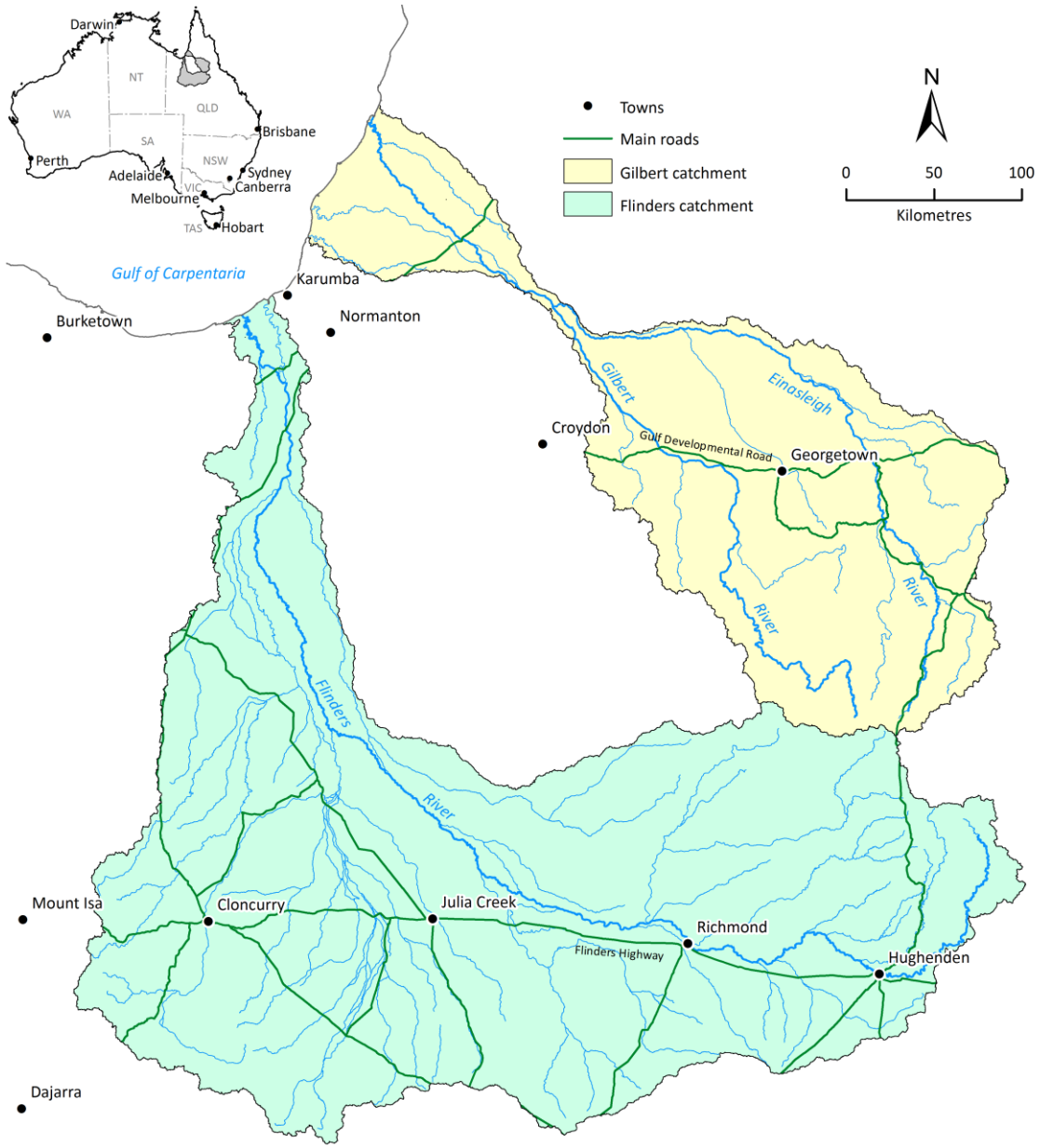
The brief for the Aboriginal cultural heritage project involved a staged approach culminating in two reports. The first report was a preliminary desktop analysis focusing on the known and potential cultural heritage issues relating to several defined proposed water storage options (McIntyre-Tamwoy, Bird and Atkinson 2013). The second (current) report summarises broad Aboriginal cultural heritage values of the two river catchment areas and considers what further assessment is required to adequately consider Aboriginal cultural heritage values in any future irrigated agricultural development of the study area. This report focuses on matters relating to archaeology and material culture, cultural heritage obligations, and the cultural heritage impacts of water and irrigated agricultural development. It complements the broader report on 'Indigenous values, rights and interests in the Flinders and Gilbert catchments (Barber 2013). However there remains a degree of overlap due to the nature of Indigenous interests and cultural heritage generally – cultural heritage incorporates the material remains of past activity, individual and shared memories of that past, ongoing spiritual and cultural beliefs about places, and ongoing use of landscapes.

The study is based on a desktop analysis only and did not include field validation, although one of the authors (Bird) has worked extensively in the area and generated some of the data during other field projects. Aboriginal community consultation relating to this project was undertaken by Marcus Barber of CSIRO and the brief did not include additional consultation that would be required to achieve a comprehensive understanding of Aboriginal cultural heritage values. For instance, the relative significance of sites and/or information relating to unrecorded sites and sites of contemporary significance to local Aboriginal communities, would require further consultation.

B.2.1.2 The study area

The Flinders River is approximately 1,004 kilometres long and is the longest river in Queensland (Apx Figure B.1) and the 6th longest in Australia (GeoScience Australia). The headwaters of the river are in the Burra Range, which is part of the Great Dividing Range. The river begins 110 km northeast of Hughenden and it flows in a westerly direction past Hughenden, Richmond and Julia Creek then northwest to the Gulf of

Carpentaria. The south of the catchment is defined by the Selwyn Range. As with most of the rivers emptying into the Gulf of Carpentaria, the mouth of the river is characterised by large flat floodplains.



Apx Figure B.1 Flinders and Gilbert catchments (map produced by CSIRO)

The Flinders River has several major tributaries including Cloncurry and Corella Rivers, and Prairie and Porcupine Creeks. The last has been subject to several archaeological investigations (Morwood 1990, 1992; Morwood & Godwin 1982). The dramatic Porcupine Gorge is the centrepiece of the Porcupine Gorge National Park.

The Gilbert River is another of the largest rivers in northern Australia. It is located in north-central Queensland, between the Flinders River and the Mitchell River. The Gilbert River rises in uplands west of the Atherton Tableland in northern Queensland. It joins the Einasleigh River east of Normanton and then flows in a west-north-westerly direction through a large estuarine delta of tidal flats and mangrove swamps. The area floods during the wet season to the Gulf of Carpentaria. The only major tributary of the Gilbert is the Etheridge River.

B.2.2 THE PROPOSED DEVELOPMENT: LIKELY IMPACTS FROM IRRIGATED AGRICULTURE AND RELATED ACTIVITIES

This study contributes to a broader feasibility study about the intensification of irrigated agricultural development in the region. No specific development information is yet available. In addition, as outlined above, further investigation and consultation is required in order to properly understand the nature and significance of the Aboriginal cultural heritage of the study area. For these reasons, the present study does not include an impact assessment.

However, the works would include creation of water storage areas (see below), and development associated with irrigated agriculture, including:

- Large scale earth moving for the construction of major water storage facilities.
- Localised earth moving for the construction of smaller tanks and dams and structures on properties.
- Development of roads, pipelines and powerlines and other linear developments associated with irrigation and intensification of agriculture.
- Ploughing and grading of agricultural land.
- Secondary impacts such as the construction of drains and ditches.

Indigenous material cultural heritage would be susceptible to impact from the construction of water storage areas and the development of irrigated agriculture, and also from continued maintenance and agricultural use. Impact could include the following:

- The destruction of sites through inundation and large scale earthworks.
- Damage and gradual destruction of sites along dam margins due to erosion and wave wash.
- Destruction of and/or disturbance to sites through minor earthworks, increased traffic and visitation, agricultural use, and pollution.

In addition heritage sites and places retain cultural significance through connections to community and landscape. Potential impacts could include:

- Restriction of access to sites and resources for the local community.
- Destruction of components of wider landscape-based economic and/or cultural systems.

B.2.3 UNDERSTANDING ABORIGINAL CULTURAL HERITAGE VALUES

The term ‘value’ is often used interchangeably with ‘significance’ in heritage studies. However this can become confusing as in Australia we have a multi-tiered heritage regulatory system based on thresholds of local, state, and national significance. It is useful to use values as a way of exploring a more nuanced understanding of the nature of significance. A place can have a range of values but only meet the thresholds for local significance or it may reflect the same range of values but in such a way that it is of national significance. Places may have value to different or multiple groups in our society. Aboriginal cultural places may have value in terms of the scientific information they may yield, or in terms of their iconic importance to the Australian people at large or to a specific Aboriginal group for their spiritual value. Some places may have contemporary social value to the Aboriginal community as places of memory, contemporary resource use or continuing cultural practice.

The *Burra Charter: Australia ICOMOS Charter for Places of Cultural Significance* defines cultural significance as meaning: “… aesthetic, historic, scientific, social or spiritual value for past, present or future generations” (Australia ICOMOS 1999, p. 2). This preliminary overview can only summarise the likely nature of the cultural heritage values in the study area, as much additional work including field work with Aboriginal traditional owners and those with historical connections is required to gain a more accurate understanding of the likely impacts of water storage options or large scale agricultural development on the Aboriginal cultural heritage of the study area. Furthermore, identifying intangible heritage values and understanding how these may or may not be affected requires gaining a better understanding of how Aboriginal people in

this region value land and landscape; and involving communities in identifying strong and special associations with place.

Most of the available investigations into Aboriginal cultural heritage in the area have focussed on archaeological evidence of Aboriginal life in the period preceding European settlement of the region and in the immediate 'contact' period. Places or objects that contain such evidence are protected under Queensland legislation (see section B.3) and it is in this statutory context that most Aboriginal cultural heritage sites have been identified (i.e. as part of the assessment of potential impacts relating to development proposals). In the main these studies do not document contemporary Aboriginal values except where these relate to sites, or Aboriginal objects. However we know that Aboriginal people are likely to have a variety of contemporary interests in the rivers, lagoons and springs, including as an ongoing source of food and perhaps medicinal plants, places important for continuing cultural practices such as fishing, recreation and trans-generational teaching (see also Stoeckl et al., 2006; Jackson et al., 2013). Any detailed assessment of the impact of the proposed water storage options and /or large scale agricultural projects will require both systematic field survey to identify Aboriginal cultural heritage protected under Queensland legislation AND comprehensive consultation with Aboriginal people about the archaeological sites and to identify places of contemporary significance. The consideration of wild resource use values for Aboriginal people should be included in any such study (see for example English (2002)).

B.2.4 ABORIGINAL CULTURAL HERITAGE OF THE FLINDERS AND GILBERT CATCHMENTS

The Aboriginal occupation of the Flinders and Gilbert catchment areas reaches back to the late Pleistocene or early Holocene period, about 11,000 years ago and there is some indication that the area may have been occupied prior to the Last Glacial Maximum, that is, before c. 23,000 years ago (Morwood 1990). This deep history has left evidence across the landscape in the form of archaeological sites. Aboriginal people have continued to live in the region through to the present and they comprise a significant proportion of the current population of the region. For instance Aboriginal people make up approximately 12% of the population in the Flinders catchment (Jackson et al., 2013).

Thousands of years of occupation have left material traces in the form of a wealth of archaeological evidence, with the potential to yield information regarding Aboriginal culture and society and local adaptations to different environments and climates over time. Pre-contact Aboriginal occupation of the area is known to have focussed on sources of permanent and semi-permanent water, resulting in a concentration of archaeological sites in these areas (Hatte 1998; Lovell 1995; Gorecki and Grant). Any development of major watercourses and their catchments has the potential to impact upon Aboriginal cultural heritage places such as archaeological sites. In addition, many non-archaeological sites of cultural significance to Aboriginal people are associated with water sources and other landform features. For example in many parts of Australia particular water bodies are associated with conception sites and/or creation stories. Cultural heritage is not just about the past and heritage 'value' is not solely about scientific values (i.e. archaeological significance), it also encompasses contemporary social values and intangible values such as aesthetic and spiritual.

The potential of the catchments to contain archaeological cultural heritage sites will vary, in part according to the various landforms and environmental zones and also the degree of previous disturbance within each of these zones. Another factor that affects the likely distribution of Aboriginal cultural heritage is the post-contact history of Aboriginal people in the study area. Interventionist government policies created new social and geographical determinants for the development of significant places such as missions, prison camps, stations, relocated ceremonial activity and cemeteries.

Some areas might be expected to have a moderate to high level of cultural heritage potential (such as elevated river banks and rocky outcrops and escarpments), while other areas may have lower levels of cultural heritage potential (e.g. low-lying, flood prone areas and heavily disturbed areas where there has been extensive surface and subsurface ground disturbance due to farming, land clearing, mining etc.). However, in general, previous archaeological investigations in the broader study regions (Hatte 1989; Gorecki & Grant 1994; Grant 1992; Salmon 1992) have consistently confirmed that major watercourses and their tributaries tend to be highly sensitive environments from a cultural heritage perspective. These

studies clearly show that in the past Aboriginal people focussed their campsites and subsistence activities along major watercourses and drainage lines. The cultural heritage potential of these landforms and their immediate surrounds is therefore assessed as moderate to high.

Sizeable watercourses, especially those with semi-permanent water, have been found to contain archaeological evidence for ephemeral 'dinnertime camps', but also more complex Aboriginal base camps. Low-density stone artefacts scatters, isolated artefacts and hearths appear to be relatively common on the elevated banks and terraces of watercourses throughout the case study areas. Overall, the potential for watercourses to retain intact archaeological sites and evidence may depend upon the degree of previous disturbance and degradation along elevated banks and terraces.

The development of water storage options and the development of large intensive agricultural enterprises across the two catchments will impact large tracts of country centred on sizeable watercourses. This type of development can be assessed as a high impact development, resulting in major transformation of the existing landscape and potential to impact upon cultural heritage sites and values. To include contemporary cultural values and their relationship to the case study areas, further consultation with Aboriginal people is required. Post-contact sites relating to the recent historical past may also be an issue. The value of such places including places of memory and lived experience may not only involve traditional owners but may also include Aboriginal people with historic links because of forced removals and their involvement in the pastoral industry.

B.2.5 METHOD

This report is a desktop study undertaken as part of the Flinders and Gilbert Agricultural Resource Assessment Project. It focuses on potential cultural heritage issues in the two catchments that may be impacted by future water storage options and agricultural development and that will therefore need to be considered in any specific projects/proposals.

The desktop research undertaken for the present report involved:

- Search of the DATSIMA records for listed sites within the case study areas;
- Search of the DATSIMA records for listed sites within the two catchment areas;
- Review of the DATSIMA site index forms for the relevant listed sites, where permission was granted by the relevant Aboriginal Party;
- Search of the DATSIMA records for Cultural Heritage Bodies and/or Aboriginal Parties with responsibility for cultural heritage issues within the case study areas;
- Preliminary review of available reports covering relevant previous Aboriginal archaeological work;
- A review of available literature relating to the tangible and intangible Indigenous cultural heritage values of waterways in general and the study area in particular;
- Review of academic published and non-published data where accessible (e.g. Salmon 1992; Grant 1992; Wegner 1990).

B.2.6 LIMITATIONS

A number of limitations should be noted. Most significantly, the background research was not comprehensive; rather it involved review of accessible archaeological reports relevant to the case study sites. There may be potentially relevant information in material that was not available at the time of writing, as much of the cultural heritage information is contained in unpublished so-called 'grey' literature reports. There is likely to be additional relevant material that has been gathered as part of the native title assessments that have been undertaken in the study area. These were not accessible to the authors of this report. Permission to access the DATSIMA site index forms for the four listed sites within the Porcupine case study area was not granted by one of the relevant Aboriginal Cultural Heritage Bodies, Yirendali Operations Pty Limited. Therefore any detailed information in these forms could not be considered. The reports reviewed generally addressed archaeological heritage and therefore there is an under-emphasis on post-contact and contemporary Indigenous heritage values.

No historical research of primary sources was undertaken for this preliminary assessment and this would be an essential component of a comprehensive study of the catchment areas. It is expected that such research would reveal a number of significant cultural places and areas of archaeological potential such as the location of massacre sites and places relating to the early contact period. It should be noted that a desktop study will rarely provide sufficient insight into the Aboriginal heritage values to allow responsible development decisions for major projects. However it is intended that this study will assess the range of issues relating to cultural heritage values that will need to be addressed in more detailed studies.

The brief did not include an assessment of non-Indigenous heritage, although it should be noted that in practice this is not a practical exclusion as so-called historic heritage places often have an indigenous dimension to their history and historic heritage research reveals places of Aboriginal cultural value.

Aboriginal consultation was excluded from the brief for this study although permissions were sought and in most cases granted to access information held by DATSIMA, Qld. Consultation relating to the Flinders and Gilbert Agricultural Resource Assessment was undertaken separately by Marcus Barber of CSIRO. A comprehensive assessment of cultural heritage sites and places within the catchments would need to consult Aboriginal communities to identify cultural heritage places known to them and to reach any assessment of the relative significance of the places identified.

B.3 Statutory protection

B.3.1 COMMONWEALTH LEGISLATION

B.3.1.1 Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* was enacted at a Federal level to preserve and protect areas (particularly sacred sites) and objects of particular significance to Aboriginal Australians from damage or desecration. Steps necessary for the protection of a threatened place are outlined in a gazetted Ministerial Declaration (Sections 9 and 10). This can include the prevention of development.

As well as providing protection to areas, it can also protect objects by Declaration, in particular Aboriginal skeletal remains (Section 12). This Commonwealth Act can be invoked in response to an application made by an Aboriginal or Torres Strait Islander person, or someone acting on their behalf, if the State is unwilling or unable to provide protection for sites or objects of traditional significance.

There are no current declarations under this Act affecting this area.

B.3.1.2 Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* provides protection of natural and cultural heritage places at a Federal level. The Act established three heritage registers; World Heritage, Commonwealth Heritage and National Heritage. World Heritage items are those listed for outstanding universal heritage values. National Heritage items are assessed as having natural or cultural significance at a national level. The World and National Heritage Lists may include items on private or Crown land. The Commonwealth Heritage List only includes items on land owned or managed by the Commonwealth.

Items on the registers described above are protected under the terms of the EPBC Act. The Act requires approval before any action takes place which has, will have, or is likely to have, a significant impact on the heritage values of a listed place.

There are no items within the study area currently on the Commonwealth Heritage List, the National List or the World Heritage List.

B.3.1.3 Native Title Act 1993

The *Native Title Act 1993* provides recognition and protection for native title. The Act established the National Native Title Tribunal to administer native title claims to rights and interests over lands and waters by Aboriginal people. The Tribunal also administers the future act processes that attract the right to negotiate under the *Native Title Act 1993*.

The Act also provides for Indigenous Land Use Agreements (ILUA). An ILUA is an agreement between a native title group and others about the use and management of land and waters. ILUAs were introduced as a result of amendments to the *Native Title Act* in 1998. They allow people to negotiate flexible, pragmatic agreements to suit their particular circumstances.

An ILUA can be negotiated over areas where native title has, or has not yet, been determined. They can be part of a native title determination, or settled separately from a native title claim. An ILUA can be negotiated and registered whether there is a native title claim over the area or not.

There are several native title applications and determinations over parts of the two catchments (see Figure Figure 2.3 in Barber (2013)). There are also several ILUAs that are in place over parts of the areas (see Figure 2.4 in Barber (2013)).

B.3.2 STATE LEGISLATION

B.3.2.1 Aboriginal Cultural Heritage Act 2003

The principal statutory protection for cultural heritage in Queensland is provided by the *Aboriginal Cultural Heritage Act 2003*. This Act defines Cultural Heritage as:

- a significant Aboriginal area in Queensland
- a significant Aboriginal object,
- evidence, of archaeological or historic significance, of Aboriginal occupation of an area of Queensland (Section 8).

The Act is administered by the Cultural Heritage Unit of the Queensland Department of Aboriginal and Torres Strait Islander and Multicultural Affairs (DATSIMA).

The Act contains a general Duty of Care to take all reasonable and practical steps to be aware of, and to avoid harming, Aboriginal cultural heritage. Section 23(1) requires that a person must exercise due diligence and reasonable precaution before undertaking an activity that may harm Aboriginal heritage. Everyone has a responsibility to exercise Duty of Care. Duty of Care Guidelines attached to the Act set out key indicators of compliance which include, but are not limited to, the following:-

- Proof of consultation with the registered native title applicants
- Cultural heritage studies undertaken in association with the registered Native Title Applicants
- Searches of cultural heritage information contained in the cultural heritage register and database held by the Cultural Heritage Unit within DATSIMA
- A Cultural Heritage Management Plan (CHMP) or other agreement with the registered native title applicants.

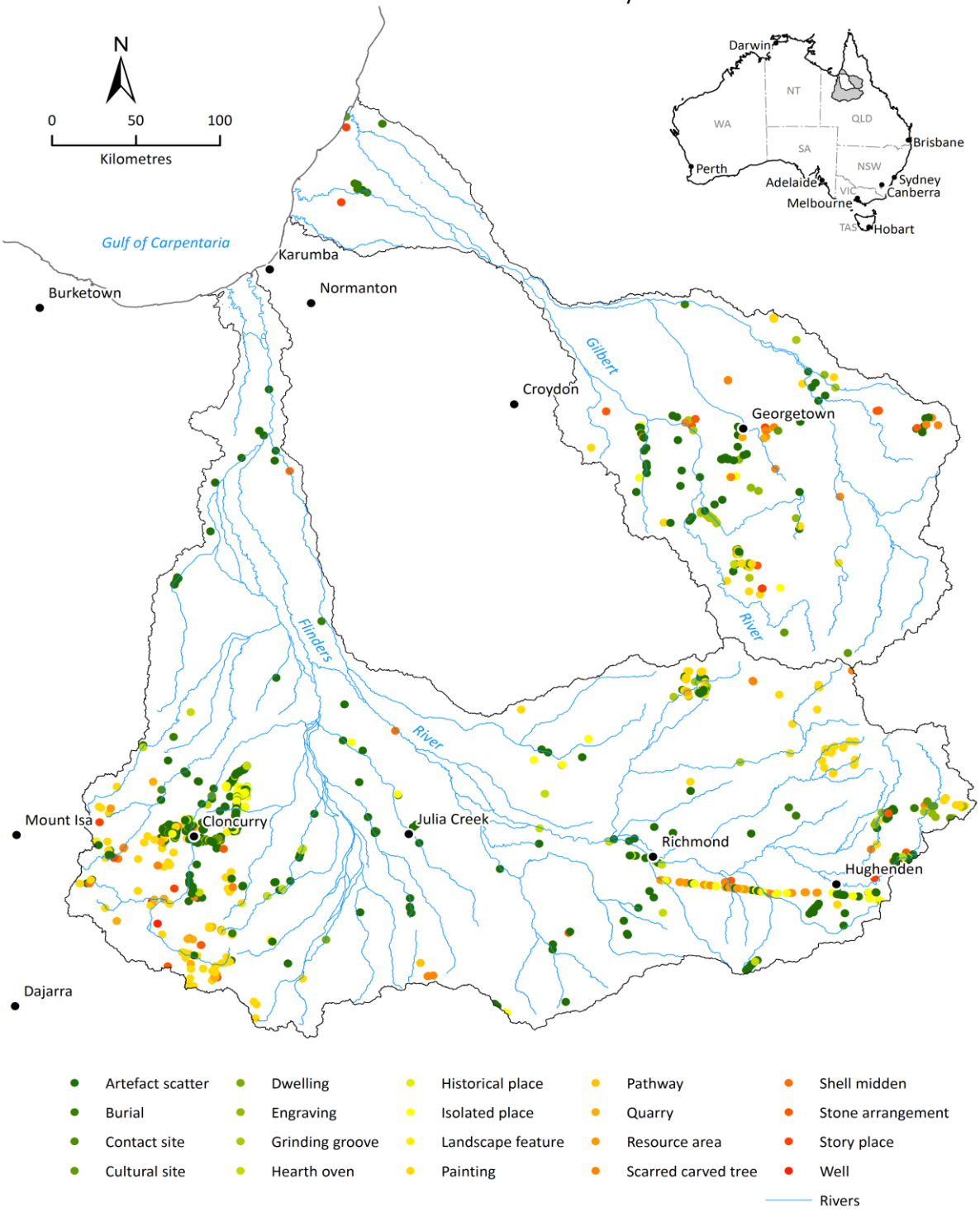
When an Environmental Impact Statement (EIS) is undertaken, a CHMP is mandatory if the project requires some form of permit, approval or licence. This means that high-impact developments will be able to go ahead only when an effective CHMP (containing the results of a cultural heritage study) has been agreed between the proponent and Native Title Party/ies, and the CHMP is registered with the State.

Where the legislation does not automatically require a mandatory cultural heritage management plan, the legislation allows for the development of voluntary CHMPs or Cultural Heritage Management Agreements (CHMAs) as a measure to encourage industry to adopt best practice.

An Aboriginal Cultural Heritage Body is a corporation that has been approved by the Minister of DATSIMA as an approved cultural heritage body for an area. The cultural heritage body is the initial contact point for

cultural heritage issues within a Native Title area and it usually represents the registered Native Title claimant group for that area. The function of this body is to identify the Native Title Parties for an area. A cultural heritage body must have the written support of a significant proportion of the Native Title Applicants of an area.

There are a number of Aboriginal archaeological sites that have been identified under this legislation that have been recorded on the DATSIMA database (Apx Figure B.2). It is relevant to note that this is almost certainly an under-reporting of actual site occurrence as it reflects only those localised areas where surveys have been carried out and the bulk of the area remains unsurveyed.



Apx Figure B.2 Known and recorded cultural heritage sites in the Flinders and Gilbert catchments (map produced by CSIRO using data supplied by DATSIMA)

B.4 Flinders Catchment

B.4.1 THE HISTORY OF THE FLINDERS CATCHMENT

Roth provides some insights into the social life of Aboriginal people in this region. He often made notes when he came across evidence of trade relationships between groups. He noted for instance that trade occurred continuously between groups throughout Boulia, Upper Georgina, Leichhardt-Selwyn and Cloncurry districts and that:

"*comparatively large numbers of people of both sexes may be congregated sometimes at these large markets. Thus it happens that ideas are interchanged, superstitions and traditions handed from district to district and more or less modified and altered in transit, that new words and terms are picked up, and that corroborees are learnt and exchanged, just like an other commodities*" (Roth 1897:136)

However there is relatively little early ethnography specific to the study area. Morwood ascribes the lack of detailed ethnographic information to the nature and timing of the European contact period. In the Flinders catchment this began with the expeditions of Frederick Walker in 1861 and William Landsborough in 1862 (Favenec 1967). Both parties passed rapidly through the area but were closely followed by pastoralists. Extensive tracts were taken up as huge pastoral leases such as Hughenden and Lammermoor Stations from 1863 (Gray 1913; L. Gray 1965). In most cases these runs displaced people from their traditional lands although in some cases Aboriginal people were able to re-establish connections through participation in the work force. Aboriginal people in the region put up an active resistance to the constant attrition of their land and there were several well documented conflicts (e.g see Hillier, 1994). In 1870, as a result of petitioning by local land-holders, a detachment of Queensland Native Police arrived in the upper Flinders area and set up headquarters at Hughenden. The violence of the Native Police in 'dispersing' Aboriginal people is well reported (e.g. Gray 1913:198).

In the Mount Isa-Cloncurry region, the killing of four white settlers in 1878 set off several years of back-and-forth reprisals and punitive expeditions in which a number of Aboriginal and settler lives were lost. In 1883 Sub-Inspector Beresford of the Cloncurry Native Police detachment was attacked and killed; the following year another settler, James Powell, was killed. Determined to break Aboriginal resistance, Sub-Inspector Urquhart and Native troopers from the Cloncurry station, assisted by several groups of armed settlers, engaged in a nine week campaign to 'clear up' the district (ibid.: 138). The final, and most well-known, conflict occurred in September 1884, when Urquhart, Native troopers, and area settlers pursued a group of Kalkadoons into the hilly region later known as Battle Mountain. The ensuing conflict resulted in the deaths of many Kalkadoons, and marked the end of that era of direct Aboriginal resistance. (Furniss 2001:282)

Following the introduction of the *Aborigines Protection and Restriction of the Sale of Opium Act 1897*, many surviving Aboriginal people were forcibly removed to government reserves, such as Woorabinda (Koepping 1976:34-35).

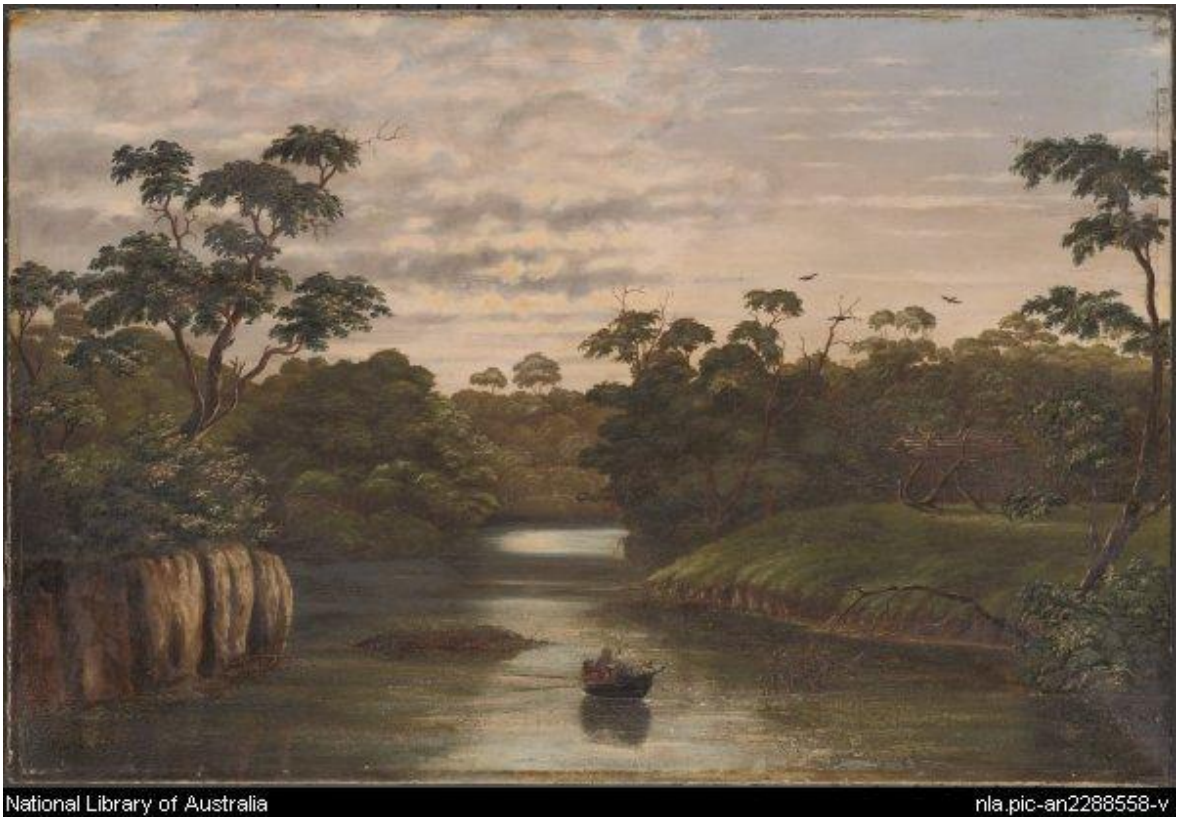
Further work mapping the locations where explorers and settlers observed Aboriginal people in the ethnographic past would provide further locations of Aboriginal cultural heritage places. Sources include Grey 1913; Bennett 1928; Baden-Powell 1892:115-8; Palmer 1887 and Curr 1886. Leichhardt (Bauer 1959), Gregory (1968) and Landsborough (1971) each record meeting Aboriginal people and/or seeing evidence of them in the Gulf of Carpentaria area.

Historic mining in this area included not only gold mining but also copper mining and there are many places where the historic remains of these industries can still be seen. For example, the discovery of viable copper deposits was the catalyst for the development of the town of Cloncurry. However there do not seem to have been any comprehensive thematic surveys prepared relating to mining heritage in the area. It is often only mention in passing in archaeological studies (e.g. Wallis et al 2004) and there is little recorded on the involvement if any of Aboriginal people in the industry. In 1867 pastoral pioneer Ernest Henry found rich copper country near the Cloncurry River. At that time this area was extremely isolated and devoid of any major transport access. This made Henry's mine, the Great Australian Mine, unprofitable, although it was rich in copper deposits, and it did not really become profitable until much later when copper prices rose

and the railway reached Cloncurry in 1908 (see EPA, Cultural Heritage Branch, 1999; p. 178 in Fitzgerald, 1986). Certainly mining began in the area long before the introduction of the *Aborigines Protection and Restriction of the Sale of Opium Act 1897* and, as in other areas, it is possible that some Aboriginal people have links to these historic sites. The other relevance of mining to Aboriginal site distribution relates to its impact on the survival of Aboriginal cultural sites in the face of the large scale disturbance involved. As can be seen in Figure 2.7 of Barber (2013), early mining techniques quickly transformed the natural landscape, often destroying watercourses and denuding already fragile country.

Grant (1992:20) summarises the invasion of the Gulf and subsequent displacement of Aboriginal people from their lands as occurring in four 'waves'. These were:

- the explorers 1844-1864
- the pastoralists 1863-1868
- the Etheridge gold rush 1867-1886
- the Croydon gold rush 1885-1915.



Apx Figure B.3 Burial Reach, Flinders River, Queensland, oil painting by Graham Gore, 1847 (source National Library of Australia, nla.pic-an2288558)

Apx Figure B.4 Coppermine Cloncurry, William Oswald Hodgkinson, 1835-1900 (source National Library of Australia, nla.pic-vn3262218)

B.4.2 PREVIOUS ARCHAEOLOGICAL INVESTIGATION

B.4.2.1 Overview

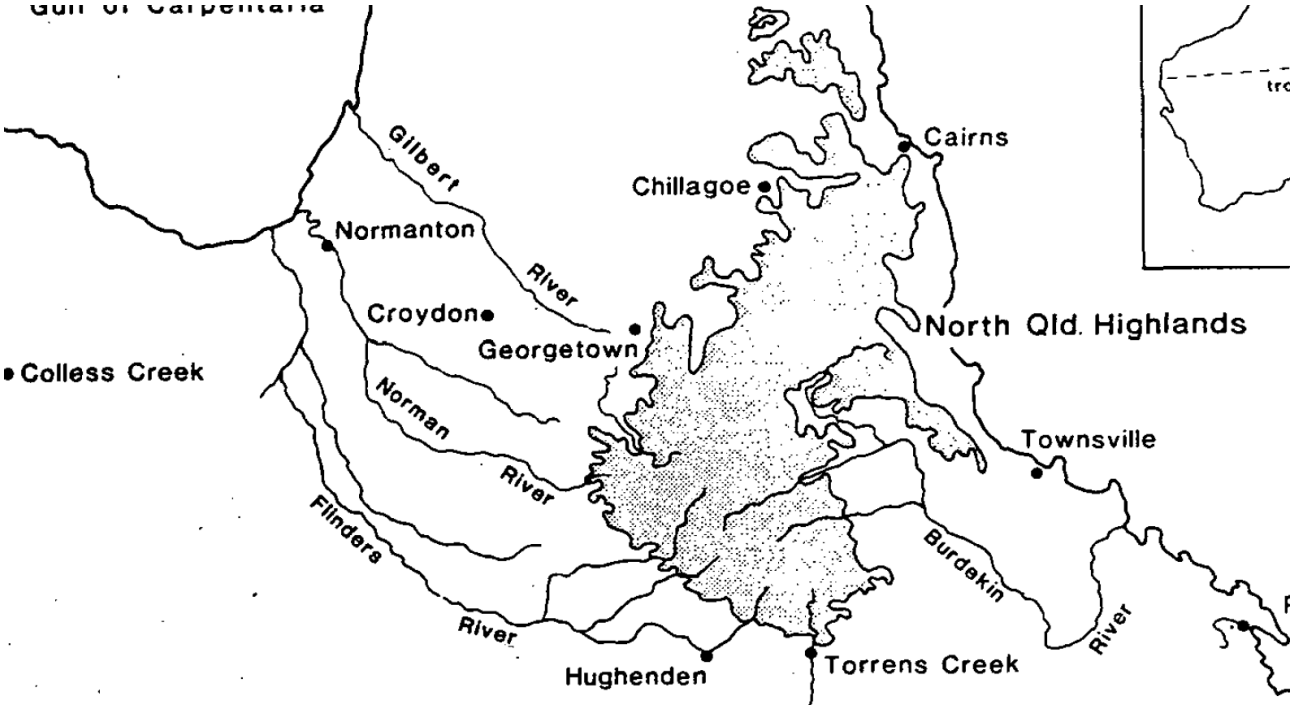
Detailed investigations of the Flinders catchment have tended to focus on the eastern and upper reaches. Unlike most of the river catchment, which is generally flat grasslands and river flood plain, the upper reaches of the Flinders catchment are characterised by heavily dissected gorges. The basal geology comprises an uplifted block of Mesozoic sandstones which has subsequently been heavily dissected then capped in some areas with Tertiary basalt flows (Coventry et al 1985; Vine and Paine 1974:29 cited in Morwood 1990). One of the reasons for this bias in research is that the geology and landform of the upper reaches of the catchment present opportunities for archaeologists to find sites with stratified deposits which can be dated, as distinct from the open sites on the plains of the lower reaches of the catchment.

Morwood (1990) investigated the upper reaches of the Flinders River (see Apx Figure B.5) between 1982 and 1990. In the course of his investigation, Morwood excavated several sites at Mickey Springs. These excavations provided evidence 'that the distribution of archaeological sites in the region is highly correlated with resource distribution and that resource levels and structure have effectively changed at least twice over the past 11,000 years.' (Morwood 1990: 35). In summary, at the end of the Pleistocene (around 11,000 BP), the spring at Mickey Springs became active and this enabled the expansion of occupation into this area. Then in the late Holocene (around 3,300 BP), seed processing became a major source of food production. Continued emphasis on seed processing was a likely catalyst for the occupation of previously marginal country such as that along Prairie Creek.

Another archaeological investigation of the Aboriginal occupation of the north Queensland highlands (the upper Flinders and Gregory Ranges) was undertaken in the 1980s and 1990s (Border & Rowland 1990). The area includes the headwaters of both the Flinders and Gilbert Rivers, but the study was focussed on the upper reaches of the Flinders River. The study found that the occupation of the area dates back at least

29,000 years. Occupation of the Prairie Creek area, in the vicinity of the Porcupine case study area, occurred at about 3,400 BP, when a change to more intensive use of plant resources (in the form of seed processing) allowed occupation of this previously marginal country.

Two of the possible locations for water storage infrastructure, the Cave Hill and O'Connell case study areas, fall on the northern boundary of the Mitchell Grass Downs. A review of the cultural heritage resource of this zone undertaken in 1990 found that there were 102 recorded Aboriginal archaeological sites recorded within this area. This number was considered to be lower than the expected actual number of sites and a result of the limited amount of previous investigation (Border & Rowland 1990). The most common recorded site types were stone quarries, stone artefact scatters, stone arrangements, hearths and scarred trees.



Apx Figure B.5 Morwood (1990) Flinders River study area

Subsequent archaeological surveys, including a number undertaken for consulting projects, have resulted in the identification of hundreds more archaeological sites in this general area. Surveys of sections of the Flinders River and O'Connell Creek near Richmond in the late 1990s resulted in the recording of 245 sites, with a density ranging up to approximately 4 sites per 100 m (NAC 1997a; 1997b; 1999). Recorded sites consist largely of artefact scatters and hearths, and are generally located in proximity to water sources and on elevated ground (see for example Wallis et al., 2004).

Utilisation of the Downs is thought to have begun by the late Holocene period (Border & Rowland 1990). As part of an investigation of hearth sites along the Flinders River, in the Richmond area, seven hearths were dated to within the last 1,000 years. It was noted however that the many hearths located were single-use features, and collectively they may represent occupation over a much longer period. A more extensive mapping and dating programme would be required to determine if this were the case.

The landscape and land-use of the Mitchell Grass Downs has been described by Dommett et al (2006:25) as follows:

'*The MGD is an extensive area of semi-arid Mitchell grass tussock grasslands covering low relief, cracking plains. The region experiences a short wet season between December and March with up to 450 mm rainfall per year, and extended periods of drought are common. High temperatures occur all year round, coupled with extreme evaporation (typically more than 2000 mm per year). Hydrologically the area is dominated by small, ephemeral streams, creeks and drainage lines, which feed into the larger, though often*

intermittent, river systems. These environmental conditions place constraints on human movement through the MGD, making it largely impassable following heavy rainfall. At other times of the year Aboriginal population density was generally low, with extensive trade networks operating in order to ensure people's resource requirements were met.'

Site distribution for the plains has been summed up by Domett et al. (2006:28-29) as:

- dominated by low density, open artefact scatters (mostly locally available silcrete and chert)
- a small number of painting and engraving sites, burials, stone circles, stone arrangements, scarred trees, fish traps, grinding grooves, hearths, quarries and shell middens
- site locations predominantly close relationship to major drainage systems
- large base camps along the major waterholes through summer and winter
- greater mobility occurring during winter
- travel routes likely to be along creek and river systems.

B.4.3 SUMMARY OF PREVIOUS REPORTING

B.4.3.1 Upper Flinders River, North Queensland highlands, Morwood 1990

Morwood (1990) outlines the results of an academic project investigating the Aboriginal occupation of the North Queensland Highlands. The study area extends from Hughenden to Laura, and includes the headwaters of both the Flinders and Gilbert Rivers. The research was focussed on the upper Flinders River, 350 km west of Townsville and immediately north of Hughenden.

The project began in 1980 with a program of reconnaissance and recording between Torrens Creek and Richmond in the south, and Georgetown and Croydon in the north. Later work focussed on two areas on the upper Flinders River where the survey had identified sites with good excavation prospects associated with a range of other evidence; Mickey Springs and the Prairie-Porcupine Creek system.

The survey of Mickey Gorge resulted in the identification of 14 rock shelters with evidence of Aboriginal use, an axe-grinding site, and a basalt grindstone. The rock shelters contained rock art assemblages (abraded and pecked engravings, stencils), and occupational evidence including flaked stone artefacts, grindstones and charcoal-rich deposits. Information was provided regarding the presence of burials in the area, but no evidence of these was noted. All of the recorded sites are within 400 m of Mickey Springs, which is the only permanent water for a considerable distance.

Archaeological excavation was undertaken at Mickey Springs 34, a rock shelter on the western side of the gorge and 250 m north of the springs. The site has an extensive rock art assemblage. Radiocarbon dating, extrapolated to the deepest evidence for occupation, suggests initial occupation of the site at c. 10,700 BP. Occupation appears to have continued to 170±60 BP.

From the evidence of Mickey Springs 34 and other rock shelters, it is suggested that the initial occupation of the shelters in this area occurred in the terminal Pleistocene, possibly as a result of the activation of the springs by changes in the local hydrological regime. Occupation in the early Holocene is thought to have been by transient small groups. The rock art from this period is interpreted as a regional variant of the widespread and relatively homogeneous Panaramitee rock engraving tradition.

The evidence suggests that the sites were used more heavily from about 8,000 BP. However, there was no significant technological change until 3,360 BP. Artefact types introduced at this time included backed blades, adzes, edge-ground axes and probably also grindstones. It is suggested that the shelters were used by larger groups, for longer periods, and for a wider range of activities over the past 3,400 years.

The second focus of investigation was the Prairie-Porcupine Creek system, comprising the gorges, scarps and adjacent plateaux from Tattoo Hole, on Porcupine Creek, north to the Porcupine-Prairie Creek junction and up Prairie Gorge, a total distance of 21 km. It was found that the majority of sites are located in the shallowly incised areas of Porcupine Creek in the general area of Tattoo Hole, in the vicinity of permanent waterholes. Sites included open engraving sites, rock shelters with stencils and abraded engravings,

caches, marker sticks in sandstone pipes and open artefact scatters. Initial occupation of this area is thought to have occurred prior to 3,400 BP.

To the north along Prairie Creek, along the margins of deeply incised gorge country, sites were again found to be located in the vicinity of ready access to water. However, where water is available, site location also appears to be related to the presence of two specific plant resources (*Panicum decompositum* or native millet, and *Brachychiton australis* or Kurrajong). Larger sites generally contain one or more grindstones. Occupation of this area is thought to be related to a focus on seed processing, and to have commenced after 3,400 BP.

Excavation was undertaken at Quippenburra Cave, on the east side of Prairie Gorge, in the vicinity of a rock hole which is thought likely to have been a permanent source of water in the past. The cave contains rock art (stencils) and a large number of surface grindstones and mullers. Radiocarbon dating in conjunction with artefactual evidence indicates that the cave was occupied from 3,280±100 BP through to the post-contact period, possibly the late nineteenth century.

Plant material found at the sites shows that plant exploitation included the entire span of Prairie Creek relief zones, from the lower scarp areas of the gorge, to the basalt scree slopes, the breakaways and the black soil plains on the plateau. Faunal remains also derive from the full range of habitats present in the general vicinity.

Morwood notes that occupation of the north Queensland highlands goes back at least 29,000 years. However, the initial occupation of the Mickey Springs area at 11,000 BP and the Prairie Creek area at 3,300 BP coincides with broad-scale environmental and cultural changes related to local resource use. It is suggested that environmental changes at the end of the Pleistocene activated Mickey Springs and allowed an expansion of occupation into the area. Then, the development of a late Holocene commitment to seed processing allowed occupation of previously marginal country along Prairie Creek.

B.4.3.2 Flinders Highway, Richmond to Julia Creek, Northern Archaeology Consultancies P/L (Michele Bird) June 1997

An archaeological survey and assessment was undertaken in advance of proposed works at five creek crossings on the route of the Flinders Highway between Richmond and Julia Creeks. The crossings were at Chatfield, Nonda, Boundary and Corella Creeks. The Highway runs roughly parallel with the line of the Flinders River, and is located 8-10 km to the south of the River.

Background research undertaken for the assessment found that very little previous archaeological work had been conducted in the vicinity of Richmond and Julia Creek. It was noted that most previous archaeological investigation in the Flinders River region has focussed around the upper reaches of the Flinders River in the North Queensland Highlands. Work has included several studies of the rock art of the region; and excavation at Mickey Springs on the upper reaches of the Flinders River, where initial Aboriginal occupation has been dated to c. 10,000 years BP.

A review of the cultural heritage resource of the Mitchell grass downs biogeographical zone was compiled by Border and Rowland in 1990. The study area comprised most of central western Queensland from the Great Dividing Range to the Northern Territory border. At the time, the zone had 102 recorded Aboriginal archaeological sites, the second lowest number recorded for any of the biogeographical zones in Queensland. It was considered that this low number was likely to reflect the limited amount of archaeological investigation in the zone, rather than the actual nature of the archaeological resource. The Border and Rowland study found that the most common site types in the zone were stone quarries, stone artefact scatters, stone arrangements, hearths and scarred trees. A close relationship was found between the distribution of archaeological sites and major drainage systems, with over half of the recorded sites being located on or near watercourses. In addition, a significant proportion of sites were located on elevated terrain, particularly stony ridges or open flat plains.

Although ground visibility was low to nil, the survey noted that existing disturbance was substantial at all five of the creek crossings. It was considered highly likely that any archaeological material that may have existed in the study area has been displaced or destroyed by this disturbance, including road and track

construction and maintenance, construction of fence lines, service installations, creation of fire breaks and pastoral activity. It was also considered that flooding may have resulted in the removal or displacement of any archaeological remains in these locations.

B.4.3.3 Richmond to Julia Creek, Northern Archaeology Consultancies P/L (Michele Bird) July 1997

An archaeological survey and assessment was undertaken along the proposed route of a transmission line between the townships of Richmond and Julia Creek. The route was approximately 145 km in length, running parallel with the Flinders Highway and/or the Great Northern Railway Line (within the existing road or rail corridor) for much of its length. Ground visibility in the study area was generally low; areas of high visibility largely corresponded with areas of disturbance.

The assessment resulted in the identification of six Aboriginal archaeological sites, all of which were low density stone artefact scatters, located within about 10-15 km of Richmond. In general, each site consisted of a small number of artefacts (up to 30) distributed over a small area (usually less than five square metres). Two sites contained the remains of possible hearth features. All six sites had been subject to modern disturbance such as cattle trampling and grading. Most sites were located on slightly elevated terrain, presumably above flood level, and in the vicinity of sources of raw materials used for manufacturing stone artefacts, including outcrops of siliceous stone and chert pebbles.

It was suggested that the sites represented use of the area for the collection of raw materials, and that this occupation was relatively ephemeral. However, it was noted that the sites may originally have been more extensive, but had been subject to disturbance from modern land use and natural processes such as flooding. Larger occupation sites may have been located closer to the Flinders River, on elevated terrain.

B.4.3.4 Flinders River Dam, Northern Archaeology Consultancies P/L (Michele Bird) May 1998

A preliminary cultural heritage desktop study was undertaken as part of a re-feasibility study for water resources development on the Flinders River, near Richmond. This study covered an area in close proximity to the O'Connell project area.

The investigation included a review of existing cultural heritage literature, and preliminary consultation with Aboriginal traditional owners from the Wanumara community and their representative body, the Central Queensland Land Council Aboriginal Corporation. During a brief site inspection of part of the south-eastern study area several archaeological sites were noted along the Flinders River channel; these consisted of clusters of hearths and low density stone artefact scatters. Information received from the traditional owners indicated that similar sites occurred along the remainder of the River, and that there may be significant cultural sites in the Boree Park area; that Valley Downs and the Eight Mile Creek area are likely to be significant as they contain significant fossil finds; that a bora ground is reported to be located in the Silver Hills area. Advice from the Central Queensland Land Council Aboriginal Corporation was that the Richmond area and particularly sections of the Flinders River channel are culturally significant.

The report found that the study area was rich in Aboriginal archaeological resources. A large number of sites have been recorded along the Flinders River and O'Connell Creek, and it was considered that systematic archaeological survey would result in the recording of many more. The following observations and predictions were made:

- highest densities of archaeological sites likely to be located close to major and relatively permanents sources of water
- a previous study indicated that site density was as high as four sites per 100 m in the riverine zone
- elevated terrain, raised ridges, high creek banks above the reach of flood levels are likely to contain intact sites
- most commonly occurring sites are likely to be low density stone artefact scatters and associated hearth features
- rock art sites may occur where there are suitable rock outcrops, shelters, overhangs
- base camps and small sites representing ephemeral occupation may exist

- conditions for archaeological site preservation are poor in flood prone parts of the catchment area - potential may be significantly lower across low-lying flood plains of Flinders River and nearby watercourses.

B.4.3.5 Fuelling facility, Hughenden, Northern Archaeology Consultancies P/L (Michele Bird), April 1999

This cultural heritage review was undertaken for proposed works associated with a fuelling facility on a one-hectare block of land situated on the eastern outskirts of Hughenden. The site inspection resulted in the identification of two stone artefacts. It was considered that the two artefacts may derive represent remains of a small ephemeral camp site.

The background review included an outline of investigations undertaken by Spencer (1994) in the Hughenden-Richmond region. Seven archaeological sites have been recorded as a result of this work, the majority of which are located on or very near to seasonally reliable water sources. Sites recorded include several low density artefact scatters at Boree Park, Wyangarie, Ranmoor Road and Boremba. One of the sites consists of at least 40 hearths spread over an area of several hectares, located on the Flinders River approximately 1 km from Richmond, near the hospital. Information provided by a Yirandhali representative indicates that hearth features are relatively common along the Flinders River channel. Surveys in the district undertaken by Crothers (1997) also indicate the presence of substantial numbers of hearth sites in the Hughenden-Richmond region.

Crothers' surveys were focussed along sections of the Flinders River and O'Connell Creek, near Richmond. Overall, 245 archaeological sites were recorded, with a density ranging up to approximately 4 sites per 100 m. The majority of sites are thought to represent camping places, with evidence including hearths, charcoal, and shell and stone artefact scatters. The majority of the recorded sites are located within 200 to 400 m of permanent and/or seasonal surface water, indicating that the Flinders River and other major stream channels in the region were a major focus for Aboriginal occupation and subsistence activities.

The majority of recorded sites in the Hughenden district consist of very low density surface scatters of stone artefacts. A number of sites retain hearth features. Most sites are located either on elevated ridges or on creek terraces around major watercourse; very few sites are located across the low-lying downs country or on the black soil plains. Ridges are thought to have been a focus of occupation because they are less susceptible to seasonal flooding, they tend to support more stands of trees than the plains, and many contain surface outcrops of stone suitable for manufacturing artefacts.

B.4.3.6 Flinders Highway (Gardiner Creek - District Boundary) Charters Towers - Hughenden District, Northern Archaeology Consultancies P/L (Michele Bird), November 1999

This report was prepared as a second stage of cultural heritage investigation for a proposed widening of approximately 84 km of the Flinders Highway between Gardiner Creek and the District boundary, to the west of Charters Towers. The investigation did not result in the identification of any archaeological sites within the study area. This was considered likely to be because of the significant disturbance within the study area, from construction and maintenance of the road and railway, and installation of services.

B.4.3.7 Transmission lines, Richmond and Julia Creek Districts, Northern Archaeology Consultancies P/L (Michele Bird), December 1999

A program of cultural heritage reconnaissance was undertaken along proposed transmission line routes in the Richmond and Julia Creek district. This progress report outlined the results of the inspection of ten possible cultural heritage sites within approximately 10 km of Richmond, all apart from one being located within the Flinders Highway road reserve. The aim of the investigation was to confirm the identification of the archaeological sites.

The investigation resulted in the confirmation of nine of the 10 possible sites. All nine confirmed sites were low density artefact scatters, six also had possible hearth features, and one had an earth mound, which was possibly a natural feature.

B.4.3.8 Powerline refurbishment, Glenelg SWER area, Northern Archaeology Consultancies P/L (Michele Bird), January 2000

This progress report outlined the results of a cultural heritage reconnaissance project undertaken for proposed powerline refurbishment in the Glenelg SWER area. The study area consists of approximately 320 km of powerlines, over an area stretching from Glenelg Station north of Corfield to Mahrigong Station to the east of Winton.

The site inspections resulted in the identification of 18 Aboriginal archaeological sites, consisting of 17 artefact scatters and one isolated find. Most of the scatters consist of relatively sparse numbers of artefacts, and two include hearth features. The isolated find was an axe blank. Most of the sites are located on watercourses or on the banks of small flood channels. Virtually no evidence was found on open downs country.

B.4.3.9 Powerline refurbishment, Richmond South SWER area, Northern Archaeology Consultancies P/L (Michele Bird) June 2000

This progress report outlined the results of a cultural heritage reconnaissance project undertaken for proposed powerline refurbishment in the Richmond district. The study area consisted of powerlines running over an area from Richmond south to Clio Station. The investigation resulted in the identification of seven Aboriginal archaeological sites. Six of these were low density artefact scatters; the seventh was a scatter with a higher density of artefacts, up to three per square metre. One of the sites includes a possible hearth feature. Several of the sites are located in the vicinity of watercourses and/or flood channels, and a number are located on the open downs plains on slightly elevated terrain or low ridges.

B.4.3.10 Powerline refurbishment, Julia Creek and Richmond, Northern Archaeology Consultancies P/L (Michele Bird) July 2000

This progress report outlined the results of a cultural heritage reconnaissance project undertaken for proposed powerline refurbishment in the Julia Creek and Richmond districts. The investigation consisted of two study areas; the Julia Creek 10 SWER line running south-easterly from Julia Creek to south of Belford Station; and Richmond substation and surrounds to the east of Richmond.

Two Aboriginal archaeological sites were identified in the first study area; both of these were low density artefact scatters and both were located near watercourses. One of the sites included a fragment of sandstone grinding stone. The low numbers of sites was considered to be due to a number of reasons. Most of the study area is located on black soil plains, where preservation of archaeological evidence tends to be poor. Very few potentially exploitable sources of stone were noted within or in the vicinity of the study area. In addition, modern disturbance was substantial in the vicinity of the Minamere Waterholes, which are likely to have been a focus of Aboriginal occupation, and this disturbance is likely to have impacted upon archaeological evidence.

The second study area, consisting of Richmond substation and surrounds, was inspected to address a concern that works may be impacting known archaeological sites. The investigation resulted in the identification of six artefacts on the eastern perimeter of the substation, and several possible hearth features on a ridge on the same perimeter. Further possible hearths associated with a low density artefact scatter were located about 400-500 m east of the substation site.

B.4.3.11 Recent archaeological surveys on Middle Park Station, Wallis, L.A., D. Smith and H. Smith, 2004

This paper outlines the initial results of an archaeological survey undertaken on Middle Park Station. The property is located approximately 120 km north of Richmond; the southern part falls within the Flinders River catchment, while the northern part is within the Norman River catchment. Following a review of previous archaeological work, the following summary is made:

In summary, as elsewhere in Australia the regional archaeological record of inland northwest Queensland is dominated by surface scatters of stone artefacts (often associated with hearths), followed by high numbers

of shelters in suitable areas (typically sandstone outcrop) containing abundant stencilled rock art. Axe grinding grooves and grinding surfaces are also extremely common in geologically amenable areas. The upland areas were occupied by at least the terminal Pleistocene, a phenomenon in some part presumably related to postglacial climatic amelioration producing local environments that were particularly inviting for human occupation. There appears to be some evidence for a suite of mid-Holocene changes, including more regular use of sites, a broader range of activities (with grass seed grinding becoming an important part of the subsistence economy) and an increase in local population and productivity. Well-documented trade and exchange networks also existed in the broader region during at least the late Holocene, by which time people also appeared to be regularly utilizing the lower plain country of the Mitchell Grass Downs to the south and west.

The survey was focussed on areas of sandstone outcrop in close proximity to water sources, and resulted in the recording of 129 archaeological sites. Thirty-three of these were open sites, consisting of axe-grinding grooves with or without associated artefact scatters; artefact scatters; and quarries. The grinding grooves usually occur in clusters, and are typically located on exposed sandstone ledges adjacent to small creeks and major river courses (although some were located near semi-permanent waterholes). About half are associated with artefact scatters. The artefact scatters are typically low density sites and are dominated by artefacts made from quartz. Three quartz outcrops with evidence of quarrying were recorded.

Ninety-six rock shelters were recorded, with evidence of human occupation comprising rock art, stone artefacts, grinding surfaces and/or axe-grinding grooves. Most of the rock shelters had bedrock floors with minimal or no sediment. However, test pits were excavated in three of the shelters. The lowest deposits were dated to 4,820±70 BP (site MP76), 2,280±220 BP (site MP83) and 14,080±210 BP and 6,090±100 BP (both from site MP102).

Apx Table B.1 Sites identified by Wallis et al. on Middle Park Station

Open sites	No.	Rockshelter sites	No.
Artefact scatter	8	With art	23
Axe grinding grooves	12	With grinding surface	2
Axe grinding grooves with artefacts	10	With artefacts	9
Quarries	3	With grinding grooves and art	1
Total	33	With grinding grooves and artefacts	1
		With grinding surface and art	13
		With grinding surface and artefacts	5
		With art and artefacts	10
		With art, grinding surface and artefacts	19
		With art, grinding grooves and artefacts	1
		With art, grinding grooves and grinding surfaces	1
		With artefacts, grinding grooves and grinding surfaces	1
		With artefacts, art, grinding grooves and grinding surfaces	9
		Total	95

B.4.3.12 Hearth sites along the Flinders River, L. Wallis, H. Smith and D Smith, 2004

This paper reports on archaeological investigation of hearth sites along the Flinders River, in the Richmond area. The program was undertaken as a second stage to a survey carried out by Crothers in 1997, which documented the presence of many hundreds of hearths around Richmond. The program was intended to supplement the existing data by undertaking excavation and dating.

The background review undertaken for the study suggested the following broad-scale patterns of site types and distributions:

- the majority of sites comprise low density scatters
- silcrete is the dominant raw material used for artefact manufacture, followed by chert, with evidence of the minor use of basalt, quartz and quartzite
- assemblages are dominated by unretouched flakes and cores, with few formal tools

- most sites are situated either on elevated ridges or creek terraces near major watercourses
- scatters are regularly associated with hearth structures, which are typically present as deflated areas of burnt mudstone (which appear reddish in colour).

Nineteen hearths were investigated. Excavation revealed that the hearths were single-use features, with no evidence to indicate cleaning out or re-use of the hearths. Analysis of the stone artefact scatters associated with the hearths supported the suggestion that these sites were not used repeatedly, but rather were used on an irregular short-term basis as people passed through the area. Radiocarbon dates were obtained for seven of the hearths, all with ranges within the last 1,000 years. There is some suggestion of an increase in hearth construction around 600-700 years ago, but it is noted that further investigation would be required to test this theory.

B.4.3.13 Late Holocene human remains, K. Domett, L Wallis, D. Kynuna, A.Kynuna and H. Smith, 2006

Following exposure of human skeletal remains due to erosion along a creek line on a pastoral station, the remains were archaeologically excavated in conjunction with the Woolgar Valley Aboriginal Corporation. The burial was on a slightly elevated ridge, approximately 100 m from the ephemeral drainage line. The site was located within the Mitchell Grass Downs, approximately 100 km south of Richmond. The person was an adult female, probably of middle age. She had been buried in a crouched position, wrapped in paperbark.

With regard to comparative archaeological examples, the paper refers to a secondary inhumation of an adult near Julia Creek to the north, and a secondary interment of an adult within a cairn located within 50 km of the site. Comparison with details recorded in the ethnographic literature relating to the region revealed similar techniques; burial in a crouching position, and covering or wrapping of the corpse with grass or bark.

In the immediate vicinity of the burial were a dense surface stone artefact scatter, numerous heat retainer hearths, and some thin freshwater mussel shell middens. The close proximity of the burial to other archaeological features was suggested to be unusual. Dating of six of the hearths produced age determinations between ca. 400 and 1800 years ago. Two middens were dated to between 400 and 650 years ago. It is thought that the burial is later than these dated features, and represents the most recent phase of use of the site.

B.4.3.14 Gledswood shelter 1, L. Wallis, B. Keys, I. Moffat, and S. Fallon, 2009

This paper provides the initial results of radiocarbon determinations derived from excavation of Gledswood Shelter 1 (GS1), located in the sandstone escarpments in the foothills of the Gregory Ranges. The results are outlined in the context of the *refugia* theory, which characterises the northwest Queensland savannah, within which GS1 is located, as a corridor. Thirteen ages were obtained through radiocarbon dating of charcoal, indicating repeated use of the site throughout at least the last 28,400 years. It was suggested that the results support the suggestion that the savannah formed a corridor region, providing an avenue for the spread of human occupation from *refugia* once climatic conditions improved following the Last Glacial Maximum.

B.4.3.15 Rock art of Middle Park Station, V. Wade, L. Wallis and Woolgar Valley Aboriginal Corporation, 2011

This paper presents the results of a study of the rock art of Middle Park Station, located 120 km north of Richmond. The northern part of the property is dominated by the Gregory Range, which is characterised by broken sandstone tablelands dissected by the Norman River. The southerly and westerly parts of the property fall within the Strathpark Land System, which is a low-lying plain with the Woolgar River (a tributary of the Flinders River) as the main water source.

Systematic investigation of the Station began in 2002, and has resulted in the documentation of hundreds of sites, which are dominated in the northern sandstone country by rock shelters containing stencilled art.

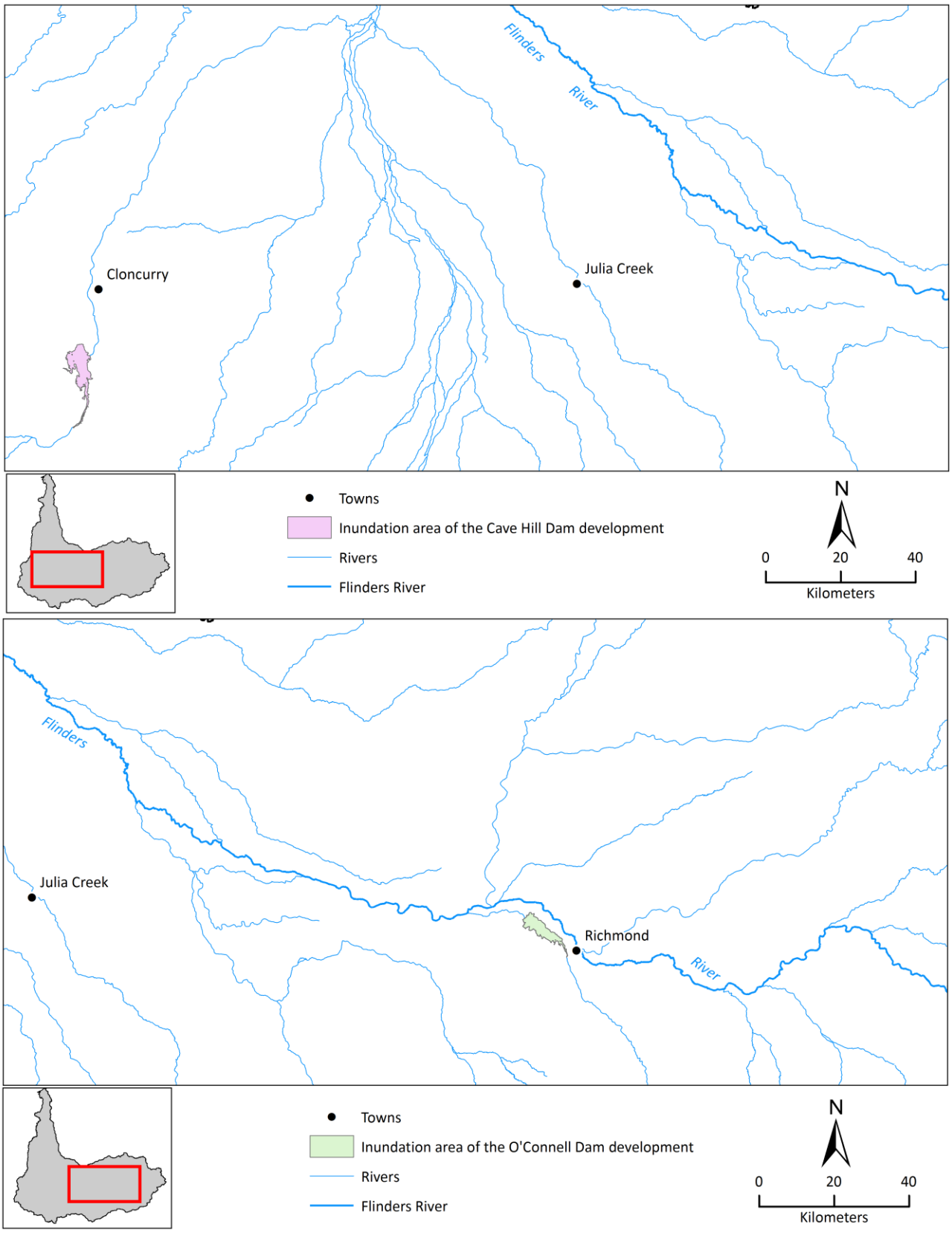
Excavation has been undertaken at four of these rock shelters. Occupation of two of these has been dated to the mid-Holocene (MP76: 4,820±70 BP; and MP83: 2,280±220 BP), a third is dated to the late Pleistocene (MP102: 14,080±210 BP), and the fourth (Gledswood Shelter 1) has a non-basal age of 28,419±320 BP. Initial analysis of the results indicates occupation of the region prior to the Last Glacial Maximum (LGM), abandonment or minimal use through the LGM, and major shifts in land-use strategies during the mid-Holocene.

The investigation at Middle Park Station involved survey of four areas of sandstone outcrops in close proximity to water. Motifs from 88 rock art sites were analysed. Together the sample is considered to comprise a relatively homogenous art body without internal stylistic boundaries or motif clusters; this is likely to be the result of the surveyed areas belonging to a single cultural group. It is suggested that the assemblage is distinct from the rock art of the surrounding regions; Cape York Peninsula Province, Mt Isa Province, Central Queensland Provinces.

In terms of social organisation, it is suggested that the art of the north Queensland highlands, including Middle Park Station, reflects open social networks. The people occupied a harsh environment, and it is posited that population levels were kept below maximum carrying capacity in order to allow for fluctuating and unreliable resource availability however no evidence for this is presented in the paper. The art does not appear to have been created for ceremonial purposes, and the rock shelters were used for a range of activities.

B.4.4 CASE STUDY AREAS

The Assessment evaluated existing proposals for significant water storages in the Flinders and Gilbert catchments, and identified new possibilities. Based on that preliminary assessment, three sites in each catchment were chosen for more detailed investigation. These sites were termed ‘case studies’. In the Flinders catchment, these were a possible site for an in-stream water storage referred to as the Cave Hill downstream site, an off-stream storage site near O’Connell Creek and a possible in-stream water storage site at Porcupine Gorge. Following further investigation, the Porcupine Gorge case study was omitted from further analysis in the overall Assessment, leaving two major storage options (Apx Figure B.6). The third major storage option was then replaced with an analysis of smaller-scale off-stream storages. It was beyond the Assessment scope to provide detailed locations for these smaller off-stream storages, but a map of existing users in the Flinders catchment provides some guidance to possible locations (Apx Figure B.7). General issues associated with such smaller off-stream developments are briefly discussed following analysis of the original major storage options.



Apx Figure B.6 Location of specific water storage options considered in Flinders catchment case studies (see McIntyre-Tamwoy, Bird & Atkinson, 2013). Map produced by CSIRO

B.4.4.1 Cave Hill downstream site

There is at present no Aboriginal Cultural Heritage Body for the Cave Hill case study area (Apx Figure B.6). There are two Aboriginal Parties:

- Mitakoodi and Maya People (QC96/101 PRC - QUD6106/98)
- Kalkadoon People #5 (QC06/2 PRC - QUD15/06)

There are three sites listed in the DATSIMA database (Apx Table B.2).

Apx Table B.2 Cave Hill sites in DATSIMA database

Site ID	Attribute
BJ00000432	Artefact Scatter
BJ00000433	Artefact Scatter
BJ00000435	Quarry, Artefact Scatter

No previous archaeological reporting relating specifically to the Cave Hill case study area has been located. However, the existence of listed sites indicates that some investigation has been undertaken. The presence of these sites and the results of investigations in the catchment more generally indicate that the area is likely to have high archaeological potential.

Further investigation, including archaeological survey, is required to assess the potential Aboriginal archaeological impact of works in this case study area. Any such investigation should be undertaken in consultation with the Aboriginal Parties. Should development proceed in this area, it is recommended that a Cultural Heritage Management Plan or Agreement be developed. Research with Aboriginal parties should include the collection and review of oral information from knowledgeable people and discussion regarding contemporary use of water sources in the case study area.

B.4.4.2 O'Connell Creek off-stream storage

There is at present no Aboriginal Cultural Heritage Body for the O'Connell case study case study area (Apx Figure B.6). There is one Aboriginal Party:

- Wanamara People Core Country Claim (QC06/18 PRC - QU460/06)

There are no sites listed in the DATSIMA database.

Previous archaeological investigation of the immediate area has been undertaken, and may have extended into the O'Connell case study area. The results of this work and of investigations in the catchment more generally indicate that the area is likely to have high archaeological potential.

In the late 1990s, an archaeological survey was undertaken of sections of Flinders River and O'Connell Creek, in the vicinity of Richmond (Crothers 1997). As a result of this work, 245 archaeological sites were recorded, the majority being within 200-400 m of permanent or seasonal surface water. The sites are thought to represent camping places, and evidence includes hearths, charcoal, shell and stone artefacts.

A proposed dam location on the Flinders River, adjacent to the O'Connell case study area, was assessed by Northern Archaeology Consultancies in May 1998. The report found that the study area was rich in Aboriginal archaeological resources. A large number of sites have been recorded along the Flinders River and O'Connell Creek, and it was considered that systematic archaeological survey would result in the recording of many more. The following observations and predictions were made:

- Highest densities of archaeological sites likely to be located close to major and relatively permanents sources of water.
- A previous study indicated that site density was as high as four sites per 100 m in the riverine zone.

- Elevated terrain, raised ridges, high creek banks above the reach of flood levels is likely to contain intact sites.
- Most commonly occurring sites are likely to be low density stone artefact scatters and associated hearth features.
- Rock art sites may occur where there are suitable rock outcrops, shelters, overhangs
- Base camps and small sites representing ephemeral occupation may exist
- Conditions for archaeological site preservation are poor in flood prone parts of the catchment area - potential may be significantly lower across low-lying flood plains of Flinders River and nearby watercourses.

Further investigation, including archaeological survey, would be required to assess the potential Aboriginal archaeological impact of works in this case study area. Any such investigation should be undertaken in consultation with the Aboriginal Party. Should works proceed in this area, it is recommended that a Cultural Heritage Management Plan or Agreement be developed. Research with Aboriginal parties should include the collection and review of oral information from knowledgeable people and discussion regarding contemporary use of water sources in the case study area.

B.4.4.3 Porcupine Gorge

The major storage option at Porcupine Gorge in the Flinders catchment 60km northeast of Hughenden was omitted from final consideration by the Assessment following the preliminary investigation phase. However the identification of cultural heritage issues is included here to fulfil the original terms of reference for the cultural heritage analysis. The Aboriginal Cultural Heritage Body for the Porcupine case study area is Yirendali Operations Pty Limited.

There are four sites listed in the DATSIMA database (Apx Table B.3):

Apx Table B.3 Porcupine Gorge sites in the DATSIMA database

Site ID	Attribute
EJ:A16	Engraving
EJ:A17	Painting
EJ:A18	Engraving
EJ:B10	Engraving

No previous archaeological reporting relating specifically to the Porcupine case study area has been located. However, the existence of listed sites indicates that some investigation has been undertaken. Results of investigations in the catchment more generally indicate that the area is likely to have high archaeological potential.

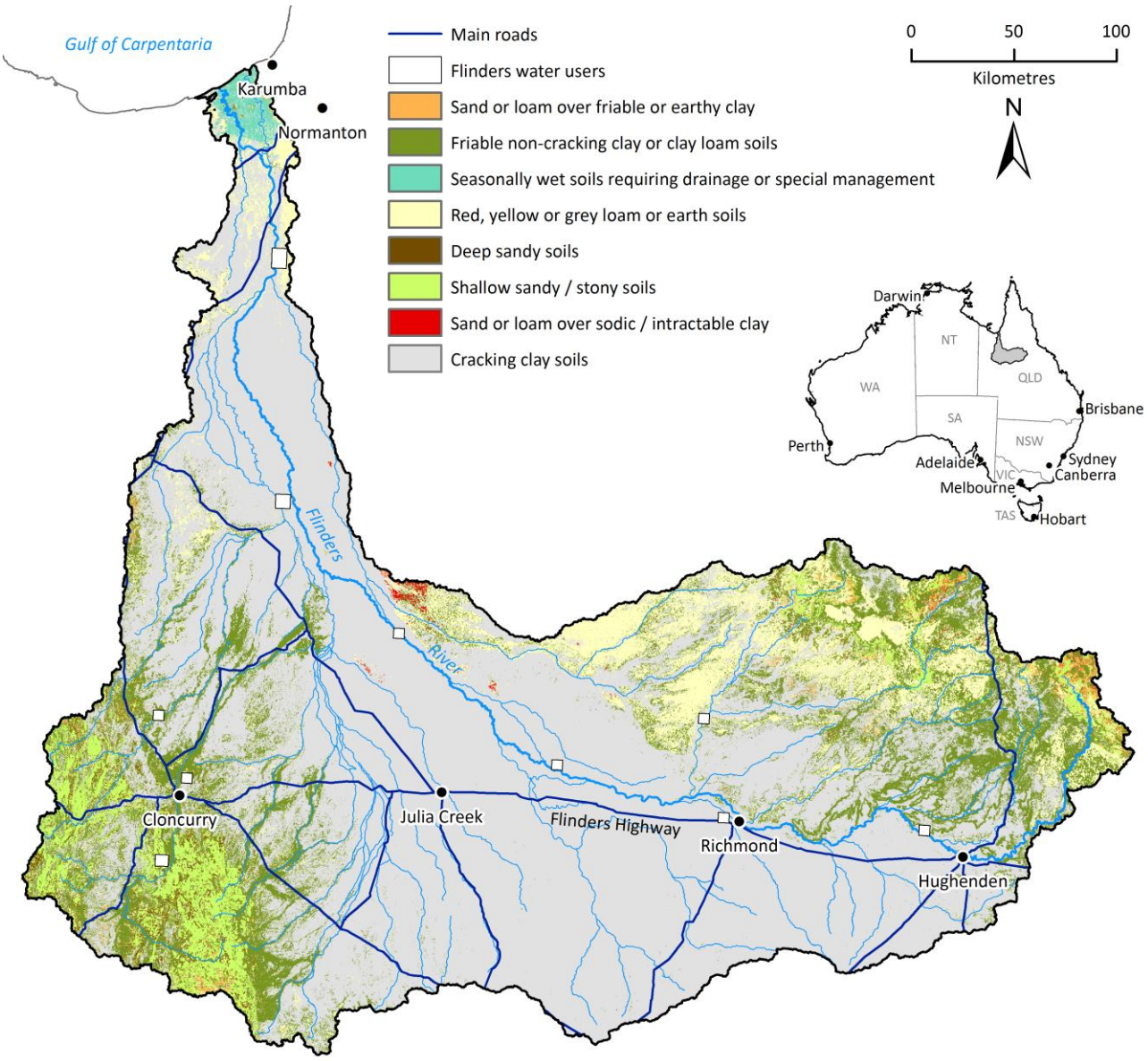
The investigation of the North Queensland Highlands undertaken by Morwood and others in the 1980s and early 1990s (e.g. Morwood 1990, 1992; Morwood & Godwin 1982) included intensive investigation of the junction of Porcupine and Prairie Creeks, and Prairie Gorge, to the south and east of the Porcupine case study area. The evidence suggested that this area had been occupied from c. 3,400 BP through to the post-contact period. Occupation was focussed on water sources, and it was suggested that this area was used as a base for the exploitation of the range of environments in the locality.

Further investigation, including archaeological survey, would be required to assess the potential Aboriginal archaeological impact of works in this case study area. Any such investigation should be undertaken in consultation with the Aboriginal Cultural Heritage Body. Should works proceed in this area, it is recommended that a Cultural Heritage Management Plan or Agreement be developed. Research with Aboriginal parties should include the collection and review of oral information from knowledgeable people

and discussion regarding contemporary use of water sources in the case study area. The impact on the Porcupine Gorge National Park would also need to be considered.

B.4.4.4 Hypothetical off-stream water storages in the Flinders catchment

There are a number of options for the construction of smaller off-stream water storages in both catchments, and the Flinders catchment is a particular focus for this work. All options incorporate substantial earthworks and inundation of the storage area, along with works to transfer water to the storage. Construction and use of off-stream water storage therefore has the potential to have major impacts to Aboriginal archaeological sites, the Aboriginal cultural landscape and an array of tangible and intangible cultural sites and values. However, if the off-stream storage options offer some flexibility in terms of location, it may be possible to minimise this impact through the variation of size and location of water storage areas to avoid identified cultural heritage places. If adequate archaeological surveys and consultation occurs prior to determining the fixed locations of access roads, storage areas and pipelines the potential impact on significant places may be avoided. This may be more difficult to achieve in large storage areas located on the rivers/streams themselves especially as we have noted previously that Aboriginal archaeological sites are likely to be clustered along the margins of water courses. The location of existing water users provides one guide to the possible location of off-stream storages might occur. These locations are shown for the Flinders catchment in Apx Figure B.7.



Apx Figure B.7 Location of existing water users in the Flinders catchment (map produced by CSIRO)

B.5 Gilbert Catchment

B.5.1 THE HISTORY OF THE GILBERT CATCHMENT

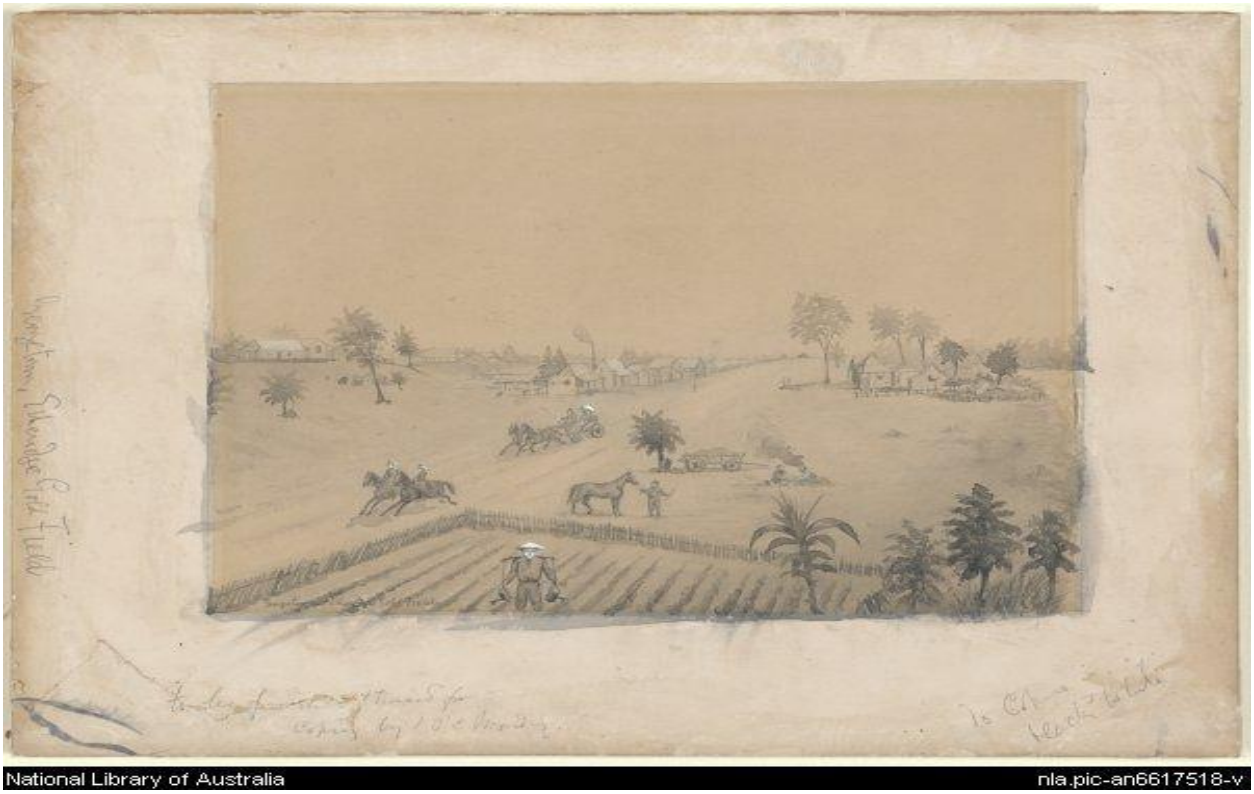
In 1868 the first of a number of gold rushes occurred on the Gilbert River (Wegner 1978:153). This led to a further influx of Europeans and increased pressure on local Aborigines. Violence ensued and some estimates (Gray 1913:78) are that 10 to 15 per cent of the European population were killed by Aborigines during the 1860s. In 1869 police presence in the area was increased in response to calls from settlers for greater protection and a Native Mounted police detachment was installed two years later at Oak Park. Wegner (1990:31) attribute the particularly violent relationships between Aborigines and Europeans in the region as due the high percentage of miners in the invading population. She points out that unlike pastoralists, miners

- had no stake in developing truce arrangements as they were often only intending to stay short term
- they did not provide alternative means for survival such as requiring indigenous labour

- their mining operations destroyed valuable waterholes
- polluting drinking water
- scaring away game
- they did not substitute native game with other edible animals such a sheep and cattle
- pushed into land that was mineral rich (often marginal for pastoralism) which had provided refugia for Aborigines displaced by pastoralism.

Pastoralism sometimes provided opportunities for Aboriginal people to remain close to country. Wegner (1990: 209) notes that by the 1920s the pastoral industry was re-emerging as the major industry and that Aborigines comprised a significant proportion of the pastoral workforce (op cit.:226). A Report of the Department of Aborigines for 1904 (PP1905:705 cited in Wegner1990:209) documented the fact that pastoralists valued Aboriginal stock men and considered them as 'good as and often more reliable than White stockmen.'

A consequence of this history in relation to looking at Aboriginal cultural heritage in the region is that it is highly likely that unrecorded sites relating to both the early mining and pastoral industry exist that are of Aboriginal significance.



Apx Figure B.8 Georgetown, Etheridge Goldfields, artist unknown (source National Library of Australia, http://nla.gov.au/nla.pic-an6617518)

B.5.2 PREVIOUS ARCHAEOLOGICAL INVESTIGATION

B.5.2.1 Overview

The Gilbert catchment, in comparison with the Flinders catchment, appears to have been subject to even less archaeological investigation. Much of the work that has been undertaken has been in the context of consulting projects, undertaken within relatively limited geographic scopes related to proposed developments such as quarries, or linear projects such as transmission lines and road developments. There are however several relevant detailed academic research projects that have been undertaken in the region which assist in providing a framework through which to view the results of the consulting projects. The information available indicates that the area has a rich assemblage of archaeological sites. In terms of

location, sites tend to be found in the vicinity of permanent or semi-permanent water, and/or on or adjacent to prominent natural features.

Intensive investigations have been undertaken at Esmeralda Station, within the Norman River catchment to the south of Croydon (AHR June 2003; Grant 1992; Salmon 1992). Almost 400 archaeological sites have been recorded here, with the most common type being artefact scatters and rock shelters with art. Other site types recorded include axe-grinding grooves, food grinding patches (Gorecki *et al.* 1994). The latter site types are concentrated on sandstone outcrops along seasonal watercourses. Gorecki and Grant developed a model for pre-contact Aboriginal settlement pattern for the region was based largely on the seasonal availability of water and food resources (Gorecki & Grant 1994 cited in NAC 1999:9)

Hatte (1989) notes that throughout the Etheridge Shire archaeological sites are frequently located where semi-permanent and reliable sources of fresh water are found (e.g. large waterholes, gorges, natural springs and native wells). This is consistent with research in the wider Georgetown region (Lovell 1994 and 1995).

Based on the sites registered with DATSIMA, quarry sites appear to be more common, or at least more commonly recorded, in the Gilbert catchment than in the Flinders catchment. The stone would have been used locally, but it is also thought that stone axes were traded with other groups in the Gulf of Carpentaria and to the west. Other site types in the region include bora grounds, and burials are known to be present outside Georgetown (NAC June 2003).

There are accounts of Aboriginal massacres and frontier killings in the region (Hillier 1994 and Rosser 1990) and further historical investigation and Aboriginal community consultation is required to verify these and identify if specific locations are known. In past cultural heritage assessments Ewamian people have reported that the forcible removal of Ewamian people from their traditional homelands continued until as recently as the 1930s (Ron Richards pers. comm. cited in NAC 2003:17) and this would also suggest that there will be significant contact and post-contact sites in this region dating to the period from initial European settlement until well into the twentieth century. Historical accounts from the region also confirm the Aboriginal focus on the resources of rivers and lagoons. Several explorers reported on the economic richness of local rivers and lagoons, the large numbers of Aboriginal people inhabiting them and the specialised material culture such as finely made nets, fishing spears and fish traps (e.g. Jardine cited in Byerley 1867; Leichhardt 1847). This reliance on riverine resources was also reflected in the Aboriginal foods that explorers noted such as mussels, crocodiles, fish, water birds and aquatic plants (Wegner 1990).

B.5.3 SUMMARY OF PREVIOUS REPORTING

B.5.3.1 Esmeralda: a consideration of natural formation processes and their effect on archaeological sites, Salmon 1992

Salmon (1992) undertook field research involving a sample survey at Esmeralda Station for his BA Honours archaeology dissertation. Esmeralda covers a large area of around 4047 sq. km and is located approximately 150 km south-west of Croydon.

Salmon (1992:21) includes a consideration of the effects of flooding on site survival and distribution which is a pertinent consideration in terms of the catchment generally but particularly the flat lower catchment towards the Gulf of Carpentaria. For example:

The major flooding of 1974 presents a pertinent example of these processes. During that year the entire Gulf Plain was transformed into a virtual inland sea, with the Gulf of Carpentaria land indistinguishable from flood waters that extended 240km inland and 400km across (Townsville Daily Bulletin 1974b: January 28 p2…The dramatic destructions of buildings, stock and vegetation reflects this. On Esmeralda station itself the two storey homestead which is built on the 180m contour was covered to the first floor by floodwaters. For months afterwards animal corpses were discovered in tree tops. Indeed along many of the watercourses surveyed in 1992 flood debris was still visible at the tops of large trees which line their banks... (Salmon 1992:p25-26).

This is important to consider in any analysis of the meaning of relative site distributions i.e. the lack of archaeological evidence cannot necessarily be taken to mean that sites did not occur in the past. Two of the more robust site types that have survived such flooding are axe grinding grooves and seed grinding areas on bed rock.

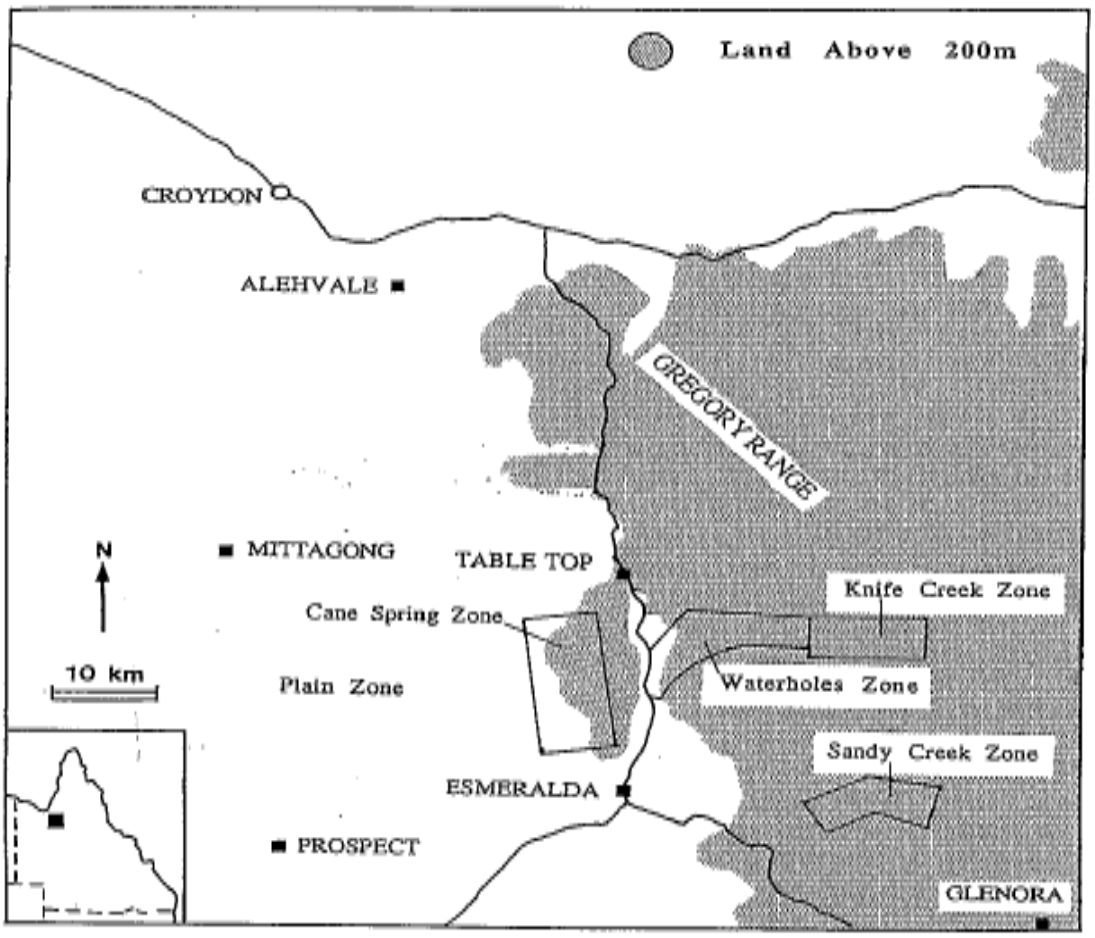


Fig. 2.1. The five zones within which archaeological surveys were conducted.

Apx Figure B.9 Salmon's survey areas

B.5.3.2 To go through the mill: aspects of past Aboriginal life in the Croydon region, Gulf of Carpentaria, Grant 1992

This student project was documented in a BA (Hons) dissertation completed by Miranda Grant. The field work was undertaken on Esmeralda Station in tandem with Salmon (1992) but the analysis focussed on the 'grinding patches' described as grindstones fixed in bedrock rather than on portable slabs. Although Grant had limited funding to support techniques such as residue analysis, she concluded that the combination of these grinding patches (millstones) and mullers is related to specialised seed processing. Residue analysis of two mullers revealed evidence of both tubers and grass seeds. Grant suggested that, as the study area was within a transition zone between the tubers (yams) of the north and the seeds of the south (Mitchell grasslands), the people at Esmeralda were able to exploit both resources.

B.5.3.3 Gulf Developmental Road, east of Croydon, Northern Archaeology Consultancies P/L (Amanda Lovell-Pollok and Michele Bird), December 1996

An archaeological assessment was undertaken in advance of the proposed realignment of two sections of the Gulf Developmental Road, to the east of Croydon,

The review of previous archaeological work indicated that a substantial number of archaeological sites have been recorded in the Croydon region. Site types include stone artefact scatters, stone arrangements, axe-grinding grooves, scarred trees and rock paintings. In terms of site distribution, known sites are frequently located on or adjacent to prominent natural features such as water courses, rocky outcrops, and major geological features.

B.5.3.4 Cable route, Forsayth, Northern Archaeology Consultancies (Amanda Lovell-Pollok and Michele Bird), October 1997

An archaeological assessment was undertaken in advance of installation of an optic fibre cable. The route was approximately 1.5km in length, running north from the town of Forsayth adjacent to the Forsayth-Georgetown Road.

The background research undertaken for the assessment indicated that little previous archaeological work had been conducted at Forsayth, but that a substantial amount of work had been undertaken in the Georgetown district. A large number of archaeological sites had been recorded in this district. Site types include stone artefact scatters, stone arrangements, axe grinding grooves, scarred trees, rock paintings and rock engravings. With regard to distribution, it was noted that known archaeological sites are frequently located on, or immediately adjacent to, prominent natural features such as water courses, rocky outcrops or major geological formations (such as sandstone escarpments, basalt ridges and granite boulders).

The assessment did not result in the identification of any significant archaeological sites within the study area. This was considered to be largely a result of substantial previous disturbance, from land use including grazing, mining and infrastructure developments.

B.5.3.5 Copperfield Dam, Einasleigh district, Northern Archaeology Consultancies (Michele Bird and Amanda Lovell-Pollok), May 1998

This report was a preliminary desktop study, undertaken to inform a feasibility study of water resource development options in the Einasleigh area. The options were centred on the existing Copperfield River Dam (Kidston Dam). The investigation consisted of a review of previous reports, and preliminary consultation with representatives of the Ewamian Aboriginal Corporation and the North Queensland Land Council.

The background review noted a substantial amount of previous archaeological work in the Etheridge Shire. Much of this has been undertaken for environmental assessments, and is relatively limited in scope. However, more comprehensive studies have been undertaken for academic research projects, including projects around Georgetown and on Esmeralda Station near Croydon.

The most common site type recorded in the Shire is low density artefact scatters, which are often located at or around watercourses, and which appear to represent ephemeral occupation based around the seasonal use of intermittent streams. Other site types recorded include stone arrangements, quarries, axe-grinding grooves, scarred trees and rock shelters with art.

In terms of distribution, sites are frequently located on or immediately adjacent to prominent natural features or landforms such as watercourses, rocky outcrops or major geological formations (such as basalt ridges, sandstone escarpments, granite boulders). Sites are frequently located where semi-permanent and reliable sources of fresh water are found (such as large waterholes, gorges, natural springs and wells).

The assessment concluded that the study area has high archaeological potential and is likely to contain a range of sites. The region is known to have a large number of sites, and the available information indicates that major watercourses, such as the Einasleigh and Copperfield Rivers, were a focus of occupation.

B.5.3.6 Proposed quarry, Belmore Creek, Croydon, Northern Archaeology Consultancies (Michele Bird) August 1998

A cultural heritage assessment was undertaken in advance of proposed gravel extraction at a site at Belmore Creek near Croydon. The study area is located on the north east side of the Gulf Developmental

Road, upstream from the Belmore Creek bridge crossing, and is within the Croydon Town Common. The proposal was for the extraction of stone from the bed and banks of Belmore Creek.

Review of previous archaeological reports indicated that a substantial number of Aboriginal archaeological sites had been recorded in the Croydon area. The most common site type recorded is artefact scatters, which are often located at or near watercourses, and are thought to represent ephemeral occupation based on the seasonal use of intermittent streams. Other recorded site types include scarred trees, rock paintings and axe grinding grooves. With regard to distribution, based on evidence available so far, it appears that sites are frequently located on or immediately adjacent to prominent natural features or landforms such as watercourses, rocky outcrops or major geological formations; and where semi-permanent sources of fresh water are found (such as large waterholes, gorges, natural springs and wells).

Rock paintings and artefact scatters have been recorded in areas to the south east of Croydon, around The Pyramids, at McEvoy Creek and at Moonlight Creek. The assessment also noted unconfirmed reports of substantial numbers of sites on pastoral stations such as Tabletop and Alehvale in the immediate vicinity of Croydon.

The assessment outlined the results of intensive archaeological investigations that have been undertaken at Esmeralda Station, about 100 km to the south of Croydon. The investigation has resulted in the recording of 204 archaeological sites, the most common site type being artefact scatters (151). Other site types recorded included rock art, axe grinding grooves and food grinding patches. Grinding patches are generally located on outcropping bedrock in close proximity to water. They may have been used for processing grass seeds. Initial interpretation of the results suggested that the occupation of the Croydon region was based largely on the seasonal availability of water and various staple food resources.

At the time the assessment was carried out, a site recording project was underway in the Georgetown area, and had resulted in the recording of a substantial number of archaeological sites. A recent previous assessment of a section of O'Brien Creek (approximately 3 km from the Belmore Creek study area) had resulted in the recording of a number of low density stone artefact scatters. The evidence was interpreted as resulting from assaying and core reduction on the O'Brien Creek gravel bars, and further core reduction and flake retouching in locations away from the creek channel.

The assessment resulted in the identification and recording of three Aboriginal cultural heritage sites; two artefact scatters (BC3 and BC4) and a stone quarry (BC2). The site BC3 was a high density scatter (ranging up to 20 artefacts per square metre), located on flat terrain adjacent to the creek. The artefacts were recorded on either side of a haul road, extending over a length of approximately 150 m. The site includes a feature that may be the remains of a hearth. The site BC4 was a low density scatter, located on eroded terrain along the creek banks. It extends for a distance of approximately 150-200 m along the bank. Artefacts included a unifacial stone axe blank.

The quarry site consisted of surface outcrops of fine-grained rhyolite, with evidence of Aboriginal quarrying, exposed along the north-east bank of Belmore Creek. The evidence of quarrying extended over an area of 100-150 m along the bank. It was located adjacent to semi-permanent water holes in the bed of the creek. A fragment of a sandstone grinding platform was located in the vicinity of the site.

The archaeological evidence indicated that the area had been used quite intensively, targeted for the ready source of rhyolite, which was used to make artefacts. Information provided by the Tagalaka traditional owner who participated in the assessment indicated that stone axes were traded by Tagalaka people to other groups in the Gulf of Carpentaria, and to the west. In addition, Belmore Creek has semi-permanent water holes, which would have been a further focus of occupation in the semi-arid Gulf country. Other site types may have been established in the vicinity; a Tagalaka representative noted the presence of a bora ring in hills to the east of the study area. A large tree with possible cultural marking was also noted in the vicinity (tentatively identified as *Lophostemon* sp.).

B.5.3.7 Proposed gravel extraction, Welcome Creek, Croydon, Northern Archaeology Consultancies (Michele Bird) January 1999

A cultural heritage assessment was undertaken in advance of proposed gravel extraction on Welcome Creek, about 7 km to the north of Croydon. The survey of the study area resulted in the identification and recording of seven Aboriginal archaeological sites; six low density artefact scatters (including one with three hearth features), and one stone quarry/extraction site. A range of artefacts is present, including at least three unifacial stone axe blanks. Raw materials include silcrete, rhyolite, porphyry and milky vein quartz, all of which are available locally.

All but one of the artefact scatters are located at watercourses, usually on creek banks or creek terraces. It is suggested that the archaeological evidence derives from ephemeral occupation of the locality, based around the seasonal availability of fresh water; larger base camps may have been located near more reliable and semi-permanent sources of water, such as Belmore Creek.

The quarry site was located amongst what appeared to be outcrops of porphyry on the banks of a small stream channel. A small number of pre-cores and large flakes were noted, extracted from small boulders on the creek bank, and representing extraction of raw material for artefact manufacture. The evidence was distributed over an area of about 10 square metres.

B.5.3.8 Proposed rock and gravel extraction, Belmore Creek, Croydon, Northern Archaeology Consultancies (Michele Bird) February 1999

A cultural heritage assessment was undertaken in advance of proposed rock and gravel extraction in Belmore Creek about 5 km north of Croydon. The study area was approximately 1 km in length, and included the creek channel, banks and adjacent areas. The assessment did not result in the identification of any Aboriginal archaeological sites in the study area. This was thought to be due to modern disturbance of the study area.

B.5.3.9 Proposed exploration area, Agate Creek, Forsayth District, Northern Archaeology Consultancies (Michele Bird) August 2001

A cultural heritage assessment was undertaken in advance of proposed mineral exploration activities at Old Robin Hood Station in Forsayth district. The subject area consisted of about one square kilometre adjacent to Agate Creek and approximately 40 km south of Forsayth.

It was noted that Cole (1992) has undertaken investigations at Agate Creek, resulting in the recording of over 30 locations with rock art amongst sandstone outcrops adjacent to the Creek. It was also noted that a detailed archaeological survey of the Robertson River region, to the north of the study area, had been undertaken in 1997, but that the results of this work were confidential and could not be obtained.

The survey resulted in the identification of two possible scarred trees (including a 'sugarbag' tree), a low density stone artefact scatter, an isolated find, and a site complex including rock shelters and art in sandstone escarpments. Note was also made of significant plants and ethno- botanical resources. The artefact scatter was located on an alluvial terrace adjacent to Agate Creek, and is thought to represent a small campsite.

The identified site complex consisted of rock shelters, art (painted and engraved), axe grinding grooves, and stone artefacts. This was located amongst sandstone escarpments to the east of the study area. A one-kilometre stretch of this cliff line was inspected.

B.5.3.10 Cable installation, Gulf Developmental Road, Georgetown to Mount Surprise, Northern Archaeology Consultancies P/L (Michele Bird) August 2002

A preliminary cultural heritage study was undertaken to inform planning for proposed optic fibre cable installation between Georgetown and Mount Surprise. The study area was approximately 90 km in length and was for the most part located within the road reserve of the Gulf Developmental Road.

The outline of previous work included a survey of a power line route to the east of Mount Surprise, between the Gulf Developmental Road and the Undara Lava Tubes Tourist Lodge (undertaken by Mardaga-Campbell and Hatte in 1991). The survey located a number of artefact scatters and a scarred tree. All sites were either in the vicinity of One Hundred Mile Swamp or along the eastern edge of the Granite Range. The artefacts found were predominantly made on milky and crystal quartz, indicating use of the quartz veins in granite outcrops in the region.

The following points were made regarding the archaeological potential of the study area:

- archaeological potential will be strongly influenced by the degree of previous disturbance
- the most common archaeological sites are open occupation sites, usually consisting of artefact scatters. Other commonly recorded sites include isolated finds, scarred trees, stone quarries and axe-grinding grooves. Rock shelters with art are found where suitable outcrops exist and where conditions are conducive to the preservation of the art
- watercourses are likely to have considerable archaeological potential. Associated landforms, including alluvial plains, creek banks and creek terraces, are likely to contain archaeological remains. Even small ephemeral watercourses are likely to have some archaeological potential.
- in addition to watercourses, landforms with high potential include rocky outcrops where suitable raw material exists for quarrying and/or where rock shelters and overhangs are present suitable for habitation and the preservation of art and cultural deposits.

B.5.3.11 Proposed cable, Mount Surprise to Normanton, Northern Archaeology Consultancies P/L (Michele Bird) June 2003

A cultural heritage assessment was undertaken in advance of a proposed optical fibre cable installation, from Mount Surprise to Gilbert River. This was a second stage of the preliminary investigation outlined above (Northern Archaeology Consultancies August 2002). The study area is approximately 180 km in length, and largely runs alongside the Gulf Developmental Road, although there are significant deviations where the route passes across the Newcastle Ranges.

The survey resulted in the identification of four Aboriginal archaeological sites, consisting of two low density stone artefact scatters, a bora ground (ceremonial ground) and a rock outcrop with potential sensitivity. Both of the artefact scatters are located on intermittent watercourses, and are thought to represent ephemeral occupation sites. The bora ground consists of a circular formation, which appeared to be natural, in the local Mount Surprise basalt, with a central depression. It was identified by the Ewamian representatives participating in the survey. The rock outcrop was not within the study area, and was not thoroughly inspected. However, it was considered possible that the outcrop may have rock shelters or overhangs with art and cultural deposits.

No archaeological sites were found in the Newcastle Ranges stretch of the study area. It is suggested that the ranges may have been visited to obtain food and other resources such as stone, but that base camps were located on the plains surrounding major and permanent watercourses such as the Etheridge, Einasleigh and Gilbert Rivers.

The Ewamian representatives noted that several Aboriginal burials are located at Sandy Creek on the western outskirts of Georgetown. The location of the graves is outside the study area, and is not given in the report, but is known to the Ewamian people.

The relatively low number of sites is thought to be a result of the very high level of previous disturbance in the study area, particularly where the route runs parallel with the Gulf Developmental Road.

B.5.3.12 Cable installation, Norman River to Gilbert River, Acacia Heritage Research P/L (Pawel Gorecki) June 2003

A cultural heritage assessment was undertaken in advance of the proposed installation of optical fibre cable between the Norman River and the Gilbert River. The study area was approximately 230 km in length and ran adjacent to the Gulf Developmental Road. It was noted that part of the study area ran through the Gulf Plain, which is a depositional environment where the predominant geomorphic processes would tend to

bury archaeological remains, reducing surface visibility. The other part of the study area ran through the hill country, an erosional landscape which would tend to promote visibility of archaeological remains.

The background review outlined the results of investigations undertaken by Gorecki on Esmeralda Station near Croydon, between 1992 and 1995. The surveys have resulted in the identification of almost 400 archaeological sites. The most common site types recorded are rock shelters with art and open artefact scatters. A large number of axe-grinding grooves and food grinding patches have also been identified. The majority of the grinding patches are located at the edge of bedrock slabs in close proximity to water, and are thought to have been used for the processing of grass seeds. Based on the results of the investigations, a detailed settlement pattern has been proposed for the occupation of the wider Croydon region, based largely on the seasonal availability of water and food resources.

A number of general and predictive statements were developed:

- the most common site types include artefact scatters, rock art, grinding patches, and axe-grinding grooves
- sites are often located near watercourses and appear to represent ephemeral occupation based on the seasonal use of intermittent streams. Larger sites, representing more permanent or regular occupation, are found in the vicinity of more reliable sources of water
- archaeological sites are frequently located near prominent natural features such as watercourses, rocky outcrops and major geological features (such as sandstone escarpments, basalt ridges and large granite boulders). The presence of semi-permanent sources of fresh water also appears to have formed a focus
- few sites have been found in the Gulf Plain, away from water sources. This is considered to be due largely to two reasons. The Plain would have been exploited from base camps located on the periphery, resulting in little archaeological evidence being deposited on the Plain. In addition, the movement of surface soils in this landscape will tend to bury archaeological evidence, leaving little visible on the surface.

The survey resulted in the identification of a number of Aboriginal archaeological and heritage sites.

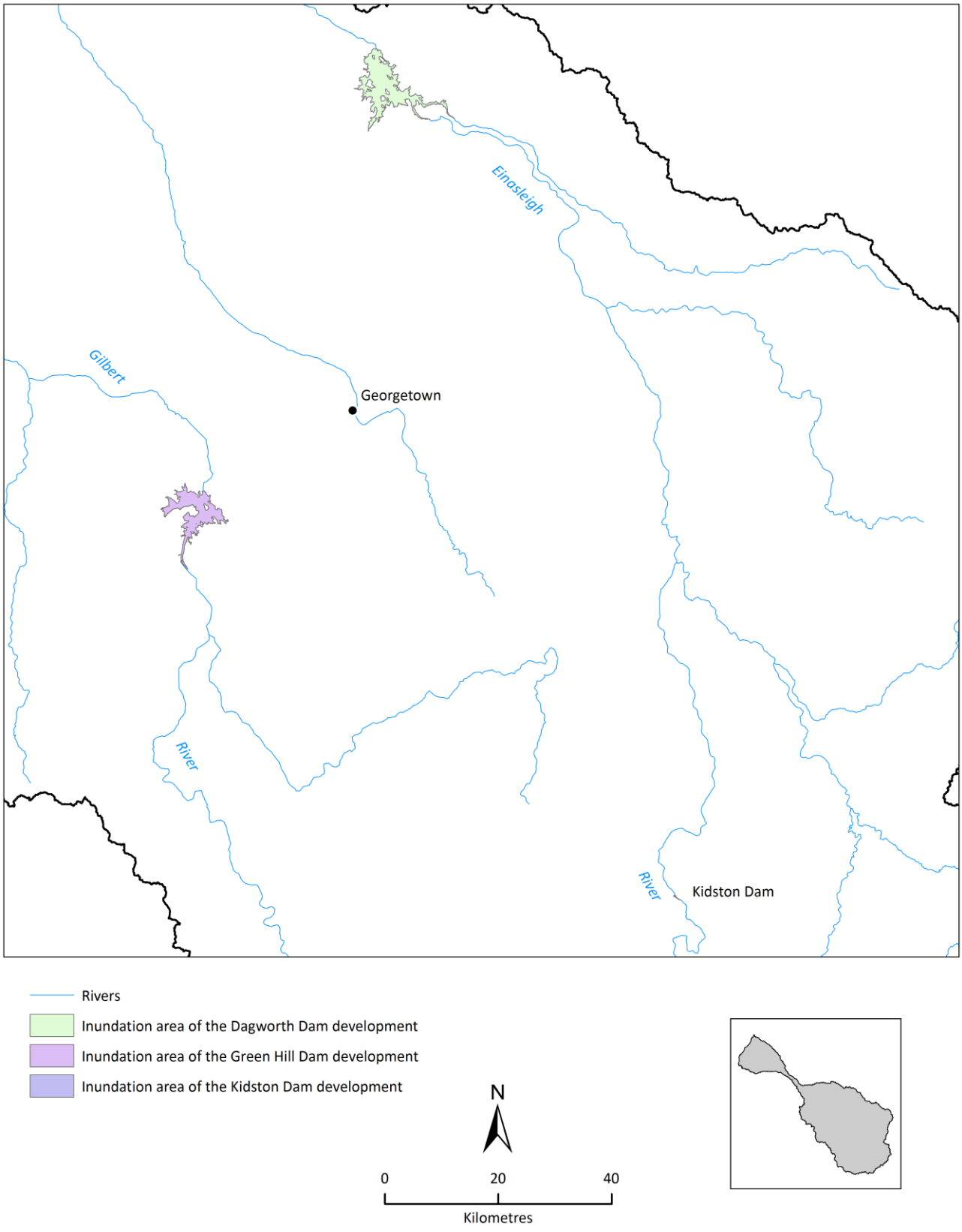
- a clearing interpreted as a potential bora ground, including an ash deposit and a clump of swampy grass, but no other material evidence was apparent.
- three isolated finds, including a ground edge axe and a flaked chopper or hand axe
- a feature interpreted as a grave, possibly from the post-Contact period, in close proximity to an outcrop of rhyolite which shows evidence of quarrying. Recorded as a single site.
- Belmore Creek crossing, which is considered to be a focus of Aboriginal occupation in both the pre and post-contact periods, with artefacts evident in the vicinity.
- True Blue Reserve, being the entire area between Belmore Creek and Croydon, with multiple heritage values relating to the post-Contact period.
- Waratah Reserve, an Aboriginal Reserve which has been handed back by the Queensland Government to the Tagalaka people. The reserve was not surveyed, but is said to contain a number of specific features of significance, including graves.
- an artefact scatter and quarry associated with silcrete outcrops, including hearths. Located on the floor of an open valley with a small intermittent creek.

In addition, the presence of ceremonial sites in the vicinity of the study area was noted. However, the locations of these were considered sensitive and were not included in the report.

B.5.4 CASE STUDY AREAS

Three specific case studies were considered in relation to possible water storage areas in the Gilbert catchment. The possibility of off-stream storage sites also exists in the Gilbert catchment, but these were not investigated further as part of the Assessment. The cultural heritage issues relating to off stream storage developments noted above for the Flinders catchment are also relevant to the Gilbert catchment. The three main storages analysed in the Gilbert catchment were new sites at Dagworth, Green Hills and an

expansion of the smaller existing Kidston/Copperfield River Gorge.storage (Apx Figure B.10). These sites are considered in terms of the likelihood of impacting Aboriginal Cultural Heritage places below.



Apx Figure B.10 Location of specific water storage options considered in Gilbert catchment case studies (see McIntyre-Tamwoy, Bird & Atkinson, 2013). Map produced by CSIRO

B.5.4.1 Dagworth

There is at present no Aboriginal Cultural Heritage Body for the Dagworth case study area (Apx Figure B.10). There are two Aboriginal Parties:

- Ewamian People #2 (QC99/13 - QUD6009/99)
- Ewamian People #3 (QC01/16 - QUD6018/01).

There are no sites listed in the DATSIMA database.

No previous archaeological reporting relating specifically to the Dagworth case study area has been located. However, results of investigations in the catchment more generally indicate that the area is likely to have high archaeological potential.

Further investigation, including archaeological survey, would be required to assess the potential Aboriginal archaeological impact of works in this case study area. Any such investigation should be undertaken in consultation with the Aboriginal Parties. Should works proceed in this area, it is recommended that a Cultural Heritage Management Plan or Agreement be developed. Research with Aboriginal parties should include the collection and review of oral information from knowledgeable people and discussion regarding contemporary use of water sources in the case study area.

B.5.4.2 Green Hills

At the time of writing there is no Aboriginal Cultural Heritage Body for the Green Hills case study area (Apx Figure B.10). There are three Aboriginal Parties:

- Ewamian People #2 (QC99/13 - QUD6009/99)
- Ewamian People #3 (QC01/16 - QUD6018/01)
- Tagalaka People #2 (QC01/22 DET - QUD6020/01).

Part of the case study area has no Aboriginal Party at present.

There are no sites listed in the DATSIMA database.

No previous archaeological reporting relating specifically to the Green Hills case study area has been located. However, results of investigations in the catchment more generally indicate that the area is likely to have high archaeological potential.

Further investigation, including archaeological survey, would be required to assess the potential Aboriginal archaeological impact of works in this case study area. Any such investigation should be undertaken in consultation with the Aboriginal Parties and other relevant Aboriginal stakeholders. Should works proceed in this area, it is recommended that a Cultural Heritage Management Plan or Agreement be developed. Research with Aboriginal parties should include the collection and review of oral information from knowledgeable people and discussion regarding contemporary use of water sources in the case study area.

B.5.4.3 Kidston (Copperfield River Gorge Dam)

At the time of writing there is no Aboriginal Cultural Heritage Body for the Kidston case study area (Apx Figure B.10). There are two Aboriginal Parties:

- Ewamian People #2 (QC99/13 - QUD6009/99)
- Ewamian People #3 (QC01/16 - QUD6018/01).

There are no sites listed in the DATSIMA database.

The case study area is the location of an existing dam on the Copperfield River, constructed in 1984. Construction and use of this dam is likely to have resulted in the destruction of Aboriginal archaeological sites within the footprint. However it is considered that archaeological potential exists within the Kidston case study area outside this footprint.

A desktop assessment of the case study area was undertaken by Northern Archaeology Consultancies in May 1998 (NAC 1998). The assessment found that the most common recorded site type in the locality is

artefact scatters, and that stone arrangements, quarries, axe-grinding grooves, scarred trees and rock shelters with art are also present. Sites are frequently located in proximity to water and/or prominent natural features.

The assessment concluded that the case study area has high archaeological potential and is likely to contain a range of sites. The region is known to have a large number of sites, and the available information indicates that major watercourses, such as the Einasleigh and Copperfield Rivers, were a focus of occupation. Further investigation, including archaeological survey, would be required to assess the potential Aboriginal archaeological impact of works in this case study area. Any such investigation should be undertaken in consultation with the Aboriginal Parties. Should works proceed in this area, it is recommended that a Cultural Heritage Management Plan or Agreement be developed. Research with Aboriginal parties should include the collection and review of oral information from knowledgeable people and discussion regarding contemporary use of water sources in the case study area.

B.6 Discussion of issues arising from the review

B.6.1 GAPS IN RESEARCH COVERAGE

The gaps in research coverage can be divided into geographic and physical gaps and thematic gaps. It is interesting to note that while many of the Aboriginal cultural heritage reports comment on a perceived lack of site density and link this to the marginal nature of the country, nearly all studies that have been undertaken in the Flinders and Gilbert River catchments have revealed Aboriginal cultural heritage sites, and sometimes in significant numbers. It would seem that many of currently gaps in site distribution may relate simply to gaps in survey coverage. Detailed land-use/disturbance mapping of the catchments would help to reveal not only where the geographic gaps (see Apx Figure B.2) will be unable to be plugged due to post-contact modification of the landscape; it will also help test some of the fairly loosely constructed theories that various archaeologists have put forward to explain site distributions. Detailed land-use disturbance mapping should be undertaken as a priority prior to opening up of development opportunities in the region as it will be an essential component of any GIS based predictive modeling tool.

In relation to thematic gaps, the most obvious relate firstly to the identification of historic places of significance to Aborigines (see below) sometimes referred to as ‘shared heritage’ places (cf. Harrison 2004); and secondly to non-archaeological sites such as story places and current resource use places. Substantial work in these areas may be locked away in anthropological reports undertaken for native title cases. While there may be valid reasons for not disclosing such information while cases are being prepared, it will be important that this information is brought to light as soon as it can be so that it can inform planning decisions for the region.

B.6.2 PREDICTIVE MODELLING – WHAT MAY OCCUR

Archaeologists often use ‘predictive models’ to make statements about the expected nature and distribution of cultural heritage sites and places across the landscape. Paton (1997:3.1.1) notes that predictive modeling is a highly useful tool for development projects, “where one of the prime goals is to assign degrees of archaeological sensitivity to various land units, which in turn can be used to assess the nature of a particular development’s impact on cultural resources”. The shortfall of predictive modeling is that it is difficult to predict the likely occurrence and distribution of some types of non-archaeological sites of significance to Aboriginal Traditional Owners. Paton suggests that the strength of the predictive model “lies primarily in its ability to predict the occurrence of the most typical site types” (Paton 1997:3.1.1).

This assessment (and predictive statements) is made primarily on the basis of the results of the literature reviews and heritage searches outlined in the above sections (see AHMS (2013) for a more detailed discussion of the literature). No detailed consultation has yet been undertaken with the Traditional Owners about the specific sites identified here or the study areas more generally. Some general predictive

statements and a preliminary assessment of Indigenous cultural heritage potential are provided for the case study areas. These are that:

- The case studies will potentially impact large tracts of country. This type of development can be assessed as a high impact development, resulting in major transformation of the existing landscape. The size and scale of the case study areas mean that they each have the potential to impact upon cultural heritage sites and values
- The cultural heritage potential of the case study areas will vary, according to the various landforms and environmental zones and the degree of previous disturbance within each of these zones. Some areas might be expected to have a moderate to high level of cultural heritage potential (such as elevated river banks and rocky outcrops and escarpments), while other areas may have lower levels of cultural heritage potential (e.g.: low-lying, flood prone areas and heavily disturbed areas where there has been extensive surface and subsurface ground disturbance due to farming, land clearing, etc.)
- The possibility remains that systematic cultural survey of the case study areas may locate highly significant cultural sites and values (such as rock art or stone quarries/extraction sites). Such sites are best managed by avoidance.

B.6.2.1 Rivers and other water sources and site density

Previous archaeological investigations in the two catchment areas have consistently confirmed that major watercourses and their tributaries tend to be highly sensitive environments from a cultural heritage point of view. Prior to European invasion of the area, Aboriginal people focussed their campsites and subsistence activities on major watercourses and drainage lines. The cultural heritage potential of these landforms and their immediate surrounds is therefore assessed as moderate to high.

Sizeable watercourses, especially those with semi-permanent water, have been found to contain archaeological evidence for ephemeral 'dinnertime camps', but also more complex Aboriginal base camps. Low-density stone artefacts scatters, isolated artefacts and hearths appear to be relatively common on the elevated banks and terraces of watercourses throughout the case study areas. Overall, the potential for watercourses to retain intact archaeological sites and evidence may depend upon the degree of previous disturbance and degradation along elevated banks and terraces.

B.6.2.2 Rock shelters, engravings, grinding grooves, art sites and stone arrangements

Given the geology of the case study areas, it is possible that rock shelters or overhangs containing Aboriginal cultural sites such as rock art and cultural deposits might be present.
Several art sites and engraving sites have been recorded in the Porcupine and Prairie Creeks area. Rock shelters will be confined to the upper catchments where the geology and erosion favours the development of overhangs.

B.6.2.3 Artefact scatters, campsites, scarred trees

It is predicted that the most common Aboriginal cultural heritage sites or finds across the case study areas will be low-density stone artefact scatters and isolated artefact finds. A range of artefact types might occur (grindstones, hammer-stones, anvils, blades, stone axes, etc.). However, the most common stone artefacts are very likely to include primary and secondary waste flakes, cores and core fragments and debitage.

Scarred trees may exist if there is remnant or old growth native vegetation in the case study areas. Previous research indicates that cultural scars are often located on large, mature trees in the vicinity of major watercourses.

B.6.2.4 The potential for significant subsurface archaeological sites

At this stage it is difficult to assess the potential for intact subsurface cultural sites and/or deposits to exist within the study areas. The potential for subsurface remains can be better assessed at a later time, following comprehensive surface archaeological surveys, consultation with the Traditional Owners, detailed field observations of local landforms and environments, and the extent to which some of these

environments might be conducive to the long-term preservation of archaeological sites and remains. Several studies (once again focussed in the upper catchments) have revealed datable subsurface deposits and from these has been gleaned important information about Aboriginal adaption to environmental change (i.e. the opportunities provided by the activation of Mickey Springs) and technological and economic initiatives such as the increased focus on seed grinding at around 3,400 years ago.

B.6.2.5 Story places and other places of intangible heritage value

The case study areas may contain non-tangible cultural sites of significance to the Aboriginal Traditional Owners. These sites include story places, ceremonial places, burial places, dreaming tracts, myth cycles, etc. In most cases, these types of cultural sites leave no physical trace in the archaeological record and can only be identified by knowledgeable Elders or senior Traditional Owners/custodians.

B.6.2.6 Cultural heritage sites relating to the historic (contact and post-contact) past

There is potential for early settlement and historical sites across the case study areas. Historical sites and features might include old roads, stock routes, coach stops, hotels, bottle dumps, telegraph lines, historical graves and World War 2 sites. Many of these may also be of significance to Aboriginal people because of their historical involvement in these places.

Often places that may be of historical significance for settler Australians can hold intangible heritage values for Indigenous people because of the history of the place and the emotions that it evokes, for example, historic police stations, and places of major conflicts and incarceration. In the past there has been a tendency to avoid addressing the legacy of this history that is sometimes embodied in the fabric of places but it is often this history that is uppermost in the collective memory of Aboriginal people. These tangible places can help in communicating this history and have been known to be significant in the reconciliation process between Aboriginal Australians and settler Australians.

Apx Figure B.11 Police station at Kidston (source State Library of Queensland). Places of historic significance to settler Australians may also have Aboriginal cultural values (sometimes conflicting)

B.6.2.7 Sites relating to contemporary Aboriginal use

There is potential for places of contemporary value to Aboriginal communities to occur, such as resource use places, swimming holes and places of continuing cultural practice. To date there has been little research in the area relating to the contemporary Aboriginal values of rivers and water sources (but see Jackson et al., 2013). Several projects have been undertaken elsewhere that have contributed to cultural mapping programmes in local communities and such studies can prove extremely useful to contemporary community /town planners in helping to identify and understand places of social significance to current communities.

B.6.3 PREDICTIVE MODELLING – FACTORS WHICH AFFECT LIKELY SITE SURVIVAL

B.6.3.1 Natural factors such as flooding and bush fire

Measured against the potential of the catchments to contain hundreds of undetected cultural heritage sites, are the factors that affect the likelihood that such sites will have survived to the present day. Both river systems have experienced episodes of major flooding which will have had an impact on the survival of evidence relating to contact and pre-contact Aboriginal settlement. Therefore it can be assumed that the archaeological evidence that does exist is a mere proportion of the sites that once existed.

More robust site types, such as seed grinding 'patches' and axe grinding grooves that survive on outcropping bedrock, may therefore be indicators that other sites once existed nearby and may have added significance (beyond any scientific significance) to contemporary Aboriginal people as rare indicators of past Aboriginal occupation in areas prone to severe flood episodes.

Apx Figure B.12 Flinders River- streets of Hughenden inundated by the floods, 1917, photograph by Fred Kingston (source State Library of Queensland)

Apx Figure B.13 Floodwaters, Hughenden, 16th February 1968 (source: photographer unknown, Flinders Shire Historical Photographic Project)

B.6.4 MINING AND OTHER HISTORICAL LAND USES

Mining is a significant historic theme of the region and there are two aspects of this history that need to be considered. Firstly, in the history of mining that is publicly presented, Aboriginal people are largely invisible except to the occasional report of attacks on isolated miners. This is despite the fact that mining continued to play a role from well before the major movements of Aboriginal people to reserves until well into the period when Aboriginal people began to move back into the area. While it is possible that Aboriginal people did not play a role in this history it is unlikely this lack of visibility is real. More historical (including) oral history) research is needed to complete this picture.

Secondly mining techniques employed were notoriously unsustainable in the early period of mining in the region and early photographs of mining can assist somewhat in understanding the disturbance history of landscapes that may today appear natural.

Apx Figure B.14 Hawkins Hill gold mine at Georgetown near the Gulf of Carpentaria (source State Library of Queensland)

B.6.5 SUMMARY OF FURTHER WORK AND LIKELY BENEFITS

This desktop review of what is currently known about the Aboriginal cultural heritage of the Flinders and Gilbert catchments has revealed that, despite a pervading view that the country was marginal and therefore that sites will be scarce, nearly all surveys undertaken have revealed archaeological sites. However, comprehensive or systematic survey within the catchments has been geographically patchy, with sporadic research projects and small localised impact assessment projects constituting the main mechanisms for the recording of Aboriginal cultural heritage data.

The priorities for further work, particularly in the light of current proposals to develop these catchments for their water storage and agricultural potential, must be:

- the systematic survey of the catchments to fill the gaps in current coverage,
- detailed disturbance mapping to refine predictive models, and
- a consideration of places of significance to the local Aboriginal communities whether they be places of contemporary significance or places from the recent historic past that are of value to them.

Ideally this further work should be undertaken across the entire catchment areas so that the resultant information can be considered in decisions about whether or not to proceed with plans to develop this region for irrigated farming. However, if planning does not proceed in this integrated way then it is clear from a consideration of past research undertaken in each of the storage areas that each of the tasks listed above should be undertaken for the proposed development area.

B.7 Conclusions

There is insufficient information relating to the cultural heritage values of the case study areas and of the two river catchments in general to accurately quantify the likely impacts of the water storage and agricultural proposals. What is certain is that the Flinders and Gilbert River catchments contain a large number of Aboriginal cultural sites including archaeological pre-contact sites, some of which are likely to be of national scientific significance. Previous studies clearly show that Aboriginal people targeted their campsites and subsistence activities to major watercourses and drainage lines. Archaeological sites in parts of the catchment areas potentially date to the Pleistocene. The cultural heritage potential of these landforms and their immediate surrounds is therefore assessed as moderate to high.

Other sites that are likely to occur are contact and post-contact sites that may have significance to both local Aboriginal and settler Australian communities in the region and non-archaeological cultural sites that are of spiritual significance to Aboriginal people. Any detailed assessment of the impact of the proposed water storage options will require both systematic field survey to identify Aboriginal cultural heritage protected under Queensland legislation AND comprehensive consultation with Aboriginal people about the archaeological sites and to identify places of contemporary significance. The consideration of wild resource use values for Aboriginal people should be included in such a study

It is clear that several baseline studies would be required to adequately understand the Aboriginal cultural heritage values of the case study areas, and the potential heritage impact of the proposed development. These involve studies at catchment level and at specific storage level. Ideally these would be completed across all case study areas so that the selection of viable options can be based in part on those with the least cultural heritage impact. These baseline studies include:

- a regional thematic history at least at catchment level that identifies relevant historical themes and targets references to contact and post-contact places in the individual storage areas
- a comprehensive survey of each storage/development area in partnership with the relevant Aboriginal community and/or Aboriginal Cultural Heritage Body which identifies sites and/or potential archaeological deposits (PADs) and other places/landscapes of cultural heritage significance and value; and which fully addresses the proponent's statutory obligations under the Aboriginal Cultural Heritage Act 2003

- some archaeological testing of sites or PADs may be necessary to determine the scientific significance of cultural heritage sites
- detailed disturbance mapping using GIS techniques, so as to refine predictive models.

Any future studies should provide cultural heritage management strategies and options for identified cultural sites and values, formulated in conjunction with the Aboriginal Parties and consistent with the provisions of the *Aboriginal Cultural Heritage Act 2003*. Given the scale of some of the proposed development projects being discussed it seems certain that Cultural Heritage Management Plans will be required.

B.8 References

AHMS (2013) Flinders and Gilbert Agricultural Resource Assessment Project, Indigenous values report. CSIRO, Australia.

Australia ICOMOS (1999) The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance. Australia International Council on Monuments and Sites Inc., Burwood, Victoria.

Baden-Powell BFS (1892) In savage isles and settled lands. Richard Bentley and Son, London.

Barber M (2013) Indigenous water values, rights and interests in the Flinders and Gilbert catchments. A technical report to the Australian Government from the CSIRO Flinders and Gilbert Agricultural Resource Assessment, part of the North Queensland Irrigated Agriculture Strategy. CSIRO Water for a Healthy Country and Sustainable Agriculture flagships, Australia.

Bauer FH (1959) Historical geography survey of part of Northern Australia. Part 1: Introduction and Eastern Gulf region. CSIRO Divisional report No 59/2. Commonwealth Scientific and Industrial Research Organisation, Canberra.

Bennett MM (1928) Christison of Lammermoor. Alston Rivers Ltd, London.

Border A and Rowland MJ (1990) The Mitchell Grass Downs biogeographical zone (Queensland): a heritage resource assessment. Unpublished report to the Heritage Branch, Department of Environment and Heritage, Brisbane and the Australian Heritage Commission, Canberra.

Bulbeck C (1991) Aborigines, memorials and the history of the frontier. In: Rickard J and Spearritt P (eds) Packaging the past? Public histories. Special issue of Australian Historical Studies 24(96), 168–178.

Byerley FJ (1867) Narrative of the Overland Expedition of Messrs Jardine from Rockhampton to Cape York, compiled from the Journals of the Brothers. JW Buxton, Brisbane.

Coventry RJ, Stephenson PJ and Webb AW (1985) Chronology of landscape evolution and soil development in the Upper Flinders River Area, Queensland, based on isotopic dating of Cainozoic basalts. Australian Journal of Earth Sciences 32, 433–447.

Crothers L (1997) A documentation of Aboriginal cultural heritage sites located in the Richmond region, northwest Queensland. Unpublished report to Central Queensland Land Council Aboriginal Corporation and the Wunumara Aboriginal Community, Richmond, Queensland.

Curr EM (1886) The Australian Race. Vol 2. John Farnes, Melbourne.

Domett KM, Wallis LA, Kynuna D, Kynuna A and Smith H (2006) Late Holocene human remains from northwest Queensland, Australia: archaeology and palaeopathology. Archaeology of Oceania 41, 25–36.

English A (2002) The sea and the rock give us a feed: mapping and managing Gumbaingirr wild resource use places. NSW National Parks and Wildlife Service, Hurstville, New South Wales.

Environmental Protection Agency (1999) North Queenslands Mining Heritage Trails, Environmental Protection Agency Cultural Heritage Branch, Brisbane.

Favenec E (1967) The history of Australian exploration from 1788 to 1888. Meridian Publishing Company, Amsterdam..

Furniss W (2001) Timeline history and the anzac myth: settler narratives of local history in a North Australian town. Oceania 71(4), 279–297.

Geoscience Australia (2012) Longest rivers. Accessed 28th September 2012, <http://www.ga.gov.au/education/geoscience-basics/landforms/longest-rivers.html>.

Gorecki P and Grant M (1994) Grinding patches from the Croydon region, Gulf of Carpentaria. In: Sullivan M, Brockwell S and Webb A (eds) Archaeology in the North: proceedings of the Australian Archaeological Association Conference, Darwin 1994. North Australian Research Unit (ANU), Darwin, 227–246.

Grant M (1992) To go through the mill: aspects of past Aboriginal life in the Croydon Region, Gulf of Carpentaria. Honours thesis, Department of Anthropology and Archaeology, James Cook University, Townsville, Queensland.

Gray L (1945) Life on the Flinders River (1868–70). Queensland Heritage 1(2),17–27.

Gray R (1913) Reminiscences of India and North Queensland. Constable and Company, London.

Gregory AC and Gregory FC (1968) Journals of Australian Explorations. Greenwood Press, Sydney.

Harrison R (2004) Shared landscapes: archaeologies of attachment and the pastoral industry in New South Wales. University of New South Wales, Sydney.

Hatte E (1989) Report of an Archaeological survey of a proposed transmission line, Georgetown to Croydon. Unpublished report to FNQEB Townsville, Northern Archaeology Consultancies Pty Ltd, Townsville, Queensland.

Hillier A (1994) The native police under scrutiny. Journal of the Royal Historical Society of Queensland 15(6), 279–293.

Jackson S, Golson K, Douglas M and Morrison J (2013) Indigenous engagement in tropical rivers and coastal knowledge program: a review of policies, strategies and research activities. TRaCK, Darwin.

Koepping KP (1976) How to remain human in and asylum- some field notes from Cherbourg Aboriginal settlement in Qld. The University of Queensland Anthropology Museum occasional papers in Anthropology 6,28–47.

Landsborough W (1971) Landsborough's explorations of Australia from Carpentaria to Melbourne. Adelaide Libraries Board of South Australia, Adelaide.

Loos N (1982) Invasion and resistance: Aboriginal-European relations on the north Queensland frontier 1861–1897. Australian National University Press, Canberra.

Lovell A (1994) Rock or raw material: archaeology of the Georgetown district. Honours thesis. Department of Anthropology and Archaeology, James Cook University of North Queensland, Townsville, Queensland.

Lovell A (1995) Georgetown site survey: cultural heritage survey of the Georgetown region, North Queensland. Unpublished report to Department of Environment and Heritage, Brisbane.

Morwood MJ (1990) The prehistory of Aboriginal landuse on the Upper Flinders River, North Queensland Highlands. Queensland Archaeological Research 7, 3–52

Morwood MJ (1992) Changing art in a changing landscape: a case study from the Upper Flinders region of the North Queensland Highland. In: McDonald J and Haskovec IP (eds) State of the art: regional rock art studies in Australia and Melanesia. Occasional AURA publication No 6. Australian Rock Art Research Association, Melbourne, 60–70.

Morwood MJ and Godwin L (1982) Aboriginal sites in the Hughenden region, North Queensland Highlands: research prospects. Australian Archaeology 15, 49–53.

Northern Archaeology Consultancies (NAC) Pty Ltd (M. Bird) (1997a) Report on the Archaeological Survey and Assessment of proposed Creek Crossing development areas Flinders Highway, Richmond – Julia Creek, Northwest Queensland. Unpublished report to the Qld Department of Main Roads, Brisbane.

Northern Archaeology Consultancies (NAC) Pty Ltd (M. Bird) (1997b) Report on the Archaeological Survey and Assessment of a proposed 66kV transmission Line, Richmond-Julia Creek, Northwest Queensland. Unpublished report to the North Queensland Electricity Corporation, Brisbane.

Northern Archaeology Consultancies (NAC) Pty Ltd (M. Bird and A. Lovell-Pollok) (1998) Cultural heritage desktop study, water resources development feasibility study, Copperfield Dam, Einasleigh District, NQ. McIntyre and Associates Pty Ltd on behalf of Etheridge Shire Council, Queensland.

Northern Archaeology Consultancies (NAC) (M. Bird), (1999) Report on the Cultural Heritage Assessment of a proposed rock and gravel extraction site Belmore Creek, Croydon, Northwest Queensland. Unpublished report to Wells Plant Hire Pty Ltd, Queensland.

Northern Archaeology Consultancies (NAC) (M. Bird) (2003) Report on Cultural Heritage Assessment Mount Surprise to Normanton Optical Fibre Cable Project Mount Surprise to Gilbert River sector (Ewamian Traditional Homelands) North Queensland. Unpublished report to Downer Connect Pty Ltd, Queensland.

Palmer E (1884) Notes on some Australian tribes. Journal of the Anthropological Institute of Great Britain 13, 276–334

Paton R (1997) An archaeological baseline study for the Townsville Industrial Land Project. Report to Synott & Wilkinson. Robert Paton Archaeological Studies Pty Ltd, Canberra.

Ridges M (2003) Numerous Indications: the archaeology of regional hunter-gatherer behaviour in northwest central Queensland, Australia. PhD thesis, University of New England, Newcastle.

Rosser B (1990) Up rode the troopers. University of Queensland Press, St. Lucia, Queensland.

Roth EW (1897) Ethnological Studies among the North-West Central Queensland Aborigines. Edmund Gregory, Brisbane.

Salmon M (1992) Esmeralda: a consideration of natural formation processes and their effects on archaeological sites. Honours thesis. Department of Anthropology and Archaeology, James Cook University, Townsville, Queensland.

Aboriginal Cultural Heritage Act 2003 (Qld)

Stoeckl N, Stanley O, Brown V Jackson S and Straton A (2006) an assessment of social and economic values of Australia's tropical rivers. A scoping report to Land and Water Australia's Tropical Rivers Program. CSIRO and JCU, Australia.

Vines RR and Paine AGL (1974) Hughenden, Queensland. Explanatory notes. 1:250,000 geological series. Australian Government Publishing Service, Australia.

Wade V, Wallis LA and Woolgar Valley Aboriginal Corporation (2011) Style, space and social interaction: an archaeological investigation of rock art in inland north Queensland, Australia. Australian Archaeology (72), 23–34.

Wallis LA, Keys B, Moffat I and Fallon S (2009) Gledswood shelter 1: initial radiocarbon dates from a Pleistocene aged rock shelter site in northwest Queensland. Australian Archaeology (69), 71–74.

Wallis LA, Smith D and Smith H (2004) Recent archaeological surveys on Middle Park Station, Northwest Queensland. Australian Archaeology (59) 43–50.

Wallis L, Smith H and Smith D (2004) Investigations of Aboriginal hearth sites along the Flinders River, inland North West Queensland. The Artefact 27, 59–76.

Wegner J (1978) The Aborigines of the Etheridge Shire, 1860–1940: a descriptive study. In: Reynolds H (ed) Race relations in north Queensland. James Cook University, Townsville, Queensland, 145–166.

Wegner J (1990) The Etheridge studies in north Queensland history. Monograph No 13. Department of History and Politics, James Cook University Townsville.

Anon (1974) Townsville Daily Bulletin, January 28.

Northern Archaeology Consultancies (NAC) Pty Ltd (M. Bird), May (1998) Cultural heritage desktop study, Flinders River Dam pre-feasibility study, Richmond district, north Queensland. McIntyre and Associates Pty Ltd on behalf of the Department of Natural Resources, Queensland.

Appendix C Assessment information sheet and consent form

C.1 Information sheet

WATER FOR A HEALTHY COUNTRY AND SUSTAINABLE AGRICULTURE FLAGSHIPS
www.csiro.au

CSIRO

Indigenous water values and rights

The Flinders and Gilbert Agricultural Resource Assessment, part of the North Queensland Irrigated Agriculture Strategy

In partnership with the federal government, CSIRO is investigating opportunities for water and agricultural development along the Flinders and Gilbert rivers in North Queensland. One part of this research focuses on Indigenous people.

Indigenous people have lived on the country for many thousands of years. Through that time they have developed knowledge of the landscape and strong connections with it. Ongoing economic development can provide employment and income opportunities for people. But it can also put new pressure on the country as the number of people and businesses grow and water use increases. Water planning involves deciding how water is shared between the environment and different human uses, including drinking water, farming, and businesses. Good water planning in northern Australia requires understanding Indigenous values and interests in water, and acting to support and protect those interests.

The CSIRO is a research organisation funded by the Federal government. It has been asked by the Federal government to look at water and agricultural development opportunities in the Flinders River and Gilbert River catchments of the Gulf. One part of this research will involve listening and talking to interested Indigenous people about why water is important to them, what water issues exist in their areas, and what kind of future developments they think are appropriate.

The CSIRO has staff who undertake research across Australia about

Red gums (*Eucalyptus camaldulensis*), fringing Flinders River, Richmond, Queensland. Image: Wayne Lawler/AUSCAPE

Australian Government
Department of Regional Australia, Local Government, Arts and Sport

OFFICE OF NORTHERN AUSTRALIA

Indigenous peoples' knowledge, values, rights and interests in water. Marcus Barber has worked on water issues with Indigenous groups across north Australia. This includes Arnhem Land and the Roper River in the NT and Kowanyama in Queensland.

For the research in the Flinders and Gilbert Rivers, Marcus has talked with senior elders and spokespeople from the key Indigenous groups. He has used some of what they told him to make a draft report. This report helps Indigenous people communicate how water is important to them. The report is for government and the wider community.

Cobbold Gorge, near Georgetown. AUSCAPE

This CSIRO project is at the catchment scale, so Marcus has talked to people up and down both catchments. But there are some places where people are already talking about dams and irrigation, and so Marcus spent more time on these areas. However the issues in the report connect and affect everyone.

Some key points made in the report are:

- the importance of country and culture to Indigenous people
- the importance of water to Indigenous people
- Indigenous rights to water, including native title rights
- protecting cultural heritage and sacred places
- keeping enough water in the rivers for Indigenous hunting and fishing.
- looking after the ancestors and future generations
- Looking after Indigenous groups living downstream
- Indigenous involvement in water planning (deciding how water is shared)
- Indigenous involvement in land and catchment management
- support to get traditional owners back on to their country
- Indigenous employment and business ideas
- Keeping enough water for future Indigenous development

This report will help Indigenous people and water managers understand each other better. It will also help plan future development in these rivers. The work done by the CSIRO makes clear what the issues are. But further formal consultations with Indigenous groups are needed before any big decisions are made.

This research project is part of a much bigger project which includes many other kinds of scientists. There are scientists who work on soils, rocks, water, farming, economics, and computer modelling. Their work will be combined together at the end of the project into overall science reports about each of the rivers.

If you want to talk to Marcus about this work or about the draft report, you can contact Marcus by telephone or email using the contact details below.

Marcus Barber
0407867445
Marcus.Barber@csiro.au

t

CONTACT US
1300 363 400
+61 3 9545 2176
e enquiries@csiro.au
w www.csiro.au

YOUR CSIRO
Australia is founding its future on science and innovation. Its national science agency, CSIRO, is a powerhouse of ideas, technologies and skills for building prosperity, growth, health and sustainability. It serves governments, industries, business and communities across the nation.

FOR FURTHER INFORMATION
Dr Marcus Barber
CSIRO Brisbane

m 0407 867 445
e marcus.barber@csiro.au

C.2 Consent form

Indigenous Water Values and Interests in the Flinders and Gilbert Rivers – a sub project of the Gulf Agricultural Resource Assessment

PRINCIPAL INVESTIGATORS	Dr Marcus Barber CSIRO Brisbane
PROJECT TITLE:	Indigenous Water Values and Interests in the Flinders and Gilbert Rivers
CONTACT DETAILS	Marcus Barber: 0407 867 445 (m) Marcus.Barber@csiro.au

The person signing this form is showing that they give their permission to take part in the CSIRO research project about Indigenous water values and interests in the Flinders and/or Gilbert Rivers. The Federal and Queensland governments want to learn more about what kind of water developments (like irrigation for farms and dams) are sustainable in this area. This involves studies by water scientists of groundwater, rain, floods, and soils. It also involves hearing from Indigenous people about their views, interests, and ideas about future development. The CSIRO is an independent research organisation funded by the Federal government and it has staff in Brisbane who do research across Australia about Indigenous peoples' knowledge, values, and interests in water. This research helps Indigenous people communicate how water is important to them, and helps water planners and the general community better understand Indigenous water interests. Recording Indigenous water and seasonal knowledge can also help secure that knowledge for Indigenous communities to share with future generations. The main CSIRO researcher for this project is Marcus Barber, and his contact details are above.

The research will result in public reports which talk about Indigenous peoples' views and interests about water and water developments in the Flinders and Gilbert Rivers. Local people and groups can decide what kind of information needs to be recorded and what the important areas are to talk about. The CSIRO has Marcus permission to do this research. If you sign this form it shows that you have given your permission for Marcus to speak to you and that he can use what you say in reports, community resources, and research articles.

The aims of this study have been clearly explained to me and I understand what is wanted of me. I understand that it is my choice to take part and that I can stop at any time. I understand that any information I give will not be shared without my permission.

Name: *(printed)*	
Signature:	**Date:**

We may want to identify you as the source of some information you give, particularly if it is unusual or important. If you give us permission for your name to be written down, tick the box below marked 'Yes'. If you do not want your name recorded in public documents, tick the box marked 'No'. This permission can be changed at any time prior to final publication.

Yes, I give permission for my name to be recorded in the report.	
No, I do not want my name recorded next to my comments.	

Appendix D Indigenous water declarations and policies

The following declarations and policies provide context and complementary information to the local accounts of Indigenous water values presented in previous sections. A number of general statements about values and interests in water have been produced in the past ten years, and three of particular relevance are re-produced here. The first is the major international declaration produced at the Third World Water Forum in Kyoto in 2003. The others are recent declarations emerging from events held in northern Australia, the first a meeting of international Indigenous representatives held at Garma in Arnhem Land in 2008, the second a meeting of northern Australian Indigenous representatives at Mary River in 2009. The final document included is the water policy produced by the Indigenous Water Policy Group of the North Australian Indigenous Land and Sea Management Alliance. These represent progress from the oldest to the most recent, but also increasing refinement of values, goals and objectives as well as an increasing emphasis on Indigenous Australians.

D.1 Indigenous Peoples' Kyoto Water Declaration - 2003

D.1.1 RELATIONSHIP TO WATER

1. We, the Indigenous Peoples from all parts of the world assembled here, reaffirm our relationship to Mother Earth and responsibility to future generations to raise our voices in solidarity to speak for the protection of water. We were placed in a sacred manner on this earth, each in our own sacred and traditional lands and territories to care for all of creation and to care for water.

2. We recognize, honour and respect water as sacred and sustaining all life. Our traditional knowledge, laws and ways of life teach us to be responsible in caring for this sacred gift that connects all life.

3. Our relationship with our lands, territories and water is the fundamental physical cultural and spiritual basis for our existence. This relationship to our Mother Earth requires us to conserve our freshwaters and oceans for the survival of present and future generations. We assert our role as caretakers with rights and responsibilities to defend and ensure the protection, availability and purity of water. We stand united to follow and implement our knowledge and traditional laws and exercise our right of self-determination to preserve water, and to preserve life.

D.1.2 CONDITIONS OF OUR WATERS

4. The ecosystems of the world have been compounding in change and in crisis. In our generation we see that our waters are being polluted with chemicals, pesticides, sewage, disease, radioactive contamination and ocean dumping from mining to shipping wastes. We see our waters being depleted or converted into destructive uses through the diversion and damming of water systems, mining and mineral extraction, mining of groundwater and aquifer for industrial and commercial purposes, and unsustainable economic, resource and recreational development, as well as the transformation of excessive amounts of water into energy. In the tropical southern and northern forest regions, deforestation has resulted in soil erosion and thermal contamination of our water.

5. The burning of oil, gas, and coal, known collectively as fossil fuels, is the primary source of human-induced climate change. Climate change, if not halted, will result in increased frequency and severity of storms, floods, drought and water shortage. Globally, climate change is worsening desertification. It is

polluting and drying up the subterranean and water sources, and is causing the extinction of precious flora and fauna. Many countries in Africa have been suffering from unprecedented droughts.When the terms territory, land and water are used, it is inclusive of all life such as forests, grasslands, sea life, habitat, fish and other biodiversity. The most vulnerable communities to climate change are Indigenous Peoples and impoverished local communities occupying marginal rural and urban environments. Small island communities are threatened with becoming submerged by rising oceans.

6. We see our waters increasingly governed by imposed economic, foreign and colonial domination, as well as trade agreements and commercial practices that disconnect us as peoples from the ecosystem. Water is being treated as a commodity and as a property interest that can be bought, sold and traded in global and domestic market-based systems. These imposed and inhumane practices do not respect that all life is sacred, that water is sacred.

7. When water is disrespected, misused and poorly managed, we see the life threatening impacts on all of creation. We know that our right of self-determination and sovereignty, our traditional knowledge, and practices to protect the water are being disregarded, violated and disrespected.

8. Throughout Indigenous territories worldwide, we witness the increasing pollution and scarcity of fresh waters and the lack of access that we and other life forms such as the land, forests, animals, birds, plants, marine life, and air have to our waters, including oceans. In these times of scarcity, we see governments creating commercial interests in water that lead to inequities in distribution and prevent our access to the life giving nature of water.

D.1.3 RIGHT TO WATER AND SELF DETERMINATION

9. We Indigenous Peoples have the right to self-determination. By virtue of that right we have the right to freely exercise full authority and control of our natural resources including water. We also refer to our right of permanent sovereignty over our natural resources, including water.

10. Self-determination for Indigenous Peoples includes the right to control our institutions, territories, resources, social orders, and cultures without external domination or interference.

11. Self-determination includes the practice of our cultural and spiritual relationships with water, and the exercise of authority to govern, use, manage, regulate, recover, conserve, enhance and renew our water sources, without interference.

12. International law recognizes the rights of Indigenous Peoples to:

- Self-determination
- Ownership, control and management of our traditional territories, lands and natural resources
- Exercise our customary law
- Represent ourselves through our own institutions
- Require free prior and informed consent to developments on our land
- Control and share in the benefits of the use of, our traditional knowledge.

13. Member States of the United Nations and international trade organizations, international and regional financial institutions and international agencies of economic cooperation are legally and morally obligated to respect and observe these and other related collective human rights and fundamental freedoms. Despite international and universal recognition of our role as caretakers of Mother Earth, our rights to recover, administer, protect and develop our territories, natural resources and water systems are systematically denied and misrepresented by governmental and international and domestic commercial interests. Our rights to conserve, recreate and transmit the totality of our cultural heritage to future generations, our human right to exist as Peoples is increasingly and alarmingly restricted, unduly impaired or totally denied.

14. Indigenous Peoples interests on water and customary uses must be recognized by governments, ensuring that Indigenous rights are enshrined in national legislation and policy. Such rights cover both

water quantity and quality and extend to water as part of a healthy environment and to its cultural and spiritual values. Indigenous interests and rights must be respected by international agreements on trade and investment, and all plans for new water uses and allocations.

D.1.4 TRADITIONAL KNOWLEDGE

15. Our traditional practices are dynamically regulated systems. They are based on natural and spiritual laws, ensuring sustainable use through traditional resource conservation. Long-tenured and place-based traditional knowledge of the environment is extremely valuable, and has been proven to be valid and effective. Our traditional knowledge developed over the millennia should not be compromised by an over-reliance on relatively recent and narrowly defined western reductionist scientific methods and standards. We support the implementation of strong measures to allow the full and equal participation of Indigenous Peoples to share our experiences, knowledge and concerns. The indiscriminate and narrow application of modern scientific tools and technologies has contributed to the loss and degradation of water.

D.1.5 CONSULTATION

16. To recover and retain our connection to our waters, we have the right to make decisions about waters at all levels. Governments, corporations and intergovernmental organizations must, under international human rights standards require Indigenous Peoples free prior and informed consent and consultation by cultural appropriate means in all decision-making activities and all matters that may have affect. These consultations must be carried out with deep mutual respect, meaning there must be no fraud, manipulation, and duress nor guarantee that agreement will be reached on the specific project or measure. Consultations include:

a). To conduct the consultations under the communities own systems and mechanisms;

b). The means of Indigenous Peoples to fully participate in such consultations

c). Indigenous Peoples exercise of both their local and traditional decision making processes, including the direct participation of their spiritual and ceremonial authorities, individual members and community authorities as well as traditional practitioners of subsistence and cultural ways in the consultation process and the expression of consent for the particular project or measure.

d). Respect for the right to say no.

e). Ethical guidelines for a transparent and specific outcome.

D.1.6 PLAN OF ACTION

17. We endorse and reiterate the Kimberley Declaration and the Indigenous Peoples Plan of Implementation on Sustainable Development which was agreed upon in Johannesburg during the World Summit on Sustainable Development in September 2002.

18. We resolve to sustain our ancestral and historical relationships with and assert our inherent and inalienable rights to our lands and waters.

19. We resolve to maintain, strengthen and support Indigenous Peoples. movements, struggles and campaigns on water and enhance the role of Indigenous elders, women and youth to protect water.

20. We seek to establish a Working Group of Indigenous Peoples on Water, which will facilitate linkages between Indigenous Peoples and provide technical and legal assistance to Indigenous communities who need such support in their struggles for the right to land and water. We will encourage the creation of similar working groups at the local, national and regional levels.

21. We challenge the dominant paradigm, policies, and programs on water development, which includes among others; government ownership of water, construction of large water infrastructures;

corporatization; the privatization and commodification of water; the use of water as a tradeable commodity; and the liberalization of trade in water services, which do not recognize the rights of Indigenous Peoples to water.

22. We strongly support the recommendations of the World Commission on Dams (WCD) on water and energy development. These include the WCD report's core values, strategic priorities, the 'rights and risks framework' and the use of multi-criteria assessment tools for strategic options assessment and project selection. Its rights based development framework, including the recognition of the rights of Indigenous Peoples in water development is a major contribution to decision-making frameworks for sustainable development.

23. We call on the governments, multilateral organizations, academic institutions and think tanks to stop promoting and subsidizing the institutionalization and implementation of these anti-people and anti-nature policies and programs.

24. We demand a stop to mining, logging, energy and tourism projects that drain and pollute our waters and territories.

25. We demand that the World Bank, the International Monetary Fund (IMF), regional banks like the Asian Development Bank, African Development Bank, Inter-American Development Bank, stop the imposition of water privatization or full cost recovery as a condition for new loans and renewal of loans of developing countries.

26. We ask the European Union to stop championing the liberalization of water services in the General Agreement on Services (GATS) of the World Trade Organization (WTO). This is not consistent with the European Commission's policy on Indigenous Peoples and development. We will not support any policy or proposal coming from the WTO or regional trade agreements like the NAFTA (North American Free Trade Agreement, Free Trade Area of the Americas (FTAA), on water privatization and liberalization and we commit ourselves to fight against such agreements and proposals.

27. We resolve to replicate and transfer our traditional knowledge and practices on the sustainable use of water to our children and the future generations.

28. We encourage the broader society to support and learn from our water management practices for the sake of the conservation of water all over the world.

29. We call on the States to comply with their human rights obligations and commitments to legally binding international instruments to which they are signatories to, including but not limited to, such as the Covenant on Civil and Political Rights, the Covenant on Economic, Cultural and Social Rights, International Convention on the Elimination of all Forms of Racial Discrimination; as well as their obligations to conventions on the environment, such as the Convention on Biological Diversity, Climate Convention, and Convention to Combat Desertification.

30. We insist that the human rights obligations of States must be complied with and respected by their international trade organizations. These legally binding human rights and environmental obligations do not stop at the door of the WTO and other regional and bilateral trade agreements.

31. We resolve to use all political, technical and legal mechanisms on the domestic and international level, so that the States, as well as transnational corporations and international financial institutions will be held accountable for their actions or inactions that threaten the integrity of water, our land and our peoples.

32. We call on the States to respect the spirit of Article 8j of the Convention on Biological Diversity as it relates to the conservation of traditional knowledge on conservation of ecosystems and we demand that the Trade Related Aspects of the Intellectual Property Rights (TRIPS) Agreement be taken out of the World Trade Organization (WTO) Agreements as this violates our right to our traditional knowledge.

33. We call upon the States to fulfi the mandates of the United Nations Framework Convention on Climate Change (UNFCCC) and to ratify the Kyoto Protocol. We call for the end of State financial subsidies to fossil fuel production and processing and for aggressive reduction of greenhouse gas emissions calling attention

to the United Nations Intergovernmental Panel on Climate Change (IPCC) that reported an immediate 60% reduction of CO2 is needed to stabilize global warming.

34. We will ensure that international and domestic systems of restoration and compensation be put in place to restore the integrity of water and ecosystems.

D.2 Garma International Indigenous Water Declaration - 2008

D.2.1 DECLARATION PREAMBLE

D.2.1.1 Context

Recognising and reaffirming that the Indigenous peoples of the World are and have been since time immemorial sovereign over their own lands and waters and that Indigenous peoples obtain their spiritual and cultural identity, life and livelihood from their lands and waters.

We assert that water has a right to be recognised as an ecological entity, a being with a spirit and must be treated accordingly. For the Indigenous peoples water is essential to creation; Ancestral beings are created by and dwell within water. We do not believe that water should solely be treated as a resource or a commodity.

Nation States, in asserting competing sovereignty over the lands and waters, have introduced and enforced unlawful and unjust mechanisms resulting in trespass of the legal entitlements of Indigenous Peoples to the ownership, use, management and benefit of the lands and the waters, without consultation, consent or just compensation where required by law.

Furthermore Nation States have grossly mismanaged the lands and waters of Indigenous peoples, causing ecosystem collapse, human induced climate change, severe water quality degradation, extreme stress upon ecologies and species extinction at a scale and rate which is unprecedented; and

Gross mismanagement of the lands and waters and denial of access of Indigenous Peoples to their lands and waters has caused severe, widespread and on going detrimental impacts to all aspects of the lives and livelihoods of Indigenous Peoples. This includes significant disadvantages to the health, economy and social well being of many Indigenous Peoples. Cultural and linguistic diversity has also been compromised, leading to loss of culture and lifeways of Indigenous Peoples. A contributing factor is the concomitant degradation and expropriation by Nation States of significant landscapes and sites of spiritual and cultural importance to Indigenous Peoples.

Indigenous Peoples have responsibilities and obligations in accordance with their Indigenous Laws, Traditions, Protocols and Customs to protect, conserve and maintain the environment and ecosystems in their natural state so as to ensure the sustainability of the whole environment.

D.2.1.2 Acknowledgements

We acknowledge our ancestors and Elders who have honoured and maintained the land and waters to the highest standards.

We acknowledge the work of past Indigenous Peoples in drafting and implementing international instruments and customary international law that informs our work towards justice.

D.2.2 THE DECLARATION

We the Indigenous Peoples of the World declare that:

Water is not a commodity. Water is a spirit that has a right to be treated as an ecological entity, with its own inherent right to exist.

We further declare that:

Indigenous Peoples of many Indigenous Nations have inherent aboriginal, treaty and other rights to water and waterways for navigation, customary and cultural uses of water.

Have inherent and human rights to water for basic human needs, sanitation, social, economic and cultural purposes.

Have a right to access adequate supplies of water that are safe for human consumption, hygiene and cooking.

Must be fully involved in source water and water shed protection planning and operational processes including controlling Indigenous water licenses and fair allocation policies and practices; and

Have a right to access and control, regulate and use water for navigation, irrigation, harvesting, transportation and other beneficial purposes.

Indigenous Peoples also declare that States must:

- Fully adopt, implement and adhere to those international instruments that recognise the rights of Indigenous peoples and our right to land and water. These include but are not limited to the: International Convention on the Elimination of All Forms of Racial Discrimination 1965 (CERD);
    - World Heritage Convention 1972;
    - International Covenant on Cultural, Economic and Social Rights;
    - International Labour Organisation Convention 169;
    - Rio Earth Summit Declaration;
    - Palenque Declaration;
    - Kyoto Water Declaration;
    - Ramstad Convention;
    - Convention on Biological Diversity 1992;
    - United Nations Declaration on the Rights of Indigenous Peoples, specifically Articles 8, 20, 24, 25, 26, 27, 28, 29, 31 and 32;
    - International Covenant of Political and Civil Rights;
    - UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions (2005);
    - UNESCO Convention on the Protection of the Underwater Cultural Heritage (2001);
    - UNESCO Convention on the Safeguarding of Intangible Cultural Heritage (2003);
- recognise that all traditional Intellectual Knowledge and interpretation of the knowledge is the property of the Indigenous peoples and knowledge holder(s);
- fully engage with Indigenous peoples and obtain their free prior and informed consent on matters affecting them. States shall engage with the Indigenous Peoples delegated representatives in accordance with Article 19 of the United Nations Declaration of the Rights of Indigenous Peoples, and
- continue adoption of major cuts to greenhouse gas emissions to combat human induced Climate Change, as well as other harmful compounds and chemicals that cause pollution of water sources.

D.3 Statement from the Mary River Indigenous Water Experts Forum - 2009

The following is the formal statement generated from the Mary River Indigenous Water Experts Forum. For the full statement, including underlying principles and practical recommendations, see: http://www.nailsma.org.au/nailsma/forum/downloads/NAILSMA_Mary-River-Statement_Web.pdf

D.3.1 MARY RIVER STATEMENT, 6TH AUGUST 2009

We the delegates of the Mary River Water Forum make this statement to bring to the attention of the Australian Government the fundamental principle that water, land and Indigenous people are intrinsically

entwined. Indigenous Peoples have rights, responsibilities and obligations in accordance with their customary laws, traditions, protocols and customs to protect, conserve and maintain the environment and ecosystems in their natural state so as to ensure the sustainability of the whole environment. Consideration by the Australian Government to separate land and water in future policy development for Northern Australia and establish a new regime for the allocation and use of water is of critical concern to us. As traditional owners we have an inherent right to make decisions about cultural and natural resource management in Northern Australia. In accordance with Article 19 of the United Nations Declaration on the Rights of Indigenous Peoples we must have a central role in the development, implementation and evaluation of policy and legislative or administrative measures that may affect us concerning water. Any policies and legislation that are developed in water allocation and management in North Australia needs to ensure that Indigenous rights are paramount.

In accordance with Article 26 of the United Nations Declaration on the Rights of Indigenous Peoples we assert that:

We, the Indigenous peoples, have the right to the lands, territories and resources which we have traditionally owned, occupied or otherwise used or acquired.

We the Indigenous peoples, have the right to own, use, develop and control the lands, territories and resources that we possess by reason of traditional ownership or other traditional occupation or use, as well as those which we have otherwise acquired.

States shall give legal recognition and protection to these lands, territories and resources. Such recognition shall be conducted with due respect to the customs, traditional and land tenure systems of the indigenous peoples concerned.

We further assert that in accordance with Article 32 of the United Nations Declaration on the Rights of Indigenous Peoples, that:

We the Indigenous peoples, have the right to determine and develop priorities and strategies for the development or use of our lands or territories and other resources.

States shall consult through our representative institutions in order to obtain our free and informed consent prior to the approval of any project affecting our lands or territories and other resources, particularly in connection with the development, utilisation or exploitation of mineral, water or other resources.

States shall provide effective mechanisms for just and fair redress for any such activities, and appropriate measures shall be taken to mitigate adverse environmental, economic, social, cultural or spiritual impact.

Indigenous peoples have always been part of and are crucial to the maintenance of our ecosystems and therefore want to ensure minimal impact from settlement and unsustainable development across Northern Australia. We urge the government to ensure that sufficient resources are provided to enable the equitable participation of the Indigenous owners of Northern Australia in the development of policies, setting of allocations and management of regulatory schemes that may evolve. We the Indigenous peoples of Northern Australia will work with the Government to establish what water entitlement and allocation is required to satisfy our:

1) social and cultural;
2) ecological; and
3) economic needs.

The delegates of this forum support the North Australian Indigenous Land Sea Management Alliance, Indigenous Water Policy Group, representative bodies or individuals to proactively pursue positive outcomes in line with this Mary River Forum Statement. Two nominations of people from each State/Territory from the North Australian Indigenous Experts Water Futures forum are provided below to support NAILSMA and representative bodies in advocating this Statement.

Queensland - Ron Archer, Marceil Lawrence

Western Australia- Anne Poelina, Andrew Wungundin

Northern Territory- John Christophersen, Mona Liddy

D.3.2 CONTEXT OF THIS STATEMENT

In August 2009, about 80 Indigenous experts from northern Australia convened at Mary River Park in the Northern Territory to discuss and present to the Northern Land and Water Taskforce their water interests and issues. Convened by the North Australian Indigenous Land and Sea Management Alliance, the 'North Australian Indigenous Experts Water Futures Forum' provided an opportunity to raise ideas and concerns about economic development and opportunities; the potential impacts of developments in the north of Australia; and governance and institutional arrangements as they affect Indigenous community interests, aspirations and issues. As outcome to that forum, the Mary River Statement was written. The Statement offers testament to the seriousness of Indigenous peoples contribution and participation in policy decision making. It is also sends a message that Indigenous people cannot remain on the margins of discussions about development in the north.

D.4 NAILSMA policy statement on North Australian Indigenous water rights – 2009.

Issued by the North Australian Indigenous Land and Sea Management Alliance and the Indigenous Water Policy Group, November 2009.

D.4.1 INTRODUCTION

As traditional owners we have an inherent right to make decisions about cultural and natural resource management in Northern Australia. In accordance with Article 19 of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), we must have a central role in the development, implementation and evaluation of policy and legislative or administrative measures that may affect us concerning water.

This Policy Statement should be seen in the context of the following assumptions:

a) Water is a limited resource and in some catchments the appropriateness of the division of water use into consumptive and environmental allocations remains unclear. While the Indigenous Water Policy Group position claims a guarantee of an equitable allocation to Indigenous peoples from the consumptive pool, such a rights-based claim is made on the assumption that environmental and cultural flows are properly assessed and protected.
b) Indigenous knowledge is integral for any decision making (in accordance with Article 31 UNDRIP).
c) Indigenous people do not wish to exacerbate avoidable environmental degradation associated with over-allocation of water and therefore believe that water allocations should be based on the best available knowledge (including traditional and contemporary Indigenous knowledge and western scientific knowledge), sensitive to variations in the flow regime and open to review and adaptation.
d) Maintaining water flows is fundamental to ensuring the vitality and existence of Indigenous heritage and spirituality.
e) Water, land and Indigenous people are intrinsically entwined. (Mary River Statement, August 2009.)

D.4.2 RECOGNITION AND REAFFIRMATION

The NAILSMA Indigenous Water Policy Group (IWPG) maintains, in accordance with Article 19 of the UNDRIP that:

'states shall consult and cooperate in good faith with the Indigenous people concerned through their own representative institutions, in order to obtain their free, prior and informed consent before adopting and implementing legislative or administrative measures that may affect them'.

The IWPG expects the Australian Government to be responsive to the rights of Indigenous peoples in accordance with the United Nations Declaration, specifically:

- to maintain and strengthen their spiritual relationship with their traditionally owned territories and waters (Article 25); and,
- to approve the commercial use and development of water on their traditional territories (Article 32.2).

The Australian Government indicated its formal support for the UNDRIP in April 2009. Preceding this, the Commonwealth, State and Territory governments of Australia committed to policies to 'close the gap' in socio-economic status between Indigenous peoples and the broader community.

The IWPG states that recognising and enhancing Indigenous cultural and commercial rights in the ownership, management and use of water is fundamental to facilitating Indigenous economic development and reducing Indigenous disadvantage.

D.4.3 A POLICY STATEMENT ON NORTH AUSTRALIAN INDIGENOUS WATER RIGHTS

The recognition of native title in Australia has been a significant advance in the position of Indigenous peoples. Indigenous rights to land and waters are recognised within the Native Title Act (1993). The non-discriminatory protection of native title is a recognised human right. It is therefore important to Indigenous peoples to build upon the rights recognised under the Native Title Act to ensure all Indigenous peoples can benefit from the commercial use of waters on their traditional lands. Furthermore, Indigenous people are ready to engage and contribute to the Council of Australian Governments (COAG) water policies and the National Water Initiative (NWI). The NWI requires significant improvement with respect to the recognition of Indigenous rights and interests.

The Garma International Indigenous Water Declaration (2008) acknowledges that water is essential for life and that access to clean water is a human right. First Nation peoples, the Indigenous people of Australia, have maintained sovereignty over their lands and waters from which they obtain their spiritual and cultural identity, life and livelihoods.

The IWPG maintains in accordance with the Mary River Statement (2009) that the Indigenous peoples of northern Australia are the traditional owners and custodians of the land and waters of the region. Water land and Indigenous people are intrinsically entwined.

The IWPG advocates for the recognition of Indigenous rights to the ownership, management and use of waters for both customary and commercial purposes. Its advocacy for commercial rights is a pragmatic response to the COAG Water Reform Agenda, specifically the NWI, and the sudden pace of development in the north of Australia.

D.4.4 THE INDIGENOUS WATER POLICY GROUP

The IWPG is an initiative created and facilitated by NAILSMA. Its members represent some Indigenous land councils and corporations across north Australia and other Indigenous institutions and community groups. (For more details go to www.nailsma.org.au). Formed in 2006, it is the only construct in the north of Australia examining Indigenous water policy and coordinating across state and territory jurisdictions. The IWPG continues the work of the Lingiari Reports (2002) to address Indigenous rights, responsibilities and interests in water. The IWPG aims to improve people's awareness about government water reform agendas and to engage in research relating to Indigenous rights, responsibilities and interests in land and water resources. The IWPG is one of three initiatives of the NAILSMA Indigenous Water Resource Program. The IWPG works in parallel with the Indigenous Community Water Facilitator Program, which supports regionally based Indigenous engagement and research in water policy and management. The IWPG also works with Tropical Rivers and Coastal Knowledge (TRaCK) through its Theme 6 on Sustainable Enterprises, which examines water markets and rights relating to Indigenous interests.

CONTACT US

t 1300 363 400
+61 3 9545 2176
e enquiries@csiro.au
w www.csiro.au

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FOR FURTHER INFORMATION

Water for a Healthy Country Flagship
Marcus Barber
t +61 7 3833 5519
e Marcus.Barber@csiro.au
w csiro.au/Organisation-Structure/Flagships/Water-for-a-Healthy-Country-Flagship.aspx