

Godden Mackay Logan

Conservation Management and Cultural Tourism Plan

Mungo National Park Historic Heritage

Volume 1 of 3: The Report

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CMCTP endorsed by NPWS under delegation from the Heritage Council of NSW

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Volume 2: Inventory

NPWS Historic Places Register (HPR) using the NSW Heritage Office SHI Database Format

Volume 3: Appendices

Appendix A Project Brief

Appendix B Listing Cards for the State Heritage Register, Register of the National Estate (Australian Heritage Commission), World Heritage Listing (Environment Australia) and the Register of the National Trust of Australia (NSW)

Appendix C Resource List and Bibliography

Appendix D Mungo National Park Annotated Photographic Collection

Appendix E Joseph William Vigar family tree, historical notes and poetry from the Barnes and Stirrat families, supplied by Colleen Barnes

Appendix F Regional Cultural Tourism Information

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Appendix I Historic Maps and Plans of Mungo National Park

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Executive Summary

Project Vision

Mungo is an iconic name familiar to many Australians for its association with recent scientific research into the geomorphic history and the antiquity of human occupation of Australia. These discoveries have resulted in the World Heritage status of the Willandra Lakes Region in the far southwest of New South Wales. Less well known is that the name Mungo comes from the name of the pastoral station that was located near the discoveries and that this name has now been passed on to Mungo National Park. This sense of legacy is at the core of this report that achieves three key outcomes:

- the first comprehensive evaluation of the pastoral history of Mungo National Park;
- the integration of pastoral history into the broader history of human interaction with a changing environment that is the story of Mungo; and
- a comprehensive conservation and tourism planning framework that enables resource allocation to be planned and decisions to be made.

The vision of this report is for future visitors to Mungo National Park, while maybe already knowing of its famous Woolshed, will leave knowing of how the Woolshed and all the other historic features fit a 'whole of landscape' story that links the prehistoric and present in a meaningful way.

Project Scope

Mungo National Park is an extraordinary cultural landscape of outstanding heritage value. Mungo National Park (32,000 hectares) was first gazetted in 1979 following acquisition of Mungo pastoral station and was enlarged in 1984 with the acquisition of Zanci pastoral station. Prior to 1921 both these properties were part of larger nineteenth century back-block stations, including Gol Gol Station (203,000 hectares).

This Conservation Management and Cultural Tourism Management Plan (CMCTP) report assesses the significance of historic heritage values and resources within Mungo National Park and provides policy for the future management of these resources. It also addresses opportunities for cultural tourism. While this report does not revisit the natural and Aboriginal cultural values that led to the inscription of the Willandra Lakes Region on the World Heritage List in 1981, it does address these values to provide a context for these values or where they interface with the historic values. This CMCTP will inform future revision to the Mungo National Park Plan of Management.

Background

In 1877 John Patterson, a Victorian pastoralist, acquired leases originally taken up in 1864 as part of his Gol Gol property. It remained in family control until 1921 when it was subdivided to form 'soldier settlement' properties, including Mungo and Zanci Stations. In 1981 the Willandra Lakes Region was inscribed on the World Heritage List for its geomorphic and prehistoric Aboriginal cultural heritage values. In 1999 the Willandra Lakes Region was added to the State Heritage Register. Mungo Woolshed, part of Mungo Homestead and other features such as ground tanks and hut ruins remain from the Gol Gol period to provide evidence of nineteenth-century woolscouring, workers accommodation and water conservation. While few buildings remain at the site of Zanci Station, oral and documentary evidence provided by the family of former owners provides opportunities for future site interpretation. Throughout the Park there are fences, ground tanks, yards, hut ruins, wells and shafts. On adjoining properties there are associated sites including remains of a racetrack and a shelter.

New Research Findings

The work undertaken for this CMCTP has revealed important new findings about the Park's history:

- Mungo Woolshed is likely to have been constructed after John Patterson purchased the lease in 1877 and before 1880, with around 1878 being the most likely date.
- The central section of Mungo Homestead was built during the Patterson Gol Gol period, not after 1921 as previously thought. As such it joins the Woolshed as important evidence of the first phase of pastoral occupation.
- Aboriginal people may have been involved in the pastoral activity on Gol Gol station in the later part of the nineteenth century, but not after 1922 when the 'soldier settlement' properties were formed, apart from possible transient associations while sheep droving.
- Chinese workers were likely to have been involved in small numbers in the nineteenth century as farm workers, most likely to be in association with woolscouring, but no evidence of involvement in building construction, including the Woolshed, can be attributed.
- The ruin previously known as the Chinese Hut was most likely associated with woolscour operations that are known to have occurred in association with Mungo Woolshed and it was possibly used by Chinese workers involved in woolscouring and ground tank maintenance.
- The woolscour operations are one of a series of features that included ground tanks, underground logged tanks and wells associated with water conservation and use on these pastoral stations.

-
- A comprehensive understanding of the evolution of Mungo and Zanci Station complexes has, for the first time, been made possible through the kind assistance of former station owners and their descendents.

Heritage Significance

The historic heritage resources and values of Mungo National Park, located within the Willandra Lakes Region World Heritage Property, are of considerable significance for the State of New South Wales. These resources, concentrated around the former Mungo and Zanci pastoral station complexes, but also found throughout Mungo National Park, are from three phases of occupation; as part of the large nineteenth-century back-block pastoral property Gol Gol; as the Mungo and Zanci pastoral station soldier settlement properties; and for almost a quarter of a century as Mungo National Park. These three phases sit within an overarching historic theme of human interaction with the environment. In this, the historic heritage complements the well-known deep history of Aboriginal interaction with the environment evidenced at Mungo, and part of the citation for the Willandra Lakes Region World Heritage Area listing. Within this theme are subthemes that underpin the significance of the place associated with the changing nature of the land tenure framework, pastoral processes, and awareness and appreciation of the natural and cultural environment.

Conservation Policy

The conservation, management and interpretation of the historic heritage resources and values in Mungo National Park recognise the State significance of this resource. Concentrated around former pastoral station complexes, but distributed throughout the Park, these resources will be managed in a whole of landscape approach where the pastoral and recent NPWS land uses are interpreted as the most recent layers of human interaction with the environment; a key theme of the Willandra Lakes Region.

The NPWS will commit resources to reflect the significance of historic heritage in Mungo National Park and its overall status as a World Heritage place. The service will undertake conservation and interpretation programs to assist this whole of landscape approach. Management of historic resources will be based on similarities with other places but also the differences that make Mungo National Park one of the best vehicles to tell the story of semi-arid and arid environment historic pastoralism in New South Wales. Interpretation will be forward-looking and while acknowledging past environmental impacts will also address the positive contribution of pastoralism to Australian culture and economy and provide linkages to the region by addressing sustainable pastoral futures in the western region of New South Wales.

The recently established Mungo National Park Advisory Committee that comprises of a majority of Aboriginal people representing the Three Traditional Groups and includes other stakeholders, such as a neighbours representative, has a great opportunity to respect both Aboriginal prehistoric and

contemporary values and historic heritage values and places of the pastoral period to provide a 'coming together' place to tell the full landscape story.

Mungo National Park will be carefully promoted as a cultural tourism destination for tourists seeking an authentic and high-quality integrated natural and cultural heritage experience.

Major Policy Elements

Conservation Planning: Further detailed conservation planning is recommended for grouped elements including a Landscape Conservation Plan, a Movable Heritage Plan and an Interpretation Plan. Elements identified here as of Exceptional significance should have individual Conservation Plans prepared. Elements identified here as of High significance should have a Conservation Analysis prepared prior to any works. All conservation or adaptive works proposed for historic heritage should be preceded by Statements of Heritage Impact that form part of required environmental assessments. Given the special status and complexity of the consent process arising from World Heritage and State Heritage Register listing, regular staff training is recommended in the required assessments and consents needed.

Landscape Conservation: A 'whole of landscape' approach is recommended that addresses the recent cultural landscape layer of pastoralism as an important element in the total landscape history of Mungo. Management decisions in relation to conflicting natural and cultural landscape values (including, for example ground tanks (see below)), should include a transparent process involving appropriate expertise from all relevant areas in the assessment and consent process. It is recommended that a Landscape Conservation Plan be prepared to address the conservation of landscape elements in the Park, including cultural plantings and other features such as yards and fence lines.

Ground Tanks and Wells: This Plan establishes that the ground tanks are important evidence of arid lands pastoral practice and should be retained on heritage grounds. A Ground Tanks and Wells Heritage Study should be undertaken to provide a complete understanding of the heritage resources associated with water use and conservation in Mungo National Park and appropriate assessment process undertaken as described above.

Built Elements: The nature of conservation planning for individual building elements and groups of elements should be based on the level of significance. An assessment of heritage impact should be prepared to accompany all proposals for works involving heritage elements. Catch-up conservation and cyclic maintenance works are recommended.

Cultural Tourism: Recommendations are made for improvements in the provision of visitor facilities and strategies for improving its place in the regional tourist network, including a review and suggested increase in staffing with experience in visitor services and interpretation. This report contains recommendations for the better interpretation of historic heritage as a recent layer of landscape history. The report also recommends improved interpretation of the archaeological and

scientific investigations including interpretation near or on the site of these discoveries of world importance that led to World Heritage listing of the Willandra Lakes Region.

Movable Heritage: Many movable items have no provenance or have been moved over time. Inventories of movable heritage contained in the Visitors Centre and throughout the Park should be prepared and a Conservation Plan prepared for the total collections.

Aboriginal Heritage: This report was not required to provide an appraisal of all Aboriginal sites within Mungo. Accordingly, site-specific recommendations are only made around historic complexes. However, Aboriginal heritage was considered where it overlapped with historic places and values and general policies are identified that must be included to ensure the long-term sustainability of the Aboriginal heritage of the Park as a whole.

Historical Archaeology: Actions taken to conserve, interpret or adapt heritage items (buildings, structures and sites) must consider the impact on both potential historic archaeological deposits and the bank of historic archaeological values of the Park. A cautious approach is defined by these policies. Consistent with the long tradition of archaeological research at Mungo, a historical archaeology research program should be instituted which focuses on those sites most likely to contribute information that will assist in their interpretation and the interpretation of the pastoral history as a whole.

Objectives and Outcomes

This report achieves the following project objectives for the NSW NPWS:

- to assist NPWS to meet corporate objectives and statutory requirements;
- to ensure the balanced and compatible management of cultural (Indigenous and non-Indigenous) and natural heritage values of the Study Area;
- to consider the cultural significance of the Mungo and Zanci Station Complexes as individual places as well as being part of a broader suite of pastoral places managed by NPWS;
- to develop forward-looking management policies within the context of legislative requirements, the NPWS management framework and stakeholder issues; and
- to identify cultural tourism opportunities that may generate revenue and to examine any issues surrounding such opportunities.

This report will provide for the following project outcomes:

- to support the long-term conservation and management focus of Mungo National Park as a tourism destination;
- to inform the Plan of Management for Mungo National Park; and
- to ensure best practice management of cultural heritage and World Heritage values.

1.0 Introduction

1.1 Background

The NSW National Parks and Wildlife Service (NPWS) has engaged Godden Mackay Logan to prepare the Conservation Management and Cultural Tourism Plan (CMCTP) for the historic heritage resources within Mungo National Park in southwestern New South Wales. The aim of the Plan is to support the long-term conservation and management focus of Mungo National Park as a tourism destination, to inform the Plan of Management for Mungo National Park and to ensure best practice in the management of cultural heritage and World Heritage values.

Mungo National Park is located within the Lower Darling Area of the Far-West Region, which is one of five regions identified as part of the Western Directorate by NPWS. It was dedicated in 1979 following the acquisition of the 1922 'soldier settlement' block known as Mungo, by the NSW National Parks and Wildlife Service. The Zanci property, another soldier settlement block, immediately adjacent to the north of Mungo was acquired in 1984, enlarging the area of Mungo National Park to its current boundaries.

Mungo National Park includes an ancient freshwater lake bed which is part of the wider Willandra Lakes Region World Heritage Property, inscribed for its natural and cultural values in 1981. Mungo National Park is recognised for its important associations with the unique geomorphologic and pre-historic archaeological features, including the dramatic dune system known as the Walls of China and its sediment layers recording the Pleistocene Epoch, Aboriginal skeletal remains, hearths and shell middens. The inclusion of the Willandra Lakes Region on the NSW State Heritage Register in 1999 recognised these values as well as the historic features of the area, including buildings and structures associated with pastoral settlement and land use.

The Mungo National Park also contains a large number of important plant communities. There are a variety of invertebrates, mammals, reptiles and birds within the park, dominated by kangaroos.

1.2 Study Area

Mungo National Park is an area of approximately 32,000 hectares located 110kms northeast of Mildura and 150 kms northwest of Balranald in southern New South Wales on the Arumpo–Ivanhoe roads. The National Park area is defined by the boundaries of two 1922 soldier settlement properties, Mungo and Zanci (see Figure 1.1).

The CMCTP concentrates on the former Mungo and Zanci Station complexes defined by the homesteads, woolsheds and associated buildings and structures. However, the study also takes into account outlying features within Mungo National Park, such as ground tanks, wells, fences, stockyards and archaeological features. The extent of Mungo National Park and the two complex areas within the national park are indicated by the boundaries shown in Figure 1.2.

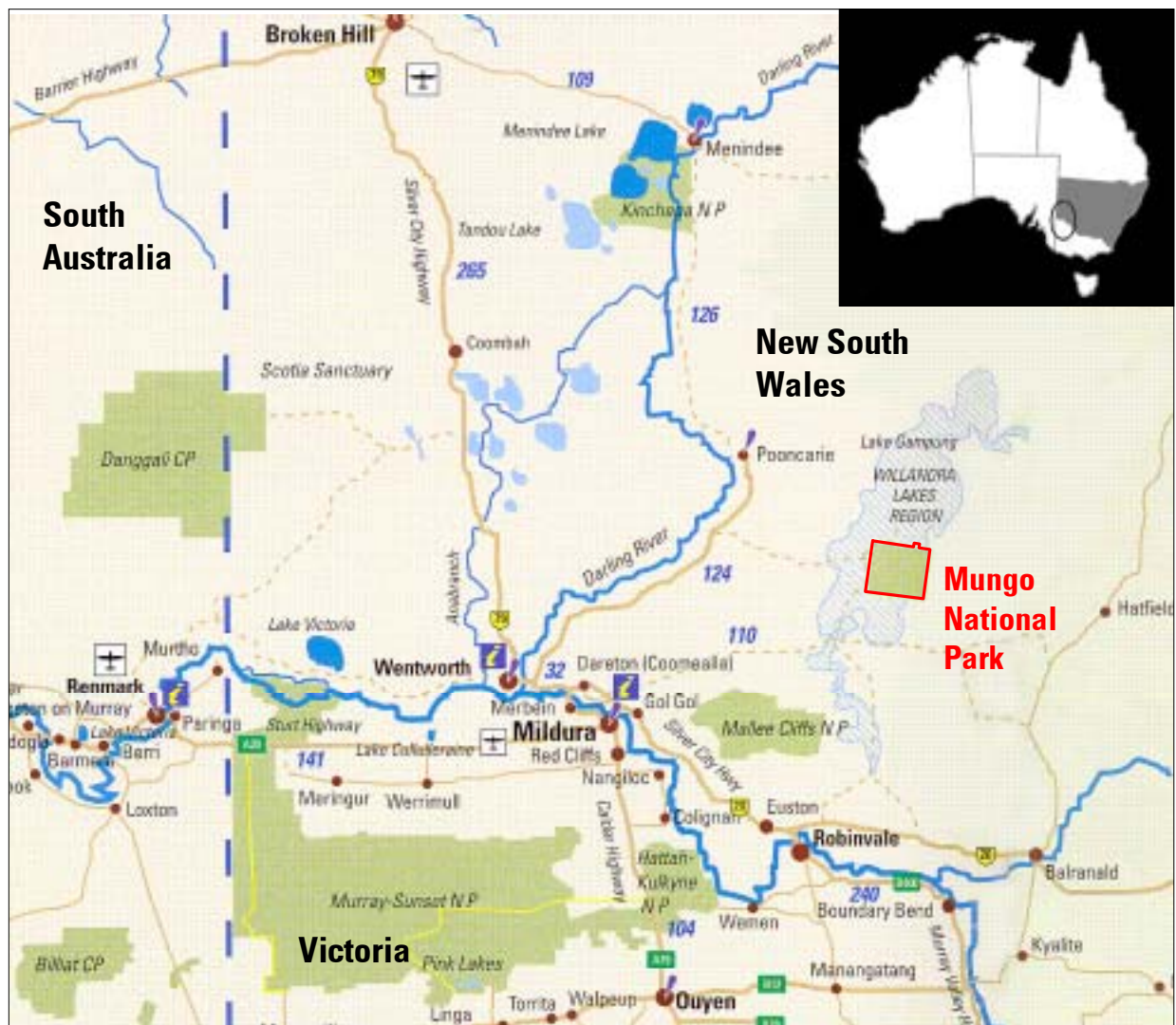


Figure 1.1 Location Plan for Mungo National Park.

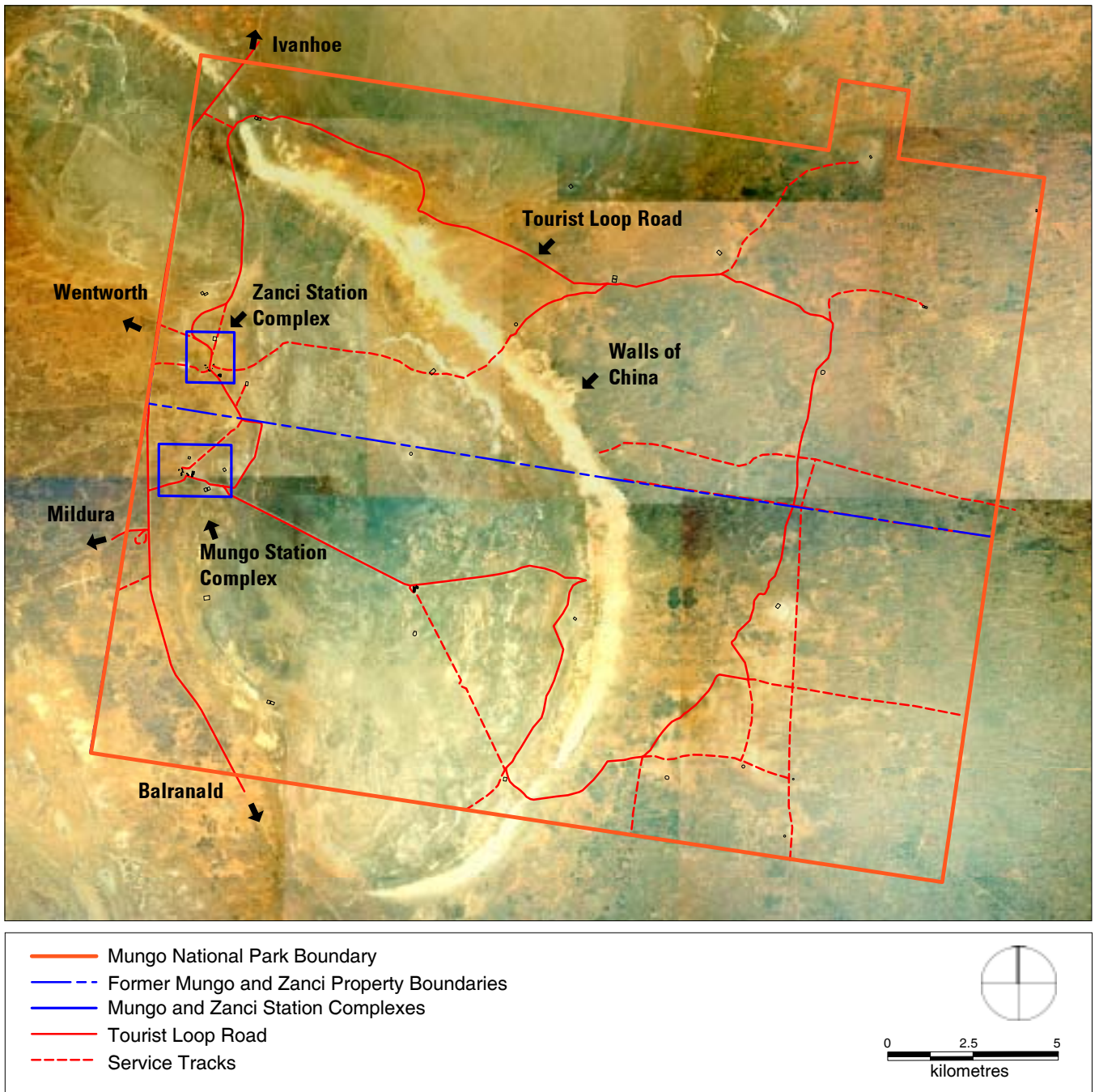


Figure 1.2 Mungo National Park Context Plan showing overall National Park boundaries, Mungo and Zanci property boundaries and complexes.

1.3 Scope of the CMCTP

The CMCTP differs from a typical Conservation Management Plan in that it specifically addresses cultural tourism management within Mungo National Park. The study addresses the need to identify, direct and achieve long-term conservation and management outcomes for the Mungo and Zanci station complex areas as well as the overall Park. The CMCTP will inform the Mungo National Park Plan of Management (PoM).

The CMCTP comprises a historical overview, an analysis of natural and cultural landscape setting, Aboriginal and historic heritage, cultural tourism and interpretation. It has an emphasis on contemporary social and community values, and provides a comparative and contextual assessment and an assessment of significance for the Mungo and Zanci pastoral areas. The CMCTP also provides recommendations for the future management of the core historic areas and Mungo National Park as a whole.

The brief for the project (Appendix A) required a concentration on the historic features and values of Mungo National Park rather than all other values and features equally. However, these other values and features are addressed where they interrelate or interface with the historic values and features; an example being Aboriginal sites within the core historic areas and management of natural and cultural values in relation to historic ground tanks (dams). In this manner, the effective management of all cultural and natural values, the charter of NPWS, is possible.

1.4 Methodology

This report was prepared in four stages:

Stage One, the *Initial Progress Report*, assessed the heritage significance of the former Mungo and Zanci pastoral properties and their component elements, and addressed contemporary social values, Aboriginal heritage within the complex areas, and included a visitor facility overview. Comments were received from the NPWS Project team on this stage.

Stage Two, the *Preliminary Draft CMCTP* identified relevant constraints and opportunities, statutory and non-statutory compliance, NPWS policy and management, stakeholders, condition and integrity of the place, and set out conservation policy and guidelines for the place and its cultural heritage components. Stage Two incorporated regional tourism context, implementation strategies and actions. This stage was reviewed by the NPWS and the Traditional Tribal Group consultative committee.

Stage Three, the *Draft CMCTP*, was made available to all stakeholders and the public generally for comment as part of the consideration and endorsement by the NPWS and NSW Heritage Council.

Stage Four, The *Final CMCTP*, is endorsed by the NPWS following public exhibition and Heritage Council endorsement.

This report has been prepared using the guidelines contained in JS Kerr's *The Conservation Plan*, published by the National Trust of Australia and the guidelines of the *Burra Charter* of Australia ICOMOS, revised November 1999.

The assessment of heritage significance has been made using the *Assessing Heritage Significance* guidelines published by the NSW Heritage Office and the Department of Urban Affairs and Planning and the gazetted criteria adopted by the NSW Heritage Council.

Stakeholder consultation was undertaken to document knowledge of the place, to assess contemporary social values and to provide for input into future management. The consultation process included an initial advertising phase seeking public comment and input.

Follow-up consultation was made with respondents and Aboriginal and non-Aboriginal stakeholder groups including the traditional tribal consultative group of the Willandra Lakes World Heritage Area, tourism operators, the scientific and archaeological community and families of the former owners.

1.5 Limitations

As described above in Section 1.3 this report is required to focus on historic heritage within Mungo National Park and to focus on future management and cultural tourism opportunities and constraints. While primary research was not therefore a focus it became clear in undertaking the study that previous analysis was limited and required more work in the areas of physical investigation and oral history and documentary research, particularly in relation to twentieth-century occupation history.

The study team has documented as best it can, within the parameters of the study and available primary and secondary source material, the sources of any documentary material and oral tradition in relation to Aboriginal and Chinese involvement in the pastoral history of Mungo National Park.

1.6 Sources of Information

This report is based on public consultation undertaken by the study team and available primary and secondary evidence provided by the NPWS Cultural Heritage Division, the NPWS Lower Darling Area and the families of previous owners of the pastoral settlements. Sources of information include historic records, maps, plans, photographs and oral histories held by the NPWS and those supplied by Aboriginal and non-Aboriginal community members and the families of former owners of the pastoral stations. Primary records, including aerial photographs have also been obtained from the Department of Land and Water Conservation (Land and Property Information), the Art Gallery of New South Wales, and the State Library of New South Wales.

The report by Donovan and Associates (1986) *European Cultural History Study*, a report to the Willandra Lakes World Heritage Region Consultative Committee, provides a useful background to nineteenth-century pastoral practices and pastoral holdings in the region. Extracts of the Patterson papers held by the NPWS provide a useful resource for the Gol Gol period.

A complete list of sources consulted in preparing the CMCTP are identified in Appendix C – Resource List. An annotated historical and contemporary photographic collection for the study area, compiled during the completion of this report with the assistance of the Barnes and Stirrat families is included in Appendix D.

1.7 Authorship and Acknowledgements

This report was prepared by a multi-disciplinary team assembled by Godden Mackay Logan under the direction of Geoff Ashley, Senior Associate. Geoff Ashley also prepared the analysis of built evidence and had carriage of the significance and policy sections. Jennifer Armstrong, Built Heritage Assistant, assisted with all aspects of the report in particular the mapping and inventory forms. Mark Dunn, Historian, undertook the historical research and prepared the historical overview in Section 2.0. Susan McIntyre-Tamwoy, Heritage Consultant, prepared the Physical Analysis Section — Aboriginal Heritage, Section 4.0 and all Historical Archaeology Sections. Chris Betteridge of Musescape prepared the Natural and Cultural Landscape Setting Analysis — Section 3.0 and Historic Landscape analysis in Sections 5.0, 6.0 and 7.0. Margaret Betteridge, of Musescape prepared Section 8.0, Cultural Tourism and Interpretation and Section 14.0 Cultural Tourism.

All members of the study team contributed to the Current Management subsections of the report and contributed to the completion of Section 10.0, Comparative and Contextual Assessment and Section 11.0, Significance Assessment.

Professor Richard Mackay, Managing Director of Godden Mackay Logan, reviewed this report. Photography is by Geoff Ashley and Jennifer Armstrong, Godden Mackay Logan, unless otherwise noted. Preparation and compilation of aerial photographs and maps within the document are by Jennifer Armstrong unless otherwise noted.

Acknowledgement is made of the valuable assistance of the following people and organisations in the preparation to this report:

- Mr Tony Woodhouse, Project Manager and Ranger, NSW NPWS Buronga Office
- Mr Rodney Harrison, Historical Archaeologist, NSW NPWS
- Ms Joanne Gorman, Manager, NPWS Lower Darling Area
- Warren Clark, Senior Field Officer, NPWS, Mungo NP
- Col Gibson, Field Officer, NPWS, Mungo NP
- Mr Peter Clark, Department of Water and Land Conservation
- Mr Harvey Johnston, Archaeologist, NPWS
- Professor Jim Bowler
- Mr John Beattie, Cultural Heritage Information
- Ms Rhiannon Anderson and Mr Ben Scott, Balranald Tourist Information Centre

-
- Mr Tim Lowe, IT, NPWS Head Office
 - Mrs Venda Barnes
 - Mr & Mrs Peter & Colleen Barnes
 - Mr Roy Stirrat
 - Mr Don Stirrat
 - Mr & Mrs Val & Valerie Barnes
 - Mr Roger Stirrat
 - Mrs Nona Wood
 - Mr Ted Lawton
 - Mr Roy Kennedy
 - Mrs Joan Slade
 - Mrs Lottie Williams
 - Mrs Mary Pappin
 - Ms Dinitee Haskard and Mr Neil McGarry, Broken Hill Tourist Centre
 - Ms Kerry Ziernicki, Harry Nanya Tours
 - Mr John Grima, Junbunna Enterprises
 - Mr Tom Evans, Junction Tours
 - Mr Shaun and Mr Lee Rayner, Mallee Outback Experiences
 - Mr Graeme Grant, Mungo Experience (Mungo Lodge)
 - Mr Brian Hunt, Ponde Tours Pty Ltd
 - Mr Austin Smith, Shear Outback, Hay
 - Ms Alison Knight, Wartook Computing
 - Ms Carmel Chapman, Wentworth Tourist Information Centre
 - Doreen, coordinator of Ivanhoe LALC
 - Mildura Visitors Centre

The willing sharing of information and documentary evidence by the Barnes and Stirrat families about Mungo and Zanci stations after 1922 has been critical to our understanding of Mungo in the twentieth century. The participation of family members in several long meetings is very much appreciated by the study team.

1.8 Glossary of Terms and Abbreviations

Adaptation	Where this term has been used in relation to building conservation the term means modifying a place to suit the existing use or proposed use. Where this term has been used in relation to Aboriginal people or society it means — Adjustment by a culture or organism to changing circumstances.
Artefacts	Objects made, modified or used by men and women.
Assemblage	All the different artefacts found together in one layer, regardless of the material from which they are made.
Associations	The special connections that exist between people and a place.
Australia ICOMOS	The Australian National Committee of ICOMOS (International Council on Monuments and Sites).
Bioregion	An area of related ecosystems.

BP	A dating convention 'Before Present' where present is taken to be 1950.
<i>Burra Charter</i>	The Australia ICOMOS Charter for Places of Cultural Significance, the <i>Burra Charter</i> provides guidance for the conservation and management of places of cultural significance (cultural heritage places), and is based on the knowledge and experience of Australia ICOMOS members.
C₁₄	Denotes Carbon 14 date also referred to as radiocarbon dating
Calibrated radiocarbon dates	Radiocarbon dates, especially for the period before 1,000BC, do not correlate precisely with solar years in our own calendar. The radiocarbon dates older than 3,000 years are younger than solar dates and require increments from an approximately known scale if they are to fit the BC/AD system.
CMCTP	Conservation Management and Cultural Tourism Plan.
CMP	Conservation Management Plan prepared in accordance with <i>Burra Charter</i> guidelines that identifies the cultural significance and appropriate conservation and management of heritage places.
Conservation Analysis	A simplified form of CMP usually for single places as a result of proposals but still identifying significance and appropriate conservation policy for the place and its components.
Context	Where this is used in relation to archaeological sites it means the spatial, temporal, and cultural environment of an artefact, from which we can derive interpretations and significance.
Cosmological	Pertaining to one's understanding of the universe and its workings.
Cultural Significance	Means aesthetic, historic, scientific, social, or spiritual value for past, present, or future generations.
Culture	In anthropology a set of customs and artefacts that characterise a people.
Deflation	Wind erosion of the earth's surface.
Degrading (landform)	A landform actively wearing down through erosion.
Drop-log	A traditional timber wall construction technique that uses whole or split logs dropped horizontally into a vertical log framework and held in place by timber cleats.
Ecosystem	The interplay of organisms with their biological and physical environments.
EIS	Environmental Impact Statement.
Episodic flooding	Extreme period of wet or dry that are not predictable.
Ethnoarchaeology	An approach by which archaeologists conduct studies of contemporary peoples as an aid in interpreting the past.
Ethnography	The description of a living culture in the framework of anthropology.

Existence value	Existence value occurs where people value the preservation of natural/cultural resources even though this does not involve an in situ use of the resource.
Fauna	The animals of a particular region or period, taken collectively (as distinguished from the plants or flora).
Flora	The plants of a particular region or period, taken collectively (as distinguished from the animals or fauna).
Geochronology	Dating by relation to geological features.
Geomorphology	Study of the origin, character and development of land and rivers.
Grindstone	Large generally flat stone (usually of sandstone) that is used to grind seeds.
Ground Tank	An earthen wall enclosure created by an excavation and the construction of levee banks to collect and store surface rainwater (or groundwater, hence ground tank) utilising a series of channels (drains) to collect the groundwater.
Groundwater soak	Moist area formed when subsurface or groundwater flows to the surface.
Hearth	Discrete relatively small (less than 2m diameter) roughly circular pile of ash-stained deposit, sometimes containing heat fracture rock or lumps of burnt clay from termite nests, used by Aboriginal people for cooking and heating.
Hearthstone	Stone or clay lumps used in fires to retain heat, and aid in the cooking process.
Historic	In relation to this report, the term is used to describe the post-invasion period of Australia's history and can include both Aboriginal and non-Aboriginal places and values from this period.
Holocene	Geological epoch within the Quaternary period (about 11,000/10,000 years ago before present).
Interpretation	In heritage conservation the term means 'all ways of presenting the cultural significance of a place'.
Knapping floor	Distinct areas showing evidence that rocks have been flaked to produce artefacts.
Lacustral	Living in lakes.
LALC	Local Aboriginal Land Council
Lens	An archaeological layer of localised extent, shaped in a generalised way like an optical lens (ie thick in the middle and tapering away at the edges).
Macropods	Kangaroos or wallabies.
Meanings	What a place signifies, indicates, evokes or expresses.

Megafauna	The large animals of a region or period.
Midden	An accumulation of household/camp refuse.
MNPAC	Mungo National Park Advisory Committee.
Morphological	Refers to the form and structure of organisms.
NPWS	NSW National Parks and Wildlife Service (also referred to as the Service).
Open site	Exposed surface archaeological site.
Oral history	Spoken word which is recorded on tape or written down to record past observations or memories.
PAD	Potential archaeological deposit.
Palaeomagnetic	Ancient records of the geomagnetic field are preserved in rocks and fireplaces and changes in these fields can be traced.
Pedogenic	The nature of soils, characteristic of soil genesis and classification.
Pleistocene	A geological period usually thought of as the Ice Age that began about 1.6 million years ago and ended with the advent of the Holocene about 10,000/11,000 years ago.
PoM	The Plan of Management is the statutory document required under the National Parks and Wildlife Act 1974, that regulates the management of Mungo National Park.
Prehistory	History before written records, as inferred from archaeological remains.
Radiocarbon dating	Process that dates parts of plants and animals by means of their content of radioactive carbon, which decays in a regular manner.
REF	Review of Environmental Factors.
Relative dating	Dating one object in relation to another: ie older, the same age, or younger.
Resource	In relation to historic heritage relates to fabric, associations and meaning to be conserved and interpreted.
Sediment	Material (such as clay silt, sand, gravel, organic matter and debris) deposited by water wind or glaciers.
Site	Location of archaeological remains.
SOHI	Statement of Heritage Impacts prepared in association with environmental assessments such as REFs, and identifying heritage impacts (both positive and negative) on the significance of a place arising from proposals.
Stratification	The flat-lying layers visible in an excavation profile.
Stratigraphy	Interpretation of the cultural significance of strata in an archaeological site.

Survey	Reconnaissance of an area to identify visible archaeological remains and determine its archaeological potential.
Thermoluminescence dating	Technique of dating by measuring the emission of light from sediments when they are heated.
World Heritage Area	Willandra Lakes Region World Heritage Property [Area] as inscribed on the UNESCO World Heritage list in 1981, the boundaries for which are shown on Figures 1.1 and 2.3.
Wool scour	The process by which shorn wool was cleaned, or 'scoured' by a process of soaking in a boiler house, rinsing in a lagoon, dam or ground tank and drying on calico sheets prior to being pressed into bales. ¹

1.9 Endnotes

¹ Freeman, Peter 1980, 'The Woolshed: A Riverina Anthology', Oxford University Press, Melbourne, p 34.

2.0 Historical Overview

2.1 Prehistory Landform Processes

The landform of the Mungo study site includes areas of the extinct Willandra Lakes system of large shallow lakes surrounded by lunettes. The lakes are thought to have filled from the Lachlan River floodwaters some 60,000 years before present (BP) and retained water until 15,000 BP. The section of the lake lunette that reflects this environment consists of quartz sand blown off the then beaches as well as different soil horizons and deposits of saline sandy clays. These deposits sit on top of an older unit known as 'Gol Gol Unit' which reflect an earlier period of dune formation.

At about 25,000 BP the lunette sequence at Lake Mungo recorded a significant change in the environmental conditions in the area, one of increasing aridity. Lake level oscillations occurred as a result of decreased water inflow, and these led to the exposure of the lake floor clays. The gradual drying out of the lake system resulted in an increasing crystallisation of the salt on the lake floor clays. This in turn caused the clays to break down into small sand-grain-sized pellets, which were picked up by prevailing winds and swept up onto the lunette to form a 'clay blanket'.

The uppermost unit of the lunette, and final phase of the dune formation, is known as the 'Zanci Unit' that accumulated until 15,000 years ago. Leaching of salts subsequent to the drying of the lake enabled vegetation to colonise the lake floor, stabilising the area. The area changed very little until the more recent erosion patterns on the lunette.

The earlier landscape at Lake Mungo would have provided the habitat for a diverse range of animals including many now extinct. Many of the extinct species were much larger than animals surviving today, hence the term megafauna which is used to describe them. The species of extinct megafauna found in lunettes in western New South Wales include *Zygomaturus*, a number of *Macropus* species, *Protemnodon*, *Procoptodon*, *Sthenurus* and *Thylacoleo*. It is believed that most of the extinctions took place before 30,000 BP and possibly 45,000 BP. All of these species are absent from deposits 15,000 years old and younger.¹ In the intervening years there have been a number of other extinctions, many since the advent of non-Indigenous settlers, and the lunettes of western New South Wales including those around Lake Mungo are an important source of information on early species distribution and the likely impact of land-use changes on native species.

2.2 Prehistory Aboriginal Occupation

The story of Aboriginal occupation of the region has been played out against the backdrop of the evolving landscape of the Willandra Lakes Region. Evidence from archaeological excavations reveals that human occupation on the lake shore barrier system at Lake Mungo involved the harvesting of both fish and shellfish more than 40,000 years ago.² We know also that the Aboriginal people who lived at Lake Mungo must have had a rich and complex social life complete with cosmological belief systems. We have been given a glimpse of their cultural practices through the

discovery of the Mungo I cremation and the Mungo III burial which obviously involved ceremonial practices including anointing the remains with ochre.

As in the later historic phases the availability of water influenced the human occupation and use of Lake Mungo throughout the prehistoric period. Aboriginal people camped along the shoreline of Lake Mungo and the other lakes of the Willandra Lakes system. They developed an economy based on the rich aquatic resources provided, and utilised the nearby silcrete outcrops as a source of the stone material they required for their weapons and tools. We know that these people, although so distant in time from us and the Aboriginal people of the region today, had already established long trade networks. Ochre, such as that used in the Mungo III burial, had to be traded from at least 200km away in the Broken Hill–Olary region. We can also assume from the ritual treatment of their dead that these people valued life and the individual.

Following the early more stable wet period we see a community of people who demonstrate complex adaptive responses to their changing environment. As Bowler points out³:

As global climates descended towards the glacial maximum, local responses seem to have varied greatly ... In the patterns that emerge, two cultural responses are apparent:

- 1) an opportunistic one in which, current technologies imply, moved as resources moved, and*
- 2) a more innovative or technical response in which technologies changed synchronously with or in response to new environmental pressures.*

The nature of climatic change would have been dramatic during this period, although of course it would have taken place over many years (lifetimes). It would have included both the loss of habitat and the loss of animal species many of which would have been important components of the diet of people at Lake Mungo. Between 25,000 and 19,000 years ago, fish and mussel shells, which had previously been plentiful and clearly an important human dietary component, disappeared from the area. It has been suggested that the widespread emergence of seed-grinding technologies at this time that can be seen at Lake Mungo archaeological sites and throughout the Willandra Lakes Region is evidence of the sort of technological adaptation which was needed to support changing economies.

The period immediately prior to European invasion is often interpolated from observations of early settlers, missionaries and explorers. Sometimes such accounts included recordings of stories or information from Aboriginal people but more often these were first-hand or second-hand observations made by the European observers. Unfortunately there are few direct accounts of Aboriginal people around Lake Mungo or its immediate environs. General information on the area may be gleaned from explorers such as Sturt and Mitchell.

The study area appears to have been occupied at the time of European occupation by the Barindji (see Figure 2.1) although various observers group and separate the Aboriginal people they

encountered in different ways. Allen, based on observations from Cameron⁴ and Radcliffe-Brown⁵ suggests that the Barindji can be considered part of the Barkindji Group because of linguistic and kinship similarities. Allen divides the Barkindji Group into three divisions on the basis of their environment or country. The East Darling Division is the one relevant to the study area. It is described as back country land away from the river. The East Darling Division is occupied mainly by the Barindji tribe. This name according to Tindale means 'people of the trees'.⁶ The Barindji are the same people that Cameron⁷ and Howitt⁸ recorded as the Berri-ait tribe. Unfortunately, as has been mentioned, few first-hand records relating to these people exist as this area was considered by Europeans to be dry and inhospitable and therefore during the earliest period of European exploration and settlement it was considered to be of little interest. Cameron, who lived on a nearby property, noted that Aboriginal people extracted water from some plants that sustained them for four or five months of the year. They used *Eucalypt* and *Hakea* roots which they dug up and broke into pieces and stood in a receptacle until the water drained out.⁹ Cameron also mentions that the Aboriginal people from this area occasionally visited the river, suggesting that relationships with the river groups were cordial. It may be assumed that seed collection and preparation was an important part of the economy along with hunting.

Aboriginal people in the Darling River and Murray River area had complex rituals and ceremonial life as did Aboriginal people throughout Australia. People east of the Darling River practised ceremonies involving tooth evulsion (part of an initiation practice where a front tooth is knocked out) whereas those west of the Darling practised ceremonies involving circumcision and or ritual blood-letting, the latter linked to rain making. We have already seen that people in this area in the deep past practised ceremonies associated with burial of the dead, and such practices continued up to the time of European invasion. An early description of a grave at Pooncarrie is provided from 1844:

I found some native graves on a sandhill. They were each covered with sticks with one end in the ground and meeting in a point. On these were thrown pieces of bark and a large quantity of grass and overall a net is fastened which keeps everything in place. Round the grave there was a path about 2 feet wide terminating in a point east and west [of the grave]. At each point there was the remains of a fire. The inside of the structure was hollow and partly filled with grass which had evidently served someone for a bed, probably the nearest relative of the deceased.¹⁰

Gypsum mourning caps, sometimes called widow caps, were worn by mourners. These appear to be restricted in distributions to the Darling River Valley and the country from the Darling River to the eastern shore of Lake Eyre. Cylindrical conical stones are also found restricted to this general distribution. The exact use of these stones is not known although it appears that they may have been used in increase rituals to ensure game and food resources are plentiful. They were not to be seen by the uninitiated men or women.

While Aboriginal people may have pursued a traditional lifestyle around Lake Mungo at the time that Turlee and Gol Gol stations were first established in the later part of the nineteenth century, it appears that they had been almost totally removed from the area by the time that Mungo and Zanci

2.3 Aboriginal People after European Invasion

In 1829 when Sturt reached the Darling River it appears that the Aboriginal people of the area had already suffered significant disruption due to European disease. He records that 'a violent cutaneous disease raged through the tribe, sweeping them off in great numbers'.¹² Similarly Mitchell recorded in 1839 that 'the populations of the Darling seemed to have been much reduced by smallpox'.¹³ Generally explorers stuck close to the rivers and the descriptions of people occupying the immediate river floodplain tend to be more common than descriptions of people occupying the more arid areas. European settlement began along the Darling River in 1850 and yet there are few accounts of Aboriginal people from this time. It is clear that Aboriginal people resisted European incursions into their land. Mitchell recorded clashes with Aborigines on the Darling in 1835 and the Murray in 1836. Aboriginal inhabitants of the junction of the Darling and Murray Rivers had a series of battles with Europeans driving sheep and cattle to Adelaide between 1839 and 1841. These clashes ended after a bloody punitive expedition from Adelaide inflicted severe casualties.¹⁴ Throughout parts of the Darling River valley the conflict got so intense by the 1850s that many stations were actually abandoned. However, increases in the price of meat and steep rises in the price of wool raised the incentive for Europeans to retake the Darling and by 1859 this had largely been achieved. The accounts of the clashes and the moves by Europeans to take control of this country and the counter moves by Aboriginal people to retake it, provide some of the clearest accounts of settlement as invasion in New South Wales.

Manpower shortages continued after the gold rush and into the 1860s and eventually Aboriginal people became an important part of the pastoral industry. Allen reports that 'They were employed extensively as shepherds. Stations at this stage were huge runs covering up to 1,000 square miles, minded by shepherds, who lived at outstations situated near permanent or regular water supplies'.¹⁵ This coincides with the establishment of Turlee and Gol Gol stations (see below) and it is likely that at this time Aboriginal people also formed part of the permanent or casual labour force on these stations. Aboriginal people on these large runs were able to carry out this work while maintaining some traditional practices such as hunting etc. The journals of the Burke and Wills expedition record that the Yita Yita people camped near the homestead on Pringle Station to the south of Lake Mungo in 1860.¹⁶ Unfortunately no records from either Turlee or Gol Gol appear to exist which describe Aboriginal people either in the area or the workforce. Cameron took up land at nearby Willandra Billabong (Lake Mulurulu) and made some references to the Aboriginal people of the area.¹⁷

Interestingly Allen notes that technological advances such as the availability of galvanised wire for fences in 1873 were responsible for the next wave of dispossession of Aboriginal people in the area. Pastoralists were now able to fence off paddocks which meant fewer shepherds were needed. Wells and bores began to be sunk in the back country which meant that settlement could spread out from the more well-watered areas.



Figure 2.2 A Fight at the Murray in the Scene Painting Style.¹⁸

2.4 Early Non-Indigenous Settlement – Exploration, Land Acts and Large Runs

The earliest European explorers to travel through the western portions of New South Wales were sent on missions to map the hitherto unknown sections of the country, track the course of the rivers and record the chief geological features of the land. While government-sanctioned expeditions such as those led by Captain Charles Sturt up the Darling River in 1829 or that of Surveyor George Boyle and Thomas Mitchell in the 1830s opened the country up for settlement, it was the pastoralists who followed that were responsible for much of the actual exploration in the region. Squatters quickly followed the paths of the surveyors and explorers. Searching for viable land, they rapidly settled the regions along the major waterways, and when these were taken up, began to settle the inland areas as well.

The rate of settlement after the first European explorers can be judged in some ways by the official response. Settlement in the region between the Murrumbidgee and Darling Rivers was officially recognised on 4 December 1847 with the proclamation of the Darling Pastoral District.¹⁹ This was followed in 1849 with instructions to Surveyor McCabe to lay out the town of Balranald, which was gazetted in April 1851. Balranald was followed in 1851 by the town of Euston, and later by a town on the junction of the Darling and Murray Rivers by the name of Wentworth.

Government regulation followed close behind the settlement of the western lands district. In 1861 the Robertson Land Act sought to regularise the designation and alienation of land, and to provide access to land for the increasing number of migrants arriving through the 1850s and 1860s. The problem facing the new pastoralists was that most of the choice grazing land had long before been selected by squatters. The squatters had taken land under the regulations derived from the Orders of Council. These allowed for the leasing of runs of up to 32,000 acres in the 'unsettled districts' for periods of five years with the right to purchase one square mile in every 75 at £1 per acre. The

obvious choice of land for these early settlers was that with access to good water supplies, primarily along the rivers that flowed through the western districts, leaving the drier back-block areas to the next wave.

John Robertson, a member of the NSW Legislative Assembly and then the Legislative Council, had a vision of the Australian bush as the home to small-scale freehold farmers, who he believed were more likely to use their land productively than the large-scale squatter properties. Robertson proposed to throw open remaining public lands for free selection before survey, with blocks of no larger than 320 acres, the price being £1 per acre, with a deposit of 4s per acre and the remaining within three years.²⁰ However, at the same time Robertson did not wish to damage the pastoral interests of the squatters and sought to reassure their representatives in the Council. Land that had been improved was therefore excluded from selection. Despite assurances, conflict between selectors and squatters was keen in the western districts of New South Wales, particularly along the river fronts, as both groups vied for the best land. However, the nature of the backblocks meant that conflict was minimal if it occurred at all, one reason being that a lack of natural water sources meant that any watering places were the result of improvements.

While the 1861 legislation had little direct effect on the back blocks, it did flag the government's intention to encourage the breaking up of the large early runs so that a larger number of owner-operators may be attracted to the industry.²¹ Most subsequent legislation had this object in mind. Of them, the 1884 Crown Lands Act sought to establish a lasting system that would also close off the remaining loopholes from the 1861 legislation. One of the important features of the 1884 Act was the recognition that not all land in New South Wales was of equal value or equal usefulness to the squatters. This principle was recognised with the designation of three separate divisions, East, Central and Western, with a Land Board being created to manage each of them. The study area falls within the boundary of the Western Lands Division.

Any potential conflict between squatters and selectors due to the 1884 legislation was addressed by the government resuming half of the available land for selection. Areas retained by squatters were held under a Pastoral Lease for 15 years in the Western Division, but they were also permitted to occupy the resumed area for grazing purposes under the terms of an annual licence. To buy under the conditions of the new legislation, each of the pastoralists was required to provide documentation of their holdings and improvements to the government. These lists provide a valuable insight into improvements and priorities on the stations in the late nineteenth century.

In 1860 the Victorian Exploring Contingent led by Robert O'Hara Burke left Melbourne to cross the continent. This expedition was set up under the auspices of the Philosophical Institute of Victoria. This expedition passed near the current study area camping on Arumpo Station south of Lake Mungo on 27 September 1860.²²

2.5 The Pattersons, North Turlee and Gol Gol Stations 1850–1921

It was within the conditions summarised above that the first of the settlers in the Mungo area took up land. A number of large back-block properties were established in what later became known as the Willandra Lakes region; these are shown in Figures 2.3 and 2.4. One of the earliest back-block runs occupied by Europeans was Turlee, taken up by George Lee in 1850. Close-by to the north were the runs of North Turlee and North Turlee Block A, both part of William Nash's holdings from 1864. Both Mungo and Zanci Stations were originally part of Nash's North Turlee properties. In 1869 John Ettershank assumed control of Nash's holdings during which time it was first suggested that the Woolshed at Mungo be constructed. Apparently both Nash and Ettershank had utilised the Mungo area of the Turlee holdings as a headstation for the property.²³ In 1874 Robert Patterson, a Victorian pastoralist, purchased the leases for the properties North Turlee and North Turlee A, marking the start of the Patterson family's association with the area (see Figures 2.6 and 2.7).

Another of the early runs was Gol Gol Station, taken up by James McLeod in 1859, part of which also incorporates the study site. McLeod sold the property onto the Peppin brothers in 1867. As with Turlee, Gol Gol was a back-block station, away from natural watercourses which meant that little development could take place on the station until the necessary infrastructure was in place. This was a reoccurring problem for all the back-block stations, including later properties such as Zanci.

In 1875 John Patterson, nephew to Robert Patterson, bought Gol Gol Station from the Peppin brothers. Patterson, from a family familiar with large properties and wealthy from the land, was the first to own Gol Gol and have enough capital to make it viable.²⁴ In 1877 John Patterson added the two Turlee blocks acquired from his uncle, with the final property equalling 345,407 acres of leasehold (see Figures 2.3 and 2.4). The Patterson family ran the Turlee properties for the next 44 years until the land was separated from the main station for use as soldier settlement blocks. (During this time there was a short aside, between 1882 and 1886, when John Patterson sold the lease of Gol Gol to Arthur Everitt and White but remained chief mortgagee: as a consequence the lease reverted to Patterson when Everitt and White failed.)²⁵

Patterson was typical of many of the early leaseholders in the area, in that he managed a number of properties in other areas and left the day-to-day running of the station to resident managers. Indeed Patterson's base was Hawthorn near Melbourne, where he lived, and most of his property was in Victoria. Because of his Melbourne base, wool from Gol Gol was traded there also.

Gol Gol Station was primarily a sheep station. The Woolshed at what was to become Mungo was erected on the station sometime between 1869 and 1880. The eleven-year period covers the two main possibilities of the Woolshed's origin, being that it was erected either by John Ettershank in 1869 or by John Patterson by 1880 when Patterson refers to the Turlee Woolshed in correspondence, although the earlier date is most often quoted.²⁶ It is of interest to note that in the application for new leases in 1885 for both Gol Gol and the Mungo area lease, both are listed as having woolsheds, which could suggest that Patterson did indeed build a woolshed in 1880 but on

another portion of Gol Gol Station (or equally feasible that he built both sheds at different times or that Mungo Woolshed was built by Ettershank). On balance, the most probable date range for the construction of the Woolshed is between 1877, when Patterson purchased the property and 1880, with the most likely date being 1878 when the property's boundary fences were constructed.²⁷

The Woolshed was probably built using contract labour. Oral tradition, repeated in previous studies on the Mungo Woolshed, have suggested the use of Chinese labourers in the construction of the shed. While there is little argument that Chinese labourers worked on some stations in New South Wales and Victoria, particularly after the goldrushes of the 1850s, and were even involved in woolshed construction, most notably at Egelabra near Warren, there is no direct evidence that they were involved in the construction of Mungo Woolshed. Having said that, there were some Chinese working on Gol Gol Station in the 1880s as the names of at least three appear in the station's note and pay books from 1880.²⁸

The Woolshed is built in a drop-log style. Drop-log construction had been used as a building technique in Australia since the first years of European settlement, with the advantage being that buildings were cheap, easily constructed and needed few, if any, nails. The technique involved the erection of vertical grooved holding posts at intervals along each wall. Timber slabs were then slipped between the struts to the height of the wall. One of the disadvantages of the technique was the time it took, often longer than the other favoured technique, that of vertical slab construction. Partly this was due to shrinkage of the boards from the sun, once in place, resulting in a slippage in height and the need for additional boards at the top.²⁹ However, for large, long-term farm buildings, drop-log construction was often preferred.

The shed was originally built with provision for thirty blade shearers and associated internal holding pens underfloor holding pens were built to keep sheep dry prior to shearing. Rooms for sorting and later for pressing wool were also built. Patterson purchased a wool press for the property in July 1881 at a cost of £131, from David Munro & Co in Melbourne. The press had the ability to be run either by hand or steam power, with belts and drives designed for the purpose. According to correspondence between Patterson and Munro, a steam engine was also in place in the shed at this time.³⁰

Originally built to accommodate hand shearers, the Woolshed was later converted to mechanical shearing by Patterson after 1888. Indeed, the installation of the steam engine for the wool press and to drive the overhead mechanical shears meant the removal of some shearing pens to accommodate it.³¹ However, even prior to mechanical shears the shed had a high output, with 29,182 sheep being shorn in 1886.³² Associated with the Woolshed were Shearers Quarters and Managers Cottage, both built close to the shed. The Managers Cottage and Shearers Quarters were a fundamental component to the working life of the Woolshed.

The growth of a unionised workforce and associated industrial disputes are important aspects in Australian pastoral history. The introduction of mechanical shears was an issue on Gol Gol Station, as apparently in 1906 shearers took exception to the fact that one of their number had his own hand-piece. This was taken from the shearer and thrown into the scour tank at what became Mungo Station. In 1942 then owner Albert Barnes dredged the hand-piece from the same tank.³³

A scour tank was also installed in the vicinity of the Woolshed to clean the wool prior to transport. Scoured wool was often preferred by buyers and was also lighter thereby reducing transport cost.³⁴ For a station such as Gol Gol and later Mungo, any reduction in the transport of its product was a major factor. In the early years of ownership Patterson had wool sent to Melbourne for scouring.³⁵ In later years it appears that not only did Patterson scour wool on site³⁶ but that wool was scoured for neighbouring properties.³⁷

Water, and the provision thereof, was fundamental to the survival of the stations in the western districts, particularly the back-block stations away from the rivers. A number of water soakages occur along the edges of Mungo lunette. These were likely to have been exploited by Aboriginal people and were the first supplies used by pastoralists³⁸ (see Section 7.2.5). With the selection of land for a station, the first and most important improvement was the sinking of wells and tanks to ensure a more reliable water supply. However, not every shaft sunk resulted in water being found, an example being that between March 1875 and September 1881, eighty-three trial shafts had been sunk on Gol Gol at a total cost of £1,260.³⁹ Once established it was imperative to ensure that they remained in good repair, particularly in times of drought. Water tanks then represented the most important improvement on the properties, for without water neither stock nor settler could survive long.

The importance of the tanks to the properties is clearly illustrated in the lists of improvements to property given in 1885 in application for new leases. On Mungo, then still part of Patterson's Gol Gol Station, the cost of tanks, wells, drains and associated water-related improvements totalled some £3425, by far the largest combined expense for the property. On what was to become Zanci, the cost was given as £3810 for water-related improvements, while on Gol Gol improvements were estimated at £5985.⁴⁰ In 1896 John Hunter Patterson reported in front of a Leasehold Board that his property (the entire Gol Gol holding) included seven large sheep paddocks which were watered by two wells and fifteen tanks on freehold land, with a further seven tanks on Crown land. The total cost of the wells and tanks was claimed by Patterson to have been £8304.11.5 in 1896 with a total of 185,841 yards of excavation. The cost included maintenance to keep the tanks from silting up, with two teams of men employed solely to keep the tanks clear.⁴¹

Water tanks and good land management were imperative to the survival of the property, a fact that was illustrated during the late 1880s and early 1890s when the combined problems of drought and the arrival of rabbits affected the western districts. The provision of water in tanks and wells had led some property owners to seriously overestimate the grazing capacity of their land up to the 1880s.

Flocks of over 50,000 sheep were not uncommon on some runs in back country. However, farms with large numbers of grazing animals were most vulnerable to the combined effects of rabbits and drought.

Rabbits had started to appear in the Mungo area by 1879 and by the mid-1880s had become a major problem for landholders, with rabbits competing directly with sheep for food and water in the fragile environment. The problem was recognised by the government in 1883 with the passing of the Rabbit Nuisance Act which, among other things, offered money for professional hunters to kill them. More common methods of control were extensive use of netted rabbit-proof fencing and poisoning campaigns. In the three years to 1889 Gol Gol Station received £2932.3.10 under the Rabbit Destruction Subsidy. The ground tanks were netted to keep out the rabbits and rabbits were trapped around the tanks. In 1880 a whole bale of rabbit skins was sent to Melbourne.⁴² It was also recorded in 1905 that Gol Gol Station maintained three teams at work with phosphorising machines to control the problem. The 'machines' consisted of a cart pulled by horses that made a furrow, into which was laid a phosphorous-laced pollard bait (see Figure 2.18). However, it was not really until the widespread use of myxomatosis in the 1950s that the rabbit population was seriously combated.

As noted above in Section 2.3, documentary evidence points to the involvement of Aboriginal people in the pastoral industry during the later part of the nineteenth century, especially prior to the forced movement of people off traditional lands to missions and government reserves. However, no evidence has been located in relation to Aboriginal involvement in Gol Gol Station in the Patterson papers or any other documentary source. The remoteness of this back-block station from permanent water sources may have meant that Aboriginal populations in the surrounding area were not large in any case.

In addition to references to three Chinese workers on Gol Gol in 1880 noted above, there are other references that support the involvement of Chinese work gangs, if not in the Woolshed construction then certainly in the management and maintenance of ground tanks and probably in woolscouring operations. In a letter from the manager to Patterson in 1895 there is reference to:

*Chinese putting brush around tanks to stop water washing bank away.*⁴³

As a postscript in a letter to Patterson in 1891 another manager refers to:

*Have sent D & Co a list of Gol Gol scoured wool, with descriptions on Bales. Paid Chinamen off on Tuesday.*⁴⁴

A second letter of latter that year states that:

*Chinamen will finish by Thursday so it would be 1 week before teams got away.*⁴⁵

Together these last two references point to Chinese workers involvement in the woolscouring operations.

In *Citizens* Eric Rolls' account of Chinese people in Australia, it is clear that the Chinese played a significant role in Australia's pastoral history⁴⁶:

For seventy years from 1860, thousands of Chinese worked on farms and stations in a long, broad strip of country from western Victoria up into central Queensland: ringbarking, clearing, tank sinking, woolscouring in gangs of twenty to five hundred.

In relation to woolscouring Rolls states that:

Until the 1900s, either of two difficult jobs were usually associated with shearing – sheep washing beforehand or wool scouring after. The light open fleeces of those days took in a lot of dust and grass seed and carriage to shipping terminals was slow and expensive. The contaminants often doubled the weight of wool in the grease so landowners washed their sheep....Sheep washing usually stained the wool. Scouring replaced it and Chinese teams did a lot of this work....The process became more general by 1860 and by the 1890s it had replaced sheep washing.

Rolls describes the basic process of stirring wool about in an alkaline solution, rinsing it in clean water, then drying it. He describes larger mechanical scouring plants on smaller stations where:

...the fleeces has to be stirred about with sticks in the soap tubs, forked out onto drainers, forked onto the rinsing tubes, drained again then spread on canvas sheets in the sun to dry. Chinese used their feet instead of sticks for most of this work, even the first drying of the wool. They put the rinsed fleeces into rectangular tubs 1.5 m long and 60 centimetres wide deep, then trampled them and pressed the water through the perforated bottom.⁴⁷

The water lift pump used to supply the scour at Mungo and the trolley track used to move wool between scour and Woolshed described further in Section 5.0, are consistent with the scouring operations described here.

Rolls also identifies Chinese involvement in another possible role at Gol Gol:

Another big job done by smaller parties of Chinese was tank sinking. Over the same long period as ringbarking and clearing they put down hundreds of ground tanks throughout Victoria, New South Wales and Queensland.⁴⁸

Oral tradition refers to Chinese use of the hut (now a ruin) near the Scour Tank and the evidence provided above supports this view. By 1901, and following the establishment of shearing unions in the mid 1890s, Chinese workers would be banned from entering Australia as a result of the first Act passed by Australia's Federal Parliament in 1901.

In 1911, John Patterson Jnr took over the reins at Gol Gol from his father and managed the property for a further ten years until the creation of the soldier settlement stations after the First World War.

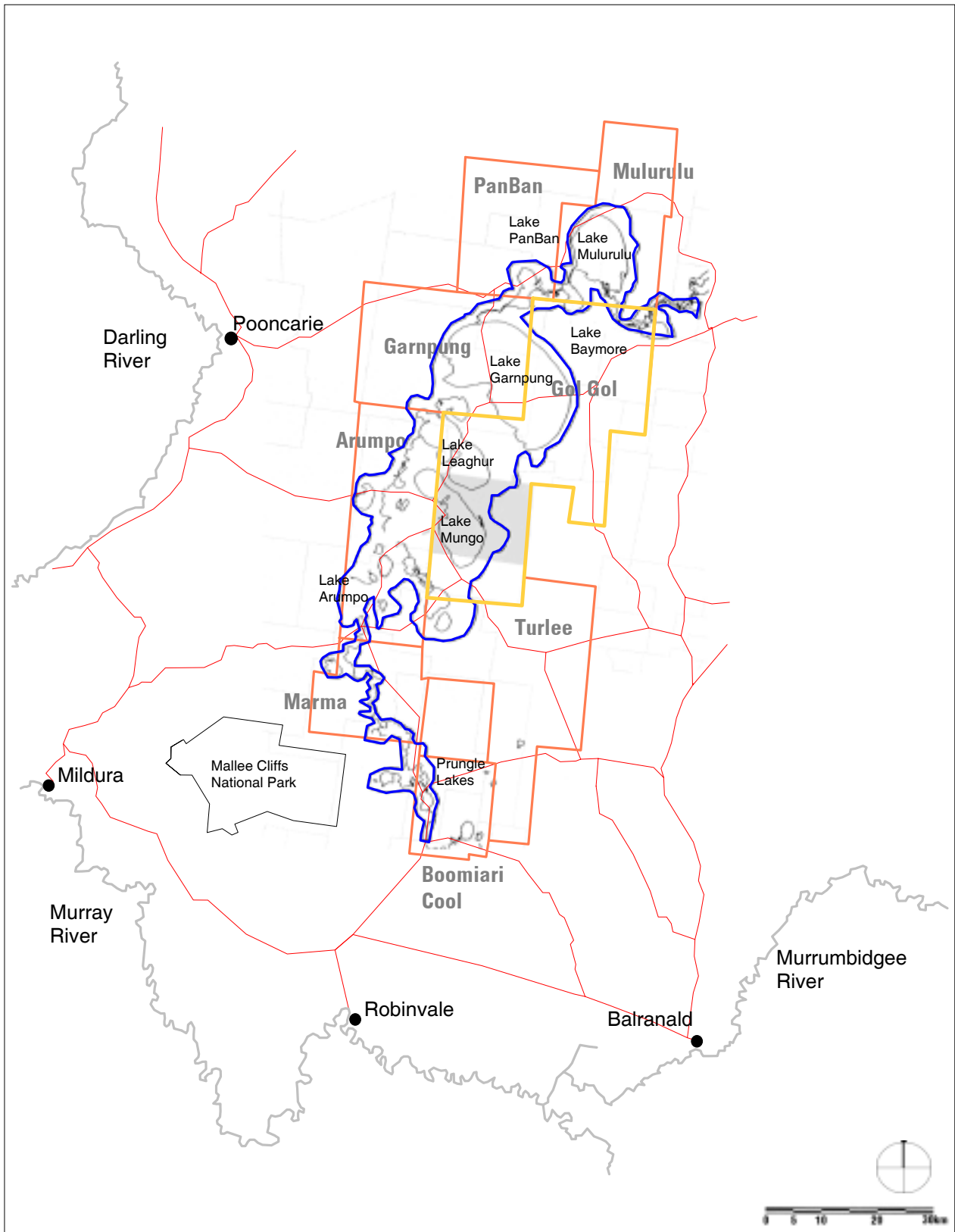


Figure 2.3 Map showing the relationship between the historic back-block properties, c1880s, including Gol Gol Station (yellow outline), in the vicinity of the current Willandra Lakes Region World Heritage Area (blue outline), and Mungo National Park (grey tone).

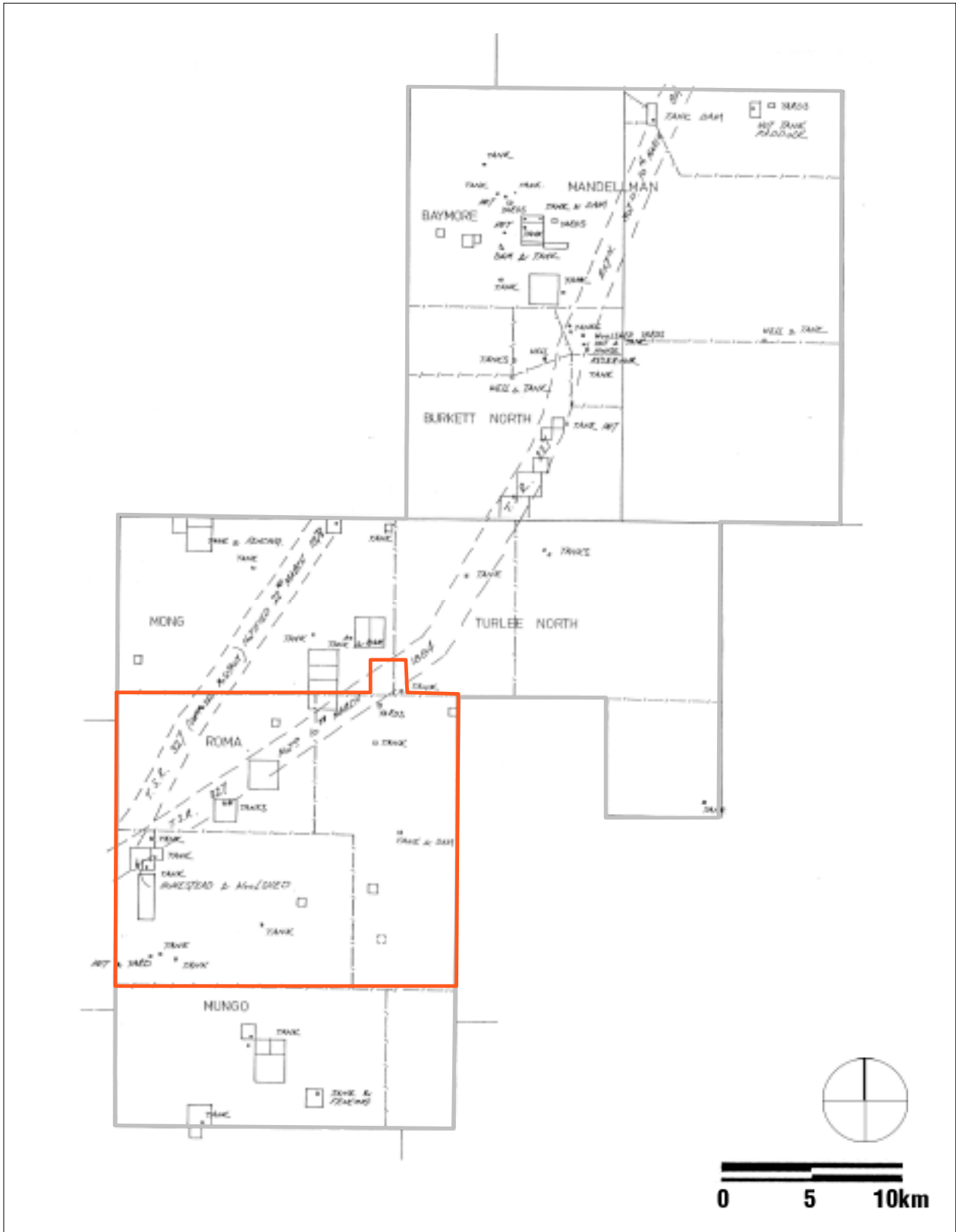


Figure 2.4 The former back-block property Gol Gol in 1885 showing the current area of Mungo National Park, edged in red.
(Adapted from a plan drawn by D Hawkins for the Willandra Lakes World Heritage Region European Cultural History Study, 3/12/1985.)

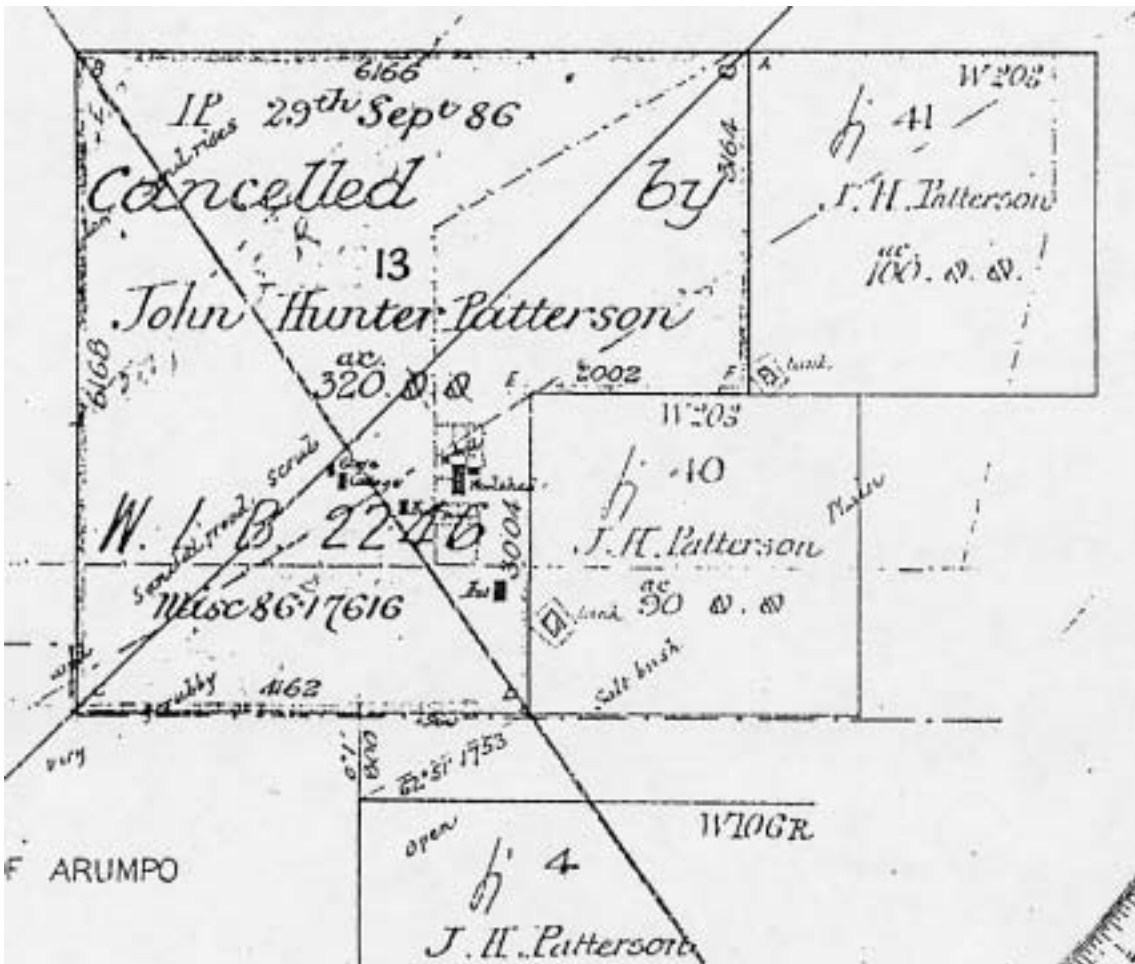


Figure 2.5 Portion Plan surveyed in 1885 relating to the Patterson family occupation of Mungo Station, showing the Woolshed, Cottage, Huts, Store and yards. (NPWS Archives)



Figure 2.6 c1890 photograph of the Manager's Cottage at Turlee/Gol Gol that is the central portion of the current Mungo Homestead. John Patterson rides in the dray. (Appendix D, Image No. 2)



Figure 2.7 The drop-log Woolshed with John Patterson standing in the foreground. The two bales near Patterson are stamped Gol Gol Scoured (wool). The Woolshed is shown at its largest stage, as the far right-hand wing was later removed. Far left is the Manager's Cottage, centre left is the Shearers Cookhouse. (Appendix D, Image No. 1)

2.6 Soldier Settlement Blocks

In 1921 Gol Gol Station was broken up under the soldier settlement scheme that followed the First World War. Two new stations were thus created, Mungo and Zanci along with others such as the neighbouring Joulni and Leaghur Stations. The scheme to settle returned soldiers on available land was adopted in all the Australian states as well as a number of other Commonwealth nations. In February 1916 the state premiers had met in Melbourne and decided on a uniform plan funded by the Commonwealth and managed by the states. Each state proposed different schemes, New South Wales and Western Australia experimenting with small grazing leaseholds, with Victoria preferring large irrigation colonies and Queensland including tropical fruit farms.⁴⁹ By 1920 the Commonwealth was allowing £1000 per settler and by June 1922 almost 28,000 soldiers had been assisted at a cost of approximately £33 million.

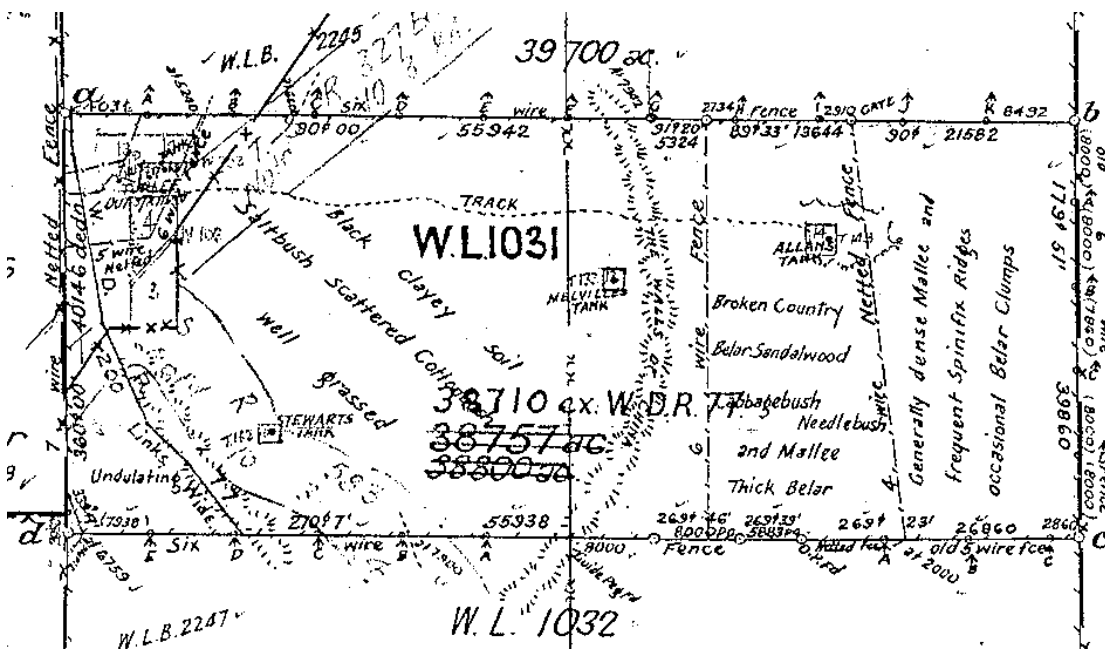


Figure 2.8 Portion Plan for Mungo Soldier Settlement Station after its separation from the Gol Gol property in 1922 (and as sold to NPWS in 1978). The list of improvements included a Cottage, Woolshed, Shearers Dining Room, horse yards and press room among other things. The plan also shows rabbit-proof netting fences along each boundary as installed by Paterson in the 1880s and 1890s. (DLWC Stock Inspection Report)

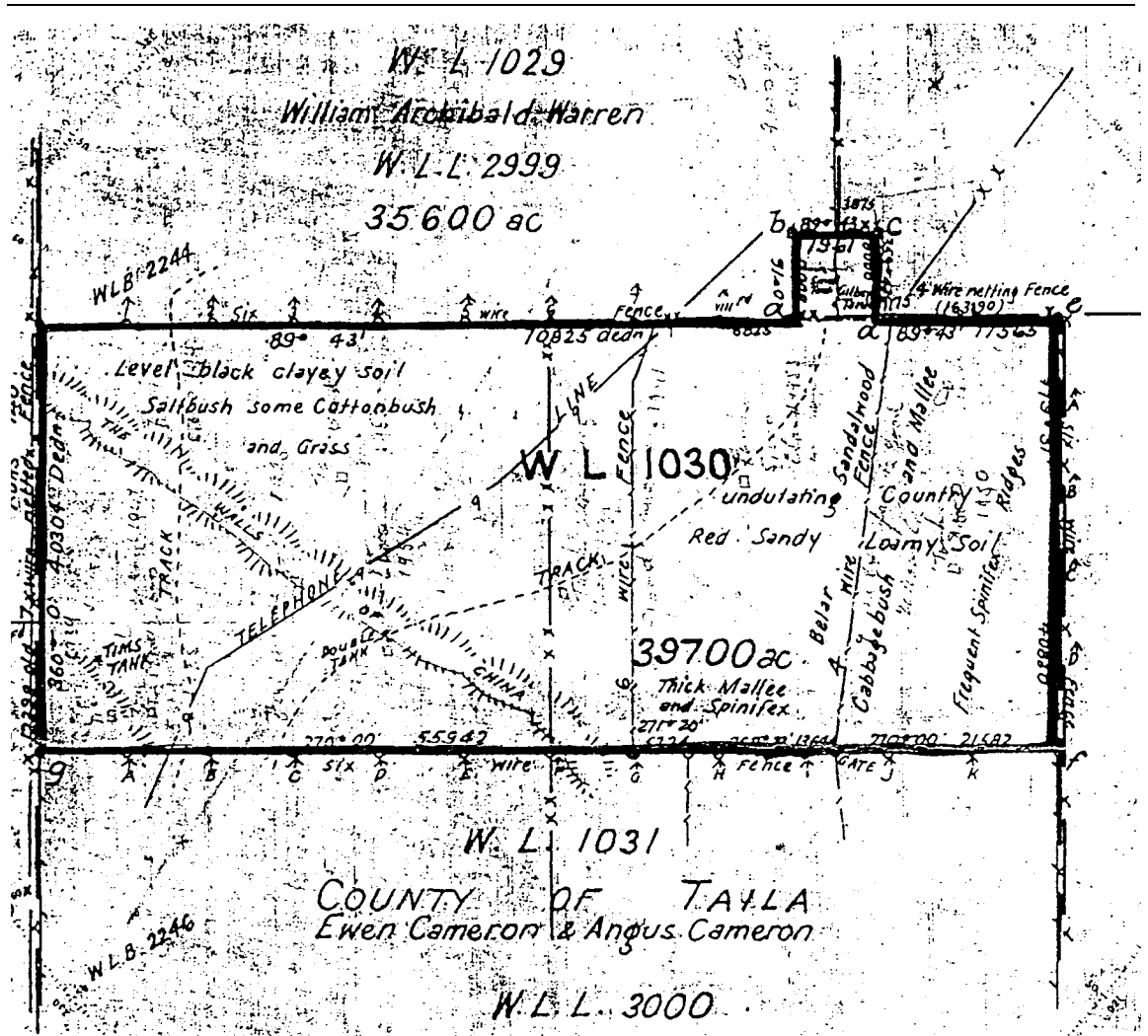


Figure 2.9 Portion Plan for Zanci Soldier Settlement Station after separation from the Gol Gol property in 1922 (and as sold to NPWS in 1984). In 1922 this part of the property was largely unimproved except for tanks and rabbit-proof netting fence lines. (DLWC Stock Inspection Report)

2.7 Mungo Station

In 1921 the 16,000ha (39,520 acres) run, known as Mungo, was taken up by the brothers Ewen and Angus Cameron under the terms of Section 26 of the Western Lands Act of 1901, and thereafter was managed as an independent station with owner-occupiers. Unlike some other soldier settlers, the Cameron brothers were fortunate in that their block was already improved, with the Homestead, Woolshed and associated buildings and tanks already in place.

The Camerons also had the advantage of having experience on the land before they took up Mungo, with Angus having been an overseer at Paika Station near Baranald.⁵⁰ Although the early years of their occupation were prosperous, with good years from 1922 to 1924, the brothers were hit hard by droughts through 1926–1928 and the property never fully recovered. Part of the legacy of the Cameron brothers that remains obvious on the Mungo run is the physical changes they made to the Woolshed. The Camerons reduced the number of stands within the Woolshed, as had the Pattersons, this time down to four stands and replaced the steam engine with a more efficient diesel engine.

In 1934 the property was sold to Albert Barnes, who like the Camerons had considerable experience in the area, having been brought up at Lethro on the Darling River to the west. Barnes later recalled that when he took control of the station it was in a bad condition, and he spent much of the first twelve months sinking tanks and mending fences. During the same year, 1934, Albert married Venda Stirrat who was a niece of Roy Vigar of neighbouring Zanci Station. This union served to make Mungo a centre for community activity in the area and to bring the two stations closer together in a co-operative way. Indeed, in following years, Roy Vigar's second niece Jean married Alec Barnes of Joulini Station nearby.

Albert Barnes undertook a number of changes to the station to keep abreast of changes in farm techniques and the changing physical nature of the region. Inside the Woolshed, Barnes resurrected one of the shearing stands, bringing the number back up to five. Barnes also worked to enlarge the property Homestead. The first, or centre section of the house at Mungo was erected during the Patterson years and served as a Manager's Cottage associated with the Woolshed. Barnes added the two wings to the Homestead during the 1950s, a time when he made a number of changes to the property. At this time the Barnes also removed the drop-log kitchen/cook house which dated from the Patterson occupation. There is some suggestion that this building may have been used as the original accommodation block for the Woolshed prior to Patterson erecting the more comfortable weatherboard cottage. This building was used as a kitchen block by the Camerons and then for a while by the Barnes family prior to its removal.⁵¹ So much work was made possible in the early 1950s through a combination of favourable rainfall and good wool prices.⁵²

Venda Barnes states that during her association with Zanci and Mungo Stations (1925 to 1978) that no Aboriginal people were employed on either station.⁵³ However, it is likely that a few Aboriginal

people did have some temporary or transient contact with the study area during the twentieth century. A local Aboriginal man, Roy Kennedy, believes that his father drove sheep through Mungo (there is a Travelling Stock Route that passes through the property).⁵⁴ The Barnes/Stirrat family members recall that an Aboriginal stockman, Harry Mitchell, passed through Zanci property to visit Roy Vigar as the two had worked together on Nulla Station located near Lake Victoria.⁵⁵ It is also possible that Aboriginal shearers may have worked on the stations from time to time, although Roy Stirrat recalls never seeing an Aboriginal shearer on either Mungo or Zanci.⁵⁶ Nevertheless, the almost complete absence of Aboriginal people from the historic pastoral record during the last century is apparently not typical for this region. Hardy⁵⁷ maintains that Aborigines made up the workforce that helped carry the pastoral burden during the [First] war years when many young white men went off to enlist. These were relatively profitable years for the Barkindji Aboriginal people of the region when work was more plentiful. This period came to an end with the end of the war, the return of the white labourforce and the further break up of the large landholdings through the soldier settlement scheme. Remoteness from other settlements, the relatively small size of these two properties and the co-operative family management arrangements between adjoining stations may be factors in why this is not a typical example in relation to Aboriginal pastoral involvement.

As a focal point for the neighbouring stations Mungo often played host to neighbours, with frequent picnics held by Ida on the sandhills behind Mungo Homestead in the 1930s.⁵⁸ Picnic race days were held at the race track on Joulni Station in the late 1930s.

Albert Barnes continued to run the property until 1978 when the newly-established NSW National Parks and Wildlife Service purchased it. Paying \$116,000 for the 15,700ha property, Mungo became one of the first properties purchased under the new management structure of the NPWS. At the time, the service's interest in the property was primarily due to the discovery of ancient Aboriginal burial and settlement sites around the Lake Mungo area. However, work was also started on restoring the Shearing Shed and some associated buildings that were by this time in a bad state of repair.

Figure 2.10
Val Barnes dipping
sheep at Mungo.
(Appendix D, Image
No. 15)





Figure 2.11
A cricket day on the
racecourse on Lake
Mungo Joulni Station,
c1935. (Appendix D,
Image No. 47)



Figure 2.12
Albert and Venda Barnes
in front of their new
vehicle c1934. Note
Mungo stencilled on the
door. (Appendix D, Image
No. 16)



Figure 2.13
Carting wool from Mungo
by truck in the mid 1930s.
The truck was a relatively
new way to transport the
clip, with it previously
being carted by bullock
wagon to waiting river
boats and barges.
Trucks could surpass this
and take it directly to
Mildura for transport to
market. (Appendix D,
Image No. 21)

Figure 2.14
Venda and Albert Barnes enlarging the former Scour Tank as the House Tank, 1956. Water was a critical factor in the survival of back-block properties. At Mungo and Zanci numerous tanks were sunk in the landscape to ensure adequate water supply was available. (Appendix D, Image No. 25)



Figure 2.15
Peter and Janeen Barnes swimming just over the Walls of China following seven inches of rain in one day, 1962. (Appendix D, Image No. 34)



Figure 2.16
The result of heavy rain on the parched landscape, 1962 – Peter and Janeen Barnes. Erosion and sand shift were major problems on the station. (Appendix D, Image No. 13)





Figure 2.17
Albert Barnes truck
being used to cart
wheaten hay to Zanci,
late 1930s. The Barnes
and Vigars were related
through marriage, and
both properties worked
closely together.
(Appendix D, Image
No. 36)



Figure 2.18
The rabbit poison cart
from Zanci on display
at the 100 year
celebrations at Mungo,
1969. (Appendix D,
Image No. 331)

Figure 2.19
Albert and Venda
Barnes at the
Woolshed, 1975.
(Appendix D, Image
No. 338)



Figure 2.20
Val Barnes clearing
scrub on Mungo,
1954. (Appendix D,
Image No. 302)



Figure 2.21
The Mungo Woolshed
decorated for the 100
year celebrations in
1969. The Woolshed
had been a focus for
social functions in the
area, including
regular picnic race
meetings and dances
in the 1930s and
1940s. (Appendix D,
Image No. 339)



2.8 Zanci Station

As with Mungo Station, Zanci had originally been part of North Turlee Run managed by William Nash until subsumed by the Pattersons at Gol Gol in 1877. In 1921, like Mungo, Zanci was separated from Gol Gol under Section 26 of the Western Lands Act 1901, for a soldier settlement property run by Joseph William Vigar and his son Roy Joseph Vigar. In 1922 Joseph Vigar was killed in a horse and buggy accident and Roy ran the property with the help of his intellectually disabled brother Harold.⁵⁹

While the pre-1921 background is similar, the fundamental difference between the new Mungo and Zanci Stations was that while Mungo had been substantially improved, with a house and Woolshed plus associated buildings, Zanci had only fencing and a few water tanks with no substantial dwelling or other buildings.

This fact put the Vigers at a considerable disadvantage, for before the property could become profitable the necessary infrastructure needed to be built. Of primary importance was a house. While the first house was being built, the families lived in tents on the property close by the house site (see Figure 2.22). The first house was completed by 1925 but was only ever meant to be a temporary dwelling until a more substantial homestead could be completed. The house, built of galvanised iron and pressed kerosene tins, had only two rooms with a detached kitchen of drop-log construction (see Figure 2.23).

By the early 1930s the second, permanent Homestead had been built at Zanci. Clad in galvanised-iron, the single-storey dwelling had a timber frame built with locally obtained timbers. The Homestead was part of a complex of buildings including a cool room, drop-log sheds, yards and an underground dugout, built in response to the oppressive heat in the area (see Section 6.1 for more details of the buildings at Zanci). The first shed at Zanci was an open-sided shed with some sections enclosed with drop-log construction (see Figure 2.24). This shed was replaced from 1943, using part of the Mungo Woolshed that Albert Barnes had dismantled.⁶⁰ The use of part of the Mungo shed provided an interesting link between the Barnes and Vigar families and illustrates the close co-operation that often occurred between neighbours in the back-block country.

The Barnes and Stirrat families have prepared notes about the general pastoral and domestic practices of living at Mungo and Zanci for this study and these are included as Appendix E together with the Vigar family tree.⁶¹

Zanci remained in private ownership until 1984 when it was purchased by NPWS and incorporated into the Mungo National Park area. During its last five years, the property was owned by Russell and Rita Clothier.

Figure 2.22
Zanci accommodation in 1925. The tent served as shelter while the first house was being erected close-by. A meat-safe is at the right of the photo. Zanci Station suffered the initial disadvantage of having no standing structures when first taken up by the Vigar brothers in 1921. (Appendix D, Image No. 51)



Figure 2.23
The first Zanci Homestead. Built c1925 of flattened kerosene tins and corrugated iron with small drop-log kitchen to the right. This was replaced with a second Homestead. (Appendix D, Image No. 5)



Figure 2.24
The first Woolshed at Zanci, 1949. Notice the open sides with some drop-log construction at the end. Also note the dirt floor and thatched roof. It was replaced by a new Woolshed that reused parts of the Mungo shed. (Appendix D, Image No. 260)





Figure 2.25
Mustering sheep at
Zanci, 1937.
(Appendix D, Image
No. 12)



Figure 2.26
Wheat crop at Zanci,
1926. (Appendix D,
Image No. 266)



Figure 2.27
Front entry to the
former Zanci
Homestead, undated.
(Appendix D, Image
No. 336)

Figure 2.28
Wool loading at Zanci
Woolshed, 1955.
(Appendix D, Image
No. 256)



2.9 Cultural Awareness and Archaeological Discovery

From the late 1960s and throughout the 1970s two new activities came to the pastoral stations around Lake Mungo; scientific research and tourism.

A brief survey of books on the scenic wonders of New South Wales from the 1960s and earlier suggests that Lake Mungo and the Walls of China were not particularly well known before that time, at least outside the immediate area. However, the name Walls of China had been used to describe the area since at least 1896, as the area was described as such in evidence for a lease appraisalment given by John Patterson in May of that year.⁶²

Australian artist Russell Drysdale, who was a keen outback traveller, painted *Walls of China* on a visit there in 1945 (see Figure 2.32). This powerful image and others recording visits by photographic groups (see Figure 2.31) are evidence that the Walls did exist as a cultural site for its scenic values before the archaeological discoveries of the 1970s.

Baroona Tours was taking visitors onto the Walls in minibuses in the late 1960s. Tom Evans of Junction Tours, one of five tour operators currently accredited by NPWS to take groups to Mungo, advises (see Appendix H) that he has been taking groups to Mungo since the early 1970s, when it was still a working sheep station.

Venda Barnes operated a shop catering for tourists to the Walls of China. The shop was located in a number of different rooms within Mungo Homestead and this required Venda to obtain a licence to operate the shop.⁶³

From 1968 scientific researchers, including those from the Australian National University, began investigations around Lake Mungo beginning what is now over three decades of research, the results of which are considered to be of world importance and led ultimately to the creation of Mungo National Park and listing of the Willandra Lakes Region as a World Heritage Area.



Figure 2.29
Baroona Bus tour driving on the Walls of China during the late 1960s. These tours were some of the earliest organised tours to the Walls of China, although locals had been visiting for some time. (Appendix D, Image No. 33)



Figure 2.30
A Sunraysia Field Naturalists party at the Walls of China, 1967. (Ted Lawton – Appendix D, Image No. 295)



Figure 2.31
A photography group taking photos at the Walls of China, 1954. (Ted Lawton - Appendix D, Image No. 291)

Figure 2.32
Walls of China, oil painting on hardboard by Russell Drysdale, 1945. (Art Gallery of NSW, photo by Christopher Snee)



Figure 2.33
Brochure advertising air tours to the Walls of China, circa early 1970s. Following archaeological discoveries at Lake Mungo the area gained world prominence, greatly increasing visitor numbers to the site. (Supplied by Venda Barnes, February 2002)



2.10 Mungo National Park

The move toward the NSW National Parks and Wildlife Service ownership of Mungo and Zanci Stations began in 1971 with the visit to Mungo by a NPWS officer to investigate the Lake Mungo Aboriginal archaeological discoveries. Publicity about the finds had led to both an increase in the number of visitors to the area and an increase in professional anxiety over the preservation and future management of the site. By 1973 pressure was being put on the NPWS to implement some type of protection to the archaeological sites and the Walls of China. Researchers from the Australian National University had contacted NPWS to report on their excavations on site as well as to express concern over the number of tourists visiting the site, and the use of motorbikes and dune buggies on the Walls of China.⁶⁴ Concern had also been raised by Albert Barnes, who saw the tourist sideline as impacting on his management of the property.

In 1975 it was proposed that the area be considered by the Interim Committee of the National Estate for inclusion on its list. Throughout 1976 Barnes, the NPWS, ANU and the Western Lands Commission were in constant contact over the future of the station and the management of the resources. Included as an issue was that Albert and Venda Barnes had been on the land for 43 years and were beginning to consider leaving it altogether. With this as an option, and with their consent, NPWS finally made a bid on the property, and in 1978 purchased the Mungo Station for \$116,000 from the Barnes family, with businessman Dick Smith acting to facilitate the arrangements. The property was bought through the National Parks and Wildlife Foundation, a fund established in 1970 to raise money for the acquisition of land for national parks and for ongoing scientific research into conservation. In March 1979 the Mungo National Park was dedicated.

Further recognition of the area's outstanding cultural heritage and landscape value was given in 1981 when the area joined the list of World Heritage Sites as the Willandra Lakes Region World Heritage Area.

The Willandra Lakes Region was listed under the 'natural values' as an outstanding example representing major stages of the earth's evolutionary history. It was also found to be an outstanding example representing ongoing geological processes, biological evolution and human society's interaction with the natural environment, especially its communities of plants and animals, landforms and marine and freshwater bodies.

Under the 'cultural values', it was regarded as outstanding in its exceptional archaeology that is unique, extremely rare, or of great antiquity.

In 1996 a Plan of Management was prepared for the Willandra Lakes Region World Heritage Area and a number of committees established that represented various stakeholders.

To add to the national park area, in 1981 it was proposed to purchase part of the adjoining Zanci Station. Negotiations between the NPWS and the then owners Russell and Rita Clothier (who had purchased it from the Vigars in 1979) reached a figure of \$320,000 for portion WL 1030, which was

purchased by the service in 1984.⁶⁵ At Zanci a number of buildings were demolished or removed including one of the two Homesteads, several sheds and outbuildings and the Shearers Quarters (see Section 6.0 for further details). This removal, on the basis of the poor condition and asbestos issues, probably also reflects the service's prevailing cultural philosophic view of the time, not always publicly articulated, that removing the buildings was part of the job of restoring nature. It is ironic that the historic record made of these buildings by the service at the time that they were being removed remains the only record of some buildings.

Notwithstanding this bumpy start at Zanci, the service has been active in nature and cultural heritage conservation throughout Mungo National Park. A research and recording program was established in 1979 by contract archaeologist Peter Clark and this included the recording of numerous Aboriginal sites. In 1985 a Plan of Management was prepared for the Park. Several works programs have been undertaken on the Mungo and Zanci Woolsheds and the Stables at Zanci have been re-thatched.

In 1984 a major initiative to interpret the heritage values of the Park was made with the construction of the Visitors Centre in the Mungo Station complex. The Visitors Centre was added to and refurbished in recent years to provide a high-quality interpretative experience that is coupled with the self-drive tour and commercial guided tours (see Section 8.0 for details). Visitation to Mungo National Park has been steadily increasing over the years and is now one of the regional tourist destinations.

A very recent initiative has been the move towards co-operative joint management of Mungo National Park between the NPWS and the three traditional tribal Aboriginal groups within the area. In 2002 agreement was reached to put in place joint management arrangements with these Aboriginal groups.

2.11 Conclusions

In conclusion, the overview history in this section supports one of the key reasons for the Willandra Lakes Regions' inscription on the World Heritage list, namely, human society's interaction with the natural environment. While the specific reason for inscription was related to prehistoric Aboriginal occupation of the area, there are interesting parallels with recent human interactions.

The major messages which derive from Mungo and Zanci Stations include the establishment of the settlement, the pastoral development of the stations and the resulting interaction with, and impact on, the natural environment, concluding with the awareness of their relationship with a site of major natural and cultural significance, and the measures adopted to preserve those values.

2.12 Key Historic Themes and Conclusions

The history of Mungo and Zanci Stations elicits a number of national themes identified by the Australian Heritage Commission and State themes identified by the Heritage Council of NSW. These broad themes and sub-themes relating to the place itself are listed below.

National Themes for Mungo National Park

Tracing the natural evolution of Australia (State: Environment (naturally evolved): *geological process, fossil evidence of megafauna, paleo-magnetic discovery, part of larger lake environment, scientific research, conservation movement*

Peopling Australia (State: Aboriginal Cultures): *adaptation to environment, burial sites, scientific research, traditional ownership*

Building settlements (State: Land tenure): *squatters, backblocks, soldier settlement, subdivision*

Governing (State: Government and administration): *World Heritage Area, NPWS management*

Additional State Themes for Mungo and Zanci Station Complexes

Exploration: *discovery of area*

Pastoralism: *farm buildings, grazing, overstocking, feral animals*

Environment (Modification): *adaptation to environment, modification of landscape, conservation*

Labour: *Aboriginal, Chinese, itinerant shearers, station owners*

People: *John Patterson, Barnes Family, Stirrat Family, Vigar Family*

2.13 Endnotes

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³ op cit, p 152.

⁴ Cameron, ALP 1884, 'Notes on some tribes of New South Wales', *Journal of the Anthropological Institute*, vol 14, p 346.

⁵ Radcliffe-Brown 1918, 'Notes on the social organisation of Australian tribes', *Journal of the Royal Anthropological Institute*, vol 48, pp 248–9.

⁶ Tindale 1939, 'Eagle and crow: myths of the Maraura tribe, Lower Darling River, NSW', *Records of the South Australian Museum*, vol 6, p 245.

⁷ Cameron 1884, op cit, p 346.

⁸ Howitt, AW 1904, *The Native Tribes of SE Australia*, Macmillan, New York.

⁹ Cameron 1884, op cit, p 347.

¹⁰ Browne, JH 1844, 'Journal of Charles Sturt's Central Australian Expedition', unpub mss, Royal Geographical Society Australia (SA Branch), South Australian Archives, Adelaide.

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- ¹¹ Allen, H 1972, 'Where the crow flies backwards: man and land in the Darling Basin', PhD thesis, ANU, Canberra.
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- ¹⁴ Hassel, Kathleen 1966, *The relations between Settlers and Aborigines in South Australia 1836–60*, Libraries Board of South Australia, Adelaide p 52–72, as quoted in Allen, H 1972:25.
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- ²¹ Donovan & Associates, op cit, p 20.
- ²² Allen, H, op cit, p 29.
- ²³ *ibid*, p 65.
- ²⁴ Randell, JO 1977, *The Pastoral Pattersons: The History of Myles Patterson and his Descendants 1822 to 1976*, Queensberry Hill Press, Melbourne, p 155.
- ²⁵ Donovan, op cit, p 65.
- ²⁶ *ibid*, p 120.
Randell, op cit, p 158.
- ²⁷ Correspondence to Patterson from neighbours, 1878, regarding an account for fencing, Patterson Collection, Melbourne University Archives.
- ²⁸ Sowden, H (ed) 1973, *Australian Woolsheds*, Cassell, Melbourne, p 85.
Gol Gol Station notebooks, 1880, Patterson Collection, Melbourne University Archives.
- ²⁹ Bush, F, P Chisolm, R Irving, *Drop-log Walling in Eastern Australia: A Pilot Study*, p 8.
- ³⁰ Correspondence between JH Patterson and David Munro & Co 1881, Patterson Collection, Melbourne University Archives. Interestingly the series of letters for the purchase of the Press show that the original Press was quoted as a cost of £97, but an extra charge was added by Munro & Co for added pieces, including the provision of steam drive belts. Patterson objected to the extra cost without consultation and demanded a refund. The end result is not clear.
- ³¹ Mungo Woolshed Conservation Plan prepared for NPWS.
- ³² Patterson Papers, 1886, University of Melbourne Archives, Schedule of Wool.
- ³³ Donovan, op cit, Inventory Vol No.46.
- ³⁴ Birmingham, J, I Jack and D Jeans 1979, *Australian Pioneer Technology: Sites and Relics*, Heinemann Educational Australia, Melbourne, p 142.
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- ⁴⁰ *ibid*, pp 70, 76, 82.
- ⁴¹ John Patterson evidence to Land Board at Balranald, September 1896, in Patterson Papers, University of Melbourne Archives.

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- ⁴² Correspondence 12 December 1891, Wallis Mansfield, Manager Gol Gol, to Patterson, in Patterson Papers, University of Melbourne Archives.
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- ⁴⁷ *ibid.*, p 142.
- ⁴⁸ *ibid.*, p 149.
- ⁴⁹ Powell, JM 1988, 'Debt of honour: soldier settlement 1915–29', *An Historical Geography of Modern Australia: The Restive Fringe*, Cambridge University Press, Sydney, p 102.
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- ⁵¹ Pers comm, Venda Barnes.
- ⁵² Pers comm, Venda Barnes.
- ⁵³ Venda Barnes pers comm to Geoff Ashley, January 2002.
- ⁵⁴ Roy Kennedy pers comm to NPWS staff.
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- ⁵⁶ Stirrat, Roy 2002, pers comm.
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- ⁶⁰ Giovanelli, Pip and Freeman Leeson, April 2000, 'Zanci Homestead Scope of Works' (Draft), prepared for New South Wales National Parks and Wildlife Service, Lower Darling District.
- ⁶¹ Organised and compiled by Colleen Barnes in consultation with other Barnes and Stirrat family members, February 2002.
- ⁶² John Patterson evidence to Land Board at Balranald May 1896, in Patterson Papers, University of Melbourne Archives.
- ⁶³ Certificate of Registration of Shop and Official Receipt, 4 June 1975, under the Factories, Shops and Industries Act, 1962 as amended.
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- ⁶⁵ NPWS Zanci acquisition files.

3.0 The Cultural Landscape Setting of Mungo National Park

3.1 Introduction

This section provides an overview of the evolution of the natural and cultural landscape of Mungo National Park and in particular the cultural landscape setting of the former pastoral station complexes of Mungo and Zanci.

Landscapes may be natural — shaped by natural forces, or cultural — created by humans. Of course, cultural landscapes depend on a natural base and many retain natural features and vegetation cover in a landscape otherwise manipulated by humans.

In identifying the focus of the NPWS landscape conservation the 2000–2003 NPWS Corporate Plan states that:

Landscape conservation recognises that the whole landscape is greater than the sum of the parts. Most importantly it involves people in the integrated management of natural and cultural landscapes for long term ecological, social and economic sustainability.

The NPWS Cultural Heritage Strategic Policy states that:

Landscapes will contain a variety of cultural values. The associations may be of Aboriginal or non-Aboriginal origin or shared between Aboriginal and non-Aboriginal communities. Taking a landscape approach involves examining ways of dealing with the cultural heritage regardless of origin.

The landscape of Lake Mungo is partly designed and partly an organically-evolved continuing landscape. Its components include remnants of natural landforms and vegetation and surviving cultural elements from prehistory through to the present day.

3.2 Landscape Processes and Components

Landscapes are dynamic — they evolve through natural processes and are shaped by human land-use forces such as grazing, quarrying, residential development and recreational uses. The spatial arrangement of the cultural landscape is determined by the natural environmental characteristics such as landform and climate, and influenced by politics, economics, cultural traditions and technology. All these factors determine initial occupation and settlement patterns and subsequent growth.

Historic boundaries defining areas of ownership and land use were marked either by natural features such as watercourses and ridgelines or by introduced landscape elements such as lease boundaries, roads, fences, and plantings. Remnants of indigenous vegetation and cultural plantings are important markers in the landscape. Surviving patches of native trees such as *Callitris* provide clues to the original vegetation cover. When combined with historic photographs, written accounts, pollen analysis and remains on similar sites elsewhere, these remnants enable us to build up a picture of the original plant communities.

Exotic plantings include those which appear only seasonally, such as bulbs, and the more visible markers such as ornamental and shade trees, some possibly dating from the late nineteenth century. Given the harsh climate and changes in management regimes that have taken place, it is unlikely that there are many survivors of more ephemeral species such as herbaceous garden varieties.

Buildings and other structures either singly or in groupings reflect the historic activities, customs, tastes and skills of the people who built and used them. The spatial relationships between these buildings and structures and other elements in the landscape may reflect original design intent or may be purely coincidental. In either case the relationships may have produced landscapes, views and vistas with historical, aesthetic and social significance — all these combine to tell stories about the people and the place, and the changes wrought by time and development.

Archaeological sites are important components of the cultural landscape and may include foundations, ruins, surface remains, features such as rows of fence post holes or ploughing patterns, and changes in vegetation. Identification of the remains of plant material below ground may reveal previous species growing on the site and changes in vegetation may indicate the sites of former buildings or paddocks, or former management regimes.

Movable heritage items and small-scale elements in the landscape such as boundary markers and signposts may provide important clues to historic boundaries and roadways but some are particularly susceptible to weathering and/or vandalism or may be affected by redevelopment such as road widening.

3.3 Natural Landscape Evolution

3.3.1 Landscape Evolution

As described in Section 2.1 the landscape evolution of the Willandra Lakes System is a result from changes to global climate and the impact of this environmental change on an existing inland lake system. The landscape evolution of Mungo has also been influenced by human activity. Figure 3.1 shows how the landscape has evolved over time; the key instigator of landscape change being climate change, and the key active agents in the change being water, wind and in more recent times pastoral activity.



1
A shallow lake with reedy shore and beach. Full lake about 40,000 years ago.



2
Low water periods; the wind blows red dust from across the plains. The dunes are covered with vegetation and soil. There is much wildlife, and the Aboriginal people live by the lake.



3
Dry, cold lake. Bare, unstable clay bed. Wind erodes the clays and carries the sandy dust eastwards to deposit it on the lunette. Drying lake, about 20,000 years ago. This is the 'Zanci' period of lunette formation.



4
Stabilisation of arid landscape fluctuates with changing natural processes – wildfire, drought, flood.



5
Sheep and rabbits arrive and a major degradation period commences from 1864.



6
Degradation slows following the establishment of the national park.

Figure 3.1 Landscape evolution at Mungo National Park (adapted from a drawing in the Mungo National Park Guidebook by Allan Fox/NPWS 1997).

3.3.2 Landscape Units

Mungo National Park is located within the Murray-Darling Depression bioregion of New South Wales, a large area of related ecosystems characterised by extensive gently undulating sand and clay plains, often overlain by Aeolian dunes, semi-arid woodlands, shrublands, heathlands and savanna woodlands. It is rich in Aboriginal and non-indigenous cultural heritage.

The natural landscape of Mungo National Park has been described in the Register of the National Estate database as:

a fossil landscape largely unmodified since the end of the Pleistocene ice age, ... [including] a distinctive ancient lake landscape with its active lunette. The semi-arid vegetation is characterised by sparse, scattered scrub, grassland and woodland interspersed with sandplains and dunes.

The park has been divided into three broad landscape units¹ (shown on Figure 3.2²), namely:

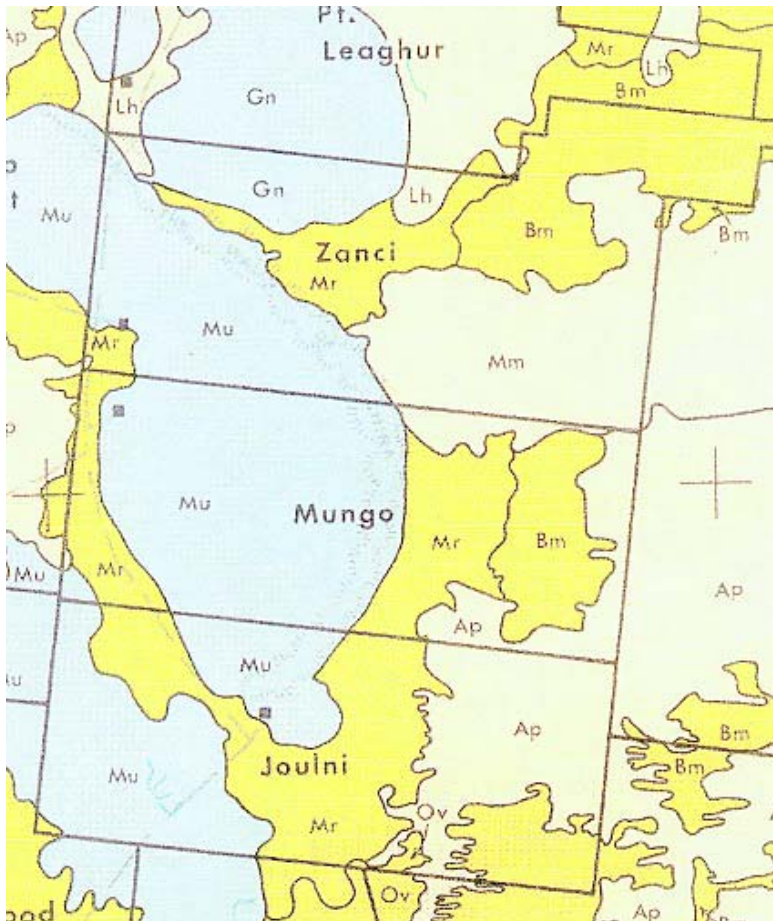
Dry lake country incorporating the dry beds of Lake Mungo, part of Lake Leaghur and the lunettes of Mungo and part of Outer Arumpo. This unit includes the Walls of China, rising to a height of 30 metres and extending for some 30km around the old lake's eastern shore. The lake bed soils are mostly heavy clays, portions of which show gilgai characteristics. Gilgai, from the Wiradhuri and Kamilaroi word *gilgaay*, meaning water hole, is defined in the *Macquarie Dictionary* (3rd edition, 2001) as:

a natural soil formation occurring extensively in inland Australia, characterised by a markedly undulating surface sometimes with mounds and depressions, probably caused by swelling and cracking of clays during alternating wet and dry seasons.

The lunettes are mostly composed of layers of loosely cemented white sands and well-consolidated clays. The lake beds mainly support chenopod shrublands of species including *Atriplex vesicaria* (bladder saltbush) and various species of bluebush.

Sand plain country comprising areas both east and west of the lake bed and lunette, mainly level to slightly undulating sand plain with small areas of sandy rises and local depressions. Soils are predominantly solonized brown sandy loams with heavy clay soils on flats in local depressions. Rises and dunes have red sandy soils. Vegetation is mainly low woodland of *Casuarina cristata* – *Heterodendron oleifolium* (belah – rosewood), scattered stands of bluebush, short grasses and forbs. On dunes the dominants are pittosporum open shrubland. There are also areas of *Callitris columellaris* (white cypress pine) open woodland with associated understorey of *Triodia irritans* (porcupine grass). Isolated depressions of grey clays occur with canegrass and nitre goosefoot.

Mallee country areas east of the sand plain country, including mallee dunes, swales, level sand plains and flats. Soils include loamy sands on the level sand plains, deep red sands on the mallee dunes and loamy solonized brown soils on the swales. This irregular dune country supports mallee vegetation communities of low woodland or open scrub featuring mallee eucalypts including *Eucalyptus dumosa*, *E socialis*, *E foecunda*, *E incrassata* and *E gracilis*.



Key

Playas and Basins

Mu *Mungo* (453km²). Large relict lakes partially overlain by sandplains and unstable dunes, flanked by high unstable lunettes. Lakebed a mosaic of loamy sand red duplex soils and red or grey clays with dense stands of bladder saltbush, oldman saltbush or dillon bush. Sandplains of calcareous, sandy red soils with scattered trees and dense stands of black and pearl bluebush. Lunettes and dunes of deep, loosely cemented, whitish sands, mainly with bluebushes; severely gullied. Abundant short grasses, chenopods and forbs throughout except on eroded areas of lunettes and unstable dunes.

Sandplains

Mr *Mulurulu* (598km²). Slightly undulating, partially scalded sandplains with areas of low aligned dunes and isolated small depressions. Sandplains of calcareous, loamy to sandy loam duplex soils with clumps of rosewood and belah, scattered stands of bluebush, abundant short grasses and forbs. Dunes and rises of deeper loamy red earths with mallee and scattered belah and rosewood, abundant short grasses and forbs. Isolated depressions of grey clays with canegrass or nitre goosefoot.

Bm *Bulgamura* (2,027km²). Slightly undulating sandplains with areas of aligned sand dunes. Sandplains of calcareous loamy sand and sandy red and brown soils with clumps of belah and rosewood or scattered wilga and sugarwood. Dunes of deep red sands with white pine or mallee and porcupine grass. Areas of edible and inedible shrubs and abundant short grasses and forbs throughout. Isolated depressions of grey clays, usually fringed by black box.

Dunefields

Ap *Arumpo* (1,867km²). Parallel dunes of deep loamy sand to sandy red soils with dense mallee and areas of porcupine grass. Narrow swales of calcareous loamy red earths with belah and rosewood, areas of inedible shrub, abundant short grasses and forbs.

Mm *Mandleman* (3,235km²). Dunefields of parabolic and unaligned dunes merging into slightly undulating sandplains. Dunes and swales of deep sandy red soils with uniformly dense mallee and porcupine grass, scattered inedible shrubs, sparse short grasses and forbs. Isolated flats of calcareous loamy brown soils with belah and rosewood.

Lh *Leaghur* (203km²). Areas of high unstable dunes, scattered depressions or relict lakes and lunettes, stable dunes and flats. Unstable crests and lunettes of deep white sands with sparse or no vegetation; stable crests of deep red sands with scattered white pine, belah and rosewood, abundant short grasses and forbs. Flats of calcareous loamy brown soils with scattered belah and rosewood, bluebush and abundant short grasses and forbs. Depressions of grey heavy clays with canegrass or nitre goosefoot.

Figure 3.2 Natural land systems in the study area (Soil Conservation Service 1980).

3.3.3 Rare and Endangered Flora and Fauna

A report prepared by Porteners in October 2001 for the NPWS on three threatened *Acacia* shrublands species in Mungo National Park: *Acacia aneura* (Mulga); *Acacia loderi* (Nelia) and *Acacia melvillei* (Yarran) identified locations and recommendations for future conservation and management.³ The most critical threat identified was lack of regrowth evident in populations exacerbated by their proximity to groundwater tanks and impacts of native grazers attracted to these tanks.

The park provides habitat for a number of animal species listed as rare and vulnerable under Schedule 12 of the NSW National Parks and Wildlife Act. These include *Cacatua leadbeateri* (Leadbeater's pink cockatoo), the dasyurid marsupial *Ningau yvonneae* (southern ningaul) and the bat species *Nyctophilus timorensis* and *Eptesicus baverstocki*.

3.4 Cultural Landscape Evolution

The natural landscape of Mungo prior to human occupation of the area was the result of land-forming, climatic and biological processes. These forces continue to be the dominant factors in the landscape.

Non-Indigenous settlers were not the first to 'design' the landscape of this country. The relatively small numbers of the indigenous people and their hunter-gatherer lifestyle ensured that their impact on the landscape was not as profound as that of the later settlers. The landscape itself had powerful meaning for the indigenous people of this country. Their whole way of life and religion was bound up with the land. Many natural landscape elements such as geological formations, creeks and waterholes were, and still are regarded as sacred by the Aboriginals. These features derive their sanctity from their creation by or association with Dreamtime ancestors and they can usually be identified only by Aboriginal people.

Aboriginal people occupied the area and have left behind considerable evidence in the form of burial sites, hearths and artefacts. Although the first non-Indigenous people undertook relatively little clearing and pasture improvement, introduced animals had a major impact on the vegetation, particularly along the Walls of China. Ironically, it was the loss of plant cover in this area that exposed the topsoil to wind erosion, thereby revealing the archaeological evidence of prior Aboriginal occupation. In more recent years, natural and built heritage conservation measures and construction of visitor facilities have added a further layer to the evolving landscape, enhancing the return of pre-European vegetation, accompanied by increases in wildlife numbers.

As with physical evidence of non-Indigenous landscape works, time, erosion, plant growth and later human interference can obscure Aboriginal sites so that their location often relies on the use of aerial photography, recognition of vegetation changes and predictive studies. At Mungo the very erosion patterns that have had such an influence on the landscape have revealed much of the Aboriginal

archaeological resource. There has been considerable research carried out on the Aboriginal heritage of Mungo (see Section 4.0 below).

Non-Indigenous settlement of the Mungo landscape brought with it dramatic changes. The new settlers imposed a more rigid structure on the landscape through their system of pastoral leases, with fences, roads, water storage 'tanks', homesteads, out-stations and introduction of exotic plants and animals. The introduction of sheep, animals to which the landscape was not adapted, led to overgrazing, erosion and the spread of weeds. Rabbits, which by the 1890s were in plague proportions, accelerated soil erosion by removing plant cover. They are suspected as being an important cause in the decline and limited regeneration of *Callitris* sp (Murray cypress pine). Cutting of cypress logs for the construction of buildings and for fence posts would also have had an impact on the woodland on the red sand areas west of the lake. Other feral animals, particularly goats have had a major impact on the landscape. The cessation of sheep grazing, followed by active regeneration of indigenous vegetation, is changing the natural and cultural landscape of the area.

Although some of the historic fabric of non-Indigenous settlement has decayed, been removed or has been obscured by re-vegetation, much is still clearly evident in the landscape. The sites of non-Aboriginal occupation and activity may be denoted by landscape archaeological evidence such as exotic plantings, surface remains, changes in vegetation, cart tracks, phone lines, foundations, ruins, fences, sheep yards, shafts and bores and intact buildings. These markers can provide valuable clues to previous land uses and occupation sites. The following sections describe in more detail the evolution of the Mungo landscape from its natural origins to its present-day form.

3.5 Curtilage Assessment

3.5.1 Introduction to Curtilage

Curtilage is defined in the *Macquarie Dictionary* (3rd Edition, 2001) as 'the area of land occupied by a dwelling and its yard and outbuildings, actually enclosed or considered as enclosed'.

This definition does not take into account the importance of the setting of a heritage item, which may include a substantial garden or landscape and views and vistas to and from the item.

There have been numerous and varied legal determinations of curtilages for heritage buildings and heritage conservation practitioners have grappled with the problem for many years. Many of these opinions and attempts at solving the issue of curtilage are described in the publication *Heritage Curtilages* (Heritage Council/Department of Urban Affairs and Planning, 1996), a companion volume to the *NSW Heritage Manual*.

Essentially, the curtilage of a heritage item is that area of land necessary to enable its significance to be conserved in context and to enable its heritage value to be interpreted adequately. This area is usually, but not always, the lot or lots on which the item stands and, for statutory purposes, is usually but not always restricted to land in the same ownership as the item. The boundaries for an adequate curtilage may be the historic lot boundaries or a smaller area resulting from previous subdivision(s).

They may also include adjoining lands critical to retention of views and vistas, although these values may sometimes be conserved through planning controls or management practices other than those used to protect the item and its immediate setting.

Definition of a curtilage for historic place does not preclude development within its bounds, but consideration of the nature and extent of such development requires particular care.

3.5.2 The Curtilage of Mungo and Zanci Stations

In this case, the curtilages for the former Mungo and Zanci Stations should extend to include their entire pastoral leases, since their influence extended at least over those areas. The strength of historic association between the former station complexes and outlying historic features within the station boundaries is so strong that to lose one would significantly lessen the ability to understand and interpret the other. Therefore, the curtilage of the former pastoral stations should be the legal extent of the former properties, in total being the same as the extent of Mungo National Park as existing in June 2002.

3.6 Landscape Setting of Station Complexes and Other Historic Features

3.6.1 Introduction to Setting

The Australia ICOMOS *Burra Charter*, as revised in 1999, places increased emphasis on the importance of the settings of heritage places. It states that:

Conservation requires the retention of an appropriate visual setting and other relationships that contribute to the cultural significance of the place. New construction, demolition, intrusions, or other changes that would adversely affect the setting or relationship are not appropriate (Article 8).

This means that care must be taken in the development and management of the surroundings of a significant heritage place. For instance, the Visitor Centre at Mungo has been sited in a highly visible location between the Homestead and the Woolshed. While this location has some obvious advantages, it is also a major visual impact on the Homestead complex and confuses the interpretation of the heritage landscape.

3.6.2 The Setting of Mungo and Zanci Complexes

Notwithstanding the above definition of the curtilage for Mungo and Zanci Stations to include the whole of Mungo National Park, the intensity of historic features within and around the station complexes, their particular physical settings and views to, from and within these complexes, suggests that a further definition of their setting is warranted. A definition of the setting does not mean that cultural landscape items outside them are not important, merely that there are areas that are particularly critical to the retention of an appropriate setting for the two station complexes.

The following factors help to define the settings of the complexes:

Historic functional relationships are at the core of the operation of the complexes and include activities associated with broader operations of the property (eg the Woolshed) together with providing for the accommodation requirements of the station. A key element in the functioning of these complexes is the need for water. The ground tanks for both complexes that were used to water stock in and around the complex or as part of the wool scour operations, as well as the logged underground tanks that accepted roof rainwater, are important elements in the complex.

Topography is important in defining the character of both complexes. European settlers often sited their houses in elevated positions to take advantage of views, as well as to catch cooling breezes. Mungo Homestead is sited on a rise, above the lake bed, with views across the lake to the Walls. Like many pastoral properties the Homestead is located in the most favoured location with some vegetation shelter, whereas the Shearers Quarters and Woolshed are further into the plain and more exposed. The Zanci complex is surrounded by low hills that give a strong sense of enclosure to the complex.

Views and vistas are important elements in a landscape. In a relatively flat landscape, an elevated viewing point allows an observer to see greater distances, providing advantage over game or intruders. No doubt the early Aboriginal occupants of Mungo valued such viewing points. The first stop for many present-day visitors to Mungo is the lookout, from which they can see the dry bed of Lake Mungo extending before them to the Walls of China in the distance. In a single view, aided by interpretative signage, they can immediately gain an insight into the broad landscape features of the place and the land-forming processes that have created them.

The important views to Mungo Station complex include those on the approach road around the first curve where both Mungo Woolshed and the Walls of China are visible and the view from the Homestead past the Woolshed to the lake. The view of the complex from the lunette to the west of the complex is important, as is the view from the lakebed back towards the complex. Important views to the Zanci Station complex include those on approach from Mungo and from the low hill directly south of the Homestead area.

Cultural plantings for their shade and ornamental value had a physical and psychological value for first European settlers in far western New South Wales in an unfamiliar and often hostile land, far from their agricultural and horticultural roots and far from any major support. At both Mungo and Zanci ornamental shrubs and shade trees were planted and flowerbeds and vegetable gardens established. A discussion of the cultural plantings at Mungo and Zanci is included in Sections 5.9 and 6.10 respectively.

At Mungo, non-indigenous eucalypts have been planted in the Homestead garden, which still features timber edged garden beds, now mostly devoid of plantings. At Zanci, the road outside the former Homestead is lined with sugar gums and pepper trees provide shade near the Stables, Woolshed and along some fencelines. A pergola of Murray pine logs, covered with chicken wire,

was located adjacent to the western entry gate to the Homestead at Zanci. Constructed in about 1930, it was demolished after 1979. Photographic evidence from the 1960s shows a well-developed flower garden at Zanci. Documentary evidence also indicates that fruit trees and vegetables were grown at Zanci and Mungo Stations. A stunted mulberry tree survives next to the footings of the demolished Homestead at Zanci.

Figure 3.12 shows the cultural landscape setting of the Mungo Station complex and key views to, within and from the complex. It includes the dune system behind the complex, the Homestead and all the outbuildings including the Woolshed, and extends across the bed of Lake Mungo to the Mungo House Tank. The change in vegetation cover and slope at the edge of the lake form a spatial enclosure around the complex. Elements of the complex are located on both sides of this line and this gives them different qualities; the Homestead sheltered on higher ground within the tree line and the Woolshed and Shearers Quarters on the exposed lake bed.

Figure 3.13 shows the area of the cultural landscape setting of the Zanci Station complex and key views to, within and from the complex. It is largely defined by the visual catchment of the former Homestead site and its outbuildings including the barn, but also extending to the Zanci Tank. The Homestead areas and first Woolshed and current Stable site are located within a contained spatial area while the second Woolshed and Shearers Quarters are located outside this space to the southeast. The two phases of site occupation are therefore 'written' in the landscape.

3.6.3 Interface Between Natural and Cultural Landscape

The whole of Mungo National Park can be regarded as a cultural landscape because it has all been subjected to human intervention. However, much of the Park supports indigenous vegetation communities, the composition of which is evolving in response to centuries of occupation and varying degrees of land management. With the cessation of sheep grazing and the subsequent implementation of nature conservation practices, positive action is being taken to encourage the re-establishment of species such as old man saltbush (eg near the Visitor Centre) and cypress pine (eg beside the road, near Zanci Tank).

While there has been some minor planting of non-local Australian plant species such as *Callistemon* cultivars near the Visitor Centre at Mungo, the interface between indigenous vegetation and ornamental plantings is not very obvious. The few introduced eucalypts around the homestead generally blend with the local trees. The two clumps of *Agave americana*, one on each side of the driveway gate are more visible markers that this is a cultural landscape.

At the site of Zanci homestead, on the other hand, the sugar gums planted along the road are clearly elements of a designed landscape and the pepper trees, with their soft, yellow-green foliage are readily distinguishable from the indigenous trees and mark the locations of various former activities.

The interface between natural and cultural values can include situations where the natural and cultural values are conflicting. An example discussed in this report are the ground tanks where the

grazing of native animals such as kangaroos may be impacting on native flora. In these situations a careful assessment and description of the significance of the natural and cultural values is an essential first step. An analysis of the problems at this interface should be made by all relevant professionals and should aim at problem solving where options considered should aim to maximise the retention of values. Prior to decisions, an assessment should be made of the natural and cultural heritage impacts of the various options.

3.6.4 The Historic Cultural Landscape Outside the Complexes

The historic cultural landscape of Mungo National Park reflects two land uses; pastoral use from the early 1860s and a national park use from the late 1970s.

Evidence of the pastoral use across the park is found for the following activities:

- accommodation: huts and camp sites associated with stock management;
- water conservation: drains (see Figure 3.9), ground tanks (see Figure 3.10), underground logged tanks, and shafts;
- stock management: fences and yards;
- rabbit control: netted fences; and
- transport and communications: tracks and wheel ruts, telephone and telegraph lines.

Evidence of the national park use across the park is found for the following activities:

- management facilities: service tracks, fire breaks, communication aerials, research sites;
- pest control: goat traps; and
- visitor facilities: carparks, boardwalks (see Figure 3.11), interpretative signs, camping areas.

3.7 Endnotes

¹ Alchin, BM 1984, 'Western Lands Management Plan on Mungo', in Vegetation Study of Mungo National Park SCAE, Salisbury SACA.

² Green, DR 1980, *Land Systems of the Pooncarie 1:250 000 Sheet* (Map), Soil Conservation Service of NSW, np.

³ Porteners, Marianne F October 2001, Mungo National Park Threatened Acacia Shrublands Survey.

Figure 3.3
The approach road to
Mungo Station
complex.



Figure 3.4
Looking north from
behind Mungo
Homestead to the
runway and beyond.



Figure 3.5
Mungo Woolshed and
Visitors Centre from
lunette west of the
station complex.





Figure 3.6
View looking west
towards the Mungo
Station complex from
the House Tank area.



Figure 3.7
Looking north
towards the Zanci
Station complex area
with the Homestead
sites in the middle
ground.



Figure 3.8
Zanci Woolshed and
Shearers Quarters
site in foreground and
Walls of China in the
background.

Figure 3.9
Pastoral landscape;
groundwater drain
leading towards the
Mungo House Tank
(former Scour Tank).



Figure 3.10
Pastoral landscape;
dividing post and rail
fence through
Paradise Tank.



Figure 3.11
National Park
landscape; boardwalk
up to the Walls of
China constructed to
reduce visitor impacts
on the landscape.



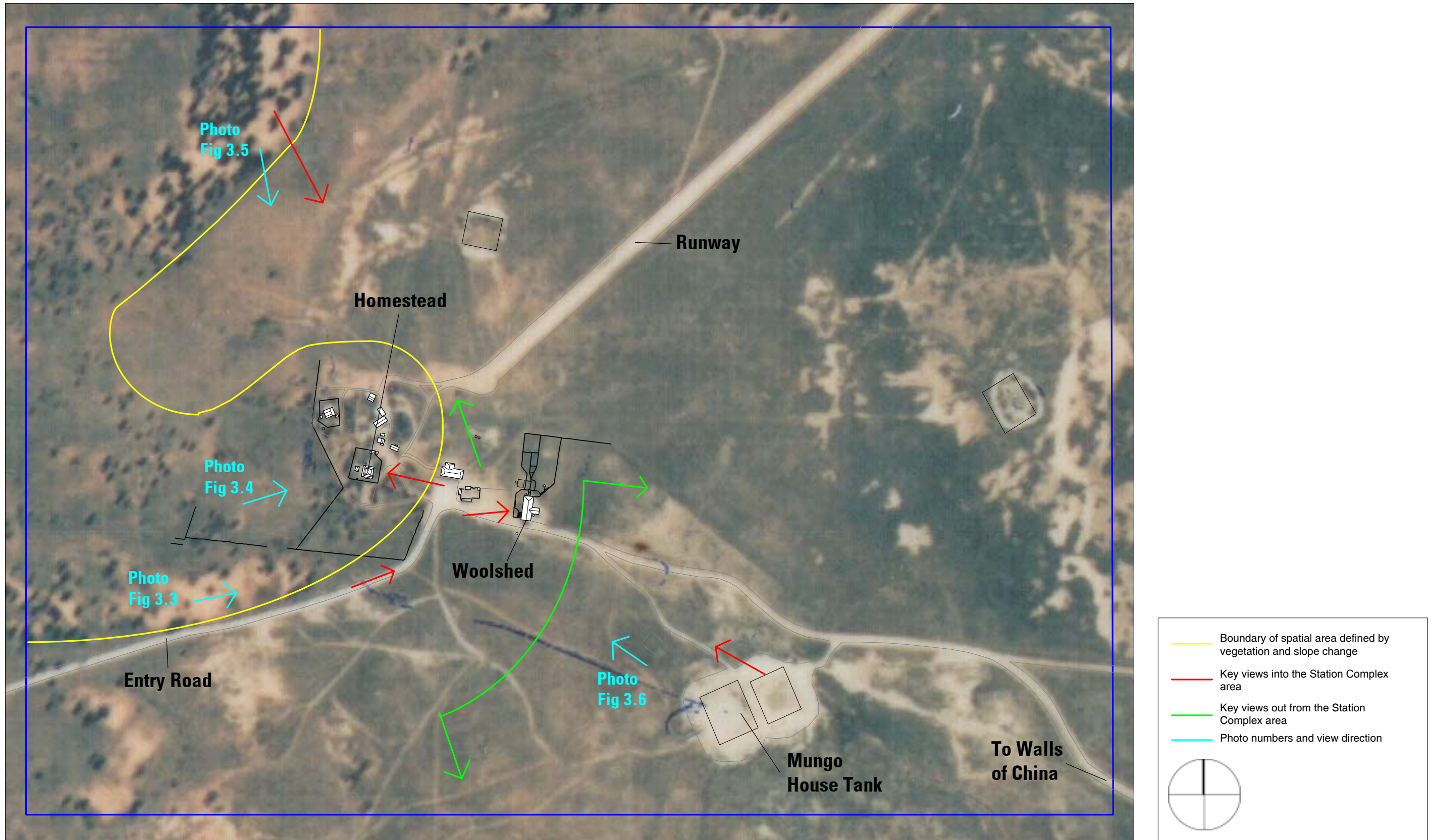


Figure 3.12 The area of Mungo Station Complex outlined in blue together with key views and landscape features.

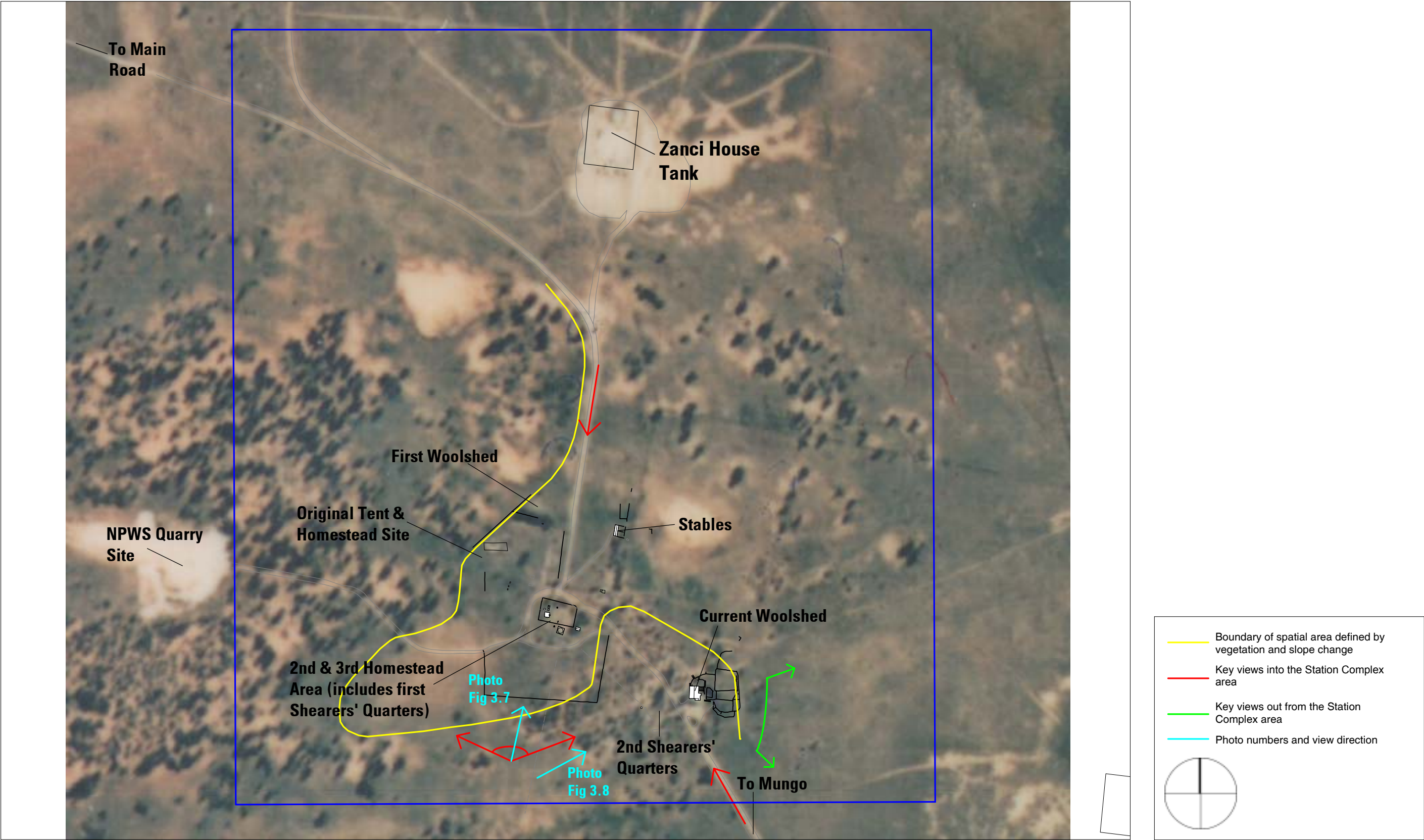


Figure 3.13 The area of Zanci Station Complex outlined in blue together with views and other landscape features.

4.0 Aboriginal Heritage Sites

4.1 Introduction

This section provides an overview of the Aboriginal archaeological resource of the Willandra Lakes World Heritage Area generally but focuses on the occurrence of Aboriginal sites within and near the Mungo and Zanci Station complexes. The principal focus of this report is the historic features within the homestead areas and the interface between the historic and other values within these areas. This report does not therefore address Aboriginal site management across Mungo Park at a detailed level.

The Aboriginal Heritage Information Management System (previously known as the Aboriginal Sites Register of NSW, documents known and recorded sites within New South Wales. Most of the original site descriptions are held in this system although there are discrepancies between records on this database and the locally held and maintained WHA database (see Section 4.3). Sites in the vicinity of the homestead were relocated to confirm locations.

4.2 Summary of Investigations to Date Within Area/Regions

The first substantive scientific investigations in the Mungo area commenced in 1976 when Dr Jim Bowler undertook investigation aimed at locating and analysing evidence of late quaternary environmental history. Investigations into the pre-European occupation of Mungo are set within the context of the study of the Willandra Lakes Region where it is possible to study 'ancient people and land interactions on a spatial and temporal scale rarely achieved anywhere else in the world'.¹

Bowler summarises the Willandra Lakes area, including lake Mungo as follows:

The entire Willandra Lakes area constitutes an archaeological landscape in both the physical and cultural meaning of the term. Immense temporal and spatial scale combine with the dramatic preservation of human remains, tool kits, food and other lifestyle remnants, all in the context of major Ice Age environmental changes. Natural and cultural riches combine to provide a unique experience for both scientist and visitors to the region. Exploring the harsh semi arid landscape evokes a special sense of 'walking in the footsteps of the past...'²

Scientific investigations and conclusions regarding the pre-European occupation of Mungo and the wider Willandra Lakes region have been set against a backdrop of environmental changes and the human responses to them. At Lake Mungo there is evidence of human occupation for more than 42,000 years. Events of the last glacial maximum at around 20,000 years ago involved widespread environmental stress to plants and animals. Larger mammals with higher nutritional requirements were subjected to extreme environmental stress. In addition fish and mussel shells endemic to the area (from before 40,000 BP, to this point) seem temporarily to have disappeared. This latter is likely to have been due to temperature depression and increased salinity during this interval.

Around 18,000 years ago water returned briefly to Lake Mungo and the archaeological record reveals that both fish and mussel were again present. Around 16,000 years ago the lake once again began to dry up and for the last 10,000 years it has been virtually dry with perhaps sporadic seasonal variations.

Bowler’s work has left a permanent legacy. His discoveries include, amongst other things, the earliest evidence for human cremation ceremonies in the world. He also identified and named the Willandra Lakes after nearby pastoral leases. Thus the World Heritage area now familiar to people from its lakes, such as Mungo and Garnpang etc, is at once both an ancient landscape and a modern one.

Bowler’s discovery of the cremated remains of the individual now known as Mungo I drew the interest of archaeologists and other scientists. Apart from the original reports there are several short summaries of the range of work undertaken.³ An indicative list of researcher and the various types of studies undertaken are provided in Table 4.1 below.

Table 4.1 List of Major researchers and studies undertaken in Mungo National Park.

Researcher	Study Type	Date
Jim Bowler	Geomorphological	1968 ⁴
Isabel McBryde	Site survey, recording	1968–76 ⁵
Peter Belwood	Worked with Isabel McBryde on the western lunette	1968
Harry Allen	Archaeological research for PhD	1969–72 ⁶
Jones, Jennings and John Mulvaney, Alan Thorne (with Jim Bowler)	Archaeological salvage of Mungo I	1970 ⁷
AG Thorne	Ongoing studies physical anthropology	1970-present ⁸
Mike Barbetti	Archaeomagnetic and radiocarbon	1970 ⁹
Jeannette Hope	Faunal assemblage analysis	1972 ¹⁰
AJ Dare-Edwards	Pedogenic processes – Lake Mungo, Leaghur and Chibnalwood	1973–1979 ¹¹
John Head	Radiocarbon and archaeomagnetic studies with Babetti	1973
Wilfred Shawcross and M Kaye	Archaeological excavations	1974 ¹²

Researcher	Study Type	Date
A Mortlock	Potential for Aboriginal oven stones as thermoluminescence dating material	1974 ¹³
Barton	Palaeomagnetic studies	1975
Mike McIntyre	Site survey recording and monitoring	1976–78 ¹⁴
WT Bell	Thermoluminescence dating on Barbettis' fireplaces	1976 ¹⁵
MJ Magee	Geomorphologist – lacustrine sediments Resource study Willandra Lakes for NPWS	1976
Keryn Kefous	Analysis of fish remains	1977 ¹⁶
Peter Clark	Installed as NPWS contract archaeologist based at Mungo	1979 ¹⁷
J Robinson	Surface sites – MA thesis	<1980 ¹⁸
Robert Hyde	Meteorological and dune Morphology studies Macquarie University	1980's
Wal Ambrose	ANU Amino acid racimisation dating	1980s?
Mark Redhead	Thermoluminescence dating	1984 ¹⁹
R Muhlen-Schulte	Study of stone artefacts along southern and western margins of Lake Mungo	1985 ²⁰
Keryn Walshe	Taphonomic analysis of Mungo B assemblage	1987 ²¹
H Johnston	NPWS site management, audit, recording, shell middens	1990s ²²
D Williams	Study of 3 silcrete quarries including the one at Lake Mungo (and Leaghur and Chibnalwood)	1991 ²³
E Midgeley	Visitor Impact Study	1996 ²⁴

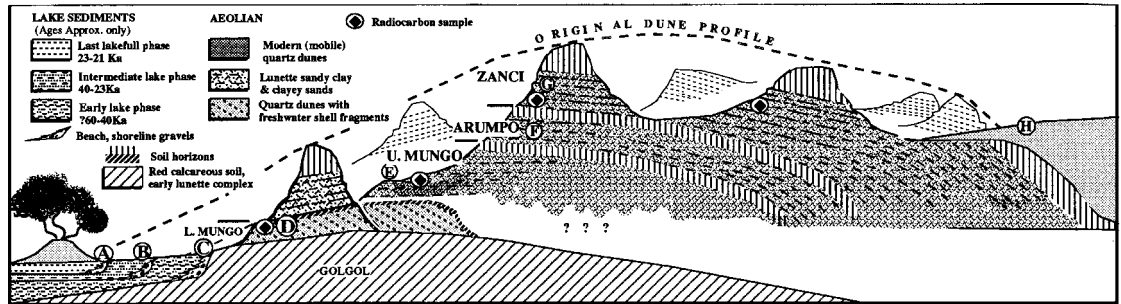


Figure 4.1 Bowler's stratigraphic cross-section at the tourist site, Walls of China, Lake Mungo site.²⁵

Early research at Mungo focused on archaeological and geomorphic features along the eastern lake lunette. The focus of archaeological investigations was the Mungo stratigraphic unit dated 45,000–22,000 (see Figure 4.1), the period when Lake Mungo was an active freshwater lake. The finds in this unit 'pushed back' the earliest dates for human occupation in Australia by at least 20,000 years. Allen and later McIntyre and Clark commenced research, which branched out to include investigation of the Holocene occupation sequence in post-Mungo and Zanci deposits. Allen's thesis centres on the changes in Aboriginal subsistence from one of intense lacustrine resource exploitation to that of seed grinding between 15,000 and 12,000 years BP. This change in economy is linked to a change in technology as reflected in the stone tools. Clark argues that the theories expressed by Allen are too simple to describe the complex response between people and environment.

The archaeological discoveries at Mungo have been so prolific and dramatic that there is potential for ongoing research in the area for years to come and for such research to yield results as dramatic as those to date. Since the discovery of Mungo 1 and 3, the fragmented remains of 133 other burials have been recorded and of these at least 44 burials are at least 10,000 years old.²⁶

The number and antiquity of the burials has perhaps overshadowed other aspects of the finds. In fact the archaeological evidence covers a wide time span with sites dating to relatively recent times (eg Mungo/Arumpo (MB2) a fireplace that had a date as recent as 760±150 years ago/ ANU659²⁷) as well as those dating well into the Pleistocene (eg a fireplace on the Mungo lunette that was dated to 35,300±1550/-1300 years ago, see ANU687). The nature of the remains recovered from and observed at these sites attest to almost every aspect of the lives of the people who lived there. The nature of the finds tell us how people lived, where they chose to camp and what they ate and did there, as well as how they responded to changes in their environment over time.

Of course what archaeological sites cannot tell us is how people felt, how they loved, hated, nurtured and hurt each other. They cannot tell us what sorts of beliefs and feelings people had about the landscape they lived in or the cosmological world in which they operated. These things can be inferred to some extent from archaeological finds (eg the cremation rituals for the dead are generally

accepted to indicate cosmological beliefs including the belief in the existence of the spirit or soul) but for the most part these things can only be guessed at.

Oral traditions and ethnographic accounts can provide the missing human element to the story although of course the time depth involved in sites like some of those at Mungo make scientists wary of depending on such sources of information. Nevertheless for most people the human element provided by ethnographic accounts adds realism and interest. As most people were removed from the Mungo area to government reserves there is little in the way of oral history directly relevant to Mungo National Park; however, there is a rich oral tradition relevant to the general Willandra Lakes area. For example Sarah Martin has recorded several such stories including 'Nahaanya's Country'.²⁸

What emerges from a review of archaeological investigations is that the Mungo and Zanci soldier settlement blocks intersect with an Aboriginal cultural landscape. That landscape underwent dramatic physical changes over the long period of Aboriginal occupation of the area (see Figure 4.2). The changes in the physical landscape and the Aboriginal responses to these changes are reflected in the archaeological and geomorphologic record. During the period when Mungo was an active lake, people camped along the lakeside of the dunes, particularly it seems on the eastern side of the lake. For the period when the lake began to dry up and become more saline there is a brief increase in evidence for the exploitation of fish. Bowler has interpreted this as an opportunistic harvesting of fish which became increasingly sluggish and therefore easier to catch with the increasing salinity. Sites dating to this period comprise human burials, small middens or shell lenses, hearths and earth ovens, and scatters of stone tools. Typically the hearths are simply areas of charcoal-blackened earth often with a small scatter of stone artefacts nearby. Earth ovens are small depressions lined with cooking stones or baked clay they have been found with burnt fish or animal bones.

With the drying of the lake, dunes lost their attraction as major campsites and some changes, such as the move to ant-bed hearths and the spread of sites across the lakebed and elsewhere, reflected the move away from a lacustrine diet to one that probably relied more on plants and mammals such as kangaroos. With the drying of the lake, resources such as the silcrete outcrop on the lake bed became available to Aboriginal people who utilised the stone for stone tools.

Despite the large amount of detailed archaeological investigation already undertaken at Lake Mungo, there are still many assumptions inherent in these generalisations about the sites and their distribution. For example most detailed excavation, analysis and dating has concentrated on sites on the eastern lunette (and in particular the southern end of the eastern lunette). This has led to a general assumption that older (Pleistocene) sites are concentrated here. However, the identification of sites has largely been a product of erosional processes, which reveal these sites. The western dunes have not undergone the type of dramatic erosion as those in the east, and where erosion has occurred it has at times revealed dramatic sites here too (eg MA 109 40-5-66). It is likely that other Pleistocene sites exist on the western dunes.

Godden Mackay Logan

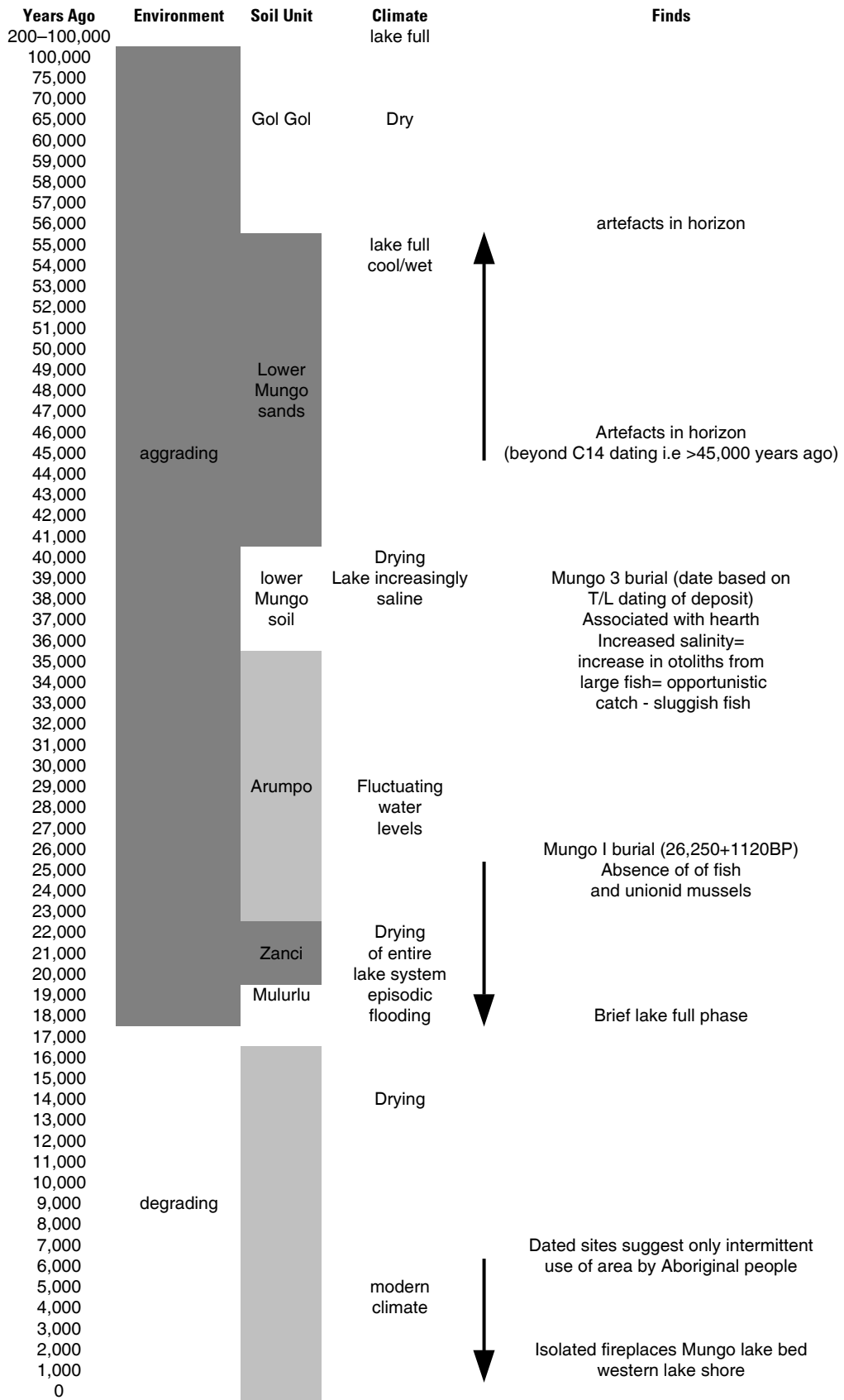


Figure 4.2 Indicative timeline for environmental change and archaeological evidence. Dates are approximate and based on published C14 and T/L dates.

Recent research still focuses on the Pleistocene sites. Advances in research techniques have led to intensive and specific studies on the human remains found at Mungo. Investigation of the mitochondrial DNA sequences particularly from the remains of the person referred to as Mungo 3. While the results of these studies are still being debated the researchers claim that the evidence shows that:

Lake Mungo 3 is the oldest (Pleistocene) anatomically modern human from whom DNA has been recovered. His mtDNA belonged to a lineage that only survives as a segment inserted into chromosome 11 of the nuclear genome, which is now widespread among human populations. This lineage probably diverged before the most recent common ancestor of contemporary human mitochondrial genomes. The timing of divergence implies that the deepest known mtDNA lineage from an anatomically modern human occurred in Australia ...²⁹

The implications of this research are that long established ideas regarding the origins of modern human beings were challenged. They suggest that rather than populations emerging from somewhere in Africa that at least two different human lineages from different regions have populated Australia. These assumptions are controversial and are still being argued with other researchers urging that the outcomes not be assumed without further testing.³⁰ Clearly Lake Mungo evidence continues to occupy an important place in the international research community with the potential to alter our understanding not only of the past of Aboriginal people in Australia but of the human settlement of the planet.

There has been little dating or detailed recording of Holocene sites. If one reads the major accounts of Lake Mungo and looks at the accounts of stratigraphy these stop at around 12,000–15,000 years ago which coincides with the final drying up of the Willandra Lakes. It appears that there was a hiatus in occupation of the Willandra Lakes generally, including Lake Mungo with 'no identified traces of Aboriginal occupation until 5000BP'.³¹ Part of the reason for the lack of interest in the Holocene occupation is its relative invisibility as the lunette building ceased at about 15,000 years ago. Allen³² in his recent review of the Lake Mungo (and Willandra Lakes) data draws on data from the wider Darling region in Balme³³ and Hope³⁴ gathered since he completed his original research. Of Balme's material on the differences between Pleistocene and Holocene sites he observed that:

The differences between her Pleistocene and Holocene sites do not concern technology so much as how the people organised themselves to use it. Balme argues that changes in camping practices occurred during this period (the Holocene). More numerous, frequently used, larger sites with a greater range of foods and other archaeological materials appear. She interprets these as base camps and links their development with an increase in population and more complex social relationships, adding that congregating in base camps may in some way be related to the resource openings offered by grindstone technology which allowed more people to remain in the area longer. Together with the use of broad spectrum resources, the Holocene base camps suggest a level of social complexity and sharing that is not present in their Pleistocene counterparts.³⁵

In other words, at first glance Holocene sites may not look much different to Pleistocene sites. If they consist primarily of base camps with small, possibly ephemeral satellite camps, it is likely that the former will concentrate close to locations that have reliable or at least seasonally reliable water sources. The latter sites, resulting from hunting and travelling in more marginal areas, may not be very visible in the archaeological record but may exist as isolated hearths and small sparse artefact scatters across landscapes such as Mungo National Park. Given the aridity of Lake Mungo throughout most of the Holocene, large sites from this period are unlikely as people would have contracted up the Willandra Lakes system to places with more available water and ultimately to the major rivers.

It is possible that the arrival of pastoralists affected this pattern. In particular little is known about the early Gol Gol Station period. During this period as we have seen in Section 2.0, the property now known as Mungo was part of Gol Gol and known as Turlee outstation. It is possible that during this early historic period, as in other parts of Australia, Aboriginal people may have been attracted to the outstation as casual or itinerant labourers or for perceived benefits of European foods and tobacco. There is therefore some possibility of 'contact' sites occurring in the vicinity of the Homestead and woolshed areas that could be explored in future surveys or research.

4.3 Aboriginal Sites Previously Recorded In and Around Homestead Areas

Most of the focus of archaeological researchers has been on sites along the eastern lunette of Lake Mungo; however, a number of sites have been investigated and recorded along the western lunette close to where Mungo and Zanci Homesteads are located. In particular a number of Aboriginal sites have been located around the Mungo Homestead area. The nearest sites are:

- 40-5-36 Mungo Backshore 102
- 40-5-38 Mungo Backshore 101
- 40-5-41 Mungo Arumpo 105
- 40-5-42 Mungo Arumpo 106
- 40-5-43 Mungo Arumpo 104
- 40-5-44 Mungo Arumpo 107
- 40-5-66 Mungo Arumpo 109
- 40-5-68 Mungo Arumpo 108
- silcrete quarry (ASR register # unknown).

All of these sites with the exception of the silcrete quarry are occupations sites with extensive artefact scatters which occur along the western shore of Lake Mungo, ie the row of dunes running behind the

Homestead. The most striking site is Mungo Arumpo 109 (site 40-5-66), which contains exposed Pleistocene beaches.

Clark has described this site as being the most significant and extensive site on the western lake shore. The site is visible across a large double dune blowout. Across large parts of the site Pleistocene beaches are visible attesting to a visibly different Mungo landscape than that experienced today. It is possible at this site to actually stand upon an old beach and imagine oneself transported back in time. In 1980 Clark began a detailed assessment of erosion rates at this site as part of a larger erosion control program. Finding that erosion was proceeding at an alarming rate he instigated several erosion control trials with some success. However, the protection of this site has not been maintained and the site is again actively eroding.

The Aboriginal Heritage Information Management System (which now incorporates all the databases and GIS related to the old Aboriginal Sites Register of NSW) does not contain up to date Aboriginal site location information for many of the Aboriginal sites listed at Mungo National Park. In addition some sites do not appear to have been registered on the database at all. Verified site location information has been collated on a World Heritage Area database, a copy of which is held in the lower Darling Area office at Buronga, but this information has not been integrated into the NPWS primary archival register (AHIMS). This verified and updated information was collected several years ago and original copies of site cards were lost in transit to the NPWS Head Office at Hurstville. It is still possible to update the AHIMS with the locational information held in the WHA database. It is important that this matter be remedied as a matter of urgency (see 15.2.9) and it is recommended that the Aboriginal Heritage Information unit provide assistance to the archaeologist based at the Buronga office to facilitate this as a matter of priority. It is noted that a recent upgrade of the NPWS central register, now called the AHIMS, will enable local data entry and thus avoid the problem of dual databases.

4.4 Additional Aboriginal Sites In and Around Homestead Areas

During the course of this investigation six additional sites were located. The first site (labelled New Site 1 in Figure 4.7) is an artefact scatter in a dune blowout between site 40-5-66 and site 40-5-68 which was found when relocating Clark's sites. This site is similar to site 40-5-68 and may be an exposure of the same occupation site.

The second site (New Site 2 in Figure 4.7) is an artefact scatter found on the edge of the lake bed on the western shore along the road leading down from the current NPWS dump. The site utilises the raw material from the silcrete quarry (New Site 3 in Figure 4.5) that is located about 1.5km northeast of the Homestead. Harry Allen recorded a number of similar sites on the lake bed.

The silcrete quarry is considered here as New Site 3, since it does not appear to have been previously registered on the NPWS Aboriginal Sites Register. The location of the quarry appears to be widely known to NPWS staff. The quarry itself is a large natural outcrop of silcrete that has been

utilised by Aboriginal people, and is likely to be the source of much of the stone found in the Aboriginal sites around Mungo. However, it has also been used by the pastoralists and is likely to be the source of a lot of the stone foundations etc used around the Homestead.

Artefacts were recorded in two other lake bed locations in disturbed contexts. The first of these, New Site 4 was behind the Cook's Room in the Shearers Quarters complex (see Figure 4.5). This is a sparse scatter of stone artefacts that stretches from here along and behind the parking area fence eastward towards the Woolshed. Most of this area has been disturbed by National Parks' activities and visitor facilities and presumably before that by traffic between the Shearers Quarters and Woolshed. A forge is reported to have been located nearby. This site is unlikely to contain significant Aboriginal archaeological deposits.

The second lake bed location, New Site 5 (see Figure 4.5) is immediately west of the western end of the visitors' centre on a denuded and compacted area that was once part of the access track to the garage and workshop. Stone artefacts can be found sparsely distributed along the driveway and these are likely to have been redistributed by vehicle tyres. The material is mixed with a sparse scatter of small non-Indigenous debris such as buckles, wire, glass and ceramics. These two sparse scatters are probably typical of the unstratified background scatter of artefacts that can be found intermittently around the outer edges of the lake bed.

New Site 6 (see Figure 4.6) is a sparse scatter of stone artefacts and burnt clay in a dune blowout not far from Zanci Stables. An area in the middle of the blowout was fenced with chicken wire. Some sheep bones were also visible in the blowout. The purpose of the fenced area was unclear. The ranger suggested that it might have been a burial (Tony Woodhouse pers comm) but he had no direct knowledge of this site. It appears likely that this was some sort of conservation measure. However, if it was meant to halt the expansion of the blowout it has clearly failed, although the area within the fence has eroded less than the surrounding area.

4.5 Potential Archaeological Deposits (Aboriginal Sites)

In addition to those areas that have visible structures or relics on the surface it is important to consider areas that have potential to contain subsurface remains. Such areas are commonly referred to as Potential Archaeological Deposits (PADs).³⁶ Potential Archaeological Deposits are identified as areas that have the potential to contain substantial and intact archaeological evidence below the current ground surface. This means in the case of Aboriginal sites, that one must consider areas where there are no visible surface relics or where only scattered relics in a disturbed context might occur on the current ground surface but there is a likelihood of artefacts occurring intact and in situ below the surface. In Mungo National Park research has shown that over much of the land surface including the lakebed there is sparse background scatter of artefacts. The identification of PADs does not therefore focus simply on the identification of individual relics or else the entire Park would be regarded as a PAD and as such the term would be meaningless. Instead, the term PAD is

an archaeological term that is generally used to identify areas likely to contain excavatable and therefore potentially archaeologically meaningful deposits. As such these areas have clear management implications. For instance, surface inspections prior to the conduct of park activities and construction works will not be sufficient to assess potential impact.

During this study 31 areas were identified as having potential archaeological deposits (in relation to Aboriginal and or historic deposits). Figures 4.3 and 4.4 indicate the locations of PADs within the two homestead areas. While some of these are associated with known remains, others are in areas where structures are suspected of once occurring, or in landforms known to contain archaeological sites.

Of these 27 areas, only ten have been assessed as having potential to contain subsurface Aboriginal sites. These will not be the only Aboriginal PADs within the Mungo National Park boundary. It will be obvious from the summary of previous archaeological investigations that the entire dune system around the lakes has potential to contain undetected Aboriginal sites. In accordance with the brief for this Conservation Management and Cultural Tourism Plan, however, the focus is on the two homestead areas and places related to these that are essential to the story of pastoralism at Mungo and Zanci. Therefore, only those areas with archaeological potential to contain Aboriginal sites within or overlapping the homestead areas are considered here. This is because to avoid the chance of inadvertent impact on these areas arising from the application of this CMCTP, these areas must be incorporated into the Archaeological Zoning Plan. This is both a requirement of the project brief and a requirement of the Heritage Office of NSW in relation to this plan.

The Aboriginal PADs are described below. The implications for the management of these areas will be discussed in Section 12.0, Constraints and Opportunities.

Potential Archaeological Deposits (PADs) 1, 2 and 3 (see Figure 4.5) cover the garden areas of Mungo Homestead outside the main fence. Several Aboriginal stone artefacts were located on the deflated surface of the roadway. It is likely therefore that the undeflated areas in between the driveways also contain Aboriginal artefacts that may be in situ. This area also appears in historic photos with garden plantings and is likely therefore to contain remnant garden features.

Potential Archaeological Deposit 9 (see Figure 4.5) is the likely extension of archaeological evidence which is visible at registered sites 40-5-66 (MA109) and 40-5-68 (MA108). These two sites were first recorded by Clarke who described MA109 as the most significant Aboriginal site on the western lake shore. As both of these sites and the newly identified site between them have been revealed by erosion, it is likely that these sites occur in other parts of the same dune as yet unaffected by erosion.

Potential Archaeological Deposit 10 (see Figure 4.5) is the extension of the same lake shore dunes. It is separated from PAD 9 by the current NPWS dump, roadway and associated disturbance.

Potential Archaeological Deposit 11 (see Figure 4.5) is a large northwest-southeast aligned dune which extends into the Mungo Homestead area.

Potential Archaeological Deposit 12 (see Figure 4.5) is a dune on the northern side of the main Mungo National Park access road. Several known Aboriginal sites are located in this dune and there is a high likelihood that these sites continue beyond the area of visible artefact exposure.

Potential Archaeological Deposit 13 (see Figure 4.5) is the continuation of the same dune as in PAD 12. The two PADs are separated by the deep cutting of the main Mungo National Park access road.

Potential Archaeological Deposit 14 (see Figure 4.5) is the paddock behind the Mungo Homestead. While the area has a high potential for historic material it is also likely to contain Aboriginal sites below the surface where these have not been affected by activities such as the power line and telephone cable.

Potential Archaeological Deposit 27 (see Figure 4.6) is a large dune area immediately to the north of Zanci Homestead outbuilding area (PAD 18). While the Aboriginal Sites Register database does not indicate any Aboriginal sites in this area, National Parks staff indicated that Aboriginal artefacts are visible in deflations in this dune.



Figure 4.3 A sparse scatter of artefacts extends from the area behind the cook's accommodation up towards the Woolshed.



Figure 4.4 The dilapidated state of erosion control fences at MA 109 have resulted in the site again being subject to rapid erosion.

4.6 Endnotes

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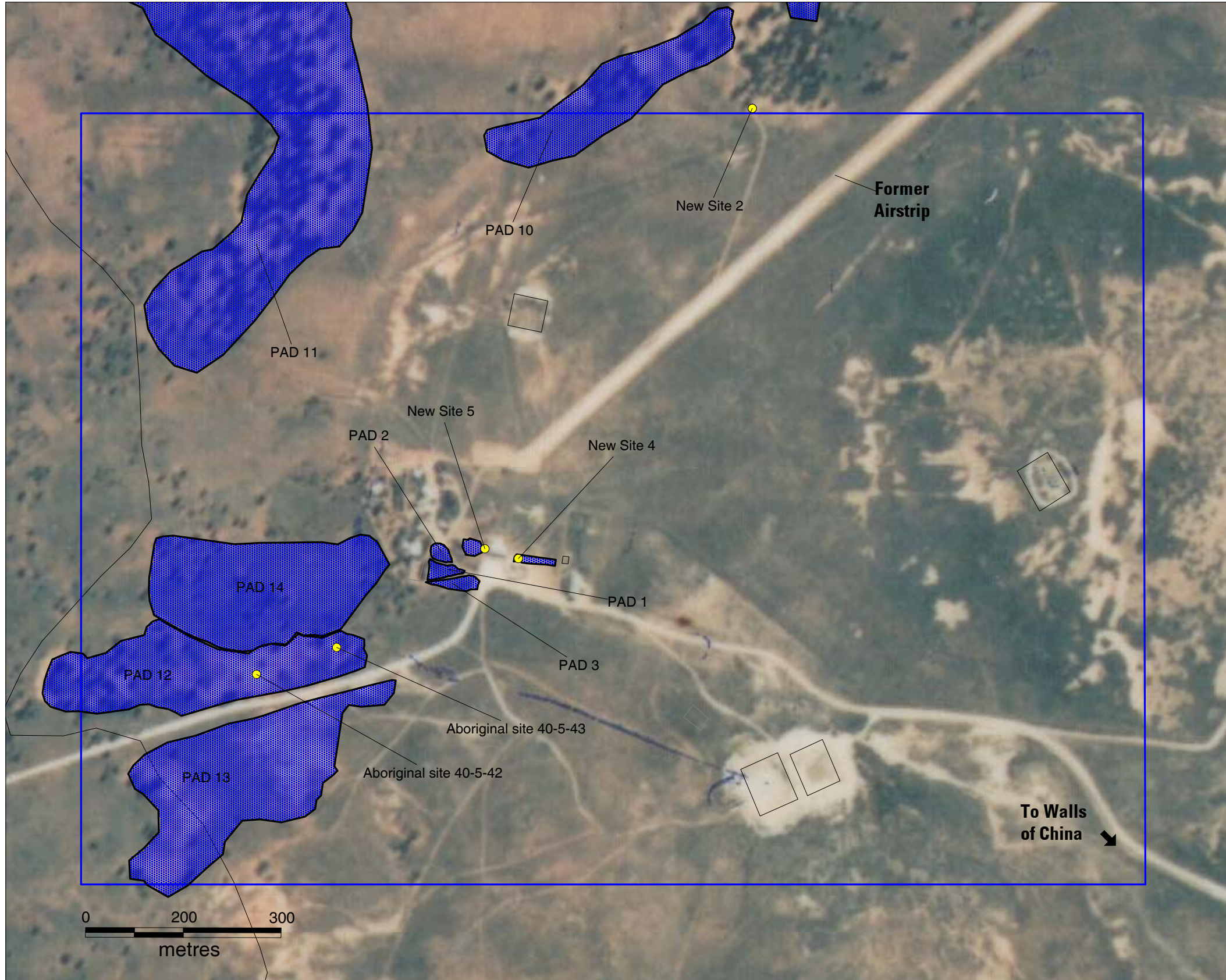


Figure 4.5 Aboriginal Sites and Potential Aboriginal Archaeological Deposits, Mungo Station Complex.

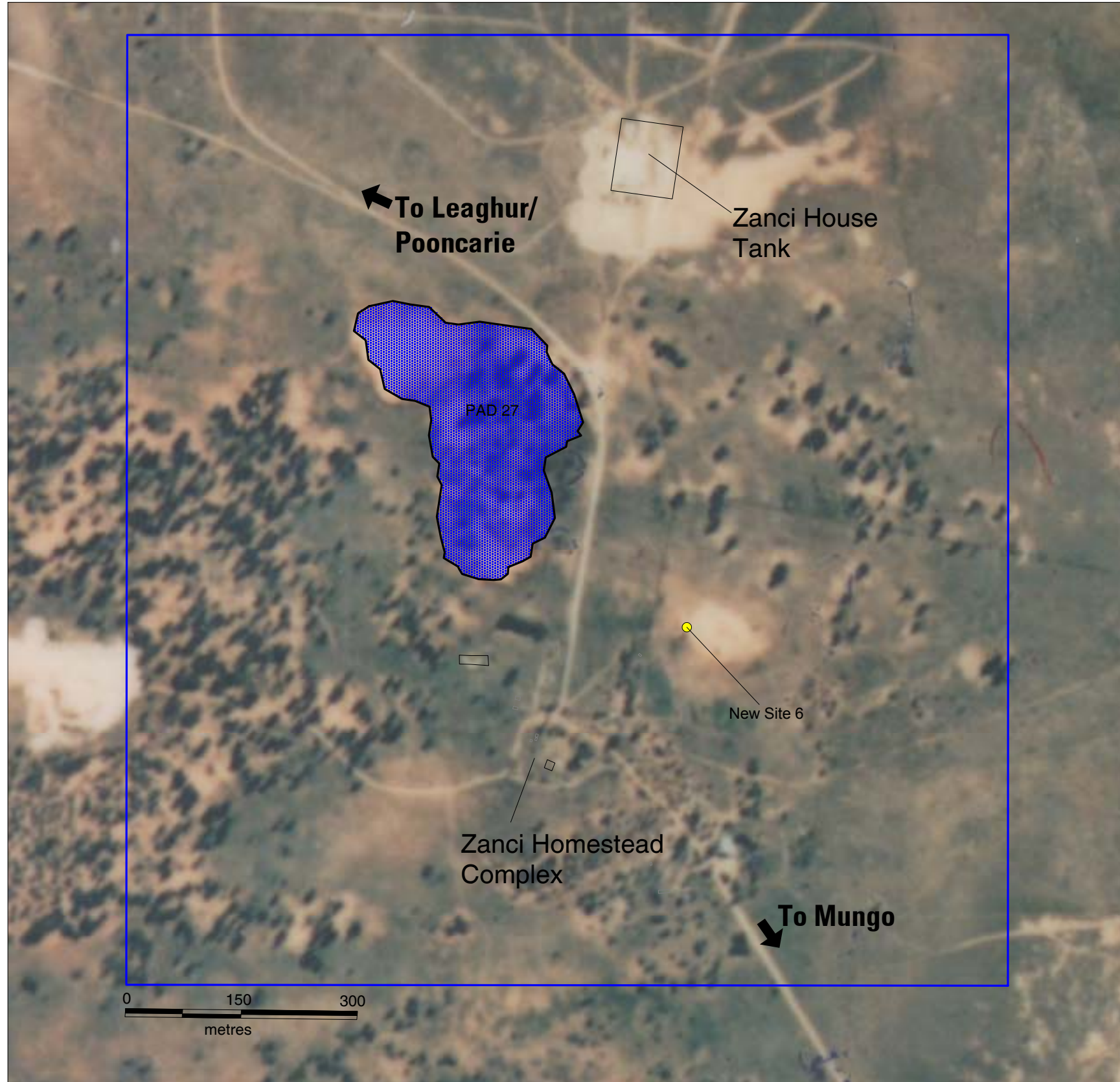


Figure 4.6 Aboriginal Sites and Potential Aboriginal Archeological Deposits, Zanci Station Complex.

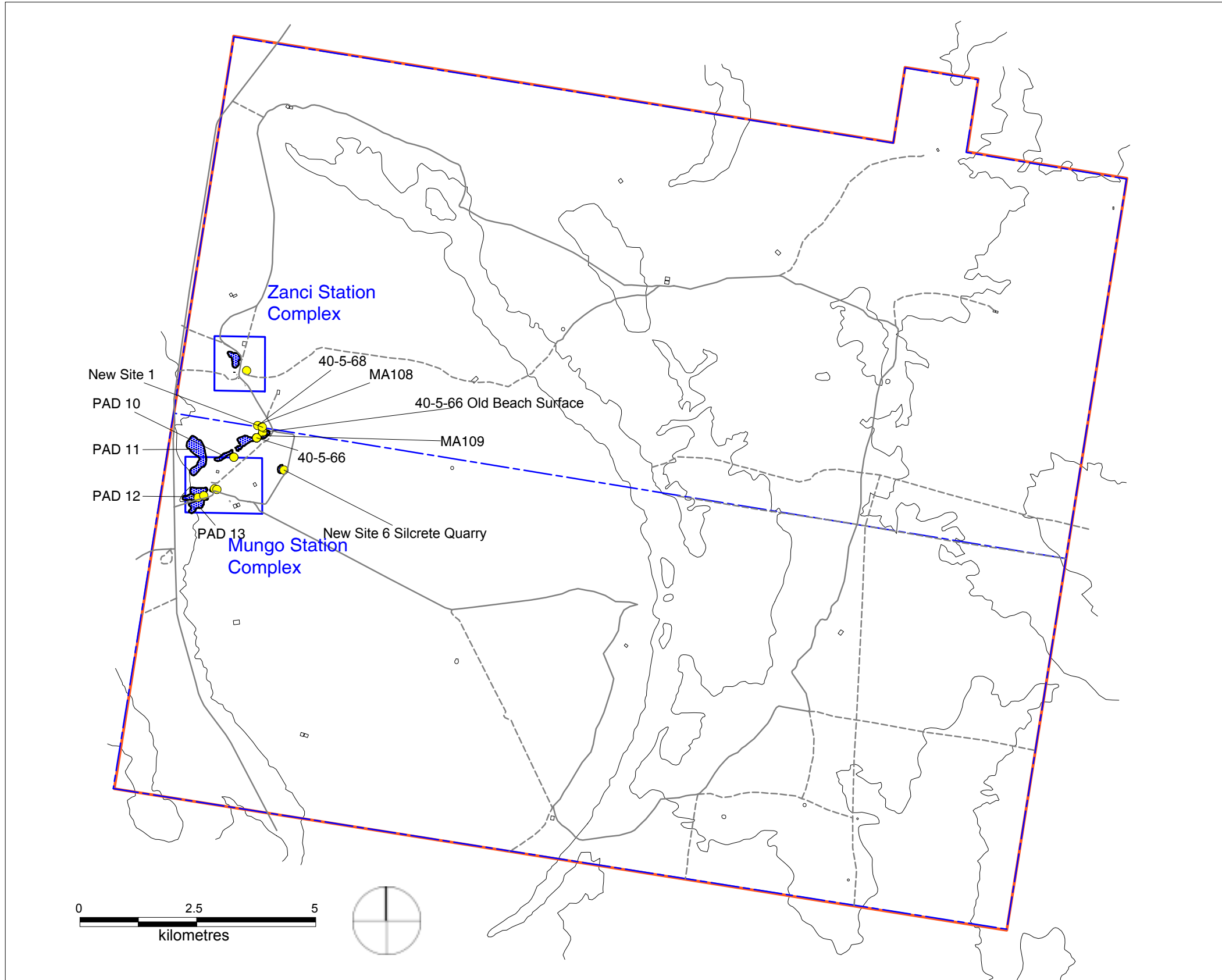


Figure 4.7 Aboriginal Sites and Potential Aboriginal Archaeological Deposits in the vicinity of Mungo and Zanci Station Complexes, Mungo National Park. Known sites not in the vicinity of the Mungo and Zanci Station Complexes have not been mapped - see the Aboriginal Sites Registrar, NPWS for further details. The entire eastern lunette (The Walls of China) should be considered to have potential to contain archaeological deposits.

5.0 Historic Heritage – Mungo Station Complex

5.1 Introduction

Sections 5.0 and 6.0 provide a detailed analysis of the historic development of the Mungo and Zanci Station complexes respectively. Section 7.0 provides an analysis of the evidence of the outlying features for both stations, including ground tanks. Within each of these sections, analysis brings together all of the historic values for the place, focusing on the key areas of built heritage (including current condition), historical archaeological resources, and historic landscape analysis. The archaeological potential associated with each structure or group of structures is considered and the potential to contain archaeological deposits is rated as high, moderate or low in each case. A site or areas potential to contain deposits does not in itself mean that those deposits will be significant and the likely significance of deposits is indicated in Table 5.1. (Section 4.0 addresses Aboriginal Heritage sites within the station complexes.)

As discussed in Section 3.0, the historic resources relating to Mungo and Zanci Stations are spread throughout Mungo National Park. There was an essential historic relationship between the properties and the more intense concentrations of buildings around the homesteads, such that consideration of one without the other leads to a false understanding of the total cultural landscape. Notwithstanding this, the focus of this report is on the historic station complexes where the greatest concentration of historic features are located. While an 'area' around each complex is described in Section 3.0 this does not imply an historic precinct outside of which is a 'non-historic' precinct that does not need to be managed for its historic values. While there are aesthetic characteristics to the setting of each complex this should not obscure the historic associations with any of the remote features within this broader landscape.

Four key historic phases of the Mungo Station complex area are outlined in Section 2.0:

- 1864–1877 when the area was part of the *North Turlee* station run;
- 1877–1922 when *North Turlee* was part of John Patterson's *Go! Go!* Station and run as an outstation;
- 1922–1978 when Mungo Station was subdivided from the *Go! Go!* run as a soldier settlement property until purchase by the NSW National Parks and Wildlife Service; and
- 1978–Present when the Mungo Homestead area has formed the nucleus of Mungo National Park formed by acquisition of Mungo Station and the adjoining Zanci Station.

An analysis of the buildings and structures that originate in each of these phases is discussed below in Sections 5.2 to 5.5. Key documentary sources are shown in italics. State Heritage Inventory cards for each element are located in Volume 2 and include history/description and significance. Figures 5.48 and 5.49 are plans that show existing and former structures within the Mungo Station complex area.

5.2 North Turlee Phase 1864–1877

Documentary evidence relating to this period comes from the Donovan World Heritage Area report 1985.

Donovan and Associates state that during this period what became Mungo Station was run as the headstation of North Turlee, first by Nash and then Ettershank.¹ No documentary evidence has been sighted to support this or to indicate the nature of any infrastructure constructed to support these head station operations. Numerous sources also identify that Chinese contract workers constructed Mungo Woolshed in 1869.² While both these things are possible, no documentary evidence has been sighted to support these claims apart from the oral evidence of an Alec McDougal passed to the former owner of Mungo, Albert Barnes.³

North Turlee Phase – Archaeological potential

As no evidence has come to light which reveals the location of past structures or activities during this phase, no relevant areas of archaeological potential can be identified. However in the course of any future archaeological work undertaken on Mungo the possibility that unexpected remains might relate to this period should be considered.

5.3 Gol Gol Station Phase 1877–1922

Key documentary evidence of this period is the 1885 and 1923 portion survey plans (Figures 2.5 & 2.8) and the two Patterson Collection photos of Mungo (Figures 2.6 & 2.7). Other evidence is contained in the Patterson Papers held in the University of Melbourne and the recollections and photographic collection of the Barnes family of buildings dating from the Patterson period.

5.3.1 Mungo Woolshed

The first firm documentary evidence relating to built elements is the 1885 Plan of Portion 13 County Wentworth, Parish Roma for the North Turlee run (see Figure 2.5). This plan shows and lists the following improvements, which, apart from fencing and ground tanks, includes: the Woolshed £1,000; a Cottage £150 and adjacent Store £50; and two Huts £100. At a value of nearly seven times that of the Cottage, the Woolshed was a capital expenditure more likely to have been made by the wealthy Patterson rather than early owners (except perhaps for Robert Patterson).

In Randell's *Pastoral Pattersons* he claims that John Patterson built a woolshed on his Turlee block on Gol Gol (therefore after 1877 when Patterson purchased North Turlee).⁴ In c1880 correspondence between contractor James Matterson and John Patterson there is a reference to constructing a tank to be located *within a reasonable distance of Turlee woolshed*.⁵ The Patterson papers also contain a specification for a woolshed together and a plans (see Figures 5.1 and 5.2) that are not identified but are consistent with the layout and construction of Mungo Woolshed. Together this evidence points more strongly to John Patterson constructing the Woolshed between 1877 and 1880 than the available evidence for an 1869 construction date.

Figure 2.7 shows the Woolshed between 1885 and 1890 with John Patterson (with the walking stick following an accident) proudly standing in front of the Woolshed with the Gol Gol 'scour pieces' bale next to him. This photograph is also significant in that it shows the separate partly open-sided structure once located immediately to the east of the woolshed. This is also shown as a separate structure on the 1885 survey (see Figure 2.5). According to the Barnes family this had itself several additions, some parts of which (including Oregon beams) was used in the construction of the second Zanci Woolshed in the late 1940s. Timber flooring for this building remains on the ground (see Section 5.3). Also visible in the image are fenced yards located in the northeast corner of the building where there is now a tank stand, some sort of window in the southern gable end and a bale lifting 'whim' structure in front the Woolroom Section.

The Woolshed was constructed for 30 blade shearers. Patterson reduced this to 18 steam-powered stands around the turn the century. During the Cameron period of ownership the steam boiler was replaced by a diesel engine to run four stands and in the 1950s Albert Barnes installed a new Ronaldson and Tippet diesel that ran five stands.⁶

Upon acquisition the NPWS undertook a number of underpinning and other restoration works and again in the mid-1990s on the Wool Room section (see Figures 5.3 and 5.4). The original underground tank (shown on Figure 2.5) that once collected roof water and was a vital element in station survival was repaired in the 1980s but has now partly collapsed (see Figure 5.5).

Mungo Woolshed Archaeological Potential (High)

The deposits and archaeological remains around the woolshed area have the potential to yield significant information about the historic uses of the site. This is despite the considerable subsurface disturbance that would have occurred with the cementing below ground level of the foundations of the woolshed in the 1980s work.

The main foundation bearers are in the process of being cemented to reduce the risk of subsidence. This job is completely concealed by being below ground level.⁷

Archaeological deposits do not appear to have been considered during the 1980s work and Service staff acknowledge that during the 1990s work archaeological input was not carefully planned. Current inspection indicates that there appears to be in situ subfloor deposits (see Figures 5.6 and 5.7). During the fieldwork for this plan a visitor to the site handed in part of an old newspaper dating to the 1950s which he claimed to have found underneath the woolshed. The woolshed configuration and the attached yards and structures have altered through time (see Section 2.6 and 5.2) and the area immediately outside the woolshed is likely to contain subsurface information relating to these structures and uses.

The archaeological potential for the woolshed area extends beyond the envelope of the existing building to include not only the subfloor deposits but also the area immediately to the east of the woolshed has timber flooring embedded in the exposed soils relating to previous extensions to the

building which have since been demolished. This feature is associated with a loading ramp and vehicle access area, which are likely to be an adaptive reuse of the timber-floored area.

Accordingly, the subfloor areas of the woolshed and adjacent external areas as indicated on Figure 5.50 are considered to have high archaeological potential. The Woolshed underground tank perimeter and extent is not clearly defined and this structure has archaeological potential. The construction techniques of the Woolshed underground tank have not been documented in any detail.

5.3.2 North Turlee Cottage/Mungo Homestead

In the far-left background of the Patterson photograph (see Figure 2.6) is the Cottage that now forms the central part of the existing Mungo Homestead. Another Patterson Collection photograph (see Figure 5.8) shows Patterson in his dray in front of this same Victorian style vernacular weatherboard cottage that was unchanged when Albert Barnes acquired it from the Camerons in 1934 (see Figure 5.9). Figure 5.10 shows the homestead shortly prior to the Barnes' extensions of two wings in the 1950s (see Figure 5.11). From 1960, Venda Barnes ran a tourist shop inside the Homestead, the latest location being the southern infilled verandah area facing the tennis court.

Physical investigation of roof space and oral evidence of internal wall construction support a late nineteenth-century construction date. The homestead has changed little in the last 30 years apart from the recent removal of a verandah infill at the rear. It sits quietly as an NPWS staff residence at the end of an unused 'circular driveway' (see Figure 5.12).

Mungo Homestead – Archaeological Potential (High)

The subfloor deposits of the main house are considered to have archaeological potential. As discussed above, the inner core of the house appears to be the original Turlee outstation Cottage marked on the 1922 property plan (see Figure 2.8). There is the potential then to find material remains from the earliest occupation phases of the property now known as Mungo through the period after the soldier settlement subdivisions and up to the current NPWS occupation (see PAD 4 Figure 5.50). This will become particularly relevant if the NPWS expands its interpretative program to include the homestead, as valuable information about the earlier history of the homestead may be yielded.

The subfloor deposits of the original cottage have the highest archaeological potential. It is difficult to determine without test excavation how intact these deposits might be but the core of the existing homestead appears consistent with the original cottage and may have been little modified in ways that would significantly affect the deposits. Subfloor deposits in houses have been known to provide insights not only into building techniques and innovations but also into the very heart of family life. Items that fall between floorboards may include children's toys, jewellery, buttons hairpins and smoking pipes etc. Items may also have been stored under floor for later use including building materials such as tiles.

The subfloor deposits of this structure have the potential to yield significant archaeological information relating to this early historic phase of the property but also may provide insights into the later phases in which the building became a permanent family home.

Within the current house fence there is some, although surprisingly little, evidence of pre-NPWS garden beds and plantings. However, the area within the house fence is considered to be of moderate archaeological potential. There are several items of machinery and other movable heritage scattered around the yard although most of these are unlikely to be in situ. The yard and plantings are unlikely to relate to the Turlee occupation phase. They relate directly to the later phase when this was the Barnes' family home.

5.3.3 Homestead Store/Kitchen

Behind the Cottage in the 1885 survey plan is a Store that was later described as a *detached kitchen and dining room* in a 1911 survey of the property.⁸ This building existed until it was replaced in the 1950s by a laundry/store/accommodation room (see Figures 5.13 and 5.32). This drop-log construction building may possibly have been used as a residence prior to construction of the weatherboard cottage before 1885.

Homestead Store/Kitchen – Archaeological Potential (Moderate)

The Homestead Store /Kitchen was immediately behind the current house and the site has been estimated to be located in the vicinity of the existing laundry (see Figure 5.49). Once again as no sign of the building remains on the surface it is difficult to assess the potential for the area to retain significant archaeological information. The building may not have had a timber floor and is likely to have only posthole foundations; although Figure 5.13 reveals that it did have a chimney. However, given even the possibility of archaeological deposits from this early phase of non-Aboriginal occupation this area is considered to have moderate archaeological potential (See PAD 4 Figure 5.50).

5.3.4 Original Shearers Quarters/Cookhouse

The 'Hut' shown on the survey plan and in the middle background of Figure 2.7 was the drop-slab Shearers Quarters/Cookhouse block. This building was used later as a polling station in the 1920s⁹ (see Figure 5.15) and demolished 1954 (see Figure 5.14) to make way for a new ablutions building and a new kitchen was constructed nearby. It was near or on the site of the recent NPWS Shearers Quarters Bathroom. This hut, like all of the original structures, had its own underground tank to collect roof water.

Original Shearers Quarters/Cookhouse – Archaeological Potential (Low)

Any subsurface remains relating to this structure are almost certain to have been disturbed or destroyed by the construction of the modern ablution blocks and a Clivus Multrum self composting

toilet system that required the construction of a large underground cellar structure (this was in-turn replaced by a septic system for operational reasons).

There is no record of any archaeological discoveries during construction of the Clivus Multrum system and as subsurface disturbance in the vicinity of the original shearers quarters/cookhouse site has been extreme, this area is not considered to retain any archaeological potential (see Figure 5.49 Item 41 for location of ablution block which equals area of zero archaeological potential). It is possible, however, that some evidence of the original cookhouse timber-lined underground tank remains in the near vicinity as its original location is not precisely indicated in the historic records. Therefore, the possibility of detecting such remains in any major works in this area needs to be considered (see PAD 8 Figure 5.50).

There is some indication that the earliest shearers quarters were located south of the Woolshed on the other side of the existing road in the vicinity of the drop-log toilet building. No surface evidence of such a structure could be detected (see PAD 29 Figure 5.50).

5.3.5 Woolscour Operations

Woolscour operations were located around the Scour Tank (enlarged and renamed the Mungo House Tank by the Barnes' in the 1930s [see Figure 2.14]) and this included a McComus Lift that was a form of continuous chain and bucket operation to lift water from the scour tank into adjacent scour tanks.¹⁰ Albert Barnes stated that a trolley line of timber bearers and metal rails connected the Woolshed and Woolscour Tank site¹¹ and timber and metal fabric from this trolley line is still on site¹² (see Figure 5.16). According to Albert Barnes the wool to be scoured was dropped through holes in the Woolshed floor to trolley cars below.¹³

5.3.6 Woolscour Hut Ruin

The ruin located near the Mungo House Tank and also known as the Chinese Hut Ruin is shown on the 1885 portion plan as 'Hut'. The ruined building has what appears to be a forge and a cooking area and has long earth mounds that could possibly be the remains of pise (rammed earth) walls. On the 1923 portion plan one of the improvements is described (but not located) as the Woolscour Hut. According to Don Stirrat, the hut was reasonably intact in 1934. It had a corrugated-iron roof, low walls, a door on the northern side, a central, six-metre long boarded table and bunks down both long walls consisting of timber posts set into earth floor and wire netting to support mattresses.¹⁴ A plan in the Patterson papers shows a 'mud walled' building with bench tables and bunk beds. It is likely that this ruin was associated with the scour operations. An underground logged tank¹⁵ is located nearby but is now in-filled with debris. There is no apparent physical evidence of the Chinese use of this building.

Woolscour Hut Ruin – Archaeological Potential (High)

The so-called Chinese ruins are most likely to have originally been used in association with a wool scour operating around the nearby ground tank but were apparently used as accommodation by a Chinese person in the later phases of the Gol Gol property.¹⁶ It is clear that the walls of this structure have been partly pushed in and some of the material has been removed for use elsewhere. The structural remnants are currently fenced for protection and there is evidence of large vehicles having moved through the site.¹⁷ Crushed brick can be seen embedded in the deposit. Certainly however, the place still has some archaeological potential. Excavation of this site may provide evidence of its origin, design and the nature of the uses to which it has been subsequently put.

Nearby there is a large depression in the ground that is partially filled with rubbish. This is likely to be the small underground logged tank that has partially collapsed mentioned by the Barnes family (see above). Again, excavation of this feature may yet reveal information relating to its function and that of the nearby structure (see PAD 7 Figure 5.50).

5.3.7 The Drop-Log Toilet

The 'two-hole' drop-log toilet currently located due south of the Woolshed (see Figure 5.19) was originally located 20–30m from the homestead, and was moved in the 1950s when the existing small toilet was constructed there. It is possible that it pre-dates the Mungo Station period. There is the possibility that earlier shearers quarters were located in the vicinity, although no surface traces of such are visible (see PAD 29 Figure 5.50).

Drop-Log Toilet – Archaeological potential (Medium)

Pit toilets have been known to yield interesting archaeological information as they were often used to dispose of other rubbish. Old rubbish dumps are surprisingly scarce around Mungo and Zanci stations. However, if the toilet pits were used to dispose of other debris such as broken china and wine bottles, etc it would more likely be those pits (locations unknown) closer to the main residence. In any event as the toilet was designed to be moved about there would clearly be other filled in pits in the vicinity of the current one. An early aerial photograph show two of these structures (Figure 5.39) and a second pit which has subsided slightly after being filled-in was noted near the current structure (see inventory sheets). While the current structure may predate the Mungo Station phase the associated deposits at the current site certainly relate to the later phases of use of the woolshed.

5.3.8 Dump, Hut Ruins and Chinaman's Grave

Further to the south-southeast behind the homestead there is a substantial dump and what appear to be the ruins of a hut or lean-to. The dump is the only dump that is apparent, which contains predominantly old material. According to Roy Stirrat this was the site of a cubby-house built by Val Barnes in about 1945.¹⁸

Dump, Hut Ruins and Chinaman's Grave – Archaeological Potential (High)

This area is considered to be of high archaeological potential. It is located on the dunes which run along the western rim of the lake, behind Mungo homestead. The site is located approximately 200m west-northwest of the Mungo homestead (see Figure 5.20) (see also PAD 14 Figure 5.50). The dump is quite extensive, commencing on the crest of the dune approximately 35m south of cement powerpole #3 of the current Mungo power line, and extending about 40m south-southwest to the fence along the old stock route.

Items on the surface of the dump vary in age but include a high percentage of older materials such as amethyst glass dating to pre-1912, a black on white transfer pattern ceramic toothpaste jar lid, the back of a fob watch and broken 33rpm records.

Although there are no obvious structural remains of a hut at this site, the location of a hut is inferred by a reference to a nearby hut on one of Clark's Aboriginal site cards and the amount of building material scattered around in this area. The most obvious cluster of building material is the large pile of chimney bricks but these do not appear to be in situ and have probably been dumped from elsewhere on the property. They may be bricks from the chimney at the Shearers Quarters kitchen or the original Homestead kitchen chimney. Nearby there is a second much smaller pile of bricks. It is approximately 10m south of the large pile. Some of the bricks are partially embedded in the ground in a line. They are mostly broken and not mortared, suggesting some sort of path or garden edging.

Not far from this site, and between it and the Aboriginal sites located on the other side of the stock route, there is reputed to be a Chinese person's grave. Physical evidence of this site was not conclusively identified. Peter Clark says that he was told by local informants that there was a 'Chinaman's' grave here¹⁹ and he refers to it in one of his site cards. Roy Stirrat also claims that there was definitely a Chinese person's grave there.²⁰ Several features were noted at the time of the survey including a modern white post/marker and a cluster of stone and glass on the stock route fence line, but it seems unlikely that these are in fact grave markers.

5.3.9 Silcrete Quarry

The quarry is located to the northwest of Mungo Homestead on the road to Zanci. It appears as a low ridge of silcrete cobbles outcropping in the lake bed. This silcrete quarry was evidently used as the source of foundation material for the Woolscour hut ruin (also known as the Chinaman's hut ruin see Figure 5.17 and 5.18). There is evidence of silcrete being used around the footings of the woolshed on the southern side also but it is not known whether this was part of the original construction or later repairs to the building. The silcrete quarry also shows evidence of being used by Aboriginal people in the pre-contact period at Lake Mungo and is the identified source of materials in many of the sites around the lake dunes. It is within easy walking distance of site 45-5-66 and others on the western shore.

Silcrete Quarry – Archaeological Potential (Medium to High)

Due to the nature of the deposits there is little excavation potential at this site. However, the surface distribution of artefacts and evidence of quarrying activities across the site may yield information relating to both technology used and the period of use of the quarry. The use of the quarry by both pastoralists and the original Aboriginal inhabitants is likely to make reading of the site challenging. A detailed recording is required which seeks to identify evidence for both types of exploitation of this silcrete resource. As the outcrop is so close to the homestead it is likely that it was discovered early in the non-Aboriginal settlement of the area and used in the earliest constructions phases wherever stone was required, eg the base of chimneys. It is also possible that isolated pieces of movable heritage such as pick heads etc may be found in the vicinity of the quarry. It is important that investigation of this site take into account its potential significance in terms of both Aboriginal and non-Aboriginal heritage.

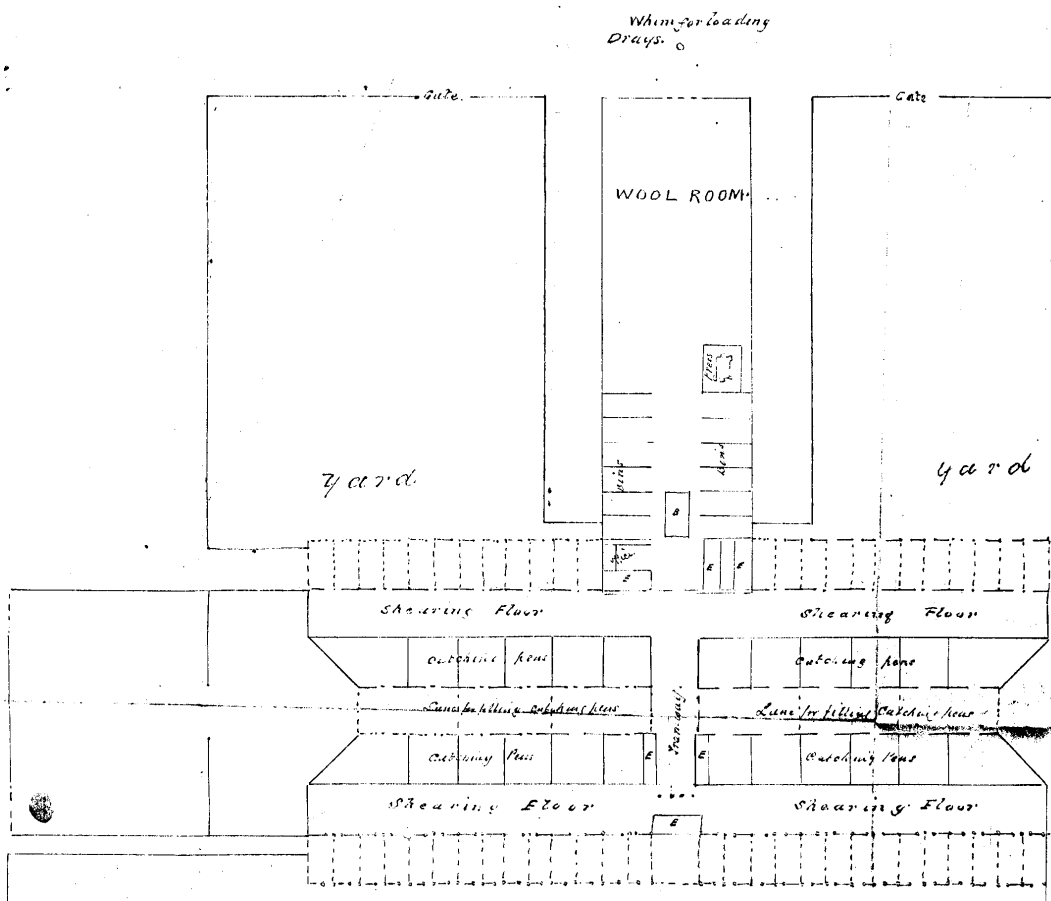


Figure 5.1 Undated plan of Mungo Woolshed from Patterson papers that is consistent with the original 30 stand construction.

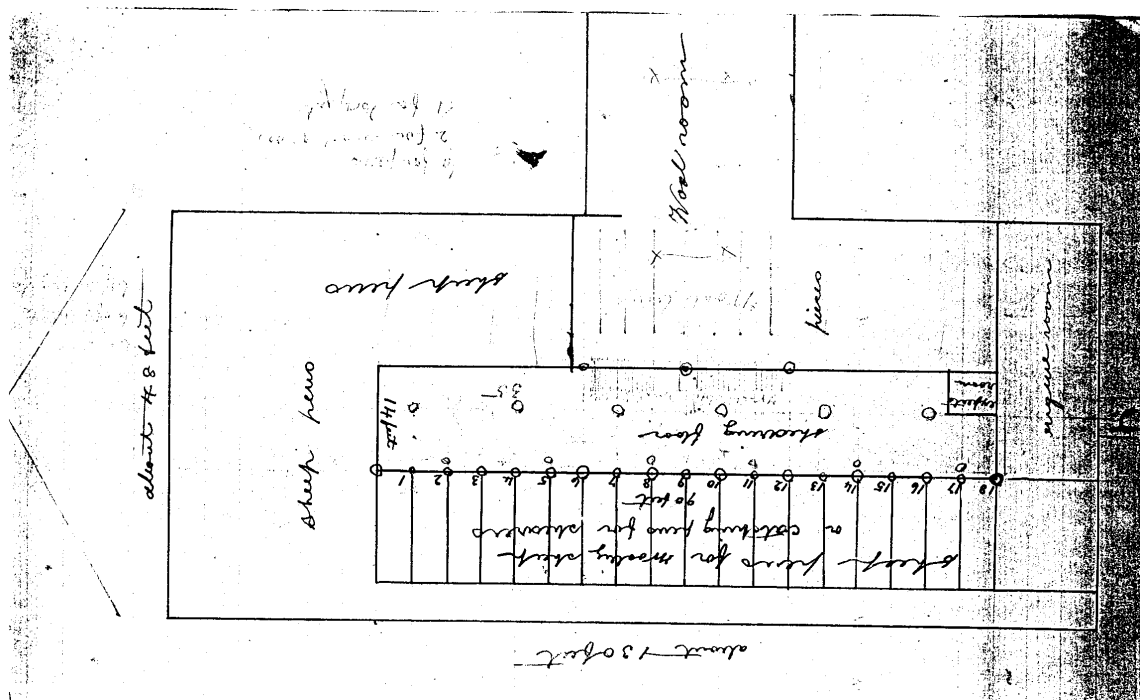


Figure 5.2 Undated plan of Mungo Woolshed from Patterson papers that is consistent with a reduction to 18 stands at the end of the nineteenth century.



Figure 5.3
The cathedral-like
space inside Mungo
Woolshed



Figure 5.4
The Woolroom at
right of image was
underpinned during
1990s works.
Compare to Figure
2.7.



Figure 5.5
The underground
logged tank adjacent
to Mungo Woolshed

Figure 5.6
Note the flooring at the southern end of the Woolshed sits on the ground to provide traction for the heavy steam engine. The consolidated subfloor deposits that are visible suggest that the shed may have originally had a dirt floor.



Figure 5.7
Subfloor deposits in the woolshed.



Figure 5.8
North Turlee
Manager's Cottage,
now the central
section of Mungo
Homestead
(Patterson
Collection).





Figure 5.9
Section of Mungo Homestead shortly after Barnes' purchase from Cameron in 1934 (Barnes Family Collection).



Figure 5.10
Mungo Homestead c1940s with original store/kitchen still at the rear (Barnes Family Collection).



Figure 5.11
Early 1950s extensions to Mungo Homestead, first the right and then the left side wings (Barnes Family Collection).

Figure 5.12
Approach to Mungo
Homestead, planted
eucalypts at right,
2002.



Figure 5.13
Drop-log Homestead
Store/Kitchen in 1934
(Barnes Family
Collection).



Figure 5.14
Shearers Cookhouse
during demolition in
1954. (Note current
Shearers Quarters in
the background)
(Barnes Family
Collection).





Figure 5.15
Original drop-log
Shearers
Quarters/Cookhouse
used here in the
1920s as a polling
station (Barnes
Family Collection).



Figure 5.16
Colleen Barnes, Peter
Clark and Val Barnes
standing near remains of
the Woolscour trolley line
between the Scour Tank
and the Woolshed.

Figure 5.17
The 'Chinese ruins' –
Woolscour Hut Ruin,
from north with ship's
tank on left.

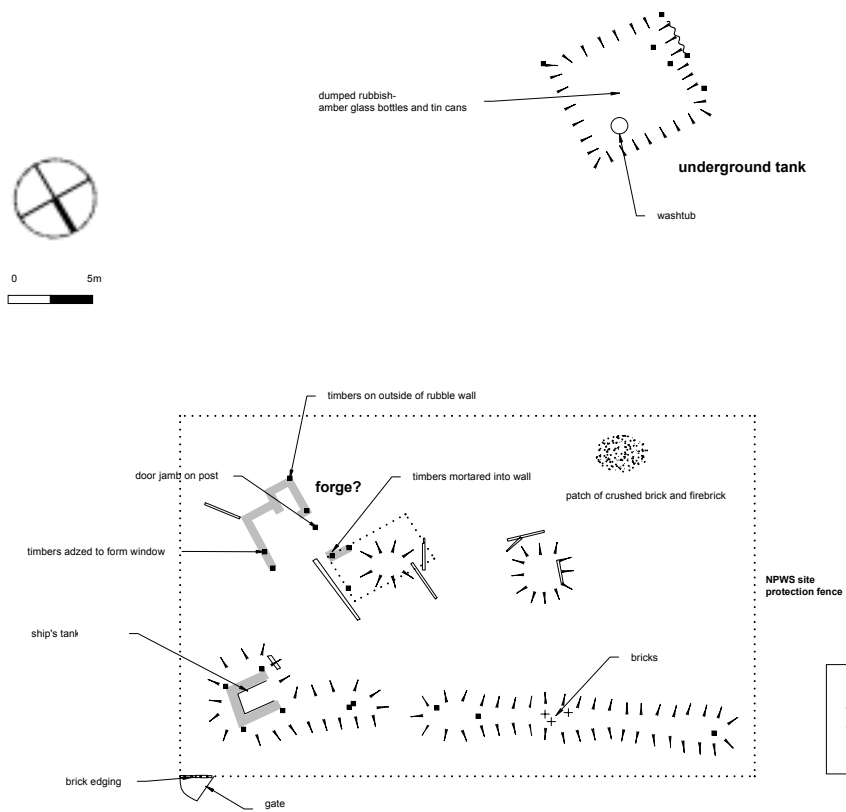


Figure 5.18 The so-called Chinese Hut Ruin that is shown as the Woolscour Hut on 1923 portion plans was probably associated with the Scour Tank located nearby (plan S McIntyre December 2001).



Figure 5.19
'Two-hole' drop-log toilet near the Woolshed that was moved from here from near the Homestead, replacing one that collapsed on this site.



Figure 5.20
Some of the artefacts in the old dump behind the homestead.

5.4 Mungo Station Phase 1922–1978

At the time of the establishment of Mungo Station in 1922 a survey of the land was undertaken. Improvements described in addition to tanks, wells and fences include: WB room; kitchen; Shearers room; cooks' room & meat house; Shearers dining room; bath; lavatory; wash house; killing pen; store room; chaff house; fowl house; poison house; smithy; and the woolshed and wool room. The total value of the improvements (including fences etc) being £2531.17.3. Some buildings such as the chaff store that existed during the Barnes' ownership may have existed during the Patterson period of ownership. There is no record of any construction buildings during the period that the Camerons owned Mungo.

Many of the buildings now existing in the station complex were constructed by Albert Barnes and most of these were constructed in the 1950s and early 1960 when there was more capital around following good rains and high wool prices. The woolshed yards were rebuilt in the late 1940s and it is during this time that the free-standing wing to the woolshed was removed.

5.4.1 Shearers Quarters

The existing Shearers Quarters were constructed in about 1934 by Albert Barnes. Figure 5.22 shows the quarters with a tack room/cook room at the west end. The building was altered in the early 1980s by removing a wall and inserting horizontal windows to provide for an NPWS office and laboratory (see Figure 5.23).

5.4.2 Shearers Kitchen, Ablutions Block and Cook House

The Shearers kitchen (see Figure 5.24), a small ablutions block (see Figure 5.24), and the cook's quarters (see Figure 5.25) were built in 1950–1951. The kitchen and cook's quarters remain but the ablutions block has been replaced by the NPWS.

Shearers Kitchen, Ablutions Block and Cook House Archaeological Potential (Low)

This area is considered to be generally of Low archaeological potential. The deposits themselves in this area are compacted and it is likely that any earlier buildings will have had post/stump foundations. They would have left only a minimal imprint on the compacted deposits. The kitchen and dining room subfloor deposits therefore are likely to have moderate archaeological potential while the remainder of the area is considered to have low archaeological potential.

It has been noted that the original shearers quarters complex had its own underground tank. It is likely that this feature was destroyed by the construction of the current modern ablutions block. While the potential for features relating to the earlier structures is low, there remains some possibility that any such features that did survive are likely to be of high significance.

5.4.3 Stables, Chaff Shed and Horse Yard

Located near the hand painted sign at the curve in the entrance road into the complex area the stables were of drop-log construction and were (along with the attached chaff shed) deconstructed and used in the construction of the Allens Plain Hut. Its construction suggests that it may pre-date the 1920s. The Chaff Shed was attached to the Stables and was reconstructed at Allens Plains.

Stables, Chaff Shed and Horse Yard Archaeological Potential (Low)

No surface evidence of the stables, chaff shed or horse yard remain, except for a wire fence around this area that may or may not relate to the horse paddock. The ground surface is very uneven and may have been ripped or ploughed in the past. The potential for this area to yield archaeological information relating to these activities is considered low (see PAD 15 Figure 5.50).

5.4.4 Smithy

The smithy was located between the Shearers Quarters and the woolshed. It is now an archaeological site.

Smithy Archaeological Potential (Medium)

The structure was apparently bulldozed into a heap and burnt. The visible remains include burnt nails and bits of burnt metal. It is highly likely that similar bits of metal are likely to exist subsurface although given the method of demolition it is unlikely that these would yield significant information (see PAD 30 Figure 5.50).

5.4.5 Poison House

The poison house was located near the smithy this is where the poisons were kept. It is now an archaeological site.

Poison House Archaeological Potential (Low)

Once again very little remains of this structure. No known pictures of this building exist but it was unlikely to have been a substantial structure. It is possible that some debris remains as with the smithy but the site has obviously been 'cleaned up' by NPWS. Should any archaeological work be undertaken in this area in the future, the nature of the poisons and the likelihood of soil contamination needs to be considered.

5.4.6 Cattle Yards

Located near where the new underground tanks are sited, the cattle yards were burnt by the Barnes as a precaution during a period of tetanus disease outbreak. It is now an archaeological site.

Cattle Yards Archaeological Potential (Low)

The cattle yards would have been constructed of timber and wire. Little in the way of archaeological deposit would have existed in the area and the amount of fabric surviving the destruction of the yards by the Barnes family is unlikely to be substantial enough to provide an aid in interpreting the site.

5.4.7 Mungo Homestead

During the Mungo station Phase the Turlee Outstation was extended and improved to become the main station homestead (see above in 5.3.2).

Mungo Homestead Archaeological Potential (subfloor and at the rear of the homestead High, elsewhere Moderate)

It is difficult to assess the degree to which subsurface deposits have been affected in the Mungo Homestead area by post-NPWS acquisition activities (see PAD 4 Figure 5.50 and related PADs 2 and 3). It is likely that the area immediately around the homestead was 'tidied up' by the Service after acquisition. Since NPWS acquisition the house has been used for staff accommodation and at least ten families have rented the house and gardens over that period. Formal leases now govern such occupation and it is recommended that future lease conditions reflect the potential of the area to contain subsurface archaeological evidence relating to earlier phases of occupation at Mungo (see Section 15.2.10).

Parts of the garden and the entrance driveway and plantings relate to the Mungo Station phase. The gardens, however, are very simple almost nondescript. Indeed there are very few plantings or garden beds visible which are likely to have related to the pre-NPWS period. There are no Aboriginal artefacts lining the garden beds or driveway in a decorative fashion as there apparently was at Zanci (see Section 6.0). However the previous owner of Mungo, Mr Albert Barnes, had a collection of Lake Mungo artefacts in 1980 and these are now in the Visitors Centre laboratory.²¹

NPWS staff report that water availability has had a major impact on the gardens in recent times.²² Water usage requirements have grown with increases in resident numbers (that is staff and their families) and large increases in visitor numbers. It is considered desirable to restore the underground tanks and continue their historic role in supply essential water to Mungo homestead and the woolshed. This would not only provide water to maintain the homestead gardens but also serve to provide an emergency water source in the case of the threat of fire to the buildings (see Section 15.2.8).

5.4.8 The Tennis Court

The tennis court dates to this phase and the outline is still clearly visible (see Figure 5.27). The tennis court is an archaeological feature. It is comprised of levelled and compressed clay soil with little additional fabric.

The Tennis Court Archaeological Potential (Low)

The area has no potential for subsurface deposits (the tennis court is included within PAD 4 see Figure 5.50), it is itself an important feature of the historic landscape, providing a glimpse into the social/recreational life on the property as distinct from most of the other features which attest to the working operations. The tennis court is an item of interest and has interpretation potential as it provides a rare insight into the social/family life of Mungo station.

5.4.9 Garden and Driveway Outside Current Homestead Fence

The clumps of succulents either side of the entrance gate and the row of exotic eucalypts impart a sense of arrival at the homestead and have potential in its future interpretation (see Figure 5.12). There is evidence that the driveway alignment has changed several times but the current homestead access road encircles an area planted with trees which is significantly elevated from the road. This is caused by the attrition of the road surface over time. Scattered Aboriginal artefacts were noted in this area, as were fragments of glass, tin and other non-Aboriginal debris.

Garden and Driveway Archaeological Potential (Moderate)

This area is considered to have moderate potential to contain subsurface deposits (see PADs 1, 2 and 3 Figure 5.50). It is likely that the area has been used for various purposes and was at one point included in the house gardens. This is suggested by the plantings at the entrance to the drive from the current visitors' centre parking area and the presence of the exotic flowering eucalypts planted in the area (see Figure 5.28). Figure 5.29 shows the area with garden plantings and hoses clearly indicating that the area was part of the garden.

5.4.10 Mungo Cottage

Mungo Cottage was constructed for Val and Valerie Barnes in 1958 (see Figure 5.30). A verandah was added in 1962 and an extension made to its eastern end by the NPWS in the 1990s²³ (see Figure 5.31).

Mungo Cottage Archaeological Potential (Low–Moderate)

The subfloor area is likely to have moderate potential for surviving archaeological deposits. The house yard and garden has obviously been modified over time and the garden is well-kept but possibly quite recent. There is a range of movable heritage items including machinery and toys in the yard used as decorative garden pieces. None of these items appear to be in situ. Recent landscaping and garden work probably mean that there is little archaeological potential in the garden

area, but as a precautionary approach the subfloor deposits are considered to have potential (see PAD 26 Figure 5.50).

5.4.11 Mungo Homestead Laundry

Constructed in the 1950s to replace the early drop-log kitchen store, the laundry also includes a store room and a sleep-out room (see Figure 5.32).

Mungo Homestead Laundry Archaeological Potential (Moderate)

At least part of this structure overlaps with the site of the pre Mungo store, there is at least some potential that remains relating to the earlier building exist subfloor and between this structure and the homestead (included within PAD 4 Figure 5.50).

5.4.12 Generator Shed and Tank Stand

Located adjacent to the Homestead this still contains three types of generators including the 32 watt Ronaldson and Tippett generator (see Figure 5.47) and the Dunlite windmill to provide wind generation. It was constructed in about c1960 (see Figure 5.33). The generator motor was last reconditioned in 1979.

Generator Shed and Tank Stand Archaeological Potential (Moderate)

It is possible that the floor of this building seals in earlier deposits. The area immediately around the shed, particularly between the shed and the house, is considered to have moderate archaeological potential (included within PAD 4 Figure 5.50).

5.4.13 Garage

This steel-frame, corrugated-iron building was constructed in about 1960 (see Figure 5.34). In early 2002 the NPWS adapted the garage for use as a NPWS staff tea room and a first aid room.

Garage Archaeological Potential (Moderate)

Once again the subfloor deposits are considered to have some archaeological potential (see PAD 5 Figure 5.50). To clarify this would require limited archaeological testing. This is possibly the oldest surviving homestead outbuilding. It currently has a concrete slab floor but is likely to have originally had a timber or dirt floor. Because of this, the area within the footprint and for a buffer of 2m around the outside of the building is considered to have moderate archaeological potential.

5.4.14 Fuel Shed

This steel-frame, corrugated-iron building was constructed in about 1960. An underground fuel tank was installed at its southern end in the early 1980s. It has a more recent carport extension (see Figure 5.35).

Fuel Shed Archaeological Potential (Low)

It is possible that small items of movable heritage such as tools etc exist in the vicinity of the shed but apart from these it is unlikely that this building would have substantial or significant subfloor deposits.

5.4.15 Tractor Shed

The Tractor Shed was built in 1953 and was later moved to Gol Gol. It was located where the NPWS hangar was constructed in 1982 (see Figure 5.36).

Tractor Shed Archaeological Potential (Low)

As with other machinery shed there is some limited potential for small items of movable heritage to exist in the vicinity of the shed location but the area is likely to have been 'cleaned up' by NPWS on acquisition and the subsequent construction of the hanger is also likely to have negatively effected the potential of the area.

5.4.16 Motor Bike Shed

This drop-log structure was built in 1952 by Val and his friend Jimmy O'Donnell as a bike shed (see Figure 5.37). It was located behind the fuel shed. It is now an archaeological site.

Motor Bike Shed Archaeological Potential (Low)

There is no visible evidence of this building and it is likely that all traces of the building have been removed. However there remains some limited possibility of encountering post holes relating to this structure or small items of movable heritage. Given the successful survival of the exposed timber flooring embedded in the ground to the east of the woolshed, it is possible that some timbers relating to this structure might survive.

5.4.17 Woolshed Sheep Dip

Built by Albert Barnes between 1950 and 1954, it used a Buzacot spray. It is intact (see Figure 5.38).

Figure 5.21
Shearers Quarters complex. There is little archaeological potential at the Mungo Shearers Quarters except for the subfloor deposit under the kitchen.



Figure 5.22
Shearers Quarters constructed in 1934 in original form (NPWS photo 1980).



Figure 5.23
Shearers Quarters in 2002 with adaptation visible at far end.





Figure 5.24
Shearers Kitchen in 1980 with small Ablutions Block now replaced by new NPWS Ablutions Block (NPWS photo).



Figure 5.25
Cook's Quarters 2002.



Figure 5.26
Chaff Shed/Stables in distant view from the tennis courts. Photo taken in 1937 (Barnes Family Collection).

Figure 5.27
Tennis Courts at Mungo
Homestead (undated
photo in the Barnes
Family Collection,
NPWS)



Figure 5.28
The garden outside the
homestead fence is no
longer visible except for
exotic plantings of
agaves at the driveway
entrance and introduced
ornamental eucalypts
along the drive.



Figure 5.29
The Mungo Homestead
c1966 (Barnes Family
Photo Collection,
NPWS). Note garden
area extends outside
homestead fence.





Figure 5.30
Mungo Cottage in
1960, two years after
construction (Barnes
Family Collection).



Figure 5.31
Mungo Cottage in
2002 with extension
at far end.



Figure 5.32
Mungo Homestead
Laundry on the site of
the early drop-log
kitchen.

Figure 5.33
Generator shed and
pine tank stand.
Wind generator tower
in the background.



Figure 5.34
Garage constructed
c1960.



Figure 5.35
Fuel Shed
constructed c1960.





Figure 5.36
Tractor Shed
constructed in 1953,
later removed to
Gol Gol. NPWS
'Hangar' now on
same site (Barnes
Family Collection)



Figure 5.37
Bike Shed built in
1952 (Barnes Family
Collection).



Figure 5.38
The Sheep Dip Shed.

5.5 NPWS Phase 1978–Present

Few buildings have been removed or added during the period of NPWS management in the Station complex. Figure 5.39 shows the complex in about 1978, around the time the NPWS acquired Mungo.

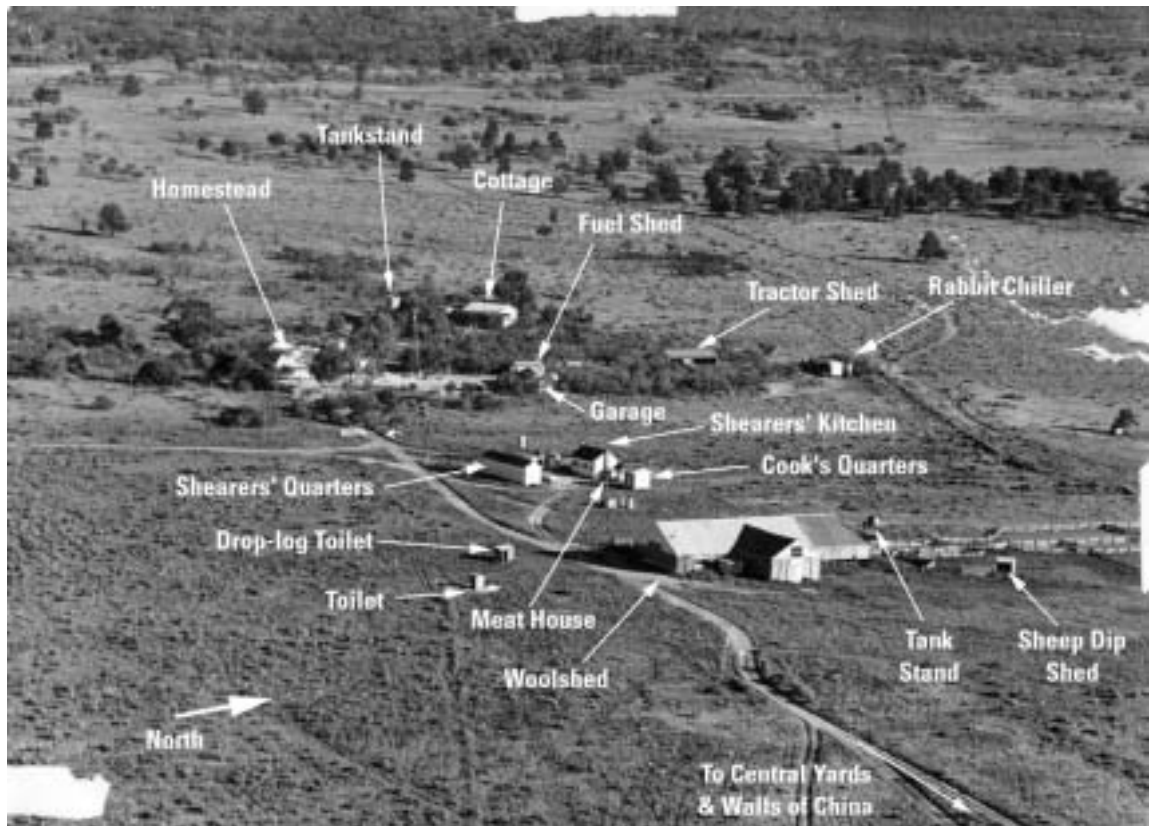


Figure 5.39 The complex in about 1978, just at the time the NPWS acquired Mungo.

5.5.1 The Visitors' Centre

This building was constructed in about 1983 and was extended at its eastern end some years later. While it provides a key function in the interpretation and management of Mungo National Park it does visually impact on the integrity of the historic complex (see Figure 5.40).

Visitors' Centre Archaeological Potential (Low)

The visitors' centre (within the building envelope) is not considered to have archaeological potential as the construction is likely to have destroyed any evidence of earlier structures and use if they existed, and the contemporary building is fully documented and described. The car park and immediate vicinity of the visitors' centre is considered to have some (Low) archaeological potential despite the presence of scattered Aboriginal artefacts and non-Aboriginal debris in a cleared area immediately west of the visitors' centre on the path/track leading to the workshop and staff quarter. The non-Aboriginal debris includes fragmented glass, belt buckles and nails.

5.5.2 The 'Hangar' and Machinery Shed

Constructed in c1982 by the NPWS as a hangar for a light aircraft it is currently used as maintenance shed (see Figure 5.41). It was constructed of water pipe from Mungo and recycled corrugated iron from the demolished Mallee Cliffs Homestead. The attached Machinery Shed (see Figure 5.42) was relocated from the southern end of Zanci Woolshed (see Figure 6.18) by the NPWS after 1986.

'Hangar' and Machinery Shed Archaeological Potential (Low)

5.5.3 The New Generator Shed

The concrete blockwork generator shed was constructed recently by NPWS as 240V power source prior to mains electricity being available (see Figure 5.43).

New Generator Shed Archaeological Potential (Low)

5.5.4 The NPWS Staff Quarters

The bedroom section of this building (see Figure 5.44) was previously part of the first Shearers quarters at Zanci, dating from about 1930. A verandah section has been added.

NPWS Staff Quarters Archaeological Potential (Low–Moderate)

The NPWS buildings are considered to have low archaeological potential. While it is important to recorded these structures and their use in order to accumulate a heritage of the park service, they are unlikely to have developed/accumulated significant archaeological deposits.

Figure 5.40
NPWS Visitors
Centre constructed in
1983/84 and later
extended at its
eastern end.



Figure 5.41
Former NPWS
Hangar c1982.



Figure 5.42
Machinery Shed
relocated from Zanci
Woolshed by NPWS.





Figure 5.43
NPWS new
Generator Shed.



Figure 5.44
NPWS Staff Quarters
that was the Vigar
family bedrooms at
Zanci constructed in
c1926.

5.6 Integrity and Condition

The majority of the buildings and structures that are in use are in a reasonable condition.

The Woolshed, given its size and timber construction will need constant attention and consequent budgetary forward planning. The southern end of the woolshed is showing signs of sinking on its footings and other works planned in recent times have yet to be implemented.²⁴

The Woolshed underground tank was stabilised with a treated pine inserted structure in the 1980s and this is now failing and may collapse further in the short term.

The integrity of the archaeological deposits associated with each of the structures or locations where structures are once thought to exist has not been tested. Such integrity will depend to a large extent on the amount of disturbance that such deposits may have been subjected to after the period of use that formed them. The potential of an area to contain archaeological deposits also depends in part on:

- the nature of the structures which once existed;
- the nature of the use to which the specific bit of land was subjected;
- the likelihood that features, structures and relics were constructed or worked their way below surface levels; and
- the likelihood that aggrading surfaces formed as well as the likelihood that successive land uses conserved or destroyed any such deposits.

5.7 Summary of Archaeological Potential

Listed in Table 5.1 are the elements within the Mungo Station Complex area and their historic archaeological potential.

Location name	PAD No.	Potential to contain deposits/relics	Potential significance of those remains
Unspecified pre Gol Gol	N/A	Low	High
Mungo Woolshed	PAD 6	High	High
North Turlee Cottage/Mungo Homestead	Within PAD4	High	High
Homestead Store/kitchen	Within PAD 4	High	High
Dump, Ruins, Chinaman's Grave	PAD 14	High	High
Original Shearers Quarters (near drop log toilet)	PAD 29	Low	High

Location name	PAD No.	Potential to contain deposits/relics	Potential significance of those remains
Wool Scour Hut ruin, 'Chinaman's hut' and Tank	PAD 7	High	Moderate/High
Drop Log Toilet	PAD 29	High	Low (although older ones may be higher).
Mungo Homestead/extensions	PAD 4	High	Moderate to High May contain relics/deposits relating to earlier homestead occupation.
Tennis Court area	Within PAD 4	Low	Moderate
Driveway and gardens outside current homestead fence	PAD 1,2 and 3	Moderate	Moderate (nb see Section 4 for potential re: Aboriginal deposits)
Shearers Quarters	PAD 8	Low	Moderate to High
Shearers Kitchen, Ablutions Block and Cook House	Pad 8	Low	Moderate to High
Stables, Chaff Shed and Horse Yard	PAD 15	Low	Low
Smithy	PAD 30	High	Low
Poison House	N/A	Low	Low
Cattle Yards	N/A	Low	Low
Mungo Cottage (second house) — subfloor	PAD 26	Moderate	Low
Mungo Homestead Laundry	Within PAD 4	Moderate	High
Generator Shed and Tank Stand	Within PAD 4	Moderate	Moderate
Garage	PAD 5	Moderate	Moderate
Fuel Shed	N/A	Low	Low
Tractor Shed	N/A	Low	Low
Motor Bike Shed	N/A	Low	Low
Woolshed Sheep Dip	Within PAD 6	Low	Moderate

Location name	PAD No.	Potential to contain deposits/relics	Potential significance of those remains
The Visitors Centre-subfloor	N/A	Nil	Nil
Visitors Centre Car Park and Surrounds	N/A	Low	Low-Moderate
The Hangar and Machinery Shed	N/A	Low	Low
The New Generator Shed	N/A	Low	Low
The NPWS Staff Quarters	N/A	Moderate	Low
Silcrete Quarry (Aboriginal and historic quarry)	PAD 31	High	Moderate/High

5.8 New Findings – Built Heritage

Key findings of this study that differ from previous work includes:

- Mungo Woolshed is more likely to have been constructed between 1877 and 1880 than 1869;
- the central part of the existing Mungo homestead was probably constructed by the Pattersons as an outstation manager’s cottage before 1885, and is certainly the residence shown in the Patterson collection photograph of c1885 and 1890;
- The dump to the rear of the homestead is likely to at least partly pre-date Mungo station based on the age of some of the material present.
- the so-called ‘Chinese’ Hut ruin was likely to have been used in association with woolscouring operations in the nearby scour tank (that in the Barnes’ period became the Mungo house tank) that included a trolley line between the tank and the woolshed. There is no physical evidence of the Chinese use of this building;
- the Woolshed, Shearers Quarters/cookhouse and the store behind the cottage (of drop-log construction and the woolscour hut that may have had pise (rammed earth) walls were of vernacular construction with only the cottage being a commercial weatherboard residence constructed by contractors (possibly pre-fabricated);
- each of the four buildings had an associated underground tank to collect roof rainwater;
- either the Shearers cookhouse/kitchen was also used for accommodation prior to the construction of the Shearers Quarters in 1934 or else there was an earlier quarters. The NPWS place cards refer to one on the southern side of the road south of the Woolshed near the relocated drop-log toilet. The Chinese Hut was too far from the cookhouse for it to have been used by shearers; and

-
- the drop-log store shown on the 1885 plan behind the cottage (on the site of the current homestead laundry) may have been an original residence prior to the construction of the cottage.

5.9 Historic Landscape Analysis

At Mungo, non-indigenous eucalypts have been planted in the homestead garden, which still features timber-edged garden beds, now mostly devoid of plantings. The garden at Mungo that existed in 1949 is shown in Figure 5.45.

The area in front of the Homestead once included a timber post and netted fence with a garden behind the fence (see Figure 5.10). Figure 5.12 shows the curved approach road to the Homestead.

The Barnes family has stated that a Chinese gardener may have been employed prior to Mungo Station to grow vegetables and that a vegetable garden was located near the underground tank at the rear of the woolshed.

5.10 Movable Heritage

NPWS has surveyed the items of industrial technology, machinery and plant located within the Mungo Station Complex. Some of these items have been identified on the NPWS Heritage Register. The items are described in the Mungo Station and Mungo Woolshed areas. They comprise: plant and equipment; farm machinery; furniture and architectural fabric.

All of the items generally fall within the definition of 'relics' in the *NSW Heritage Act 1977* and are therefore subject to the provisions of the Act. Items of significance, which should be retained, interpreted and assessed for conservation implications are as follows:

Mungo Station: *Plant and machinery:* Saw stand (see Figure 5.46), Ronaldson and Tippett generator (see Figure 5.47), truck chassis, quantity of farm machinery pieces scattered in the grounds around the homestead, mostly in pieces and in poor condition.

Mungo Woolshed: *Plant and machinery:* Ruston Proctor & Co steam driven engine; Ronaldson and Tippett stationary driven deisel engine; Lister & Co Super Duplex steam-driven shearing flywheels; Kangaroo brand wool weighing scales; Koerstz wool baling presses, with painted initials RJV/W/M (Roy Vigar); Dale & Millward bale scales; crane; plough (outside); grind stones (non-Aboriginal).

Furniture: Wool-skirting table.

Architectural fabric: Metal lampshade; drop logs, posts, floor boards, braced doors and hinge.

It is recommended that further study of these items be undertaken to assess their provenance and association with the activities at Mungo and Zanci Stations. Why these particular items remain and why they were kept must also be considered. Some, like the wool baling press which is marked with

Roy Vigar's initials was relocated from the Zanci Woolshed.²⁵ The refrigerator at Vigars Well is thought to have been taken out there to equip a droving camp (see Section 7.2.5).

In general, it would appear that the items of greatest significance are those located in the Mungo Woolshed, and that they have a direct relationship to the processes which were carried out inside that structure. Their retention in situ is recommended. However, temperature conditions inside the Woolshed may create conservation problems for the long-term safety of the items. Further, the wooden woolshed structure is fire-prone, and the building is open to the elements (dust, heat, wind, rain).

In addition to the movable items located in farm-related sites and buildings, a selection of Aboriginal artefacts and a quantity of farm and domestic items are on display in the Visitor Centre as part of the interpretive display. The collection of Aboriginal artefacts comprises the Barnes family collection, items relocated from the Zanci Homestead gardens, the Angus Waugh Collection (of Clare Station) and other items collected by individuals, including Peter Clark and Harvey Johnston. The total number of artefacts is in the vicinity of 555 items, however there is currently only an inventory of the Angus Waugh Collection.

At present their value is evocative and they add a three-dimensional level to the interpretation of home life on the stations. If they provide evidence of association to people or the place and can be provenanced to the site, then they add significant value to the documentation of Mungo's history.



Figure 5.45
Mungo Homestead
garden in 1949.



Figure 5.46
Saw bench located at
rear of the
homestead.



Figure 5.47
Ronaldson and Tippet
generator in the
Mungo Homestead
generator shed.

5.11 Endnotes

- ¹ Donovan and Associates 1985, *Willandra Lakes World Heritage Region European Cultural History Study*, p 77.
- ² NPWS Historic Place Card 049-1-1 1985.
- ³ *ibid.*
- ⁴ *ibid.*
- ⁵ Patterson Papers University of Melbourne Archives, transcript of letter dated c1880.
- ⁶ NPWS Historic Place Card 049-1, c1986.
- ⁷ Clark, P 1980, p 31
- ⁸ Gol Gol Past Holding WLC Archive Office No. 10/43877 File No. PL148, No. 269 Report No. 12/2.
- ⁹ Barnes family members in conversation with G Ashley, January 2002.
- ¹⁰ Albert Barnes pers com to Peter Clark.
- ¹¹ Albert Barnes pers com to Peter Clark.
- ¹² Peter Clark pers com to Geoff Ashley, 2002.
- ¹³ Albert Barnes pers com to Peter Clark.
- ¹⁴ Don Stirrat pers comm to Peter Clark and Barnes family members photo notes to Appendix D No. 64, February 2002.
- ¹⁵ Barnes family members map and photo notes, February 2002.
- ¹⁶ Don Stirrat pers comm to Peter Clark
- ¹⁷ Don Vigar apparently drove a dozer through the site while tank dredging.
- ¹⁸ Barnes, Val 2002, pers comm.
- ¹⁹ Clark pers comm December 2001
- ²⁰ Roy Stirrat 2002, pers comm.
- ²¹ Referred to in Clark, P 1980, Unpub report to NPWS 'Mungo NP – Archaeological Report 1 Jan–30 June 1980'. NPWS ASR report catalogue #C205.
- ²² Jo Gorman emailed comments dated May 2002.
- ²³ Johnston, H 2002, pers comm.
- ²⁴ Giovanelli, P in association with Freeman Leeson for NPWS, Mungo Woolshed Scope Works, April 2000.
- ²⁵ Roy Stirrat 2002, pers comm.

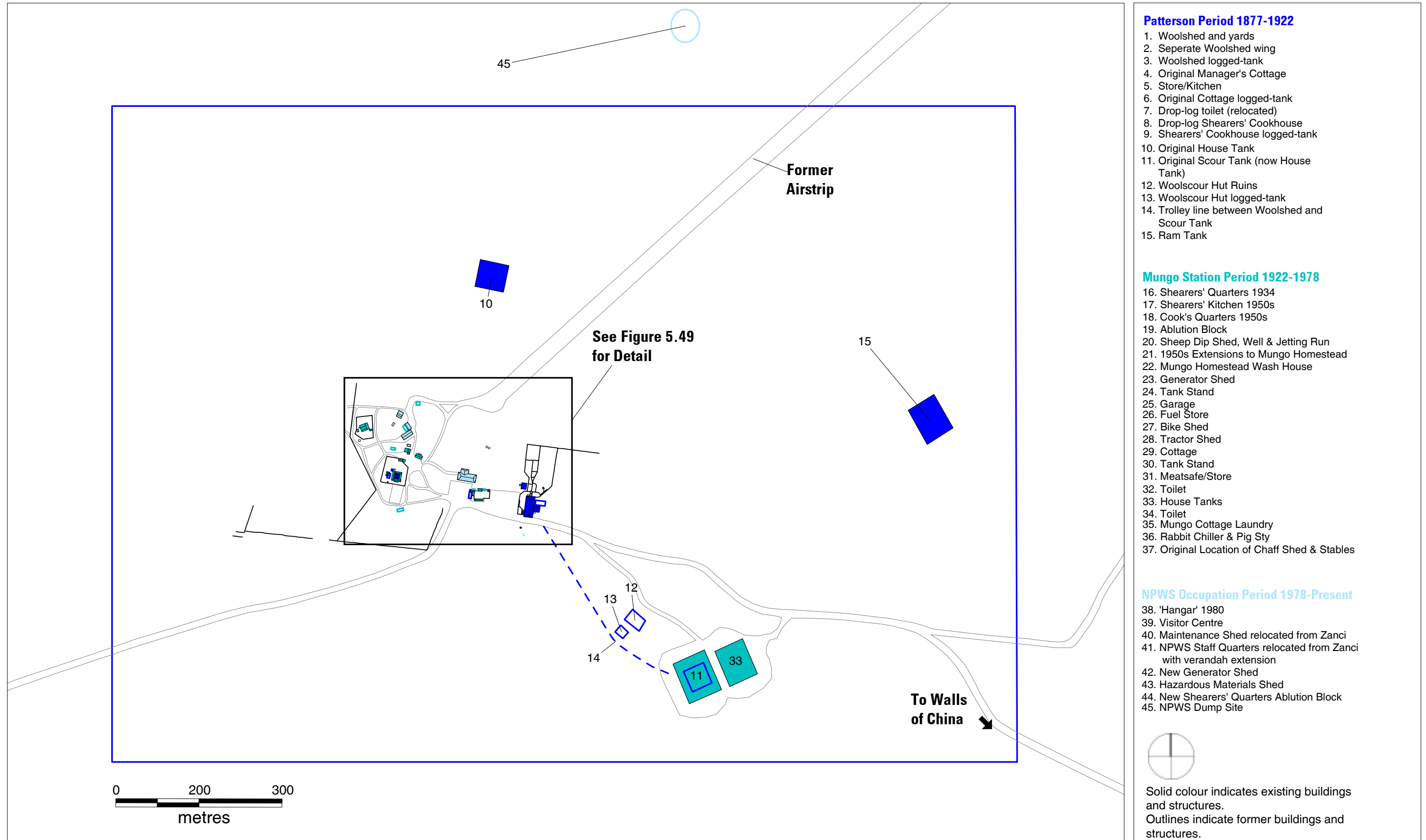


Figure 5.48 Development of Mungo Station Complex Buildings and Structures

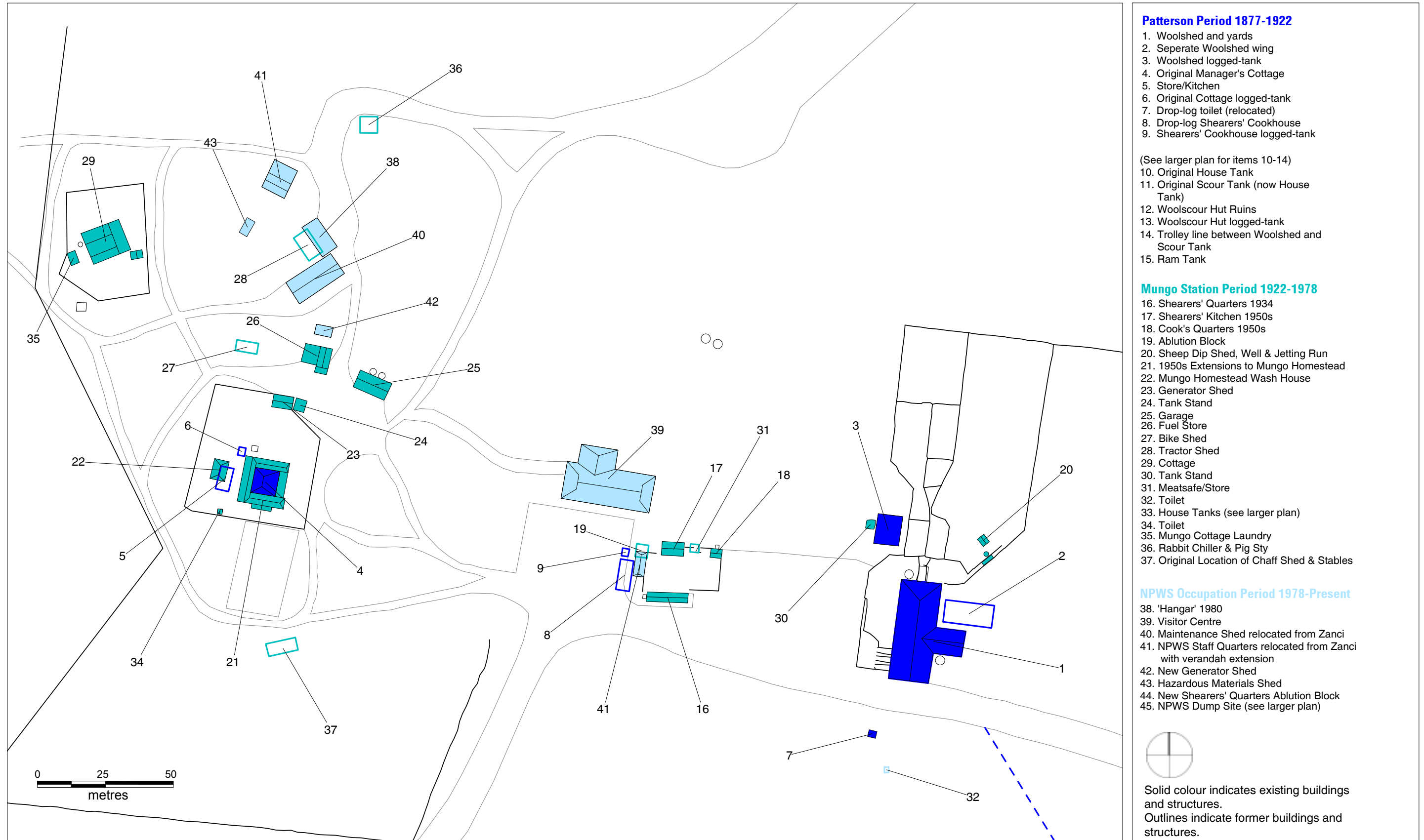


Figure 5.49 Development of Mungo Station Complex Buildings and Structures. Detail of the Mungo Homestead and Woolshed Areas.

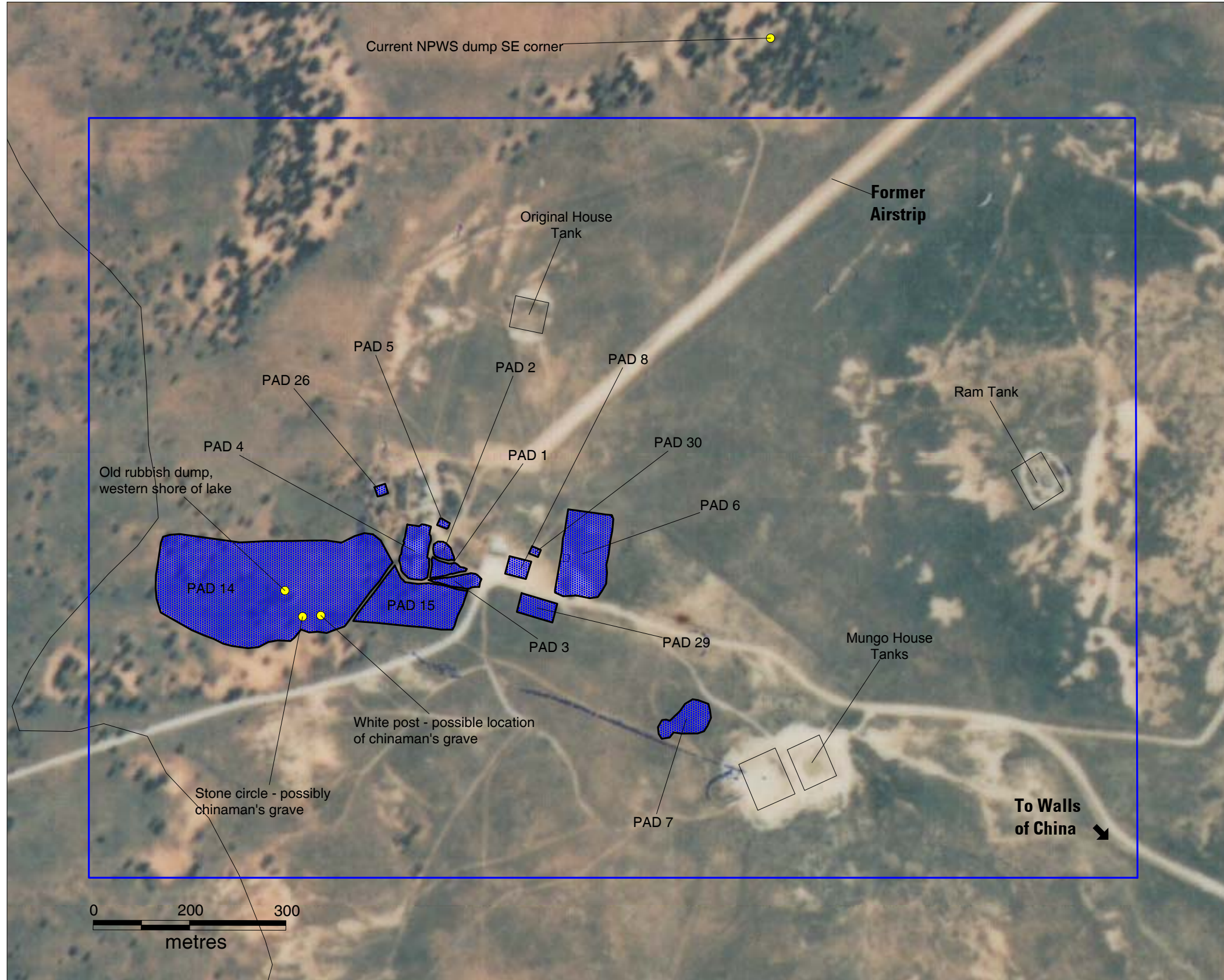


Figure 5.50 Mungo Station Complex Potential Historic Archaeological Deposits.

6.0 Historic Heritage – Zanci Station Complex

6.1 Introduction

Three key historic phases in the history of Zanci Station are outlined in Section 2.0:

- 1864–1922 when what became Zanci Station was part of the North Turlee and later Gol Gol Stations;
- 1922–1984 when Zanci Station was subdivided from the Gol Gol run as a soldier settlement property, owned until 1979 by the Vigar family and from 1979 until purchase by the NPWS by Russell and Rita Clothier; and
- 1984–Present when Zanci Station was added to Mungo National Park dedicated in 1979 following the acquisition of Mungo Station in 1978.

An analysis of the buildings and structures that originate in each of these phases is discussed below in Sections 6.2 to 6.4. Key documentary sources are shown in italics. State Heritage Inventory cards for each element are located in Volume 2 and include history/description and significance. Figures 6.33 and 6.34 are plans that show existing and former structures within the Zanci Station complex area.

6.2 North Turlee and Gol Gol Phases 1864–1922

Within the area of the Zanci Station complex no buildings were constructed in this nineteenth century pastoral phase. However, a ground tank shown as Tim's Tank in Figure 2.9 did exist at the time Zanci was created. This tank later became the existing Zanci House Tank and supplied water to the complex area.

6.3 Zanci Station Phase 1922–1984

Key documentary evidence are the annotated Barnes and Stirrat family photographic collections and NPWS photographs and site cards taken for Western Region Historic Places Survey in 1986. The 1986 survey provides, evidence for the many buildings removed since that time (see both collections in Appendix D).

Within this Zanci Station phase there are four building development phases/areas of development that overlap to some degree in time and geographic area but can be seen nevertheless to represent historic phases of development. The first three of these phases relate to the Vigar family ownership and the last short period to the Clothier family period of ownership. These phases can be summarised as follows:

-
- initial establishment of the first homestead and woolshed at the western side of the complex in the period prior to 1930 and including Roy Vigar's quarters and the dining room in what later became the 2nd and 3rd Homestead area further to the east;
 - creation of a new homestead area in the centre of the complex around the 2nd and 3rd Homesteads and associated outbuildings;
 - the post Second World War construction of a new Woolshed to the east side of the complex together with a nearby new shearers' accommodation complex; and
 - minor changes made by the Clothier family during the last five years of Zanci Station.

6.4 Zanci Station Initial Establishment 1923–c1930

6.4.1 First Homestead

After being taken up by Joseph Vigar and his son Roy in 1922 the first accommodation provided for Ida Stirrat (Roy Vigar's sister) when she went there was a canvas tent and meat safe (see Figure 2.22). The first gable roofed homestead was built in 1925 near the tent site from corrugated iron with a flattened kerosene tin annexe and separate drop-log kitchen (see Figure 6.1). An underground tank was located to the north of these sites. Apparently Roy Vigar lived by himself in a tent a little further to the west.¹ From 1928 Roy Vigar established his living quarters and a dining room/kitchen further to the east (see below). While initially the First Homestead was used mainly as a dining room with Ida and her daughters living in tents, after Roy built the new dining room the First Homestead was used more as the women's sleeping quarters. Once the family moved over to the Second Homestead (an expanded form of Roy Vigar's dining room), the First Homestead was used occasionally by itinerant workers.

The First Homestead and First Woolshed were both removed prior to NPWS acquisition and are now archaeological sites.

6.4.2 First Woolshed

The drop-log and cane-grass roofed two stand woolshed (see Figure 6.2) was located just north of the first homestead site and near an existing line of introduced pepper trees. Near the woolshed were the first sheep yards (see Figure 2.25) and further to the north, but on the same side of the tack to the House (ground) Tank, were the circular cattle/horse yards (see Figure 6.3).

This shed was operated mainly by the family and only later, and occasionally, did contract shearers assist. During this time they were accommodated and ate with the family.

6.4.3 Roy Vigar's Quarters and Dining Room/Kitchen

In about 1926 Roy Vigar constructed a dining room and kitchen room to the east of the first homestead area.² This kitchen/dining building was later enlarged as the second homestead (see below).³ The three roomed corrugated iron gable roofed building that was located to the south of this dining room (see Figure 6.4) was accommodation for Roy and his brother Harold.

6.4.4 First Bathroom, Tank and Toilet

This was a corrugated iron two room building (with its western space being open-sided) located south of the dining room and west of Roy's quarters (see Figure 6.5). When the kitchen/dining room was enlarged to form the second Zanci Homestead it was used as a bathroom for that homestead. This building was demolished by the NPWS in 1986. The tank stand and toilet remain on site (see Figure 6.6).

6.4.5 Zanci Station Initial Establishment Archaeological Potential

There is little surface evidence of structures relating to the earliest phases of Zanci Station. As can be seen in Figures 6.1 to 6.3 many of the structures were erected for expediency and replaced with more substantial buildings as time and resources allowed. It is likely that as buildings were replaced salvageable building materials were re-used. Certainly the areas occupied by these buildings remained in constant use and it may be expected that as the Vigers re-worked their physical landscape that any traces of these buildings were removed or masked by later activities. Nevertheless, it is possible that in the area covered by PAD 18 (see Figure 6.35) subsurface evidence of this early station period remain interspersed with evidence of later phases.

Figure 6.1

The first Zanci Homestead. Built c1925 of flattened kerosene tins and corrugated iron with small drop-log kitchen to the right. This was replaced with a second Homestead. (Appendix D, Image No. 5)



Figure 6.2

The first Woolshed at Zanci, in the early 1930s. Notice the open sides with some drop-log construction at the end. Also note the dirt floor and thatched roof. It was replaced in the early 1950s by a new Woolshed that re-used parts of the Mungo shed. (Appendix D, Image No. 260)



Figure 6.3

First Zanci Cattle Yards. Photo date 1928 (Roy Stirrat collection).





Figure 6.4
Roy Vigar's sleeping quarters, 1926, located behind second and third Zanci Homesteads. Relocated to Mungo to form NPWS staff quarters after 1986 (NPWS 1986).



Figure 6.5
First bathroom built by Roy Vigar for the adjacent quarters and later as the second homestead bathroom (NPWS 1986).



Figure 6.6
Tank stand and toilet 2002. (Tank is seen at rear of Figure 6.5.)

6.5 Zanci Station Homestead Area Developments c1930–c1970s

6.5.1 Second Homestead

As noted above, in about 1930 the original kitchen/dining room was enlarged to form the second homestead (see Figures 6.7, and 2.27). Originally the building consisted of two central rooms and a separate hot water heater room to the south.⁴ Two bedrooms were added to each side of the southern end and two to the north-western end together with a large fly-screened verandah to the eastern and northern sides.⁵ This corrugated iron and fibro sheeted hipped roofed building (with 'gables' marking the original building size) was demolished by the NPWS in 1986, although its brick chimney remains (see Figure 6.8).

6.5.2 Third Homestead

This large hipped roofed building was probably constructed after the World War II immediately adjacent to the east of the second homestead (see Figure 6.15). It was moved by Russell Clothier to Gol Gol just prior to the sale of Zanci to NPWS and is used on the new Gol Gol Homestead (the original drop-log homestead still exists).

6.5.3 Cellar

The dugout cellar was built by Roy, Elvin and Harold Vigar in about 1936 and was used as a store and shelter in times of summer heat. It had timber slab walls. Conservation work has been undertaken recently by the NPWS (see Figure 6.9).

6.5.4 Engine House

The engine provided the lighting for the homestead. It was constructed by Roy Vigar (see Figure 6.10). It was demolished in 1986 and a concrete slab marks its site.

6.5.5 Pergola and Meat House

Located at the western side the homestead enclosure these structures remain on site (see Figure 6.9). The pergola was associated with the western entry into the fenced homestead area.

6.5.6 Equipment Shed

Located to the south of the homestead area this corrugated iron building with steel tubing framing had two sections: a gable roofed northern section and a skillion roofed southern section⁶ (see Figure 6.11). It was removed in 1986.

6.5.7 Vehicle Shed

This gable roofed open fronted tubular steel framed corrugated iron clad shed is still on site (see Figure 6.12). Apparently it was constructed in about 1965.⁷

6.5.8 Storage Sheds

Two storage sheds were located on the west side of the homestead area (see Figure 6.13). Only one of these remained in 1986 (see Figure 6.15).

6.5.9 Underground Concrete Tank

This concrete-lined tank with timber-framed roof was constructed in 1950. It remains intact but with a damaged cover (see Figure 6.14).

6.5.10 Homestead Area Developments c1930–c1970s Archaeological Potential

These structures comprising the 1930-1970 homestead developments are all located within the area which is currently fenced by NPWS and signposted as 'Zanci Homestead'. This area is considered to have high archaeological potential (see figure 6.35 PAD 19). This is despite the obvious NPWS clean up of the site that must have included dozing or grading sections of the site. As well as the structures that remain which include the meat house, the cellar/dug out, the modern track shed, the outside toilet and the underground tank, the foundations of other buildings such as the main house are clear.

There is little evidence of the substantial gardens which were once at Zanci. Apparently these gardens once contained a large collection of Aboriginal stone artefacts such as large seed grinding dishes, pounders and anvils as a decorative features. These artefacts were given to the NPWS before the then owner, Mr Clothier, moved the newer portion of Zanci Homestead to Gol Gol station. The use of Aboriginal stone artefacts in such a way by landowners in the past was common practice and indicative of the treatment of Aboriginal artefacts as curiosities.

Similar garden features were evident at Leaghur during the site visit, although many of the stones (including many that were not Aboriginal but were obviously exotic stones perhaps from trips or holidays) had been moved by Service staff and stacked along a fence. This has ensured that not only has the Aboriginal context of these items been lost but the potential for them to tell the story of how many non-indigenous Australians see such items as part of the land which belongs to them and as material curiosities.

Figure 6.7
Second Zanci
Homestead, view from
the southeast shortly
before its demolition in
1986. See Appendix
D, Image 118, for view
from the northwest
(NPWS 1986).



Figure 6.8
Remaining chimney
from the second
Zanci Homestead
2002.





Figure 6.9
Zanci Dugout cellar.
The existing pergola
and meat house
frame are on the right
of this image.



Figure 6.10
Engine House,
demolished in 1986
(NPWS 1986).



Figure 6.11
Equipment Shed now
demolished
(NPWS 1986).

Figure 6.12
Vehicle shed, extant
(NPWS 1986).



Figure 6.13
Storage Sheds now
demolished with
concrete slabs visible
at ground level (see
also Figure 6.13)
(Barnes family
collection).



Figure 6.14
Underground concrete
tank.



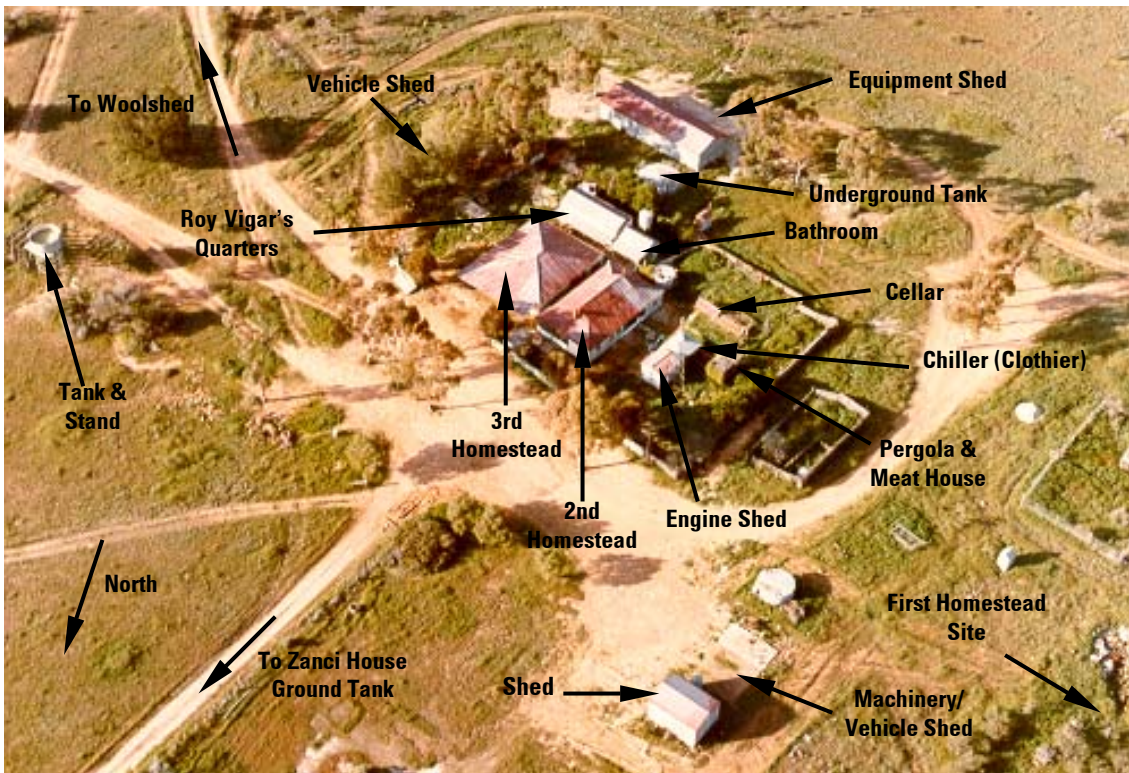


Figure 6.15 Oblique aerial photograph that shows the features around the homestead area of Zanci primarily from the period 1930–1960 (NPWS c1980).

6.6 Post War Second Woolshed Development

6.6.1 Second Woolshed

The second Woolshed was constructed by Roy Vigar, Don Stirrat and Jack Hope in c1947 (see Figures 6.16 and 6.17). They cut the posts themselves but reused part of the separate Mungo Woolshed wing including Oregon beams that supported the overhead gear and slotted floor gratings. It was apparently added to some time afterwards and later still a free standing corrugated iron shed section was added to its southern end (see Figure 6.18). A sheep dip shed was located in the eastern side of the associated yards (see Figure 6.19). From a physical inspection it is apparent that the construction of Zanci Woolshed used whatever materials were easy to hand with the flooring structure not continuous to the roof apart from external walls. The NPWS photos from 1986 show a number of movable heritage features that are no longer in place, including the overhead shearing gear (possibly moved to Mungo Woolshed), the Ronaldson and Tippett engine and a wool-classing table. Since the mid 1980s the Service has undertaken conservation works to the Woolshed. There was extensive storm damage to the Woolshed in 2000, and repairs were undertaken in 2001 to the building and adjacent yards.

Second Woolshed Archaeological Potential (High)

While parts of the woolshed have obviously been rebuilt, the shed and yards are generally in good condition. The area, particularly under floor deposits and around the entrance of the woolshed have archaeological potential (see Figure 6.35 PAD 17).

6.6.2 Stables

The drop-log Stables are a thatched roofed timber pole structure with associated yards and loading ramp that were constructed by Roy Vigar, Jack Hope and Don Stirrat in about 1950 (see Figures 6.20 and 6.21). Roger Stirrat states that 'Roy did not have to build them like that, but he liked that sort of thing and did things that way'.⁸ The Stables were used as bails (milking cows) and sheep killing yards (a beam inside the Stables may have been used for this purpose).

Stables Archaeological Potential (Low)

The area around the stables is considered to have low archaeological potential due to the nature of use of the area as a stock holding-yard. It is unlikely that subsurface historic deposits have accumulated in this area. Although post holes from other structures may occur (see below) and it is possible that small items of movable heritage relating to the operation of the stables may occur. The area concerned is indicated as PAD 20 on Figure 6.35.

6.6.3 Goat and/or Pig Pens

Not far from the stables are the timber post remains of two small pens possibly pig or goat pens. Apparently these structures post-date 1965.⁹

Goat and/or Pig Pens Archaeological Potential (Low)

Due to the nature of the use of the area around this structure as a stock holding yard, it is considered to have low potential for historic deposits although it is possible that the remains of other similar pens may occur in the vicinity. Largely because of the possibility of more pens occurring these have been included with the stables themselves as an area of low potential (see Figure 6.35 PAD 20).

6.6.4 Shearers Quarters Complex

Constructed in association with the new location for the Woolshed, the Shearers Quarters complex were built from the early 1950s. The Shearers Quarters (see Figure 6.22) were constructed of asbestos cement (fibro) sheet and had an associated bathroom (see Figure 6.23), kitchen/dining block (see Figure 6.24) and two meat houses (see Figures 6.25 and 6.26). The Kitchen was made up of three sections; kitchen cook's room and a verandah. Russell Clothier moved from Mungo a small toilet near the bathroom in the sites last years. Apart from one meat house there are no above ground remains of these buildings.

Shearers Quarters Complex Archaeological Potential (None)

This area is considered to have no archaeological potential. It has been bulldozed by the NPWS and retains little archaeological potential or site integrity, although the footprints of the buildings are still evident and there is at least one rubbish dump at this site. The visible rubbish is largely rusted tins and modern beer bottles. This area is considered to have moderate to high archaeological potential to contain sunsurface deposit in addition to the visible extent of the foundations but it is likely that the significance of such finds would be low given the level of disturbance at this site (see Figure 6.35 PAD 28).

6.6.5 Tank Stands, Yards and Other Elements

Figure 6.27 shows an early timber post stand and a more recent steel tank. Figures 6.15 and 6.28 show a large number of fence lines and enclosures that were used as animal enclosures or vegetable garden areas. Further information from the Barnes and Stirrat families may assist a better understanding of the use of these features. Figure 6.28 shows the extent of the postwar woolshed area development in about 1980.

Tank Stands, Yards and Other Elements Archaeological Potential

The remains of these various structures are evident outside the current Zanci Homestead fence. These include concrete slab bases of machinery sheds, dog kennels and animal pens, bottle and rubbish dumps, and various bits of machinery. It is likely that additional information including drains, additional dumps, foundations and tracks occur in this area and therefore the area is considered to have moderate archaeological potential (see Figure 6.35 PAD 18 and also PAD 31).

Figure 6.16
Zanci Woolshed
exterior.



Figure 6.17
Zanci Woolshed
interior.



Figure 6.18
Shed addition to the
Woolshed now
relocated to Mungo
complex as NPWS
maintenance shed
(see Figure 5.42)
(NPWS 1986).





Figure 6.19
Sheep Dip Shed in
Zanci Woolshed
yards in 1986 since
removed (NPWS
1986).



Figure 6.20
Thatch-roofed stables
and yards.



Figure 6.21
Interior of the stables.

Figure 6.22
Second Shearers
Quarters demolished
in 1986 (NPWS 1986).



Figure 6.23
Shearers Quarters
Bathroom demolished
in 1986. Small toilet
relocated from Mungo
Station by Russell
Clothier to the left
(NPWS 1986).



Figure 6.24
Shearers
Kitchen/Dining Block
and Cook's Room
(NPWS 1986).





Figure 6.25
Shearers Meat House
(NPWS 1986).



Figure 6.26
Shearers Meat House
(NPWS 1986).



Figure 6.27
Tank Stands near
Zanci Homestead
area.



Figure 6.28 Second Woolshed and the Shearers Quarters complex at Zanci Station in c1980. Only the Woolshed and yards remain (NPWS 1986).

6.7 Clothier Ownership 1979–1984

6.7.1 Meat House/Chiller

This fibro building with an overhanging roof was located adjacent to the Engine House and was built by Russell Clothier after 1979 (see Figure 6.29).

6.7.2 Toilet at Second Shearers Quarters

Apparently this toilet was relocated from Mungo by Clothier. It has since been removed (see Figure 6.30). This toilet is shown between the Shearers Quarters and the Woolshed in Figure 5.39.



Figure 6.29
Chiller room built near the Second Zanci Homestead by Russell Clothier in the late 1970s (NPWS 1986)



Figure 6.30
Toilet at Second Shearers Quarters complex relocated from Mungo by Russell Clothier in the early 1980s, now removed (NPWS 1986)

6.8 NPWS Management 1984–Present

Zanci was purchased by the NPWS as an addition to Mungo National Park in 1983. A NPWS memo from District staff notes that the property included the ‘following features of historic significance’ and listed most of the features shown in Figures 6.15 and 6.28 as existing except the Third Homestead.¹⁰ It is understood that at the time of acquisition a number of buildings were sold or relocated: the third homestead was moved to Gol Gol Station and the accommodation hut located behind the homesteads moved to Mungo and used as Service accommodation.

Shortly after this the Second Zanci Homestead and the Shearers Quarters were demolished by the NPWS as were most of the outbuildings, leaving only the cellar/dugout, tank, meat house, pergola, vehicle shed, homestead toilet and tank stand and the house chimney standing at the homestead complex. At the Woolshed complex only the Woolshed and yards remain. The Stables also still stand some distance from the house. According to current NPWS staff some buildings were in poor condition and some were demolished because they contained asbestos (as an element in fibro cement).

While there were no doubt factors regarding condition and available Service resources in relation to the removal of buildings at Zanci, these decisions were made within an operating culture in the Service at the time that did not always support historic heritage conservation, especially vernacular pastoral places. This ‘culture’ has now changed, exemplified by the Service’s active conservation of the Stables, Woolshed and Cellar in recent years.

The site currently has an NPWS interpretation sign at the homestead site but it is difficult for visitors to understand the extent of the site and its buildings.

6.9 Zanci Potential Archaeological Deposits (PADs) – Historic

Table 6.1 Zanci Homestead PADs and likely significance of deposits. In this table the PADs rating relates to the level of potential for archaeological deposits to occur while Significance relates to the likely significance of finds /deposits if they do occur.

Location	PAD No.	PAD	Likely Significance
1930–1970 homestead area (within fence)	19	High	Moderate to High
Tanks stands, equipment sheds and animal pens (outside fenced area)	18	Moderate	Moderate
Stables and Pig pens	20	Moderate	Low
Second Woolshed (current)	17	High	High
Shearers Quarters (demolished)	28	High	Low
Unknown structure and fence	31	Low	Low

6.10 Historic Landscape Analysis

The occupants of Mungo and Zanci Stations did plant exotic trees around their homesteads and sheep yards for shade and ornamental value. At Zanci, the road outside the former homestead is lined with sugar gums and pepper trees that provide shade near the barn, woolshed and along some fencelines. A pergola of Murray pine logs, covered with chicken wire was located adjacent to the western entry gate to the homestead at Zanci. Constructed in about 1930, it was demolished after 1979. Photographic evidence from the 1960s shows a well-developed flower garden at Zanci. Documentary evidence also indicates that fruit trees and vegetables were grown at Zanci and Mungo Stations. A stunted mulberry tree survives next to the footings of the demolished homestead at Zanci.



Figure 6.31
Zanci Gardens,
photograph taken
March 1964. (NPWS
Slides – supplied by
Buronga Office)



Figure 6.32
Timber 'wickerwork'
and rockery in the
garden of the first
Zanci homestead.
(Barnes family
collection)

6.11 Movable Heritage

NPWS has surveyed the items of industrial technology, machinery and plant located within Mungo National Park. Some of these items have been identified on the NPWS Heritage Register. They comprise non-Aboriginal archaeological items relating to the pastoral occupation of Zanci Station, plant and equipment, farm machinery, furniture and architectural fabric.

All of the items generally fall within the definition of 'relics' in the *NSW Heritage Act 1977* and are therefore subject to the provisions of the Act. Items of significance which should be retained, interpreted and assessed for conservation implications are as follows :

Zanci Station (home paddock): A large scatter of rusted machinery items including two steel waggon axles, twisted steel, star pickets, windmill gearbox and blades; large quantity of hardware (nuts, bolts, wire); car running board; food tins.

Zanci Woolshed: *Furniture:* Two iron frame beds, two kerosene refrigerators *Architectural fabric:* Slatted shed gates, metal louvres; cypress logs; corrugated iron.

It is recommended that further study of these items be undertaken to assess their provenance and association with the activities at Zanci Station. Why these particular items remain and why they were kept must also be considered. Some, like the wool baling press at Mungo which is marked with Roy Vigar's initials was relocated from the Zanci Woolshed. The overhead gear in the Mungo Woolshed may have come from Zanci Woolshed. Certainly more equipment was in Zanci Woolshed at the time of purchase by NPWS.

The large scatter of farm-related items around Zanci Station are an indicator of the former activities of the place. Their identification and provenance can help explain their significance to the site, and whether they should be kept. Until then, the items will continue to deteriorate and valuable interpretive opportunities may be lost.

In addition to the movable items located in farm-related sites and buildings, a selection of Aboriginal artefacts and a quantity of farm and domestic items are on display in the Visitor Centre as part of the interpretive display. The collection of Aboriginal artefacts comprises the Barnes family collection, items relocated from the Zanci Homestead gardens, the Angus Waugh Collection (of Clare Station) and other items collected by individuals, including Peter Clark and Harvey Johnston. The total number of Waugh artefacts alone is in the vicinity of 555 items.

At present their value is evocative and they add a three-dimensional level to the interpretation of home life on the stations. If they provide evidence of association to people or the place and can be provenanced to the site, then they add significant value to the documentation of Zanci's history.

6.12 Endnotes

- ¹ Air photos marked up by the Barnes/Stirrat family, February 2002.
- ² Oral evidence from Barnes/Stirrat families, January 2002.
- ³ *ibid* and also NPWS historic place card, 1986.
- ⁴ NPWS Historic Place Card, 1986.
- ⁵ *ibid*.
- ⁶ NPWS Historic Place Card, 1986.
- ⁷ NPWS Historic Place Card, 1986.
- ⁸ Stirrat, Roger, pers comm, January 2002.
- ⁹ Barnes, Colleen 2002, pers comm.
- ¹⁰ NPWS File Dornbusch, 10 October 1986.

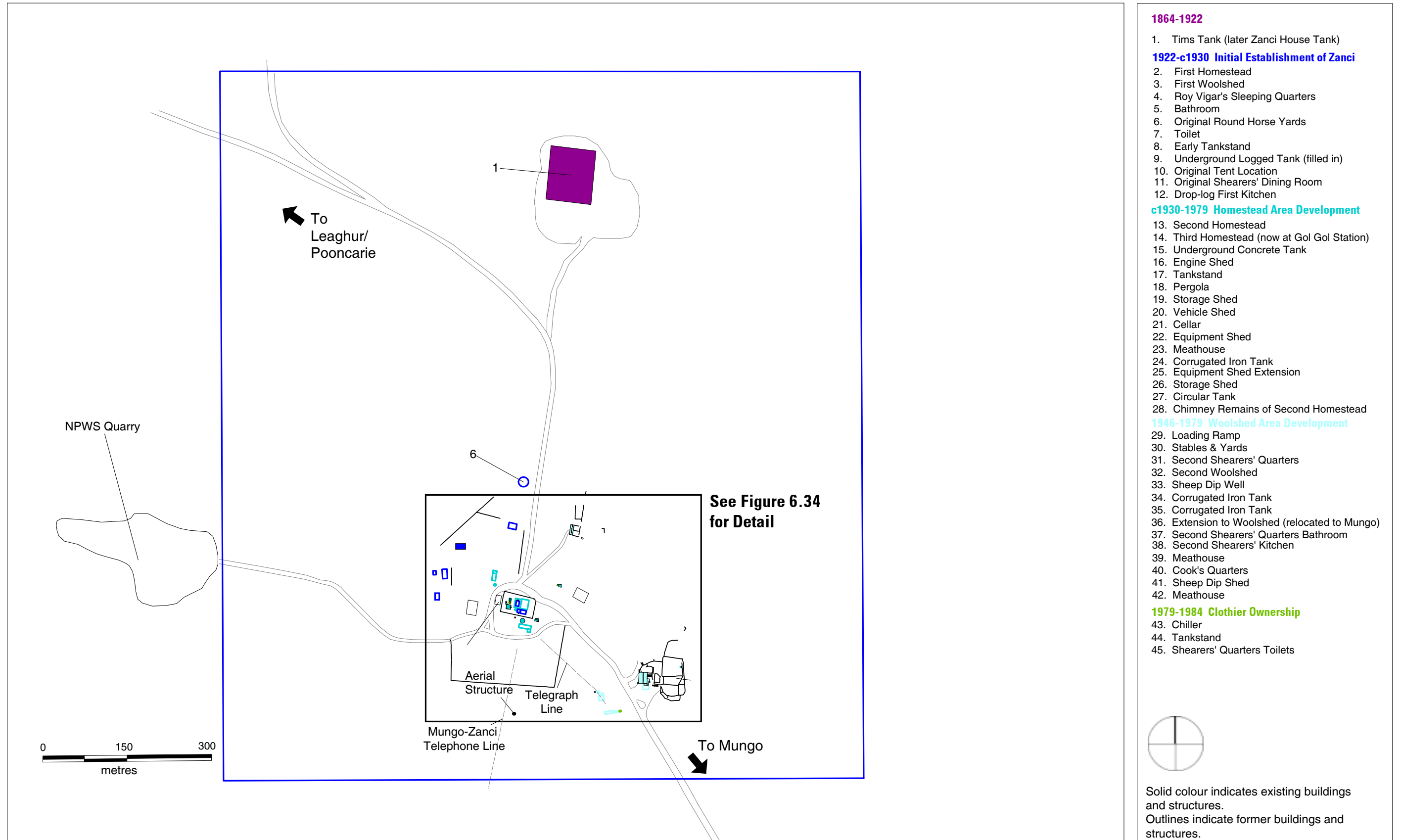
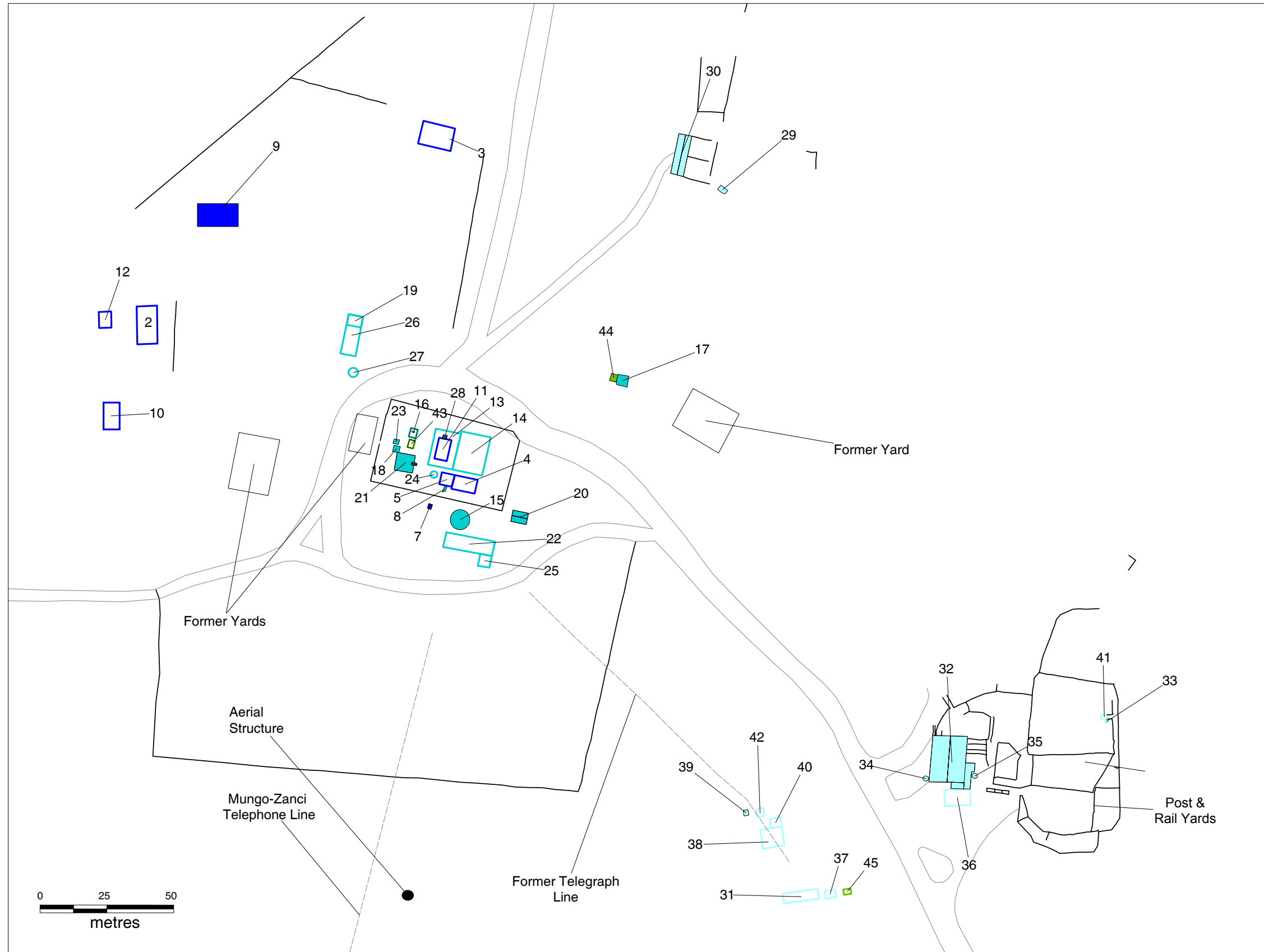


Figure 6.33 Development of Zanci Station Complex Buildings and Structures.



1864-1922

1. Tims Tank (later Zanci House Tank)

1922-c1930 Initial Establishment of Zanci

- 2. First Homestead
- 3. First Woolshed
- 4. Roy Vigar's Sleeping' Quarters
- 5. Bathroom
- 6. Original Round Horse Yards
- 7. Toilet
- 8. Early Tankstand
- 9. Underground Logged Tank (filled in)
- 10. Original Tent Location
- 11. Original Shearers' Dining Room
- 12. Drop-log First Kitchen

c1930-1979 Homestead Area Development

- 13. Second Homestead
- 14. Third Homestead (now at Gol Gol Station)
- 15. Underground Concrete Tank
- 16. Engine Shed
- 17. Tankstand
- 18. Pergola
- 19. Storage Shed
- 20. Vehicle Shed
- 21. Cellar
- 22. Equipment Shed
- 23. Meathouse
- 24. Corrugated Iron Tank
- 25. Equipment Shed Extension
- 26. Storage Shed
- 27. Circular Tank
- 28. Chimney Remains of Second Homestead

1946-1979 Woolshed Area Development

- 29. Loading Ramp
- 30. Stables & Yards
- 31. Second Shearers' Quarters
- 32. Second Woolshed
- 33. Sheep Dip Well
- 34. Corrugated Iron Tank
- 35. Corrugated Iron Tank
- 36. Extension to Woolshed (relocated to Mungo)
- 37. Second Shearers' Quarters Bathroom
- 38. Second Shearers' Kitchen
- 39. Meathouse
- 40. Cook's Quarters
- 41. Sheep Dip Shed
- 42. Meathouse

1979-1984 Clothier Ownership

- 43. Chiller
- 44. Tankstand
- 45. Shearers' Quarters Toilets



Solid colour indicates existing buildings and structures.
 Outlines indicate former buildings and structures.

Figure 6.34 Development of Zanci Station Complex Buildings and Structures. Detail view showing the Homestead and Woolshed Areas.

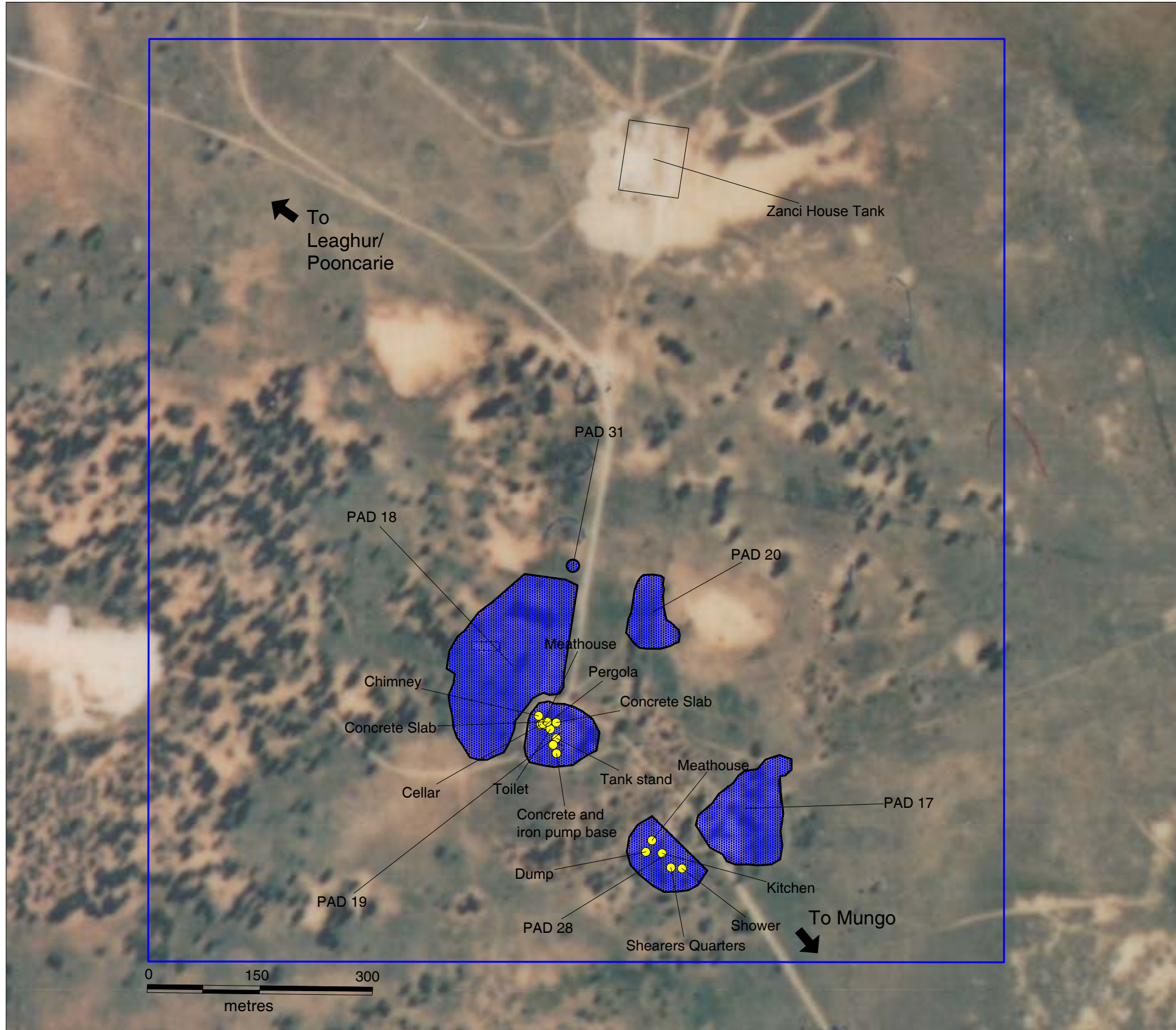


Figure 6.35 Zanci Station Complex Potential Historic Archaeological Deposits.

7.0 Historic Heritage – Mungo National Park Generally

7.1 Introduction

As noted in Section 3.0 historic resources are distributed throughout Mungo National Park outside the pastoral station complexes relating to two land uses; pastoral use from the early 1860s and a national park use from the late 1970s.

Evidence of the **pastoral use** across the park outside the station complexes is found for the following activities:

- accommodation: huts and camp sites associated with stock management;
- water conservation: drains (see Figure 3.9), ground tanks (see Figure 3.10), underground logged tanks, corrugated iron tanks and pipelines connected to ground tanks, troughs, and shafts;
- stock management: paddocks, fences and yards;
- rabbit control: netted fences; and
- transport and communications: tracks and wheel ruts, telephone and telegraph lines.

Evidence of the **national park use** across the park is found for the following activities:

- management facilities: service tracks, fire breaks, communication aerials, research sites;
- pest control: goat traps; and
- visitor facilities: carparks, boardwalks (see Figure 3.11), interpretative signs, camping areas.

Figure 7.9 shows the existing and former historic features within Mungo National Park generally.

7.2 Historic Archaeological Resources

7.2.1 Hut Sites

There are no intact buildings associated with the pastoral use of the study area outside the station complexes. Allen's Plain Hut, now a ruin, was constructed by Albert Barnes and Alf Follet using material recycled from the Mungo Chaff Shed (see Section 5.4).¹ It was used when sinking tanks and mustering sheep. An interesting feature of this hut is the use of wire stitching holding the chimney sheeting to its frame (see Figure 7.1). A Gilbies Hut was included in the inventory to the 1922 Zanci portion plan (see Figure 2.9) but not located on the plan, although a Gilbies Tank is shown in the square additional area in the far northeastern corner of the site. The pole frame structure used for the Mungo races is located on the adjoining Joulni Station. It is likely that that other huts were constructed near tanks and other yards; for example, footings remain near Paradise Tank. At the open shaft site (believed to be an unsuccessful well) in the far northeastern corner of

Zanci, dating to prior to 1922, there is evidence of a fireplace probably associated with a tent or simple hut structure (see Figure 7.6).

7.2.2 Tanks

All of the stories that emerge from Mungo National Park centre around 'water': its abundance in prehistoric times and the lifestyles and economy that entailed; its scarcity in recent times and the difficulty in working and living in such marginal country. Given the aridity of the area, it is not surprising to find an abundance of ground tanks and wells that were designed to utilise the available water. The tanks provide, as it were, a spatial layer across the Mungo landscape which tells us something about the way in which that landscape was utilised. The tanks are also associated with the long-excavated drains that provide them with water (see Figure 3.9). Historically there would also have been windmills and troughs.

These tanks would have been a focus of activity in historic times and it is likely that temporary, and in some cases semi-permanent, shelters were associated with these tanks, such as the Allen's Plain Hut noted above. Foundations are visible at the elaborate Paradise Tank and Willandra Tank also has foundations probably related to a pump or windmill foundation. It is likely that some sort of hut or encampment was once associated with Vigar's well or the soak that predates the well. The wells were reportedly dug by Roy Stirrat in the late 1940s or early 1950s.

None of the tanks or their surrounds have been subject to detailed survey or recording and such an exercise might yield more information about the earlier phases of historic use of the area. Clearly, however, some are associated with the Gol Gol phase. *Double Tank*, *HP Tank*, *Gilbies*, *Ram Paddock* and *Tim's Tank* (later *Zanci House Tank*) appear on the earliest portion map for Zanci and are listed as existing improvements at the time of subdivision on the 1922 plan (see Figure 2.9). Similarly, *Stewart's Tank*, *Ram Tank* and *Melville's Tank* are marked as existing improvements on the earliest Mungo portion map (as is Turlee Outstation) (see Figure 2.8). *Mungo House Tank* was constructed as the Scour Tank and is shown on the 1885 portion plan (see Figure 2.5). These tanks relate to the earliest phase of the historic use of the property and their original use and importance may have been considerably different to their use and importance in later phases and after the construction of many more tanks.

It is interesting that even something as apparently mono-functional as the tanks could be innovatively used for other functions. These artificial water supplies attracted animals other than sheep. In the early phases of the property, when rabbits were in plague proportions throughout much of the west, the tanks were used to harvest rabbits. Harvesting rabbits was essential to maintain the viability of the station's fodder resources and they clearly placed a financial burden on property owners and managers. The issue of rabbits and their control is discussed in various station correspondence from the Patterson era. For example:

The worst expense is the payment of rabbiters. We are obliged to keep 12 to 13 of them whether we will or not and there is a bit of expense in taking them rations.²

As has been noted previously it is possible that some of these 'rabbiters' may have included Aboriginal people.³ By 1891 while rabbits were still a major problem the tanks were clearly being used as a tool in their control and the pelts were being harvested for additional income. For instance this account was sent to Patterson in Melbourne:

At present I have only fenced Billy's Tank, Stone and Scour Tanks at Turlee and the woolshed paddock tank here but I am fencing Gilbies and Two Mile this week. The biggest catch so far is about 700 in scour tank at Turlee last night but I have not heard what Brady has caught at Billy's Tank.⁴

This last letter goes on to talk about how the dry weather was bringing the rabbits to the tanks where they could easily be killed. Other correspondence describes the number of bales of wool and of rabbit pelts being sent south to Melbourne markets. Several of the tanks are still used as feral goat traps today (see Figure 7.2).

7.2.3 Fences, Paddocks and Yards

Fenced paddocks were an essential mechanism to ensure that overgrazing did not occur. Figure 7.4 shows the regular distribution of fenced paddocks at Mungo Station in 1975. There is also a regular distribution of small holding paddocks or yards (with both timber and wire fences) for holding stock during mustering. At least one ground tank serviced each paddock; although in the case of Back Paddock a pipeline was run from Everbar Tank. Netted fences were used in attempts to keep rabbits out of areas. The 1922 plan (see Figure 2.8) shows a 4-wire netted fence running at an angle to north-south in the eastern side of the property; remnants of this fence remain and its alignment is further defined by the track that runs alongside it.

The build-up of sand around parts of the Middle Yards located in the lake bed is a powerful illustration of the erosion that can occur when soils are destabilised in this environment (see Figure 7.5). To some extent the deposit serves to protect the structure. While the buried yards are a powerful interpretative example, it is not considered that these deposits are likely to be archaeologically significant as they are of recent, rapidly deposited sediments from sand storms in 1944. However, the structure itself may become re-exposed through future erosive processes and if so should be re-recorded as current recordings may have missed buried features.

7.2.4 Roads and Tracks

From aerial photos it is clear that roads and their alignment have changed over time and most dramatically since NPWS acquired the properties. Roads indicate the way that people in the historic period moved around their landscape — what area they accessed and from what direction etc. NPWS has closed off many roads and created new ones in keeping with management objectives to

reduce and control vehicular traffic. It would be useful to record the old roads, particularly those relating to the access into and out of the station complexes at both Zanci and Mungo. In particular, given that most of the buildings have been removed at Zanci and few of the roads visible now actually relate to the Homestead but are rather the result of post-NPWS activity, it is difficult to read and interpret the historic site.

A straight-line track made beside the underground telephone linkage between Mungo and Zanci Stations follows the line of an earlier above-ground line, for which some poles remain. It provides an eloquent reminder of the importance of communications between these back-block pastoral stations (see Figure 7.7).

There is still a travelling stock route through Mungo which attests to a time when neighbours had to co-operate and rely on one another, as much a sit does to the difficulty of getting stock to and from market. Once again the letters in the Patterson collection provide first-hand accounts of the cost and difficulty of moving stock overland.⁵ The TSR has not been surveyed for archaeological evidence although it is highly likely that various types of archaeological evidence such as small huts, camps or wells might occur along it. A detailed investigation of the TSR may also elucidate connections between Mungo and other surrounding properties.

While they are often overlooked, tracks are excellent indicators of economic and social systems, which operated at various points in history. The very obvious fact that tracks join places of interest to the people that construct them means that surveys along historic tracks can often reveal archaeological evidence that may otherwise be overlooked. This in turn can help us understand how the system worked and what was important to those people who were the historical agents in that cultural landscape.

7.2.5 Vigar's Wells

The two wells at this site are timber-lined and currently fenced and covered for safety reasons. They were constructed in the early 1930s by Roy Vigar, at the location of a natural soak.

Impressions in the hardened clay at this site are said to be wagon tracks (see Figure 7.3). If this is true, these clay formations offer a unique snapshot of the last period of use of the track. A track shown on the 1922 Portion Plan used to cross the Walls of China near this point, linking Paradise and Double tanks and possibly passing on to Gol Gol Station. It is also near the alignment of the TSR. This track is not generally visible. However, there is evidence of other clay formations and a soak, which is slightly to the northeast of the current wells and marked by a small stand of bamboo. The area has high potential to yield further information and requires a detailed survey and mapping exercise to get a true picture of the physical evidence. It is likely that once again the more recent use of the area is masking an older use. No doubt the soaks would have been used at least intermittently prior to the wells, although the wells would have increased the reliability of the water source. The area must be considered to be of archaeological potential and should be investigated and mapped as

a priority as the clay formations would be sensitive to visitor traffic and natural deterioration. Another logged well (known as Freshwater Well on NPWS site cards) exists near the southern boundary of Mungo National Park.

7.2.6 Underground Tanks

There are several known underground tanks on Mungo National Park. In 1980 Clark⁶ indicated that there were two areas that he considered to have archaeological potential for historic archaeological material. The first was the 28,000 gallon underground tank, originally filled with runoff from the Woolshed. The second was the underground tank at the 'Chinese ruin'. At the latter, he noted evidence of pre-1880 bottles and other nineteenth-century pieces, although the material currently visible is mostly more recent. To date no archaeological work has been undertaken in these areas and they remain of high archaeological potential. It is also known that the original Shearers Quarters had an underground tank, possibly considerably smaller than the previous two mentioned, as did the kitchen at the Mungo Homestead.

7.2.7 Landing Strip

The Mungo landing strip is a distinctive feature of Mungo National Park. It was constructed in 1982 by NPWS replacing an earlier one that was located near the silcrete quarry. From its earliest days as a Park, visitors are reported to have arrived by air. For many people, including some NPWS staff, their first view of Mungo has been from the air, providing a spectacular introduction to the vastness of the Willandra Lakes system. Landing strips are important features of remote country properties providing emergency access. Mungo airstrip was capped with gravel in approximately 1989. Currently, the airstrip is closed and does not meet relevant codes. While the airstrip is an important visual as well as practical element of Mungo National Park, it has no archaeological potential. NPWS currently has an agreement with the management of Mungo Lodge for visitors to the park to be allowed access to the Mungo Lodge airstrip.

7.2.8 NPWS Dump

This is a modern NPWS dump in current use. It is enclosed in a chain wire fence approximately 23m x 8m. There is a large cleared area extending outside the fenced area. Material appears to be dumped, burned and then bulldozed to one end. The site has no archaeological potential.

7.2.9 Quarries

Soil

There is a modern quarry still used by NPWS to extract soil for road works. This area was sighted but not surveyed as part of the fieldwork for this report. Therefore, the archaeological potential of the area has not been assessed. It is assumed that it has low potential to contain historic archaeological

deposits and the quarried area has removed the potential of the area to contain Aboriginal sites although expansion of the quarry may ultimately disturb Aboriginal sites (see however Section 4.0 – Aboriginal Heritage Sites).

In addition some of the embankments of the tanks have been quarried in recent years for road repairs. This activity has occurred without the impact of this action on the heritage value of these features being assessed.

There are several brick chimneys on Mungo (Homestead and Shearers Cook House) and Zanci (Homestead) and there were probably more in the past (eg Shearers Quarters, Zanci). It is likely that these bricks were purchased, however no record of their purchase is known so it is also possible that they may have been manufactured on the property. The excavation of some of the ground tanks may have provided an opportune source of clay for brick making.

Stone

There is a silcrete quarry in the lake bed not far from the Mungo Woolshed which is a known Aboriginal site (see Section 4.0 Aboriginal Heritage). This quarry is also likely to have been the source of stone used in the historic structures such as the Chinamans Hut (possible wool scour hut). Stone sources in this region are relatively rare and the silcrete quarry is likely to have been exploited by non-Aboriginals for a range of purposes such as windmill and hut foundations. Any archaeological investigation of the silcrete quarry will need to take into account the range of Aboriginal and non-Aboriginal uses for which the stone was extracted.

7.2.10 Natural Features in the Social Landscape

When describing the historic landscape it is common to focus on the economic aspects of life such as work and resources. However, this presents a very narrow and often severe view of the past, where life was comprised of hard physical labour, marginal returns and, at times, a harsh and unsympathetic environment. Clearly, however, life is not defined solely by labour and it is important to remember that the landscape beyond the immediate environs of the Homestead would have also provided venues for relaxation and enjoyment. Tanks would have been used as swimming holes and there are accounts of Allen Plains being used for skiing after unseasonal rain. Old tracks may have been important indicators of such places and it is clear that the Walls of China themselves were a focal point for visitors and friends (see Figure 7.8). Albert Del La Rue who worked as a shearer at Top Hut recalled to his nephew trips to the Walls of China to collect 'tektites'.⁷



Figure 7.1
Allens Plain Hut ruin chimney showing stitching of corrugated iron – perhaps a pastoralist's, more than a builder's, technique.



Figure 7.2
Kangaroo trapped in a feral goat trap in Everbar Tank.



Figure 7.3
The hardened clay formations thought to be dray tracks at Vigar's Wells. (S McIntyre November 2001)

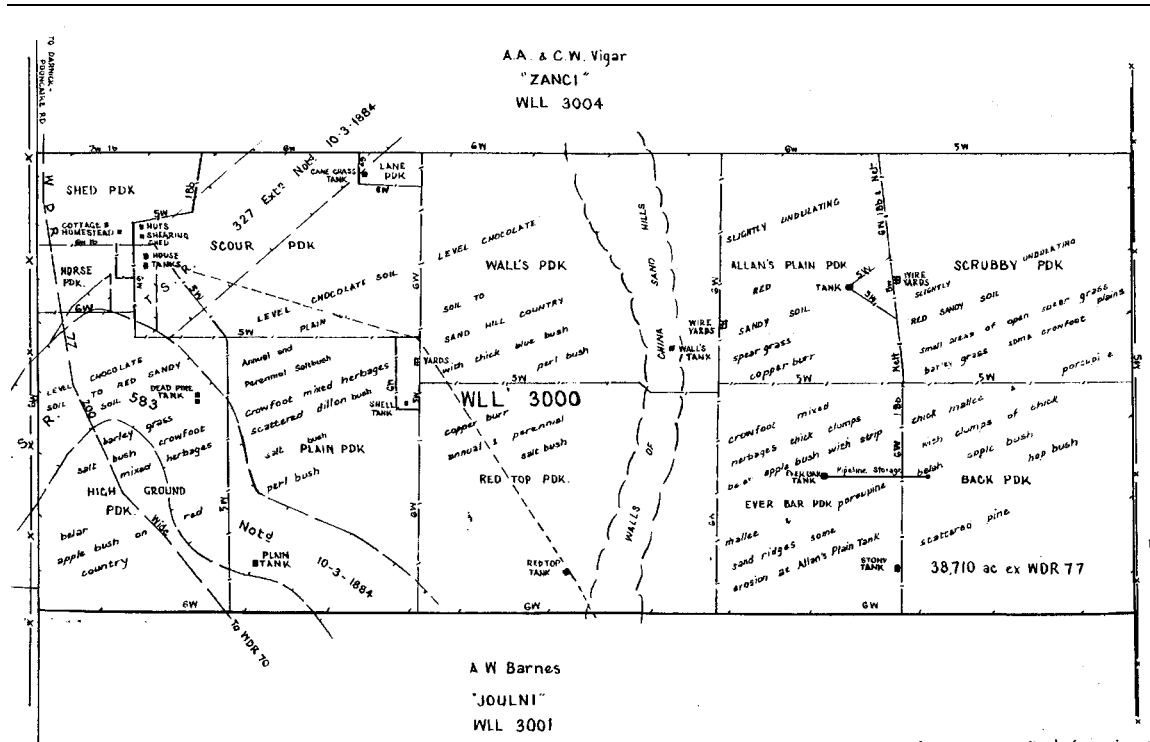


Figure 7.4 Plan of Mungo Station paddocks in 1975, showing ten larger and several smaller holding paddocks together with yards and tanks. (DLWC Stock Inspectors reports)

Figure 7.5
A buried gate and fence (foreground) and lift gate structure from the Middle Yards.





Figure 7.6 An 8m deep shaft, thought to have been a pre-1922 unsuccessful well. It is located in the extreme northeast corner of Mungo National Park in an area shown as a separate portion on Figure 6 in the Donovan 1985 report.



Figure 7.7 Telephone line and line maintenance track between Mungo and Zanci.



Figure 7.8 Women from local pastoral stations on the Walls of China. Left to right: Cath Smith, Mrs Flo Vigar, Mrs Summers (Top Hut), unknown woman with child, Mrs Leary (Marma), Mrs Smith (Chibnalwood) standing. (No date, Roy Stirrat collection)

7.3 Endnotes

- ¹ Barnes family notes to photo No. 37, Appendix D.
- ² Letter to JH Patterson from Arthur Everitt at Gol Gol dated 1 July 1884. Papers held by NPWS Buronga Office.
- ³ For a general account of Aboriginal people and rabbiting in the region, see Bobbie Hardy 1976, *Lament for the Barkindji*, Rigby Australia.
- ⁴ Letter from Wallis Mansfield, Gol Gol to JH Patterson, Melbourne, dated 12 January 1891. Papers held at NPWS Buronga Office.
- ⁵ Letter to Mr Patterson from Mr Kensell dated 6 November 1888 in which he talks of losing between 400–500 sheep on a rough trip. Patterson Collection papers held at Buronga Office NPWS.
- ⁶ Clark, P 1980, 'Mungo National Park – Archaeologists Report, 1 January–30 June, unpub report to NPWS (ASR report catalogue # C205).
- ⁷ Colin de La Rue, pers comm, 2002.

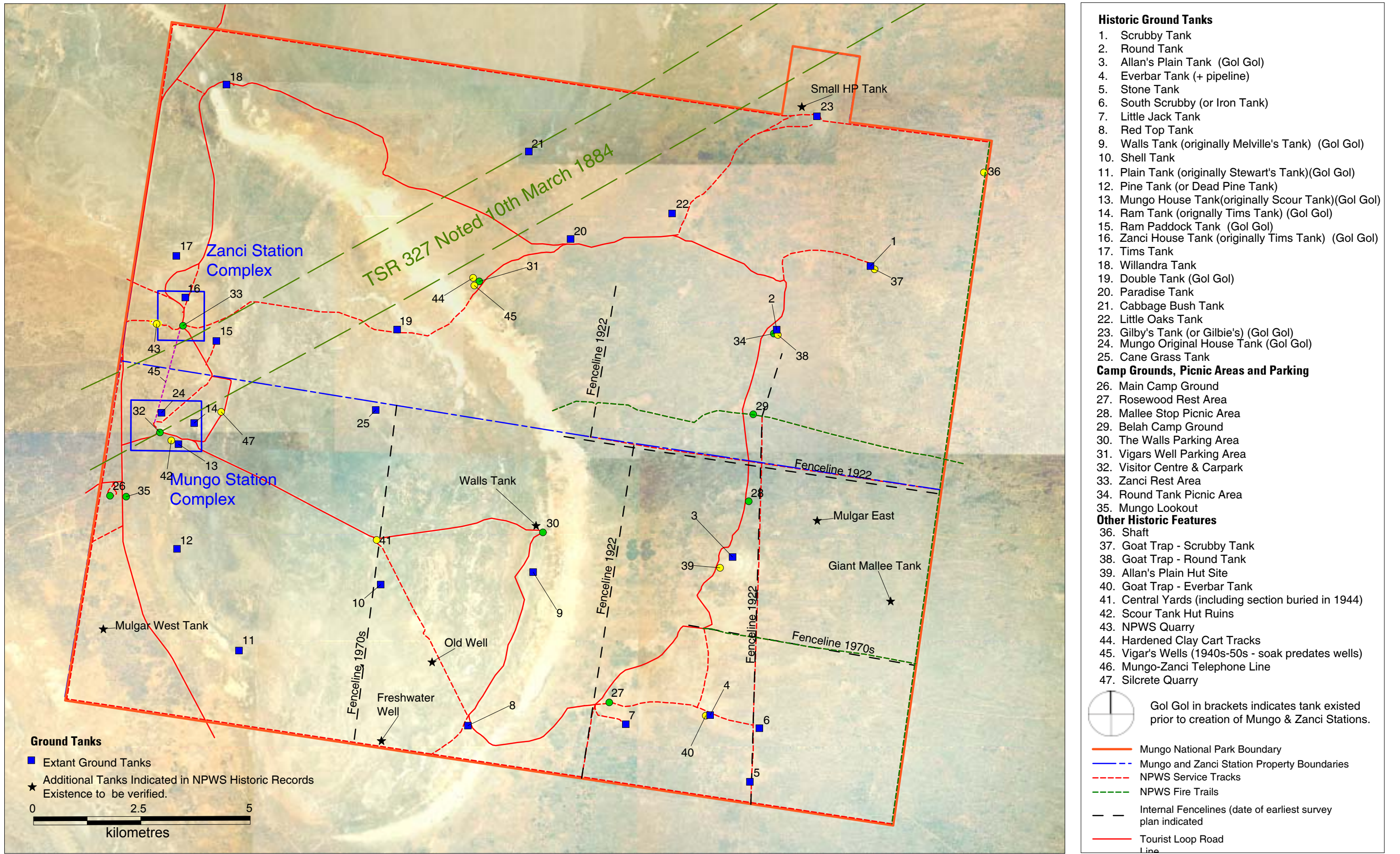


Figure 7.9 Historic Features of Mungo National Park
 This map is based on historic maps, NPWS records, aerial photographs and information supplied by the Barnes and Stirrat Families.

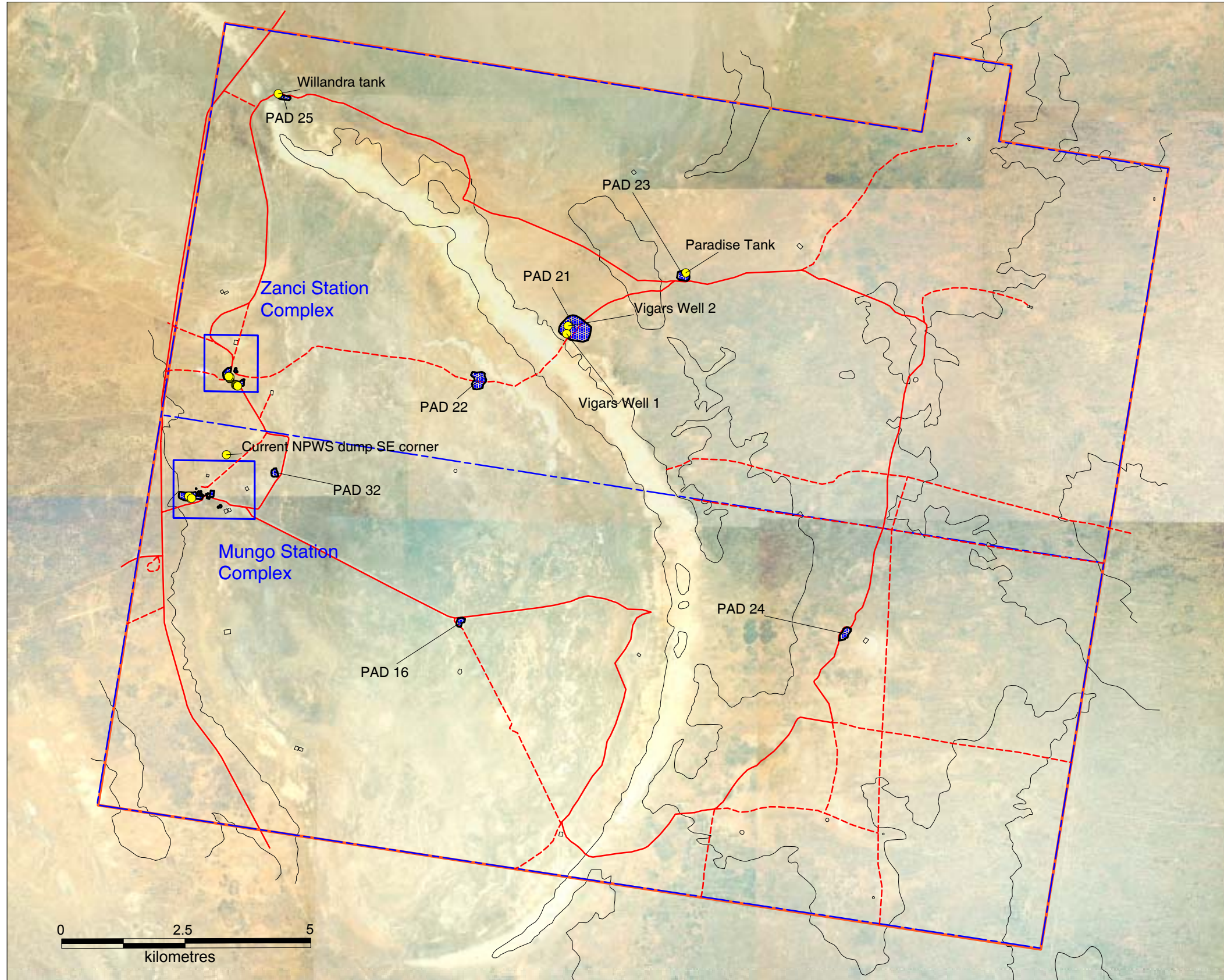


Figure 7.10 Potential Historic Archaeological Deposits for Mungo National Park. Historic features are indicated by yellow points. See Figures 5.50 & 6.35 for detail within the Mungo and Zanci Complexes. For historic PADs and features outside these complexes, see Section 7.0 for more detail.

8.0 Cultural Tourism and Interpretation

8.1 Introduction

This section provides a description and analysis of the existing visitor facilities and existing visitor interpretation provided at Mungo National Park. Section 14.0 provides an analysis of cultural tourism opportunities for Mungo National Park.

8.2 Visitor Facilities

Visitor facilities within Mungo National Park are shown on a map included in Appendix G, which also includes an audit of the interpretative drive and walking tour stops.

8.2.1 Site Location and Access

Mungo National Park is an isolated location. Road touring visitors may approach the park from Broken Hill in the northwest via Menindee and Pooncarie (80km); from the southwest via Mildura or Wentworth; or from the south from Balranald and Robinvale. These roads fall within the jurisdiction of the local shires. Shire roads passing through Mungo National Park are not the responsibility of NPWS.

Air travel direct into Mungo National Park is currently unavailable due to safety concerns arising from the present condition of the airstrip. A private airstrip at neighbouring Mungo Lodge, an independently operated accommodation complex (5km distance) is used to fly in charter groups from Mildura and Melbourne. Visitors arriving by air visit the Park as part of an escorted group or in a self-drive vehicle provided by Mungo Lodge. NPWS has an agreement with the manager of Mungo Lodge which allows park visitors to use the Mungo Lodge airstrip. Access to Mungo National Park is available 24 hours a day, 365 days a year.

Because of its isolated location, most visitors travelling to Mungo National Park arrive having made a pre-determined decision to visit the site, generally with the assistance of tourist information which can be obtained from major regional tourist offices at Mildura and Broken Hill, smaller agencies including Balranald and Wentworth, or from NPWS.

With few exceptions, all visitors to Mungo National Park arrive by road. Although the roads are unsealed, they are generally suitable for conventional vehicles and four-wheel drives. Road-touring visitors travel in private cars and four-wheel drive vehicles. Five tour companies are accredited by NPWS to bring organised groups to the park and they operate escorted tours, travelling in mini-buses and coaches.

8.2.2 Climate

The climate of southwestern New South Wales is characterised by long, hot, dry summers and strong winds. Minimum winter temperatures (July) at Mildura average 4^o Celsius, and maximum summer temperatures (February) 32.6^o Celsius, do not reflect the local variations where summer temperatures have been recorded above 50^o Celsius and winter nights have been known to drop below freezing. Long-term mean average rainfall measured over a period of 130 years at Pooncarie is 262mm, with the wettest month being June and the driest month being March. Average number of rainy days is 43 per annum. During periods of heavy rain, the unsealed roads become inaccessible to traffic, cutting access to the park and further isolating Mungo National Park. All tour operators and regional information centres are advised of road conditions via broadcast fax. Strong winds are a feature throughout the year but those generated during late spring and summer are particularly intense and can generate large quantities of fine dust.

The best time to visit Mungo National Park is during the cooler months of the year, between March and October. However, as more rain falls during this time and renders the unsealed roads impassable, access into, around and out of Mungo National Park can be impossible. Visitors are cautioned by NPWS to be aware of changing weather conditions and to contact the Area Office for advice. Access around Mungo National Park can be closed for several days following heavy rain. On these occasions NPWS posts signage within the Park, and on the Arumpo Road at Buronga notifying visitors of the closure of the Park.

8.2.3 Orientation

Visitors approaching Mungo National Park are directed to it by routed timber signs at each of the four entrances to the Park, located on the Park boundary on each major access road to the park. Information bays are located at three of these locations and provide a directional map and park information. A historic routed timber sign inscribed Mungo Walls of China announces arrival at Mungo National Park and is sited on the right-hand side of the road. It was erected by the Barnes family prior to the acquisition of the site by NPWS. The elevation of the road at this point is just sufficient for the visitor to be aware of the wide lake- bed in the distance.

8.2.4 Visitors Centre

On entering Mungo Station complex, the road swings around to the left, past Mungo Homestead building and a firewood collection point, and then to the right. Visitors are led to the carpark in front of the Visitors Centre, or via pictograms to the large hard-stand parking bay for cars and coaches, adjacent to the Visitors Centre.

The direction-finding at this point is confusing for the first-time visitor, and many visitors have been observed wandering through the Shearers Quarters seeking directions.

At maximum capacity, the car park would have a negative visual impact on the first impressions of the site. The Visitors Centre is a low, single-storey concrete, brick and timber building surrounded by a wide verandah which provides shade and weather protection. This purpose-built complex houses a display and exhibition facility, office space, a meeting/audio-visual room, toilets (including disabled) and two showers. The building has been designed to incorporate design references from the Homestead building and traditional vernacular rural architecture.

The Visitors Centre serves to fulfil a number of requirements. In addition to its role as a 'meet and greet' venue, it houses the major interpretive displays, a booth and fee collection receptacle for day use visitor and campsite registration. The distribution of route maps is available in a small recess outside the centre to capture all hours visitors. Office accommodation for NPWS is located within the complex. The Visitors Centre is not staffed on a regular full-time basis and there is no longer a retail outlet.

8.2.5 Disabled Access

Wheelchair and walking disabled access to the Visitors Centre is provided via the gently graded concrete path around the building, a disabled toilet and shower is located in the Visitors Centre complex. Most park features are suitable for disabled visitors, with the exception of the Walls of China (access), the Foreshore Walk (access, sandy track), both rated as hard in the NPWS guide to wheelchair-friendly parks. and the Shearers Quarters (steps). The mallee stop walk and the grassland nature trail are described as easy and have hard compacted earth path. The Woolshed has a medium degree of difficulty for wheelchair access. Excellent information on wheelchair-friendly access to Mungo National Park is provided on the NPWS website.

8.2.6 Visitor Safety

Visitors coming to Mungo National Park need to be self-sufficient and carry enough food and water for their visit and any emergency. Fuel supplies and mechanical assistance are also unavailable at Mungo National Park, the nearest facility is located at Pooncarie 80km away. There are no facilities to purchase food or drink. There is no public telephone at Mungo National Park, although installation of a phone line is in process. In an emergency, visitors are directed to Mungo Lodge, several kilometres away or to the NPWS Lower Darling Area Office at Buronga (110kms).

Visitors undertaking travel to Mungo National Park are warned in tourist literature about the lack of food, petrol and the shortage of water. They are warned again at the Park and in the site map brochure about the necessary safety precautions.

Visitors can access Mungo National Park 24 hours a day, throughout the year (weather permitting). There is no manned entry point and any of the four entrances into the park, but an information bay is located at these points. Park visitors and campers register only through park-fee lodgement via a security deposit box outside the Visitor Centre. Drive tour maps and notes are available free of

charge at this point. The honesty system does not capture all park users or their movements, nor can it ensure that all visitors are aware of the safety issues which could affect their visit.

NPWS is available on UHF Channel 22 for emergencies and NPWS staff have a higher site presence during busier visitor periods and the residential staff member is available to assist in an emergency.

Nevertheless, while visitor welfare is an obvious consideration for NPWS, safety precautions and appropriate disaster management strategies in the event of a problem warrant a review. With the current lack of mobile telephone reception, no public telephone yet on site, no dedicated public contact staff (although there are two field officer positions), and a distance of 110kms to the nearest NPWS office, the ability of NPWS or other authorities to respond to an emergency are limited.

NPWS also maintain up-to-date information on road conditions into the park and provide information seven days a week on the accessibility of the roads within the park to the Walls of China, and the Drive Tour for vehicular traffic. NPWS is responsible for the closure of roads within the park if there is any danger of them becoming impassable during wet weather. If roads are closed, rangers are responsible for ensuring the evacuation of all visitors from the area.

Safety information is currently not provided regarding sun protection, the risks which wildlife may pose, or procedures on how to respond to mechanical failure, fire, or missing persons.

Queensland National Parks have introduced safety measures which address specific issues in national parks where the safety and well-being of visitors is not always guaranteed. Coolooloa National Park operates an unmanned landing stage on the Coolooloa River for park visitors undertaking a canoe trip up the river into the Everglades. Park users are required to sign in and out at the start and conclusion of their journey so that a head count of who is in the park can be made. Fraser Island World Heritage Area has recently introduced a detailed 'plain English' guide to safety on the island for touring and camping visitors.

A review of safety measures at Mungo National Park should be specifically undertaken in response to the issues raised in this CMCTP in addition to normal ongoing review.

8.2.7 Accommodation and Fees

There are two designated camping areas within the park — Main Camp, located near the park entrance and Belah Camp, approximately half way around the drive tour. Camping sites are available on a first-come basis. Main Camp has thirty-three sites and Belah Camp twelve sites. An honesty system for self-registration applies, and is subject to spot checks by NPWS staff.

Fees for visitors to Mungo National Park are as follows :

Mungo National Park has a day use visitor fee, charged on a per vehicle rate, consistent with other New South Wales national parks. The fee applies to both visitors and campers.

Vehicle size	Fee
• Standard vehicle	\$6
• Mini-bus (less than 22 seats)	\$12
• Bus (22-44 seats)	\$24
• Bus (more than 44 seats)	\$36

Camping fees applicable are \$3.00 per adult (16+ years); \$2.00 per child (<5 years free). Accommodation fees for the Shearers Quarters are \$16.50 (adult) per night; \$5.50 child; (<5 years free).

Each camping area is equipped with picnic tables, chairs, pit toilets, central bin collection points and recycle stations. Fireplaces are provided at Main Camp but the use of fuel fires is banned at Belah Camp. Firewood is available from an enclosure near the Visitors Centre and is supplied at a cost, payable on an honesty system.

Bunk-style accommodation for up to twenty-four people is available at the Shearers Quarters, located adjacent to the Visitors Centre. There are three rooms with four beds, and two rooms with six beds. Originally shearing huts, these corrugated iron sheds are located around a central courtyard and screened from public view by brush fences. Picnic tables and barbecue facilities are available as well as a fully-equipped communal kitchen and dining block. Showers, toilets, water (hot and cold) and lighting are also provided. Visitors are required to bring their own linen/bedding and food supplies. All accommodation must be booked through the Lower Darling Area Office at Buronga.

8.2.8 Picnic Facilities

Covered picnic tables and chairs and barbecue facilities for visitors and tour groups are located behind the Visitors Centre amongst the saltbush vegetation, and pose minimal visual impairment to the presentation of the site. The covered shelters provide some necessary protection from the sun and rain, but no wind protection. A coin-operated gas barbecue is available and can be operated all year round (including during summer months when a park ban applies to solid fuel fires).

Picnic facilities are also located at a number of sites on the Drive Tour, namely Rosewood Rest, Mallee Stop, Belah Camp, Round Tank, Main Camp, Zanci and the Lookout. With the exception of the picnic tables at Zanci Station and the Lookout stops, these sites are clearly identified on the Drive Tour map.

Mungo National Park has a park fire ban for solid fuel fires (including wood and heatbeads) in force between December and March. During these months, gas stoves and cookers are permitted except on days of total fire ban. Day visitors may also use the gas barbecues (coin operated \$1.00 charge) at the picnic area near the Visitors Centre.

Two gas barbecues and open fireplaces are provided for campers at Main Camp. Firewood can be purchased on an honesty system near the Visitors Centre. A permanent fire ban exists at Belah Camp and an on the spot fine of \$300 applies to any visitors who breach this rule.

Visitors are asked not to collect fallen timber and are reminded that this provides a habitat for wildlife.

8.2.9 Toilets

In addition to the septic toilets (including disabled) located in the Visitors Centre, pit toilets are provided at Main Camp, Belah Camp, the Walls of China carpark and the Lookout. Septic toilets are also provided in the Shearers Quarters complex for overnight visitors.

8.2.10 Signage

Directional signage to Mungo National Park which is provided by the Roads and Traffic Authority and the local government authorities is non-conforming and of mixed quality and condition. The intervals between signs are long and there is little sense of anticipated arrival until visitors are almost within the Park. Signage provided to Main Camp, the lookout and the Visitors Centre is non conforming. Directional signage is discrete and minimal and all information is provided in English. International symbols are used to identify basic facilities at major locations. A number of different styles of sign have been used throughout the park, predominantly painted and routed timber and photo-metal. The mixture of styles is particularly obvious at Mungo Woolshed and a review of signage styles and hierarchy should be considered. All signs have been affected by the sun and wind-blown dust and new signs should be fabricated to minimise the negative impact of climate. There is little evidence of theft or vandalism.

It is understood that new World Heritage signage is in preparation. An Interpretive Plan for all Mungo National park signage which identifies a signage hierarchy, styles and materials would streamline the appearance of signs.

8.2.11 Interpretive and Education Facilities

The major interpretive facility at Mungo National Park is located in the Visitors Centre, equipped with exhibitions relating to the natural, indigenous and rural history of Mungo National Park and its significance as a World Heritage site (see below in Section 8.3.7). The centre is open to the public each day between the hours of 8.30am and 4.30pm.

An audio visual/lecture space can be made available for groups who book in advance. The centre also provides a distribution point for the free self-guided drive tour brochure, comprising a map and a summary of interpretive features, which is made available to visitors at no cost. Information about two walking tours, the Grasslands Nature Trail and the Foreshore Walk is also available at the Visitors Centre. Publications relating to the natural and cultural heritage of the site are displayed in a showcase and can only be purchased when NPWS staff are available at the Visitors Centre and during Discovery Programs. The souvenir guidebook can also be purchased outside the park at

Mungo Lodge, nearby National Parks and some regional tourist information centers. Enquiries regarding these publications are referred to the NPWS office at Buronga.

Mungo National Park is administered from the Lower Darling Area office of the National Parks and Wildlife Service at Buronga. Although there are field officers on site to provide a management presence, there is no full-time ranger employed on site at Mungo National Park and the opportunities for ranger-initiated interpretation such as guided tours and activities for visitors not part of commercial tours originating outside the Park are therefore severely restricted. Ranger-guided Discovery tours are available only during the Easter, July and September school holidays.

Mungo Woolshed is a predominant feature located at the eastern end of the carpark and most visitors walk across the hard surface to inspect it. A short tour of its major features can be undertaken by following the interpretive signage located adjacent to specific points of interest.

Additional interpretive material is available at the Lookout, located adjacent to Main Camp, near the entrance to Mungo National Park. This spectacular viewpoint for the lake bed and lunettes is the last stop on the Drive Tour.

The Walls of China Boardwalk provides access from a car park to the dunes with supporting interpretive material and visitor information.

8.2.12 Visitor Analysis

Visitation to Mungo National Park was first counted by Peter Clarke¹ in 1979 three months after the dedication of the Park. The survey was based on vehicular traffic and aircraft travelling to the site (see Figures 8.1 and 8.2).

From his figures, Clarke extrapolated that if 92 visitors arrived in 37 four-wheel drive vehicles, the average was 2.49 visitors per four-wheel drive. Similarly, if 486 people arrived in 170 cars, there were 2.86 people in each car. If 755 visitors arrived by bus on 49 trips, the average bus load was 15.4 people. Using these averages, he calculated the average visitor per vehicle to derive a figure of 1,825 for the six-month period.

NPWS have documented visitor numbers since 1981.² A traffic meter is currently located on the Walls Road to monitor vehicle movement. Visitor figures are derived from the figures of vehicles entering the park and the fee registrations.

The figures are useful indicators of the increasing visitation to the Park (no figures were collected in 1991 and 1992). Despite a significant downturn during 1998 (weather related), the visitation has been steadily increasing at the rate of 5,000 per decade.

The results of the NPWS surveys have been tabulated for the period 1981–2001 and are shown on Figure 8.3.

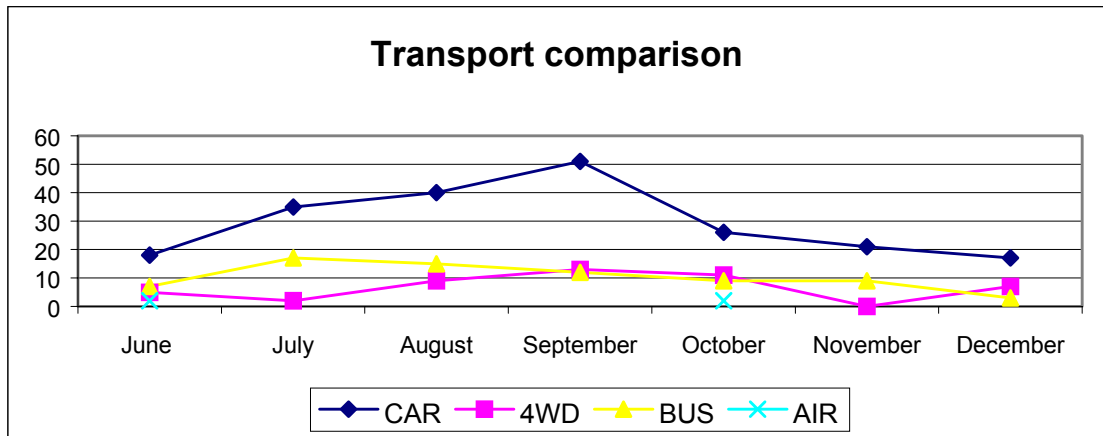


Figure 8.1 Types of vehicles travelling to Mungo National Park.

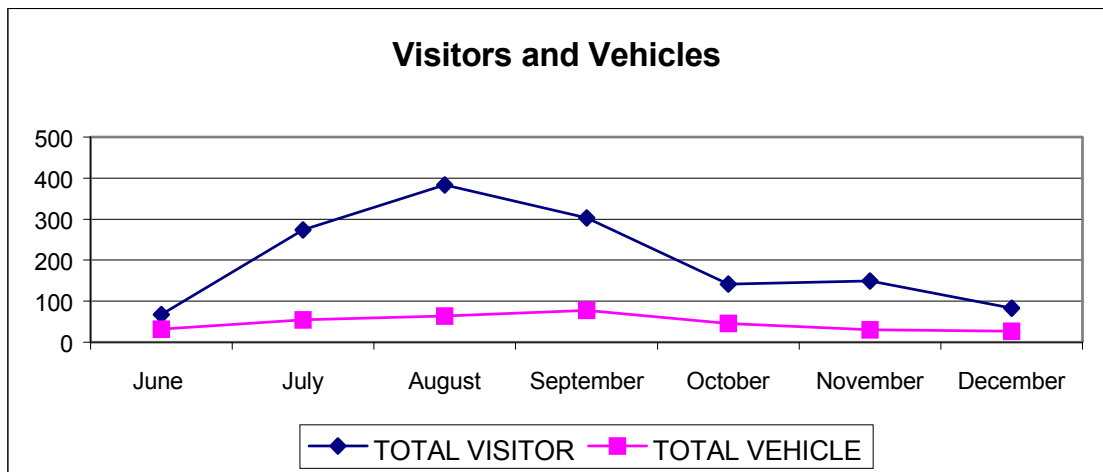


Figure 8.2 Comparison between vehicle numbers and visitors to Mungo National Park, 1979.

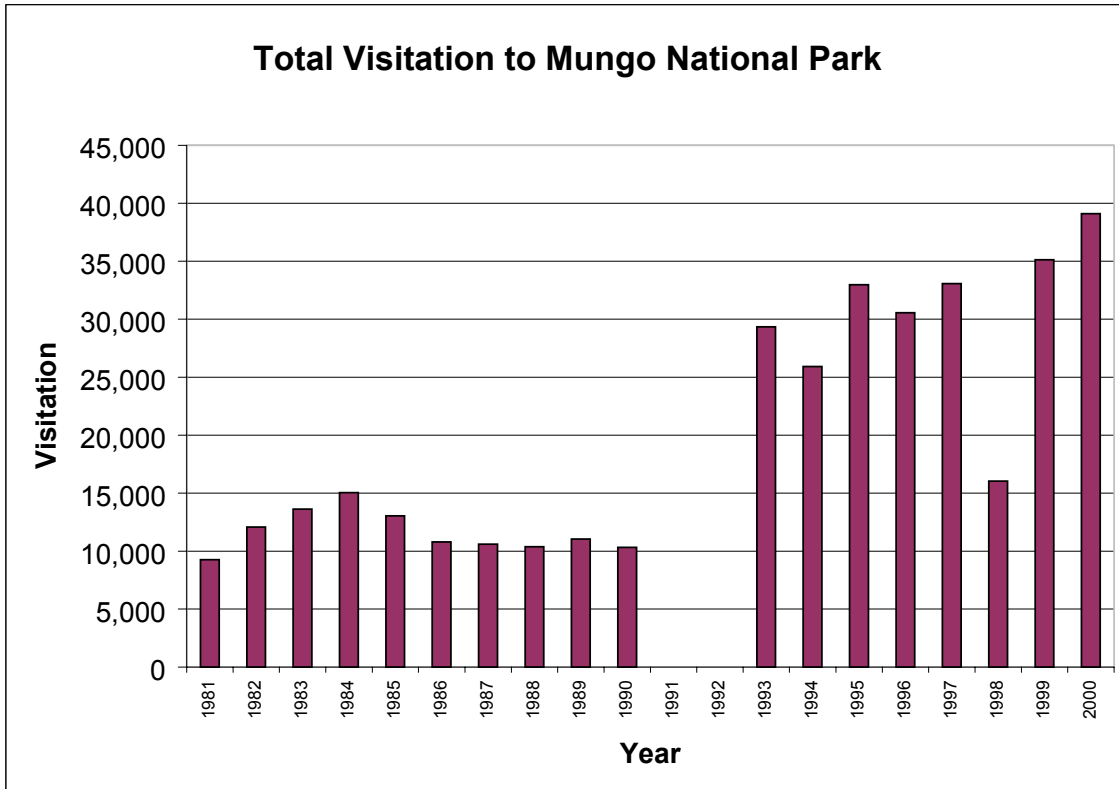


Figure 8.3 Annual Visitation to Mungo National Park, 1981 to 2001.

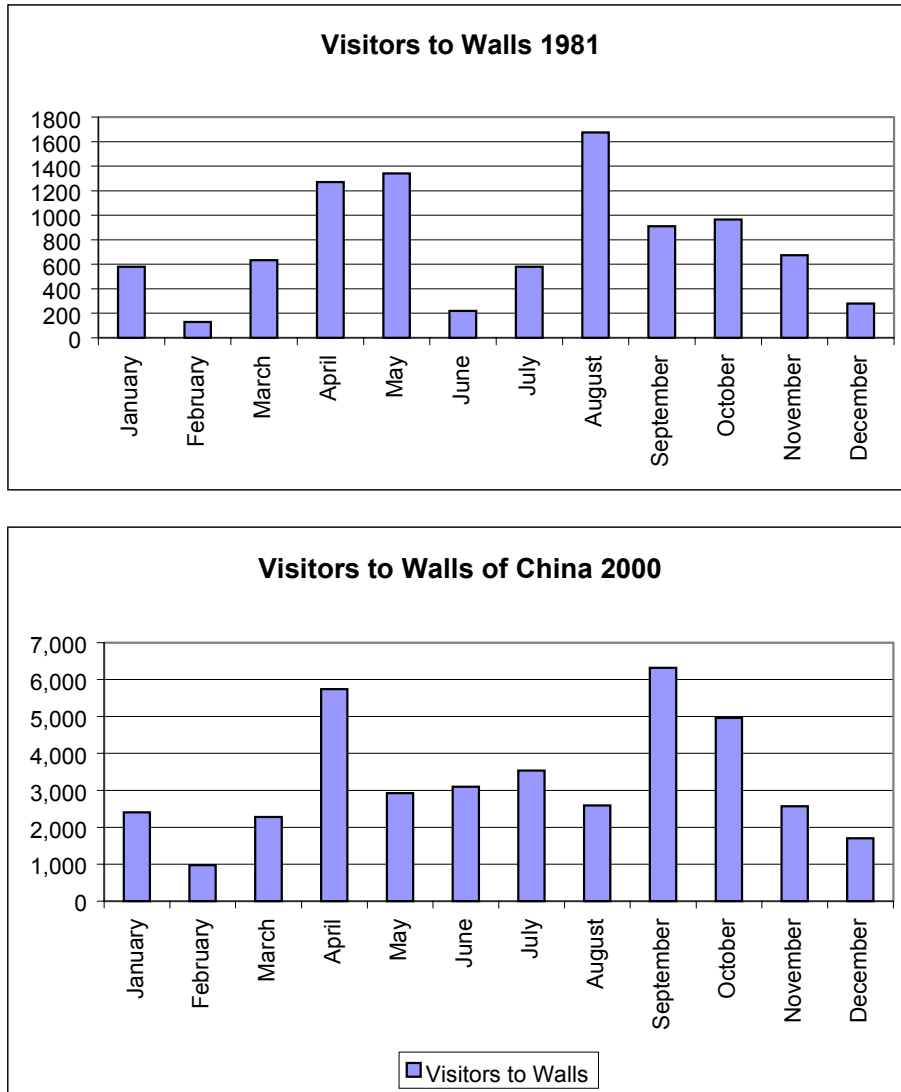


Figure 8.4 Monthly comparison of visitor figures to the Walls of China, 1981 and 2000.

Figure 8.4 is a sample tabulation for the monthly distribution of visitors who specifically visited the Walls of China, promoted as the most significant attraction at Mungo National Park, in 1981 and 2000 highlights the peak periods which coincide with Victorian and New South Wales school holiday periods (Easter/March or April and August/September/October).

8.2.13 Visitor Characteristics

In 2001, David Archer and Tony Griffin from the School of Business, University of Technology, Sydney for the CRC for Sustainable Tourism³ conducted a visitor survey during July and October. It was timed to coincide with school holidays to achieve maximum data capture. Of 519 questionnaires distributed, 224 replies were received, a good response rate of 43.2%. Whilst the respondents did not represent the complete visitor profile, they were representative of the average Mungo National Park visitor.

Visitor characteristics arising from this data are as follows :

- The predominant age group was 35–54 years (42%) followed by the 55–74 years age group (41%). 57% of survey respondents were female, and 43% were male.
- 37% of respondents were employed in a full-time capacity, 27.1% were retired and 18.1% were employed in part-time or casual work.
- 79.6% of visitors were Australian by birth, with the highest group of overseas visitors coming from northwest Europe (14.4%). Of those, 94.4% spoke English as their first language.
- Consistent with other similar studies of national parks, visitors to Mungo National Park had higher than average levels of education, 53% with tertiary qualifications, and 47.6% with secondary school, trade and TAFE qualifications.
- Visitors travelling from Melbourne comprised 34% of the total surveyed, with a further 12% from regional Victoria. 12.2% travelled from Sydney and 11% from regional New South Wales. 6.2% came from South Australia, and 7.1% from ACT. 6.2% had travelled from overseas.

The origin of respondents is summarised in Figure 8.5:

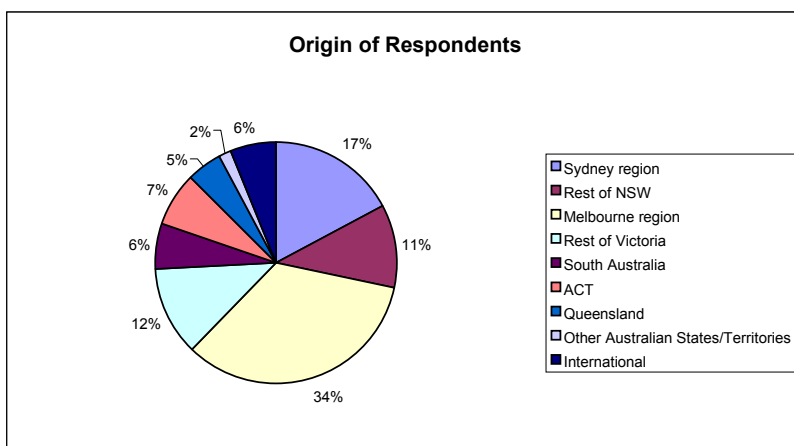


Figure 8.5 Origin of Respondents.

8.2.14 Pre-Visit Information

Figure 8.6 shows a distribution of the pre-visit information available to visitors. The survey examined the sources of pre-visit information and found that Tourist Information Centres were the major source of pre-visit information (31%), with tourist literature (24%), the NPWS guidebook (18%) and the NPWS internet site (20%) predominating. 35% of visitors were attracted by word of mouth while popular media (14%) and motoring organisations registered 9%. Only 9% of visitors did not have any prior information about the Park. Over half the number of respondents (55.4%) were unaware of the Park’s World Heritage status, with 26.3% of repeat visitors also unaware.

Of those who were aware of the World Heritage status of Mungo National Park, 60% of visitors found information in NPWS printed information and 54% sourced information at other NPWS Visitors Centres or offices. Tourist information centres captured 41% visitors with World Heritage information.

These figures demonstrate the lack of effectiveness of World Heritage Area promotion of Mungo National Park and present an opportunity for increased promotion for both domestic and international visitors.

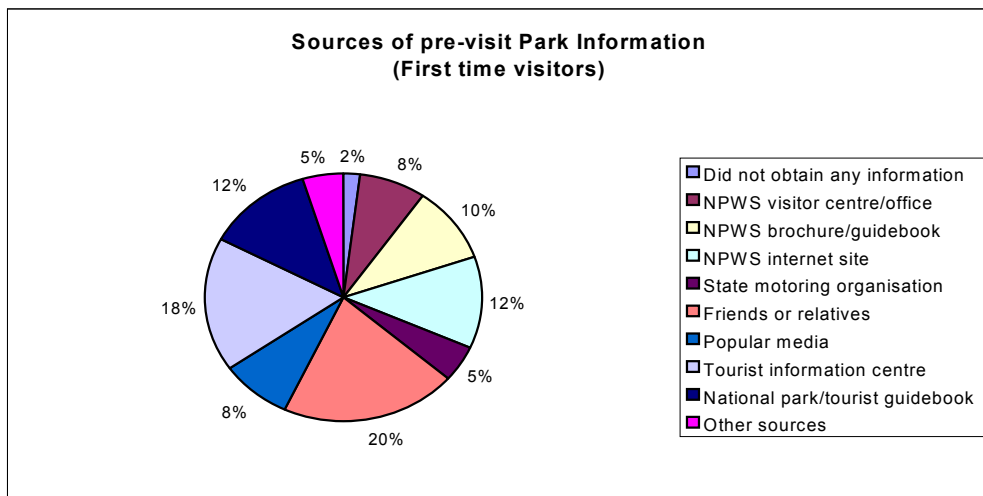


Figure 8.6 Sources of pre-visit information.

8.2.15 Length of Stay of Visitors and Visitor Dynamics

83% of visitors surveyed were visiting Mungo National Park for the first time. Of those visitors 64% stayed in the Park, with 65% staying at Main Camp, 14% at the Shearers Quarters and 6% at Belah Camp. Overnight visitors stayed an average of 1.9 nights (47% stayed two nights, 38% stayed one night). The maximum stay was seven nights. Day visitors generally stayed between two and eight hours.

80.6% of visitors travelled with family or friends, and 17.2% with a commercial or club tour. These figures reflect the nature of school holiday visitation patterns. At other times of the year, coach and tour groups would constitute a major proportion of visitors.

The majority of visitors travelled in groups of two to seven people, the largest group (coach) being 53 people.

8.2.16 Visitor Expectations

It can be assumed that because of its isolated location and the finding that 91% of visitors had consulted visitor information before their visit, visitors to Mungo National Park must arrive with some prior knowledge and therefore some preconceptions. The most commonly rated reasons for visiting the park were sightseeing, an opportunity to enjoy the natural area and an educational experience.

Those who stayed at Mungo National Park reflected the same expectations with a desire to also rest and relax during their stay.

8.2.17 Visitor Activities

The expectations of visitors to achieve certain goals are reflected in the activities they participated in. During the time that visitors were at Mungo National Park, 85% of those visitors surveyed undertook sightseeing with 80% observing flora/fauna; 76% engaged in photography and 69% took the drive tour. Visitors who stayed overnight at Mungo were more likely to include recreational activities such as bushwalking, picnics and the ranger-led tours in their stay. There was little seasonal variation to visitor activities.

In 1993 statistics were first collected by NPWS⁴ on the numbers of visitors to Mungo who visited the Walls of China and took the Drive Tour. A comparison of visitor figures for 1993, 1997 and 2001 is presented in Figures 8.7 to 8.9.

The figures which quantify the number of visitors to Mungo National Park who visit the Walls of China as opposed to those who take the Drive Tour are a key indicator of the extent of visitor participation in the two major activities offered to visitors. Almost half the total number of visitors take the Drive Tour. The disparity between participation in the two activities is worthy of further study, particularly in the event of any proposed redevelopment of interpretation and facilities within the Park. The figures are likely to reflect the fact that most visitors are keen to see the Walls of China, promoted as Mungo's iconic feature, and that commercial tours do not take the Drive Tour.

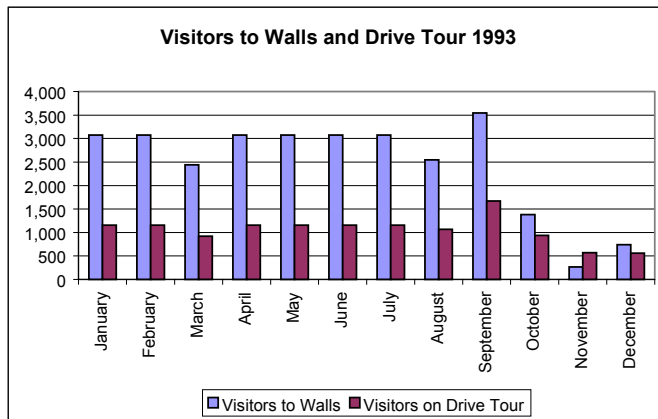


Figure 8.7 Comparison of visitation to Walls of China compared to Drive Tour, 1993.

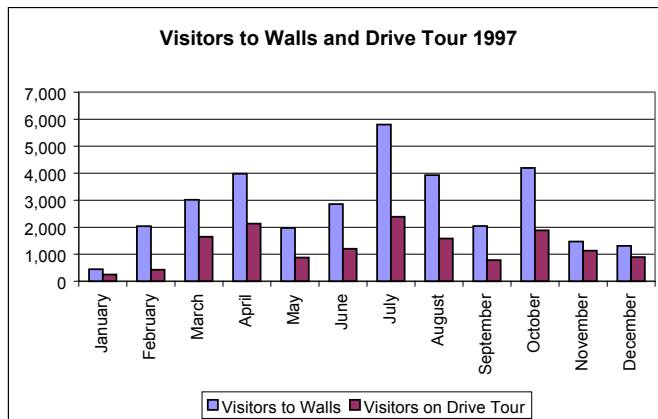


Figure 8.8 Comparison of visitation to Walls of China compared to Drive Tour, 1997.

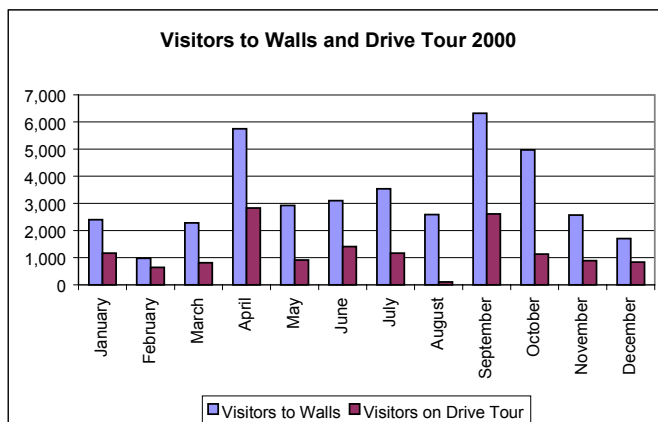


Figure 8.9 Comparison of visitation to Walls of China and participation in Drive Tour, 2000.

8.2.18 Visitor Satisfaction

The CCRC for Sustainable Tourism Survey also compiled data regarding visitor attitudes to the importance of national park attributes and facilities, and to visitor satisfaction with selected park facilities, and their visitor experience. Of their findings, the following are significant:

- Visitors appreciated the quality of the natural environment and the opportunity to see native flora/fauna and scenery. They also appreciated the respect shown for it (absence of rubbish, the behaviour of visitors and the quiet atmosphere).
- Availability of information and interpretation, the quality of walking tracks and basic facilities such as toilets were rated as highly important.
- Day visitors considered the provision of picnic tables important, while overnight visitors rated firewood and showers as important to them.
- Most visitors left Mungo National Park pleased (40%) or delighted (47%) and 96% were willing to recommend it to others.

These findings confirm the very high level of visitor satisfaction with Mungo National Park, which is consistent with the positive comments inscribed in the visitor book at the Visitors Centre.

8.2.19 Visitor Dissatisfaction

While the majority of park visitors expressed overall satisfaction, some respondents to the CRC survey made comments in relation to a number of specific issues including:

- condition of roads into Mungo National Park;
- low employment of Aboriginal staff;
- inappropriate behaviour of park visitors;
- lack of NPWS staff in Visitors Centre;
- lack of on-site NPWS Ranger;
- non-compliance by visitors to 'no shoes' rule at Walls of China;
- inadequate warnings about road closures;
- cost of firewood; and
- shelter from wind/dust at picnic sites.

NPWS Park management is aware of these issues and is constantly reviewing policy and operation procedures in an effort to minimise dissatisfaction in a positive way.

8.3 Interpretation

8.3.1 Audit of Existing Interpretation

By the time visitors have arrived at Mungo National Park, they are likely to have consulted one or more sources of information about its features, be it via the internet, NPWS publications or tourist information literature. This information is comprehensive and useful in preparing the visitor for their visit and their experience. Once on site, it is important to provide interpretation as an extension of this basic level of information, and to anticipate the sorts of information the visitor might require or desire. It is also important for that information to target the visitors who come to the park.

8.3.2 Components of Interpretation

At Mungo National Park, primary levels of interpretation comprise static devices such as written text including brochures, visual images including maps, diagrams and photographs, a Visitors Centre equipped with displays and artefacts and site specific signage. Secondary interpretation includes activities which are an extension of the primary interpretation. These are non-static presentations which include guided tours and public programs.

8.3.3 Signage

Signage in Mungo National Park consists of:

- directional and orientation signage;
- facility signage; and
- interpretive signage.

All three categories are independent from each other, and do not compete for the same design references. Within each category of sign there is evidence of an attempt at signage hierarchy, but the signs lack conformity. The signs are all fabricated from materials (metal and wood) which are weatherproof. Some of the signage systems are in poor condition while others have exceeded their lifespan, particularly those on the Grassland Trail and the Woolshed, and should be considered for information review and replacement.

The content of the signage is generally of a high standard and appears to meet the expectations and requirements of visitors. They are generally placed in locations to maximise their interpretive opportunity. The signs on the Foreshore Walk and the Drive Tour present a 'house style' which is visually sympathetic to the environment.

8.3.4 Brochures

The current Visitors Guide is a photocopied single-colour information sheet and map, printed on an A3 sheet, folded to A5 size. They are provided free of charge, and can be obtained 24 hours a day outside the Visitors Centre. The brochure summarises the major features of the Park and their

significance, describes the Park facilities and safety requirements, provides a short description of the drive tour and a map of the route with major features identified. This brochure is available free of charge and is available 24 hours a day at the registration booth outside the Visitors Centre.

Specialist brochures on the flora of the region and other aspects of Mungo's unique environment are on display in the Visitors Centre, but currently unavailable for purchase on site.

8.3.5 Drive Tour Guide

A folded A4 sheet, photocopied on both sides in one colour, provides a map of the drive tour, and short descriptive tour notes summarising 39 features in the park and identifying the locations of facilities. This guide is provided free of charge and is available at the Visitors Centre, 24 hours a day.

8.3.6 Guide Book

In 1992 NPWS first published a full colour guidebook to Mungo National Park. Produced by Allan Fox, this illustrated booklet is a comprehensive summary of the cultural heritage of the site. This booklet has been printed three times and continues to provide a popular, well priced and scholarly reference. It is available at tourism outlets in Mildura and Broken Hill and the NPWS regional office in Buronga, but the lack of a retail outlet at Mungo National Park precludes its sale to the public.

8.3.7 Visitors Centre

The Visitors Centre, refurbished in 1998, provides an overview of the natural and cultural history of Mungo National Park through exhibition displays, audio, and artefacts. The story of Mungo National Park is told as a chronology, tracing the processes by which the landscape has been modified by its occupants. In general, the interpretation in the Visitors Centre fulfils the major objectives discussed in Section 8.1 and meets the expectations of most visitors.⁵

The Visitors Centre is discreetly signposted on a sign nailed to the eaves of the verandah, but is poorly identified and screened from the road by vegetation. A carpark is located immediately in front of the building, but because many visitors approach it from the eastern side, via the larger car and bus parking area, they can find themselves in the accommodation area among the Shearers Quarters. The distinction between public and private areas is not immediately obvious and many visitors find the layout confusing. Some miss the Visitors Centre altogether.

The architecture of the Visitors Centre is simple and unobtrusive. The masonry structure picks up some design references from the neighbouring timber Mungo homestead, including the pitched roof and verandahs. The interior of the Visitors Centre is simple with painted rendered wall surfaces and lino floor covering.⁶ The interpretation space is divided into three areas:

Room 1 has a welcome component and introduction to the site, and a major focus on the geological history and processes which shaped the site and the megafauna which lived in the area. Artefacts

on display include otoliths (fossil earbones from the golden perch which once swam in the lake), duck egg shells, bird bones, freshwater mussels, pebbles and a dillybag in reference to Aboriginal hunting techniques; a reconstructed hearth with sand and bone illustrates the paleomagnetic discovery of the 'Mungo Excursion'. The space is dominated by a large wall mural and a reconstruction of the *Zygomaturus trilobus*. A sound recording is available as an interactive. The shortcoming in this display is the lack of extended interpretation of the significance of the paleomagnetic discovery.

Room 2 considers the Aboriginal heritage of the site with contemporary references through W Bates' contemporary artwork and the legend of the Eaglehawk and Crow about the divisions within the Paakintji tribe. The stone tools and flakes of the Mungo knappers are displayed to illustrate Aboriginal technology. Reference is made through photographs of the fate of local Aboriginals in the Rufus River massacre. The case of historical and presumably important Aboriginal artefacts made and used by the Paakintji tribe is ineffective due to poor lighting and lack of interpretation.

A collection of contemporary artefacts and handcrafts highlights the European contact with Paakintji, Muthi Muthi and Nyiampa tribes stretching from Dareton to Ivanhoe, Balranald, Menindee and Wilcannia. The interpretation of the Aboriginal heritage is presented in general terms and with the endorsement of the local indigenous elders. The explanation of Mungo National Park as a spiritual place for Aboriginal people is discussed in the context of the importance of the evidence that the burial sites hold for scientific study. The interpretation does not identify sites or encourage visitors to go looking for them. As a result, Mungo National Park succeeds in encouraging the public to respect Aboriginal spirituality and sacred sites.

Room 3 examines the native flora and fauna, the significant scientific discoveries and research, the biodiversity of the area, the pastoral history of the site, and concludes with a discussion of the significance of the park as a World Heritage item and NPWS' responsibilities for its ongoing conservation and management. Photographs of the local elders who participate in the co-operative management of the park, including their active participation in tourism and local land management including site protection and animal eradication, are also on display.

A number of observations about this section could be made. The selection of artefacts in the pastoral history section appears to be evocative rather than a considered selection of items directly linked to Mungo Station life. As unsecured items, their security could be at risk. Considering the wealth of photographic documentation and oral history available for interpretation, particularly of the recent pastoral history and the occupation by the Barnes family, it is regrettable that a more comprehensive story of that aspect is not told. Similarly, there is insufficient attention paid to the importance of the scientific discoveries at Mungo National Park and many visitors complain that they are dissatisfied with the lack of information about 'Mungo Man' and 'Mungo Woman' and why the site is so significant.

NPWS are currently reviewing this issue in the light of the recent development of a multi-media program which it is considering incorporating into the Visitor Centre in 2002/2003. Further

opportunities for interpretation and discussion of the scientific research and debate versus the display of sensitive Aboriginal cultural history should be explored in the more detailed Interpretive Plan recommended in this study.

Consideration should be given to increasing the amount of information available on visitor safety and procedures to be followed, particularly for visitors undertaking the Drive Tour.

8.3.8 Drive Tour

The Drive Tour is a signposted drive on an unsealed road surface across the lake bed via the Walls of China, over the dunes to the mallee country and back to the Visitors Centre via the northeastern lake shore (see Appendix G). A map illustrating the tour and describing the major features is available free of charge at the Visitors Centre. The tour is approximately 70km long and visitors take several hours to complete it. Toilets and picnic facilities are provided and identified on the map.

Two-way road access is provided to the Walls of China or to Zanci Station via the Pastoral Loop for visitors who do not wish to undertake the longer one-way journey.

The drive tour identifies major points of interest using a painted metal signpost numbered to correspond to the item in the notes accompanying the map. The notes and a summary of the features is attached at Appendix G. Additional information is provided on photo-etched signs at drive tour points and other sites to explain features. The text and graphics were produced by Allan Fox, who also produced the Mungo National Park guide book in 1992. The placement of these signs has been carefully designed to provide information where it is required. The text is informative and entertaining and the simple line drawings are clear and helpful particularly for nature identification purposes. The signs are positioned at a comfortable viewing height and distance. Although some of these signs show the effects of weather and should be replaced, they are very successful. It is recommended that when the need to replace the drive tour signs arises, the information content be reviewed and the signs, including the diagrammatic sketches, be reproduced.

8.3.9 Lookout

The Lookout is the final interpretive point on the Drive Tour (see Appendix G). It is reached from an access road to the east of Main Camp on the Balranald Road. The Lookout can also be accessed from Main Camp via a path. For management reasons, visitors are directed to the Lookout as the conclusion of their drive over the lake bed and around the lunettes.

A compacted clay and gravel path descends to a viewing platform, constructed of pine logs with wire mesh inserts, which affords a panoramic view of the lake bed, the Walls of China and the dunes. Interpretive signage explains the geological processes which created the landscape and identifies the original water level. This interpretive point provides a spectacular opportunity for an overview of the landscape and it could be argued that it is an appropriate introduction to the site, where visitors would appreciate the extent of the park and what they are about to see.

8.3.10 Trails

Three walks are promoted in Mungo National Park. While these present little challenge to keen bushwalkers, they have a high degree of accessibility and have been designed to highlight the biodiversity of the area and identify some of the interesting flora and fauna of the site, and respect the fragility of the landscape.

Grassland Trail

The grassland walking trail commences in Main Camp and follows a 1km path through the belah. It is poorly signposted at the Y-junction at the start and does not offer a direction to follow. The recommended time for the walk is one hour. This walk is designed as an introduction to natural features encountered in Mungo National Park and concentrates on the identification of botanical species with references to park management issues and some of the fauna of the area. Like other park interpretation, this walk suffers from an over-emphasis on land degradation in the signage.

Of all the trails, the interpretation along the Grassland Trail is most in need of some upgrading. The photo-metal signs set into timber posts are degraded, the metal signs are scratched and the painted surfaces chipped. Rusted star pickets beside the path look unsightly. Some of the features (termite mound, grasses) are difficult to distinguish and some of the botanical information needs review. A summary of the interpretation is attached at Appendix G.

Foreshore Nature Walk

The Foreshore Nature Walk commences to the northwest of the Visitors Centre and traverses the saltbush-covered lake floor to sand dunes on the western edge of the lake. The recommended time for the walk is 1.5 hours and it is best undertaken for visitor comfort in the early morning or late afternoon. The path is simply defined, and reinforced on the sandy slopes to control erosion. Small metal arrow symbols mounted on timber posts provide direction and interpretive signage is provided at frequent intervals. The selection of signage points coincides well with the features on view. The information and presentation is detailed and the diagrams assist with fauna and flora identification. A list of features is attached at Appendix G.

Mallee Walk

A third walk commencing at Mallee Stop on the drive tour is also available. This short walk of 500m follows a path through the mallee. Interpretive signage is provided on photo-metal signs, and discusses the flora and fauna of the area. A list of features is attached at Appendix G.

8.3.11 Ranger Activities

Mungo National Park has previously had the services of an on-site ranger to provide management and interpretive services. The NPWS and Advisory Committee are actively promoting employment of Aboriginal people at Mungo National Park and other reserves. An Aboriginal Cadet Ranger has been

recently employed. In the absence of a current full-time ranger, part-time assistance is provided from the Lower Darling Area Office in Buronga. The Discovery Program is held during the Easter, July and September school holidays. These tours visit major park features and have the added benefit of offering visitors an extra layer of interpretation and the knowledge and experience of a qualified member of staff. In recent years only Aboriginal people have been employed in the Discovery Program and in 2002 these were run by the Three Traditional Tribal Groups. Among the tours offered are:

- Foreshore Survey: an introduction to biodiversity studies
- Park Management Tour: understanding park management issues (pest species, fire management, boundary management)
- Walls of China: ranger guided walk
- Three Sheds Tour: visit to Mungo, Zanci and Leagher stations
- Sunset Lunette Tour: viewing session at the Walls of China
- Evening Adventure Tour: outdoor slide show, catering (charge applicable)
- Corroboree: performance at Main Camp by the Stamping Ants (charge applicable)

Complementary school holiday activities are offered for children. These are generally follow-up activities (costume and mask making, puzzles etc) which encourage children to reflect on aspects of park features which they have observed. They are promoted through the NPWS literature and are extremely popular and consequently in great demand.

8.3.12 Commercial Tours

Five commercial tour operators have NPWS accreditation to provide guided tours to Mungo National Park. A summary of interviews held with the five operators is attached at Appendix G. The major points which arise from these discussions are as follows:

Junction Tours

Frequency of Tours	1 day per week (average)
Mode of Transport	Minibus
Tour Program	Mungo Lookout/Walls of China (Grand Canyon for small groups)/ Woolshed/lunch at picnic area/Visitors Centre

Operator's Concerns	Possible Solutions
<ul style="list-style-type: none"> • Audio presentations in Visitors Centre give visitors false impression that wool went by paddle steamer from Mungo • Didgeridoo music not relevant to Mungo • Interpretive displays should be relevant, accurate and entertaining • Levy of \$3.30 per head on tourists in groups • Damage to Walls caused by uncontrolled access • Damage caused by some operators • Lack of a permanent ranger at Mungo 	<ul style="list-style-type: none"> • Provide clearer interpretive programs • If didgeridoo used, advise visitors that it was not traditionally used at Mungo National Park or in NSW • Restrict interpretive displays to material relevant to Mungo and Zanci • Acceptable, provided funds raised go to Mungo and Zanci, not consolidated revenue • Restrict access to those on guided tours • Tighter control of operators • Appoint permanent ranger to Mungo

Mallee Outback Experiences

Frequency of Tours	80–100 per month in small groups, all seasons, including sunset tours in summer
Mode of Transport	Minibus
Tour Program	Mungo Lookout/Visitors Centre/Woolshed/Walls of China but order may vary depending on weather. Small groups only to Grand Canyon.

Operator's Concerns	Possible Solutions
<ul style="list-style-type: none"> • Disappearance of archaeological finds on the Walls • Levy excessive 	<ul style="list-style-type: none"> • Restrict access to those on guided tours • Reduce levy to make it comparable with Victorian charges

Harry Nanya Tours

Frequency of Tours	Daily, including daytime and sunset tours in daylight saving months 5,070 visitors during 2001
Mode of Transport	Minibuses and guides on tour coaches

Operator's Concerns

- Some teenagers find tour boring
- NPWS too slow to approve visit by Today team
- Possible resentment of their success by tribal elders and other operators
- Use of didgeridoo in interpretive program

Possible Solutions

- Tailor tour to ages/tastes of tourists
- Improve response times to promotional opportunities
- Improve consultation between NPWS and all tour operators
- If continued, make it clear to visitors that didgeridoo was not traditional instrument at Mungo

Ponde Tours

Frequency of Tours April to September only

Mode of Transport Guide on tour coaches for groups of seniors

Tour Program Indigenous welcome at Mungo. Lookout/Walls of China/Woolshed/Visitors Centre.

Operator's Concerns

- Damage to Walls caused by uncontrolled access
- Insufficient toilets at lookout.
- Lack of wind protection at picnic area

Possible Solutions

- Restrict access to those on guided tours
- Construct at least one more toilet at lookout
- Erect wind screens around picnic tables

Mungo Outback Expeditions (Mungo Lodge)

Frequency of Tours As required by guests at Mungo Lodge

Mode of Transport 6,000/year at Mungo Lodge. Lodge has its own minibuses

Tour Program Variable

Operator's Concerns

- Insufficient information about Aboriginal archaeology
- No colour brochure (Mungo Lodge used to contribute to cost)
- Scientific research facilities not used

Possible Solutions

- Improve coverage in Visitors Centre
- Consider new colour brochure in collaboration with tour operators
- Encourage further scientific study and make facilities eg laboratory available.

8.3.13 Interpretation Shortcomings/Issues

The three major values for which Mungo National Park has received World Heritage status are the evidence of Aboriginal archaeology in rewriting Australian anthropological history; the undisturbed nature of the geomorphological sediments and the paleomagnetic evidence from Aboriginal hearths which document changes to the position of the north/south axis of the Earth. These three themes represent the primary interpretive themes and are interpreted in an accessible form in the various forms summarised above. Secondary themes important to the understanding of the natural and cultural heritage of the Park and the role of NPWS in its protection and management form the basis of the remaining interpretation. Listed below are observed shortcomings of the existing situation.

- Scientific research: the protection of scientific sites where Aboriginal archaeology is significant should not, however, preclude more discussion about the significance of the discoveries of 'Mungo Man' and 'Mungo Woman', or the paleomagnetic discoveries. Mungo National Park is a landmark site which achieved international significance for the discovery of evidence which helped to re-write the anthropological history and paleogeology of Australia. While some reference is made to these issues in the Visitors Centre, the information is superficial and does not indicate that the findings and subsequent research continues to be a work in progress.
- Visitors do not experience a sense of excitement about the significance of these discoveries, or the sense that they are important for ongoing research. A section on the work in progress and any recent developments in this area should be included in the display information in the Visitors Centre.
- Mungo Station: There is a serious lack of interpretation of the surviving station buildings and Homestead complex. The Homestead has a valuable role for interpretation as a nineteenth century pastoral homestead associated with the Woolshed. The interpretive content on the pastoral use of the site throughout the Park tends to over-emphasise the degradation and negative impacts on the natural flora and fauna, rather than explaining the contribution that pastoralism has made to Australian society, the specific pastoral activities during Gol Gol and Mungo/Zanci Station phases and the difficulties in making the property viable. There is little interpretation of how people actually lived and worked in this environment and little information about its links with the neighbouring stations other than Zanci Station. For example, the directional signpost outside the Visitors Centre identifies Arumpo, Top Hut, Gol Gol, Joulni, Mulurulu, Garpang, Zanci, Turlee and Leagher, but the interpretation inside fails to mention the connection between these former station sites.
- Zanci Station: The interpretation of Zanci Station could be improved using the resources of archival material, including photographs and oral family history. The interpretive sign at the drive tour stop has a diagram of the site, which is not oriented in the direction that people view the site. There is room to improve the identification of what structures the ruins represent, using labelling and ground outlines to infill missing sections or ghosted structural elements. Oral history has

increased our understanding of the dugout. There is little interpretation of the Woolshed or the thatched barn and nothing about the movable heritage left on site.

- **Natural history:** The interpretation of the biodiversity of the park is conveyed through exhibitions in the Visitors Centre, nature trails and identification of flora and fauna at points along the drive tour and the nature trails.
- **Introduced species:** There is a general over-emphasis on the negative degradation of and the damage to the natural environment from the effects of grazing and feral animals. There is an obvious conflict arising from the reclamation of the natural environment and the negative impact of native wildlife (particularly kangaroos). This conflict is currently not interpreted.
- **Landscape:** There is no information about the introduction of exotic species for landscaping around the station buildings and shelter. This was a significant feature of pastoralists' attempts to personalise an inhospitable landscape. Now that elements of the exotic landscaping around both station Homesteads have gone, opportunities for a full interpretation of this aspect of the adaptation of the environment are restricted.
- **Tanks:** The interpretation of the tanks is inadequate in its explanation of how they worked. There is a misconception that they are filled by underground water, not by surface water. The proposed removal of tanks reduces the impact of their interpretive value as an essential functional component of the pastoral history of the site.
- **Allen's Plain Hut:** The disintegration of this structure has reduced an interpretive opportunity in the explanation of the structure itself and pastoral management practices, namely the movement of sheep over the site, the techniques by which sheep management was done, or the life and work of station staff.
- **Yards and Fences:** The potential for interpretive historic stock and pasture management, including rabbit control, is lacking.
- **Vigar's Wells:** The interpretation at Vigar's Wells provides an opportunity to examine the conjecture about how and where the transport routes went over the sand dunes. More research is needed before a satisfactory interpretation can be provided of the 'cart tracks'. If attention is drawn to them, they require some protection.

The standard of interpretation at Mungo National Park is very high, both in terms of content and quality. The major shortcomings in quality relate to the effects of weather on the outdoor components, and the outdated presentation of some of the elements.

8.3.14 Opportunities

Opportunities for increasing the effectiveness of additional interpretation at Mungo National Park include :

- pre-tour video or CD-Rom presentation in the Visitors Centre;
- an audio drive tour commentary available on CD, cassette or radio loop;
- self-guided tours of the pastoral station complexes;
- outdoor interpretation of scientific investigations (not necessarily at original sites but at a site that simulates the outdoor qualities and excitement of these investigations);
- increased information on the internet site;
- regular ranger and/or interpretation staff guided talks and tours (based on recommended review of staffing); and
- on-site sales point or dispenser for distribution of guide book, increased range of publications and high quality souvenir postcards.

8.4 Endnotes

¹ Clarke, P, NPWS Records.

² National Parks and Wildlife Services, Lower Darling Area Office : Visitor Figures 1991–2001.

³ Archer, D and Griffin, T, Visitor Indicators for Sustainable Tourism in Natural Areas : Mungo National park Visitor Survey 2001 (draft).

⁴ NPWS, op cit.

⁵ Archer, op cit.

⁶ In May 2002, an indigenous artist was contracted to work in consultation with tribal elders and a group of Aboriginal artists representing the 3 TTGs. The CMCTP study team was not advised of the nature of this work.

9.0 Contemporary Social Values

9.1 Introduction

The analysis in this section is based on consultation with various stakeholders for this study and reference to existing documents such as the Willandra Lakes Region World Heritage Property Plan of Management 1996.

9.2 Former Owners of Mungo and Zanci Stations

The Barnes, Vigar and Stirrat families, who were directly involved with both the Mungo and Zanci properties, or are descendants of people from these properties, have enthusiastically participated in this study including attending several long evening meetings. They have made a very valuable contribution to an understanding of the history and development of both properties. Appendix D contains over 350 photographs of Mungo and Zanci, many of which are from the Barnes and Stirrat family collections. Appendix E contains their recollections about general pastoral practices on the properties. Their participation in this study is evidence of a strong sense of attachment to the place. In addition, the families have also indicated that they are quite happy with the way things are being looked after at present, but support the idea of further site interpretation of site activities and developments.

9.3 Aboriginal Community

The deep time scale of natural evolution of the landscape and the depth of human occupation tends to dwarf the post-colonial to settler history of the park on the one hand, although the latter provides an important continuity to the archaeological and environmental evolution of the area.

The story of Mungo is clearly one of interactions between people and the environment, their responses to the changing environment and, in particular, the responses to the increasing aridity of the region.

For Aboriginal people today, that feeling of 'walking in the footsteps of the past'¹ is perhaps even more poignant. The obvious historical hiatus in the Aboriginal occupation of the area that occurred with the onset of European invasion and use of the region may, on the one hand, be over-stated, as some Aboriginal people will have been able to maintain links with the countryside generally through fencing and droving. However, it seems for many that indeed there was a break lasting at least one or two generations, as people were forcibly moved onto government reserves. It is clear that the archaeological finds of Aboriginal culture of deep antiquity sound a chord in the hearts of many of the Aboriginal descendants in the area, providing as they do, evidence of the development of their culture and society, including evidence of the cultural practices and technology of their ancestors. Archaeological research into the Aboriginal heritage of Mungo National Park has focused on the

deep past and there has been little emphasis or publicity regarding the recent prehistory or post-invasion history and the sites related to them.

The Aboriginal community today clearly has a deep attachment to Mungo National Park. Despite the original inhabitants being forcibly removed from this area to government reserves (see Section 2.0), it is clear that many people retain a connection to the region through a strong oral tradition. As in other places Aboriginal people opportunistically used jobs such as droving and fencing as a means of travelling through their country and staying in touch with the land.

Mary Pappin summed up what seems to be a widespread feeling amongst the traditional owner group members when she said that:

*Mungo brings people together. They mightn't realise it but it does! Here you are ringing me up from Sydney and I've never met you. We're different people from different places but here we are talking to each other. Mungo's just like that.*²

There is a fondness too for the historic features of the park. For many people whose parents and grandparents were involved in fencing, droving and shearing, these places are familiar places from their past. Once again Mary Pappin explained to me that:

*It's not just a house on its own or a chimney but a whole landscape.*³

Lottie Williams also believes that a holistic approach is essential, saying that it was important not to cover things up, but to 'tell the whole story'.

The dramatic archaeological finds at Mungo have given it something of an iconic status amongst Aboriginal people generally. The dating of the human remains from Mungo provided scientific evidence which pushed back the accepted time depth for Aboriginal occupation of Australia. While Aboriginal people did not need this evidence to confirm their beliefs about their occupation of the continent, they recognise that this sort of empirical evidence is a powerful tool in educating and convincing non-Aboriginal Australians and the world community. In this respect archaeology has played an essential role at Mungo for Aboriginal people.

In response to the archaeological finds at Mungo and the Aboriginal community's concern for the protection of those finds, the Visitors Centre was designed to include a cultural 'keeping place' where archaeological finds and other cultural material could be secured. This keeping place is as far as can be determined the first of its kind in New South Wales. As such the Visitors Centre reflects the long and public involvement that the Aboriginal community has had in debates surrounding the return of human remains and cultural material.

Apart from issues of ownership and heritage, it is clear from even the limited conversations possible in this project that Mungo has tapped into Aboriginal person's thirst for knowledge in the same way that it has for others. There is an eager interest in whatever secrets the landscape will yield next and an expectation of the unexpected.

9.4 Local Community

As part of the Willandra Lakes Region World Heritage Property Plan of Management a number of workshops were held with the people living in this region. These workshops revealed a strong feeling for the land held by pastoralists living in the area and it is likely that there is recognition within the local community of the value of the historic heritage in Mungo National Park. It is envisaged that they would also be interested in any management actions within the Park (visitation and land management) that could impact on their properties. This report should be made available for comment at draft stage by the Heritage Council of NSW.

9.5 National Parks and Wildlife Service

The Service has managed this cultural landscape for over 22 years and former and current NPWS staff have strong feelings and associations with Mungo National Park. Mungo National Park was one of the first national parks acquired by the Service primarily for the protection of cultural values (see Section 2.0). As such, Mungo National Park represents a key example of the Service's own history and its role in cultural heritage conservation in NSW. The length of association is significant. It has not only resulted in changes to the landscape but has been a major part of the working lives of long-term Service staff working in the Lower Darling Area.

It is likely that NPWS staff as a whole value highly Mungo National Park as an exemplar of the core natural and cultural values upon which the Service operates. A record of staff who have worked in Mungo National Park should be retained. These staff should be encouraged to contribute their memories and thoughts about the place to the history of Mungo National Park.

9.6 Scientists and Other Interest Groups

As part of the consultation for this project, contact was made (via professional contact lists) with scientists and archaeologists who have worked at Mungo in relation to their attachment and interests in Mungo National Park.⁴

In general when most researchers think of Mungo they think of the Aboriginal archaeological discoveries and in particular the Pleistocene material. This is not surprising as the discoveries from Mungo resulted in a paradigm shift in an understanding of the antiquity and complexity of Aboriginal culture in Australia. However, several researchers specifically commented on the historic Homesteads and expressed their concern that these places be managed as part of the Mungo story. Isabel McBryde in particular recalled participating in workshops contributing to the Plan of Management for the WHA and being struck by the eloquent and personal accounts of landowners and previous landowners and their deep feeling for the land. This emphasised for her the importance of conserving and interpreting the historic heritage so that it could tell its story and attest to this attachment.

Many researchers spent formative years in their career carrying out fieldwork at Mungo and this was generally at a time when the scientific community was in a state of great excitement over the discoveries at Mungo. Many can recall the camaraderie amongst researchers and each day of fieldwork was coloured by the possibility of more discoveries. This feeling of imminent discovery and of somehow being on the brink of enlightenment continues today. One researcher explains:

The landscape of the Willandra really grabbed me on the first visit, and I've developed a very strong attachment to the place on subsequent visits, as well as from reading the literature, talking to others who have worked there & of course writing the papers. During the course of my visits, I've met some of the Aboriginal people who claim to have traditional attachment to the place and some of the NPWS and other public agencies who have at various times had responsibilities in the area⁵ ... I love Mungo and want to see more illumination of both the natural and human histories, at all timescales.

The scientific 'community', like most communities, is not homogenous. Although members may be interested in similar things, they may each hold different views on a range of issues or subjects. Such is the nature of scientific debate. Generally the respondents expressed concern and interest in the following issues:

- the ownership, management and access to significant discoveries of human remains;
- the impact of tourism and visitation on the one hand and the exceptional educational/interpretive opportunities of the archaeological sites on the other (it was interesting that several respondents talked about opening up a trench across the dunes at the original research site and conserving the cross-section in situ as a visitor/educational experience);
- extending the detailed research to other lakes/lunettes;
- access to the Homesteads and other buildings as accommodation for students and researchers;
- access to the Homestead buildings for interpretation;
- the conservation/interpretation of the full range of heritage values, both Aboriginal and non-Aboriginal;
- ongoing access to the Park and a role (consultative) in the management and interpretation of the Park's heritage;
- the veracity (or rather the perceived lack of it) of interpretive stories told by tour guides; and
- the need to record and document a vanishing 'lifestyle' that is life in the pastoral industry at Mungo and Zanci and other properties in the region;
- the importance of neighbours, family and social gatherings in coping with isolation; and
- concern at the loss of heritage buildings and sites with specific mention of Joulni and Zanci.

Several of the researchers indicated that they had substantial archives of information such as notes and photos from their research, which might be relevant to the area.⁶

9.7 Tour Operators

Consultation was made with the six tour operators that operate at Mungo National Park. The results of these interviews are contained in Appendix H and discussed in Section 8.0. The tour operators felt that visitors, as a whole, were very motivated to learn about the cultural and natural values of Mungo National Park. In summary the operators had the following concerns about current visitation to Mungo National Park:

- the relevance of some information presented (in the Visitors Centre and other operators) and lack of information about the Aboriginal archaeological research and discoveries;
- the lack of ranger staff at Mungo National Park;
- visitor damage and loss of artefacts at the Walls of China and need to further control access; and
- the lack of research carried out at the Visitors Centre following a grant for this purpose.

9.8 Community of New South Wales/Australia/World

Section 8.0 contains a large amount of information about the current level of appreciation and understanding of the community values held in regard to Mungo National Park. Section 8.0 also includes a summary of discussions with regional visitor centres. Detailed notes of interviews with tour operators are contained in Appendix H.

As outlined in Section 2.0 there is a long history of visitation to Mungo and the Walls of China as a tourist destination — initially for their scenic value and later for scenic value and archaeological significance. The early visitation also included artists such as Russell Drysdale and photographers who through their work have widened an appreciation of the place.

The public access made available to the historic features through their location in a National Park would have also increased their level of contemporary social value.

There are members of the public who have never been to Mungo but who know it through the stories of others. Colin De La Rue's uncle worked as a shearer and was friends with Albert Barnes. Colin recalls listening to his uncle's stories about his shearing days in the area and has recorded some of these stories and has photographs to illustrate them.

The Barnes and Stirrat family members have passed on several poems about Mungo and these are included in Appendix E.

9.9 Endnotes

¹ Bowler, JM 1998, 'Willandra Lakes re-visited: Environmental framework for human occupation' in Johnston, H, P Clark, and JP White (eds), *Willandra Lakes: People and palaeoenvironments Archaeology in Oceania*, vol 33, No. 3, p 154.

² Mary Pappin, pers comm, 11 December 2001.

³ *ibid.*

⁴ Harry Allen, Jim Bowler, Peter Clarke, Edward Clarke, Colin De La Rue, Richard Gillespie, Rainer Grun, Jeannette Hope, Isabel McBryde, Sue Smalldon, Alan Thorne, Craig Wall, Elizabeth White.

⁵ Richard Gillespie (pers comm, 20 March 2002).

⁶ Alan Thorne, Jeannette Hope, Peter Clark, Isabel McBryde, Colin de la Rue.

10.0 Comparative and Contextual Assessment

10.1 Local and Regional Places

Within the Balranald Local Government Area, two places are listed as heritage items on the State Heritage Inventory; Willandra Homestead, within Willandra National Park and the Willandra Lakes Region. Both of these items are also listed on the State Heritage Register.

The first and second Homesteads built at Willandra (both now demolished) were constructed in the 1860s and in 1884, and were built of split white cypress pine (*Callitris columellaris*) logs dropped horizontally into a grooved timber frame. (The existing third homestead was built between the Wars in an early example of the use of asbestos cement panels.) The first Willandra Homestead, like the original Homestead at Mungo, began as an outstation cottage and was enlarged later. A similar drop-log technique using cypress pine logs was utilised in the construction of the Mungo Woolshed during the late nineteenth century, and Zanci stables during the 1950s (see Section 10.7 below). The Mungo Woolshed in particular is unique in a regional context for its scale, intactness, and as a demonstration of this vernacular construction technique.

Within the Balranald Local Government Area, the Australian Heritage Commission currently lists seven items on the Register of the National Estate. Of these items, the only comparative places for former pastoral associations include the Murray Mallee-Mallee Cliffs National Park to the southwest, which contained a former pastoral station, now removed, associated with the overland stock route. Mungo National Park is itself listed, along with the Willandra Lakes Region within which it is located.

There are other properties in the vicinity of Mungo National Park and within the World Heritage Area which are associated with the back-block and soldier settlement development of the area. These include Gol Gol Station and Leaghur to the north of Zanci Station complex and Old Arumpo to the southwest of Mungo National Park.

The Willandra Lakes World Heritage Region European Cultural History Study, completed by Donovan and Associates, provides a comprehensive resource and good comparative assessment of back-block and soldier settlement property development in the area. The report assesses a wide range of sites, including homesteads, shearers' quarters, woolsheds, stockyards, wells and tanks.

The items ranked highest by the report and with recommendations for listing on the Register of the National Estate included the Mungo Woolshed and the Homesteads at Gol Gol, Garnpang and Baymore. Gol Gol Homestead has an important association with Mungo and Zanci as it was the head station when this area was run as an outstation of Gol Gol.

Records indicate that the Homestead at Garnpang, of split pine, drop-log construction was dismantled in 1991, relocated and reconstructed in 1992–93 at the Botanical Garden site near Buronga. Also listed as having High significance was the c1875 north well at Garnpang, the cellar at Zanci, and Mungo Racecourse at Joulni.

Leaghur is an intact complex, with a large intact Homestead, gardens, Woolshed, Shearers Quarters, shearers' kitchen, bathroom and meathouse (see Figures 10.1, 10.2 and 10.3), and other structures associated with the pastoral use of the property, including a ground tank near the Homestead. As a soldier settlement property, its fabric is post-1921. In comparison, Old Arumpo, a large nineteenth-century pastoral run, is largely ruined. However, it retains a dilapidated, corrugated iron-clad Woolshed and remnants of former pastoral buildings including an originally thatch-covered, timber-framed shed.

Figure 10.1
Leaghur Homestead
and cacti garden within
the Homestead
enclosure.



Figure 10.2
Leaghur Woolshed,
timber framed with
corrugated iron
cladding.



Figure 10.3
Leaghur Shearers
Quarters complex.



10.2 NPWS Places

A number of former pastoral properties are within the national parks managed by NPWS across the Western Directorate, including: Mungo, Kinchega, Willandra, Sturt, Gundabooka, Peery and Mutawintji National Parks. These properties were all established in the open, arid countryside for sheep farming. Sturt National Park is an arid area, while the others are semi-arid.

Kinchega Station, established in the early 1850s near Menindee, retains a large, intact c1875 Woolshed, Shearers Quarters and manager's accommodation. Construction of the Kinchega Woolshed is a timber frame with corrugated-iron cladding, much like the Zanci Woolshed. However, Kinchega Woolshed is of a grand scale, larger than even Mungo Woolshed (see Figure 10.4). Kinchega Station also differs from Mungo and Zanci in that it relied on the Darling River rather than the land for the transport of wool to market, and could rely on it as a water supply compared to the back-block properties. Wool transport from Mungo and Zanci was based on horse-drawn drays and later, motorised truck transport.

Willandra Station, as discussed in Section 10.1, was established as a stud property and relied heavily on the dammed Willandra Billabong Creek for water supply, rather than the tanks and wells at Mungo. The site retains a complete c1920s complex with a large Inter-War Homestead, 1930s Shearers Quarters and 1950s Woolshed. The property also retains a weatherboard ram shed associated with its use as a stud farm (see Figure 10.5) that like the stables at Zanci, have a thatched roof. Like the first Homestead at Zanci and other buildings of similar construction at Zanci and Mungo, the two earlier Homesteads were of drop-log construction (see Figure 10.6).

Mount Wood Station in Sturt National Park is similar to Gol Gol in that it also undertook woolscouring, and has an intact Homestead and outstations. Mount Wood Station does not have a large Woolshed in comparison to Mungo Woolshed. Tank and well sinking was an important activity carried out at Mount Wood, much as within Mungo National Park.

Other stations, including Gundabooka Station, near Bourke, Mutawintji, northeast of Broken Hill and Mallee Cliffs¹, are no longer fully intact complexes, but contain structures such as cottages and outbuildings associated with earlier pastoral uses.

Figure 10.4
Kinchege Woolshed,
Kinchege National
Park, near Menindee.



Figure 10.5
Weatherboard ram
shed with thatched
roof, Willandra
National Park.



Figure 10.6
Third Willandra
Homestead,
Willandra National
Park (Buchan Laird
Buchan Architects).



10.3 NSW Places – State Heritage Inventory (SHI) and State Heritage Register (SHR)

While there are many pastoral items listed on the State Heritage Register and Inventory, most are located within the eastern and central divisions of New South Wales. These are predominantly woolsheds, shearers' buildings, and homesteads.

Of the 20 woolsheds listed on the SHI, only Kinchega Woolshed is on the SHR. The majority of those items listed are located in central or eastern New South Wales, with only a few examples located in the far western region of the State, including two in the Wentworth Local Government area.

No shearers' buildings are identified as individual items on the SHR. However, two shearers' quarters have been identified on the SHI, one at Murrurundi and the other at Walcha.

The SHI lists 175 homesteads, of which 20 are on the SHR. Only three of these 20 (Murray Downs Homestead, Mount Wood and Willandra Homestead) are located in the western region of New South Wales. Eleven additional homesteads are located within the western region of the State, in the Wentworth, Wakool and Murrumbidgee Local Government areas. No ground tanks are listed as items, nor are stockyards or fencing.

Historically, there has been a resistance to listing private properties on heritage registers in rural New South Wales. Public access to and appreciation of those private properties that do find their way on to lists is limited. Pastoral properties conserved on public lands, like the NPWS places discussed here, are a rarity.

10.4 Australian Places

The Australian Heritage Commission lists 39 woolsheds on the Register of the National Estate. They include Kinchega Woolshed, the remainder being located generally in rural areas throughout South Australia, Victoria, Australian Capital Territory, New South Wales, Western Australia and Queensland. Of these buildings, only six are identified as part of a larger complex of pastoral buildings, including Kinchega.

With regard to other pastoral buildings, including shearers' quarters and homesteads, three items were identified as containing shearers' quarters, including Kinchega, Rhodes House (Tasmania) and Tubbo Station (NSW). Five-hundred-and-eighty-five records were found pertaining to homesteads across Australia, the majority being in rural locations. Forty of these records were part of homestead complexes. Of the 585 records, 123 are located in New South Wales and only four are in the western region of the State, including Homesteads at Kinchega, Mount Drysdale (Cobar), Old Morago (Deniliquin) and Toorale (Bourke).

10.5 World Heritage Places

Of all the World Heritage Listed items, 554 have been inscribed for their cultural values, 144 for their natural values and 23 for mixed values. Within Australia, there are 14 World Heritage Areas, all being for their natural and/or cultural values, including the Willandra Lakes World Heritage Region.

Mungo National Park is located within the Willandra Lakes Region World Heritage Property. The Willandra Lakes Region was inscribed onto the World Heritage List in 1981 for its natural and cultural heritage values. These include archaeological evidence of human remains, tools, shell middens and animal bones, geology recording events of the Pleistocene Epoch and evidence of the change in direction of the earth's magnetic field in Aboriginal hearths — the 'Mungo Excursion'.

The pastoral values examined throughout this report were not originally part of the inscribed values for the region. However, the Plan of Management for the Willandra Lakes Region World Heritage property, 1996 goes further and identifies other values including pastoral history as contributing to the place. The research for this report supports this contention that the high significance of the historic cultural associations of the pastoral use and development within the region adds to, and strengthens the overall values of the region.

10.6 Aboriginal Places

The Aboriginal places within Mungo National Park have a special place in the story of human occupation of this continent. The archaeological places are of recognised world significance. Mungo is already world renowned and the name will continue to be synonymous with the 'proof' of the antiquity of Aboriginal culture and the dramatic environmental changes which have shaped the country since the Pleistocene Era. In addition, Mungo is important as a recognised Aboriginal keeping-place to which archaeological material has been returned. The fact that the controversy over the return of remains has been openly debated in relation to Mungo means that it is an important place in the development of this political and social debate.

With this in mind however, it is important to recognise that the 'sites' at Mungo are part of an Aboriginal cultural landscape that would have covered the entire Willandra Lakes system. For NPWS this means that linkages for visitors need to be drawn between the story as told at Mungo and that told by the evidence at other parks within the region (eg Kinchega).

One of the aspects of Aboriginal culture and history that is not well illustrated by the places at Mungo is the pastoral or contact history. This may be better illustrated at parks such as Kinchega which is located closer to the Darling River and so was known to be occupied during the historic period.

10.7 Historic Themes

Mungo and Zanci are typical examples of the subdivision of the back-block property Gol Gol, which was undertaken in 1921 for the soldier settlement scheme following World War I. Other nearby properties subdivided during this time into soldier settlement blocks include Jouluni, Leaghur, Arumpo and Garnpang.

The Donovan report² indicated that throughout the region during labour shortages in the 1860s, the Aboriginal population became an important part of the pastoral industry, being employed mainly as shepherds. An increase in fencing and paddocks made this role generally redundant at Mungo. As noted above, at Gol Gol, it is evident that Aboriginal people did not feature much in the record of pastoral work after 1880.

At Mungo and Gol Gol, records indicate that Chinese labourers were often employed across the region, chiefly in building, well and tank sinking and scrub-clearing/ringbarking. There is some evidence at Mungo to indicate that Chinese labourers were possibly involved in woolscouring operations near Mungo Woolshed as occurred on other New South Wales pastoral stations (see Figure 10.7).

The cleaning of wool was traditionally undertaken by one of two processes sheep washing prior to shearing, or scouring following shearing. By the 1880s, woolscouring became more common, but was not undertaken on all properties. Like sheep washing, the process required access to large quantities of water, and evidence suggests that it was undertaken at Mungo, using the Scour Tank (now House Tank) near the Mungo Woolshed. It is probable that wool was also transported from other properties to be cleaned at Mungo prior to transport.

10.8 Architectural Comparative Examples

The regional vernacular typology for building construction in the vicinity of Mungo National Park and within the World Heritage Area is predominantly timber post-and-beam construction with drop-log, cypress pine infills. This technique is shown in the Mungo Woolshed (see Figure 5.4) and the Zanci Stables (see Figure 10.8). The use of this particular technique for the stables in the 1950s is due to the owner's desire at the time to recreate the drop-log style, even though other construction methods were available. This type of vernacular construction also varied, as can be seen on the Zanci Stables, incorporating vertical slabs, gable ends, with horizontal drop-log walling comprising slotted vertical framing, with the split logs dropped between.

Examples of vernacular pastoral construction that have been lost include the first Mungo Shearers Cookhouse (demolished in 1954) (see Figure 5.15), the First Zanci Woolshed (see Figure 10.9) and first Zanci Homestead Kitchen (see Figure 6.1).

Figure 10.7
Chinese workers
scouring wool in
northwest New South
Wales 1880s.



Figure 10.8
Detail of the Zanci
stables construction,
showing thatch roofing
and drop-log
construction below.
The exterior vertical
posts restrain the
horizontal timbers.



Figure 10.9
The first Woolshed at
Zanci, showing post
and beam construction
with thatch roofing
(Barnes family
collection).



Corrugated iron was the other predominant building material as both wall and roof cladding for Zanci Homestead, Mungo Woolshed roofing, Mungo Shearers Quarters, shearers' kitchen and various other buildings at Mungo and Zanci. Thatching was also a popular regional vernacular construction material used (Willandra ram shed, see Figure 10.2), and can still be seen on the Zanci Stables. Thatching was also originally used on the first Woolshed at Zanci, which was an open-framed post and beam construction (see Figure 10.6).

The original section of Mungo Homestead is of weatherboard construction and was a caretaker's cottage for the Turlee Outstation of Gol Gol. The Mungo and Zanci complexes are architecturally typical in construction technique and building composition of late nineteenth to mid-twentieth-century pastoral complexes, which often encompass original settlement buildings with the new (as seen with the original section of Mungo Homestead and Mungo Woolshed).

10.9 Conclusion

While pastoral places appear regularly on heritage registers in Australia, most are located within the coastal margins. Remote, semi-arid and arid area places are rarer, and in particular those located on public lands and on back-block properties away from water, such as Mungo National Park. The regional vernacular construction techniques at Mungo National Park, such as drop-log and thatch roofing are also rare. Association with defunct pastoral processes such as woolscouring on properties and the involvement of Chinese work gangs are historic features that stand out at Mungo, as does the layering of distinctly different nineteenth and twentieth-century pastoral operations.

As a group, the semi-arid and arid lands pastoral stations within the NPWS estate in western NSW are important representatives of both nineteenth and twentieth-century pastoral practices and construction techniques. Mungo Woolshed best demonstrates nineteenth-century vernacular techniques in this group, the Mungo Homestead the layering of back-block and soldier settlement history, and Zanci complex the struggles of establishing a soldier settlement property. As a whole, Mungo National Park best demonstrates pastoral practice in an arid landscape.

10.10 Endnotes

¹ Ashley, Geoff, Denis Gojak & Carol Liston 1994, *An Outdoor Museum: Historic Places in the NSW National Parks and Wildlife Service Estate*, p 60.

² Donovan and Associates 1985, *Willandra Lakes World Heritage Region European Cultural History Study*.

11.0 Significance Assessment

11.1 Introduction

11.1.1 Scope of Significance Assessment

This is the first comprehensive report to assess the historic heritage of Mungo National Park. In accordance with the brief for this project the assessments of significance contained in this section focus on the historic features of Mungo National Park. As such, the report does not assess the significance of natural and prehistoric cultural values that have been addressed in the World Heritage property listing. However, any assessment of these historic values must acknowledge the natural and prehistoric values that form a broader context for the place; a context that has led to the inscription of the Willandra Lakes Region on the World Heritage list. Ironically, it is the prehistoric past that has shaped and continues to shape the recent history of Mungo resulting in NPWS acquisition and a conservation/cultural-tourism land use. As discussed below, there is a relationship between the historic and prehistoric values of Mungo and the interaction between the two sets of values adds to the historic heritage significance of the place.

11.1.2 Principles of Heritage Significance

The assessment of heritage significance endeavours to establish why a place or item is considered important and is valued by the community. Heritage significance is embodied in the fabric of the place (including its setting and relationship to other items), the records and oral accounts associated with the place and the response that the place evokes in the community. The term heritage significance is interchangeable with the term cultural significance.

The *Burra Charter* of Australia ICOMOS¹ includes the following definition of cultural significance:

Cultural Significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects.

The assessment of heritage significance relies on an understanding and analysis of the values of the site, derived from examination of the context of a place or item, the way in which its extant fabric demonstrates its function, its associations and its formal or aesthetic qualities. An understanding of the historical context of a place and consideration of the physical evidence are therefore key components in significance assessment. The description and analysis of the documentary and physical evidence contained in Sections 2.0 to 7.0, the contemporary social values in Section 9.0 and the comparative and contextual analysis in Section 10.0, together provide the basis for assessing the significance of the historic heritage of Mungo National Park.

The State Heritage Register listing for Mungo National Park identifies a natural heritage significance at a State level for its significantly high species diversity of flora and fauna, as well as a number of

fossil fauna species found within the lunette landscape. While natural values are not further addressed as part of this significance assessment reference has been made to the *Australian Natural Heritage Charter* and the *Natural Heritage Places Handbook* in relation to the formulation of conservation policy contained in Sections 12.0 and 13.0. The significance of the landscape needs to be assessed at all levels and appropriate conservation policies and management guidelines prepared. The ability of the landscape to demonstrate particular themes or groups of themes must be determined for input into interpretive planning.

11.2 Previous Heritage Assessments

The earliest citations for either Mungo National Park or the Willandra Lakes Region, such as the Register of the National Estate refer to natural and prehistoric values without addressing historic values. More recent citations such as the inclusion of the Willandra Lakes Region on the State Heritage Register include some information from the Willandra Lakes European Heritage report by Donovan Associates in 1985 and the outcomes of the Willandra Lakes Region World Heritage Property Plan of Management report in 1996. These references are general and refer to the development of the pastoral industry, the identification that traditionally affiliated Aboriginal people feel with this land and the links that landholder families have with the European settlement of this area.

The following is a discussion of the previous assessments and the listings that are included in Appendix B.

National Trust Landscape Conservation Area, 1977

Classified as a landscape conservation area, the Willandra Lakes System was listed for its scientific (geological and cultural) and its special scenic qualities.

Register of the National Estate, 1978

Listing on the Register of the National Estate for both Mungo National Park and Willandra Lakes Region occurred in 1978. The Mungo listing has a minor reference to Gol Gol Station and the Woolshed in the description but no reference in the statement of significance. The Illustrated Register of the National Estate² contains a detailed explanation of the prehistoric significance of Lake Mungo but once again does not include reference to historic heritage (see Appendix B).

Willandra Lakes Region World Heritage Listing, 1981

The citation for the World Heritage listing of 1981 includes both natural and cultural criteria. The cultural criteria includes only prehistoric Aboriginal occupation.

Willandra Lakes World Heritage Region: European Cultural History Study, 1986

This report by Donovan and Associates³ does not specifically include a statement of significance for the region but does provide a thematic analysis of the key historic themes of the region including: exploration; land legislation; water improvements; home life; social life; overstocking; remoteness; Chinese and Aboriginal workers; pastoral workers; closer settlement; rabbits; and technological improvement. Items are listed against these themes and are ranked according to how well they represent that theme. The report includes a summary history of each property.

Mungo Woolshed Draft Conservation Plan, c1991

This draft plan identified the architectural, technological, social and educational value of the Woolshed. The draft Statement of Significance identifies Mungo Woolshed as the most important historic site in the Willandra Lakes World Heritage Area.

Mungo National Park Plan of Management, 1995

The Plan of Management states that Mungo National Park, because of its status under the National Parks and Wildlife Act, has a special role within the World Heritage Area, the balance of which is leasehold land used for commercial grazing. The Plan identifies International, Regional and Local values. The historic features are described as of Local value; the only statement being 'The Park contains structures and relics of early pastoral history'.

Willandra Lakes Region World Heritage Property Plan of Management, 1996

The Willandra Lakes Region World Heritage Property Plan of Management report in 1996 identifies values other than the WHA listed values including cultural heritage, economic and social values. The cultural heritage values listed include the following:

- The Willandra Lakes Region was part of the history of inland exploration (Burke and Wills expedition) and of the development of the pastoral industry in western New South Wales.
- The Aboriginal history of the area is integral to that of southeastern Australia, illuminating a process of cross-cultural interaction and Aboriginal dispossession. It reflects Aboriginal involvement in the pastoral industry, and the lives of local communities in the late nineteenth century and in more recent times.
- The area's historical archaeology (eg the 1860s Mungo Woolshed) provides a material record of the social, technological and economic history of pastoral settlement in western New South Wales.
- Archaeological sites of the nineteenth century provide valuable evidence of the interaction between Aboriginal people and European settlers in the period of first contact.

The social values identified include:

- The Willandra's traditionally affiliated Aboriginal people proudly identify themselves by this land. Their ancestors lived on this land for tens of thousands of years.
- The Willandra's primary producer landholder families have links with the European settlement of the region. They possess proud land management skills resulting from experience passed down from generation to generation.
- The remoteness of the area creates neighbourly support and a sense of community, particularly in times of need, for example during fire, flood and drought. At the same time the isolation promotes family self-sufficiency.

The economic values identified include:

- The region has increasing importance as a tourism destination, with tourists attracted to Lake Mungo, the World Heritage sites and pastoral environments close to Mildura and other parts of the Sunraysia tourist complex. Farm stays and guided tours provide an alternative income for regional communities.
- The region has value as a centre for research. Study tours and student work add to the regional economy and offer opportunities for regional tourism ventures based on research and education.
- The unique aesthetics of the Willandra landscape offer excellent visual and recreational opportunities that assist education and interpretation of its natural and cultural heritage within a regional, national and international context.

NSW State Heritage Register Listing, 1999

The Willandra Lakes Region was included on the NSW State Heritage Register as Item No. 01010 on 2 April 1999. The SHR listing includes some of the outcomes of the WHA PoM and the Donovan report in the listed criteria and in the Statement of Significance. The SHR boundary follows that of the WHA and therefore the part of Mungo National Park that is west of the Walls of China is within the World Heritage Area, and subject to the State Heritage Register requirements.

11.3 Discussion of Significance

11.3.1 Tangible and Intangible Attributes

The heritage significance of any place comes from both tangible and intangible attributes. The *tangible* attributes flow from the *ability of its physical remains to demonstrate* certain things. The *intangible* attributes flow from the *associations* of the place with people and events.

Tangible Attributes – Ability to Demonstrate

Listed below are some examples of where the physical remains in Mungo National Park demonstrate various historical themes and events.

- The physical layout of buildings and sites of former buildings reflect the functional arrangements and hierarchies within the pastoral complexes at different times. At both Mungo and Zanci Station complexes, functional groupings have moved and/or disappeared over time. The key groupings were the Homesteads, Shearers Quarters, Woolshed and storage sheds.
- The landscape settings of both the Mungo and Zanci complexes demonstrate similar patterns of settlement established in other rural areas. Both are located in or near the natural tree line and facing north or easterly to catch early morning sun. Mungo is actually situated on the far western shoreline of the lake just within the lake bed while Zanci is above the lake bed also on the western shore.
- The distribution of historic features throughout Mungo National Park reflect the management of pasture lands at different times which was dependant on various factors, including: the availability of water, stock types and stocking rates, impact of pests and changes in ownership boundaries.
- The Woolshed at Mungo demonstrates by its size the scale of the nineteenth century 'back-block' pastoral holdings. It demonstrates fluctuations in shearing numbers reflecting the changes in the size of the property and changes in technology. Its drop-log Murray pine construction represents a regional vernacular form of timber construction. Zanci Woolshed reflects a more expedient use of materials and the process of re-use in materials typical of rural heritage properties.
- The underground logged tank at Mungo Woolshed and the early ground tanks and associated drains throughout out Mungo National Park demonstrate the practice of water conservation so essential to both nineteenth century and twentieth century practices. The above-ground corrugated iron tanks reflect twentieth century changes. The shaft located in the northeast corner of Mungo National Park reflects unsuccessful attempts to locate water, and the logged wells at Vigar's Well reflects the utilisation of natural soakage areas to obtain water. These features are also linked to prehistoric 'water' themes, in fact the landscape itself, such as the dune upon which the pastoral complexes sit, are tangible evidence of changes in the environment.
- A number of features demonstrate pastoral practices and technology no longer used. The building ruin near the former Mungo Scour Tank (now Mungo House Tank) and the remains of a trolley line from the Woolshed to the tank are likely to provide evidence of late nineteenth century woolscour operations.

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- Existing buildings and archaeological remains of former buildings are likely to provide evidence of changing industrial working practices for shearers and other farm workers.
 - Mungo Homestead provides tangible evidence of the two key phases in Mungo's history. The central section of the Homestead is a typical reflection of the design of managers' quarters for a large property, and the 1950s additions reflect the economic boom of that time and the family accommodation that it provided for.
 - The changes in the natural environment resulting from human activity and natural weather cycles are 'writ large' on the landscape. The buried Middle Yards at Mungo are a graphic reflection of long-term erosion and an inundation of sand following a single sandstorm. By contrast, the relative prosperity brought about by good rains in the 1950s is reflected in the amount of building and yard construction at that time.
 - The Allens Plains Hut ruin is evidence of the need for additional accommodation in remote parts of the property and its re-use from an earlier building located in the Mungo complex evidence of typical rural re-use.
 - The possible wheel rut remains of a wool-dray track near Vigar's Wells is evidence of an early transport route no longer used that connected with Gol Gol Station and the Travelling Stock Route (TSR).
 - While some buildings were in a poor condition, the removal of much of the Zanci complex by either sale, relocation or demolition is evidence of a previous philosophical approach within the NPWS to 'restore' natural landscapes.
 - Any remaining fabric of the Mungo Racecourse remaining on Joulni Station would reflect the social life of the region and family connections between properties.
 - Archaeological sites attesting to Aboriginal occupation of the Park from over 40,000 years ago up to European invasion provide visible evidence of the prehistory of the area for visitors and scientists and the Aboriginal community.

Intangible Attributes – Associations

Listed below are some examples of the intangible attributes of the historic heritage of Mungo National Park.

- Mungo National Park is associated with the process of nineteenth century land grants and the pattern of tenure following the Robinson Land Acts and the 'soldier settlement' schemes for the closer settlement of land.
- The former pastoral properties are associated with social events for which there is no evidence.

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- The possible association with Aboriginal pastoral workers. Section 2.0 identifies that there is nineteenth century documentary evidence in relation to Aboriginal involvement in the pastoral industry in western New South Wales but not specifically Mungo/Gol Gol. The oral evidence in relation to the twentieth century suggested possible transient/temporary involvement⁴ such as droving but not employment on the stations themselves⁵ (see Section 2.0 for details).
 - The involvement of Chinese workers in the late nineteenth century for which there is documentary but no physical evidence.
 - Associations with the Patterson family who owned Mungo Station between 1874 and 1922.
 - Associations with the Vigar/Stirrat, and Barnes families who owned Zanci and Mungo respectively and are also associated with the adjoining properties of Joulni and Leaghur.
 - Associations with Gol Gol Station as the former head station of this area during the nineteenth century and the remains of the Mungo Racetrack Shelter on Joulni Station.
 - Associations with scientists and specific universities (such as ANU) who have a long history of research at Mungo.
 - The identification of the Walls of China as a landscape feature from c1890 and its role as a scenic place from the 1940s, as well as its more recent use as a cultural tourism destination has provided the place as a whole with additional cultural associations.
 - Mungo National Park has an iconic value to many Australians as a place renowned for archaeological discoveries that fundamentally changed our understanding of the nature and antiquity of Aboriginal occupation of the continent.
 - The World Heritage Property listing of the Willandra Lakes Region reflects the value that Mungo National Park has to the Australian and world communities.

11.3.2 Discussion of Study Themes

The tangible and intangible evidence identified above, together with the key values identified in previous assessments and other evidence analysed in this report, point to several key thematic foundation stones to the significance of the historic features in Mungo National Park.

When the Willandra Lakes Region was inscribed on the World Heritage List in 1981 one of the criteria used was as:

an outstanding example representing ongoing geological processes, biological evolution and human society's interaction with the natural environment, especially if communities of plants and animals, landforms and marine and freshwater bodies.

In elaborating the area's significant features the nominating document stresses long-term Aboriginal interaction with the environment:

It offered rare insights into human interaction with this dramatic landscape of lakes, lunettes and sand dunes over great periods of time.

This theme of **human interaction with the environment** is the overarching theme that also permeates the historic heritage of Mungo National Park. While not directly comparable in terms of significance or values there are strong thematic similarities between Mungo's historic and prehistoric values. Under this overarching theme there are three sub-themes that underpin the significance of historic heritage in Mungo National Park.

The first sub-theme is **the evolving system of land tenure and use** that has provided the framework for the pastoral and later uses of the land. Within this theme the prevailing cultural/political approach to land management at different times has been influenced by the reality of the natural environment in these back-block areas (for example the 1884 Land Act).

The second sub-theme is the **evolving nature of pastoral processes** that depended upon changing working relationships, world markets, environmental conditions/pests, family and social structures and available/affordable technology.

The third sub-theme is that of **changing awareness and appreciation of the natural and cultural environment** over time. What stands out in the history of Mungo is the long-held appreciation of it as being a special place. The Walls of China have been known as that since the 1890s; artists depicted the Walls from the 1940s; and from the 1960s tourists were both welcome and at times a hindrance to the managers of the place. Discovery of prehistoric archaeological sites, NPWS acquisition and removal of buildings, in an unstated desire to 'restore nature', are part of this journey of discovery of the natural environment as a cultural artefact.

While these three themes are roughly chronological in their occurrence they are strongly interdependent. For example, the State government's decision to establish the national park is but a recent example of the long history of government regulation of the management of lands in the western districts of New South Wales.

As discussed below some aspects of the history and remaining buildings and structures at Mungo are representative of the typical processes and products of settlement in western New South Wales. For example, Zanci can be seen as representative of 'soldier settlement' properties. Some aspects are unique to the place and provide it with a degree of rarity. As a group, the pastoral stations that are located within the World Heritage Area have special values that set them apart from other far-western New South Wales properties.

11.4 New South Wales Assessment Criteria

The *NSW Heritage Act, 1977*, was amended in 1999 to provide for the establishment of the State Heritage Register (SHR). As part of this amendment, the NSW Heritage Council adopted revised criteria for assessment of heritage significance. These heritage assessment criteria were published in 2001 as part of the *NSW Heritage Manual*.⁶ (Mungo National Park was chosen as a case study example in these assessment guidelines as a place reflecting multiple heritage values.)

In broad terms the seven assessment criteria represent the following values: two historic criteria (evolution and association), aesthetic; social; research potential; rarity; and representative. Listed below are the NSW State Heritage Register heritage assessment criteria, contained in the *NSW Heritage Manual*, together with the relevant inclusion and exclusion guidelines.

Criterion (a) – An item is important in the course, or pattern, of NSW’s cultural or natural history (or the cultural or natural history of the local area).

Inclusion Guidelines	Exclusion Guidelines
Shows evidence of a significant human activity	Has incidental or unsubstantiated connections with historically important activities or processes
Is associated with a significant activity or historical phase	Provides evidence of activities or processes that are of dubious historical importance
Maintains or shows the continuity of a historical process of activity	Has been so altered that it can no longer provide evidence of a particular association

Criterion (b) – An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW’s cultural or natural history (or the cultural or natural history of the local area).

Inclusion Guidelines	Exclusion Guidelines
Shows evidence of significant human occupation	Has incidental or unsubstantiated connections with historically important people or events
Is associated with a significant event, person or groups of persons	Provides evidence of people or events that are of dubious historical importance
	Has been so altered that it can no longer provide evidence of a particular association

Criterion (c) – An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).

Inclusion Guidelines	Exclusion Guidelines
Shows, or is associated with, creative or technical innovation or achievement	Is not a major work by an important designer or artist

Inclusion Guidelines	Exclusion Guidelines
Is the inspiration for a creative or technical innovation or achievement	Has lost its design or technical integrity
Is aesthetically distinctive	Its positive visual or sensory appeal or landmark and scenic qualities have been more than temporarily degraded
Has landmark qualities	Has only a loose association with a creative or technical achievement
Exemplifies a particular taste, style or technology	

Criterion (d) – An item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.

Inclusion Guidelines	Exclusion Guidelines
Is important for its associations with an identifiable group	Is only important to the community for amenity reasons
Is crucial to a community's sense of place	Is retained only in preference to a proposed alternative

Criterion (e) – An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area).

Inclusion Guidelines	Exclusion Guidelines
Has the potential to yield new or further substantial scientific and/or archaeological information	The knowledge gained would be irrelevant to research on science, human history or culture
Is an important benchmark or reference site or type	Has little archaeological or research potential
Provides evidence of past human cultures that is unavailable elsewhere	Only contains information that is readily available from other resources or archaeological sites

Criterion (f) – An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area).

Inclusion Guidelines	Exclusion Guidelines
Provides evidence of a defunct custom, way of life or process	Is not rare
Demonstrates a process, custom or other human activity that is in danger of being lost	Is numerous but under threat

Inclusion Guidelines	Exclusion Guidelines
Shows unusually accurate evidence of a significance human activity	
Is the only example of its type	
Demonstrates designs or techniques of exceptional interest	
Shows rare evidence of a significant human activity important to a community	

Criterion (g) – An item is important in demonstrating the principal characteristics of a class of NSW’s cultural or natural places; or cultural or natural environments (or a class of the local area’s cultural or natural places; or cultural or natural environments).

Inclusion Guidelines	Exclusion Guidelines
Is a fine example of its type	Is a poor example of its type
Has the principal characteristics of an important class or group of items	Does not include or has lost the range of characteristics of a type
Has attributes typical of a particular way of life, philosophy, custom, significant process, design, technique or activity	Does not represent well the characteristics that make up a significant variation of a type
Is a significant variation to a class of items	
Is part of a group which collectively illustrates a representative type	
Is outstanding because of its setting, condition or size	
Is outstanding because of its integrity or the esteem in which it is held	

11.5 Application of NSW Assessment Criteria

11.5.1 Criterion (a) – History

An item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area)

- The historic heritage of Mungo National Park provides evidence of human interaction with the environment; one of the key reasons for the World Heritage listing of the Willandra Lakes Region. The pastoral history of Mungo National Park provides strong evidence of recent human interaction with the environment that complements the prehistoric World Heritage values. The recent NPWS phase of Mungo National Park's history, arising out of recognition of the cultural and natural values of the place, has allowed for the public appreciation and interpretation of all aspects of this important historic theme.
- Mungo National Park provides important evidence of the changing nature of government intervention in the ownership and land use in western New South Wales. The history of Mungo National Park reflects three key strategies: the **regulation** of large back-block pastoral properties (away from permanent water) associated with the Robertson Land Acts and establishment of the Western Lands Board to **manage** land use; the **breaking-up** of larger runs to create smaller 'soldier settlement' properties after the First World War and the **acquisition** by the government of pastoral properties for natural and cultural heritage conservation.
- Mungo National Park shows evidence of the continuity and change to pastoral practices over a hundred years, reflecting changes in the land tenure, available technology, social structures and labour arrangements. The distribution of historic features throughout Mungo National Park reflect the management of pasture lands at different times which were dependant on various factors including: financial markets, the availability of water and feed, stock types and stocking rates, the impact of pests and changes in ownership boundaries.
- Mungo and Zanci Stations reflect the change in scale and operations that occurred when they were established as 'soldier settlement' properties in 1923. Differences with earlier/larger properties included available capital, size of properties and the importance of co-operative working relationships with neighbouring properties such as the value of family connections, making-do and re-using material. The contrast between the results of greater capital investments with the early Mungo property and the Depression-era establishment of Zanci are striking.
- Mungo National Park is significant as part of the large back-block nineteenth century pastoral property Gol Gol and it provides evidence of nineteenth century pastoral practices including: wool scouring on site using steam powered lift pumps, the use of the bullock drays and water transport to reach markets, water management utilising both lined underground and in-ground

earthen-wall tanks, hand and mechanical shearing practices, pest control (rabbits), labour relations (including employment of Chinese gangs), the basic nature of staff accommodation and working relationships. Evidence of this phase is particularly strong in the Mungo Station complex that was an outstation of the Gol Gol property.

- Mungo Woolshed demonstrates by its size the scale of the nineteenth century back-block pastoral holdings and stock numbers run on those properties. It demonstrates the fluctuations in shearing numbers reflecting the changes in the size of the property and changes in technology over time. The drop-log white cypress/Murray pine (*Callitris columellaris*) Mungo Woolshed represents an early regional vernacular timber construction form. Evidence of former buildings from this phase suggests a typology of drop-log structures, including the logged tanks.
- The Zanci Station complex strongly reflects the ‘soldier settlement’ phase of site occupation, characterised by smaller capital outlay, modest scale of operations and economy of materials. The first Woolshed reflected the use of vernacular rural technology with its thatch roof. The second Zanci Woolshed reflects a more expedient use of materials and the process of re-use in materials (from Mungo Woolshed) that is typical of rural heritage properties. Within Zanci complex there are identifiable phases of establishment and operations starting with the tent accommodation.
- Mungo Homestead is a tangible linkage between the two key phases in Mungo’s nineteenth and twentieth-century history. The central section of the Homestead was the manager’s cottage when part of Gol Gol and is a typical reflection of the design of commercially available managers’ quarters for a large station property. The 1950s additions to form Mungo Homestead reflect the economic boom of that time and the Barnes family accommodation that it provided.
- The physical layout of buildings and sites of former buildings reflect the functional arrangements and hierarchies within the pastoral complexes at different times. At both Mungo and Zanci Station complexes functional groupings have moved and/or disappeared over time. The key groupings were the Homesteads, Shearers Quarters, Woolsheds and storage sheds.
- The underground logged tank at Mungo Woolshed and the ground tanks and associated drains throughout Mungo National Park demonstrate the practice of water conservation that was so essential to both nineteenth century and twentieth century practices. The above-ground corrugated iron tanks reflect twentieth century changes. The shaft located in the northeast corner of Mungo National Park reflects unsuccessful attempts to locate water, and the logged well at Vigar’s Well reflects utilisation of natural soakage areas to obtain water.
- A number of features demonstrate pastoral practices and technology no longer used. The building ruin near the former Mungo Scour Tank (now Mungo House Tank), the tank itself and the remains of a trolley line from the Woolshed to the tank are likely to provide evidence of late nineteenth-century woolsour operations.

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- The Allens Plains Hut ruin is evidence of the need for additional accommodation in remote parts of the property and its re-use from an earlier building located in the Mungo complex is typical evidence of material re-use in rural areas.
 - Mungo National Park provides graphic evidence of changes in the natural environment resulting from human activity and natural weather cycles. These are 'writ large' on the landscape. The buried Middle Yards at Mungo are a graphic reflection of long-term erosion and an inundation of sand following a single sandstorm. The relative prosperity brought about by good rains in the 1950s is reflected in the amount of building and yard construction in that time.
 - The possible wheel rut remains of a wool-dray track near Vigar's Wells is evidence of an early transport route no longer used that connected with Gol Gol Station and the Travelling Stock Route (TSR) that passed through this area.
 - The removal of much of the Zanci complex by either prior sale, relocation or demolition is evidence of an earlier approach within the NPWS to 'restore' natural landscapes.
 - Mungo National Park is historically significant as an early establishment of a national park for its cultural as well as its natural values. The archaeological recording and research undertaken at Mungo are of historical significance in their own right.
 - Mungo National Park and the Walls of China in particular are historically significant as a regionally important place for scenic and cultural tourism history dating to the 1940s.

The State Heritage Register inclusion criteria satisfied are:

- shows evidence of a significant human activity;
- is associated with a significant activity or historical phase; and
- maintains or shows the continuity of historical process or activity.

11.5.2 Criterion (b) – Historical Associations

An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area)

- The area of Mungo National Park is significant for its association for nearly 50 years with the Pattersons, a well-known Melbourne pastoralist family, and in particular John Patterson who, except for a short period between 1882 and 1886, controlled the Gol Gol pastoral station until his son took over between 1911 and 1922.
- The Mungo Station complex area is significant for its association with gangs of Chinese workers in the late nineteenth century for which there is some documentary and oral evidence but no physical evidence. While there is no evidence supporting the construction of the Woolshed by

Chinese gangs, there is documentary evidence to indicate that Chinese gangs did definitely work on Mungo associated with ground tank sinking and maintenance but probably also wool scouring and rabbit eradication. Oral evidence suggests a role in growing vegetables near the Woolshed underground tank and possible occupation of the hut site near the former Scour Tank.

- Mungo Station is significant for its association with Albert and Venda Barnes who ran the property from 1934 until its sale to the NPWS in 1978. The Barnes maintained a viable pastoral property and undertook conservation works to the Woolshed, with the co-operative assistance of family relations on Zanci, Joulni and Leaghur Stations. During their period of occupation Mungo Station was often the centre of local social activities including the Mungo Races (on neighbouring Joulni Station) and the centenary celebrations for the Woolshed. Evidence points to the Barnes family regard for the historic buildings in their care. The association with the Barnes family is significant, as they were involved in the management of tourism associated with the scenic values of the Walls of China and the later scientific and archaeological discoveries.
- Zanci Station is associated with the Vigar and Stirrat families who owned the property from 1921 until its acquisition by the Clothiers in 1979. The family members living on the property were also associated with pastoral activities in the local area such as ground tank sinking and maintenance. The Vigar and Stirrat families were also associated with the adjoining properties of Joulni and Leaghur.

The State Heritage Register inclusion criteria satisfied is:

- is associated with a significant event, person or groups of persons.

11.5.3 Criterion (c) – Aesthetic/Creative

An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area)

- Both Mungo and Zanci Station complexes have a strong aesthetic appeal based on their unique natural landscape setting against the background of the Walls of China and their careful sighting against the lunettes that surround the western shore of Lake Mungo. Located above the lake bed, the settings of both complexes have a strong sense of spatial enclosure. Within the settings the complexes have different visual characteristics; Mungo as an intact functional complex and Zanci as an evocative ruin site.
- Mungo Woolshed is aesthetically significant as a landmark building. It demonstrates by its size the scale of the nineteenth century back-block pastoral holdings and it also demonstrates later changes in the size of the property and in available technology. Its drop-log timber frame construction represents a fine example of regional vernacular timber design. Its setting at the edge of Lake Mungo also gives it landmark qualities.

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- Mungo Homestead is aesthetically distinctive for the evidence it provides for both the Gol Gol and Mungo Station periods.
 - The buried Middle Yards are aesthetically distinctive as an example of the effects of erosion in this environment.
 - The ground water drains and tanks are distinctive elements in the landscape that define the pastoral history of the place.
 - Zanci Stables are of aesthetic significance as a good example of regional vernacular architecture.
 - The view from the front garden of Mungo Homestead towards the Woolshed, over the lake bed and to the distant Walls of China is a significant part of the place, contributing to its aesthetic value. Other significant views include those from the western lunette to the Mungo complex and from the Mungo House Tank back towards the complex. At Zanci the view from the low hill to the south provides an important view over the whole complex.
 - The exotic plantings around the site of the former Zanci Homestead, including sugar gums, a mulberry tree and pepper trees have aesthetic significance as components of the landscape setting of the place and are important markers for the interpretation of the non-Aboriginal history of the place.
 - The exotic plantings around the Mungo Homestead, including several species of introduced eucalypts and clumps of *Agave americana* either side of the entrance drive have aesthetic significance as components of the landscape setting of the place and are important markers for the interpretation of the non-Aboriginal history of the place.
 - The identification of the Walls of China as a landscape feature from c1890, their role as a scenic attraction from the 1940s and their more recent use as a World Heritage Area cultural tourism destination has provided the place as a whole with additional cultural landscape associations.

The State Heritage Register inclusion criteria satisfied are:

- is aesthetically distinctive;
- has landmark qualities; and
- exemplifies a particular taste, style or technology.

11.5.4 Criterion (d) – Social

An item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons

- The World Heritage Property listing of the Willandra Lakes Region and associated archaeological research to establish the antiquity of human occupation in Australia has very strong cultural meaning and associations both for Aboriginal and non-Aboriginal Australians, bringing together people of all cultural backgrounds because of the universal values of the place.
- Mungo National Park has special associations for members of the Vigar, Stirrat and Barnes families and their descendants, who lived on the Mungo and Zanci properties.
- Mungo National Park has special associations for Aboriginal people because of the iconic status of the area to their cultural history. It allows them to walk in the ‘footsteps of the past’, to share an appreciation of the Park’s historic pastoral features (that contemporary rural Aboriginal communities are familiar with) and to re-establish a connection to country.
- Any remaining fabric of the Mungo Racecourse remaining on Joulni Station would reflect the social life of the region and family connections between properties.
- Mungo National Park has social value to the neighbouring pastoral community both for its role as a social focus prior to acquisition and as a regional tourist attraction today.
- Mungo National Park has social value to regional urban communities (such as Broken Hill and Mildura) for its role as an international tourist attraction.
- Mungo National Park is significant to particular researchers and a portion of the scientific community who have carried out important research there over a number of years.
- Is of social significance to Australians generally as a place that has become synonymous with our understanding of the antiquity and sophistication of Aboriginal culture and for research outcomes that have become highly popularised and are responsible for a fundamental change in our understanding of the nature and antiquity of Aboriginal culture.

The State Heritage Register inclusion criteria satisfied are:

- is important for its associations with an identifiable group; and
- is crucial to a community’s sense of place

11.5.5 Criterion (e) – Potential to Yield Information

An item has potential to yield information that will contribute to an understanding of NSW’s cultural or natural history (or the cultural or natural history of the local area)

- Existing buildings and archaeological remains of former buildings are likely to provide evidence of changing industrial processes and working practices for shearers and other farm workers.
- The former pastoral station complexes have the potential to yield information on pastoral processes no longer practised, in particular woolscouring operations on what became Mungo Station.
- The former pastoral station complexes have the potential to yield information on pastoral life, in particular the Depression-era life on Zanci Station.
- Within the complexes there are significant spatial areas defined by functional arrangements, social hierarchy and physical location. At Mungo the Shearers Quarters are pointedly located away from the shelter provided by lunette vegetation around the Homestead. At Zanci the grouping of features in three loose areas reflects the phases of Zanci Station’s establishment.
- Further historical research has the potential to yield a better understanding in the following areas of New South Wales history: nineteenth-century back-block properties; twentieth-century soldier settlement properties, and the involvement of Aboriginal and Chinese workers in the pastoral industry.
- There is potential to yield further information from the nearby physical evidence of human activity stretching back millennia, part of the ‘longevity’ of human occupation in the area.

The State Heritage Register inclusion criteria satisfied are:

- has the potential to yield new or further substantial scientific and/or archaeological information; and
- provides evidence of past human cultures that is unavailable elsewhere.

11.5.6 Criterion (f) – Rarity

An item possesses uncommon, rare or endangered aspects of NSW’s cultural or natural history (or the cultural or natural history of the local area)

- The coalescing of two key phases of western New South Wales pastoral history (large back-block runs and smaller soldier settlement properties) within a setting of important prehistoric cultural and natural values and scenic values is of uncommon rarity. Mungo Woolshed and Mungo Homestead best exemplify the two pastoral phases. The juxtaposition of pastoral and

other values is exemplified by the last phase of pastoral occupation when Mungo Station was both a pastoral property and attracted both tourists and scientists.

- Mungo Woolshed is a rare nineteenth-century woolshed structure of exceptional historic and aesthetic heritage value.
- The woolscour operations associated with the Mungo Woolshed and the Scour Tank (now House Tank) provide evidence of a defunct process.

The State Heritage Register inclusion criteria satisfied are:

- provides evidence of a defunct custom, way of life or process;
- demonstrates designs or techniques of exceptional interest; and
- is the only example of its type.

11.5.7 Criterion (g) – Representative

An item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places; or cultural or natural environments (or a class of the local area's cultural or natural places; or cultural or natural environments)

- The pastoral history of Mungo National Park is representative of both the large nineteenth-century back-block properties and the twentieth-century soldier settlement pastoral properties.
- The former Gol Gol/Mungo Station is evidence of the association between pastoral properties and Chinese workers gangs in the late nineteenth century; in this case the Chinese worked on ground tank maintenance but probably were also associated with woolscouring operations.
- The design and material used in the construction of the Mungo Woolshed and Zanci Stables buildings is representative of traditional vernacular rural construction in the far southwest and Riverina of New South Wales; the design and materials used in other buildings including Mungo Homestead and the Shearers Quarters is representative of commercial vernacular construction from the late nineteenth to mid-twentieth century.

The State Heritage Register inclusion criteria satisfied are:

- has attributes typical of a particular way of life, philosophy, custom, significant process, design, technique or activity; and
- is part of a group which collectively illustrates a representative type.

11.6 Statement of Cultural Significance

The historic heritage resources and values of Mungo National Park, located within the Willandra Lakes Region World Heritage Property, are of considerable significance for the State of New South Wales. These resources, concentrated around the former Mungo and Zanci pastoral station complexes, but also found throughout Mungo National Park, are from three phases of occupation; as part of the large nineteenth-century back-block pastoral property Gol Gol; as the Mungo and Zanci pastoral station soldier settlement properties; and for almost a quarter of a century as Mungo National Park.

These three phases sit within an overarching historic theme of human interaction with the environment. In this, the historic heritage complements the well-known deep history of Aboriginal interaction with the environment evidenced at Mungo, and part of the citation for the Willandra Lakes Region World Heritage Property listing. Within this theme are three sub-themes underpinning the significance of the place and associated with the changing nature of the land tenure framework, pastoral processes, and awareness and appreciation of the natural and cultural environment.

Significant evidence of the changing nature of government intervention in the ownership and use of land in western New South Wales is provided by: the regulation and management of large back-block pastoral properties (away from permanent water); the breaking-up of larger runs to create smaller soldier settlement properties after the First World War and the acquisition of pastoral properties for natural and cultural heritage conservation.

The two phases of pastoral history represented in Mungo National Park provide important evidence of change in pastoral practices. During the first back-block phase there were large runs, outstations, capital investment and scale of operations (such as wool scouring for other properties). During the soldier settlement phase there were smaller family properties, less capital and a re-use of materials but better technology, pest control and less overstocking. Both phases provide evidence of defunct pastoral processes such as localised wool scouring and evidence of changing labour relations.

Mungo National Park is significant for its association with the Pattersons, a well-known Melbourne pastoralist family, and in particular John Patterson. Mungo Station is significant for its association with Albert and Venda Barnes who owned the property from 1934. Zanci Station is associated with the Vigar and Stirrat families who owned the property from 1921 until 1979. The Mungo Station complex area is significant for its association with gangs of Chinese workers in the late nineteenth century who were associated with ground tank sinking and maintenance but probably also wool scouring and rabbit eradication.

The setting of Mungo and Zanci Station complexes have aesthetic significance based on their unique natural landscape background of the Walls of China and their careful siting above the lake bed against the lunettes that surround the western shore of Lake Mungo. There are important views to and from the complexes and both contain evidence of cultural plantings.

Mungo Woolshed demonstrates by its size the scale of the nineteenth-century back-block pastoral holdings and it also demonstrates later changes in the size of the property and in available technology. Its timber frame and drop-log construction represents a fine example of regional vernacular architecture. Its setting at the edge of the Lake Mungo also gives it landmark qualities. Mungo Woolshed is a rare nineteenth-century woolshed structure of exceptional historic and aesthetic heritage value.

Within the complexes there are significant spatial areas defined by functional and social arrangements and hierarchies. Other aesthetically distinctive elements include: Mungo Homestead for the evidence it provides for both the Gol Gol and Mungo Station periods; the buried Middle Yards, as an example of the effects of erosion in this environment; the ground water drains and tanks that define the importance of water conservation, and Zanci Stables, as a good example of regional vernacular architecture. The identification of the Walls of China as a landscape feature from c1890, and as a landmark depicted in art from the 1940s, as well as their more recent use as a World Heritage Area cultural tourism destination has provided the place as a whole with additional cultural landscape associations.

The World Heritage Property listing of the Willandra Lakes Region has very strong cultural meaning and associations both for Aboriginal and non-Aboriginal Australians, bringing together people of all cultural backgrounds because of the universal values of the place. Mungo National Park has special associations for members of the Vigar, Stirrat and Barnes family and their descendants, who owned and lived on the Mungo and Zanci properties. Mungo National Park has special associations with scientists and specific universities who have a long history of research there. Mungo National Park has special associations for Aboriginal people through the affirming iconic status of the area and because it allows them to share an appreciation of the Park's historic pastoral features and to re-establish a connection to country.

Existing buildings and archaeological remains of former buildings and other pastoral structures have the potential to yield information on pastoral processes and lifestyle no longer practised. Further historical research has the potential to yield a better understanding of nineteenth-century back-block properties, twentieth-century soldier settlement properties, and the involvement of Aboriginal and Chinese workers in the pastoral industry.

The pastoral history of Mungo National Park is representative of the large nineteenth-century back-block properties and the twentieth-century soldier settlement pastoral properties and the design and material used in the construction of the building reflect both traditional regional vernacular and commercial vernacular construction. Rarity value for the place as a whole is demonstrated by the coalescing of the two key phases of western New South Wales pastoral history and a more recent conservation phase within a setting of important prehistoric cultural, natural values; together representing the World Heritage theme of human interaction with the natural environment.

11.7 Graded Zones of Significance

11.7.1 Introduction

The significance of the various elements of Mungo National Park have been assessed and ranked for the purpose of enabling decisions on the future conservation of the place to be based on an understanding of its overall State level of significance. The ranking is on the basis of the contribution each element makes to the overall significance of the item (or its corollary, the degree to which the significance of the item would be diminished if the item was removed or altered).

In general terms the following conclusions can be made:

- Both the nineteenth and twentieth century pastoral periods are equally significant in historic terms. However, the rarity or defunct nature of some of the earlier processes (for example, drop-log construction and wool scouring) renders some elements of the Gol Gol phase as more important through rarity.
- Elements that demonstrate continuity and/or adaptation through both phases are important, for example the Mungo Homestead and the Mungo House Tank provide evidence of both phases.
- Elements relating to the ongoing NPWS phase of ownership are contributing to the overall significance of the place and its historic themes but are not as significant in providing evidence of changed aspects of New South Wales history.
- Some elements provide for an understanding of functional arrangements even if they themselves are not of particular rarity. For example the 1934 Shearers Quarters at Mungo are important because they are located in roughly the same location as earlier quarters (in an inhospitable location) and allow the complete functional hierarchy of Homestead, Woolshed and shearers to be understood.
- The level of significance of some elements such as the buried Middle Yards is a result of the evidence they provide over and above their 'intrinsic' significance; in this case evidence of the impact of grazing on fragile soils.
- The level of significance of the areas identified as potentially having archaeological deposit cannot really be assessed without archaeological investigation to reveal that potential. In some cases however should such deposits be revealed their significance may be very great. Hence a precautionary approach to these areas (that is, treatment as if significant) is warranted until such time as they are tested and the discoveries assessed.

11.7.2 Ranking Criteria

The following criteria are a modified version of the criteria listed in the *NSW Heritage Manual*.

Exceptional: Rare or outstanding elements directly contributing to Mungo National Park's State significance. Any alterations contribute to significance.

High: High degree of original fabric or associations. Demonstrates elements of the place's key phases of significance and any alterations do not detract from significance.

Moderate: Elements with some heritage value that relate to a phase of history that contributes to, but is not a key element in, the overall significance of the place. They may have been modified or altered.

Little: Elements that would otherwise be of Moderate value but which detract from significance of other elements by their location or scale.

Given that all phases contribute to the significance of the place the Heritage Manual level of Intrusive is not used in this case; generally NPWS phase elements are considered to be of Moderate significance except where they detract from overall significance. In this case they are of Little significance.

11.7.3 Significance of Elements

The buildings and other visible elements below are the most or least significant or are a representative sample of a type. Archaeological sites are assessed as areas of Potential Archaeological Deposits (PADs) in Sections 5.0 to 7.0

Element Name	Significance Ranking	Rationale
Intact Buildings		
Mungo Woolshed	Exceptional	Both historic phases, evidence of changed processes, exemplar vernacular architecture
Mungo Homestead	Exceptional	Both historic phases
Mungo Shearers Quarters	High	Important function element in complex
NPWS Staff Quarters	High	Relocated early Zanci building
Mungo-drop log toilets	High	Both historic phases but reduced associations
Mungo Station phase outbuildings	High	Second historic phase
Mungo NPWS phase generally	Moderate	Last phase of Moderate significance

Element Name	Significance Ranking	Rationale
Mungo Visitors Centre	Moderate	Detracts from complex setting but has significance for its Aboriginal keeping place role and it contributes significant interpretation to Mungo generally
NPWS Staff Quarters	High	Re-use of early Zanci building
Zanci stables	High	Vernacular regional architecture (slabs and thatch)
Zanci Woolshed	High	Reflects second phases themes — re-use etc
Zanci vehicle shed	Moderate	No particular
Zanci cellar	Exceptional	Rarity — coping with the extreme environment
Zanci Chimney	High	Remnant of 2 nd Zanci Homestead
Zanci toilet	High	Association with second Homestead
Zanci pergola and meat safe	High	Cultural landscape
Other Visible Structures		
Mungo Woolscour hut ruin	Exceptional	First pastoral phase and defunct pastoral process — rarity
Allens Plains Hut ruin	High	Re-use, remote pastoral, construction technique
Woolscour sites (trolley line and tank evidence)	Exceptional	Defunct pastoral phase — rarity
Mungo Woolshed underground tank	Exceptional	First pastoral phase — critical water source in time of drought
Other wells and shafts	Exceptional	Association with key historic theme
Ground tanks and drains — Gol Gol	Exceptional	Two historic phases
Ground tanks and drains — post-1922	High	Later pastoral phase
Ground tanks traps — NPWS	Moderate	Later phase
Vigar's Well cart tracks	Exceptional	Rarity (if established)
The unprovenanced Chinamans grave, the hut ruin and historic dump behind Mungo Homestead.	High	First pastoral stage and possibly the second

Element Name	Significance Ranking	Rationale
Associated Places		
Gol Gol Station Homesteads	High	Both homesteads: the old homestead as Head Station for Mungo/Turlee 1877–1921; and the new homestead as the former Third Zanci Homestead.
Mungo Racetrack shelter – Joulni Station	High	Social value to region
Landscape Elements		
Mungo Station complex – cultural plantings	High	A sense of place
Zanci Station	High	A sense of place
Movable Heritage		
Artefacts in Visitors Centre – historic	High	
Artefacts in Visitors Centre – Aboriginal	Exceptional	
Diesel engines	High	Evidence of power source
Saw bench	High	Used on Mungo Station
Mungo Woolshed steam engine	High	Early power source
Mungo Woolshed skirting table	High	Important functional item
Mungo Woolshed Wool-press	High	Important functional item

11.8 Endnotes

- ¹ Australia ICOMOS 1999, *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance*.
- ² Australian Heritage Commission 1981, *The Illustrated Register of the National Estate*, published in association with Macmillan Australia, pp 180–183.
- ³ Donovan & Associates 1985, Willandra Lakes World Heritage Region: European Cultural History Study.
- ⁴ Roy Kennedy pers com to Harvey Johnston (?) NPWS nd.
- ⁵ Venda Barnes, pers com to Geoff Ashley, January 2002.
- ⁶ NSW Heritage Office 2001, *Assessing Heritage Significance*, a NSW Heritage Manual Update.

12.0 Opportunities and Constraints

12.1 Introduction

The conservation planning process established by the guidelines of the *Burra Charter* of Australia ICOMOS and set out in the *NSW Heritage Manual* requires that relevant constraints and opportunities and guidelines be identified as part of the process for developing conservation policies for places of significance. These constraints, opportunities and guidelines can include:

- obligations arising from the significance of the place;
- obligations arising from the *Burra Charter* of Australia ICOMOS;
- relevant statutory and non-statutory controls;
- physical constraints of the place, including the physical condition of fabric and its setting; and
- owners' requirements and opportunities.

In addition, the brief for this report requires that the issues and concerns arising from stakeholders consultation be identified and a SWOT analysis be undertaken.

The following subsections are not conclusions or recommendations, but rather, observations relevant to the circumstances of the place and matters which require consideration and resolution. None of these constraints and opportunities in themselves form conservation policy. Appropriate conservation policy is a result of the careful analysis and synthesis of the various values and the issues resulting from the constraints and opportunities, and is discussed in Section 13.0.

12.2 Constraints Arising from Significance

Constraints arising from significance establish a premise where the other issues such as physical condition and client requirements can be considered. As discussed in Section 11.0, Mungo National Park has heritage significance through its associations with values represented by all of the *NSW Heritage Manual* criteria, including historical, social, aesthetic and technical, representative and rarity.

Future management actions regarding Mungo National Park must have due regard to its heritage significance.

The following constraints arise from the assessed significance of Mungo National Park as a whole:

- Mungo National Park is a place of State cultural significance which should be conserved;
- Mungo National Park should be managed in accordance with accepted conservation principles and practice;

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- elements of Mungo National Park should be conserved in accordance with their assessed level of heritage significance;
 - Mungo National Park as a whole has exceptional historic, scientific, social and aesthetic significance, at both rare and representative levels and should be retained;
 - no development within Mungo National Park should be allowed to reduce the significance of Mungo National Park or the significance of elements within Mungo National Park;
 - the historic associations with Mungo National Park should be conserved;
 - the aesthetic values of the place should be conserved;
 - the social values of the place should be conserved;
 - the scientific and technical values of the place should be conserved;
 - the fabric of Exceptional, High and Moderate significance should be preserved;
 - wherever possible, actions to recover significance should be taken;
 - decisions about the future use of the place must always take into account the impact on the significance of the place, both as a whole and on individual elements;
 - a 'landscape as a whole' approach should be taken in the conservation management and cultural tourism planning of Mungo National Park;
 - the broad landscape context of Mungo National Park should be documented and conserved;
 - decisions about work, maintenance, repairs or more extensive adaptation works must always take into account the impact on the significance of the place, both as a whole and on individual elements;
 - records should be maintained for all works and research undertaken; and
 - the significance of Mungo National Park and its individual elements should be interpreted for the public.

12.3 Identification of Opportunities for Future Use

Buildings within Mungo National Park are not currently used to their full potential with regard to the quality of experience for visitors, including interpretation of historic pastoral buildings and structures, visitor accommodation and other facilities.

In addition to the current accommodation facilities at the Mungo Shearers Quarters, Mungo Homestead and adjoining property buildings, future acquisitions of the adjacent properties Joulini, Leaghur and Garnpang present opportunities for new uses. Visitor accommodation and interpretation could be improved with re-use of existing buildings. For example, the Mungo Homestead, Mungo Cottage and the Homestead and Shearers Quarters at Leaghur could be adaptively re-used for additional and unique visitor accommodation. The Woolsheds at Mungo and Zanci could be used for shearing demonstrations and their associated yards could continue to be used to hold sheep when required by users of the TSR. Sensitively designed and located new buildings could be provided for staff accommodation elsewhere on the site.

There is an opportunity for focused interpretation throughout the park and for individual buildings. This interpretation should be specific to themes encountered at Mungo National Park and not of a generic pastoral nature as seen elsewhere in the region to create a niche market at the site. Rather than attempting to interpret all themes present on the site, some historic themes that could be interpreted include woolscouring, trade unions, or the scientific research programs. Interpretation should also incorporate the values World Heritage and historic heritage places together, to promote the broader picture of the values and conservation management of Mungo National Park within the Willandra Lakes World Heritage Region.

The Visitors Centre could be further adapted for new uses such as educational, interpretation or scientific research and upgraded for better interpretation of the scientific and archaeological research undertaken on the site and of the historic features of the Park.

12.4 Statutory Context

12.4.1 *National Parks and Wildlife (NPW) Act (1974)*

Mungo National Park is located within the Lower Darling Area of the Far-West Region, which is one of five regions identified as part of the Western Directorate by NPWS. *The NSW National Parks and Wildlife Act, 1974* sets out National Parks and Wildlife Service responsibility toward historic heritage management on the National Parks and Wildlife Service Estate. This Act also provides for the protection, preservation and management of all Aboriginal relics throughout New South Wales, irrespective of land tenure.

The principal components of the Act in relation to historic heritage are:

- Definition of Historic Sites as places that can be gazetted for their national importance as historic places or monuments (for example Captain Cook's Landing Place Historic Site, Hill End Historic Site). Also, Aboriginal places of importance can be gazetted as Historic Sites (eg Mutawintji Historic Site).
- Consideration of the protection and management of historic places as part of the plan of management process for all reserve categories (Section 72). (See below, Section 12.1.2.)
- The *1995 Land Management Regulation* establishes that historic heritage can include '... any deposit, object or material evidence relating to the settlement or occupation of New South Wales or a part of New South Wales (not being Aboriginal settlement or occupation) where the deposit, object or material evidence is more than 25 years old at the date of the interference or removal'.
- As historic places occur within all Service areas they are also protected by the Service's other corporate obligations, such as requirement to comply with government directives regarding asset management and so on.

Comment

The key outcome of the *National Parks and Wildlife Act (1974)* is the requirement for the preparation of a Plan of Management.

The 1995 Plan of Management for Mungo National Park was completed prior to the Park being listed on the State Heritage Register as part of the Willandra Lakes Region in 1999. The Willandra Lakes Region World Heritage Property Plan of Management was also completed prior to SHR listing. Consequently, both the Mungo National Park Plan of Management and the Willandra Lakes Region World Heritage Property Plan of Management (also in light of the EPBC Act 2000) should be revised. The State Heritage Register listing should also be revised in the light of outcomes from this report.

12.4.2 Mungo National Park Plan of Management (1995)

Section 4.1.6 Historic Places

Within the Plan of Management, there is good recognition of the inscribed World Heritage values for Mungo National Park. However, there is poor recognition of historic heritage value for the area. Historic values have only been recognised at a Local level in that the 'Park contains structures and relics of early pastoral history'.

There is no reference under the objectives of management in the Plan of Management for conservation of historic heritage. This is a major deficiency in the current Plan of Management and more reason for it to be revised in light of current research.

Recent developments in the establishment of joint management arrangements between the 3TTGs and NPWS have resulted in the creation of a Mungo National Park Advisory Committee and this will need to be addressed in any revision of the Plan of Management.

Policies

- The historic structures and places within Mungo National Park will be conserved in compliance with the *Australia ICOMOS Charter for the Conservation of Places of Cultural Significance*, (the *Burra Charter*) and the *Heritage Act, 1977*.
- A conservation plan will be prepared for the Mungo and Zanci Homestead sites. All ground disturbance within the two Homestead sites will be preceded by an archaeological survey. Any development having an unacceptable impact on the historical values of the site concerned will be relocated, abandoned or modified to protect the site.
- Subject to the conservation plan, buildings within the Homestead areas will be used for administrative, interpretative and accommodation purposes appropriate to their character and protection of their cultural significance.
- As trees and large shrubs in the Mungo and Zanci Homestead areas die or become senescent, they may be replaced with the same or similar species.

Actions

- Conservation and interpretation plans will be prepared for Mungo and Zanci buildings.
- Maintenance works programs for historic structures and buildings will be devised and implemented.
- The Shearers Quarters at Mungo will continue to be used for visitor accommodation. Any modification to the buildings will not affect their external fabric or historic content.
- Remnants of rabbit-proof fences constructed in the nineteenth century will be retained. Other internal fences not necessary for management purposes will be removed with the exception of strainers and corner posts.

Comment

There are other features of the Park that are not listed in the policies and actions of the Plan of Management that should be retained and interpreted in addition to the buildings and structures within the Mungo and Zanci complexes. These include early ground tanks, which the CMCTP recommends should be retained, stock yards, including the central yards, and the ground shaft located in the far northeastern corner of the Park.

A maintenance and works program should be prepared and implemented for all historic structures within Mungo National Park, as well as those within the Mungo and Zanci complexes. This works program should also take into account the closure of historic roads and paths and works to ground tanks.

Any proposed interpretation within the Zanci and Mungo Woolsheds, and the continued and/or increased use of the existing Homestead buildings for accommodation, as recommended in Section 13.0, would be in accordance with the uses prescribed in the Plan of Management.

Nineteenth century rabbit-proof fence remnants should be conserved and interpreted according to the prescribed actions of the Plan of Management. Ideally, both the fencing wire and corner posts of all fences should be retained.

Section 4.2.1 Promotion of the Park

Policies

- Mungo National Park will be promoted by a range of information brochures, published booklets, displays in the Visitors Centre, along walking tracks and roads and by face-to-face contact between Service staff and visitors.
- Interpretation and environmental education will be directed to promoting the World Heritage values of the Willandra Lakes Region. Particular emphasis will be placed on encouraging visitors to appreciate the sites of natural and cultural importance within the national park.
- Where possible district staff will facilitate access to and promotion of the Park by the media.
- The promotion of Mungo National Park will be co-ordinated with the promotion of other national parks within western New South Wales. Emphasis will be given to special features of Mungo National Park and visitors will be encouraged to visit other parks to learn about other aspects of the cultural and natural history of the region.

Actions

- Local media, television, radio and newspapers will be utilised to promote interpretive programs and high-profile management tasks within the Park.
- Field days will be held at the Park and will aim at imparting awareness of the importance of national parks to the public and neighbours.
- Interpretive material will be upgraded and distributed through various outlets including tourist information centres.
- The Discovery Ranger Interpretive Program will be continued and expanded.

Comment

As already mentioned, there is opportunity for other historic features within Mungo National Park to be conserved and interpreted, including early ground tanks, stock yards and the shaft. There is also opportunity for improved and additional interpretation throughout the Park, at key sites including Vigar's Wells and Allans Plain Hut.

Upgrading of interpretation within the Mungo Visitors Centre has been undertaken, however there is still opportunity for further improvement in interpretation of scientific and archaeological information and historic features of the Park.

12.4.3 NSW Heritage Act (1977)

The Willandra Lakes Region is listed as an item on the State Heritage Register (SHR). The NSW Heritage Office SHR form is included in Appendix B.

As Willandra Lakes Region is listed on the State Heritage Register, a range of activities cannot be carried out without the approval of the Heritage Council. These activities are identified in Section 57(1) of the Heritage Act. The activities most relevant in this case include any development, demolition, and damage. Inclusion on the State Heritage Register brings with it an obligation for Heritage Council approval of certain works. There are standard exemptions from the requirement for approval for: maintenance; repair; painting; excavation (of non-archaeologically significant areas); restoration; and specific conservation works.

This Conservation Management Plan will be submitted to the NSW Heritage Council for endorsement. Additional site-specific exemptions can be made that are supported in a Conservation Management Plan, approved by the Minister and appearing in the *NSW Government Gazette*. It is also possible to enter into a Heritage Agreement with the Minister for Urban Affairs and Planning, a process that could reduce the individual approvals required from the Heritage Council.

Archaeological Relics

The Heritage Act affords automatic statutory protection to 'relics' (or land known or likely to contain 'relics'), unless there is an applicable gazetted exception. The Act defines a 'relic' as:

any deposit, object or material evidence relating to the settlement of the area that comprises NSW, not being an Aboriginal settlement, and which is 50 or more years old.

An excavation permit issued by the Heritage Council is required where the disturbance or excavation of land is likely to result in a relic being discovered, exposed, moved, damaged or destroyed.

Section 170 Heritage and Conservation Register

A Heritage and Conservation Register has been prepared by NPWS (called the NPWS Historic Places Register) as required by Section 170 of the NSW Heritage Act.

Section 170A of the Heritage Act requires the NSW NPWS to maintain items listed on its Register with due diligence in accordance with State Owned Heritage Management Principles approved by the Minister on the advice of the Heritage Council, and heritage management guidelines as issued by the Heritage Council.

Notice must be given to the Heritage Council before any item is removed from the Section 170 Register, transfer of ownership of listed items occurs or NPWS ceases to occupy or demolishes any item on the Register.

In the course of this study, additional items worthy of inclusion on the Section 170 register have been identified and assessed, with particular attention to the remaining buildings and structures at the Zanci Homestead complex. These items generally evidence early pastoral development of the area within Mungo National Park.

Comment

Prior to any works commencing within Mungo National Park, as part of the SHR listed Willandra Lakes Region, approval must be granted by the Heritage Council prior to any works which may result in the following: demolition; damage to or despoiling the place; moving, damaging or destroying relics or movable objects; excavating the land for the purpose of removing relics; any development; alterations to buildings, works, relic or movable objects; displaying notices or advertising on the place, buildings, work, relics, movable objects or land; or damaging, destroying or removing any tree or vegetation. This would include the demolition of any ground tanks identified on the *NPWS Historic Places Register*.

Standard exemptions have been developed by the NSW Heritage Office to grant exemptions for works to items on the *State Heritage Register* that generally include maintenance, minor repairs, alterations, repainting previously painted surfaces, excavation on non-archaeologically significant areas, restoration and specific conservation works endorsed by the Heritage Council of NSW. These standard exemptions do not apply to movable heritage items.

The existing SHR listing and World Heritage Property listing for the Willandra Lakes Region needs to be amended and additional site-specific exemptions resulting from the conservation planning actions in this CMCTP and agreed to by the NSW Heritage Office.

The NSW Heritage Office has also established guidelines that require NPWS to adhere to minimum standards of maintenance and repair that relate to weatherproofing, fire protection, security and essential maintenance.

12.4.4 *NSW Environment Planning and Assessment (EPA) Act (1979)*

Under Part 5 of the EP&A Act, NPWS is required to assess the environmental impacts of a proposed activity (as defined by the EP&A Act) prior to giving approval to undertake the activity on reserved lands under the NPW Act.

All activities that may impact upon a cultural heritage item of 25 years or older within NPWS control will need to be assessed through either Part 4 or Part 5 of the Act. An Environmental Impact Statement (EIS) or Review of Environmental Factors (REF) is required in accordance with Part 5 of the Act. EP&A Act requirements for NPWS approvals are in addition to approvals under the Heritage Act for items listed on the SHR.

Comment

REFs have been completed for works within Mungo National Park, including for the new parking area proposed at Vigar's Wells. An REF or EIS will be required in addition to requirements for approvals under the Heritage Act for proposed works to any items within Mungo National Park that is part of the Willandra Lakes Region SHR listing.

12.4.5 *Commonwealth Environment Protection and Biodiversity Conservation (EPBC) Act 1999*

As part of a World Heritage property, works carried out within Mungo National Park are considered by the EP&BC Act to be matters of national environmental significance that need to be addressed by the Commonwealth assessment and approvals regime.

A person must not take an action that has, will have, or is likely to have a significant impact on a matter of national environmental significance except in accordance with an approval from the Commonwealth Environment Minister, from another Commonwealth decision maker under a management plan accredited by the Minister for the purposes of a Ministerial delegation, or from a State in accordance with a management plan accredited by the Minister for the purposes of a bilateral agreement.

According to the EP&BC Act, existing actions in effect prior to 16 July 2000 do not require approval under the Act. Therefore, actions that have been previously approved by a State or the Commonwealth that are continuing within Mungo National Park do not require approval under the Act. Any actions that have not been approved by a State or the Commonwealth prior to this date will require assessment and approval under that Act as well as any new actions (for example, the removal or alteration of ground tanks).

Comment

Existing actions being carried out within Mungo National Park as part of a World Heritage property, and having national environmental significance that have not been approved by a State or the

Commonwealth (such as identified in the Willandra Lakes WHA Plan of Management or the Mungo National Park Plan of Management), will require assessment and approval under the EP&BC Act.

A Plan of Management was prepared in 1996 for the Willandra Lakes World Heritage Property and contains a number of actions and evaluations, with specific responsibilities listed for NPWS.

The inclusion of Mungo National Park in World Heritage Area brings special recognition and additional obligations for NPWS management. There currently appears to be shortcomings in an appreciation by NPWS staff of statutory obligations under the EPBC Act. Increased training/briefings for NPWS staff and regular communication with World Heritage Area management/Environment Australia over process and practice is recommended.

12.4.6 Australian Heritage Commission Act 1975

The *Australian Heritage Commission Act 1975* provides for the creation of the Register of the National Estate. This Register is the national list of items of Australia's natural, historic and cultural heritage that should be conserved. It alerts planners, decision-makers, researchers and the community at large to the heritage value of these places.

The Register lists items which, in the opinion of the Australian Heritage Commission, fall within the following definition:

Components of the natural environment or the cultural environment of Australia that have historic, aesthetic, scientific or social significance, or other special value for future generations, as well as for the present community.

Listing in the Register of the National Estate imposes no legal restrictions, except on Federal authorities which must consult the Australian Heritage Commission prior to carrying out any work which will impact on the heritage value of a place in the Register. Commonwealth agencies may not take any action that adversely affects a place or building on the Register (or the Interim Register), unless the relevant Minister is satisfied that there is no 'feasible or prudent alternative', and that all reasonable measures will be taken to minimise environmental damage. Section 30 of the Act requires Commonwealth agencies to inform the Australian Heritage Commission of all proposed Commonwealth actions that are likely to have a significant effect on any listed place so that the Commission has the opportunity to comment.

As NSW NPWS is not a Commonwealth agency, the Act does not directly apply. However, the Act may apply to Mungo National Park in practice when used as a test by the Australian Heritage Commission in providing an assessment for works proposed within the Park because of its location within a World Heritage property and the subsequent application of the EP&BC Act (see Section 12.1.5).

The Willandra Lakes Region, of which Mungo National Park is a part, is listed on the *Register of the National Estate*.

12.5 Non-Statutory Considerations

12.5.1 National Trust of Australia (NSW)

The National Trust of Australia (NSW) is a community-based conservation organisation. The Trust has assembled a register of heritage items and conservation areas through the assessment work of its expert committees. Although it holds no legal status, the National Trust Register is considered to be an authoritative guide to heritage significance and acts as a lobby group for heritage conservation.

Mungo National Park is listed within the Willandra Lakes System Landscape Conservation Area on the *Register of the National Trust*. A copy of the current listing card for the site and the individual elements is included as Appendix B.

12.6 NPWS Policy and Management

The recent establishment of the Mungo National Park Advisory Committee is a positive development in the management of the World Heritage Area. The inclusion of Aboriginal people in park management is reflected in the NSW NPWS Corporate Plan 2000–2003 in Conservation Management, which aims to increase participation by Aboriginal people in management committees and advisory bodies. The MNPAC is comprised of a majority of the three Traditional Tribal Groups (3TTG) representatives and currently has a 3TTG chair, along with other stakeholders such as neighbours.

The 3TTGs also have an identified role on the WHA management committees. Given the elected and representative role of the existing Aboriginal Land Councils, it is important that a good working relationship and communication between NPWS/MNPAC and the LALCs is fostered.

The Heritage Assets Maintenance Program (HAMP) is a program funded by Treasury to enable NPWS to fund emergency works, stabilisation, catch-up works, documentation, maintenance and monitoring at historic heritage places. Emphasis is given to funding for places of National and State significance, though places of regional and local significance will also be considered. Approximately \$2m is available under the program each year.

When this funding is divided between the respective Directorates of NPWS across New South Wales, not enough funding is available for all required works annually. The intention of the HAMP funding is to supplement normal regional recurrent and capital funding. However, the presence of funds outside operational areas would no doubt lead to expectation of external funding for historic heritage. A recent Service report on best practice in cultural heritage management, cautioned dependence on 'external' funding to achieve outcomes and facilitate projects.¹ It suggests other avenues for regular recurrent funding should be explored.

The NPWS landscape conservation approach is reflected in the Conservation Principles section of the NSW NPWS Corporate Plan 2000–2003. The conservation of historic buildings within the

reserve system incorporates the retention and interpretation of both significant historic places and significant past land use evident in the broader context of the New South Wales landscape and the settlement history of New South Wales. Flowing on from the Corporate Plan the NPWS Cultural Heritage Strategic Plan identifies corporate objectives and policies for cultural heritage management.

Guidelines for approvals refers to cultural heritage places, buildings, landscapes, and movable heritage items on the NPWS estate. This identifies the need for Conservation Plans, Conservation Analysis and Statements of Heritage Impact (see Section 13.4).

The Far Western Region Cultural Heritage Management Strategy 2002–2006 provides Region details of the Corporate Strategy, inventory sheets for Mungo and Zanci and an executive summary. This recent document should be reviewed in light of findings in this CMCTP.

The Regional Strategy includes an identification of funding requirements for Mungo National Park. The amount identified for further planning and works after this CMCTP appears to be insufficient. The allocation of funds for fencing Mungo House Tank should not come from historic heritage resources as this arises from natural heritage objectives.

Cultural Heritage Information Policy and Cultural Heritage Community Consultation Policy. This policy exists within NPWS and should be referred to by NPWS when undertaking works.

12.7 Obligations Arising From Conservation Charters

12.7.1 The *Burra Charter* of Australia ICOMOS

The *Burra Charter* (the *Australia ICOMOS Charter for the Conservation of Cultural Significance*) contains principles on conservation of significant places. This study has been prepared in accordance with these principles. The Charter provides specific guidance for physical and procedural actions that should occur in relation to significant places. Relevant principles include the following:

Article 2. Conservation and Management

- 2.1 Places of cultural significance should be conserved.*
- 2.2 The aim of conservation is to retain the cultural significance of a place.*
- 2.3 Conservation is an integral part of good management of places of cultural significance.*
- 2.4 Places of cultural significance should be safeguarded and not put at risk or left in a vulnerable state.*

Article 3. Cautious Approach

3.1 Conservation is based on a respect for the existing fabric, use, associations and meanings. It requires a cautious approach of changing as much as necessary but as little as possible.

3.2 Changes to a place should not distort the physical or other evidence it provides, nor be based on conjecture.

Article 4. Knowledge, Skills and Techniques

4.1 Conservation should make use of all the knowledge, skills and disciplines which can contribute to the study and care of the place.

4.2 Traditional techniques and materials are preferred for the conservation of significant fabric. In some circumstances modern techniques and materials which offer substantial conservation benefits may be appropriate.

Article 5. Values

5.1 Conservation of a place should identify and take into consideration all aspects of cultural and natural significance without unwarranted emphasis on any one value at the expense of others.

5.2 Relative degrees of cultural significance may lead to different conservation actions at a place.

Article 7. Use

7.1 Where the use of a place is of cultural significance it should be retained.

7.2 A place should have a compatible use.

Article 8. Setting

Conservation requires the retention of an appropriate visual setting and other relationships that contribute to the cultural significance of the place.

New construction, demolition, intrusions or other changes which would adversely affect the setting or relationships are not appropriate.

Article 9. Location

9.1 The physical location of a place is part of its cultural significance. A building, work or other component of a place should remain in its historical location. Relocation is generally unacceptable unless this is the sole practical means of ensuring its survival.

9.2 Some buildings, works or other components of places were designed to be readily removable or already have a history of relocation. Provided such buildings, works or other components do not have significant links with their present location, removal may be appropriate.

9.3 *If any building, work or other component is moved, it should be moved to an appropriate location and given an appropriate use. Such action should not be to the detriment of any place of cultural significance.*

Article 10. Contents

Contents, fixtures and objects which contribute to the cultural significance of a place should be retained at that place. Their removal is unacceptable unless it is: the sole means of ensuring their security and preservation; on a temporary basis for treatment or exhibition; for cultural reasons; for health and safety; or to protect the place. Such contents, fixtures and objects should be returned where circumstances permit and it is culturally appropriate.

Article 12. Participation

Conservation, interpretation and management of a place should provide for the participation of people for whom the place has special associations and meanings, or who have social, spiritual or other cultural responsibilities for the place.

Article 13. Co-existence of Cultural Values

Co-existence of cultural values should be recognised, respected and encouraged, especially in cases where they conflict.

Article 15. Change

15.1 *Change may be necessary to retain cultural significance, but is undesirable where it reduces cultural significance. The amount of change to a place should be guided by the cultural significance of the place and its appropriate interpretation.*

15.2 *Changes which reduce cultural significance should be reversible, and be reversed when circumstances permit.*

15.3 *Demolition of significant fabric of a place is generally not acceptable. However, in some cases minor demolition may be appropriate as part of conservation. Removed significant fabric should be reinstated when circumstances permit.*

15.4 *The contributions of all aspects of cultural significance of a place should be respected. If a place includes fabric, uses, associations or meanings of different periods, or different aspects of cultural significance, emphasising or interpreting one period or aspect at the expense of another can only be justified when what is left out, removed or diminished is of slight cultural significance and that which is emphasised or interpreted is of much greater cultural significance.*

Article 16. Maintenance

Maintenance is fundamental to conservation and should be undertaken where fabric is of cultural significance and its maintenance is necessary to retain that cultural significance.

Article 17. Preservation

Preservation is appropriate where the existing fabric or its condition constitutes evidence of cultural significance, or where insufficient evidence is available to allow other conservation processes to be carried out.

Article 18. Restoration and Reconstruction

Restoration and reconstruction should reveal culturally significant aspects of the place.

Article 19. Restoration

Restoration is appropriate only if there is sufficient evidence of an earlier state of the fabric.

Article 20. Reconstruction

20.1 Reconstruction is appropriate only where a place is incomplete through damage or alteration, and only where there is sufficient evidence to reproduce an earlier state of the fabric. In rare cases, reconstruction may also be appropriate as part of a use or practice that retains the cultural significance of the place.

20.2 Reconstruction should be identifiable on close inspection or through additional interpretation.

Article 21. Adaptation

21.1 Adaptation is acceptable only where the adaptation has minimal impact on the cultural significance of the place.

21.2 Adaptation should involve minimal change to significant fabric, achieved only after considering alternatives.

Article 22. New Work

22.1 New work such as additions to the place may be acceptable where it does not distort or obscure the cultural significance of the place, or detract from its interpretation and appreciation.

22.2 New work should be readily identifiable as such.

Article 23. Conserving Use

Continuing, modifying or reinstating a significant use may be appropriate and preferred forms of conservation.

Article 25. Interpretation

The cultural significance of many places is not readily apparent, and should be explained by interpretation. Interpretation should enhance understanding and enjoyment, and be culturally appropriate.

Article 27. Managing Change

27.1 The impact of proposed changes on the cultural significance of a place should be analysed with reference to the statement of significance and the policy for managing the place. It may be necessary to modify proposed changes following analysis to better retain cultural significance.

27.2 Existing fabric, use, associations and meanings should be adequately recorded before any changes are made to the place.

Article 28. Disturbance of Fabric

28.1 Disturbance of significant fabric for study, or to obtain evidence, should be minimised. Study of a place by any disturbance of the fabric, including archaeological excavation, should only be undertaken to provide data essential for decisions on the conservation of the place, or to obtain important evidence about to be lost or made inaccessible.

Article 30. Direction, Supervision and Implementation

Competent direction and supervision should be maintained at all stages, and any changes should be implemented by people with appropriate knowledge and skills.

Article 31. Documenting Evidence and Decisions

A log of new evidence and additional decisions should be kept.

Article 32. Records

32.1 The records associated with the conservation of a place should be placed in a permanent archive and made publicly available, subject to requirements of security and privacy, and where this is culturally appropriate.

32.2 Records about the history of a place should be protected and made publicly available, subject to requirements of security and privacy, and where this is culturally appropriate.

Article 33. Removed Fabric

Significant fabric which has been removed from a place including contents, fixtures and objects, should be catalogued, and protected in accordance with its cultural significance.

Where possible and culturally appropriate, removed significant fabric including contents, fixtures and objects, should be kept at the place.

12.7.2 Australian Natural Heritage Charter

While natural values are not further addressed as part of this significance assessment, reference has been made to the *Australian Natural Heritage Charter* and the *Natural Heritage Places Handbook* in relation to the formulation of conservation policy contained in Sections 12.0 and 13.0. The significance of the landscape needs to be assessed at all levels and appropriate conservation policies and management guidelines prepared. The ability of the landscape to demonstrate particular themes or groups of themes must be determined for input into interpretive planning.

12.8 Stakeholders

Stakeholders with an active interest in the operation and management of Mungo National Park include:

- The Mungo National Park Advisory Committee;
- The Far West Region Advisory Committee;
- Tourism Operators (see Section 8.0);
- Aboriginal Groups (see Section 9.3);
- Former Property Owners (see Section 9.2);
- Neighbours from surrounding properties;
- The Scientific Community, who have indicated that there should be better interpretation available within the Park of the scientific and archaeological information that has been uncovered in the area (see also Section 9.6);
- Many NPWS Staff are likely to have had some affiliation with Mungo National Park;
- The Willandra Lakes Region WHA Committees, including the Community Management Council (CMC), Technical and Scientific Advisory Committee (TSAC) and the 3TTG Elders Council (EC); and
- Environment Australia has a substantial interest in the management of Mungo National Park as part of the Willandra Lakes Region World Heritage property. Environment Australia also represents the interests of the World Heritage Committee and UNESCO. The management committees of the Willandra Lakes Region WHA are supported by an Executive Officer based in the Lower Darling Area NPWS office. This position is currently filled by Mr Doug Williams.

The formation of the Mungo National Park Advisory Committee (MNPAC) is a recent initiative to include stakeholders in shaping future management of Mungo National Park. The MNPAC is made up of eleven people, six of whom represent the Three Traditional Tribal Groups (3TTGs): one member represents neighbours and one Balranald Shire Council. The role of the MNPAC is to

advise the Director General of NPWS in the care control and management of Mungo National Park. A specific requirement flowing from the establishment of the MNPAC is the requirement for the Mungo National Park Plan of Management to be revised within twelve months. The agreement that establishes the MNPAC identifies that at least three persons from the 3TTGs be employed in the administration or care control and management of Mungo National Park.

12.9 Condition and Integrity of the Place

Issues in relation to the condition and integrity of Mungo National Park and elements within it include those listed below.

- General catch-up and maintenance works for buildings and structures, need to be undertaken by suitably qualified trades people under supervision of a qualified heritage practitioner.
- A cyclic maintenance program for the historic resources should be developed and implemented.
- Mungo Station complex is an intact complex retaining a Homestead and associated buildings, and a Woolshed with associated Shearers Quarters and stock yards. These should be retained, conserved and repaired/restored where appropriate.
- The Mungo Woolshed requires catch-up conservation works and will need ongoing work given its construction and materials — there may also be a need for a structural engineering assessment of the roof structure.
- Fire risk and fire fighting management is a significant issue.
- The Woolshed Underground Tank is of Exceptional significance but currently in poor condition and should be restored/reconstructed.
- The Mungo Shearers Quarters require conservation. There is an opportunity in undertaking conservation/restoration works to also undertake some minor adaptive re-use works to provide a reasonable level of comfort for visitors while retaining its historic values.
- The central portion of Mungo Homestead has been identified as being of Exceptional significance as it is in good condition. It should be maintained and made more accessible to visitors for interpretation and/or accommodation. This issue should be addressed in a specific staff and visitor accommodation study and Conservation Plan prepared prior to any works other than maintenance.
- Ground tanks throughout the Park should be retained and repaired/restored where material has been removed.
- The general integrity and condition of archaeological deposits and features in the Mungo Station area is good. NPWS activities have negatively impacted on some archaeological features but certainly not to the same extent as at the Zanci Homestead complex. In particular subsurface

works on stabilising the Woolshed did not consider the possibility of archaeological deposits and there is no record of what was found during this work.

- Current activities that are non-compliant with respecting potential archaeological deposits include the unassessed removal of soil from tanks. However, for the most part intentions have obviously been to conserve historic features and attempts have been made to protect items such as the Chinese ruins and the buried stockyards.
- Zanci Station complex is not intact as a complex, but retains a number of early buildings and structures. These include the cellar, which has been recently restored, Zanci stables and Zanci Woolshed which are in good condition. The underground concrete tank should be conserved and the roof structure restored. Other structures should be analysed and stabilised if required.

12.10 Mungo National Park Management Issues

12.10.1 Ground Tanks

NPWS Lower Darling Area staff have prepared a report on the management of ground tanks in Mungo National Park, primarily based on the reduction of the kangaroo population and preventing damage to vegetation. The Porteners Report on Threatened Acacia Shrublands, October 2001 also recommends the closure of ground tanks in the vicinity of high-grazing animal populations.

In contrast, another report on ground tanks in Sturt National Park, prepared as part of a PhD dissertation, suggests that closure of ground tanks may not have a direct effect on kangaroo numbers and that some populations of threatened marsupial species may benefit from the ground tanks.²

The precautionary principle should be invoked in conservation decisions which involve the management of perceived conflicting natural and cultural values and which involve the removal or destruction of heritage items (such as ground tanks) for essential nature conservation purposes. Assessment processes must be transparent and involve public comment and peer review and assessment by relevant NPWS heritage and scientific staff and satisfy the concerns of relevant statutory authorities such as the Heritage Council of NSW. Claims of the costs and benefits of actions on the natural resources and values of the park must be substantiated by sound, documented scientific evidence.

The CMCTP recommends that all ground tanks from the Gol Gol period of Exceptional significance and post 1921 tanks of High significance should be retained in use. However, a process is established in Section 13.7 for resolving conflicting issues through firstly a Ground Tanks and Wells Conservation Plan and then a Statements of Heritage Impact as part of an Environmental Impact Statement.

12.10.2 Planning Assessments

Recently, an REF was produced with regard to works at Vigar's Well including a new carparking area and protection for the wells. The proposed works are potentially intrusive with regard to original fabric. However, the original fabric currently has no form of protection, nor does it provide protection for visitors. A Statement of Heritage Impact is recommended before works are undertaken to around the Well.

Adaptive re-use works were also undertaken while this study was in preparation to the Mungo Homestead Garage. In future, the Service should ensure that staff are kept informed of required assessments and consent processes (as a minimum a Statement of Heritage Impact [SOHI] as part of a Review of Environmental Factors [REF]) and consents required (NPWS internal referrals and the Heritage Act approvals required).

12.10.3 Accommodation

There is also a potential conflict in the use of buildings such as the Mungo Homestead for staff accommodation, and the CMCTP significance assessment and conclusion that suggest that the building be adapted for visitor accommodation and/or interpretation. The CMCTP also recommends a holistic study of accommodation and conservation for the re-use of buildings to be obtained through future acquisitions to the Park, possibly for visitor accommodation and interpretation, or NPWS staff/contractor accommodation.

12.10.4 Staffing

As noted in Section 8.0 and discussed further in Section 14.0 there are some current visitor services issues in relation to access to information for visitors (interpretation publications, facilities and safety). While there appears to be sufficient field officer staff on site and part-time ranger staff that regularly visit, there are opportunities to increase staffing to provide visitor services commensurate with Mungo's World Heritage status. Increased staffing with skills and experience in interpretation and visitor management would provide a level of service that visitors to Mungo are expecting and would free up existing staff to concentrate on their other responsibilities.

12.11 Endnotes

¹ Hague Consulting New Zealand, Best Practice in Cultural Heritage Management, prepared for NSW NPWS, January 2002.

² Montague-Drake, Rebecca, PhD dissertation UNSW in process 2002.

13.0 Conservation Policy

13.1 Introduction

This section sets the policy framework for the future management of the historic heritage resources and values of Mungo National Park. Section 14.0 establishes opportunities to implement the cultural tourism policies outlined in this section. Section 15.0 provides a program for the implementation of policies generally.

The policies in this section are provided as a hierarchy, as follows:

- a head policy that will act as a vision statement for the management of historic heritage resources and values in Mungo National Park;
- framework policies that guide actions in each functional area of planning and operations; and
- detailed policies that provide the 'what-to-do' in each planning and operational area.

13.2 Discussion of Conservation Policy

While the statutory and non-statutory constraints identified in Section 12.0 influence conservation policy it is the significance of any place that ultimately provides the foundation of policy. In this case, the State level significance of the collection of historic resources in Mungo National Park underpins the high level of commitment that is required to maintain this significance. As discussed below, this commitment will be rewarded with an outcome that achieves more for the broad Service objectives for Mungo National Park than would be achieved by doing the minimum to conserve its individual historic parts.

The policies in this section also arise out of two complementary notions; what aspects of significance and operations set Mungo National Park apart from other national parks and what are the operational and procedural matters that are necessarily required to be similar to what happens elsewhere.

There are a number of things that are different, or are about to make things different, about Mungo National Park:

- the history and significance established in this report (two pastoral histories against the established World Heritage backdrop);
- the iconic cultural meanings and associations to many Australians that Mungo has;
- it is a place of an ongoing focus of healthy debate over prehistory;
- there is increasing visitation and many visitors are informed and highly educated;
- as a World Heritage Property a high level of accountability is required;

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- acquisition by the government of nearby Willandra Lakes properties Joulni, Leaghur and Gampang providing various opportunities and constraints; and
 - Aboriginal joint management arrangements are just starting (and while it happens elsewhere in the Western Division it is not yet a norm within Service estates).

There are a number of things that are similar to other national park places:

- the NPWS corporate view reflected in the corporate plan, policies, strategies and guidelines;
- the conservation planning and assessment process identified in statutory planning instruments (including the Environment Protection and Biodiversity Conservation Act that defines matters in relation to the World Heritage procedures); and
- the usual limitations faced by the Service in relation to the allocation of financial and staff resources.

The answer in policy terms is to respond to both the typical situation, by providing consistency with other places, and by responding to what is different here. What emerges from the analysis of historic themes and significance is a connection with the core World Heritage theme of human interaction with the environment. This theme fits well with the NPWS landscape approach reflected in recent corporate and regional strategic plans. It suggests a holistic approach to presenting a historical landscape story rather than historic heritage presented as a curio interest, but not fundamentally connected to landscape use and evolution.

Given the rarity of public access to remote pastoral places it is important that a balanced story is presented in relation to the contribution of pastoralism to Australia's culture and economy. Not just the story of rabbits and erosion, but the nitty-gritty story of pastoral processes, including staff, and water, stock and land management. A forward-looking approach would be to tell the story of sustainable pastoral practices engaging in both the historic story of Mungo, with links to neighbouring and regional properties practising sustainable pastoralism. The *Bush Futures* project of the Historic Houses Trust of New South Wales that showcases sustainable properties in remote areas of New South Wales is an example of such a forward-looking approach.

In linking the pastoral history of Mungo to other NPWS places using a landscape approach, the answer is to look for similarities. Water is the key — both in prehistory and in recent history — and provides a complementary story to other NPWS places. For example the relatively strong presence of water in the Kinchega National Park story — and the lack of water as a theme in the Mungo story — provides a point of comparison. At Mungo there is an ironic difference between lack of water and number of features and techniques set up to capture it. Other comparisons include the wool scouring that happened at places like Willandra and Mount Wood compared to what happened at Mungo.

Visitors to Mungo National Park are generally highly educated and have high expectations in relation to the interpretation of what has given the place its World Heritage status. This report recommends

an increase in the visible presence of staff with visitor services duties (information and interpretation) would help to better meet these visitor expectations.

Other elements of policy for Mungo National Park need to address issues common with other places in the NPWS estate. A similarity to issues in other parks is how to even out the humps and bumps of an opportunistic environment in which the conservation of historic heritage is carried out, particularly in funding. An asset management approach to where heritage conservation happens through a recurrent program rather than relying on a windfall of external funding should be the aim given the significance of the resource. A focus on staff training in required heritage assessment and consent processes (internal NPWS, Heritage Act, EPBC Act) is recommended.

13.3 Head Policy – Vision Statement

The conservation, management and interpretation of the historic heritage resources and values in Mungo National Park recognises the State significance of this resource. Concentrated around former pastoral station complexes, but distributed throughout the Park, these resources will be managed in a whole of landscape approach where the pastoral and recent NPWS land uses are interpreted as the most recent layers of human interaction with the environment; a key theme of the Willandra Lakes Region.

The NPWS will commit resources to reflect the significance of historic heritage in Mungo National Park and its overall status as a World Heritage place. The Service will undertake conservation and interpretation programs to assist this whole of landscape approach. Management of historic resources will use best-practice processes for assessments and consents. Interpretation will be based on similarities with other places but also the differences that make Mungo National Park one of the best vehicles to tell the story of semi-arid and arid environment historic pastoralism in New South Wales. Interpretation will be forward-looking and while acknowledging past environmental impacts will also address the positive contribution of pastoralism to Australian culture and economy and provide linkages to the region by addressing sustainable pastoral futures in the western region of New South Wales.

Joint management arrangements with Aboriginal people will respect both Aboriginal prehistoric and contemporary values and historic heritage values and places of the pastoral period to provide a 'coming together' place to tell the full landscape story. Mungo National Park will be carefully promoted as a cultural tourism destination for tourists seeking an authentic and high-quality integrated natural and cultural heritage experience. Staff resources will be provided to sustain a high quality visitor experience.

13.4 Conservation Planning and Assessment

13.4.1 Rationale

No amount of commitment to resourcing conservation can obviate the need to have in place appropriate conservation planning and procedures. Given the World Heritage and State Heritage Register listing for Mungo National Park both Environment Australia (Commonwealth) and the NSW Heritage Council (State) are key players in the consent process. In broad terms the NPWS needs to have a clear understanding through consultation with both these agencies about the decision-making process and where approvals need to be obtained. Other relevant processes need to include the NSW Environment and Planning Assessment (EPA) Act assessments and other relevant legislation such as the Building Code of Australia (BCA).

A document of this sort cannot expect to have all the answers for a large complex place. This plan recommends a range of conservation planning required to complete the picture and then processes within the statutory planning process to enable good decisions to be made.

Given the umbrella role of this document, what is required are detailed conservation planning documents for key elements or groups of elements that identify the significant components of elements and the detailed conservation policies and works requirements. Conservation Plans should be prepared for the following groups of like elements or issues; Ground Tanks and Wells (see Section 13.7), Movable Heritage (see Section 13.13) and an Interpretation Plan (see Section 13.15). For individual elements of Exceptional significance a Conservation Management Plan should be prepared; this includes Mungo Woolshed and Logged Underground Tank and Mungo Homestead (following a Park wide review of public and staff accommodation). For items of High significance a Conservation Analysis document should be prepared that follows a similar but simplified format to the Conservation Plan. For items of Moderate significance heritage values should be included during the environmental assessment phase while preparing SOHIs and REFs (see below).

Proposals prepared for elements of Exceptional, High or Moderate significance should be accompanied by a Statement of Heritage Impacts (as identified in NPWS Guidelines for Approvals) that assesses impacts of works proposals and addresses options for carrying out the activity and mitigative measures. Such documents would form part of usual planning documents such as a Review of Environmental Factors.

13.4.2 Framework Policy for Conservation Planning and Assessment

The NPWS will consult widely in finalising this CMCTP before seeking the endorsement of the NSW Heritage Council and Environment Australia (in its capacity as adviser to the Commonwealth Minister for the Environment in relation to the Willandra Lakes Region World Heritage Property). The NPWS will adopt this CMCTP as a framework document for the management of historic heritage in Mungo National Park. The NPWS recognises its responsibilities for ongoing consultation and consent, where required, from the NSW Heritage Council and Environment Australia. This Conservation

Management and Cultural Tourism Plan identifies additional conservation planning and assessment requirements and responsibilities to be undertaken prior to implementation of any works.

13.4.3 Detailed Policy for Conservation Planning and Assessment

- The endorsement of the NSW Heritage Council and the Australian Heritage Commission/Environment Australia will be sought for this CMCTP.
- As the whole of Mungo National Park is identified as the curtilage for the historic heritage resource in Mungo National Park the NPWS will nominate an extension to the SHR boundary to include all of Mungo National Park within the SHR boundary.
- This CMCTP will be used as the basis for agreement of standard exemptions available under Section 57(2) of the Heritage Act. Exemptions should include day-to-day Park management practices but not historic heritage conservation works, apart from the standard exemptions already available under the Heritage Act.
- The NPWS will follow the procedures identified in the EPBC Act and the Willandra Lakes Region World Heritage Property Plan of Management, 1996.
- The NSW Environment and Planning Assessment (EPA) Act and other relevant legislation such as the Building Code of Australia (BCA) will be used in all assessments of proposed activities within Mungo National Park.
- The NPWS will continue to consult with, but not limited to, the following: all stakeholders including the Mungo National Park Advisory Committee, Local Aboriginal Land Councils, other departments such as Land and Water Conservation, Balranald Shire Council, and neighbours and former owners.
- A series of conservation planning documents will be prepared to guide works on types of elements, including but not limited to: an Interpretation Plan, a Ground Tanks and Wells Conservation Plan, and a Movable Heritage Plan.
- Detailed conservation planning will be prepared for individual elements or groups of elements to guide future use and conservation, with the nature of document prepared relating to significance:
 - a Conservation Management Plan for elements of Exceptional significance;
 - a Conservation Analysis for elements of High significance (see Section 13.8.3); and
 - a Statement of Heritage Impacts for elements of Moderate significance (see Section 13.8.3).
- Detailed conservation planning should be prepared in accordance with *Burra Charter*, NSW Heritage Office guidelines and, in particular, NPWS Guidelines for approvals: Cultural heritage places, buildings, landscapes & movable heritage items. In summary:

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- a Conservation Management Plan provides: an analysis of documentary and physical evidence; an assessment of significance; constraints and opportunities and conservation policy endorsement of NPWS Executive and NSW Heritage Council may be required;
 - a Conservation Analysis is structured as a 'mini' CMP and is usually for single places where works are proposed but detailed policy for components have not been prepared; and
 - a Statement of Heritage Impacts identifies and evaluates positive and negative heritage impacts of specific proposals and is usually prepared in association with existing CMP and Conservation Analysis documents and would accompany a Review of Environmental Factors or Environmental Impact Statement prepared in relation to a proposed activity.
- Prior to the implementation of works on individual elements or groups of elements a Statement of Heritage Impacts (SOHI) will be prepared on the basis of information in this document (including inventory forms), assessing the impact of proposed works (including setting and adjacent elements) and including an analysis of options and mitigative measures. The impact assessment should include any impacts on other heritage values.
 - The NPWS should as a priority develop a draft acquisition policy for additions to Mungo National Park. Such a policy should address historic heritage values such as associations with the larger Gol Gol Station.
 - The SOHI documentation identified above should form part of normal environment assessment planning for proposed activities, including REFs.
 - The NPWS Lower Darling Area will undertake regular training/refresher seminars for its staff on required heritage assessments and consent processes, including NPWS processes and those flowing from obligations under the NSW Heritage Act and the Environment Protection and Biodiversity Conservation (EPBC) Act 2000.

13.5 NPWS Corporate Responsibility

13.5.1 Rationale

It is important to place the historic heritage resources and values in Mungo National Park within the broader legislative responsibilities of the NPWS. It is also important that the Service acknowledges the responsibility of managing these significant resources.

13.5.2 Framework Policy for NPWS Corporate Responsibility

Mungo National Park is an exemplar national park in terms of NPWS corporate values and its responsibilities under the NPW Act (1967). The conservation and interpretation of the historic heritage within Mungo National Park sits within key corporate and Far Western Regional strategy objectives. In identifying similarities and differences in landscape conservation between elements in

its estate, the Service recognises the importance of the historic heritage within Mungo National Park as an arid lands pastoral place. The high level of visitation/usage and interpretation associated with its inclusion within a World Heritage property, and new Mungo National Park Advisory Committee arrangements requires the Service to provide appropriate resources and support the highest level of compliance with government policy, including the EPBC Act. Financial resources and staff skills and experience should be commensurate with its established significance, its World Heritage Status and its regional role as a major cultural tourism destination.

13.5.3 Detailed Policy for NPWS Corporate Responsibility

- As Mungo National Park is a flagship in the World Heritage Area, NPWS should strive to develop and apply world's best practice in all matters relating to the management of the Park and including the conservation and management of historic heritage.
- Landscape conservation is a key NPWS corporate and Far Western Regional objective. The conservation and interpretation of historic heritage will identify both similarities and differences with other Service estates so that a niche role for Mungo National Park is established.
- The NPWS will establish a clear decision-making process that utilises appropriate skills and experience and is inclusive of all values in assessing and determining proposed actions.
- The significance of the resource, its World Heritage status and visitor expectations require that there is an above-the-norm commitment from the Service in relation to funding and staff resources. Recurrent funds should be provided to cover the ongoing conservation planning and maintenance of historic resources. Ranger, field officer and interpretation staffing levels should be reviewed to provide increased levels of management, conservation and interpretation within Mungo National Park (see Section 13.14.3).
- The Plan of Management for Mungo National Park is not always consistent with the findings of this report in some areas and will be amended on the basis of the findings in this CMCTP.
- The NPWS should consult with all stakeholders in carrying out its responsibilities in Mungo National Park.

13.6 Management of Heritage Significance

13.6.1 Rationale

A fundamental aspect of heritage conservation is that decisions about a place should take into account its significance. This policy provides a foundation for other policies and as such includes policy concepts identified elsewhere.

13.6.2 Framework Policy for the Management of Heritage Significance

The management of historic resources in Mungo National Park shall be based on the State significance of the place as a whole and relative significance and contribution that each elements makes to the whole. The management of historic resources shall be in accordance with the provisions of the *Burra Charter* of Australia ICOMOS. The management of historic resources shall aim to avoid impacts and maximise the retention of significance, retain and conserve significant fabric and provide a practical balance between use/appreciation and conservation.

13.6.3 Detailed Policy for the Management of Heritage Significance

- The curtilage for the historic heritage resources in Mungo National Park is the boundary of Mungo National Park, being the boundaries of the former Mungo and Zanci pastoral stations.
- This CMCTP identifies the heritage significance for most known elements within Mungo National Park. For elements not specifically identified the significance shall be based on elements that have a similar history, use and degree of intactness.
- The management of historic resources shall be in accordance with the provisions of the *Burra Charter* of Australia ICOMOS.
- Detailed conservation planning should be prepared to guide future management and conservation, with the level of planning related to significance (see Sections 13.5 and 13.8).
- The appropriate conservation process (as defined in the *Burra Charter*) for individual elements should be relative to the significance of that element:
 - Exceptional significance: preservation, restoration and limited reconstruction of lost or damaged elements;
 - High significance: preservation, restoration and reconstruction of lost or damaged elements and minor adaptive re-use associated with an historic use or for interpretation;
 - Moderate significance: preservation, restoration and reconstruction and adaptive re-use associated with use appropriate for the Park as a whole; and
 - Little significance: can either be retained or be removed to improve the setting of elements of greater significance.
- The retention of heritage significance is a management objective in Mungo National Park and catch-up conservation and cyclic maintenance works will be undertaken to retain significance.
- In planning new works the heritage impacts of the proposed activity on the significance of the element, the setting of the element and significance of other elements in the vicinity will be considered.

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- In making management decisions all the natural and cultural values of Mungo National Park shall be considered. Where there is a conflict between natural and cultural values the precautionary principle should be invoked. Impacts on natural and cultural values should be substantiated by sound scientific evidence and assessment processes must be transparent, involve public comment, peer review and assessment by all relevant Service specialist staff.

13.7 Landscape Conservation

13.7.1 Rationale

The 'whole of landscape' approach identified in the Vision Statement for Mungo National Park (see section 13.3) is based on the concept that landscape is composed of both natural and cultural landscape aspects and that respect for these natural and cultural landscape elements is necessary to achieve a better understanding of landscape evolution.

13.7.2 Framework Policy for Landscape Conservation

Significant cultural landscape features within Mungo National Park will be conserved and interpreted as part of a total landscape approach to heritage conservation. These cultural landscape features including fences and evidence of fence lines, ground tanks and associated drains, wells, shafts, stock yards, telephone lines and power poles, tracks and roads and cultural plantings that provide important evidence of two phases of pastoral land-use history. The landscape setting and important views to and from other historic elements will also be conserved. No new landscape elements or other structures should be introduced that would change the landscape character of the setting of the station complexes or have a visual impact on significant elements. Where there is a conflict between natural and cultural values a process will be established based on significance and empirical evidence to practically address conflicts so that, where possible, all values are conserved.

13.7.3 Detailed Policy for Landscape Conservation

- The management of natural heritage values shall be in accordance with the provisions of the Australian Natural Heritage Charter and relevant statutory requirements.
- Threatened plants and animals within the National Park shall be managed in accordance with the requirements of the Threatened Species Conservation Act 1995 and the National Parks and Wildlife Act 1974, as amended.
- Table 13.1 below provides conservation policy for individual landscape elements.
- There should be an integration of a cultural landscape approach into natural landscape management. Areas of potential conflict between natural and cultural landscape values should be identified and addressed by establishing the significance of natural and cultural elements and establish empirical evidence to practically address conflicts so that, where possible, all values are conserved.

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- In relation to the ground tanks these should be retained in use as key evidence of the importance of water storage in an arid landscape normally devoid of any ground water. The future management of the ground tanks should be firstly addressed in a Ground Tanks and Wells Conservation Plan. This conservation plan should address not only the constraints arising from the significance of the tanks, but also constraints arising from issues such as erosion mitigation, biodiversity, threatened species, fire and pest control. As any proposal to remove ground tanks, to alter them, close the drains, or build fences around them, is likely to be controversial, then such proposals should be subject to an Environmental Impact Statement (as required in NPWS guidelines for approvals) that should include public consultation and should as a minimum include:
 - the established heritage significance of the tanks;
 - policy contained in the Ground Tanks and Wells Heritage Study;
 - the historic use and current interpretative potential of the ground tank;
 - empirical evidence and assessment of the natural heritage threats;
 - identification and assessment of all natural and cultural heritage impacts including flow-on effects on adjoining properties (for example movement of kangaroo populations, visual impacts from introduced fences and issues of control and maintenance of fences);
 - mitigative measures, including sampling strategies and reversible and non-destructive mechanisms such as retain the fabric of the tanks but diverting water from the inflowing drains away from the tanks, to reduce the conflict of values; and
 - an assessment of the ability to interpret the ground tanks and the landscape if modifications are carried out.
 - Consideration should be given to fully recording the existing roads within Mungo National Park and at any new acquisition (for example Leaghur) and carrying out heritage impact statements as part of the assessment as to whether to create or destroy roads.
 - Cultural planting within Mungo National Park should be retained and conserved and replanted with similar species when they become senescent.
 - The landscape quality of the station complexes should be conserved, including the open sparse setting around the Shearers Quarters at Mungo. No new plantings other than low shrubs like saltbush should be introduced between the Homestead area and the Woolshed at Mungo.
 - There should be no 'cleaning-up' of the landscape around dumps;
 - Soil should not be removed or quarrying undertaken from or around the ground tanks.

- Fences should be retained, in particular evidence of wire netting fences and holding yards. All timber yard fences should be retained. If fences are proposed for removal, a justification and an environmental assessment should include similar matters as for ground tanks. If removed the extent of the fence should be recorded and all fence posts should be retained.
- Proposed new works to protect safety or to provide interpretation should include an assessment of the visual impact of the new work on the cultural landscape setting.
- Conflict between natural and cultural landscape values should be addressed as identified in Section 13.6.3.

Table 13.1 Conservation Policy for Individual Landscape Elements

Landscape Elements	Significance	Policy
Mungo Station complex – setting	High	Retain open character around Woolshed/Quarters – do not plant trees
Mungo Station complex – cultural plantings	High	Conserve, including introduced eucalypts, <i>Agave americana</i> and garden beds and other introduced plantings
Zanci Station complex – setting	High	Retain open character do not obscure evidence of building fence locations
Zanci Station complex cultural plantings	High	Conserve sugar gums, mulberry tree and pepper trees and other introduced plantings

13.8 Built Heritage Conservation

13.8.1 Rationale

Rural pastoral buildings are often of strong visual appeal or have historical significance (such as Mungo Woolshed). Additional value is gained through their role as a tangible representation of the pastoral landscape use. The heritage buildings in the Mungo Station complex provide a complete record of the functional composition of a pastoral complex: Woolshed, Shearers Quarters and store buildings. Not only is it important to retain these buildings but the spaces between and around provide important evidence of the life experience on the station and social hierarchies involved. While many of the buildings at Zanci have disappeared, the evolution of the station can be interpreted with remaining evidence.

In terms of resource provision it is reasonable in current circumstances to draw on the Treasury-funded HEMP scheme for funding. However, in the longer term, adequate funding of historic heritage conservation through normal regional recurrent and capital funding arrangements will ensure that a view of building conservation being a core Service activity is reinforced within the Service. A dependency mentality also develops with long-term external funding (see NPWS Best Practice in Cultural Heritage Management January 2002).

13.8.2 Framework Policy for Built Heritage Conservation

The NPWS will conserve all existing buildings from the pastoral period of Mungo and Zanci Stations and earlier and will protect the setting of these buildings. Conservation processes that are appropriate to the level of significance (see Conservation Planning Section 13.4.3 and Conservation of Significance, Section 13.6.3) will be used. Uses will be compatible to the history and relative significance of the building (see Future Use, Section 13.9). Catch-up conservation works and a cyclic maintenance program shall be documented and undertaken by appropriate specialists following the further conservation planning and assessment process identified here (as identified in Table 13.2, Section 15.8.2 and the Inventory volume).

13.8.3 Detailed Policy for Built Heritage Conservation

- Conservation policy for individual buildings is provided below as Table 13.2.
- Prior to undertaking works on the heritage buildings or structures, detailed conservation planning should be prepared. For elements of Exceptional significance a Conservation Plan should be prepared. For elements of High significance a Conservation Analysis report should be prepared. For elements of Moderate significance a Statement of Heritage Impact should be prepared (see below, see also Section 13.4.3).
- Conservation Analysis Reports should include but not be limited to the following:
 - documentation contained in this CMCTP (including inventory forms);
 - further analysis and assessment of the significance of component parts of the element;
 - appropriate detailed policy for use; and
 - catch-up and cyclic conservation works schedules.

The Conservation Analysis Report should be separate to or combined with a Statement of Heritage Impacts (see below).

- Prior to undertaking works on the heritage buildings or structures, Statements of Heritage Impacts (SOHI) should be prepared that include a description of proposals and an identification and evaluation of the heritage impacts of proposed works on the element and other elements in the vicinity (this assessment should include impacts on other heritage values), and an analysis of options considered and mitigative measures recommended.
- Given the State heritage significance of the built heritage resource and its SHR listing an adequate budget should be available to undertake both catch-up and cyclic maintenance utilising appropriate heritage expertise (trade and professional).
- Where possible there should be a shift from external funding to recurrent and capital funding through annual Far Western Region budget cycles.

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- A program of catch-up conservation works should be undertaken and priorities identified for implementation.
 - A program of cyclic maintenance for built and movable heritage should be developed.
 - All buildings from the pastoral periods should be conserved in situ — no buildings should be relocated.
 - There should be no reconstruction of demolished buildings but an interpretation of former building locations and forms is possible, particularly within the Zanci Station complex.
 - Mungo Woolshed requires a structural engineering assessment of its timber-frame structure. Urgent catch-up conservation works are required to its failing structure at its southern end and some roof elements. These works were documented in April 2000 and should be implemented with some variations, specifically to upgrading the extent of works to the southern end. There is a need for a significant cyclic maintenance program, given its construction and materials.
 - Mungo Woolshed underground tank is of Exceptional historical and aesthetic significance and should be restored/reconstructed provided there is documentary and oral evidence sufficient to avoid excessive conjectural reconstruction. Its re-use could assist the fire protection of the Woolshed.
 - Fire risk and fire fighting management is a significant issue. Professional advice regarding fire risk management and the BCA compliance should be sought (utilising the expertise of the NSW Heritage Council where possible). It is recommended that the use of sprinklers be investigated as the principal threat is to heritage fabric.
 - The Shearers Quarters require catch-up restoration works to its subfloor areas. Minor restoration and adaptive re-use works are required to provide a reasonable level of comfort for visitors. The provision of airconditioning to rooms could be considered provided the works were not visible. The construction of a verandah attached to the western wall of the Shearers Quarters could be considered provided it retained the simple utilitarian qualities of the Quarters (awning verandah with no verandah floor).
 - Mungo Homestead is of Exceptional significance being part of the Gol Gol phase of development. Mungo Homestead should be more accessible to visitors given the increased level of significance identified in this report. As a minimum this access should be for interpretation but also possibly for accommodation — see Use and Management of Change below. The 1950s additions to Mungo Homestead (including interiors) are significant and should be retained.
 - The Stables at Zanci are significant as an example of regional vernacular architecture and should be subject to ongoing catch-up and maintenance works.

- The Cellar dugout at Zanci is significant as an example of survival in this extreme environment and should be subject to ongoing catch-up and maintenance works.
- All buildings should have regular inspections for termites.
- There should be ongoing research into the history and fabric of individual buildings at Mungo and Zanci and further research in relation to their context within the similar architectural examples in western New South Wales and the region in particular.
- In managing ‘built’ heritage it is important to understand that in most cases these items will be associated with some archaeological potential and management actions taken to modify or conserve building fabric therefore need to consider impact on associated deposits (see 13.7.4 and Table 13.3).

Table 13.2 Conservation Policy for Individual Building Elements

Note that for each building cyclic maintenance is required (see Section 15.2.8).

Element Name	Significance Ranking	Policy
Intact Buildings		
Mungo Woolshed	Exceptional	Prepare a Conservation Management Plan and SOHI prior to any works proposals and after Park wide accommodation study Undertake structural assessment Urgent catch-up works structure and minor works to roofing and skylights Upgrade fire services and interpretation
Mungo Homestead	Exceptional	Prepare a Conservation Management Plan and SOHI prior to works proposals & after Park wide accommodation study Investigate fabric. New use for interpretation recommended. Retain 1950s additions
Mungo Shearers Quarters	High	Prepare a Conservation Analysis and SOHI prior to works proposals Undertake catch-up restoration (floor structure and restore boarded flooring) Consider adaptive works to improve visitor comfort — airconditioning and verandah

Element Name	Significance Ranking	Policy
Mungo-drop log toilets	High	Prepare a Conservation Analysis and SOHI prior to works proposals
Mungo NPWS Staff Quarters	High	Prepare a Conservation Analysis and SOHI prior to works proposals Interpret former location
Mungo Station phase outbuildings (pre-NPWS)	High	Prepare a Conservation Analysis and SOHI prior to works proposals Second historic phase
Mungo NPWS phase generally	Moderate	Prepare SOHI prior to works
Mungo Visitors Centre	Little	Appropriate for adaptive reuse. Prepare SOHI prior to works. In the long term consider re-location to a more appropriate site as it detracts from complex setting although it contributes significant interpretation
Zanci Stables	High	Prepare a Conservation Analysis and SOHI prior to works proposals Thatch roof needs ongoing conservation
Zanci Woolshed	High	Prepare a Conservation Analysis and SOHI prior to works proposals. Interpret make-do and reuse of materials Yards and ramp in poor condition need urgent attention
Zanci vehicle shed	Moderate	Prepare SOHI prior to works
Zanci cellar	Exceptional	Prepare a Conservation Management Plan and SOHI prior to works proposals. However, recent works mean that this is not a high priority
Zanci toilet	High	Prepare a Conservation Analysis and SOHI prior to works proposals
Zanci pergola and meat safe	High	Prepare a Conservation Analysis and SOHI prior to works proposals
Other Visible Structures		
Mungo Woolscour hut ruin and adjacent logged tank	Exceptional	Undertake a specific historical and archaeological research project that may include excavation
Allens Plains Hut ruin	High	Prepare a Conservation Analysis and SOHI prior to works proposals. Undertake works to reduce further loss of ruin fabric

Element Name	Significance Ranking	Policy
Woolscour sites (trolley line and tank evidence)	Exceptional	Undertake a specific historical and archaeological research project in association with scour hut site
Mungo Woolshed underground tank	Exceptional	Prepare a Conservation Plan and SOHI prior to works proposals in association with Woolshed Conservation Plan (see also Table 13.3). Consideration of re-use for water storage (interpretation and fire fighting) would be appropriate
Other wells and shafts	Exceptional	Undertake additional historic and fabric research in association with ground tanks. Prepare an SOHI prior to works proposals
Ground tanks and drains — Gol Gol	Exceptional	Undertake additional historic and fabric research. Include as a group in Ground Tanks and Wells Conservation Plan. Prepare an EIS if tank removal or modification proposed
Ground tanks and drains — post-1922	High	Undertake additional historic and fabric research. Include as a group in Landscape Conservation Plan. Prepare an EIS if tank removal or modification proposed
Ground tanks traps — NPWS	Moderate	Later NPWS phase. Prepare an SOHI prior to works proposals
Vigar's Well cart tracks	Exceptional	Include in Landscape Conservaiotn Plan and prepare an SOHI prior to works proposals (see Table 13.3)
Associated Places		
Gol Gol Station Homestead	High	Consult with owners and provide assistance where possible
Mungo Racetrack shelter — Joulni Station	High	Consult with owners and provide assistance where possible

13.9 Future Use

13.9.1 Rationale

The continuation of historic uses is usually an aim for heritage buildings. The *National Parks and Wildlife Act* (1967) makes it difficult to achieve that in relation many historic land uses apart from ongoing accommodation use. In the past the occasional use, of the Woolshed for associated temporary storage of sheep using the TSR was a positive use, and a similar future use could be contemplated. The future use of historic elements at Mungo and Zanci should generally be for either visitor use, interpretation, research associated with Mungo National Park, staff accommodation or a functional management facility (such as storage shed) where possible.

13.9.2 Framework Policy for Future Use

The future use of buildings will be based on an understanding of the heritage significance of the building. The most appropriate use is the historic use or a use associated with the historic use (for example visitor use of the Shearers Quarters). The least appropriate use is a use that has no relation to previous uses. Buildings of Exceptional significance will be used primarily for interpretation.

13.9.3 Detailed Policy for Future Use

- The use of Mungo Homestead will be reconsidered given its significance and its key role in completing the station complex. The area around the Homestead is not currently available to visitor access and this area should be accessible to visitors and the building itself used for either visitor accommodation or as an interpretation centre for pastoral heritage.
- NPWS accommodation and management use should be concentrated north of the former Fuel Shed and, if necessary, new accommodation constructed (see below in Section 13.10).
- In considering new uses for buildings in Mungo National Park the range of new or potential acquisitions (whether gazetted as national parks or not) should be considered to achieve the best mix of conservation/interpretation, visitor use and appreciation and staff use. For example, it may be better to provide a visitor accommodation at Leaghur Homestead with an interpretation use for Mungo Homestead. No action should be taken that pre-empts thoughtful consideration of the whole group of new acquisitions.
- The Shearers Quarters should be retained for visitor accommodation.
- The Visitors Centre could be used for a wide variety of purposes.
- All use proposals must be subject to a heritage impact assessment.

13.10 The Management of Change/Adaptive Re-use/New Works

13.10.1 Rationale

Change usually arises from change in use and accommodation requirements and usually involves either new buildings or adaptation of existing buildings. The extent of acceptable change depends on significance and the reason for the change (for example, to provide for disability access). In this case the significance of the setting of the complexes means that new buildings could have an impact on the whole setting, as has been the case with the Visitors Centre.

13.10.2 Framework Policy for Management of Change

The significance of elements will guide the extent of appropriate change or adaptation allowed. Development controls will limit new structures within the existing complexes.

13.10.3 Detailed Policy for Management of Change

- Significance will guide the degree of adaptation:
 - buildings of Exceptional significance will have no adaptation;
 - buildings of High significance could have minor adaptive re-use associated with an historic use;
 - buildings of Moderate significance can be adapted for uses associated with use appropriate for the Park as a whole; and
 - buildings of Little significance can be adapted for new uses.
- No new buildings will be permitted within the Mungo Station complex area or the open lake bed generally. Essential new management buildings/structures can be located north of the former Fuel Store building provided they are subject to environmental assessment and statements of heritage impact.
- The area around the Mungo Homestead should be available for public access.
- Minor adaptation may be acceptable to improve visitor accommodation in the Mungo Shearers Quarters as described in Section 13.8.3.
- New buildings could be constructed in or near the Main Camping Ground area for staff or visitors.
- No new buildings should be constructed within the Zanci Station complex area.

13.11 Aboriginal Heritage

13.11.1 Rationale

All Aboriginal heritage sites with physical archaeological evidence are protected under the NPW Act regardless of 'significance'. Damage destruction, modification and research of such places all require written approval of the Director General under sections 87 and 90 of the NPW Act, 1974.

In addition to this legal requirement the NPWS has an ethical requirement to recognise contemporary Aboriginal connections to the landscape and conserve and interpret aspects of national parks that relate to those intangible aspects of heritage. These intangible aspects include the relationship of Aboriginal culture to the land and historic stories of invasion, removal and/or partnership that may be reflected in the history.

13.11.2 Framework Policy for Aboriginal Heritage

The brief for this project did not include an appraisal of all Aboriginal sites within Mungo National Park. The focus for this document was the historic heritage of the park. However, consistent with

the NPWS policy to develop integrated management of all heritage values, Aboriginal heritage was to be considered where it overlapped with historic places and values. Accordingly, site-specific recommendations are only provided for sites and Potential Archaeological Deposits (PADs) around the historic complexes. However, there are general policies which must be adopted to ensure the sustainable long-term management of the Aboriginal heritage of the park as a whole.

13.11.3 Detailed Policy for Aboriginal Heritage

- Aboriginal heritage is now generally accepted to extend beyond 'sites' to incorporate Aboriginal connection to landscape. Accordingly, current processes to involve Aboriginal community groups in the management of the place should be continued and expanded.
- Aboriginal 'ownership' of historic heritage should be part of a movement towards the shared management of the place.
- Given the worldwide dissemination of scientific information on Mungo National Park and the relatively high educational level and sophisticated expectations of many visitors to Mungo National Park, more detailed information needs to be available to visitors. (As an interim step, which involves little cost, a photocopied list of scientific publications relevant to Mungo National Park should be made available as a handout to visitors.)
- There is a significant hiatus in the Aboriginal story of Mungo National Park with the Aboriginal story ending sometime in the late Holocene. The story between then and the period immediately post-invasion remains obscure. Resources should be provided to fill this gap if possible to provide a more balanced account of Aboriginal history. This may involve historic research and recording oral accounts of the reserve period and the movement of Aboriginal people in the immediate post-contact period.
- The scientific community has had a long association with Mungo National Park and over the years has outlined priorities for research. These should be reviewed and research gaps identified. A long-term research plan for Aboriginal heritage should be developed and endorsed by both researchers and traditional owners. This would provide a guide for NPWS officers to use in approving or negotiating research projects which would be equitable and still maintain appropriate scientific rigour.
- Consideration should be given to the bicentennial proposal that proposed an undercover trench in the eastern lunette, that presented the Aboriginal archaeology in situ to visitors. Such a proposal requires a dialogue between Aboriginal traditional owners and scientists, and an assessment of the long-term management viability of the proposal.
- Any Park works including conservation works or the siting or maintenance of Service facilities must consider the likelihood of the area to contain archaeological deposits and or sites.

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- A cyclical monitoring program should be established to monitor the condition (including erosion and visitor impact) on a select number of Aboriginal sites (this should include the Mungo Arumpo Site 109 (site 40-5-66) as well as selected sites on the eastern lunette).
 - The cyclical monitoring programs should be formal programs with formal reporting lodged in the Service's Aboriginal Heritage Information System (Aboriginal Sites Register).
 - Site location information for most sites currently held on the NPWS Aboriginal Sites Register is currently inaccurate. It is essential that location information be updated and verified as a matter of priority. In some instances the Buronga office may hold more accurate information which has not yet been incorporated into the ASR. This situation should be remedied without delay.
 - Any historic heritage conservation works or research must consider the potential for the area to contain Aboriginal relics. This should be specifically incorporated into permit approvals processes and research methodologies.
 - NPWS should develop as a matter of priority an acquisition policy for additions to Mungo National Park. This policy should consider amongst other things the significant Aboriginal heritage values represented in the Park and the connections between these and neighbouring properties.
 - All activities relating to NPWS developments (for example soil extraction, rubbish dumps and service roads) must be preceded by an REF that explicitly considers the potential to impact on Aboriginal sites and potential subsurface deposits.
 - The western shore of the lake and the bordering dunes should as a precautionary principle be considered likely to contain significant Aboriginal archaeological deposits.

13.12 Historic Archaeology

13.12.1 Rationale

Historic heritage (including archaeological deposits) are protected under NPWS regulations. In addition all historic archaeological deposits are protected in New South Wales under the *Heritage Act 1977*. The NPWS recognises that historic archaeology can add significantly to our understanding of the heritage places they manage. Investigation of historic archaeology has potential to address many of the gaps in archival and oral accounts and in some instances may correct misinformation or imbalances in such accounts. Historic archaeology as it relates to Mungo National Park may be seen as closely related to the built heritage of Mungo National Park. Therefore, actions taken to conserve, interpret or demolish built heritage items must consider the impact on both potential historic archaeological deposits and the bank of historic archaeological values of the Park. Additionally it is recognised that the 'structures' that remain at Mungo National Park are a subset of the full range of structures that existed throughout the evolution of the historic landscape and more particularly for the period prior to NPWS acquisition. Archaeological evidence therefore has the

potential to fill in the gaps in both the historical record and in visitor experience as it relates to Gol Gol, Turlee, Mungo and Zanci pastoral stations. A precautionary approach to the management of archaeological resources is defined by these policies.

13.12.2 Framework Policy for Historic Archaeology

The management of the historic archaeological resource at Mungo National Park recognises the valuable contribution that archaeological sites may make to our understanding of the evolution of the historic landscape. The management of the historic archaeological resource of the park will involve both targeted research, interpretation of historic archaeological sites and the mitigation of impact from other conservation and management activities.

13.12.3 Detailed Policy for Historic Archaeological Sites Including the Potential for Deposits

- Consistent with the long tradition of archaeological research at Mungo, a historical archaeology research program should be instituted which focuses on those sites most likely to contribute information that will assist in their interpretation and the interpretation of the pastoral history as a whole. Such a research program would ideally consist of a mix of student and contract projects and would ideally be suited to students at masters or PhD level. The sites which could be investigated include:
 - the site known as the ‘Chinese hut ruin’ which is likely to have had an earlier phase associated with wool scouring;
 - the hut and dump behind and to the west of Mungo Homestead;
 - Mungo homestead including the original Turlee structure;
 - the Mungo Woolshed underground tank;
 - the buried stockyards at Middle Yards;
 - Vigar’s well area; and
 - The structures that may have existed at selected tanks eg Paradise Tank.
- Research should be encouraged which focuses on the interconnections between Mungo and Zanci and off park areas such as Gol Gol Station and other stations in the World Heritage Area (such as Leaghur).
- All maintenance and Park management works that take place within identified PADs should follow the management requirements indicated in Table 13.3 below. All new works should be preceded by and REF including a Statement of Heritage Impact. Where such works may affect any of the PADs listed in 13.3 such assessments should involve specialist archaeological advice.

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- A qualified archaeologist with historic heritage experience should carry out all archaeological investigations.
 - In all historic excavation programs the possibility of uncovering Aboriginal relics (from the pre-historic period) should be specifically anticipated. This should be reflected in permit applications and proposed methodologies.
 - Given the rather unique absence of direct information relating to Aboriginal people at Mungo in the post-contact period, archaeological programs should all specifically address the possibility of archaeological material that evidences 'contact'. Given existing oral historical evidence, should such evidence exist it is likely to relate to the earliest pastoral phases (that is, GolGol/Turlee) and so contribute fundamentally to our understanding of that period.
 - Park management must comply with current legislative requirements and NPWS procedures relating to the consideration of PADs and archaeological investigations, for example Statements of Heritage Impacts etc (see Appendix J).

The Table sets out the archaeological potential of each of the identified PADs. This is graphically illustrated in Figures 13.1, 13.2 and 13.3. This table should be read in conjunction with Table 13.2 which refers specifically to the built heritage. There are two important limitations to this table. Firstly, areas not identified in this table or illustrated in the relevant plans cannot be assumed to have no archaeological potential in relation to Aboriginal sites. This study considered the distribution and identification of Aboriginal PADs and sites only in so far as they overlapped or occurred within or immediately adjacent to areas with identified historic heritage sites, structures or PADs. Identification of areas of Aboriginal archaeological potential in or near such areas is important to avoid inadvertent damage to the Aboriginal archaeological resource of the park when carrying out activities related to the conservation, investigation or interpretation of historic sites.

Secondly, while every attempt has been made to identify the likely locations of archaeological material relating to the pastoral settlement of Mungo National Park the lack of detail relating to the earliest phases of pastoral operations may mean that some sites occur outside the areas of identified potential. The buried stockyards provide a graphic indication of the possibility for relatively recent remains to be obscured. However, it is considered that outside the areas where specific structures or feature or areas of archaeological potential have been identified, the bulk of the park has **low** potential to contain significant archaeological remains. Activities in these areas then would not require an excavation permit under s139 of the Heritage Act. Should such activities reveal unexpected archaeological remains the advice of the Services Historical Archaeologist or the Director Cultural Heritage should be immediately sought before proceeding.

Table 13.3 Management Requirements for Potential Archaeological Deposits

Location	PAD #	Observed Features	Archaeological Potential Rating	Likely Significance Aboriginal – Pre Contact	Likely Significance Historic	Policy – Management of Specific Deposits
Mungo entrance garden centre area.	PAD 1	Aboriginal artefacts eroding from driveway section. Historic photos indicate historic plantings.	High (Aboriginal & Historic)	Low	Medium	Test excavate prior to disturbance. Excavation permit should include Aboriginal (pre-contact) and Historic provisions.
Mungo entrance garden area (nw of driveway)	PAD 2	Isolated stone artefacts disturbed on road. Scattered European debris ie glass and metal	High (Aboriginal & Historic)	Low	Medium	Test excavate prior to disturbance Excavation permit should include Aboriginal (pre-contact) and Historic provisions.
Mungo entrance garden area (southern)	PAD 3	Aboriginal artefact in section of track. Historic entrance plantings	High (Aboriginal and Historic)	Low	Medium	Test excavate prior to disturbance Excavation permit should include Aboriginal (pre-contact) and Historic provisions.
Mungo: Unspecified pre Gol Gol	N/A	There is little likelihood of such remains occurring but this phase needs to be considered in the analysis of historic relics.	Low	N/A	High	Record if uncovered.
1. Mungo: North Turlee Cottage/Mungo Homestead 2. Mungo Homestead: Store/kitchen 3. Mungo homestead/ extensions 4. Mungo Homestead laundry 5. Generator shed and tank stand	Within PAD4	Original homestead building forms core of modern building Older deposits likely under new extensions. Generator shed and tank stand adjacent to homestead garden, likely to have sub floor deposits	High	Low	High	Conservation Plan recommended in 13.2 should include consideration of deposits. REF 1 required (see Appendix J)+ SOHI prior to works (including conservation works) Include in archaeological research program Test excavation (Heritage Act s 139 permit required) prior to invasive works
Visitors Centre car park and surrounds and woolshed parking area.	Management area A	Area has been flattened and in part gravels added. Disturbed by high traffic use and probably during construction of visitors centre.	Low	Low	Low-moderate	Monitor Excavation permit required
Visitors Centre/sub-floor	Management Area B	Any archaeological deposits would have been disturbed or removed by construction of the centre.	Nil	nil	Nil	No action Excavation permit not required

Location	PAD #	Observed Features	Archaeological Potential Rating	Likely Significance Aboriginal – Pre Contact	Likely Significance Historic	Policy – Management of Specific Deposits
Picnic area and area immediately west of visitors centre	Management Area C	Area shows signs of high traffic. Disturbed scatter of Aboriginal stone artefacts and European debris noted throughout area but has clearly been disturbed. Visitor facility have been added to this area and historic structures removed /cleaned up.	High	High	Low	Monitor Excavation permit required
Mungo Out-buildings	Management Area D	Includes the following buildings: Hazardous material shed Fuel shed Tractor shed Motor Bike shed Hangar machinery shed New generator shed NPWS staff quarters	Moderate-Low	Low	Low	No action Excavation permit not required
Tennis court area	Within PAD 4	Outline of court Rotting tennis balls	Low	Low	Moderate	Include in Conservation Plan for Homestead. Consider re-instating REF1+ SOHI prior to works
Garage	PAD 5	Building extant. Possible sub-floor deposits. (Apparently modified by NPWS since field inspection).	Moderate	Nil	Moderate	REF 1 + SOHI prior to works (including conservation works) Test excavation prior to invasive work Monitor all ground disturbance
Mungo Woolshed, yards and underground logged tank.	6	Evidence of removed eastern wing evident on ground surface. Tank is collapsing and needs urgent works. Woolshed needs urgent conservation works. Sub-floor or older floor deposits visible at southern end.	High	Low	High	Avoid impact Conservation Plan recommended in 13.2 should include consideration of deposits, yards and logged tank. REF 1 required (see Appendix J)+ SOHI prior to works (including conservation works) Test excavation (Heritage Act s 139 permit required) prior to invasive works Include in archaeological research program (especially demolished wing). Restore underground tank. Monitor all ground disturbance

Location	PAD #	Observed Features	Archaeological Potential Rating	Likely Significance Aboriginal – Pre Contact	Likely Significance Historic	Policy – Management of Specific Deposits
Woolshed dip	Within PAD 6		Low	Low	Moderate	Monitor ground disturbance. No excavation permit required unless relics uncovered.
Mungo: Wool scour hut ruin 'Chinaman's hut' and tank	PAD 7	The site has been partially bulldozed (see earth mounds and crushed brick. Underground tank partially subsiding. Remnant structural features clearly not purpose built for last known use 'ie Chinaman's hut'.	High	Low	Moderate/ High	Avoid impact REF 1 + SOHI prior to works (including conservation works) Include in archaeological research program. Interpret based on outcome of excavations. Test excavation prior to invasive works (permit required) Monitor all ground disturbance
Shearers Quarters	PAD 8	Buildings extant but need some corks see Table 13.2	Low	Low	Moderate to High	REF 1 + SOHI prior to works (including conservation works) Include in archaeological research program Test excavation prior to invasive works (permit required) Monitor all ground disturbance
Shearers Kitchen, abluion block and cook house	Pad 8	It is noted that abluion block is modern and is likely to have removed/disturbed historic deposit in immediate vicinity, however original drop-logged tank may still exist nearby.	high	low	Moderate to High	REF 1 + SOHI prior to works (including conservation works). Works on modern abluion block must consider impact on nearby relics including possible underground tank Include in archaeological research program Test excavation prior to invasive works (permit required) Monitor all ground disturbance
Mungo historic dump, ruins, Chinaman's grave	PAD 14	Historic dump with pre and post 1900 material. Stockpile of old bricks (Shearer's cook house chimney?). Several aligned bricks and corrugated iron possible evidence of hut. Chinaman's grave referred to by Clark. Aboriginal sites likely as known sites nearby.	High	Moderate to High	High	Avoid impact REF 1 required (see Appendix J)+ SOHI prior to works (including conservation works) Include in archaeological research program Test excavation (Heritage Act s 139 NPWS s87) prior to invasive works Monitor all ground disturbances.
Mungo stables, chaff shed and horse yard	PAD 15	No buildings. Likely to have been ploughed	Low	Low	Moderate	Monitor ground disturbance

Location	PAD #	Observed Features	Archaeological Potential Rating	Likely Significance Aboriginal – Pre Contact	Likely Significance Historic	Policy – Management of Specific Deposits
Mungo Buried Stockyards	PAD 16	Stockyards exist partially buried (see plan in Inventory Sheets)	High	Low	High	Avoid impact REF 1 required (see Appendix J)+ SOHI prior to works (including conservation works) Include in archaeological research program Test excavation (Heritage Act s 139 NPWS s87) prior to invasive works Monitor all ground disturbance.
Zanci: Stables and pig pens	20	Stable building extant. No floor, isolated historic artefacts may occur. Pig or Goat pens still stand may originally have been more.	Moderate	Low	Low	REF 1 required (see Appendix J)+ SOHI prior to works (including conservation works) Monitor ground disturbance. Permit required under s139 Heritage Act.
Mungo Cottage (2 nd house) subfloor	PAD 26	Gardens have been modified. Deposits likely to have been disturbed.	Moderate	Low	Low	Monitor ground disturbance. Record deposits or relics
Mungo: original Shearers Quarters (near drop-log toilet)	PAD 29	No surface evidence.	Low	Low	High	Test excavation prior to invasive works- permit required under s139 Heritage Act. If remains identified then REF1 + SOHI.
Mungo: Drop-log toilet	PAD 29	Likely to be other privy pits in area. One other noted.	High	Nil	Low (although older ones may be higher)	Avoid impact REF and SOHI prior to works (incl conservation works)
Smithy	PAD 30	Has been totally removed. Area marked by scatter of rusty nails and metal fragments.	High	Low	Low	Monitor ground disturbance. Excavation permit required s 139 Heritage Act.
Zanci: Woolshed (current)	17	Building and yards extant	High	Low	High	Avoid impact REF 1 required (see Appendix J)+ SOHI prior to works (including conservation works) Include in archaeological research program Test excavation (Heritage Act s 139 permit required) prior to invasive works

Location	PAD #	Observed Features	Archaeological Potential Rating	Likely Significance Aboriginal – Pre Contact	Likely Significance Historic	Policy – Management of Specific Deposits
Zanci: Tank stands, equipment sheds and animal pens (outside fenced area)	18	Foundations of several buildings scattered moveable heritage items, dog kennels etc.	Moderate	Nil	Moderate	Record and interpret REF 1 required (see Appendix J)+ SOHI prior to works (including conservation works) Include in archaeological research program Test excavation (Heritage Act s 139 permit required) prior to invasive works
Zanci: 1930–1970 Homestead area (within fence)	19	Outline of house can still be seen in foundations some outbuildings and structures remaining suggest deposits between buildings may be intact despite bulldozing.	High	Low	Moderate to High	Incorporate into historical archaeological research program REF/SOHI for all proposed works affecting subsurface Excavation prior to ground disturbance
Zanci: Shearers Quarters (demolished)	28	Area has been bulldozed. Scattered debris and footings evident	High	Nil (intact sites)	Low	Monitor and record Excavation permit required s 139 Heritage Act
Zanci: Unknown structure and fence	31	Fence and shelter ruin.	Low	Low	Low	Monitor and record No permit required.
Vigars Well	PAD 21	Well shafts (2) Track impressions in hardened clay Other impressions in clay Exotic plant species	High	Moderate	Moderate-High	Avoid impact Detailed recording required asap REF 1 required (see Appendix J)+ SOHI prior to works (including conservation works) Include in archaeological research program Based on detailed recording test excavation (Heritage Act s 139) permit may be required prior to invasive works
Aboriginal Sites and PADs in vicinity of Mungo and Zanci	PADs 10, 11, 12, 13, 14, 27	Contain recorded Aboriginal sites. Western lake dunes. Currently affected in part by historic features ie stock route, entrance road, services etc.	High	High	Low to moderate (except for PAD 14-High)	Avoid impact REF 1 required (see Appendix J)+ SOHI prior to works (including conservation works) Include in archaeological research program Test excavation (s87 NPW Act, Heritage Act s 139) prior to invasive works Monitor all ground disturbances. Site 45-5-66 should be included in long term monitoring program. Consider interpreting for those who stumble across it to avoid damage through ignorance.

Location	PAD #	Observed Features	Archaeological Potential Rating	Likely Significance Aboriginal – Pre Contact	Likely Significance Historic	Policy – Management of Specific Deposits
Double Tank	PAD 22	Dates to Gol Gol phase	Moderate	moderate	High	Avoid impact Detailed recording required asap REF 1 required (see Appendix J)+ SOHI prior to works (including conservation works) Include in archaeological research program Based on detailed recording test excavation (Heritage Act s 139; s87 NPW Act) permit may be required prior to invasive works
Paradise Tank	PAD 23	Tanks, connecting weir/overflow Foundations for pump. Foundations possibly hut	High	low	Moderate	Avoid impact Detailed recording required asap REF 1 required (see Appendix J)+ SOHI prior to works (including conservation works) Include in archaeological research program Based on detailed recording test excavation (Heritage Act s 139) permit may be required prior to invasive works
Allen's Plain Hut	PAD 24	Hut ruins	High	Moderate	moderate	Avoid impact REF 1 required (see Appendix J)+ SOHI prior to works (including conservation works) Include in archaeological research program. Interpret based on findings. Test excavation (Heritage Act s 139 permit required) and s 87 NPW Act prior to invasive works
Willandra Tank	PAD 25	Foundations Hut? Foundations pump/windmill	High	Moderate	Moderate	Avoid impact. Detailed recording required. Management/interpretation based on recording. Excavation would require permit under s139 Heritage Act and s87 NPW Act as Aboriginal relics possible.
Silcrete Quarry (see also New Site 3, Section 4.0)	PAD 32	Silcrete outcrops as low ridge. Aboriginal artefacts present. Known historic Use	High (Aboriginal and Historic)	High	Moderate to High	Avoid impact. Detailed recording required. Management/interpretation based on recording (include Aboriginal and Non-Aboriginal stories). REF 1 required (see Appendix J)+ SOHI prior to works (including conservation works) Include in archaeological research program

13.13 Movable Heritage

13.13.1 Rationale

Movable heritage contributes significantly to the value of building and other elements often providing evidence not available elsewhere about the history of buildings. At Mungo some movable heritage is still associated with its original place of use or one of its places of use. Some movable heritage has been relocated from another part of the site (for example, the sorting table at Mungo that was at Zanci). Some movable heritage has no known provenance and may or may not come from this site. Aboriginal heritage artefacts located within the Visitors Centre come from a number of sources including Zanci complex.

13.13.2 Framework Policy for Movable Heritage Conservation

A movable heritage Conservation Plan will be prepared to guide the conservation and management of movable heritage. As part of this plan movable heritage on site including within the Visitors Centre will be catalogued and assessed for conservation. Priority will be provided for the most significant items requiring conservation works. Movable heritage items found to have an association with particular places will be returned to that place.

The Movable Heritage Plan would identify and record the movable items currently on site, examine their association/use, assess their significance, condition and display potential; and propose a conservation and display strategy. Where appropriate, it may also identify items removed from the site which have significant historical association value and make recommendations for reinstatement or replacement.

13.13.3 Detailed Policy for Movable Heritage Conservation

- A Movable Heritage Plan will be prepared to guide the conservation and management of movable heritage.
- Movable heritage items found to have an association with particular places will be returned to that place.
- Security of movable heritage items will be considered as part of formulating policy for these items.
- Authenticity will take precedence over recreation or relocation as an interpretation device.
- An inventory of movable heritage items in the Visitors Centre keeping place is essential for the responsible long-term management of the relics and also to increase accountability and for insurance purposes.
- Table 13.3 provides conservation policy for Movable Heritage elements.

Table 13.4 Conservation Policy for Movable Heritage Elements

Element	Significance	Policy
Artefacts in Visitors Centre – historic	High	Include in Movable Heritage Conservation Plan. Catalogue and assess provenance and conservation requirements
Artefacts in Visitors Centre – Aboriginal	Exceptional	Include in Movable Heritage Conservation Plan. Catalogue and assess provenance and conservation requirements
Diesel engines (Woolshed and Homestead)	High	Include in Movable Heritage Conservation Plan. Conserve in situ
Saw bench	High	Include in Movable Heritage Conservation Plan. Conserve — may require weather protection or location under shelter
Mungo Woolshed steam engine and wool press	High	Include in Movable Heritage Conservation Plan. Conserve in situ. Have agreement with the current owner re ownership of steam engine and one wool press
Mungo Woolshed skirting table	High	Include in Movable Heritage Conservation Plan. Important functional item but may come from Zanci — security issue

13.14 Regional Tourism

13.14.1 Rationale

Mungo National Park as a World Heritage place is a major Regional tourism destination. This report recommends that the NPWS provide increased resources (interpretation/visitor services staffing on site) and planning (a comprehensive Interpretation Plan) to meet these needs.

Regional tourism and other types of tourism are described fully in Section 14.0. Tourism types that are appropriate to Mungo include co-operative tourism between NPWS and other like places; regional tourism; Aboriginal tourism; ecotourism; cultural tourism; and sustainable tourism. This report contains areas where each of these tourism types has a role to play at Mungo National Park.

13.14.2 Framework Policy for Regional Tourism

The resolution of the shortcomings and the exploration of opportunities in regional tourism for Mungo National Park must strike a balance between the protection of the fragile nature environment, respect for the sensitivity of Aboriginal sites and the capacity of the park to withstand the pressures which increased tourism will bring. Careful selection of activities which reduce the impact and regular monitoring of the impact should reduce the likelihood of a negative outcome. Staff resources will be

provided and interpretation planning undertaken (see Section 13.15 below) commensurate with Mungo National Park's World Heritage status.

13.14.3 Detailed Policy for Regional Tourism

- Create image of Mungo as a place internationally — historic fabric needs to be included, yet historic message needs to be self-contained.
- In response to stakeholders' concerns tourism should provide quality, not quantity.
- A review of on-site staffing with an aim to provide upgraded visitor services staffing (interpretation/ information) will be undertaken.
- Regularly audit and review visitor safety.
- Opportunities identified in Section 14.4 in relation to regional tourism include:
 - Aboriginal tourism — expand Aboriginal interpretation at Mungo National Park and offer a wider program of indigenous-related activities;
 - natural tourism — establish stronger tourism links with sites of natural significance and encourage greater visitor referral from other national parks;
 - cultural tourism trail — link to sites with pastoral history (for example, Shear Outback at Hay; Homesteads at Willandra Lakes, Kinchega, Sturt, Mutawintji National Parks);
 - inclusion in Australian World Heritage tourism promotion;
 - promote as inspiring location for photography and painting;
 - encourage visits from groups with special interests and develop scientific study centre;
 - identify Mildura and Broken Hill as major 'gateways' to Mungo National Park and establish regional tourism dialogue;
 - provide NPWS representation on regional tourism strategic planning;
 - include editorial and photographic work in all Murray Outback regional tourism products; and
 - prepare advertising in related brochures.

13.15 Interpretation

13.15.1 Rationale

As discussed in Sections 8.0 and 14.0 there is a lack of framework for the provision of interpretation at Mungo National Park. As noted in the Statements of Significance in Section 11.0 and the Vision Statement at the beginning of this section, a landscape use and history approach to the interpretation

of Mungo National Park is a key recommendation of this report to provide a linkage between natural and cultural heritage conservation.

13.15.2 Framework Policy for Interpretation

An Interpretation Plan will be prepared for Mungo National Park that will provide a framework for the ongoing interpretation of natural and cultural heritage values. The key historic themes identified in this report will be a foundation for interpretation themes addressed in the Interpretation Plan. In addition to existing tours and the Visitor Centre displays other techniques should be considered for interpretation including ground markings for the location of former buildings (in particular at Zanci).

Interpretation Plan would identify the major themes and messages fundamental to the understanding of Mungo National Park's natural and cultural heritage and propose a strategy which identifies the appropriate locations and techniques for site-specific interpretation. It would recommend the process by which new interpretation may be developed. It may also provide the content, supporting documentary and illustrative material, multi-media techniques, budget and timetable.

13.15.3 Detailed Policy for Interpretation

- Further recommendations in relation to interpretation are found in Sections 8.0 and 14.0.
- Prepare an Interpretation Plan based on the historic themes identified in this report.
- Interpretation of the historic heritage needs to look at the relevant pastoral 'systems'. This would include connections off-park with other parts of Gol Gol Station for the earliest pastoral phases. It would also involve connections with all historic evidence within the park to understand the pastoral history of the soldier settlement phase.
- Greater emphasis on the stock routes in the interpretation of the Park is likely to provide explicit connections between neighbouring properties and parts of the pastoral story.
- A key suggestion made by former researchers has been the reconstruction of an archaeological trench or another mechanism to provide better appreciation for visitors of the important research discoveries here.
- The interpretation should include different perspectives on the interpretation of the research from Aborigines and scientists.
- Include the families of former owners in the preparation of the Interpretation Plan and any implementation flowing from that.
- The Interpretation Plan should consider utilising Mungo Homestead as an interpretation venue.
- Interpretation of Mungo Homestead could include exposure of some of the early sections of the Homestead. The alignment of the woolscour track line and the Homesteads at Zanci could also be identified in an interpretative manner.

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- There is currently a focus on the Mungo Station phase thanks to the valuable input of previous owners, but little on the Gol Gol phase. More connections to the region could be emphasised through linking to other parts of Gol Gol station. Such an initiative could contribute significantly to regional tourism as well as providing valuable insights into the historic heritage.
 - Consideration should be given to establishing NPWS site interpretation guides and the provision of training in interpretation for NPWS Aboriginal and non-Aboriginal staff.
 - Expand the on-site promotion and interpretation of scientific research relating to Mungo National Park.
 - Interpret the Mungo Station complex and the Zanci Station Complex, including buildings, landscape and associated sites of former buildings/structures/functions as evidence of working pastoral management.
 - Expand interpretation of total property management practices for Mungo and Zanci Stations, including tanks, wells, fences, yards, huts, and TSRs.

13.16 Research and Records

13.16.1 Rationale

Both ongoing research and keeping of records are vital to a further understanding and to ensure information is not lost. The photographs taken by the NPWS in 1985–86 of Zanci are now critical evidence of the existence and evolution of buildings that are now lost.

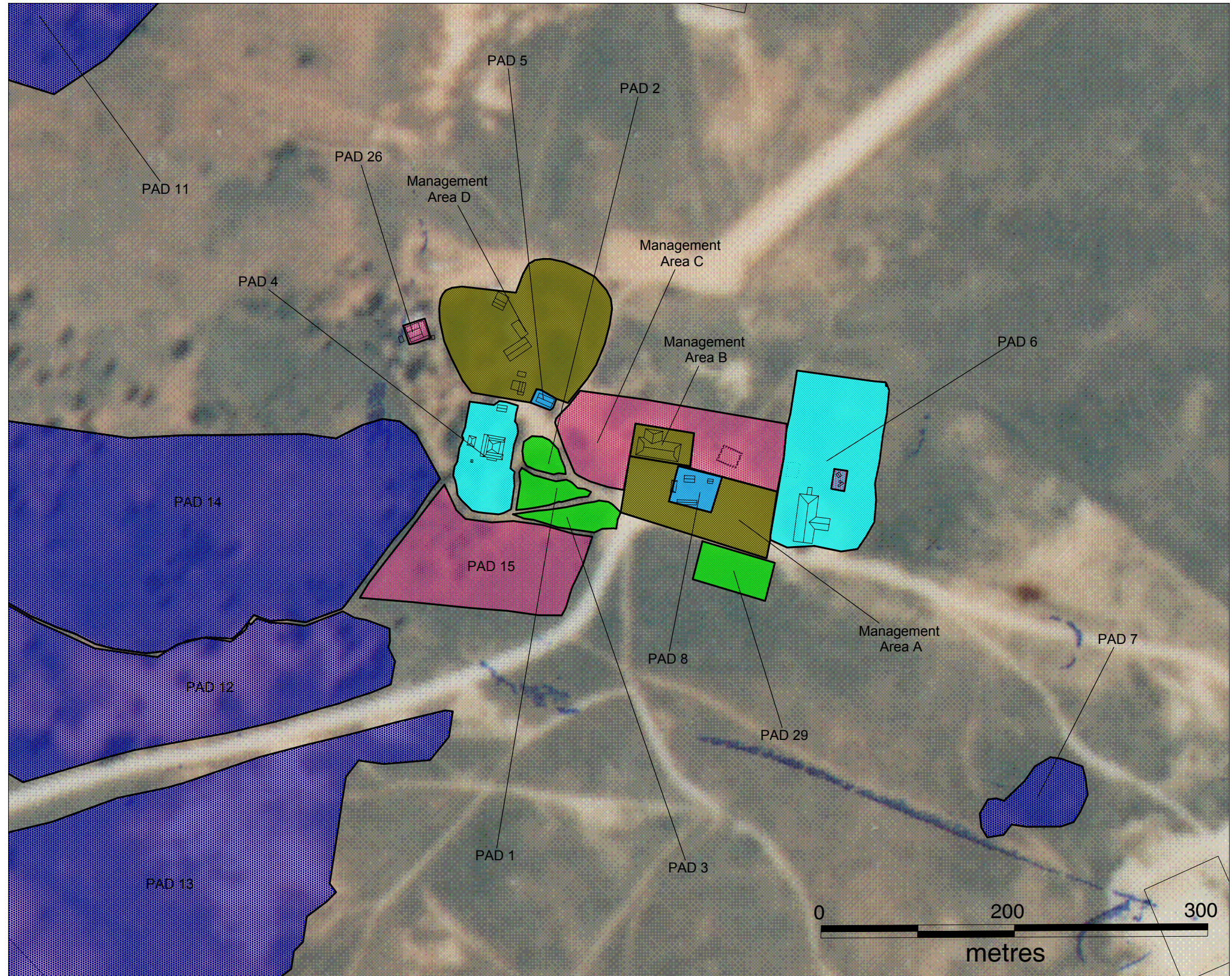
13.16.2 Framework Policy for Research Records

A research program will be established and records will be retained for all conservation works that are undertaken in Mungo National Park.







13.16.3 Detailed Policy for Research Records

- Research programs could include the following:
 - pastoral practices generally — a comparison between the Gol Gol period and the Mungo/Zanci periods;
 - further research on water conservation and management practices and their impact on the arid pastoral landscape;
 - the involvement of Chinese and Aboriginal people in the pastoral history of Mungo National Park has been well covered within the scope of this plan but remains as a potential area of further work of relevance to Mungo National Park and western parks generally;

-
- historical and archaeological research in relation to the wool scouring on site in particular the hut ruin site known as the Chinese ruins; and
 - archaeological research program for the Park should include historic archaeological research (see Section 13.10.3 above).
 - Records should be prepared and retained for all conservation and research activities and copies lodged in a public archive as well as the NPWS Area and Cultural Heritage Division, specifically:
 - Aboriginal Site cards are to be entered into the Aboriginal Heritage Information System;
 - the Cultural Heritage Information Unit should prioritise assistance to the Aboriginal Heritage Unit staff at the Buronga Office in copying updated information held in the WHA database which is relevant to Mungo national park into the AHIMS;
 - historic heritage information and reports are to be archived in the NPWS Historic Place Register; and
 - the Cultural Heritage Information Unit should prioritise the development of the Historic Place Register database so that it is computer accessible across the Service. Currently there is no staff allocation to maintain this database despite a statutory requirement that it be maintained (s170 Heritage Act) and the database is not accessible on line outside Head Office.

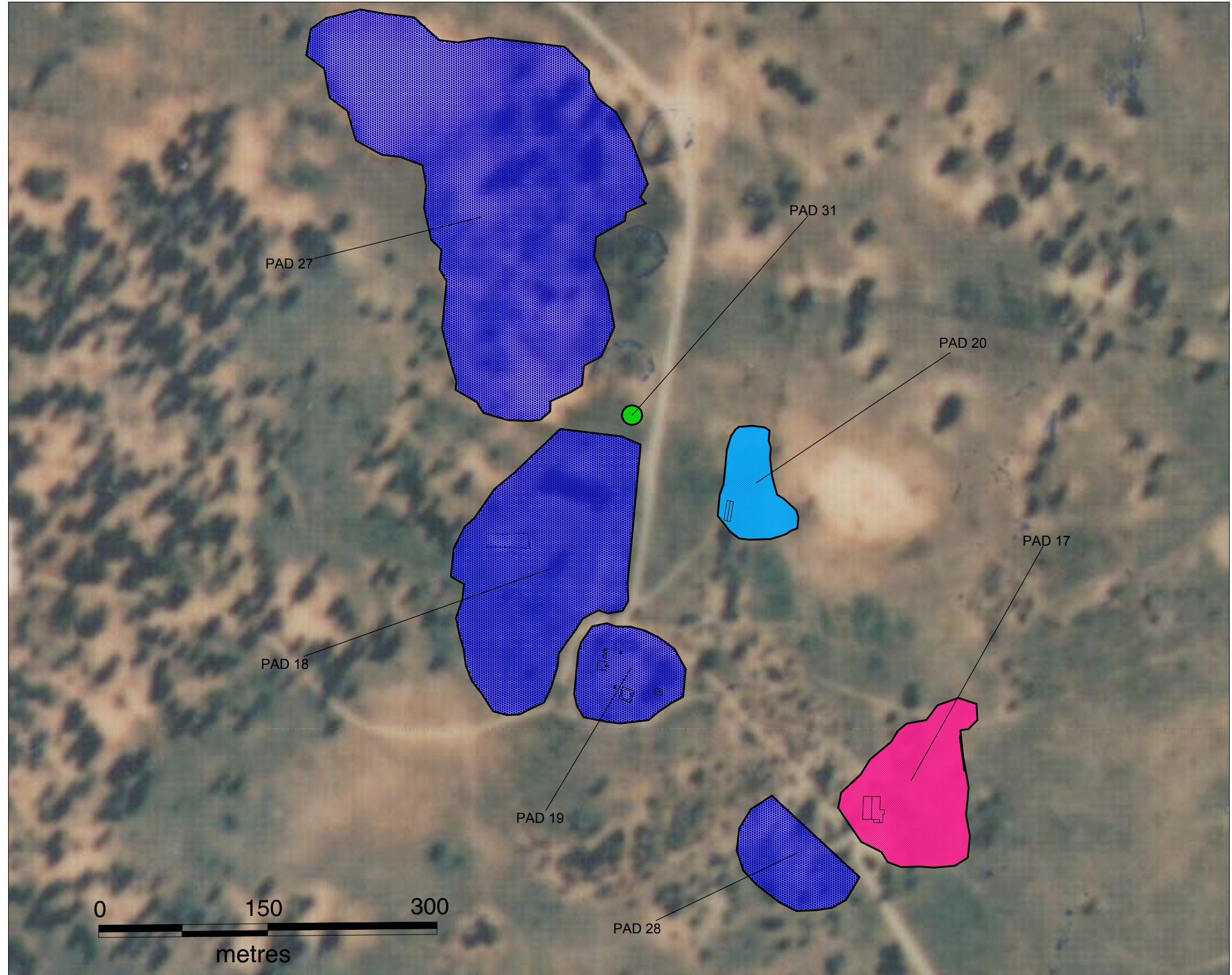


Archaeological Management Zones







-  Avoid Impact; REF 1+SOHI prior to works (including conservation works); Include in archaeological research program; Interpret based on outcome of excavations; Test excavation prior to invasive works (permit required); Monitor all ground disturbance.
-  Monitor ground disturbance; No archaeological permit required unless relics uncovered.
-  Avoid impact; Conservation Plan recommended should consider deposits, yards & logged tank; REF 1 required + SOHI prior to works; Test excavation; include in archaeological research program; restore underground tank; monitor ground disturbance.
-  REF 1 + SOHI prior to works (including conservation works); Include in archaeological research program; Test excavation prior to invasive works (permit required); Monitor all ground disturbance.
-  Monitor; Excavation permit required.
-  Test excavate prior to disturbance; Excavation permit should include Aboriginal (pre-contact) and historic provisions.

Note: These are general recommendations. See table 13.3 for further recommendations for individual items, and Appendix J for NPWS REF Guidelines.

Figure 13.1 Historic Archaeological Management Zones within Mungo Station Complex.
All Archaeological Management Zones are located within the Mungo Station Complex.

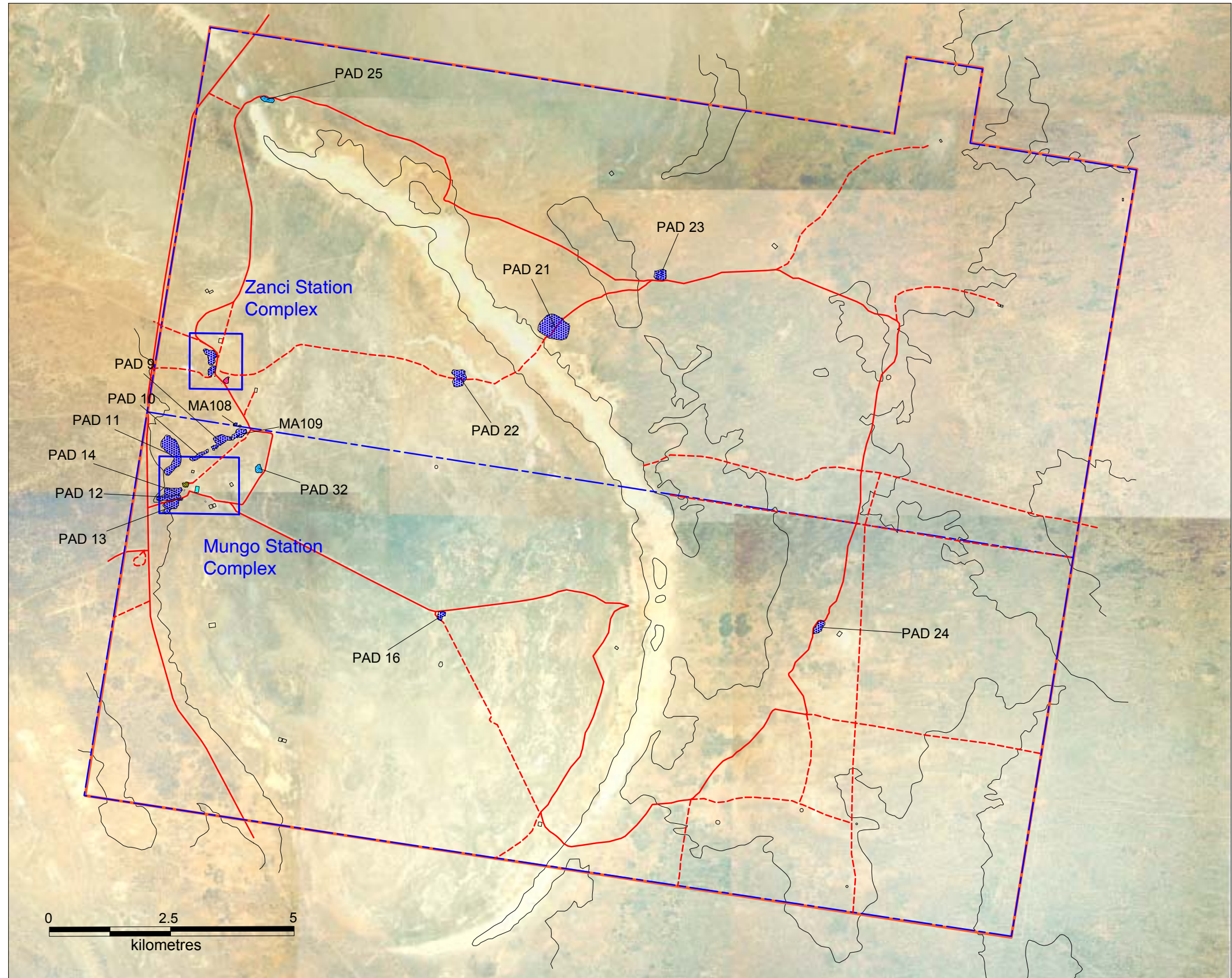


Archaeological Management Zones







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 Avoid Impact; REF 1+SOHI prior to works (including conservation works); Include in archaeological research program; Interpret based on outcome of excavations; Test excavation prior to invasive works (permit required); Monitor all ground disturbance.
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 Monitor ground disturbance; No archaeological permit required unless relics uncovered.
- 
 Avoid impact; Conservation Plan recommended should consider deposits, yards & logged tank; REF 1 required + SOHI prior to works; Test excavation; include in archaeological research program; restore underground tank; monitor ground disturbance.
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 REF 1 + SOHI prior to works (including conservation works); Include in archaeological research program; Test excavation prior to invasive works (permit required); Monitor all ground disturbance.
- 
 Monitor; Excavation permit required.
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 Test excavate prior to disturbance; Excavation permit should include Aboriginal (pre-contact) and historic provisions.

Note: These are general recommendations. See table 13.3 for further recommendations for individual items, and Appendix J for NPWS REF Guidelines.

Figure 13.2 Historic Archaeological Management Zones within Zanci Station Complex.
 Note: Not all of the Archaeological Management Zones indicated in the legend are applicable to the Zanci Station Complex.



Archaeological Management Zones

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 Avoid Impact; REF 1+SOHI prior to works (including conservation works); Include in archaeological research program; Interpret based on outcome of excavations; Test excavation prior to invasive works (permit required); Monitor all ground disturbance.
- 
 Monitor ground disturbance; No archaeological permit required unless relics uncovered.
- 
 Avoid impact; Conservation Plan recommended should consider deposits, yards & logged tank; REF 1 required + SOHI prior to works; Test excavation; include in archaeological research program; restore underground tank; monitor ground disturbance.
- 
 REF 1 + SOHI prior to works (including conservation works); Include in archaeological research program; Test excavation prior to invasive works (permit required); Monitor all ground disturbance.
- 
 Monitor; Excavation permit required.
- 
 Test excavate prior to disturbance; Excavation permit should include Aboriginal (pre-contact) and historic provisions.

Note: These are general recommendations. See table 13.3 for further recommendations for individual items, and Appendix J for NPWS REF Guidelines.

Figure 13.3 Historic Archaeological Management Zones within Mungo National Park.
 Note: Not all of the Archaeological Management Zones indicated in the legend are applicable to Mungo National Park. The third zone in the legend applies to PADs 25 and 32, whereas the first zone applies to the remaining PADs.

14.0 Cultural Tourism

14.1 Introduction

Cultural tourism is tourism that focuses on the culture of a destination — the lifestyles, heritage, arts, industries and leisure pursuits of the local population.¹ It can include ecotourism (including nature-based tourism and adventure tourism), indigenous tourism and heritage tourism. Lake Mungo is a cultural tourist destination which attracts visitors for its World Heritage values. These values are derived from its significance as a site of natural, indigenous and historical importance.

Visitors to Lake Mungo are cultural tourists whose understanding and experience of the natural and cultural heritage is enhanced by the interpretation of the significant features and values of the place. Interpretation is a term commonly used to describe the methods by which the significance of a place is communicated to the people who visit it. The interpretation of a place generally includes an orientation of visitors to the site, an explanation of the factors which contribute to the significance of the place and the community values which support its conservation. Interpretative devices vary according to the nature of the place and are generally selected in accordance with the conservation objectives of the site, the budget, the type of visitors and their expectations.

At Mungo National Park the Service has recognised the need to communicate with cultural tourists and has developed a successful multi-layered program of interpretation. The review of the current interpretative components and an assessment of visitor facilities and characteristics in Section 8.0 provides an opportunity to understand the strengths and weaknesses in order to tailor future developments to meet the needs of these visitors.

14.2 Recommended Interpretation

14.2.1 Objectives of Interpretation

Interpretation at National Parks and Wildlife Service sites aims to achieve three outcomes :

- assist the visitor in developing an awareness, appreciation and understanding of the area he/she is visiting;
- encourage co-operation between the visitor and management in accomplishing management goals; and
- promote an understanding of the core values of the organisation and its programs.

At Mungo National Park the key objectives of the interpretation of the site are to:

- articulate and promote the significance of the natural and cultural environment and heritage of Lake Mungo as part of a World Heritage site;

-
- enhance the conservation and management of the site by encouraging all visitors to identify, understand, respect, appreciate, preserve and enjoy the significance of the site and its World Heritage values;
 - interpret all aspects of the history of the site, including the geological formation of the landscape, the prehistory and Aboriginal occupation, the pastoral settlement, and the research and conservation interest in the place;
 - explain the significance of Lake Mungo within the context of the Willandra Lakes system and the role of the National Parks and Wildlife Service in conserving this natural and cultural landscape;
 - generate interpretive programs which attract the attention of a wider public audience and thereby encourage greater public involvement in the activities at Lake Mungo;
 - encourage the use of Lake Mungo as an educational resource and to develop its potential as a learning centre, with particular emphasis on the opportunities for ongoing scientific research and the documentation and recording of the stories of the people associated with the site; and
 - use best-practice interpretative methods.

Cultural tourism is highly compatible with the stated objectives of interpretation and is significantly enhanced by quality interpretation of a site. The ICOMOS Charter of Cultural Tourism² has identified six major principles to guide the development of cultural tourism.

The principles of cultural tourism are:

- to provide through the conservation of sites and monuments, an opportunity for domestic and international visitors to understand the cultural heritage of a community;
- to recognise the conflicting values between tourism and heritage sites and to manage those sites in an appropriate manner;
- to ensure that the visitor experience at heritage sites is worthwhile, satisfying and enjoyable;
- to involve host communities and indigenous people in the planning of conservation and tourism;
- to engage in tourism and conservation activities which are compatible with and of benefit to the host community; and
- to devise programs to protect and preserve sites of natural and cultural significance.

In its Draft Nature Tourism and Recreation Strategy, NPWS addresses its commitment to ecologically sustainable tourism in areas of natural significance³:

NPWS is committed to achieving ecologically sustainable nature tourism and recreation use of protected areas and the enhancement of the conservation status of protected areas to positively assist a sustainable nature tourism and recreation industry in NSW.

At Mungo National Park, the key objectives of ecologically sustainable cultural tourism are:

- to attract domestic and international visitors to Lake Mungo as a site of World Heritage significance;
- to manage Lake Mungo in an economically viable manner without detracting from the sensitive and fragile nature of the natural and cultural landscape;
- to involve the local indigenous community in the planning and operation of tourist facilities in a meaningful way;
- to provide activities and programs which generate increased awareness, visitation and income;
- to ensure that the needs of all visitors are understood and where appropriate are incorporated into site interpretative facilities and programs;
- to contribute to the promotion of regional tourism by creating an awareness of further NPWS cultural tourism opportunities and associated sites;
- to underline and promote the role of NPWS in the management of sites of cultural tourism; and
- to establish a framework for shared cultural tourism opportunities and preservation and promotion of heritage.

14.2.2 Themes, Messages and Content

Mungo National Park is recognised for its potential to interpret the significant natural and cultural landscape which contribute to its significance as a World Heritage Area, and to promote community awareness and understanding of its unique set of values. The suggestions provided a framework for the interpretation of Lake Mungo, Mungo National Park, Mungo Station complex and Zanci Station complex. These themes should form the foundation of a future Interpretive Plan and underpin any changes to the current interpretation.

Lake Mungo

The historical theme of human interaction with the environment provides the central theme to the interpretation of the Mungo site, through examination first of the natural landscape, its first inhabitants and then impact of non-Aboriginal settlement through pastoral expansion and exploitation. Devices for interpretation should build on a broad overview which is best done at the Visitor Centre through graphic and text based displays and greater use of the audio-visual facility for multi-media presentations, with guided tours, boardwalks, more detailed drive tour features.

The themes arising from its significance have National and State values:

National/State Themes	Sub-Themes	Location/Techniques
<p>National: Tracing the natural evolution of Australia</p> <p>State: Environment (naturally evolved)</p>	<p>Landscape formation through geological and weather processes, fossil evidence of megafauna, paleomagnetic discovery, part of larger lake environment, scientific debate, increased recognition of scientific values and contribution to on-going research</p>	<p>Locations:</p> <p>Visitor Centre (graphic and text, multimedia demonstration/models of landscape formation)</p> <p>Lookout (graphics and text, audio and guided tours)</p> <p>Park sites including Mungo lunette, dunes and lake floor, Walls of China, (guided tours, extended boardwalks with more graphics and text),</p> <p>Drive Tour (audio tape commentary, special interest drive tour notes)</p> <p>Promotion of scientific research on site (study tours, lectures, seminars, debate, publications)</p>
<p>National: Peopling Australia</p> <p>State : Aboriginal culture</p>	<p>Evidence of Aboriginal prehistory and occupation 40,000 years ago,</p> <p>Significance of anthropological study, contribution to international scientific study, adaptation to the environment, Aboriginal cross-cultural interaction, employment and Aboriginal dispossession</p>	<p>Visitor Centre (graphics, text, stories, and cultural expression, discussion of on-going scientific research)</p> <p>Guided tours (understanding of Aboriginal significance of cultural landscape through indigenous interpretation)</p> <p>Publications (discussion of conflicting values)</p> <p>On-going dialogue and consultation with Aboriginal community</p>
<p>National: Human interaction with the environment</p>	<p>World Heritage values, interaction between Aboriginal and non-Aboriginal people during first contact period, phases of pastoral expansion, landscape modification, changing pastoral practices, associations with pastoral families, early tourism</p>	<p>Visitor Centre (discussion of unique values of Mungo, but also how other aspects are representative of Australian pastoral expansion history, changing attitudes to environment and interest in tourism through graphics, text, interviews on audio tapes)</p> <p>Regional tour (interactive visits to other sites to understand context and significance)</p> <p>Promotion of World Heritage concept, interactive access to information on other sites with similar values</p>

Mungo Station

The major message which can be told through the remains of Mungo Station complex relates to the evolving system of land use and tenure within the local natural environment during the nineteenth century, with particular reference to the regulation of large back-block pastoral properties following government intervention through the Robertson Land Acts and the establishment of the Western Lands Board to manage land use.

Mungo Station Complex retains evidence of many features associated with the administration of a large scale pastoral holding, and the pastoral practices and technology which supported it. Opportunities to enhance on-site interpretation have not yet been fully exploited to their full potential because of the current NPWS use of structures which belong within the station complex for domestic and management facilities. Further, the current interpretation conveys mixed messages about the significance of the site, as evidenced by the lack of information about the station complex, and its adaptation for park use.

Mungo Station demonstrates the following State Historical Themes:

State Themes	Sub-Themes	Location/Technique
Exploration, land tenure, pastoralism	Discovery of area, squatters, extent of Gol Gol station, 'back blocks' Nineteenth century pastoral practices Vernacular architecture and hierarchy of buildings	Visitor Centre (maps, airphotos, graphics and text displays showing evolution of land tenure) On-site interpretation and self-guided walk to link sites: Mungo Homestead (explanation of link with Gol Gol phase by revealing original central sections; reflection of prosperity through expansion of house; pastoral family life (Barnes) through personal reminiscences, photographs and film) Woolshed (vernacular construction, alteration of landscape by removal of timber for construction; scale of operation, evolution of shearing techniques) Tanks (home supply, availability of water for stock, water conservation), huts, tanks, wells, stock routes (droving and stock management) Fences (stock control, pests) Mungo scour tank, hut and tramline Shearers' cookhouse illustrates vernacular construction

State Themes	Sub-Themes	Location/Technique
Environment	Changing landscape through degradation of landscape through grazing, removal of timber for construction	Drive tour sites help to explain extent of pastoral interest (boundaries), large scale of operation, impact of pastoral practices on natural environment (land degradation and erosion), impact of natural environment (buried Middle Yards, decay of structures)
People and Labour	Indigenous labour Immigrant labour Pastoral life Family life Co-operative management Social life	Chinese hut site can reveal insight into conditions Shearers Quarters offer an 'live in' experience and insight into accommodation and living conditions Personal family recollections (including audio and photographs) provide insight into pastoral life (domestic, social, working) and could be incorporated into interpretation at each site within the Mungo Station complex

Zanci Station

Zanci Station has an air of abandonment, ruin and despair which disguises a true evaluation of its history. The removal of structures inhibits an appreciation of the scale of operations and an understanding of how the complex operated. Archival material is available to support more honest interpretation, and should be used in conjunction with discussion of the evolution of phases of development and on how NPWS is responding to changing attitudes to heritage structures within natural areas. In contrast to the story of prosperous pastoralism that can be told at Mungo Station, Zanci Station complex reveals the truth about the 'backlot' life, the inherent hardships in transforming soldiers into farmers in a hostile environment, and exploitation of the 'make do' culture. This recent chapter in the history of Zanci Station should be interpreted in the context of the evolution of NPWS attitudes towards historic heritage management.

Zanci Station demonstrates the following State Historical Themes:

State Themes	Sub-Themes	Location/Technique
Land tenure, pastoralism	Twentieth century focus on soldier settlement, economic hardship, changing attitudes to land management and conservation	Compare and contrast Mungo and Zanci complexes — homesteads, woolsheds. Use ground outlines to mark sites of former buildings; and site photographs to identify scale of complex and to explain why buildings were removed and how the culture of heritage management in national parks has changed.

State Themes	Sub-Themes	Location/Technique
Environment	Contrasting landscape to Mungo complex	Self guided walking tour of station complex to include the hill behind Zanci.
People and labour	Reduced scale of operation at Zanci and 'make do' culture	Woolshed, Stables — smaller workforce and different labour patterns reflected in facilities, eg lack of shearers' quarters until after World War II. Building structures demonstrate reduced scale of operations

Remainder of Mungo National Park

The acquisition of Mungo National Park by the NSW Government was a response to the international recognition of the site as a place of unique natural and cultural significance. While the undisputed significance of the Park's natural environment and Aboriginal history has previously received top billing for interpretive purposes, NPWS is keen address the need to more fully interpret the pastoral history of the site. To date, it has been overshadowed by the negative impact of pastoral features on the landscape and the lack of information and the high cost of maintenance of structures associated with the pastoral phase of occupation. However, this report has concluded that the evidence of the pastoral history of Mungo should be preserved and interpreted as an important chapter in the Mungo story and changing attitudes to heritage management. It also promotes discussion of the relationship between Aboriginal pre-history and scientific research as evidence of changing community attitudes and values.

State Themes	Sub-Themes	Location/Technique
Aboriginal culture	Sensitivity of Aboriginal cultural values Potential to enhance scientific understanding through Mungo research	Raise awareness through discussion in displays in Visitor Centre, publications and community debate
Pastoralism, environment	Changing attitudes to environmental and heritage conservation Recognition of significance of pastoral imprint on landscape	Drive tour can be expanded to more fully explain features relating to Mungo's pastoral history and how the site was managed, including stock management (paddocks/tanks/yards/traveling stock routes), strategies for pest control (rabbit proof fences, extermination), how water was managed on such a huge scale (identify types of tanks/wells), contact with the outside (telephone line, roads, tracks, airstrip) All extant structures more fully analysed as significant groupings in context of a working farm complex, especially where structures have been removed/relocated

14.2.3 Primary Focus

The existing interpretation at Mungo National Park offers an opportunity to explore the natural and cultural attributes which contribute to its significance. In general, interpretation has been well planned and sited throughout the park. It is beginning to suffer the ravages of time and the extremely harsh environment. A renewal of the current interpretation would provide an opportunity to improve on the shortcomings and to introduce new interpretive techniques. The primary focus for reinterpretation should evolve from a revision of original sources, published documents, scientific findings, oral history and photographic archives, many of which have come to light in the preparation of this Plan. The Visitor Centre has an important role in providing an overview of the features of Mungo National Park, but the power of the real evidence to interpret features, structures and processes must never be diminished by static displays. Mungo National Park can continue to build onto its drive and walking tours, its signage, with new techniques to reconstruct the park's living history.

14.2.4 Aboriginal Sites

The Willandra Lakes area provides an enormously rich deposit of Aboriginal archaeology and preserves the longest continual record of Aboriginal life in Australia for over 40,000 years to the present day. The scientific findings, subsequent research and contribution to our understanding of Aboriginal history provide the primary interpretative focus. There is considerable cultural sensitivity attached to Aboriginal sites within the park and in adjoining areas, and careful park management endeavours to protect these sites by avoiding identification of their exact location and stating the conditions which apply to the removal of deposits. Through the Traditional Tribal Group of the Willandra Lakes Region World Heritage Property and the Aboriginal Joint Management advisory committee for Mungo National Park, Aboriginal people are assisting NPWS in the careful management of potential conflict between the rights of traditional owners and the pressure of cultural tourism.

14.2.5 Natural Sites

The natural landscape of Lake Mungo comprises geological formations which document the changing climatic conditions of the Australian continent and a rich diversity of native flora and fauna which have adapted to the harsh environmental conditions. Each element of this landscape is fragile. The primary focus for the interpretation of the natural sites is to achieve a balance between preserving the fragile physical characteristics of the unstable changing sand and clay formations, and the life that it supports, against the pressure which increased awareness and visitation must inevitably bring, and the role of NPWS in achieving this balance.

14.2.6 Cultural Sites

The pastoral expansion of western New South Wales underpins the economic and social history of the area. The modification of the landscape through these pastoral activities and the infrastructure

which supported them is a story which has a common theme at other national parks, including Sturt, Kinchega, and Willandrai. At Mungo and Zanci Stations, the primary focus of the interpretation should identify those particular elements which contribute to the place's uniqueness, and position them within a framework which also explains its significance as a representative example.

14.3 Promotion and Marketing

14.3.1 Co-operative Interpretation

NPWS maintains five major sites in outback New South Wales, including Mungo, Mallee Cliffs, Kinchega, Sturt, and Mutawintji National Parks. Although each park is promoted for its own special values and its unique natural environment, they are linked by the commonality of their former use and their more recent recognition as sites of natural and cultural significance. Together, they have the ability to present a powerful picture of the history of the geological history of western New South Wales, the Aboriginal heritage, settlement, land tenure and the changing community perceptions to the natural and cultural environment. A program which links the parks through their shared history but reduces the duplication of interpretation through the recognition of intrinsic values could be developed. This opportunity to create 'centres of excellence' through site linkage could have financial and management advantages for interpretive programs.

Almost all visitors who travel to NPWS sites in outback New South Wales are road-touring tourists, who are likely to visit more than one site. A referral program at park centres to promote the other venues would be likely to encourage visitors who have enjoyed the Mungo experience, to travel to other NPWS sites.

14.3.2 Regional Tourism

Mungo Station's former owners, the Barnes Family, recognised the tourism potential of the natural features of Lake Mungo. Family photographs document excursions and picnics to the area. Later they were to realise the tourist potential of the site, and established a small, family-run business escorting tours to the Walls and selling souvenirs.

Commercial tour companies are known to have been in operation during the late 1960s. One company, Baroona Tours, conducted excursions to the Walls of China; a photograph (c.1960s) in the Patterson Collection (No. 33) illustrates a bus being driven to the top of the Walls. With the acquisition of Mungo Station and its dedication as a National Park in 1979, a new era of tourism began. With careful planning and the co-operation of the local tourism industry, a tourism plan was developed to conserve the fragile natural landscape and protect the sensitive Aboriginal sites. The local Aboriginal communities were encouraged to participate in the planning, development and management of tourism ventures. Today, successful tourism has developed in a number of ways which link similar and compatible sites and activities.

Five tour companies are now accredited by NPWS to take guided tours to Mungo National Park. A discussion of these tours and their operation can be found in Appendix H.

Tourism Victoria and Tourism NSW have recognised that the promotion of the northwestern area of Victoria and the southwestern corner of New South Wales can be combined, and the area jointly marketed as the 'Murray Outback'. Through Murray Outback, a subsidiary of the State tourism authorities, a number of activities are promoted, aimed at capturing the road touring market. These activities cross the State borders and include activities of Aboriginal, natural and cultural interest.

An example of the success of this approach is the promotion of Mungo National Park as a World Heritage Area and a major landmark in the 'Murray Outback Aboriginal Tour'. Through co-operative marketing, a range of sites of natural, historical and Aboriginal significance within the region bounded by Broken Hill (New South Wales), Swan Hill (Victoria) and Berri (South Australia) are promoted. A map showing the locations of these sites is attached at Appendix F. Other joint promotions include the 'Murray Touring Brochure', 'Mallee Tracks', a touring guide to the natural areas of the Murray Mallee, and including Victorian national parks and conservation areas; and the 'The Great Murray Outback Touring Route' a drive tour from Broken Hill through Mildura to Melbourne.

14.3.3 Aboriginal Tourism

A study of tourist literature promoting Mungo National Park confirms that the Aboriginal history of the area rates as the predominant feature and is rated above the natural values:

Aboriginal people have lived in the Murray Outback region, located where South Australia, Victoria and New South Wales meet, for at least 60,000 years and when you visit the area you will find the site of this evidence at Mungo National Park where Mungo Woman was found in 1968.⁴

Tread lightly as you walk through the dunes at Mungo, which are known as the Walls of China. As the sands shift with time and the elements, rare glimpses of ancient history are uncovered in the form of Aboriginal fireplaces and materials and the remains of long extinct animals. Mungo is also the place where some of the oldest evidence of modern humans has been discovered...⁵

Murray Outback Tourism currently promotes an Aboriginal outback tour that includes Mungo National Park. While most of the sites promoted in the Murray Outback Aboriginal Heritage Experience are art and craft workshops, with a predominantly commercial basis, Mungo National Park offers the best opportunity for visitors to understand the indigenous history of this area, and the significance of the archaeological information contained therein. Local tour operators presently hold the market share for Aboriginal interpretation at Mungo National Park. Visitors who arrive at the park as independent tourists do not have this opportunity.

Aboriginal cultural tourism at NPWS sites is promoted at Kinchega, Sturt, Mutawntji and Willandra Lakes National Parks. There is great potential to develop wider Aboriginal tourism in the Murray

Outback region, using the Aboriginal heritage at Mungo National Park as a springboard. The involvement of indigenous people from the local tribes is fundamental to its success.

14.3.4 Ecotourism

Ecotourism is promoted as tourism to destinations that offer experiences in natural areas where environmental awareness and understanding are of paramount importance. The activities that are provided must be ecologically sustainable in order to protect the principal feature(s). Tourists visiting ecotourist destinations are required to have a high level of environmental sensitivity. As more tourists are seeking new and different destinations, which may have a greater cultural or natural heritage component, or are more remote, their potential impact must be monitored.

Mungo National Park is considered an ecotourist destination that demands a high level of respect for its unique features. It asks visitors to respect the fragility of the environment and the sensitivity of its people through its interpretation and requires visitors to observe park regulations.

14.3.5 Cultural Tourism

The cultural heritage of Mungo and Zanci Stations is under-utilised as an interpretive tool at Mungo National Park. It could be successfully linked to similar national parks in western New South Wales with remnant pastoral landscapes and buildings, to the new interactive museum of shearing, Shear Outback, at Hay, which is soon to open in the woolshed relocated from Murray Downs Pastoral Station as a major feature; and perhaps to working stations where visitors could experience the noise, smell and activity in a true working environment.

The relationship between the other properties (Arumpo, Top Hut, Leagher, Jolni, Gol Gol, Turlee, Garpang and Mulurulu) could also form the basis of interpretation of the relationship between the sites and the Barnes and Vigar families.

14.3.6 Sustainable Tourism

Sustainable tourism is low-impact tourism that helps to maintain and conserve the natural and cultural attributes of a place. To be sustainable, their infrastructure must meet current needs with the potential to develop in response to future needs, give the visitor a unique understanding of the place and maintain the quality of the place.

The impact of visitors at Mungo National Park is measured by the stress they create on the major features. The stress level indicates whether a review is necessary. Indicators of stress include damage to natural features, vandalism, removal of artefacts, litter, over-use of facilities. An example of unsustainable tourism at Mungo National Park on the delicate landscape of the Walls of China and the Grand Canyon led to a review of Park management principles for those two important features. The Grand Canyon was removed as a tourist destination in all interpretive material with the successful result that visitor impact is now at a very low level. At the Walls of China, a boardwalk

has been erected to by-pass foot traffic over the sand, and to provide a vantage point for viewing the Walls. Those visitors who walk into the area are encouraged to take their shoes off and are asked to walk within certain areas. In removing any promotion of the Grand Canyon, and sacrificing an area at the Walls of China where visitor use is restricted and more controlled, NPWS hope that the impact can be reduced.

By controlling visitor numbers, visitor flow, use of park facilities and providing an on-site presence or supervision, some of the negative effects of ecotourism on other areas at Mungo National Park can be reduced. Sites such as Vigar's Wells, the campsites, and Zanci may also require better management.

A study of the carrying capacity of Mungo National Park for day/overnight visitors and a measure of the effectiveness of facilities and the stress on those facilities should be undertaken in order to recommend the future development of park facilities and interpretation.

14.4 Regional Tourism Opportunities

The critical factor in realising new regional tourism opportunities lies with the ability of Mungo National Park to provide sustainable tourism. The most appropriate opportunities are those which have a low impact on the environment and the facilities. Mungo National Park should be promoted on the basis of its major natural and cultural heritage values and as a tourist destination that demands respect from its visitors. Future opportunities might include:

- Aboriginal tourism — expand Aboriginal interpretation at Mungo National Park and offer a wider program of indigenous-related activities;
- natural tourism — establish stronger tourism links with sites of natural significance and encourage greater visitor referral from other national parks;
- cultural tourism trail — link to sites with pastoral history (eg Shear Outback at Hay; Homesteads at Willandra Lakes, Kinchega; Sturt, Mutawintji National Parks);
- inclusion in Australian World Heritage tourism promotion;
- promote as inspiring location for photography and painting;
- encourage visits from groups with special interests and develop scientific study centre;
- identify Mildura and Broken Hill as major 'gateways' to Mungo National Park and establish regional tourism dialogue;
- representation on regional tourism strategic planning;
- editorial and photographic inclusion in all Murray Outback regional tourism products; and
- advertising in related brochures.

14.5 Regional Tourism Shortcomings

The major shortcomings which restrict the development of regional tourism of Mungo National Park have been observed as:

- lack of promotion of Mungo National Park as a regional destination;
- under-use of complementary marketing with other regional attractions;
- lack of international promotion of regional tourism and World Heritage site;
- lack of input to regional tourism training;
- relative inaccessibility of Mungo National Park;
- distance from major tourist centres;
- condition of the road;
- lack of on-site rangers; and
- hot, dry summer climate.

The resolution of the shortcomings and the exploration of opportunities in regional tourism for Mungo National Park must strike a balance between the protection of the fragile nature environment, respect for the sensitivity of Aboriginal sites and the capacity of the park to withstand the pressures that an increased tourism will bring. Careful selection of activities that reduce the impact and regular monitoring of the impact should restrict a negative outcome.

14.6 Cultural Tourism – Issues and Recommended Opportunities

14.6.1 Introduction

Identified below are issues, implications and recommended opportunities in relation to various management aspects related to cultural tourism. These are presented in a table form.

14.6.2 Access

Issue	Implication	Recommended Opportunity
Access to Walls of China	Uncontrolled access is causing erosion and some visitors remove artefacts	Provide guided access only or limited areas of free access Enforcement of 'no shoe' rule
Visitors seek access to other archaeological sites	Sensitivity to sacred sites; disturbance to remains; removal of artefacts	Prohibit publicity of sites Option: consider access to a representative non-sacred site Introduce fines
Visitors wish to see research sites	Would be in a new public area	Could provide a cross-section provided protection and tour guide training was appropriate
Restricted disabled access	Some areas of Park inaccessible	Provide video in Visitors Centre for areas difficult to access in wheelchair
Wet weather access	Dissatisfaction from visitors who experience wet weather if visit time is restricted Pressure for sealed roads reduces wilderness feel of park	Provide better signage particularly for road closures Select an area for all-weather access and provide better road surface
2 wheel drive access	Difficult access for some makes of car	Provide better warning in pre-visit information

14.6.3 Site Presentation

Issue	Implication	Recommended Opportunity
Visual impact of Park structures	Mixture of styles and materials; NPWS style does not always suit each Park area	Devise better site planning and development guidelines Restrict number of new structures
Alienation of cultural heritage components	Reduces interpretive value	Revise site interpretation to include buildings of significance, particularly Mungo Homestead

14.6.4 Park Management

Issue	Implication	Recommended Opportunity
Lack of on-site ranger	No visible NPWS presence Lack of authoritative presence	Review staffing. Appoint Site Ranger or Visitor Services staff (skills in information/interpretation)
Pressure on site for Park operations	Visual intrusion	Screen all Park site operations, contain within designated zone
Use of historic structures for Park services	Damage to fabric	Remove Park operations from culturally significant structures
Relocation of historic structures	Removal and relocation of culturally significant structures contravenes <i>Burra Charter</i>	Apply <i>Burra Charter</i> guidelines to all matters concerning removal/relocation of historic structures, such as Mungo Homestead
Neighbour relations	Poor neighbour relations works against Park	Engage in regular and co-operative consultation with neighbours
Lack of recycling	Visitors segregate rubbish, but all thrown in together in pit	Develop guidelines for rubbish removal in environmentally responsible manner

14.6.5 Interpretation

Issue	Implication	Recommended Opportunity
Lack of interpretation planning framework	Ad hoc interpretation	Prepare an overall interpretation strategy of Mungo National Park
Undue emphasis on landscape degradation	Denies fair interpretation of pastoral occupation and contribution	Adjust imbalance
Sensitivity issues relating to Aboriginal interpretation	Reduces Aboriginal support for work of park	Continue dialogue with local elders on all interpretive issues relating to Aboriginal heritage
Disproportionate consideration of pastoral history	Denies fair assessment of pastoral history	Introduce additional interpretive material
Lack of information on cultural landscape	Cultural landscape is perceived to be less significant to Aboriginal and natural significance	Introduce additional interpretive material

Issue	Implication	Recommended Opportunity
Lack of documentation of history and archival recording	Potential loss of valuable interpretive information	Collect all relevant material and devise strategy for safe-keeping and public access
Lack of current information on current archaeological research	Implication that research is no longer carried out	Introduce updated information on new scientific research
Under-utilisation of research and laboratory facilities	Wasted resource in Visitors Centre Lack of use of sponsored facility may create conflict	Encourage scientific study groups to undertake fieldwork on site Encourage wider use and promote facility to potential user groups
Lack of NPWS training in interpretation	Develop in association with Discovery program or multi-skill staff role	Train NPWS Aboriginal site guides in archaeological research programs and historic heritage

14.6.6 Interpretive Components

Issue	Implication	Recommended Opportunity
Trails	Some trail signage in poor condition Over-use may degrade landscape	Upgrade signage Alter paths and tracks to minimise long-term negative effects
Drive Tour	Some discrepancies in information	Upgrade signage and drive tour notes Assess value of map and drive tour notes as souvenir potential
Woolshed	Signage in poor condition Signs in Woolshed hard to locate Present condition of structure is poor, skylight windows missing	Upgrade signage, develop consistent style and design Relocate signage in Woolshed Consider negative impact on structure and movable heritage of exposure to rain/wind/dust
Closure of tanks for feral animal management and reduce wildlife reliance on artificial water source	Reduces interpretive value	Retain those tanks with highest significance, intactness and/or interpretive value

Issue	Implication	Recommended Opportunity
Lack of interpretation at Vigar's Well and interpretation of cart tracks	Lack of information precludes more detailed interpretation of site Conjecture about 'cart tracks'	Undertake detailed research Undertake more detailed research and archaeological investigation to determine significance. Protect 'cart tracks' and devise strategy for their preservation
Mungo Station Homestead unavailable for interpretation	Reduces interpretive value of Mungo's history as pastoral station Homestead	Remove staff use, retain historical fabric and open for interpretation, restore landscape setting
Zanci Station layout compromised by removal of buildings	Lack of understanding of site	Improve interpretation of ruins and site layout; interpret landscape setting, replace Zanci sign over gate; undertake more research on dug-out to improve accuracy of interpretation
Movable heritage	Lack of management policy Lack of interpretation Lack of cataloguing	Prepare conservation and interpretation policies for movable heritage Provide more comprehensive interpretation Catalogue artefacts in the Visitors Centre
Lack of retail outlet for publications	Visitor dissatisfaction Lack of commercial opportunity	Provide on-site staff at information/sales point Devise alternate on-site distribution system — colour brochures should be available on site
Lack of regular ranger-guided tours	Lack of supervision Reduced quality of interpretation	Appoint Site Ranger Introduce regular guided tours Employ NPWS interpretive staff
Better promotion of Mungo Lookout for site orientation	Missed opportunity for many visitors	Improve signage to Lookout
Identification of Grand Canyon	Protection of fragile site	Continue to discourage visitors

14.6.7 Visitor Facilities

Issue	Implication	Recommended Opportunity
Condition of roads	Visitor dissatisfaction	Consider harder road surface on well-used sections Preserve unsealed sections wherever possible Improve safety advice
Capacity of campsites	Intrusive noise and behaviour of campers	Restrict camper numbers and control use of campsites
Shelter at picnic areas	Lack of protection from wind and dust	Consider planting vegetation to screen picnic shelters at day use area
Insufficient toilets at Walls lookout for coach tours	Long queues for coach tours	Encourage use of day use facilities at Visitors Centre
Lack of control on firewood collection; cost of supplied firewood	Loss of animal habitat Charge for firewood encourages visitors to use fallen timber	Greater vigilance at campsites Consider cost effectiveness of free supply of firewood
Lack of public telephone	No emergency facility	Consider future mobile reception Re-install public telephone Provide emergency phone on drive tour
Poor safety provisions on drive tour	NPWS liability in event of disaster	Improve safety instructions, and preventative information and display with greater prominence
Emergency procedures ill-defined	Difficulty in locating people/help in event of emergency	Prepare disaster management plan

14.6.8 Tourism and Promotion

Issue	Implication	Recommended Opportunity
Levy on tour operators relatively high compared with Victoria	Dissatisfaction with NSW charges	Consider reduction for consistency with Murray Outback tourism promotion
Lack of tourist information outside region	Non capture of visitors	Improve publicity and distribution of material in major centres
Lack of tourist information overseas	Lack of awareness of World Heritage Area	Improve awareness through promotion Devise marketing strategy for international visitors
Accuracy of tour information	Inaccurate information	Provide training for tour guides and monitor presentations
Accreditation of operators	Quality of product to meet NPWS requirements	Monitor tour operations on regular basis Make auditing of tours part of licence agreement
Relevance of Aboriginal content	Lack of regional authenticity	Undertake further research and consultation with Aboriginal community to ensure accuracy and relevance of information
Misleading promotion of Aboriginal sites	Visitors expect to see Aboriginal sites	Increase explanation of sensitivity and fragility of Aboriginal sites to discourage visitor interest
Under-promotion of site	Lack of visitors	Difficulty in maintaining level of service
Promotion of site	Increased visitor numbers	Over use of facilities and degradation of Park Need to determine minimum/optimum Park use projections

14.7 Endnotes

- ¹ Australian National Heritage Commission 2001, 'Successful Tourism at Heritage Places', AHC, Canberra.
- ² ICOMOS 1999, International Cultural Tourism Charter, ICOMOS, Paris.
- ³ National Parks and Wildlife Service 1997, 'People Parks and the Future', NPWS, Sydney.
- ⁴ Murray Outback Aboriginal Cultural Trail, Murray Outback Tourism, nd.
- ⁵ Murray Outback, Murray Outback Tourism Inc, 2001.

15.0 Conservation Policy Implementation

15.1 Introduction

The following table provides an outline of implementation actions required in relation to the conservation policies established in Section 13.0 of this report and the expected timeframe for implementation as required by the project brief. For details of works see Section 13.0 Conservation Policy Tables for individual elements.

15.2 Implementation Table

Action	1 year	3 Years	5–10 Years
15.2.1 Endorsement and Approvals			
<ul style="list-style-type: none"> The NSW Heritage Council and the Australian Heritage Commission/Environment Australia will be asked to endorse this Conservation Management and Cultural Tourism Plan as the basis for any future approvals. 	✓		
<ul style="list-style-type: none"> This CMCTP will be used as the basis of agreement with the Heritage Council of appropriate exemptions available under Section 57(2) of the Heritage Act. 	✓		
<ul style="list-style-type: none"> The NPWS will adopt this Conservation Management and Cultural Tourism Plan as the basis for the future management of historic heritage in Mungo National Park. 	✓		
<ul style="list-style-type: none"> The Conservation Management and Cultural Tourism Plan should be reviewed and updated on a regular basis. 			✓
15.2.2 Heritage Registers			
<ul style="list-style-type: none"> Mungo National Park is listed as part of the Willandra Lakes Region on the State Heritage Register (SHR). The SHR Listing should be updated in light of current research. 	✓		
<ul style="list-style-type: none"> Mungo National Park is listed as part of the Willandra Lakes Region on the Register of the National Estate (RNE). The RNE Listing should be updated in light of current research. 	✓		

Action	1 year	3 Years	5–10 Years
<ul style="list-style-type: none"> Mungo National Park is listed as part of the Willandra Lakes Region on the Register of the National Trust. The listing should be updated in light of current research. 	✓		
15.2.3 Stakeholders			
<ul style="list-style-type: none"> The Mungo National Park Advisory Committee and the Far West Advisory Committee shall be consulted in finalising this report and will be provided with a copy of this report. 	✓		
<ul style="list-style-type: none"> The Heritage Office should be provided with information contained in this report for the updating of the State Heritage Register Listing of Willandra Lakes Region. 	✓		
<ul style="list-style-type: none"> Other key stakeholders and groups with a particular interest in Mungo National Park will be consulted. These stakeholders include, but are not limited to: the World Heritage Committee; Environment Australia/the Australian Heritage Commission; Department of Land and Water Conservation; Balranald Shire Council; the National Trust of Australia (NSW); families of former property owners; neighbours; Local Aboriginal Land Councils; tourism operators; members of the scientific community; and former staff associated with Mungo National Park. 	✓		
15.2.4 Conservation Planning			
<ul style="list-style-type: none"> Provide staff training in heritage assessment and consent processes. 	✓		
<ul style="list-style-type: none"> NPWS will follow the procedures identified in the EP&BC Act and the Willandra Lakes Region World Heritage Property Plan of Management 1996. 	Ongoing		
<ul style="list-style-type: none"> NPWS will use NPWS guidelines, the NSW EPA Act and other relevant legislation in the assessment of proposed activities. 	Ongoing		

Action	1 year	3 Years	5-10 Years
<ul style="list-style-type: none"> NPWS will obtain consents under the Heritage Act from the NSW Heritage Council prior to works and will consult with the NSW Heritage Office to obtain exemptions under the Heritage Act for some activities. 	Ongoing		
<ul style="list-style-type: none"> Planning documents will be prepared to guide future works. These should include an Interpretation Plan, Ground Tanks and Wells Conservation Plan and Movable Heritage Plan. 	As noted below		
<ul style="list-style-type: none"> A Conservation Plan should be prepared prior to any works on items that are of Exceptional significance. 	Ongoing		
<ul style="list-style-type: none"> A Conservation Analysis should be prepared prior to any works on items that are of High significance. 	Ongoing		
<ul style="list-style-type: none"> Where there is a perceived conflict between cultural and natural values then the precautionary principle is to be invoked. The decision making process will be transparent involving peer and stakeholder review and decisions are supported by documented scientific evidence. 	✓		
<ul style="list-style-type: none"> A Statement of Heritage Impacts should be prepared prior to any works on items that are of Moderate significance and should form part of environmental assessment planning for proposed activities, including REFs. 	Ongoing		
<ul style="list-style-type: none"> Standard NPWS guidelines for REF on heritage items be implemented see REF1 Appendix J. 	✓		
<p>15.2.5 Boundaries, Curtilage and Setting</p>			
<ul style="list-style-type: none"> A minimum curtilage for Mungo National Park is the Mungo National Park boundaries (see Figure 1.2). NPWS will nominate an extension of the SHR boundaries to fully encompass Mungo National Park. 	✓		

Action	1 year	3 Years	5–10 Years
15.2.6 Corporate Responsibility			
<ul style="list-style-type: none"> NPWS will establish a clear decision making process utilising appropriate skills and experience that is inclusive of all values in assessing and determining proposed actions. 	✓		
<ul style="list-style-type: none"> NPWS to source recurrent funds to cover ongoing conservation planning and maintenance of historic resources. 			✓
<ul style="list-style-type: none"> Staffing levels should be reviewed to provide increased levels of management, conservation and interpretation within Mungo National Park. 		✓	
<ul style="list-style-type: none"> Staff training and ranger competencies in relation to conservation planning and heritage management should be reviewed and replaced with regular opportunities for staff training and skills enhancement. (view training as ongoing). 		✓	
15.2.7 Landscape Conservation			
<ul style="list-style-type: none"> Prepare Ground Tanks and Wells Conservation Plan. 	✓		
<ul style="list-style-type: none"> Retain, conserve and replace cultural plantings with similar species when they become senescent. See Table 13.1 for further detail. 	Ongoing		
<ul style="list-style-type: none"> Soil should not be removed or quarrying undertaken from or around ground tanks. 	Ongoing		
<ul style="list-style-type: none"> Retain extant fences. 	Ongoing		
15.2.8 Built Heritage Conservation			
<ul style="list-style-type: none"> Catch-up conservation and cyclic maintenance works will be developed and undertaken for built and movable heritage. 	✓		
<ul style="list-style-type: none"> (See 15.2.4 for Conservation Planning requirements prior to works.) 	Ongoing		
<ul style="list-style-type: none"> Conservation Plan for Woolshed and Woolshed underground tank. 	✓		

Action	1 year	3 Years	5-10 Years
<ul style="list-style-type: none"> • Conservation Plan for Homestead (after Park wide study of accommodation but before any works other than maintenance). 		✓	
<ul style="list-style-type: none"> • Conservation Analysis reports and SOHI as part of works planning. 	Ongoing		
<ul style="list-style-type: none"> • Cyclic maintenance will include the following for all buildings: <ul style="list-style-type: none"> – termite inspections – structural inspection – rainwater goods inspection – repainting – thatching repairs – timber drop-log repairs – roof cavity inspection – fire services inspection – roof cladding inspection – electrical services inspection – check footings – visitation impact monitoring 	✓	✓ ✓ ✓ ✓ ✓	✓
<ul style="list-style-type: none"> • A structural engineering assessment for Mungo Woolshed with urgent catch-up works to stabilise the southern end and roof elements. 	✓		
<ul style="list-style-type: none"> • Mungo Woolshed underground tank should be restored/reconstructed. 		✓	
<ul style="list-style-type: none"> • Professional advice sought for fire risk and fire fighting management and BCA compliance. 	✓		
<ul style="list-style-type: none"> • Mungo Shearers Quarters catch-up restoration to subfloor areas and minor restoration and adaptive reuse for improved visitor comfort. 		✓	

Action	1 year	3 Years	5–10 Years
<ul style="list-style-type: none"> Mungo Homestead to be made more accessible to visitors and interpretation. 		✓	
<ul style="list-style-type: none"> Zanci Stables require ongoing catch-up and maintenance works. 	Ongoing		
<ul style="list-style-type: none"> The Zanci Cellar ongoing catch-up and maintenance works. 			✓
15.2.9 Aboriginal Heritage			
<ul style="list-style-type: none"> More detailed information on local Aboriginal heritage, scientific research, archaeological information and historic heritage throughout the Park should be provided in the Visitors Centre. 		✓	
<ul style="list-style-type: none"> Development and implementation of a cyclical monitoring program to monitor the condition of key Aboriginal sites. 		✓	
<ul style="list-style-type: none"> Inaccurate information regarding Aboriginal sites is to be urgently updated and incorporated into the AHIMS (previously ASR). An audit of the Aboriginal site locations should be carried out. 	✓		
<ul style="list-style-type: none"> Develop key research areas, criteria and program for Aboriginal research in conjunction with both key researchers and Aboriginal traditional owners. 		✓	
15.2.10 Historic Heritage			
<ul style="list-style-type: none"> A historical archaeology research program should be developed and instituted that focuses on the following sites: 'Chinese hut ruin'; hut and dump behind Mungo Homestead; Mungo Woolshed underground tank; Middle Yards; and Vigars Wells. 		✓	
<ul style="list-style-type: none"> Key research partnerships should be developed as part of the research program to encourage quality long term research eg PhD, masters students; University/industry partnership grants. 		✓	

Action	1 year	3 Years	5-10 Years
<ul style="list-style-type: none"> NPWS to develop a draft acquisition policy for additions to Mungo National Park which addresses historic heritage values with a focus on soldier settlement blocks or connections with the larger Gol Gol Station. 		✓	
<ul style="list-style-type: none"> Refer to Table 13.3 for detailed management actions for individual Potential Archaeological Deposits that should be carried out/referred to. 	Ongoing		
15.2.11 Movable Heritage			
<ul style="list-style-type: none"> Prepare Movable Heritage Conservation Plan. 		✓	
<ul style="list-style-type: none"> An inventory is to be urgently completed for moveable items within the Visitors Centre including Aboriginal artefacts. 	✓		
15.2.12 Research and Records			
<ul style="list-style-type: none"> Any significant fabric and fittings of Exceptional/High significance removed during conservation and adaptive reuse works should be catalogued and stored on-site. 	Ongoing		
<ul style="list-style-type: none"> An archival record should be made of all works undertaken. 	Ongoing		
<ul style="list-style-type: none"> Prior to any removal of elements (buildings, structures, landscape elements) or significant alteration or adaptation, photographic record will be made with copies lodged in NPWS Historic Place Register. 	Ongoing		
<ul style="list-style-type: none"> Establish a research program in the following areas: <ul style="list-style-type: none"> – pastoral practices generally; – water conservation; – wool scouring; – Chinese involvement – Aboriginal involvement; and – historical archaeology research (as identified above). 		✓	

Action	1 year	3 Years	5–10 Years
15.2.13 Interpretation			
<ul style="list-style-type: none"> • Prepare and implement an interpretation strategy based on the historic themes identified in the CMCTP. 	✓		
<ul style="list-style-type: none"> • Other potential activities as recommended in Section 13.15.3 and Sections 14.6.3, 14.6.5 and 14.6.6. 	Ongoing		
15.2.14 Regional Tourism			
<ul style="list-style-type: none"> • Review current staffing to upgrade provision of visitor services and interpretation. 	✓		
<ul style="list-style-type: none"> • Create an image for Mungo National Park as an internationally recognised cultural tourism destination. 		✓	
<ul style="list-style-type: none"> • Foster leading role as leading regional tourism destination in consultation with regional tourism organisations. 		✓	
<ul style="list-style-type: none"> • Undertake other activities as identified in Section 13.14.3 and Sections 14.6.2, 14.6.4, 14.6.7 and 14.6.8. 	Ongoing		