Department for Environment and Heritage

Heritage of the Birdsville and Strzelecki Tracks

Part of the Far North & Far West Region (Region 13)

Historical Research Pty Ltd
Adelaide

in association with
Austral Archaeology Pty Ltd
Lyn Leader-Elliott
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December 2002

Frontispiece *Woolshed, Cordillo Downs Station (SHP:009)*

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It was carried out by heritage consultants Historical Research Pty Ltd, in association with Austral Archaeology Pty Ltd, Lyn Leader-Elliott and Iris Iwanicki between April 2001 and December 2002.

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Heritage of the Birdsville and Strzelecki Tracks

CONTENTS

		PAGE
1.0	**Introduction**	**1**
	1.1 Project	1
	1.2 Objectives	1
	1.3 Study Area	3
	1.4 Survey Methodology	3
	1.5 Recommendations	9
	1.6 Consultation	10
	1.7 Note on Placenames	10
	1.8 Acknowledgments	12
2.0	**Historical Background**	**15**
	2.1 Overview History	15
	2.2 Chronology of Events	88
3.0	**Inventory Recommendations**	**93**
	3.1 National Heritage Places	93
	3.2 State Heritage Places (South Australia)	94
	3.3 State Heritage Places (Queensland)	95
	3.4 State Heritage Areas (South Australia)	96
	3.5 Local Heritage Places (South Australia)	97
	3.6 Local Heritage Places (Queensland)	99
	3.7 Locality Maps of Heritage Places	100
4.0	**Methodology for Assessing National Heritage Places**	**129**
5.0	**Heritage Assessment Reports: National Heritage Places**	**145**
6.0	**Places Already Entered in the State Heritage Register (SA)**	**189**
7.0	**Places Already Entered in the Queensland Heritage Register**	**253**
8.0	**Heritage Assessment Reports: State Heritage Places (SA)**	**261**
9.0	**Heritage Assessment Reports: State Heritage Places (Qld)**	**314**
10.0	**Heritage Assessment Reports: State Heritage Areas (SA)**	**326**
11.0	**Heritage Assessment Reports: Local Heritage Places (SA)**	**346**
12.0	**Heritage Assessment Reports: Local Heritage Places (Qld)**	**421**
13.0	**Heritage Assessment Reports: Historic Conservation Zones (SA)**	**443**

Heritage of the Birdsville and Strzelecki Tracks

CONTENTS (Cont.)

		PAGE
14.0	Tourism Management Recommendations	445
15.0	Summary of Heritage Places Identified	495
16.0	Summary of Places Visited	499
17.0	Bibliography	503
18.0	Survey Photographic Records	519
19.0	Survey Brief	525
20.0	Index	537

Heritage of the Birdsville and Strzelecki Tracks

CONTENTS

		PAGE
1.0	**Introduction**	**1**
	1.1 Project	1
	1.2 Objectives	1
	1.3 Study Area	3
	1.4 Survey Methodology	3
	1.5 Recommendations	9
	1.6 Consultation	10
	1.7 Note on Placenames	10
	1.8 Acknowledgments	12
2.0	**Historical Background**	**15**
	2.1 Overview History	15
	2.2 Chronology of Events	88

1.0 INTRODUCTION

1.1 Project

The Birdsville and Strzelecki Tracks Heritage Survey was undertaken by Historical Research Pty Ltd in association with Austral Archaeology Pty Ltd, Lyn Leader-Elliott of Flinders University and Iris Iwanicki in 2001-2002 for Heritage South Australia of the South Australian Department for Environment and Heritage. The project brief is appended to this report. The project was managed by a steering committee which included, besides Heritage South Australia and the Australian Heritage Commission, the SA Tourism Commission and State Aboriginal Affairs.

This project differs from all earlier surveys in the South Australian regional survey program in three respects. First, because its project area extends over the state border into Queensland in two places, by agreement with the Queensland Environmental Protection Agency, second in making recommendations for Places of National Heritage Significance, and pioneering a methodology for assessment of these places, and third in making tourism management recommendations for places of cultural heritage value within the region. As 2002 is the Australian Year of the Outback, this aspect of the project is particularly apposite.

1.2 Objectives

The primary objective of the Birdsville and Strzelecki Tracks Historic Heritage Survey is assessment of cultural heritage resources associated with the Birdsville and Strzelecki Tracks to test assessment methodologies and recommend places for listing in National, State and local heritage registers, and as an input to developing a regional heritage tourism strategy for the Lake Eyre Basin.

Specifically, the Birdsville and Strzelecki Tracks Historic Heritage Survey will:

(a) make recommendations about potential nationally significant places within the Survey Area;

(b) test appropriate methodologies for identifying and assessing nationally significant places;

(c) make recommendations for the entry of places in the State Heritage Register;

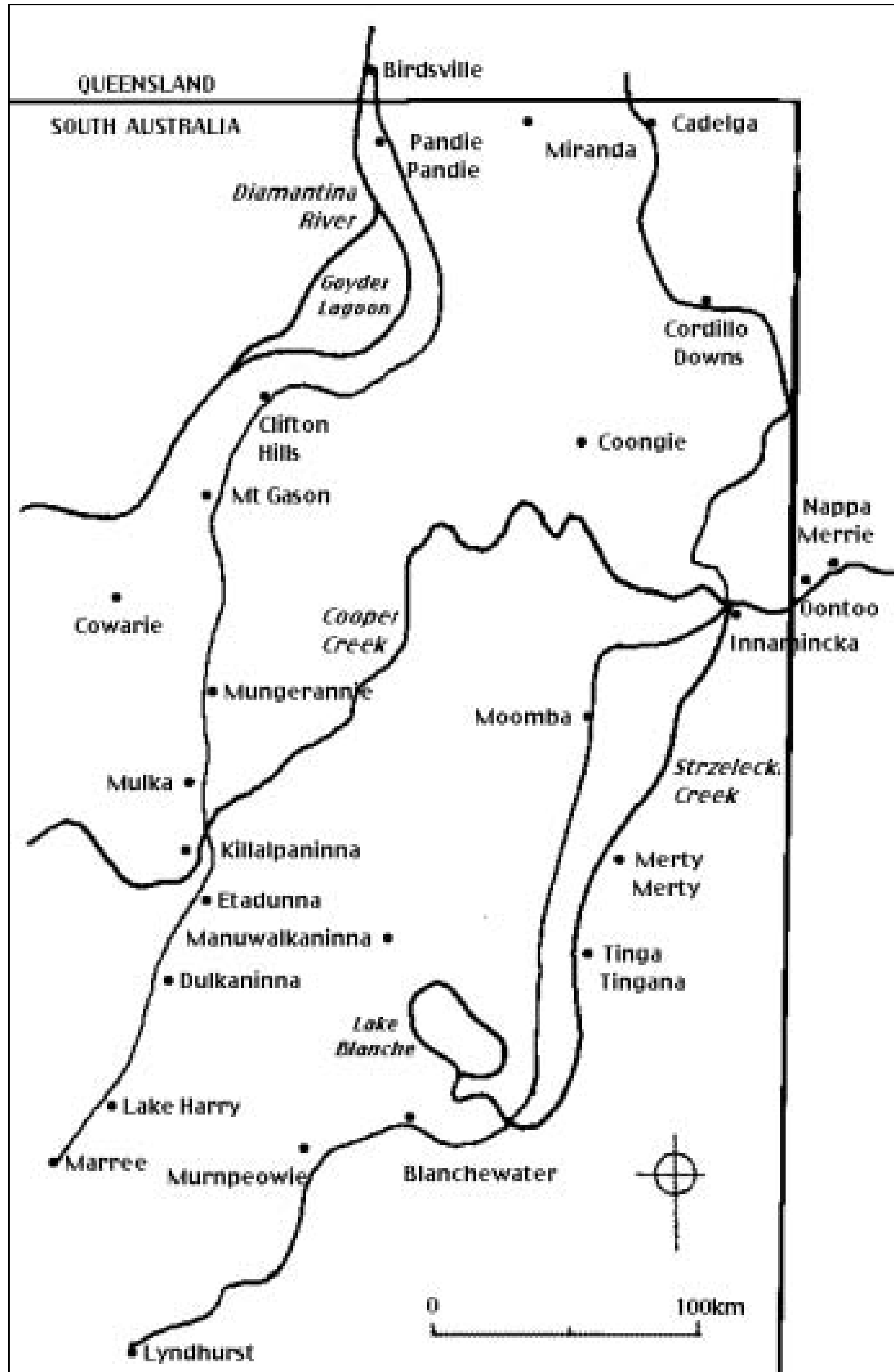
(d) make recommendations for the declaration of State Heritage Areas;

(e) identify places of local heritage value within the Survey Area, for inclusion in the Out of Hundreds Development Plan;

(f) Identify areas within the Survey Area which could be declared Historic (Conservation) Zones/Policy Areas and included in the Out of Hundreds Development Plan, and

(g) make recommendations about the potential and suitability of heritage places within the Survey Area for use in heritage tourism itineraries.

Figure 1: Study Area



Birdsville and Strzelecki Tracks Region

1.3 Study Area

The survey area, which lies chiefly in Region 13 (Far North & Far West) of South Australia, includes the Birdsville and Strzelecki Tracks and a corridor fifty kilometres wide on either side of each. The Birdsville Track commences at Marree and terminates at Birdsville. The Strzelecki Track commences at Lyndhurst and terminates at Innamincka, although for the purpose of this survey the road continuing north of Innamincka to the Queensland border near Betoota has been included. The 50km corridor extends into Queensland in the Birdsville and Nappa Merrie areas. The southern part of the project area overlaps with that of an earlier heritage survey of the Flinders Ranges (Region 11). See Figure 1.

1.4 Survey Methodology

The methodology adopted for the Birdsville and Strzelecki Tracks heritage survey followed broadly that recommended by Susan Marsden in *Historical Guidelines* (1980) and adopted by Heritage South Australia and its predecessor agencies for 20 years since - with evolving modifications - as the basis for heritage surveys. This consisted essentially of the following stages: (1) carrying out historical research on the region, (2) identifying historical themes and likely places for investigation, (3) obtaining local information and advice, (4) undertaking field work to visit and record all known likely significant places, (5) assessing the significance of the places recorded, (6) formulating recommendations and (7) compiling a report setting out all this information.

While the surveys have become more demanding over the years, and the reports larger, the brief for this survey broke new ground in several directions simultaneously, adding a number of new tasks to the formula outlined above. Briefly, the new elements of the survey were:

- joint State and Commonwealth task formulation and reporting,
- greater oversight of the project by the Australian Heritage Commission,
- use of the Australian Historic Themes as a historical tool,
- extension of the project area into Queensland,
- recommendations for National Heritage Places,
- pioneering new methodology for assessing national significance, and
- making recommendations for tourism management of heritage places.

Heritage surveys commissioned by Heritage South Australia are concerned only with the built historic environment, that is the landscape created since European settlement of South Australia in the nineteenth century. The natural environment, and places of significance in Aboriginal culture, are managed by other State government agencies, and fall outside the brief for this survey. In practice however, in an arid landscape the three areas cannot be treated in isolation, as all human activity is determined by the landscape and the climate. Many places of significance to European culture were also places of Aboriginal cultural value.

The first stage of the survey - historical research - established very quickly that the north-east of South Australia has a rich history. A century ago there were many more people in the region, and many more industries than there are today. Although it did not have the

long-distance railway and telegraph routes that shaped the Oodnadatta Track region, there has been a complex legacy of activity from the time of the German missionaries in the 1860s, through a vicious period of inter-racial conflict, the decline of the wool industry, traditional transport routes re-shaped by sinking artesian bores, the feats of the Afghan cameleers who supplied the pastoral industry and the drovers bringing Sidney Kidman's cattle to market, to the modern oil and gas industry. All human activity in the region has been shaped by the availability of water, and efforts to manage and conserve water are its most fundamental historic theme. Other natural forces also determined many human destinies, as much of the economic history of the region in the last 110 years has been shaped by rabbits and dingoes.

Seeking to classify this history into the Australian Historic Themes did not re-shape it, nor provide any useful insights, but simply provided a series of labels or headings. Much of what happened in the region seems not easily or appropriately described by the existing themes, and most of the 222 themes and sub-themes have little relevance to life in the region. The themes which were used as a framework for the historical overview are:

1	Tracing the Evolution of the Australian Environment
2.1	Living as Australia's Earliest Inhabitants
3.3	Surveying the Continent
3.5	Developing Primary Production
3.7	Establishing Communications
3.8.6	Building and Maintaining Railways
2.6	Fighting for Land
8.6.7	Running Missions to Australia's Indigenous People
4.5	Making Settlements to Serve Rural Australia
3.8	Moving Goods and People
3.7.1	Establishing Postal Services
7.6.3	Policing Australia
3.11	Altering the Environment
3.16	Struggling with Remoteness, Hardship and Failure
3.26	Providing Health Services
3.4	Utilising Natural Resources
3.8.7	Building and Maintaining Roads
3.23	Catering for Tourists

With the historical background established, a list of over 90 places in the region was drawn up as warranting investigation. These included the major missions, early homesteads, townsites, places marked on early maps, and many places mentioned in local historical accounts such as Pearce (1980) and Litchfield (1983). When fieldwork commenced, one important task was to check the veracity of this list with local information. Pastoral lessees, police officers, tourism operators, surveyors and other knowledgable people were contacted about places in their district. This resulted in many of the places on the original list being crossed off as insignificant, inaccessible or simply unknown. However, at least as many new places were added from local knowledge. Eventually about 110 places were visited in the course of the project.

Sixteen places in South Australia were already on the State Heritage Register and a State Heritage Area existed, all as a result of fieldwork done by Heritage Conservation Branch

staff in 1984, and three places within the town of Birdsville were on the Queensland Heritage Register. Most of these were important and conspicuous historic monuments such as the Blanchewater homestead ruins of 1858, the sites associated with Burke's expedition, and the magnificent Cordillo Downs woolshed. The brief called for these places to be checked for significance and integrity.

The initial fieldwork was planned to take three weeks, which proved to be an accurate estimate. Not all the sites on the original list were visited; some of the early homestead sites are lost to modern knowledge, and others have left virtually no trace. Here the consultants relied on local knowledge in assessing whether the significance of a site justified a visit. If a place was not accessible by track, and its location was uncertain or the lessee had no knowledge of its whereabouts, no attempt was made to visit it, hence Lake Hope, Old Berlino and Kanowana were left out as unlikely to repay the drive. Many of the early homestead sites remained in use as outstations, sometimes to the present, and consist today of a modern set of yards and a windmill, with no early fabric visible. Some other sites were inaccessible because of local flooding; places in the Andrewilla, Alton Downs, Old Clifton Hills and Callabonna districts were out of reach during the survey.

There was a further constraint in the Strzelecki Regional Reserve, where recent rains and the absence of rabbits (in the wake of the calicivirus epidemic) had combined to cover the land in lush green flowering vegetation, a sight few people had seen there for a hundred years. The downside of this splendid sight was that it concealed evidence on the ground, including tracks to sites, and the Senior Ranger was concerned that new wheel tracks off the road would encourage others to follow, creating a vehicle track which would remain conspicuous for years. Curiosity is a powerful force at work creating new tracks in the outback. For a combination of these reasons, off-road sites in this district were only visited if their location was exactly known, and the way was clearly evident along an already-visible track. As a result, Tinga Tingana, Chidlee Well, Montecollina and Carraweena homestead sites were not visited.

However, many remote sites were easily found, and some of these were of great interest because they have survived in a more intact state than sites close to roads, which are subject to theft and vandalism. The abandoned Haddon Downs, Miranda and Manuwalkaninna homestead sites were of this category. Almost all the homesteads occupied at present are modern, typically dating from the 1950s after being abandoned and then taken up again, although some are on the sites of older buildings. Innamincka, Nappa Merrie and Murnpeowie are the only homesteads in the region which have never been abandoned since they were built, and Cordillo Downs (which was abandoned for a few years in the 1930s) and Murnpeowie are the only nineteenth century homestead complexes in the region which survive reasonably intact.

When sites were visited, they were recorded at a level of detail depending on their complexity and an estimate of their significance. All sites were photographed on black and white, colour transparency and colour print film, cursorily if they were small and simple such as Ooroowillannie homestead ruins or the Mirra Mitta Bore, in detail if they were large and complex like Miranda homestead or Oontoo township sites. A site plan was drawn if the initial assessment suggested the place was of State heritage significance. In some cases such as Killalpaninna Mission or Cordillo Downs homestead the site had

already been comprehensively photographed and plans drawn by past researchers. Here the emphasis was to check for changes since the sites were recorded.

Another consideration during the initial fieldwork was the preliminary selection of places for tourism management recommendations. Naturally there are clusters of historic places in and around the townships of Marree, Birdsville and Innamincka. Besides inspecting the places, owners, lessees, administrators and tourism operators were consulted. The issue of public access to sites on pastoral leases and on the gasfields is controversial in the region, and responsibility for public risk and liability insurance are at present unresolved. Partly for these reasons, it was decided to take a conservative approach to recommending tourist access. For the most part, places were recommended for access only if they were located on public land or accessible along a public road, and if owners and lessees were happy to encourage visitors. No places were recommended for access if they were in remote or difficult-to-find locations, were in a fragile state, or potentially dangerous to visitors.

Once historical and site-based information had been gathered, the next step was to make an assessment of each place's significance. The number of recommendations which this survey could make to five or more different heritage and planning agencies was formidable:

- World Heritage List (Commonwealth)
- Register of the National Estate (Commonwealth)
- Proposed National Heritage List (Commonwealth)
- State Heritage Register (SA)
- State Heritage Area (SA)
- Local Heritage Place (SA)
- Historic Conservation Zone (SA)
- Queensland Heritage Register (Qld)
- Local Heritage Place (Qld)

The level of significance - and thus the appropriate recommendation - was assessed by consideration of criteria and thresholds, and a check against earlier recommendations in the same region. For the most part, the match between historic themes and physical evidence on the ground was self-evident; what it left unanswered were questions of significance and representativeness. Matching a site to a theme does not give any information on its significance, or answer the question of how many sites should be selected to represent a theme. In fact, sites representing pastoral settlement in the form of homesteads, yards and outstations, and water supply in the form of waterholes, wells, tanks, bores, windmills and pumps are endemic throughout the region. Assessment of such abundant sites was done very selectively; a site needed to have either a strong historical case or notable physical evidence (or both) to be recommended as a place of State significance. Other site types such as early missions were considered to be both scarce and fragile, and were assessed more generously. One site type completely unrepresented on the South Australian State Heritage Register was identified: the scene of a massacre of Aborigines at Koonchera Waterhole. Another seven or eight such places may exist in the region, but there is little information on their exact locations or the events that occurred there.

The large number of places that were assessed as below the threshold of State heritage significance were recorded as places of local heritage value. This is a recommendation to the Diamantina and Bulloo shires in Queensland and the Development Assessment Commission in South Australia that these places should be considered for inclusion in local development plans. One place already on the South Australian State Heritage Register (Gray's Tree at Lake Massacre) was found to have been recommended on the basis of incorrect information, and our recommendation is to remove it from the Register.

Local level and national estate level include those of local level significance value and all levels of significance above. Local lists are limited to the land controlled by the respective local government authority, The National Estate covers any tenure within Australia. State heritage level significance include places of State level significance and all levels above with the State. National heritage significance is proposed to cover places of national level and World Heritage significance throughout Australia. World Heritage significance is only for those places on the World Heritage List.

A Bill for establishing national level significance was introduced into Federal Parliament (2002). If passed the Bill will amend the *Environment Protection and Biodiversity Conservation Act 1999*, and a new National Heritage List and a Commonwealth Heritage List will be developed. The Commonwealth Heritage list relates to places that are Commonwealth tenure or under Commonwealth management.

In the case of National Heritage Places, there were no thresholds or previous statutory assessments to use as a guide, for these were among the first to be recommended anywhere in Australia. Only draft criteria were in existence, and these have been modified during the course of this study. A discussion of proposed methodologies for assessing national heritage significance forms part of this report. Three places were recommended, on the basis that they are clearly of great cultural significance to the nation as a whole, and their significance transcends State boundaries. All the places assessed as being of national heritage significance are very large; the smallest over 60km in length.

Having formulated a draft list of recommendations, sample reports on selected places were prepared and circulated to the various agencies who would be acting on the survey's recommendations. A second field trip returned to the places recommended for tourism management, and collected further information and engaged in a second round of public consultation, leading to the formulation both of specific site-by-site management recommendations, as well as broad principles of management to guide outback tourism, not only in this region but elsewhere in Australia.

The results of the project to this point were compiled as a draft report which was circulated to client agencies and selected stakeholders in May 2002. A meeting of interested parties with the consultants allowed discussion of the draft report, and identification of the tasks and issues still to be covered. Feedback from the participants has been taken into consideration when completing the report.

1.4.1 Recommendations

Summary of the overall number of places for which recommendations have been made:

National Heritage Places

This report recommends that three places in the Birdsville and Strzelecki Tracks survey area should be declared Places of National Heritage Significance. Places that have been so recommended have been assessed according to draft criteria developed by the Australian Heritage Commission. A discussion of proposed methodology for the assessment of national heritage significance forms Section 4 of this report.

State Heritage Places (SA)

This report recommends that five places in the Birdsville and Strzelecki Tracks survey area should be entered in the State Heritage Register. Places that have been recommended as being suitable for entry in the State Heritage Register have been researched and inspected during the survey process and assessed according to the criteria laid down in the Heritage Act 1993.

It is recommended that places which have been recommended for entry in the State Heritage Register in this report but which are rejected by the State Heritage Authority should be considered to be places of Local Heritage Value and should be processed accordingly.

The report also recommends that one place already entered in the State Heritage Register be removed, as more recent research suggests that the events for which the place was considered significant did not happen at that place.

State Heritage Places (Qld)

This report recommends that one place in the Birdsville and Strzelecki Tracks survey area should be entered in the Queensland Heritage Register. Places that have been recommended as being suitable for entry in the Queensland Heritage Register have been researched and inspected during the survey process and assessed according to the criteria laid down in the Queensland Heritage Act 1992 as amended 1995.

State Heritage Areas (SA)

One place in the Birdsville and Strzelecki Tracks survey area is recommended as a State Heritage Area.

Local Heritage Places (SA)

This report recommends that twenty-nine places in the Birdsville and Strzelecki Tracks survey area should be added to local heritage lists under the Out of Hundreds Development Plan. Places that have been recommended as being of local heritage value are considered important to the local community or region.

Local Heritage Places (Qld)

This report recommends that ten places in the Birdsville and Strzelecki Tracks survey area should be included as local heritage places in the Diamantina and Bulloo shires' planning

schemes. Places that have been recommended as being of local heritage value are considered important to the local community or region.

Historic Conservation Zones SA)

No places in the Birdsville and Strzelecki Tracks survey area are recommended as Historic (Conservation) Zones.

1.5 Recommendations

Summary of the overall number of places for which recommendations have been made:

National Heritage Places

This report recommends that three places in the Birdsville and Strzelecki Tracks survey area should be declared Places of National Heritage Significance. Places that have been so recommended have been assessed according to draft criteria developed by the Australian Heritage Commission. A discussion of proposed methodology for the assessment of national heritage significance forms Section 4 of this report.

State Heritage Places (SA)

This report recommends that five places in the Birdsville and Strzelecki Tracks survey area should be entered in the State Heritage Register. Places that have been recommended as being suitable for entry in the State Heritage Register have been researched and inspected during the survey process and assessed according to the criteria laid down in the *Heritage Act 1993*.

It is recommended that places which have been recommended for entry in the State Heritage Register in this report but which are rejected by the State Heritage Authority should be considered to be places of Local Heritage Value and should be processed accordingly.

The report also recommends that one place already entered in the State Heritage Register be removed, as more recent research suggests that the events for which the place was considered significant did not happen at that place.

State Heritage Places (Qld)

This report recommends that one place in the Birdsville and Strzelecki Tracks survey area should be entered in the Queensland Heritage Register. Places that have been recommended as being suitable for entry in the Queensland Heritage Register have been researched and inspected during the survey process and assessed according to the criteria laid down in the *Queensland Heritage Act 1992* as amended 1995.

State Heritage Areas (SA)

One place in the Birdsville and Strzelecki Tracks survey area is recommended as a State Heritage Area.

Local Heritage Places (SA)

This report recommends that twenty-nine places in the Birdsville and Strzelecki Tracks survey area should be included in a list of local heritage places under the Out of Hundreds Development Plan. Places that have been recommended as being of local heritage value are considered important to the local community or region, and have been assessed according to the criteria in the *Development Act 1993*

Local Heritage Places (Qld)

This report recommends that ten places in the Birdsville and Strzelecki Tracks survey area should be included as local heritage places in the Diamantina and Bulloo shires' planning schemes. Places that have been recommended as being of local heritage value are considered important to the local community or region.

Historic Conservation Zones SA)

No areas in the Birdsville and Strzelecki Tracks survey area are recommended as Historic (Conservation) Zones.

1.6 Consultation

Community involvement regarding the project occurred on a number of levels.

- initial contact was made by letter to key local informants, pastoralists, mining companies and others along different parts of the tracks.
- phone contact was made with key people to coordinate face-to-face visits during field work in the region.
- this was followed up by visits to key people as the consultants travelled through the area on two separate field trips.
- after the field trips, further contacts were made by phone or letter as necessary to follow up information or advice.
- the progress of the survey was monitored by Heritage South Australia. The consultants were responsible to Heritage South Australia, to which progress reports were submitted during the survey.
- the progress of the survey was further overseen by the steering committee representing key stakeholders in the survey. The working party was kept informed by Heritage South Australia.

1.7 Note on Placenames

Placenames in the Birdsville and Strzelecki Tracks region require a comment, for they are not always as they seem. While this report attempts to be consistent in its spelling of names, that does not mean that the form adopted here is necessarily more correct than another. The great majority of names in the region are from Aboriginal languages, and

many - such as Mungerannie, Kopperamanna, Nappa Merrie and Killalpaninna - have beginnings or endings like 'appa', 'nappa', 'anna', 'manna', 'annie', 'nannie', 'ninna' and so on, which not surprisingly refer to places where water is to be found. There have been many variations in spelling since these names were written down from the 1860s onward, and this report adopts different spellings from different contexts without attempting to sort out the inconsistencies. Koonchera has been spelled as Kooncherra, Koonchira, Coonchere and Kooncherry in the past. The first consonant is often dropped in English renditions of Aboriginal words, hence Appamanna is also Nappamanna. It is far beyond the ethnographic and linguistic expertise of this project to decide which is correct.

Nappamerrie, Nappamerry, Napamerri, Napamerrie, Napamerry, Nappa Merrie and Nappa Merry (probably from the Wongkumara words ngappa = water; and merri = sand hill) are all the same place. This report has adopted Nappa Merrie, simply because those are the words painted on the homestead roof in letters four feet high, which is a more assertive statement than has been made for any other spelling variant.

After the spelling has been sorted out, there remain some surprises in the local pronunciation. Bucaltaninna is pronounced Bull-cat-aninna and Apatoonganie is Apatookna. For over a hundred years, Etadunna has been pronounced as Ether-dinner, and Murnpeowie as Mumpy-owie or usually just Mumpy (the diary of Joseph Mannion in 1897 spelled these placenames Eitherdina and Mumpyowie), It is not possible to argue with a century of local practice.

European names also have their variations. Herrgott Springs is spelled in this report as Joseph Herrgott (whose pious Lutheran surname meant 'the Lord God' in German) would have wished. The common variation Hergott is simply a spelling error which means nothing at all. Modern conventions such as Cooper Creek have been adopted in the text, although for most of the 157 years since it was first seen by Europeans, it has been known as Cooper's Creek. It is an old joke in western Queensland that the country is so dry that it takes two rivers to make a creek - the Thomson and Barcoo rivers join to form Cooper Creek. In the mid-nineteenth century the words 'river' and 'creek' meant a permanently-flowing or perennial stream and an intermittently-flowing stream respectively, and the name they were given by explorers depended on the year - or even the month - in which they were first seen.

There are many 'lakes' shown on maps of the region, and this report has retained that term, with some hesitation. For a few years each century they are indeed expanses of blue water, alive with ducks and pelicans, as lakes in the English meaning of the word should be. But for most of the time they are flat expanses of brown clay or glittering salt crystals, strewn with the bones of animals. The English language has no words for such features, unless we use the Spanish-derived technical names - playas or salinas - familiar only to geomorphologists.

Some names are difficult to attribute to places. Pastoral leases were absorbed into others, so that the famous early run Cullamurra for example disappeared, to become part of Innamincka, and Mount Hopeless and contradictory Lake Hope nearby both became synonymous with Blanchewater, and all three were later absorbed by Murnpeowie. Nearly every homestead in the region has moved at least once, so that it is quite normal to find modern Alton Downs and the ruins of Old Alton Downs on the map a few kilometres apart.

The name Mulka has been unusually mobile, for in a short distance along the Birdsville Track there are the ruins of Old Mulka and New Mulka and then modern Mulka homestead. In addition, Old Mulka was for a while worked jointly with nearby Ooroowillannie, and the names Mulka and Apatoonganie seem for a time to have been interchangeable. Here too this report seeks to be consistent in using these names, while accepting that a hundred years later, it is difficult to be absolutely correct.

1.8 Acknowledgments

This survey of the heritage resources of the Birdsville and Strzelecki Tracks was carried out by Historical Research Pty Ltd, Austral Archaeology Pty Ltd, Lyn Leader-Elliott of Flinders University and Iris Iwanicki. Those who actually wrote the text of the report were: (a) Peter Bell and Iris Iwanicki wrote the historical overview and chronology, (b) Peter Bell, Iris Iwanicki and Justin McCarthy prepared the site reports, (c) Lyn Leader-Elliott wrote the tourism management overview and provided the management recommendations in individual site reports. Justin McCarthy and Robyn Gray of Austral Archaeology were responsible for fieldwork planning, vehicle logistics and field catering. Peter Bell of Historical Research managed the project and compiled and produced the report.

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Val Donovan, Queensland Heritage Trails Network,
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Kym Fort, Birdsville Hotel,
Tom Gara, Native Title Unit, South Australia,
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Dr Luise Hercus, Australian National University,
John Hoysted, Queensland Heritage Trails Network,
'Bomber' Johnson, Nappa Merrie,
Dr Ruth Kerr, Royal Historical Society of Queensland,
Robert Khan, Marree,

John Mannion, Pekina,
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Don and Lyn Rowlands, QPWS Rangers, Birdsville,
Lloyd Sampson, Primary Industries and Resources South Australia,
Joc Schmiechen, Lake Eyre Basin Coordinating Group,
Susie van der Linden, Tourism Coordinator, Birdsville,
Jim Vickery, South Australian Pastoral Board (retired),
Leith Yelland, Outback Areas Community Development Trust, South Australia.

Property owners and managers who contributed to the project are too numerous to name individually here, but the project team received generous support, assistance and encouragement from everyone we contacted, without exception, throughout our fieldwork in the region.

2.0 HISTORICAL BACKGROUND

2.1 Overview History

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Introduction

The Birdsville and Strzelecki Tracks are the traditional transport corridors across the north-east of South Australia, to the east of Lake Eyre, connecting the former railhead at Marree to the Channel Country of south-western Queensland. Between the two tracks lies an arid land of deserts, dunes and the flood plains of the Diamantina and Cooper river systems. Both tracks originated as stock routes overlanding sheep and cattle from the middle of the continent to southern markets as pastoral activity established itself in the arid areas of central Australia during the mid to latter part of the nineteenth century. Both tracks have an earlier history and are part of Aboriginal trails, trade and custom. Neither has ever been a single fixed route for long. Over time, the footprint and hoofprint trails of both tracks have shifted, wavered and at times disappeared, to revive again later.

In a land where all human activity depends on the presence of water, both routes have been defined by a succession of watering places. The Birdsville and Strzelecki Tracks wend their way more than 500 kilometres across some of the most arid land on earth, separated by a distance ranging up to 200 kilometres. Their combined length is not much less than the distance from Adelaide to Sydney, or London to Berlin. For the purpose of this study, the Strzelecki Track will be surveyed from Lyndhurst to the end of the Cordillo Downs Road on the South Australia-Queensland border near the Cadelga ruins, and the Birdsville Track from Marree to Birdsville in Queensland. The survey area extends over the Queensland border in places to take in the Birdsville and Nappa Merrie districts. The project area for this survey is a corridor 100km wide straddling both tracks, a land area of about 90,000 square kilometres, roughly three times the size of Belgium. The only townships in that area today are Marree, Innamincka, Moomba and Birdsville. There has never been a church built in the region, although there were once three mosques.

The Politics of Corners

The study area takes in that area of South Australia which now shares a border with the Northern Territory in the north-west, Queensland for a distance of 600km in the north and east, and New South Wales in the south-east. In that region where three states and a territory adjoin, the places where the borders meet or change direction are well-known landmarks, named after the surveyors who established them: Cameron Corner, Haddon Corner and Poeppel Corner. But when Europeans first set foot in the region in 1840, the lands that are now Queensland and the Northern Territory were all part of New South Wales. Queensland was created in 1859 with its western boundary at 141° longitude

The piece of New South Wales remaining on the north coast of Australia was tantalising to all the colonial governments, but none of them knew very much about what it contained. The result in 1860 was an inter-colonial race to be the first to explore the unknown land and open up a route across Australia from the southern cities to the north coast, and the

events of that race were to shape the European settlement of the Birdsville and Strzelecki Tracks region for the next hundred years. The winners were Queensland and South Australia, who divided the northern land between them; the larger part west of 138˚ longitude becoming the Northern Territory, under South Australian administration.

The adjacent lands of the Northern Territory and New South Wales have had little impact on events within this part of South Australia, but the destinies of Queensland and South Australia have been closely intertwined since the 1860s. Because of the pattern of the watercourses and lakes which bring water from Queensland into Lake Eyre, travellers' routes have taken them across the border; Aboriginal trading parties, European explorers and pastoralists, travelling stock routes and modern roads have all linked south-west Queensland with north-east South Australia.

This study will look at the history of the region from both sides of the border, seeing how European explorers from both colonies penetrated the region and formed their own impressions, and how the pastoralists arrived, bringing two separate settlement traditions, two sets of pastoral legislation, and very different methods of dealing with indigenous land owners. In the early years these different colonial ways of doing things complicated life in the region, because in the absence of accurate surveys the pastoralists were sometimes unsure in which colony their lease was located. Few regions of Australia have had their histories so strongly determined by events in two colonies.

Predecessors

Some aspects of the history of the Birdsville and Strzelecki Tracks region are extremely well known; probably none more so than the Burke and Wills expedition of 1860-61, which has given rise to a vast quantity of literature, most recently Sarah Murgatroyd's *The Dig Tree* earlier this year, sadly followed by the author's death only weeks later. This project is able to draw on a number of accounts of life in the region, commencing with George Farwell's journalism in the 1940s, and including Grace Francis' and Mona Henry's reminiscences of nursing in Birdsville and Elizabeth Burchill's of Innamincka, Eric Bonython's writings on Lake Eyre, and Joc Schmiechen's and later Howard Pearce's accounts of the extraordinary German missionary era.

Luise Hercus has recorded much of the language and oral history of indigenous people in the north-east. Howard Pearce's *Homesteads of the Stony Desert* (1978) was among the first books to draw attention to the stark and sad beauty of the region, and his photographs provide a record of the deterioration of many sites in recent decades. Lois Litchfield's *Marree and the Tracks Beyond* (1983), with an introductory essay by Hans Mincham, began to draw together the many historical themes of life along the tracks, and has been supplemented by more detailed recent work such as Helen Tolcher's *Drought or Deluge* - the best book yet written on the Cooper region - and her three other books on the Innamincka district published between 1986 and 1999, and Philip Gee's history of the grazing industry around Lake Eyre South.

Specialised histories of topics such as the Australian Inland Mission and Royal Flying Doctor Service, the Afghan camel drivers, the Strzelecki Track, the Mound Springs, the oil and gas industry, the Dog Fence and Sidney Kidman's empire have helped to fill in gaps in the historical record. Earlier surveys commissioned by Heritage South Australia in the

adjacent regions to the south and west, *Flinders Ranges Heritage Survey* and *Heritage of the Oodnadatta Track* have helped put the project area in context. The modern traveller is provided with a wealth of information by John Deckert's maps and Stuart Nicol's RAA touring guide.

These and all other sources used are fully acknowledged in the bibliography of this report. The sub-headings of this account have been expressed in the words of the Principal Australian Historic Themes, adopted by the Australian Heritage Commission.

Historic Theme 1: Tracing the Evolution of the Australian Environment

The Land

Complex and diverse, the north eastern deserts of South Australia traversed by the Birdsville and Strzelecki Tracks contain the Simpson and Strzelecki dunefields, the great playa lake and river systems of Lake Eyre, the Cooper and Diamantina Creeks, gibber plains and stony dome shaped anticlinal structures. State boundaries arbitrarily cut through the arid land, which is situated in the south-eastern part of the Great Artesian Basin. The two major tracks cross over the surface of the Great Artesian Basin beneath, the world’s largest subterranean water basin covering an area which lies in roughly equal proportions in the states of Queensland, the Northern Territory and South Australia, with its eastern edge encroaching into the north-west of New South Wales. A series of mound springs are studded along the southern and southwestern margins of the Great Artesian Basin. Formed by the upward movement of artesian water through saturated rock, mound springs are variously seepages, flowing springs or pools of standing water. All are characterised by the accumulation of sediments that form mounds ranging from tens of metres across to temporary mud heaps that dry up and re-form over time. Herrgott Springs, discovered in 1859 by Joseph Herrgott of John McDouall Stuart’s exploration party, prompted the establishment of a nearby settlement of the same name, later re-named Marree, the southern termination of the Birdsville Track.

Geology

The Birdsville and Strzelecki Tracks skim the surface of a thick sequence of sedimentary strata deposited over a period of 500 million years. Changes in global climates and weathering of the earth’s crust have led to different environments recorded in the rock beneath the surface of the land across which the two tracks traverse. Periods of warm, wet and forested landscapes are represented geologically by coal seams and organically rich mudstones. When drier conditions prevailed, the huge lake evaporated leaving extensive limestone sheets and arid, windy dunefields developed. Periods when shallow seas covered the area were replaced by periods of global cooling when glaciers and ice caps formed, scouring the landscape and leaving a blanket of moraine and outwash debris as the icecap retreated. Extended periods of stability, during which very little erosion or sedimentation occurred resulted in the bleaching or colouration of near surface rocks, now revealed in the multi-hued bluffs and vivid white of the tableland country.

Evidence of major climatic changes has been confirmed by the discovery of fossils and footprints in the areas of the dry salt lakes of the Tirari desert and on Lake Callabonna. The first of these were discovered in the 1880s and represent 'a veritable necropolis of

gigantic extinct marsupials and birds which apparently died in their hundreds.' (Brown 1894) Of inestimable scientific value, the lake floor was declared a scientific reserve in 1901.

Drillhole intersections have penetrated the geology of the area to depths of around 4 kilometres and have revealed the oldest strata to be of the Cambrian period of about 530 million years ago. Unconformities (major time intervals where no rocks are present) represent periods of no deposition or weathering. Geological strata in the northeastern deserts have been identified into five, unconformity bounded sediment ‘packets’ super-imposed above the other. Each is a distinct depositional entity and occupies a separate sedimentary basin. In order of antiquity, the five entities include the Warburton Basin (570 -345 million years), Cooper and Pedirka Basins (280 -195 million years), Simpson Desert Basin (230 -195 million years), Eromanga Basin (190-90million years) and the Cainozoic Basin (50-1.8 million years). (Tyler *et al* 1990, pp. 2-4)

Notably, the area has the largest hydrocarbon deposit on the Australian continent, discovered from 1963 onwards. The oil and gas fields of the Permian Cooper Basin and the oil fields of the Mesozoic of the Central Eromanga Basin supply natural gas and prolific quantities of hydrocarbons annually. Despite high exploration costs caused by the remoteness and difficulty of terrain, the reserves are economically valuable and a major Australian energy resource.

On the surface of this rich and ancient geology, a range of landscapes frame the Birdsville and Strzelecki Tracks. Salt lakes abound in the southern part of the region. The largest of these, Lake Eyre, lies to the west of the Birdsville Track. It provides a terminal drainage basin fifteen metres below sea level for the Lake Eyre Basin, one of the world’s largest inland drainage systems, covering approximately 1,400,000 square kilometres of Australia. In Queensland, the Mulligan and Diamantina watercourses drain across into the Warburton-Macumba and Kallacoopah creek systems into Lake Eyre. Water from peak monsoonal rains flow south through the Thompson and Barcoo rivers in Queensland becoming the Cooper Creek system into South Australia. In a characteristically arid environment, episodic flooding occurs through a complex myriad of lakes and waterholes along the Cooper at times sufficiently to partly or fully fill the water’s final destination in Lake Eyre. Terminal points along the Cooper, where silt is deposited, are found at Barioola, Coongie, Lake Hope/Perigundi, and Lake Eyre. The gradual gradient of the Cooper in a southerly direction is 10 inches to the mile, with shallow flooding over a wide area. The system is characterized by a lack of intervention in the form of dams, weirs or other man made structures. During the 1930s there was the Bradfield Scheme to divert additional eastern rivers in to the area, but it was discredited by Cecil Madigan and Sir Douglas Mawson who pointed out that the scheme would fail because of evaporation rates of large bodies of shallow water. Early seismic shot lines, which disturbed the gradual gradient, affected natural flow. Like Lake Eyre, other salt lakes in the region; namely Kanuka, Palankarinna, Ngapakaldi, Blanche, Callabonna and Frome, are usually dry.

When the Cooper carries water, its course does not have a uniform flow pattern. For hundreds of kilometres coming down through south-western Queensland, its flow is divided into dozens or even hundreds of braided channels, in places spreading out across level flood plains with no perceptible channels at all. This is the Channel Country, lush with

grass after rain, and legendary cattle fattening land. But its shallow channels mean that the water holes are ephemeral, evaporating rapidly after flow ceases. Then for a distance of about sixty kilometres from Nappa Merrie down to Innamincka, the Cooper flows between rocky hills and gathers itself into a single deep channel. The implications of this 'Innamincka choke' are twofold, first in providing the most convenient crossing place for hundreds of kilometres around, and second in creating deep permanent waterholes which have shaped thousands of years of Aboriginal occupation and 130 years of pastoral settlement. The Diamantina also has a similar pattern, narrowing down to just two channels at Birdsville, whose location was also determined by its convenient crossing place and reliable water source.

Downstream from Innamincka the Cooper branches again, and the northern outflow of the north-west branch episodically spreads out into a complex series of freshwater shallow lakes known as the Coongie Lakes. Sequential flooding through the major water bodies of the Coongie Lake system provides vast ephemeral floodplain areas abundant in waterbirds, fish, frogs, macroinvertebrates, zooplankton and phytoplankton. The landscape in an intricate complex of floodplain and dune fields the latter running 12-20 degrees west of north unless interrupted by the incidence of floodplains. Dryland and wetland habitats occur as floods and dry spells succeed each other. Both terrestrial and aquatic environments within the Coongie Lakes support complex and diverse flora and fauna. The concentration of birds in the Coongie Lakes area when water is abundant is spectacular, with over 70 species of birds recorded. Along the permanent Kudriemitchie waterhole are found eight species of frogs whose greatest activity (and noise) occurs when summer torrential rains fall in the region.

The Cooper Creek floodplain and part of the sandy country of the Kanowana Block between the two tracks form part of the Coongie Lakes Wetland, listed under the Ramsar Convention for Wetlands of International Importance. There are a number of vulnerable native species in the region, including the Kowari, a medium sized mammal weighing up to 120 grams, the Kultarr *(Antechinomys laniger)* a mouse sized carnivore, the Ooari or Fawn Hopping Mouse *(Notomys cervinus),* the Grey Grass Wren (*Amytornis goyderi)* and Mount Gason Wattle *(Acacia pickardii).*

The sandy deserts, typified by the Strzelecki and Simpson dune fields, provide sections of the two tracks with a challenging experience for the traveller. In fact both tracks have moved in response to the movement of the sand dune areas. Tales of sandstorms that last for days are frequent along both tracks, when vehicle and beast are buried and visibility is reduced to zero.

Climate

The climate is characteristic of the central Australian desert. At Birdsville Police Station and Moomba Airport, the weather records over the past twenty years show nearly-identical maximum summer temperatures of about 49.5˚C, and minimum winter temperatures of about minus 1.5˚C. The entire region has an average annual rainfall below 150mm, or six inches, making it one of the driest regions on earth. By comparison, average annual evaporation is more than 3,000mm, so all surface water in the region is extremely ephemeral. The average rainfall is spread throughout the year, because the region can receive winter rain from the weather systems of the Southern Ocean coast, but is far

enough north to receive summer rain from monsoonal depressions coming down from the tropics.

However, average rainfall is almost irrelevant in this region, because the whole period of European occupation has been characterised by marked variations in rainfall. These occur in cycles, not regular enough to permit prediction, but frequently following patterns in which there may be from say three to eight consecutive years of abundant rain, followed by a similar period of devastating drought. The region often sees huge floods, and other years in which almost no rain falls at all. The failure of the rain usually led to huge stock losses; on Kanowana station in 1897, only half an inch (12mm) of rain was recorded in the course of the year. At the end of the year, the manager reported that about 15,000 cattle had died of starvation. (Cooper 1965, p. 48)

Much of the region's water comes from rain which falls far away. The Diamantina and Cooper systems rise in higher rainfall areas of north-west and central Queensland, and these unpredictable long-distance seasonal flows provide most of the water that enters the region and fills the overflow lakes. Exceptional floods like those of 1949 and 1974 usually occur when tropical cyclones or rain depressions inundate the Queensland catchments, although on the flat terrain the resulting flood is a leisurely event, taking weeks to work its way down the channels.

These fluctuations in rainfall have been the principal determinant of the fortunes of grazing industry, the major form of economic activity in the region for most of the period since European occupation. The economic implications of the fluctuations are dramatic: in good seasons there is good feed and water over almost all of the region; in bad seasons there is almost no feed or water at all. Great droughts have occurred at intervals averaging roughly twenty years: in the 1840s, 1860s and 1880s, at the turn of the twentieth century, during the First World War, the late 1920s and the Second World War.

For a century these climatic variations were incomprehensible, but in recent decades meteorologists have achieved some understanding of Australia's climatic extremes, after recognising how they relate to events in neighbouring parts of the world. These cycles relate to patterns of air circulation across the South Pacific, driven by ocean surface temperatures. In what we regard as a normal year, vigorous circulation from the Pacific drives humid air over Australia, and rainfall is high. In some years for reasons unknown there occurs a phenomenon called *El Nino* in which eastern Pacific waters become warmer, the trade winds lose energy, and Australia and South-east Asia experience drought. When established, this pattern usually persists for a few years. (Colls & Whittaker 1990, pp. 77-79) While this Southern Oscillation is still only partially understood, it sheds some light on the mystifying cycles of prosperity and disaster which shaped the pastoral industry throughout most of Australia.

Vegetation

Lacking high mountains and far from the sea, with its low, erratic and non-seasonal rainfall, the north-east region supports only a scattered and intermittent plant cover; meagre vegetation is the norm over relatively large areas. One recent study identified four vegetation habitats which characterise most of the region: dunefield, floodplain, gibber plain and salt lake. (Wiltshire & Schmidt 1997, pp. 3-4) The vegetation however, has

undoubtedly changed since European settlement. Once some areas of the region were covered by mulga scrub, but this has been much reduced by a century of rabbit infestation. (Gee 2000) Large trees, usually eucalypts and acacias, are found only along major creek lines: river red gum (*Eucalyptus camadulensis*) beside the permanent waterholes of Cooper Creek, and coolibahs (*Eucalyptus coolibah*) beside creek channels and on floodplains everywhere in the region, even forming areas of scrubland around the Coongie lakes. In the Channel country, outwash areas regularly inundated with floods from the high rainfall country of northern Queensland support ephemeral mixed grasses, saltbush, nitrebush, coolibahs and a wide range of herbaceous species. Polygonum grows in dense thickets along waterholes and flood channels.

Away from the creek channels, over most of the land there are no trees, sparse acacia and other scrubby bushes forming the only vegetation above ankle height. Canegrass and spinifex grow in the sand dune country. For most of the year the gibber plains are completely bare of vegetation. Indeed, much of the region has little visible vegetation, although after rain most areas will be covered briefly in opportunistic plants, some of them, like Sturt's Desert Pea, providing a vivid display of flowers.

Over most of the country, vegetation comes and goes with the rainfall fluctuations, causing dramatic change in the appearance of the land. Sturt described the utterly bare landscape of the north-east in horrified language during the drought of the mid-1840s:

> We had penetrated to a point where water and feed had both failed .... From the summit of a sandy undulation close upon our right, we saw that the ridges extended northwards in parallel lines beyond the range of vision, and appeared as if interminable. To the eastward and westward they succeeded each other like the waves of the sea .... my companion involuntarily uttered an exclamation of amazement when he first glanced his eye over it. 'Good Heavens', said he, 'did ever man see such country?' (Sturt 1849. pp. 262-63)

A hundred years later, George Farwell visited the same landscape when it was flourishing and green during the great inundation of Lake Eyre, and described it as: 'a flower garden - mile upon mile of yellow, purple, green luxuriance.' (Farwell 1949, p. 79) These extreme and unpredictable changes have dominated all aspects of life in the north-east for the last 150 years, and probably much longer.

Historic Theme 2.1: Living as Australia's Earliest Inhabitants

The indigenous peoples of the north east of South Australia were made up of a network of fourteen or so tribes with complex and intricate kinships identified through common languages in the Lake Eyre Basin and adjoining areas. Tribal areas were strictly observed in terms of hunting but the boundaries of each tribal area were not clearly delineated and were sometimes shared for ritual and foraging activities, subject to protocols. In the top end of the state, the Yawarawarrka and Ngamini occupied the areas north of the Cooper Creek, and the Yadruwantha around Innamincka and south of the town. The Strzelecki Track traverses territory once occupied by the Yadruwantha, Wadikali, Maljamngapa and Yadliyawara peoples. (Hercus 1990, p. 152) To the north of the Yadliyawara, the Adnjamathanha and Pirlatapa occupied the areas west and north of Lake Frome, while

further to the west a number of tribes; the Kuyani, Dieri, Tirari, Arabana and Wangkangurru occupied the areas around Lake Torrens and Lake Eyre.

Luise Hercus describes how the indigenous people who lived in the deserts belonged to a number of sub-groups of linguistic groups of the 'big language family' covering most of Australia, Pama Nyungan. The tribes lived in a matrilineal moiety system, in which there was no desert or wasteland, with everything in their environment 'belonged' both in custom and mythology of every day life. Traditional life was lived in a landscape that identified people closely with geographical features, plants and native animals. Hercus explains:

> The expression 'History Time' was used in the north east deserts for the concept of 'Dreamtime'. The Ancestors of the History Time are associated with prominent features of the landscape, they traversed the land in their travels and various happenings on these journey s are reflected in the landscape. This however cannot be viewed simplistically. There is not a one to one relationship between the myth and the land: one single myth may refer to two different areas, and one single prominent place may have a number of myths associated with it. Some Ancestors are major Cult Heroes, they travel afar and their adventures are celebrated in long song cycles and ritual, often in more than one language. Thus the Urumbula describes the return journey of Malbunga, the Native Cat Ancestor and his group from Port Augusta to Alice Springs. This song cycle is entirely in Aranda. Each group through whose territory the myth passed, had its own section, and there would be great meetings where the whole cycle would be performed. (Strehlow 1970) Similarly the Mindiri Emu ritual and song cycle united all the people from the Wadrawadrinna Waterhole southwest of Innamincka as far as the Lower Cooper. A Duck Egg cycle belonged to all the Cooper people including those further up on the Wilson River. A Wangkumara man, the late George McDermott, could still 'call all the country', he could intone all the names of the sites for this cycle, which formed part of an increase ritual. (Hercus 1990, p. 155)

The Mound Springs were obviously a valuable resource to indigenous people in the region. Before the arrival of Europeans in the mid-nineteenth century the land supported a small population of people whose way of life depended on the mound springs and the waterholes, and whose mythology reflected the importance of these places. Their ancestors had lived in the land when it received much more rain and was far more fertile, covered in savannah grasslands supporting the Australian megafauna, large grazing marsupials up to the size of cattle. Like the ancient mound springs, these animals were extinct long before Europeans arrived, and both the climate and landscape had changed.

In the Simpson Desert, the Wangkangurru lived without permanent surface water. They survived by ranging across the swamps and claypans after rain and were able to prolong surface water supply by building dams across the deeper claypans to retain water. When this water ran out, they camped near native wells that provided water of varying quality, eating small marsupials and other animals:

> We had meat and we were satisfied. We weren't really worrying about food, not like today when people eat every five minutes. We had plenty of water. There were a lot

> of humpies there and we all got water from the well, we had a big camp there. (Hercus 1990, p.154)

We now know that the Aboriginal population seen by the earliest European travellers in the area from the 1840s onward was already severely depleted by a severe wave of smallpox which had swept through eastern Australia before Europeans entered much of the region, perhaps in about 1830. (Campbell 2002, pp. 125-135)

The nature of the land and its climate meant that the places in the region where people can live for extended periods are extremely restricted; essentially the few semi-permanent water holes in the major creeks, and the mound springs. This rule - geographical determinism in its purest form - applied to everyone, ensuring that the coming European settlement of the region would see a closer association between Aboriginal and European people than was the case in most other parts of Australia.

Historic Theme 3.3: Surveying the Continent

The Explorers: South Australia

The formal occupation of the South Australian mainland by Europeans began with the foundation of Adelaide and the proclamation of the Province in December 1836. It was a free enterprise settlement; established under a Royal Order-in-Council and managed by a Board of Colonisation Commissioners to a utopian plan drawn up Edward Wakefield. In some ways it had more in common with seventeenth century Massachusetts or Virginia than with the other Australian colonies with their convicts and soldiers. At the time the new colony was proclaimed, all that was known of South Australia was the coastline charted by Flinders and Baudin in 1802, combined with Charles Sturt's map of the course of the River Murray in 1830, but the appointment of Colonel George Gawler as Governor in 1838 commenced a period of land exploration as the colonial administration sought to learn more about the interior. The pattern of exploration in the eastern colonies had already been established by New South Wales Surveyor-General Major Thomas Mitchell as a series of military-style expeditions in search of watercourses and grazing land. Gawler, a former Indian Army officer and personal friend of Sturt, applied the same principles to the exploration of South Australia. The principal object of exploration was to find good sheep grazing land, for wool production was the most profitable industry in Australia, and one of the best investments possible.

The first inland explorer to be sent north by the new regime was Edward Eyre. In May 1839 he set out from Adelaide and travelled up Spencer Gulf to Mount Arden, the northern-most feature in South Australia named by Flinders thirty-seven years before. (Feeken & Spate 1970, p. 128) That expedition was only a small step into the outback, but was the forerunner of many more. In 1840, Eyre was again sent north by the Northern Exploring Committee, a syndicate of hopeful pastoralists in search of grazing land. He pushed further north past the Flinders Ranges and found a chain of salt lakes - Torrens, Eyre, Blanche, Callabonna and Frome - which he believed to form an impassable obstacle of one continuous horseshoe lake encircling the northern Flinders, a mistake which was to persist for eighteen years. It was a very dry year, and Eyre reported the land inside the horseshoe was a 'dreary waste'. Standing on a small hill near Lake Blanche and looking

north over the Cobbler sandhills, he named his viewpoint Mount Hopeless to sum up what he thought of the region's prospects.

Eyre was followed in 1844 by Sturt, whose aim was to reach the centre of the continent. He travelled a long way east of Eyre's lakes, up the Murray and Darling river system, well into New South Wales. Heading north across the desert in the summer of 1844-45, his expedition was trapped at a waterhole he called Depot Glen until the winter rains came. Then in a series of expeditions northward in the second half of 1845, Sturt first found the Strzelecki Creek - which he named after his colleague, Polish scientist and explorer Paul Edmond de Strzelecki - and the main watercourses feeding Lake Eyre: Cooper Creek, Eyre Creek and the Georgina River. Turned back by the sand dunes of the Simpson Desert, Sturt's party had managed to get much further north than Eyre, but he too returned disillusioned to reinforce Eyre's bleak reports of impassable deserts and country too arid for grazing. In fact Sturt had found the strategic water resources of the region, the permanent waterholes of the Cooper and Strzelecki creeks, but two more decades would elapse before their significance was fully realised. (Feeken, Feeken & Spate 1970; Sturt 1849) No-one had known what to expect in the interior of South Australia, but there were hopes of great rivers and fertile savannah like those in parts of the eastern colonies. There was little to show for ten years of exploration but a crushing sense of disappointment.

There was a pause in the northern exploration program, partly because of these disillusionments, but also because demand for pastoral land was being met from the known land further south. Graziers had been moving north in the footsteps of Eyre from 1839 onward, but there were limits to how fast they could move. One was the pace of government surveys, for orderly land tenure was an important principle of the Wakefield Plan, which frowned on leasehold and encouraged land purchase. Before graziers could buy land in South Australia, they had to wait for surveys to be completed, and these tended to proceed slowly outward in bureaucratic order. In 1839 Anlaby on the Light River - now only an hour's drive from Adelaide - was the frontier of northern settlement, and the surveys crept slowly north as far as the Clare district over the next two years.

The danger with this methodical process was that impatient graziers might simply drive their flocks out beyond the surveys, and occupy outside land without legal entitlement. This practice of 'squatting' was common in New South Wales, and there it led to disputes over land ownership, as well as depriving the colony of revenue. Therefore in 1842 the Legislative Council made the first break from Wakefield's land tenure principles, passing *An Act to Protect the Waste Lands of the Crown from Encroachment, Intrusion and Trespass*. This created Occupation Licences to give pastoralists annual renewable tenure to an area of land which was identified by a system of sight-lines between landmarks rather than a formal survey. (Love 1986, p. 4) This was a rough-and-ready compromise, and a departure from the Wakefield plan, but at least it served notice on the South Australian squatters that their tenure was only temporary, allowed a record to be kept of who was occupying the land, and brought in some licence fees. The Occupation Licences of 1842 accelerated the pace of pastoral settlement. In the four years from 1843 to 1846 the next wave of pastoralists took up much of the better country as far as Wirrabara and Pekina in the southern Flinders Ranges.

The graziers had reached the limit of well-watered land, and were on the verge of the arid country which had received unanimously discouraging reports from all Europeans who

had ever seen it. The problem for pastoralists was that the risks of grazing in the arid lands were so great that they would need a long period to recoup their establishment costs. They were beginning to understand the variability of the seasons, and realised that to obtain and conserve water on the northern runs, they had to invest in wells, tanks, troughs and fencing. Annual leases did not provide sufficient incentive for capital expenditure on this scale.

For ten years, pastoral tenure had been on an annual licence basis, then in 1851 there was a second major revision of pastoral land policy. The *Waste Lands Act* replaced Occupation Licences with Pastoral Leases of fourteen years duration, a system which was to become standard practice in most of the Australian colonies for many decades. This greatly improved the graziers' security of tenure, and reduced some of the risks of their enterprise. An added attraction was an incentive scheme whereby the discoverer of new grazing land received first option to lease it. (Gee 2000, p. 7) This naturally had the effect of blurring the boundary between explorers and graziers. Encouraged by a run of good seasons in the early 1850s, there was a second wave of pastoral expansion into the marginal lands of the Flinders Ranges, to Aroona, Arkaba, Wilpena and Oraparinna. In 1854 the government established Port Augusta at the head of Spencer Gulf to serve the northern runs. By now the frontier of settlement was 400km north of Adelaide, and was still moving north, reaching Beltana in 1854 and Mount Chambers in 1857. The managers of these northern runs made an important discovery when they learned the value of saltbush as stock feed; Eyre, in ruling out the northern plains for grazing, had assumed it was inedible. This improved the outlook for raising healthy sheep in arid conditions, but stock watering and the location of homesteads were still dependent on the discovery of a permanent waterhole in a creek bed.

The Breakthrough of 1858

The 1850s were a time of dramatic pastoral expansion, for several completely independent reasons. First, the seasons were good; the decade saw one of the high-rainfall cycles and South Australia was blessed by abundant water and grass for year after year. Second, the price of wool was high in London, and the business of sheep grazing had never been more profitable. Third the advent of fourteen year Pastoral Leases provided the security of tenure graziers needed to run the risks of taking up outside land. And fourth was the goldrush era providing a sudden increase in Australia's wealth, so the banks could offer abundant finance for grazing ventures.

An expedition in 1856 was to have a profound effect on the future of the South Australian pastoral industry. It was a very good season, and engineer Benjamin Babbage rode over the well-grassed plains north of the Flinders Ranges. He was searching for gold rather than pastoral land, but his report was in glowing contrast to Eyre's account of a 'dreary waste' in the 1840s. Only a few miles from Eyre's Mount Hopeless south-west of Lake Blanche, Babbage discovered two long permanent waterholes in the MacDonnell River which he named Blanchewater and Saint Marys Pool. His observations also led him to believe he could find a way through the impassable 'horseshoe'. A place as attractive as the MacDonnell River was quickly occupied, and in February 1858 Blanchewater Run was taken up by John Baker. (Newland 1960-61) The frontier was now 600km north of Adelaide. Only a few months later Augustus Gregory arrived from Queensland down the Cooper and Strzelecki creeks, having ridden without difficulty through the eastern side of

the 'horseshoe', and the true nature of the lake system became clear. Gregory's first sight of European settlement since leaving the Darling Downs was at Blanchewater homestead. (Feeken & Spate 1970)

The contrasting experiences of the explorers of the 1840s and the 1850s led some later writers to speculate whether Eyre and Sturt were incompetent, or whether Babbage and Gregory were simply lucky. Neither theory is true; everything we know about their expeditions is explained by the effects of the Southern Oscillation. Gregory could not have made it through alive from Queensland in the dry 1840s; on the other hand Sturt would probably have found the Cooper Basin a green paradise in the wet 1850s. Even at the time, thoughtful observers realised that central Australia was obviously subject to markedly different rainfall patterns in different seasons.

Babbage's 1858 expedition was to have another important outcome; he and Police Commissioner Peter Warburton independently saw something unexpected near Lake Eyre South in October 1858: 'some bright green mounds rising out of a saltpan' which 'proved to be a large collection of fine fresh-water springs'. (Harris 1981, p. 26) They had discovered the Mound Springs.

Early the following year, John McDouall Stuart led an expedition north to investigate the new discoveries. He found more springs further east, including Herrgott Springs which he named after his botanist, Joseph Herrgott, and a permanent waterhole in what he called Chambers Creek, but which was soon re-named Stuart Creek. Within only a few months, both the curving north-west trend of the Mound Springs complex and their significance for European settlement had become clear. The springs now became the focus for a new generation of pastoral runs registered with the speed and excitement usually associated with a gold rush. Within two years of Stuart's return in 1859, graziers had taken up Stuart Creek, Finniss Springs, Mount Hamilton, Mount Margaret and Strangways Springs across the south of Lake Eyre. As a result of the events of 1858, the pastoral industry had broken outside the psychological barrier of Eyre's 'horseshoe', the frontier of settlement was now 800km from Adelaide, and a new age in the European occupation of central Australia had commenced.

To the east of Lake Eyre, the Mound Springs had little influence on settlement, for they faded out north of Herrgott Springs. In 1857, government surveyor Samuel Parry was sent to do a triangulation survey of the northern Flinders Ranges to facilitate the registration of pastoral leases. Parry continued on past Herrgott Springs, and by 1858 had busily triangulated his way as far north as Etadunna, well outside the 'horseshoe'. The stone piles he built as trig markers can still be seen throughout the district today. Encouraged by the continuing good seasons, Hack, McDonald and others all set off on private expeditions further north, which resulted in Thomas Elder and Samuel Stuckey leasing the Lake Hope run in 1859, 150km north of Blanchewater. The pastoral occupation of the Birdsville and Strzelecki Tracks region had begun.

The Explorers: Queensland

The coast of Queensland was known very early in Australian history, commencing with the voyages of Dutch explorers Willem Jansz in 1606 and Abel Tasman in 1644, followed long after by Cook in 1770 and Flinders in 1802. From 1788 to 1859, Queensland was the

northern part of the colony of New South Wales. Although a convict settlement had been established at Moreton Bay (now Brisbane) from 1824 until 1842, there was very little inland exploration and no significant free settlement there until the 1840s, when a few graziers began to occupy the Darling Downs. In fact, very little had been done to explore the inland of New South Wales until the 1820s and 1830s, when a series of expeditions by John Oxley, Alan Cunningham, Charles Sturt and Thomas Mitchell traced the river systems onto the western plains and into what would become South Australia and Victoria. Little was known about the country further north, but there was a hint of good grazing country in 1841, when hydrographer John Stokes in the *Beagle* charted the coast of the Gulf of Carpentaria, naming the Albert and Flinders river mouths, and exploring a short distance inland, called the well-grassed land between them 'The Plains of Promise'. The name sat on the map of Australia for the next twenty years, a beacon to graziers in the south.

The first expedition to penetrate far into the interior of what is now Queensland was that of Ludwig Leichhardt, who set off from the Darling Downs with seven others in 1844 to travel to the Port Essington military settlement on the north coast of what is now the Northern Territory. His party disappeared for eighteen months and were presumed dead, until at the end of 1845 they walked into Port Essington, having travelled diagonally across a quarter of Australia, following the great east coast river systems, and accurately mapping grazing land, geology and vegetation all the way, with the death of one member of the party to an Aboriginal attack. If Leichhardt had retired then, he would be remembered as a very successful explorer, but he wanted to top that achievement by crossing Australia from east to west. In 1848 he headed west from the Darling Downs again leading a party of seven, this time to disappear forever.

In 1846, Mitchell led an expedition north from the Darling River into the centre of Queensland, the first European party to see the grassy blacksoil plains. He discovered the tangled river system flowing in all directions from the central tablelands, and followed one of the major rivers west and then northwest through lush green pastoral country before turning back. Mitchell must have chanced on the country after recent local rain. He described it as 'the best part of the largest island in the world', and was convinced he had discovered a river which flowed to the north coast of Australia, perhaps providing a transport route across the continent. In his excitement he named it the Victoria, apparently believing it to be the head of the great river mouth in north-western Australia. which Stokes had named in 1839.

Like Eyre's horseshoe lake, Mitchell's Victoria River was another of the great delusions of Australian exploration. The following year his assistant Edmund Kennedy led another official expedition into western Queensland to follow the Victoria to its mouth. From the point where Mitchell had turned back, the river swung immediately to the southwest, joined another large river which Kennedy named the Thomson, and split into braided channels continuing on in the direction of Lake Eyre. Approaching the South Australian border, Kennedy realised he was heading directly for the desolate country Sturt had mapped two years before, and that the river he was following must be the same one that Sturt had named Cooper Creek. The river that Mitchell had called a 'paradise on earth' was part of Sturt's 'earthly hell'. Turning back to Sydney, Kennedy gave Mitchell's 'Victoria' its Aboriginal name Barcoo. (Feeken & Spate 1970; Beale 1970, pp. 90-112)

An expedition in 1856 showed that it was possible to travel long distances across inland Australia without incident. Augustus Gregory, a Western Australian surveyor, led a party from Stokes' Victoria River in the north-west of Western Australia right across northern Australia and then followed Leichhardt's tracks to Brisbane, droving stock all the way. Two years later, he was commissioned by the New South Wales government to trace the missing Leichhardt expedition. He followed Leichhardt's path west from the Darling Downs to the Barcoo, then, finding too little feed to proceed further west, he calmly followed in Kennedy's and Sturt's footsteps down the Cooper and Strzelecki creeks to South Australia, returning home by sea from Adelaide. On 26 June 1858 Gregory astonished the manager at the newly-established Blanchewater homestead by appearing out of the trackless north-east deserts. He had exploded both Eyre's 'horseshoe' and Mitchell's 'Victoria' myths, found that Kennedy's Barcoo was indeed the Cooper, and established the land route between Queensland and South Australia. He proposed the name Cooper River for the watercourse he had followed, but that logical suggestion was ignored. Gregory was arguably the most successful European explorer in Australian history, crossing the continent from west to east and then north to south without fuss or casualties. Because of his quiet success, he is largely unknown, as Duncan Waterson has commented on his achievement: 'Paradoxically it was too successful to be recognised as one of the most significant journeys led by one of the few unquestionably great Australian explorers.' (Feeken & Spate 1970; Waterson 1972, p. 294)

Queensland remained part of the colony of New South Wales until 1859. The New South Wales administration was never very interested in settling the north. It was too far away, too expensive in its infrastructure demands of roads, bridges, wharves and court houses, and it was unnecessary to go to all that trouble while there was still copious grazing land available closer to Sydney. In the New South Wales land system, pastoral leases could only be taken up in those districts which had been declared open. Northern pastoral lands were opened to leasehold at a leisurely pace, and only a few districts in the south-east of Queensland were gazetted for pastoral settlement by the Sydney administration.

The situation changed dramatically when Queensland became a separate colony at the end of 1859. The new Brisbane administration was keen to increase the colony's population and generate income by promoting export industries. The Treasury was also short of cash, and one of the quickest ways for a nineteenth century government to raise revenue was to sell or lease land. In 1860 the Queensland *Lands Act* created 14-year pastoral leases as the standard form of grazing tenure. Gregory was snapped up as the new colony's Surveyor-General. The following year the government, led by grazier Robert Herbert, resumed the practice of opening up land for leasehold in a series of declared districts, but at a much faster rate.

The Kennedy, Maranoa and Mitchell districts were opened in 1861, the Flinders district in the north-west was opened in 1863, and finally in 1864 the Burke and Cook districts were opened, extending the pastoral lands all the way to the north coast. The government threw open the entire west and north of the colony to pastoralists within five years of separate government, in the process creating an extraordinary land rush. About an eighth of the Australian continent was opened to pastoral leases in the colony's first five years, and a great wave of pastoral settlement swept across western and northern Queensland in the early 1860s.

The black soil plains were opened up by the declaration of the Mitchell district for settlement on 1 October 1861, and land was soon taken up as cattle and sheep were driven up from the south. Bowen Downs, Mount Cornish, Enniskillen and Nive Downs stations were all occupied in 1862, pushing pastoral settlement west to the headwaters of Cooper Creek.. The earliest towns in the west, Tambo, Blackall and Aramac, grew up soon after European settlement as commercial centres to service the pastoral industry.

These events were hastened by dramatically increased knowledge of western Queensland, provided by a series of expeditions in 1860-62, coinciding with the release of pastoral lands for leasehold. But these exploring expeditions were not initiated in Queensland, and to understand them we need to return to what was happening in Adelaide and Melbourne.

Across the Continent

The European expeditions in South Australia up to 1858 had been a series of forays originating in Adelaide and extending further and further north into the interior. By that year there was emerging some understanding of the terrain and climate, and a fairly sophisticated awareness of the inland water resources which could sustain exploration even further north. These included the exposure of the 'horseshoe' myth, first tentatively by Babbage in 1856 and then decisively by Gregory in 1858, the Cooper and Strzelecki waterholes discovered by Sturt in 1845, the Mound Springs independently discovered by Warburton and Babbage in 1858, and Stuart Creek the same year.

These developments in geographical knowledge, combined with increased post-goldrush prosperity and a growing spirit of inter-colonial rivalry, sparked off an epic era in Australian exploration. In the space of a few months in 1860, rival expeditions set out northward from Adelaide and Melbourne. These were not simply going out like earlier explorers to push the frontier of settlement a little further into unknown territory; the aim of both was far more ambitious: to cross the continent from the Southern Ocean to the north coast and return. To put the scope of this ambition into perspective, the northernmost expeditions so far, those of Sturt and Warburton, had travelled only about a third of the distance across the continent, and both had been turned back by desert.

The results of these expeditions commencing in 1860 were complex and partly unexpected. The one from Adelaide to the west of Lake Eyre led by Stuart was eventually successful, and brought about pastoral settlement throughout the Mound Springs region, the annexation of the Northern Territory, and ultimately the construction of a telegraph line and a railway. The one from Melbourne to the east of Lake Eyre led by Burke was a disastrous failure, but the reports of the Cooper area and other country traversed by the search expeditions led to pastoral settlement throughout western Queensland, north-west New South Wales and the Cooper basin. From 1861 the European settlement of the South Australian interior diverged along the separate paths established by these two expeditions, and the histories of the Oodnadatta region and the Cooper region went different ways.

John McDouall Stuart was a surveyor by training, and had been a member of Sturt's journey of 1844-46, where despite having been only five years in the colony, he so impressed the veteran army officer Sturt with his bush skills that he was promoted to

second-in-command. Stuart returned to private surveying in Adelaide until 1858, when he was commissioned by a syndicate of graziers to lead an expedition further north beyond Babbage and Warburton's discoveries. His first expedition in 1858 found Stuart Creek, which was to become his base for future expeditions. When he set out again in 1859 he knew of the discovery of the Mound Springs, which changed everything. He found more, including Herrgott Springs, explored the country west of Lake Eyre, then followed the chain of springs north nearly to the site of Oodnadatta, establishing the tactics needed to cross the continent.

In 1859 the South Australian government offered a reward of £2,000 for the first successful crossing to the north coast of Australia. Of course, Gregory had already crossed the continent, but his intelligent use of the watercourses was not what the South Australian government had in mind; their territorial ambitions demanded a confrontation with the unknown desert. Charles Todd, the Director of Telegraphs, had in mind a route for a transcontinental telegraph which would link with an undersea cable to India and Britain. In March 1860 Stuart's fourth expedition, and the first to attempt a transcontinental crossing, left Stuart Creek. They made rapid progress north to the end of the Mound Springs system, across the MacDonnell Ranges, and all the way to Tennant Creek, about two-thirds of the way to the north coast before they were turned back. The fifth expedition was an overt race against the Victorians, for Stuart knew that Burke and Wills had set out in August 1860. In January 1861 he again travelled north the 2,000 kilometres to Tennant Creek and beyond, but again failed to break through to the north coast, and again returned sick and blind in September. Only a month later, in October 1861, Stuart tried again, taking ten men and seventy horses. In June 1862 they broke through to the Roper River, and on 24 July Stuart washed his face in the Arafura Sea east of where Darwin now stands. He had established the definitive route to the north coast. Stuart had never had a death on six expeditions, an enviable record among Australian explorers, but his own health was ruined by his experiences. He retired to England and was dead less than three years after his triumphal return to Adelaide. (Feeken & Spate 1970; Kinhill Stearns 1984; Stuart 1863)

The Burke and Wills Expedition

On 20 August 1860, while Stuart was making his way back from Tennant Creek, the Victorian Exploring Expedition left Melbourne with the intention of crossing the continent to the Gulf of Carpentaria. It was the most lavishly equipped exploration party in Australian history to that time, with nineteen men, twenty-six camels, twenty-three horses and six wagons. The events of what is usually called the Burke and Wills expedition are well known, and need only be summarised briefly here, but the background and motives behind it have rarely been thoroughly scrutinised.

The Burke and Wills expedition was funded by the Exploration Committee of the Royal Society of Victoria, an interesting combination of scientific expertise, grazing interests and political influence. Scientific knowledge was stressed among its aims, and the membership of such eminent figures as botanist Ferdinand von Mueller gave the committee highly respectable credentials. However, the expedition's covert goal was to gather information about grazing land and other resources in the unclaimed strip of territory between South Australia and the Gulf of Carpentaria. The process of drawing colonial boundaries to 1860 had left a slab of land on the north coast of Australia, still

nominally part of New South Wales, which had very little interest in it. This land included Stokes' Plains of Promise. Both South Australia and Queensland had put in bids to the Secretary of State for the Colonies to claim the land, or to divide it between them. Victoria, although the wealthiest of all the colonies after a decade of gold rushes, was frustrated by being the only mainland colony with no adjacent unclaimed land for expansion. The real interests of the Exploration Committee can be seen in Burke's orders and the composition of the party: (a) it was to explore very specifically in the vacant corridor between 138˚ and 141˚ longitude, (b) it was to travel fast, and (c) it included no scientifically-qualified people whatever. Its aim was not scientific observation, but to pre-empt the other colonies' claims to the north coast land. (Murgatroyd 2002)

The expedition did reach the north coast, but in every other respect was a catastrophic failure, for two principal reasons. First, its leader, Police Superintendent Robert O'Hara Burke, was monumentally incompetent. He was a product of that heroic age of empire which believed that a gentleman of good breeding with a confident military manner and an impressive beard must make an effective leader. In fact, Burke was notorious among his troopers for being unable to find his way back to camp after a visit to town. Second, the strategy for the expedition - partly directed by the Exploration Committee and partly improvised by the impetuous Burke - was fundamentally flawed, for it involved taking a large well-equipped party and travelling quickly. These things were mutually exclusive, so to achieve quick results Burke split his party, effectively leaving most of it behind, not once but twice. When the expedition's vast resources were finally needed, they were hundreds of miles away.

The lumbering expedition had only reached Menindee on the Darling River by October, so most of their goods and animals were left there under the command of William Wright, with instructions to follow in the next few weeks. Burke and a smaller party travelled north to the country Sturt and Gregory had explored on the Cooper, arriving in mid-November. They were unsuccessful in finding any waterholes to take them further north, so Burke split the party again, choosing a site for a depot - their Camp 65 - on the bank of Bulloo Bulloo waterhole. They were at the furthest point known to Europeans, and Burke's plan involved heading north across the unknown interior at the height of summer. He left William Brahe in charge of the depot with three other men, and taking six camels and a horse, headed north on 16 December 1860 with William Wills the surveyor, John King the camel handler, and Charlie Gray, a burly sailor. Only King had any outback experience. There was confusion about Burke's objective, for he told Brahe that if the party ran short of food, they might head east looking for pastoral settlements in central Queensland. Brahe's instructions were to wait three months and then return to the Darling.

Brahe's party spent the summer at the depot. Wright and the wagons never arrived from the Darling. The Aborigines were friendly, but inclined to steal anything left lying around, so the explorers built a defensive stockade of saplings about 6m square in plan to protect the expedition's supplies, and called it Fort Wills. Brahe waited over four months, long after Burke's food supplies must have been exhausted and his own men were ill with scurvy, then decided Burke's party had gone to Queensland. He packed up the supplies and returned to Menindee as ordered. Before leaving the depot, Brahe buried a cache of food with a note, and blazed a coolibah tree 'DIG UNDER 40 FT W'. Someone also blazed on a branch nearby the dates of the party's stay there: 'DEC 6 1860 - APR 21 1861'. The day was Sunday 21 April 1861.

(There is debate about exactly what Brahe inscribed on the famous tree; 'DIG UNDER 40 FT W' is what John Conrick said he read on the tree when he took up the land in 1873, but the Melbourne Royal Commission evidence recorded the inscription as 'DIG 3 FT NW'. Other variations on these wordings have been recorded in published sources, and it is likely that Alfred Howitt later added to Brahe's inscription. The inscription is no longer legible, although the blaze in the tree bark can still be seen.)

Burke's party travelled nearly due north for eight weeks, and with amazing luck - for their bush skills were negligible - found intermittent water supplies which took them through the Coongie Lakes and the Diamantina Channel Country, over the rugged Selwyn Range and all the way to the north-flowing Flinders River. They were stopped by impassable mangroves before they saw the Gulf of Carpentaria, but on 10 February 1861 they reached tidal salt water and knew they had achieved the expedition's purpose. Now they had to get back to the Cooper in mid-summer. They were all weak, and had eaten more than two-thirds of their food.

The return was a nightmare struggle back along the same path, sick and exhausted, with their animals dying one by one. Gray was caught stealing flour and beaten by Burke. On 17 April Gray died near Coongie Lakes - the extent of the injuries he had received from Burke are open to question - and the others spent a day burying him. On the evening of 21 April the three survivors stumbled into Camp 65 and found it abandoned. They dug up Brahe's note and learned to their horror that he had left only a few hours before - the campfire ashes were still warm!

Burke's party left the following day, planning to make for Blanchewater station, which Burke called Mount Hopeless. They were apparently unable to find the Strzelecki channel which Gregory had followed south three years before, or failed to realise its significance, and headed further west. Turned back from their trek south by desert, Burke's party returned to Cooper Creek. The three survivors spent the next two months on the Cooper, living part of the time with Aboriginal groups. In another terrible irony, Brahe's party returned to check Camp 65 and left again, unaware that Burke and his party were only a few kilometres away. Burke and perhaps the others seem to have gone into emotional decline, consumed with irrational resentment at the failure of the expedition. Although starving, they abandoned the bodies of their last camels, and Burke died of malnutrition with his revolver in his hand beside a waterhole teeming with birdlife. He and Wills were both dead by late June, and only John King survived, living with Aborigines until Alfred Howitt's relief party arrived three months later. On 15 September 1861 Howitt's surveyor, Edwin Welch, was riding along the Cooper when he came upon an emaciated, filthy, naked man. 'Who in the name of wonder are you?' Welch asked King incredulously. (Murgatroyd 2002, p. 289) It was not the end to the Exploring Expedition that the Royal Society of Victoria had hoped for.

They had achieved one of the worst disasters in the history of Australian exploration. Not only Burke, Wills and Gray were dead; in all there were seven deaths on the expedition, from malnutrition and exhaustion. By comparison, 1848 had been the *annus horribilis* of Australian land exploration, when seven disappeared without trace on Leichhardt's attempt to cross the continent from east to west, and ten including Kennedy died on Cape

York Peninsula in an expedition which discovered little more than that it was very difficult to take drays through rainforest.

All Burke had achieved was to travel to a part of Australia already reached along more sensible routes by both Leichhardt and Gregory. The most important outcome of the catastrophe was a year of inspired exploration, as John McKinlay from South Australia, Alfred Howitt from Victoria, and Frederick Walker and William Landsborough from Queensland led four separate search expeditions - which were also unashamedly reconnoitering for grazing land - in the process comprehensively and successfully exploring many thousands of square kilometres of inland Queensland, reaching the Gulf of Carpentaria without difficulty, and without a single casualty. Among their finds was the other great Queensland river feeding Lake Eyre - and traditional Aboriginal trading route - at first rather dully named Mueller's Creek by McKinlay in honour of Ferdinand von Mueller, then exquisitely re-named the Diamantina River after the wife of the Queensland governor, the Contessa Diamantina Roma Bowen. The grazing resources of western Queensland and the Cooper basin were established beyond doubt by these expeditions, and in 1862 the Queensland administration pressed successfully to have their border shifted westward from 141° to 138° longitude. The following year South Australia was granted the Northern Territory, taking in all the country to the west of that line.

Victoria gained nothing. Perhaps if the Royal Society had chosen any of these four explorers as leaders of their 1860 Exploring Expedition - or Gregory, Stuart or Warburton - the Channel Country and Mount Isa Mines might today be part of Victoria. The Victorian government held a Royal Commission into the affair, which was a predictable exercise in allocating blame among the leaders of the expedition, most of whom were dead. The remains of Burke and Wills were brought back to Melbourne for a heroic funeral in January 1863. The death of Charlie Gray was mentioned only in passing at the Royal Commission, and his remains were left in the desert, the nature of his wounds perhaps too embarrassing for scrutiny. After all, he was not a gentleman.

Historic Theme 3.5: Developing Primary Production

The Early Pastoral Industry

Burke and Wills made a sensational news story, assisted by the scriptural overtones of their desert sufferings, betrayal by followers and sacrifice in the wilderness. By the time they were buried in 1863, every grazier in Australia must have read the newspaper reports of their travels, and the published accounts of Howitt, McKinlay and Landsborough. The waterholes of Cooper Creek, the Diamantina and the Coongie Lakes were household words throughout Australia. Not surprisingly, there was a new pastoral rush for the Cooper basin.

While the land had been made famous by Burke's death, no-one followed his route to it. Gregory had established how to reach the region - down the Cooper from Queensland, or up the Strzelecki from South Australia - and these two watercourses became the principal routes for droving stock into the region. The rush did not begin immediately, for the 1860s saw the commencement of another drought cycle, and the years 1864-66 were almost completely dry across the north. The graziers who had rushed to take up leases around Lake Eyre a few years earlier saw their investments devastated by what became known as

the Great Drought, although there would be greater ones in the future. The climate had been through a full Southern Oscillation cycle since the first explorers saw it, and now the country again looked as Eyre had described it: 'The optimism of the 'fifties was quite dispelled, and Eyre's description of the country as he saw it in 1840 was made manifest before everyone's eyes'. (Newland 1960-61, p. 18) Tens of thousands of stock died, and nearly all the northern runs, including the sadly-named Lake Hope, were abandoned for the rest of the 1860s.

The end of the drought was signalled by some epic feats of droving. The Moravian and Lutheran missionaries took up Kopperamanna and Killalpaninna on outflow lakes of the Cooper in 1866 and 1867; while their principal business was saving souls, they also stocked the land as grazing properties, and drove sheep up from the south as the drought was breaking. The Strzelecki stock route had first been used as a route from Queensland to South Australia by Gregory in 1858, but popularly, the title of ‘first’ is attributed to Harry Redford, a cattle duffer in 1870. To this time, pastoralists were still wary of the area because of the uncertainty of water supply during the 1860s drought. Redford put together a mob of 1,000 head of cattle belonging to the large Bowen Downs station in central Queensland. Instead of taking the stolen stock to the east coast, he decided to disappear south into the Channel Country to escape detection and walked the cattle down the Cooper and the Strzelecki watercourses to South Australia. He was lucky, travelling on the wave of a good season over country that for years had been inhospitable. At Blanchewater Station he sold the stock under an assumed name, and travelled on to Adelaide to catch a steamer to Melbourne. Unfortunately for Redford, the stolen stock included a conspicuous pedigreed white bull, which had received so much publicity that it was recognised even in South Australia. He was arrested in Victoria. Harry Redford’s exploits became an outback legend, especially when an admiring jury found him not guilty at the conclusion of his subsequent trial for cattle stealing, to the outrage of the presiding judge. (Tolcher 1996, p. 46). Today, a statue of the white bull stands in the main street of Aramac, near Bowen Downs. Rolf Boldrewood’s novel *Robbery Under Arms* is partly based on this incident, so the historical Harry Redford and the fictional Captain Starlight have become almost synonymous in the public mind. Redford's clandestine journey confirmed to graziers that in a good season the route was feasible for droving stock from the Cooper to markets in South Australia.

While Redford is the most famous of the early overlanders, he was not alone. A few months after Redford, George MacGillivray and an Aboriginal stockman named Jerry rode from near the Gulf of Carpentaria down to south-western Queensland in the summer of 1870-71. They became hopelessly lost and stumbled through the stony deserts east of the Diamantina for weeks, then emerged into the valley of Cooper Creek. MacGillivray wrote a newspaper article about his experience, contributing to the chorus singing the praises of the Cooper:

> The gum trees are the finest I have ever seen, the country on both sides being well suited to either sheep or cattle. What puzzled me afterwards was to find old settlements at the north of Lake Torrens on such miserable country, and such fine country on Cooper's Creek left vacant, where there is so much finely-grassed country, and to all appearance a never-failing supply of water. (Tolcher 1986, p. 47)

Ralph and John Milner began a famous journey from the Cooper with a less happy outcome. By Ralph Milner's own account, he had heard that the South Australian government had offered a reward of £2,000 for the first sheep to be driven overland to Darwin. They set out from Adelaide in 1863 intending to follow Stuart's route, were delayed by the Great Drought, and were still grazing their sheep around Bucaltaninna in 1868. They assembled a droving party of 14 with 25 dogs and 300 horses, and 4,000 (some accounts say 7,000) sheep, partly their own and others bought from the missionaries at Killalpaninna and Kopperamanna. While there, Ralph Milner's wife died and is buried at Killalpaninna mission. They left the Cooper in September 1870, travelling down to Herrgott Springs and along the Overland Telegraph survey. John Milner died when he was speared at Attack Creek in the Northern Territory. Ralph and his surviving party reached Darwin with 2,000 sheep in 1872 to learn that there was no reward; either it was only a rumour, or the offer had been withdrawn during their long journey! At least the sheep brought a good price from the telegraph contractors. (Pearce 1980; Litchfield 1983, p. 100; Deckert 2000)

With the return of good seasons, graziers began to move into the region. Debney and Woodford leased Mundowdna near Herrgott Springs and Etadunna further north. Thomas Elder made large investments in the area, taking up Manuwalkaninna run in 1868, buying Blanchewater and restocking Lake Hope by 1872, and taking up Monte Collina on the Strzelecki in 1873. These were to become the basis of the Beltana Pastoral Company's holdings. The construction of the Overland Telegraph Line probably helped settlement in the north-east. Constructed in 1870-72, the line ran north from Port Augusta to Herrgott Springs, then headed west along the Mound Springs, following Stuart's route to the new port at Palmerston (now Darwin) in the Northern Territory. While it did not pass through the Birdsville and Strzelecki Tracks region, it brought some government infrastructure, traffic and better communications to part of the north-east, and established Herrgott Springs as a regional administrative centre.

The Cooper attracted most interest among the graziers, and there was active competition for creek frontage to the deep waterholes of the Innamincka choke. Robert Bostock and John Conrick both moved stock onto properties beside superb Cooper waterholes in 1873, calling them Innamincka and Nappa Merrie respectively, and rode to the nearest Queensland Lands Office in Charleville to register their leases. Between them was Cullamurra, a block of land reserved by the South Australian government in 1867 for a mission to the Aborigines as an expression of gratitude for their treatment of Burke, Wills and King. But the missionaries for whom the land was intended had settled at Killalpaninna instead, so in 1875 it was leased to Edward Laughton, wholesale butcher of Port Adelaide. However, Laughton was nervous about whether his land was in South Australia or Queensland, and left the land unstocked until it was surveyed.

Further afield, runs were being taken up along the Strzelecki at Tinga Tingana in 1874, Clifton Hills and Pandie Pandie on either side of Goyder Lagoon in 1876, and in the far north-east at Cadelga in 1877 and Cordillo Downs in 1878. As the run of good seasons went on, Cowarie and Muloorina over near Lake Eyre were stocked, and Tirrawarra and Coongie in the Cooper lakes. In Queensland, Glengyle (now Roseberth) on the Diamantina was taken up in 1874 and Cacoory and Arrabury in 1877. In later years as the nature of the Channel Country became clear, it was the south-west of Queensland that attracted most attention from graziers; Sidney Kidman noted 'how the Queensland-South

Australia border fairly accurately marked the limit of good land.' (Bowen 1987, p. 73) In the Queensland tradition of naming grazing districts after explorers, the far south-west was called the South Gregory district. The commencement of leasing there seems never to have been officially gazetted, but after 1864 all of western Queensland was available for pastoral occupation. There was plenty of grazing land further east, so it was nine years before demand for land and good seasons combined to bring graziers to the Cooper.

The surveyors arrived in 1879, with William Barron working up from Parry's survey of the Flinders Ranges. Falling ill, he was replaced by August Poeppel, who stolidly worked on the Border Survey for several years, triangulating the line up to the northern border of South Australia at 26˚S latitude, then west and across the Simpson Desert. When Poeppel reached the Cooper, Bostock found to his disgust that he had been paying rent to the Queensland government for six years on land that was in South Australia! Unwilling to accept the more onerous South Australian lease conditions, he abandoned Innamincka, and it was taken up by William Campbell. Conrick must have been better at estimating longitude, for Nappa Merrie was just inside Queensland as he had believed. Conrick, Bostock and Campbell were all Victorians attracted by the reports of the Burke and Wills search expeditions. (Litchfield 1983; Pearce 1978 & 1980; Tolcher 1986)

What is apparent from all the explorers' and early pastoralists' diaries is that they were dependent on local Aboriginal knowledge for their water and feed. MacGillivray only survived his desert ride because of the bush skills of his companion Jerry. From the beginnings of pastoral settlement, there were Aboriginal people working in the industry. On some properties there was violent conflict, but on many others there was accommodation between graziers and traditional owners, as the conditions of grazing leases required. As homesteads were established near existing water sources, some Aborigines were absorbed into the running of the station. They were valued by the pastoralists for their knowledge of the land and its water and other resources.. Many Aborigines became expert at horseriding and were valued for their skill at working with cattle. It was common for Aboriginal family groups to live a semi-traditional life, staying at homesteads or outstations for part of the year, and travelling to visit family and take part in ceremonies at other times.

In the early years, both sheep and cattle were driven north. Elder and the majority of the graziers preferred to stock with sheep, and some of the early homesteads like Etadunna had large impressive woolsheds. There were several reasons for this, first the profitability of wool growing, widely recognised as one of the best investments possible in a country like Australia where land was cheap. Wool also had the advantage of being a durable commodity, not vulnerable to spoiling or deterioration on the long wagon trip to Port Augusta and the much longer sea trip to London. The principal alternative was grazing beef cattle, but this was much less attractive to land owners. There was simply not enough market for beef; before the advent of freezing in the 1880s, meat had to be eaten fresh, salted or canned. Canned and salted meats had a small market, but they were unattractive to consumers, subject to high spoilage rates, and made little profit. Fresh meat had to be driven to market and then fattened again before slaughtering, and there were simply not enough customers in the colony to provide a profitable market. (Farrer 1980)

On the other hand, cattle were tougher and less labour-intensive, and could defend themselves against dingoes. A few runs like Innamincka were grazing cattle from the outset, although in bad years the beef market became inaccessible because of drought on the stock routes, and the owners were reduced to slaughtering stock for the value of their tallow and hides. As time went on, most of the region’s grazing industry was to convert from wool to beef; by the time the Dog Fence was built across the continent in the twentieth century, the land north of the fence was almost exclusively cattle country. One effect of the change to beef was to reduce the region's population, as sheep required a lot more tending, and the stations that ran them employed many more shepherds and station hands.

The graziers took time to become accustomed to the arid region. In the early decades there was a tendency to stock the country when it was lush after rain, and then keep the stock on the land for too long as it dried out, with resultant over-grazing that damaged the vegetation and the soil. The Surveyor-General's Department, which regulated pastoral leases, introduced regulations governing stocking levels which many graziers considered too onerous, and the debate about over-stocking persisted for decades. But regardless of how well the graziers believed they were managing the land, they always tended to be over-optimistic, and every drought caught most of them with dying stock, and wind-blown sand drifting across what had been grazing paddocks a few months before.

The region's isolation made the colonial border almost irrelevant. From the adjacent Cooper Creek properties of Innamincka and Nappa Merrie, straddling the border, it was 600km to Port Augusta, the nearest port in South Australia, and twice that distance to Ipswich, the nearest port in Queensland. While the South Gregory graziers paid their annual rents in Charleville, they were economically part of South Australia, for that was the way their cattle and wool bales went to market.

Over time, the size of the grazing runs became steadily larger. Clifton Hills, Cordillo Downs, Innamincka and Nappa Merrie all began as small blocks surrounded by many competitors, but as time went on, because of better water resources or shrewder management, they survived where others failed, and gradually bought out the neighbours' land, growing until they dominated the surrounding district. The practices of large companies also accelerated this consolidation; the Beltana Pastoral Company added Cordillo Downs to its holdings and converted it to sheep grazing in the 1880s, over the next twenty years merging it with Cadelga and Haddon Downs to form one of the largest properties of the region. A generation later, Sidney Kidman bought up a sweep of properties along the Diamantina in Queensland and on down the Birdsville Track to Marree, converting them all to cattle grazing and centralising their management at a few homesteads.

Historic Theme 8.6.7: Running Missions to Australia's Indigenous People

Killalpaninna and Kopperamanna Missions

One unexpected outcome of the Burke and Wills disaster was the establishment of evangelical Christian missions among the Aboriginal people of the north-east. The two missions first established in 1866 in the wake of the Great Drought in the Cooper Creek area arose apparently independently from an impulse on the part of both missionaries of

the Moravian Brethren sect at Herrnhut in Germany, and a joint venture between the two branches of the Lutheran Church in South Australia which sought support from the Hermannsburg Mission Society in Hanover. In 1862 the Moravian Brethren, moved by the accounts of sympathetic treatment King had received from Aborigines, negotiated with the South Australian government for land to establish a mission in the area. There was a long delay, partly because of drought in the north, but they were eventually granted the Cullamurra Mission Block on Cooper Creek. A missionary party of four pastors from the European headquarters were sent to Victoria in 1866, where the Moravian Brethren Mission Society in Melbourne directed them to Cullamurra. The object of their mission was:

> ... to bring the blessings of the Gospel to the still numerous tribes of the newly-discovered Burke-Land and Albert-Land, before the white settlers arrive with their diseases and brandy. (*Der Australische Christenbote* 1862, quoted in Pearce 1980, p. 97)

On reaching Blanchewater, the Moravians learnt that there was a Lutheran missionary party with pastors from Hanover and South Australia a few weeks behind them with similar intentions. The situation had also changed because of the racial violence which had broken out on Blanchewater, and the police and local Protector of Aborigines advised them not to go as far north as Cullamurra, where there was as yet no European presence. The Moravians were persuaded to go to Lake Hope instead, where there was a police camp. When the Lutheran missionaries arrived, the two missionary teams amicably established themselves 16km apart in Dieri land on two outflow lakes of the Cooper floodplain, called Killalpaninna and Kopperamanna. (Proeve 1953) The Moravians had made arrangements to distribute government rations to the Aborigines and in early February 1867 established a ration depot on the south east shore of Lake Kopperamanna on a little knoll overlooking the lake, several hundred metres south of where the Cooper-Kopperamanna channel enters. Kopperamanna was an old trade centre for the Lake Eyre clans where they met periodically to confer and barter in an extensive system of inter-tribal communication. Alfred Howitt explained the meaning of the place:

> ... the name Kopperamanna is a mutilation of the true name Kappara-mara, from Kappara meaning ‘hand’, and Mara meaning, ‘root’. But Marae also means “hair” of the head, which is connected with the head as the fingers are with the hand. The meaning of the name really is, that as the fingers all come together in the “root” of the hand, so do the native tribes come together at Kopperamanna to confer together, and especially to exchange their respective articles of barter. Kopperamanna is, therefore, one of the trade centres for the tribes allied to the Dieri. (Howitt 1908, pp. 714-715)

The Lutherans also established the Hermannsburg Mission on Lake Killalpaninna in January 1867 and erected a stone store and some huts of bush materials. While some Dieri welcomed the missionaries, others were not happy at their intrusion, and a large group from surrounding clans gathered in the district in February-March 1867. According to informants, they were intent on a large-scale rebellion to clear the Europeans from their territory. After a few hostile demonstrations, the police moved their camp to Kopperamanna, but in May 1867 both missions withdrew to Bucaltaninna, Milner's old stock camp south-east of Killalpaninna. A month later the Lutherans withdrew from the

district completely on the orders of the Evangelical Lutheran Society. The next year the Moravians too abandoned Bucaltaninna and left the district permanently. The Lutherans returned to Killalpaninna for a few years, but in 1871 abandoned it a second time, disillusioned by poor feed and water, and lack of response from the Dieri. A small settlement remained at Bucaltaninna for a few more years, but the Hermannsburg Mission Society re-directed its main efforts to a new site which they called Hermannsburg on the Finke River in central Australia. (Pearce 1980)

Killalpaninna revived in 1878 under the auspices of the South Australian Immanuel Synod Mission. Following good rains Pastors Flierl and Vogelsang returned to the north, and shifted the Bucaltaninna settlement back to the shore of Lake Killalpaninna, where they established the Bethesda Mission, building a handsome mud brick church with a 13m tower. They also set the mission up on a commercial basis, registering the Killalpaninna pastoral lease. Violent conflict in the district was over, and many Dieri were happy to live in close proximity to the mission station. An inspection of the mission in 1882 recorded twenty-one buildings including the church, missionaries' house, a school, three staff houses, five dwellings for Christian Dieri, separate dormitories for single men and women, and all the usual outbuildings of a pastoral property: kitchen, eating house, smithy and tack shed. This second revival of Killalpaninna would be a remarkable success, and a major settlement in the region for the next twenty years. (Pearce 1980)

Etadunna sheep run had been taken up nearby in the 1870s, and the missionaries cooperated with the lessees in building the Etadunna shearing shed, which was shared between the two properties. Kopperamanna remained in use as an outstation, and Pastor Vogelsang moved his family into a new mud brick house there in 1895. The property was increased in value when the government sank the Kopperamanna bore in 1897 on the Birdsville-Marree stock route, and it became a horse change station on the mail route. The drought at the turn of the twentieth century hit the mission badly and the pastoral activity began to sink into unprofitablity and inefficiency. The mission sheep were devastated by drought and dingoes in 1897, the number falling from 28,000 to 6,000 in only a few months.

The mission's role as a rations station continued, and the following years saw a dwindling number of missionary families and an aging Dieri community living an austere life together, still dominated by strict and conservative Lutheran teachings. In 1910 there were eighteen deaths at the mission and only one birth. A Royal Commission into Aboriginal Welfare in 1914 was not impressed by the mission's work. Kopperamanna was abandoned by the missionaries in 1916. The following year the school was closed by the government, along with all other German schools in South Australia. To wind down the mission, the church reduced the never-generous ration issue, forcing the Aboriginal people to disperse. Bethesda Mission was effectively closed by 1920 when Lance Powell took over the pastoral lease, only to abandon it in the drought of 1929. A small number of mostly elderly Aboriginal people continued to live intermittently at the Killalpaninna and Kopperamanna settlements through the 1930s, the last probably abandoning them and moving to Finniss Springs or Marree about the time of the Second World War. (Proeve 1945; Pearce 1980)

Historic Theme 3.7: Establishing Communications

The Overland Telegraph Line

The return of the rain in 1866 did not bring investors rushing back to the scene of the disaster, and most of the region was to remain empty of graziers and their stock for the next few years. Instead, the next development was an engineering project, which would have a profound impact on European settlement in the region: nothing less than the construction of an Overland Telegraph line more than 3,000km from Adelaide to Darwin.

Stuart's successful journey to the north coast in 1862 had altered the shape of Australian geopolitics. Previously, the largely unknown mass of the continent north of the 26th parallel had been part of New South Wales. There had been a number of military settlements along the north coast from 1824 onward, but the last of these at Port Essington was abandoned in 1849. In 1860 when the race to the north coast began, the only Europeans living in the entire northern half of the Australian continent were a handful of recently-arrived graziers and gold miners in central Queensland and the Kimberleys.

Stuart changed all that. By demonstrating that it was possible to travel from Adelaide to the Arafura Sea and come back alive, he had given South Australia a stronger claim to the northern lands than either New South Wales which owned them, or Queensland which had hopes to acquire them. On 6 July 1863, the imperial government annexed the Northern Territory to South Australia. In 1864 a settlement was established at Escape Cliffs at the mouth of the Adelaide River. The site was useless as a port, and for five years the government dithered over where to establish another settlement. Then in 1869 they sent Surveyor-General George Goyder who sailed straight to Port Darwin, one of the finest harbours in the world, and laid out the town of Palmerston, later Darwin. (Powell 1982)

The South Australian Superintendent of Telegraphs, Charles Todd, had arrived in Adelaide as an ambitious 29-year-old astronomer in 1855, and immediately set about connecting South Australia with Melbourne by electric telegraph. He soon had lines running north to Burra, Melrose and Port Augusta, revolutionising communication throughout the colony and further afield.

Todd's ambition was to connect Adelaide with London by telegraph. There were already land lines from Britain to India and Singapore, and an undersea cable to Batavia (now Jakarta) in the Dutch East Indies. Todd saw that Darwin was now the closest settlement to Asia on the Australian coast, and he could use it as the landfall of an intercontinental telegraph line. In April 1870 a representative of the British-Australian Telegraph Company arrived in Adelaide, and within two months Todd had arranged a deal whereby the company would land an undersea cable at Darwin, and South Australia would build a land line across the continent to meet it. That meant nothing less than erecting a row of wooden poles more than 3,000 kilometres from Adelaide to Darwin, every pole topped by an insulator carrying a single copper wire.

The project went ahead with extraordinary energy. By June, tenders were called, by July leaders were appointed, and surveyors were at work from both the Port Augusta and Darwin ends of the line. Construction began in September. The route that Todd chose was

almost exactly that of Stuart's final expedition, the only proven path across the continent. It would go north up the west side of the Flinders Ranges, then follow the Mound Springs. In the Northern Territory the line would follow the chain of rivers, creeks and waterholes which had taken Stuart to the north coast. Construction proceeded in four places simultaneously: north from Port Augusta, south from Darwin, and outwards in both directions from a depot in the MacDonnell Ranges. For the next two years, the Mound Springs would see more activity than ever before, as the construction parties and all their poles, wires, insulators and other supplies travelled the road north. (Taylor 1980)

Despite its energetic start, construction of the line took nearly two years, hampered by floods, droughts, fires, shipwreck, and workers who became lost and died of thirst. There was a pole every 100 yards, a total of about 36,000 poles, mostly callitris trunks cut in the Flinders Ranges, three-quarters of them carried north by dray, the rest shipped to Darwin. The government and the Telegraph Company both became anxious at the delay. A rival line being built across Queensland to the port of Kimberley (now Karumba) on the Gulf of Carpentaria was finished nearly a year earlier, but the British-Australian Telegraph Company preferred the closer landfall of Darwin, and stuck to the agreement. On 22 August 1872 the wires were joined, and the telegraph line was open from Adelaide to Darwin. (Taylor 1980)

The construction of the telegraph had a number of effects on the inland region. The repeater stations at The Peake and Strangways Springs became permanent settlements, and line repair gangs maintained a constant European presence throughout the region. New settlements were created along the Overland Telegraph at Charlotte Waters and Alice Springs, encouraging a steady flow of traffic into central Australia, and further north, workers on the line discovered gold in the Pine Creek region in 1872, sparking a rush of investors from Adelaide and bringing to life the Northern Territory mining industry. The construction track along the line became the new road north, and grazing industry extended even further north because of the telegraph.

The effects on the Birdsville and Strzelecki Tracks region were less dramatic, but still considerable. The telegraph increased confidence and reduced costs, while its workforce created a local market for beef and mutton. It was no coincidence that Lake Harry run was taken up in 1870 just as the telegraph line was being poled through Herrgott Springs, 30km to the south. Further north, stations on what would become the Birdsville Track such as Etadunna, Cowarie, Mundowdna, Muloorina, all the way up to Clifton Hills and Pandie Pandie were established, and Killalpaninna was revived during the decade after 1870.

Historic Theme 3.8.6: Building and Maintaining Railways

The Great Northern Railway

The opening of a transport and communication corridor from 1870 onward encouraged permanent European settlement in the Herrgott Springs district, and the decade of the 1870s also saw the best run of seasons since the colony was founded. It was a prosperous time, and successive South Australian governments spent lavishly on railway construction. Agitation for a railway north from Port Augusta arose from graziers and mining interests in the Northern Flinders Ranges in the 1860s. In 1870 the northernmost railway in the colony had just reached Burra, but within a few years construction was

pushed further north, following the expanding wheat frontier to Petersburg in 1880, then to Quorn on the Willochra Plain by 1882. Almost immediately the line was continued even further north past the Flinders Ranges to Farina, then to Herrgott Springs, which was renamed Marree when it became the northern railhead at the beginning of 1884.

The line was now being called the Great Northern Railway. There was never really a plan that said what its ultimate destination would be, but in that great age of railway enthusiasm there were many visionaries who believed it would eventually parallel the Overland Telegraph line all the way to Darwin. Pastoralists in the north-east lobbied for the railway to travel east of Lake Eyre, but the South Australian Railways engineers decided to follow the water supply of the Mound Springs, taking the line west of the lake. The route of the Great Northern Railway was being determined not by market forces or regional planning, but by its own engineering requirements.

By the early 1880s, many of the northern runs had again been abandoned because the country was in the grip of the second major drought since European settlement, but railway enthusiasm had its own momentum, and the line continued northward anyway. Construction from Marree began in July 1884, heading west along the line of the Mound Springs. The line was opened as far as Coward Springs by February 1888, then to William Creek in June 1889 and to Warrina in November. (Quinlan & Newland 2000)

The north-eastern graziers persisted in their lobbying, and the South Australian Parliament established a Royal Commission to report on the feasibility of a railway to Birdsville. But before it reported in 1891, the colony was sunk in economic depression. The Great Northern Railway reached Oodnadatta in January 1891, but was halted there by the economic crisis. Parliament would not authorise any more outback railway lines for many years to come; South Australia’s extraordinary burst of railway building was over.

As the railway reached Farina and Marree, it established an alternative to droving stock all the way to markets in Adelaide. Farina became a major supply centre, providing a trucking place for northern stock and wool and copper ore. The work generated by Farina traffic kept five blacksmiths busy and a Farina storekeeper opened other stores at Marree, Innamincka, Birdsville and Oodnadatta.

Soon Marree succeeded Farina as the main point where overlanded stock could be railed south to markets. Initially the costs of railing cattle south was high, although this was to some extent offset by the lowering of freight costs of supplies. Freight cartage prices fell from £15 to £5 per ton for cartage from Port Augusta. (Gee, 1998, p.112) Railing stock to Adelaide cost about five times as much as droving, but offsetting this, there was a significant saving in time and reduction in weight loss of the stock being moved to market, and the railway continued to operate when the stock routes were closed by drought. Twenty years after the railway reached Marree, it would play a strategic role in Sidney Kidman's beef cattle empire.

The railway created Marree as the major town in the region, both the source of most supplies coming north, and the destination of most stock and wool travelling south. In time, Birdsville would become its counterpart in Queensland, and the track linking them would become one of outback Australia's great transport arteries. In both Marree and

Farina, Afghan cameleers dominated the transport industry of the north-east for the next forty years, forming their own communities beside the townships.

The Great Northern Railway and its successor, the Central Australian Railway to Alice Springs, never extended northward from Marree, but there were several episodes of political agitation to extend a branch railway north to Birdsville or north-east to Innamincka. In 1916 the members of a Parliamentary Railways Standing Committee set out on the adventure of a lifetime: a fifteen-day tour in four motor cars up the Birdsville Track and down the Strzelecki. Horse and camel teams were stationed in advance at difficult sand dune crossings to pull the cars through. (Cole 1917) No railway ever resulted, but instead the expedition probably helped to popularise the use of motor vehicles in the north-east.

The Great Western Railway

The Queensland government was also extending a railway line out in the direction of Cooper Creek, but it had too far to travel and arrived too late to have much impact on life in the Birdsville and Strzelecki Tracks region. When John Conrick took up Nappa Merrie in 1873, the nearest railway station in Queensland was at Dalby, 900km to the east. The nearest railhead in South Australia was already much closer at Burra, and by 1883 it would be at Farina, less than half the distance. (Quinlan & Newland 2000)

Queensland's Great Western Railway pushed steadily westward across the plains, but when it reached its terminus at Charleville on the Warrego River in 1888 it was still 450km from Nappa Merrie. A branch line was extended south to Cunnamulla in 1898, but it was only in 1917 when another branch line went west to Quilpie that there was actually a railhead in Queensland closer to the Birdsville and Strzelecki Tracks region than Marree. Even then it was not on an established overland transport route, and presented a much longer journey to the port. The western Queensland railway network was too far away to have much influence on the Cooper Creek region, which from the beginning of European settlement was always within Adelaide's economic hinterland.

Historic Theme 2.6: Fighting for Land

The European explorers of the Birdsville and Strzelecki Tracks region almost without exception established cordial relations with Aboriginal people, and relied on them for information and sometimes for survival. Eyre, Sturt, Stuart, Burke and Wills, McKinlay and Howitt all reported peaceful and helpful contact with the people of the Cooper basin. Significantly however, while King was living with the Cooper people, he found that his initial welcome began to wear thin when they realised he intended to stay and compete with them for resources over an extended period. Water and food in the region are scarce, and cannot be shared with strangers for long. Conflict began throughout the region soon after Europeans and their stock occupied traditional water resources, and it became clear that they were going to stay.

Not surprisingly, the first recorded conflict began during the drought of 1865. The Dieri people at Lake Perigundi on Blanchewater run protested at the presence of cattle at their waterholes by spearing them, and Henry Dean the manager took punitive measures:

> Peaceful measures against the blacks totally failed, and Mr. Dean used forcible methods in order to establish the authority of the white man. He burned down three of their camps which had been erected for plunder, and sent out a party of station hands to clear the country northwards. (Cockburn 1927, vol. 2, p.175)

This account, told in the context of pioneers' reminiscences collected by Rodney Cockburn sixty years later, is written in the customary frontier code. It means that Dean was annoyed that some of his cattle were being stolen, and sent his employees out on raids to destroy Aboriginal camps, with no regard for the guilt or innocence of their occupants. Aboriginal people over a large swathe of country as far north as the Cooper were harassed and terrified, and an unknown number were killed. These acts were vindicated when butchered cattle were found in some camps - 'full of beef' - was the way Dean described them. The Dieri response was a surprise night attack on a mustering camp, killing a stockman and wounding five others, including Dean. Rifle shots were fired in retaliation, but again the number of Aborigines killed went unrecorded. Dean recognised this as a mutual declaration of war.

> We must have more men and more arms to defend our position and our property, otherwise this country will have to be abandoned by the settlers. (Cockburn 1927, vol. 2, p.175)

Dean and his station hands had committed murder - although they would not have described it that way themselves - and they had also seriously breached the conditions of Baker's pastoral lease, which guaranteed Aboriginal people 'the right to access, hunt and live on pastoral lands'. (Gara 2001, p. 2) In 1866 a Police Corporal and two troopers arrived in the district. They were not there to arrest Dean and revoke the Blanchewater lease, but to establish a police camp on Lake Hope to protect the settlers' stock from further Dieri raids. (Pearce 1980, pp. 92-97) This episode of violence spreading out from Blanchewater seems to have destabilised the region for some years; we have seen that the police at Lake Hope advised the German missionaries not to travel north to Cullamurra in 1866, and the ongoing threat of Dieri resistance forced them to abandon the Killalpaninna and Kopperamanna missions for several years.

The Birdsville and Strzelecki Tracks region was to see a bitter inter-racial contest for land and water resources, and the most violent race relations in South Australia. This is in dramatic contrast to the Oodnadatta Track region only a few hundred kilometres away to the west of Lake Eyre, where European occupation of the land occurred peacefully, with no known cases of violence. Why the north-east region was more violent than other parts of South Australia is not easily explained. One possible explanation is the presence of a high proportion of Victorian and Queensland graziers bringing more violent traditions of dispossession over the colonial borders into South Australia. Certainly the pattern of violence in the north-east extended over the border into the Birdsville and Nappa Merrie districts of Queensland.

Henry Dean had established the pattern which would be repeated for the next twenty years: both the events and the justification for them. In the view of the European settler the incident almost invariably commenced with illegal stock-spearing. (In the view of the Aboriginal perpetrator, the incident had commenced much earlier with the illegal occupation of waterholes.) The response would be violent dispersal and punitive

executions. In several cases, this amounted to a carefully planned raid on an Aboriginal encampment and a massacre of a large number of people, perhaps in some cases hundreds. Although neither colony has any official records of such incidents, there is evidence that some of these raids were carried out not by angry graziers, but by South Australian and Queensland police. Each such incident was treated as a local punishment for a local crime, but they formed an overall pattern whose intention was, in Cockburn's words, 'to clear the country' and 'establish the authority of the white man.'

Conrick's reminiscences of the journey down the Strzelecki Track in 1874 describe large groups of Aboriginal people camping on water holes and relate confrontations over stock access to the sources of water along the track. The Yawarawarrka people north of Innamincka are remembered in oral tradition along the eastern Lake Eyre Basin peoples as victims of a large scale massacre in the 1880s. They were excluded from their territory at Coongie by station manager J.W. Wylie who came to the area in 1881. He fenced out and poisoned or shot any Aborigine who returned. Specific details are sparse, but there is a shadowy reference to a massacre of Aborigines in the vicinity of Tirrawarra swamp in the early 1880s. (Hambidge 1942-43) The local Aboriginal people moved to more tolerantly run station properties such as Cordillo Downs and Cadelga, living at a distance from the homestead and co-existing in a semi-nomadic existence influenced by the handouts of blankets, flour and sugar arranged by the Protector of Aborigines. (Hercus in Tyler *et al*, 1990, pp. 157-159; Tolcher 1996, p. 138)

While these events were happening, Aboriginal people were demonised in print to justify their treatment by settlers. The Dieri were singled out as they were the first group to offer overt resistance. Police Trooper Samuel Gason had been based at Lake Hope and knew the Dieri people better than almost anyone; he even published a booklet on their ethnography and language. Yet he said of them: 'A more treacherous race I do not believe exists .... They will laugh and smile in your face, and the next moment, if opportunity offers, kill you without remorse.' (Gason 1874, p. 11)

Linguist Luise Hercus has investigated the oral history of the Aboriginal peoples of the north-east more thoroughly than any other researcher. She has identified six major massacres in a relatively small area of the region, and believes that the Karangura people, in the vicinity of Pandie Pandie north of Goyder Lagoon, were specifically targeted in three of these as revenge for the killing of a station cook at Cooninghera in Queensland. After these massacres, the Karangura were reduced to a small remnant who sought refuge at Killalpaninna, the last few elderly survivors dying about the turn of the twentieth century. A large area of the north-east from around the Coongie Lakes east to the Queensland border became depopulated, and was known to the surrounding people as *Ngura-warla* or empty camp. (Hercus 1990, p. 156)

The other massacres Hercus lists were on the Georgina River, at Giri Giri waterhole, and at Koonchera waterhole on Clifton Hills. (Hercus 1991) The Koonchera incident is one of the better-known of these events, independently recorded from oral accounts in the past sixty years. As far as the facts can be pieced together from conflicting accounts, it took place in the 1880s or 1890s - Hercus suggests about 1885 - and 200 Aboriginal people are said to have been killed; one account says perhaps as many as 500. (These numbers must be treated very cautiously, for not only do they add up to a very large proportion of the Aboriginal population of the north-east, but they are based on secondhand accounts of

confusing events, told by people without cultural reasons or linguistic means to express large numbers accurately.) The killings took place in a surprise raid on members of the Yandruwandha, Yawarrawarrka, Karangura and Ngamini peoples camped along the southern shore of the waterhole in large numbers for the Mindiri ceremony. The event seems to have been in retaliation for a stock-spearing incident, and the perpetrators were apparently South Australian police troopers from Andrewilla Police Station near the Queensland border. (McLean 1986)

The first published account of the Koonchera massacre was collected by journalist George Farwell in his travels along the Birdsville Track in the late 1940s. It is remarkable for being published as early as 1950 at a time when most white Australians were still either unaware, or denying, that such incidents had occurred in our history. Farwell's account is inaccurate in detail, and uses language that may be considered offensive today as both salacious and racist, but it presented many modern Australians with their first knowledge of events such as this, and is worth relating in full:

> Beneath the big white Coonchere sandhill, near the Diamantina Plain, another terrible scene was enacted. A large party of "salt-water blacks" had come down for a corroboree, making friendly advances to a white man living at Nappamanna Station, now part of Clifton Hills. But his interest in one of their lubras antagonised two blacks, one of whom wanted her for his wife. One morning, when they had supposedly left for a day's hunting, they entered his tent, clubbing him to death on her breast with boomerangs. They took the woman away, and killed her later.
>
> No remorse was expressed over the seduction, but lynch law was set up. The policeman at Andrewilla, a more clement man this time, sent his trackers to cut out the culprits from the innocent before the white men rode up. He lacked the resources to do more. But they came too quick. Fleeing men, women and children were mustered like scrub cattle, shot down as they ran for cover. Many blacks rushed into the nearby waterhole, swam out amid the rushes with firesticks in their hair. But not one escaped. This is said to have been the biggest massacre known, for several hundred people had come in from the Kallikoopah. (Farwell 1950, p. 160)

The story was recorded again by Hercus from Aboriginal informant Mick McLean in 1971. She published a translation of McLean's story which begins: "The police from Andrewilla killed them all, hundreds of men, hundreds of women and many children, all because of a bullock, just a small one, a mere calf, at Koonchera." (McLean 1986, p. 187) The story goes on to describe in detail how one man - ironically a former police tracker - escaped the massacre by smearing himself with his grandmother's blood and lying among the dead until the police moved out of sight, then swimming away across the waterhole.

There are some obvious discrepancies between Farwell's account and McLean's. Farwell attributes the cause to reprisal for a murder done to punish sexual misconduct, and identifies the perpetrators as pastoralists, not police, although in the preceding sentence he described another atrocity committed by the Andrewilla police themselves. Pamela Watson, noting this confusion, has suggested that there may have been two separate massacres at Koonchera (Watson 1998, p. 100), but it seems more likely that some of the details in the story Farwell was told had become confused with the separate incident at Appamanna (or Nappamanna) further north. There can be little doubt that the two stories

recorded twenty-five years apart describe the same massacre in the same location, and both agree that the victims were numbered in the hundreds.

Independently of Farwell's and Hercus' record, there are accounts of other massacres carried out by parties of both police and settlers at Lake Hope, Appamanna, Coongie (probably by Wylie) and Innamincka (near Wills' grave) in South Australia, and at Oontoo waterhole in Queensland. The Oontoo massacre on Nappa Merrie seems unlikely to have been connected with Conrick, who, while firm in his dealings with Aborigines, had no record of violence. (Tolcher 1996) It is more likely to have been the work of the Queensland Native Mounted Police acting without Conrick's knowledge. For obvious reasons, all these events were poorly-documented at the time; even if the participants' behaviour was silently condoned by some other pastoralists, they did not wish to be identified as having committed murder.

Logic's Journey

An episode in the 1880s gave the north-east an unlikely folk hero in the shape of an Aboriginal murderer. In 1878 an Aboriginal stockman called Logic killed his overseer, Cornelius Mulhall, on Tinga Tingana station, and disappeared into the Strzelecki Desert. Although some of the press tried to portray the event as part of the conflict between traditional Aboriginal society and white settlers, it was obviously a violent dispute between work colleagues. Using his bush skills, Logic managed to evade capture for two years before making the mistake of returning to Tinga Tingana, where he was arrested.

At his trial in Adelaide, it became clear that there were very strong mitigating circumstances, as Mulhall had treated Logic brutally, repeatedly whipping him and even shooting him in the buttocks before Logic finally retaliated, killing his tormentor in a struggle. Logic was sentenced to fourteen years for manslaughter, a punishment that many considered excessive, and served five years in Yatala Labour Prison as a model prisoner. There was a petition before the Governor for his early release in October 1885, when Logic seized an opportunity to escape from the bluestone quarries one afternoon, and with warders in pursuit firing shots at him, vanished into the surrounding wheatfields.

What happened next was the truly extraordinary part of the story. Logic headed north on foot, back toward his own country on Strzelecki Creek. On the way the newspapers reported sightings of him near Gawler, then Kapunda, then Jamestown, then Quorn, but the police could never catch him. He became a folk hero, fed and sheltered on his journey by wheat farmers struggling with drought and debt, who recognised him as a battler like themselves. Logic walked for two months and made it nearly two-thirds of the way home before he was caught by the police near Blinman, over 400km from the Yatala quarries. As before, he surrendered without a struggle, and was polite and cooperative to his captors.

The handcuffed Logic arrived back in Adelaide to a hero's welcome, with crowds thronging the railway station for a glimpse of him. There was enormous public pressure for his release, and the government succumbed to it, sentencing him to a one month good behaviour bond before pardoning him, thus effectively condoning his escape from prison. Logic was put on the train to Beltana, from where he walked to Tinga Tingana and

resumed his old job as a stockman in early 1886. He remained a local hero in the north-east until his death at Innamincka in 1903.

Logic's case was most exceptional, for there were similar stories which evoked no such official response. Aboriginal stockman Jacky killed Richard Marrack on Dulkaninna station in almost identical circumstances in 1889, and there were strong arguments for clemency, citing Logic as a precedent. The pressure succeeded in having Jacky's death sentence commuted, but he died in Yatala Prison. Logic's story alone captured the public imagination with the moral force of someone who had been treated unjustly, and responded with dignity, courage and amazing perseverance. (Foster *et al* 2001, pp. 113-138)

The End of a Way of Life

Not all the decline in Aboriginal society was caused by direct violence; displacement and exposure to European diseases, especially the influenza epidemic that swept Australia in the first two decades of the twentieth century caused a rapid and devastating decline in the Aboriginal population in the north-east. In the Innamincka area, two independent sources indicate that many deaths amongst Aborigines from the Spanish influenza epidemic occurred in 1915-16. Captain White reported seeing a veritable graveyard of recent burials in the area in 1916, showing that 'in recent years the mortality among the blacks had been much greater'. He observed:

> There are no children to take their places, so it only means a year or two and the last full blooded blacks, the members of a dying race, will be gone forever. When we look back, what a very little has been done to take records of these most interesting people's lives, their traditions, customs and etc. (White 1916, p. 64)

Jim Vickery, who worked on the station for many years, also dates the Spanish Influenza epidemic there at 1916 and had many conversations with the Aboriginal stockman who lived on the station for many years as station hand, official rainmaker and police tracker. Wilpie recalled many violent incidents between pastoralists and his people during his lifetime. He died at the age of 96 in 1958. Those who escaped to Innamincka from the Yawarawarrka have descendants who lived in Birdsville, Quilpie and Port Augusta during the 1970s.

To the south around Lake Eyre the Wangkangurru people, who probably first heard about the white newcomers when on their traditional ochre expeditions to the Flinders Ranges in the 1860s, simply moved away from the areas occupied by incoming herds of stock and their keepers. Some settled around Killalpaninna mission or at places like Marree and Birdsville and the railway settlements that serviced the Great Northern Railway. There are also accounts of gatherings of tribal groups for traditional purposes and resistance to the pastoral invasion of the area. Police were stationed at various points along the tracks to keep the peace between the traditional occupiers of the land and pastoralists. In any event, the displacement from different tribal territories brought Aboriginal people to the mission for refuge. For this reason, the work of the missionary, the Reverend Reuther at Killalpaninna on languages and traditions of the eastern Lake Eyre Basin includes a substantial input from Wangkangurru as well as Dieri people. When the Killalpaninna mission finally closed in 1918, many of the people went to nearby stations, and railway

townships in the area. Herbert Basedow, on a medical expedition to the area in the 1920, wrote:

> Although the western Aluridja groups and their western neighbours the Wonga Pitchas, are still represented by goodly numbers, the population along the more civilised central tracts has suffered alarming losses. The recent influenza epidemic was disastrous, having in many centres like Herrgott Springs and Oodnadatta, almost completely annihilated the resident groups. We were surprised also to note the appalling decrease in the numbers at Anna Creek, once a veritable stronghold of the local tribe. (Basedow 1920)

In 1931, Hermann Vogelsang found that there were 40-60 Dieri Christians still living at Killalpaninna, with about 20 children, as well as other tribal people. When he returned a few years later, he found that a number of the Dieri people had died. (Proeve 1945, p. 21) A further visit in 1944 by Brother Schmidt, Pastors Reuther and Proeve found a native camp at Marree and 32 men, 19 women and 50 children at Finniss Springs, a settlement run by the United Aborigines Mission west of Marree. (Proeve 1945, p. 38) By 1960 all of these outlying places were abandoned as fulltime settlements, and the Aborigines from them were living in Marree and other townships, although the practice of visiting traditional lands has continued to the present.

Traditional languages, once spoken by hundreds of people, were reduced to the memory of a few surviving speakers, and vanished altogether when the last individuals died. Luise Hercus believes that Karangura was lost altogether in the early years of the twentieth century, Wadikali in the 1930s, Pirlatapa and Wiljakali in the 1960s. (Hercus 1990, p. 151) Likewise the last traditional initiation ceremonies were held at Nappamanna in the 1920s and at Innamincka in 1941. (Hercus 1990, p. 159)

The 1960s was a watershed of change; there were few local Aboriginal people remaining in north-east South Australia and south-west Queensland as a result of the removal of the people in the previous decade. The Federal Government's construction of roads across the north of Australia changed forever the movement of cattle from droving to cattle trucking in road trains, with further associated losses in demand for skilled drovers, many of whom were Aboriginal. Legislation to further Aboriginal interests to some extent hardened negative attitudes and prejudices of people who resented the advances in equal pay, access to alcohol and land grants. In South Australia at the end of the Second World War, there were still Aboriginal people working on most of the pastoral stations and maintaining a link with their country. However, from the 1950s onwards, changing station management meant fewer jobs, resulting in a decline of local employment. The general movement away from their traditional lands to townships to cities was continued through the official practice of removing Aboriginal children into institutional or foster care.

Historic Theme 3.8: Moving Goods and People

Droving South

The *raison d'etre* of European settlement in the Birdsville and Strzelecki Tracks region was the production of beef and wool, and from the time of Redford's journey south in 1870, it had been established that the best route to the markets lay south toward Port Augusta along Strzelecki Creek. The construction of the railway to Marree in 1884 increased the economic value of this route, and later the provision of government bores opened up a reliable route along the Birdsville Track.

From 1863, stock route reserves were established by the Surveyor-General in South Australia, giving drovers the right of stock movements and grazing along these routes, and requiring lessees of land adjoining the stock routes to supply water and charge for the supply. In all, ten long-distance stock routes were created, including the Birdsville and Strzelecki tracks, which were the two main stock routes from the Queensland channel country into South Australia.

In later decades, these tracks became part of a network of stock routes across Australia that would provide an Australia-wide travel plan and food source for a calf from its place of origin, and deliver it up to three or even six years later to the slaughter house. Prior to Federation, customs duties were payable crossing from one colony to another along the stock routes and as a result customs stations, officials and police were a part of the droving landscape along the track.

Large mobs of 'stall' cattle were driven over a two year period from the Ord and Victoria Rivers in the Kimberleys across to the Fitzroy river and waters on the Barkly Tableland, and depending upon the season, onto the Channel country for fattening and then to the railheads at Cockburn, Marree or Quilpie, terminating in Portland, Adelaide or Menindie.

Stall cattle were moved in big mobs of up to 2,000 head by a team of seven or eight men. They were moved as quickly as possible to be fattened on the lush pastures of the Channel Country. As 'fats' they were moved more slowly, usually in smaller mobs of 500 to 600 head from the Channel Country to the railhead at Marree at the rate of about 8 miles a day. Droving from Nockatunga in Queensland to Menindie (south of Broken Hill) along the Strzelecki Track usually took about eight weeks. Unlike the stock routes in New South Wales and Queensland which were both pegged and formally proclaimed, the Strzelecki and Birdsville Tracks were neither marked nor gazetted, but were generally known.

The government sought to install reliable watering points at regular stages along the routes from the 1890s onwards. Even with wells installed, droving down the stock routes of the Birdsville and Strzelecki Tracks could be perilous, with heavy losses of stock possible in summer when wells dried up and dust storms raged. In 1902 Sidney Kidman lost 2,000 store bullocks and a second mob of 1,000 cows trying to evacuate them from Carcoory in Queensland. In the late 1890s, a drover by the name of Jack Clarke attempted to take a mob of 500 bullocks sold to Sidney Kidman by Elder Smith and Company from Warrenda Station in Western Queensland for delivery to Birdsville. His experiences demonstrate the difficulties that could be experienced. Clarke drove the cattle

down the Georgina River to Glengyle and upon reaching Birdsville, received a letter from Kidman's stock agent requesting him to travel on to Andrewilla waterhole where he would meet him. Upon arriving there, Clarke found the agent had failed to turn up and negotiated an order with the customs official for one thousand pounds on Elder Smith as the legal owners of the mob to cover the duty charged per head of cattle to cross the border between South Australia and Queensland. He then received a letter from Kidman refusing to take delivery of the cattle except at Herrgott Springs (later Marree). It was too far to return north, and the Birdsville Track was in the grip of a major drought with little or no feed and unreliable water supplies. He drove the stock 117 miles from Potato Tin Sandhill on the Diamantina floodplain through sandstorms to Mungerannie where the cattle were spelled. To avoid the heat, Clarke drove the cattle from midnight on towards Mulka and was enveloped in a dust storm at 9.00 in the morning. During the day that followed, the drovers could only huddle helplessly in the wind, as cattle were smothered by blowing sand. Out of 500 head of stock, only 72 survived. Kidman refused to accept the cattle and Elder Smith lost at least four thousand pounds. As for Clarke, he had anxious moments because he had pledged one thousand pounds to the border customs officer, but Elder Smith paid the bill. Under such conditions, Clarke's survival earned the admiration of people who lived through sandstorms and drought on a regular basis. (Farwell 1950)

The Strzelecki Track

When the Cooper Basin was taken up for grazing in the 1870s, Strzelecki Creek came into its own as a long-distance droving route. In November 1872, twenty-year-old John Conrick set out from Warrnambool in Victoria to take up land on Cooper Creek, accompanied by Robert Bostock and four others, droving 1,600 head of shorthorn cattle. (Conrick 1923-24, p. 2) They did not use the Strzelecki route on their outward journey to the region, but followed Burke's route to the Darling, and then followed the Bulloo River up to Eromanga in western Queensland, and crossed over to the Cooper. Nappa Merrie, Innamincka and Coongie runs nearby were initially stocked by this circuitous route.

Once Conrick was established on his land at Nappa Merrie, he realised there must be a more direct route to bring stock and supplies up from the south. Knowing of the journeys of Gregory and Redford, he questioned local Aborigines about the Strzelecki channel, and on Boxing Day 1874 he set out from Innamincka for Port Augusta with a stockman, driving two drays with an Aboriginal guide leading. They moved from waterhole to waterhole down the Strzelecki in a series of wary but generally peaceful encounters with large parties of Aborigines. Living on ducks nearly all the way, they arrived at Blanchewater homestead on 6 January 1875, the third party from Queensland in 17 years to startle the station hands. (Conrick 1923-24, pp. 39-43) A few weeks later the party was back at Nappa Merrie with a load of supplies.

Conrick's journey established that Strzelecki Creek was feasible not only for travelling stock, but for supply wagons, and that it was easier to bring cattle and supplies to Cooper Creek from South Australia than from Queensland, New South Wales or Victoria. From 1875 onward, the Cooper Basin was part of Adelaide's hinterland. Conrick's reminiscences did not understate the significance of his journey: 'Along this route hundreds of thousands of sheep and cattle have since been travelled, and scores of thousands of bales of wool have been sent via Farina and other northern trucking stations to Port Augusta, Adelaide and the world's markets.' (Conrick 1923-24, p. 44)

The coming of the Great Northern Railway changed the significance of Strzelecki Creek. When the railway reached Farina in 1883, the lower Strzelecki was only two days travel from the terminus, and Conrick's route south down the line of waterholes became the standard supply route for the north-eastern runs. Teams of Afghan cameleers formed a new base at Farina, which like Marree became an important railhead interface between train and camel transport. Cordillo Downs in the far north-east beyond Innamincka was among the first stations to make use of the new transport route. Thomas Elder, Robert Barr Smith and Peter Waite bought the property in 1883 and stocked it with sheep, in the process carrying out improvements including a huge stone vaulted-roofed woolshed and outbuildings in 1885. Their wool scouring machinery was carried north on the backs of camels. On the return journey they carried wool bales, four per camel, down to the railhead at Farina.

This consortium of Elder, Barr Smith and Waite was to become the Beltana Pastoral Company, owners in later years of both Cordillo Downs and Murnpeowie, both of which absorbed their neighbours and became the dominant sheep properties north and south of the Cooper Basin. Their links with camel transport were not a new development, for it was Elder and his partner Stuckey who had realised the potential of camels for supplying outback pastoral industry, and had imported the first large camel teams for their Beltana station in 1866. During the Beltana Pastoral Company's heyday in the late nineteenth and early twentieth centuries, Strzelecki Creek was the central axis and principal transport route of their north-eastern landholdings. It was probably during this period that people began to refer to the route as the Strzelecki Track.

The role of the Strzelecki Track in supporting Innamincka and the Cooper country continued well into the twentieth century. A fortnightly mail coach ran between Farina and Innamincka from 1878, with six horse change stations along the route near Mount Lyndhurst, Murnpeowie, Mount Hopeless, Carraweena, Tinga Tingana and Nappacoongie. After the 1890s, rabbit infestation devegetated the landscape and dunes of loose sand encroached on the track, the most notorious the Cobbler dunefield, where the creek swung west away from the road south of Monte Collina. Horses could not cope, so camel teams were stationed there to pull the coaches through. Cordillo Downs continued to run sheep until 1942, and in some years the shearing teams rode bicycles there from Farina, posing for famous photographs outside the Innamincka Hotel; the only pub on a 500km outback bicycle ride! (Tolcher 1986, after p. 100)

Although it provided a transport corridor for graziers in the far north-east, Strzelecki Creek itself did not support many pastoral properties. While water supply along the creek channel was adequate, the difficulty was the quality of the feed. The surroundings dunefields could only support stock on an opportunistic basis after rain, and the distances between waterholes meant that for most of the year, cattle could not graze far from the creekline. Monte Collina, Carraweena and Tinga Tingana runs were taken up in the good seasons of the 1870s. They sank wells to water stock away from the creek, but all were abandoned again in the drought of the 1880s. The grazing industry along Strzelecki Creek was to remain ephemeral, coming and going depending on the seasons. Every homestead established there was abandoned at times. During extended droughts the track itself became impassable for supplies and stock, sometimes for years.

There was little government support for the Strzelecki Track. A campaign of sinking artesian bores between 1890 and 1916 kept open the stock route further west between Marree and Birdsville, creating the modern Birdsville Track. But along Strzelecki Creek there were only a few government wells - one took poor Harry Bird's life at Nappacoongie - and only one artesian bore, sunk at Monte Collina in 1903. Sidney Kidman followed the government bores and extended his empire along the Birdsville Track, but showed little interest in the Strzelecki. His company bought Merty Merty in 1924 and grazed it intermittently, but he didn't trust the Strzelecki waterholes to get his cattle south. During droughts, Kidman's cattle from Innamincka were driven west to Mount Gason bore and down the Birdsville Track to Marree.

The Birdsville Track

Before the provision of bores about the turn of the twentieth century, drovers were sometimes able to move stock down the Birdsville to Marree route from waterhole to waterhole, indicating that water and feed were available en route in good seasons. A diary of the journey from Marree to Birdsville in 1893 records the route passing by Cowarie homestead and the Andrewilla police station, both a long way from the modern road. (Ferber 1964) Then the government artesian bores straightened out the route and made it more reliable, sometimes supplementing an existing natural watering place. Joseph Mannion's diary describes a droving journey from the Flinders Ranges up to the Cooper with stock and then back in the winter months of 1897. His route started along the line of the new bores, from Herrgott to Lake Harry, but then he followed an erratic course, camping at Clayton and Dulkaninna - where there were bores later, but not then - Killalpaninna where he bought horses, Tidnacoordooninna (?), an unnamed swamp, and to Kopperamanna where they inspected the novelty of the new government bore: 'the water is boiling' he wrote, 'it will boil an egg in 3 minutes we made tea from the pipe'. Delivering their stock to Kannatalkaninna (Cannawaukaninna?) on Cooper Creek, they returned along a different route which corresponds to no modern road: Bucaltaninna, Lake Gregory, Manuwalkaninna, Toncathyn (?), Blanchewater, Murnpeowie and Mount Lyndhurst, presumably forced onto this tortuous path by the availability of water. (Mannion 1897)

The modern Birdsville Track did not exist until the government bores stretched all the way from Marree to Goyder Lagoon. The bores did not create a new route, but simplified and formalised an existing one. They also made the route safer, so that the catastrophic stock losses of the early years could not happen again. But the bores provided only water, not grass. In the absence of feed along the route, the Birdsville Track still closed down during times of drought.

The Coming of the Trucks

The droving era began to decline after the Second World War. Shortly after the war ended, thousands of second-hand trucks came onto the market. A few trucks had been around since the 1920s, but they were regarded as a rare and expensive novelty rather than a real transport option. Now every carrier and every pastoral station could afford to buy a truck. The proliferation of cheap trucks meant that roads everywhere in rural Australia were upgraded for truck haulage.

Since the 1930s there had been experiments with hitching a prime mover to two or more articulated trailers to haul large quantities of freight or stock on outback roads. The name 'road trains' had been coined before the war for these contraptions, but they were only seen in the remote north and west of Australia, where there was no competition from railways. Now in the post-war years, conditions were right for them to compete everywhere. The first generation of heavy road transport in the late 1940s and 1950s were ex-military trucks: English Bedfords and Leylands, and American Internationals and GMCs. However, as these trucks aged by the late 1950s they were mostly being replaced by bigger Macks and Kenworths imported from the USA, purpose-built to haul heavy loads for long distances on rough surfaces.

The transition from droving to road trains was swift. The watershed came in 1960; in that year, the percentage of cattle transported on the hoof was 80%, and by rail, 20%. The following year, the percentages were reversed; with 80% transported by road trains and 20% by hoof. (Information from Jim Vickery). This was a result of the Federally-funded program to upgrade the Beef Road network, with about one million pounds spent on the Birdsville Track alone. From this time the Birdsville Track was not a stock route, but a road.

There was another major change in route ahead for the Birdsville Track. The last 100km into Birdsville followed the Diamantina River. Government bores had never been drilled there, because there were reasonably reliable waterholes along the river channels. During the transition from horse and camel to truck the old 'inside track', which followed the west side of the Diamantina River and had been used by drovers as the main stock route because it was shorter and had better water supplies, began to fall into disuse. Instead the 'outside track', turning east at Clifton Hills and going around Goyder Lagoon as far as Pandie Pandie, began to be preferred for vehicles, because it was not as boggy after rain. The transition appears to have occurred about the mid 1960s when the inside track was used less as traffic took the outside track. Soon after, the whole Birdsville Track was substantially upgraded with federal funding as a beef road, confirming the new route.

The road trains ended a way of life for thousands of people in the outback. Generations of people had worked as drovers on the long stock routes, and it was a traditional means of alternative income for a pastoralist living through hard times. The slow process of droving generated its own stories and songs of endurance, humour and fortitude, characterizing the popular culture of the Birdsville and Strzelecki tracks. Faster transport is more efficient, but denies the opportunity of long periods of solitude, reflection, camaraderie and skill characteristic of the droving world. This had become a form of white man’s dreaming: of a time when sophisticated communication systems and refrigeration were unknown and there were few intermediary comforts to cushion the white man from the arid inland environment. Reminders of these droving days are the stock route reserves, the watering points, mustering yards and drafting yards. Today, road trains have cut the journey and the risks dramatically.

The Afghan Cameleers

South Australians realised very early that camels would be ideal for exploring the arid interior. The first camel imported to Australia arrived at Port Adelaide in 1840, the only survivor of a larger batch shipped from Tenerife which had died on the voyage; its fate is

unknown. Another batch shipped in 1844 also left only one survivor. This camel - its name was Harry - was taken north by John Ainsworth Horrocks on an exploring expedition into the desert in 1846. The trip was regrettably brief, for while Horrocks was unloading a gun beside the camel one morning, the beast moved unexpectedly, the gun fired and Horrocks was fatally wounded. The next camels to feature prominently in the Australian story were the thirty assembled by the Burke and Wills expedition in 1860; four rather improbably imported as circus animals by show business entrepreneur George Coppin, which proved useless, and twenty-six working camels imported from Afghanistan for the expedition. With them came four experienced handlers from Peshawar - Samla, Dost Mohamed, Esau Khan and Belooch - vaguely described as 'Sepoys' and paid two shillings a week. (Murgatroyd 2002, p. 83) By the end of the expedition, these camels were mostly dead or abandoned in the outback as Australia's first feral camels.

Both of the first two attempts to use camels in the Australian outback had been miserable failures, but no-one blamed the camels. The animals had many advantages over horses. Most obviously, they were adapted to arid conditions, needing very little water, and able to work hard on rough bush feed, whereas horse teams needed water every day and had to carry high-energy fodder such as oats or they lost condition quickly. In addition, camels were much bigger and stronger; a large bull camel could carry a load of nearly half a ton, four times as much as a horse. On the move, a camel train seemed slower than a horse team, but it would walk till sunset without stopping, long after horses were exhausted. Camels also had tough broad feet which could cross soft sand and walk unprotected on most surfaces (although they were sometimes fitted with leather shoes on stony ground), whereas horses sank in sand and were easily lamed, and the maintenance of their iron shoes was a constant chore. But camels required expert handling, something few Europeans were willing to learn, so the Afghan cameleers became indispensable to outback transport.

The large-scale use of camels in Australia was the initiative of pastoralist Thomas Elder, a senior partner in both Elder Smith and Company and the Beltana Pastoral Company. In 1866, Elder's business partner Samuel Stuckey arrived by ship at Port Augusta from Karachi with 122 camels and their drivers, with the intention of utilising them for transport in the north. The event proved to be the beginning of the long association of the camels and their Afghan drivers with the Birdsville and Strzelecki Tracks, and with inland exploration generally. Elder took the majority of the camels to Umberatana station, near Lake Hope. Arriving during the great drought, they were stricken by mange and about seventy died, but the herd was successfully bred up again. Later, many of them were based at Beltana station in the northern Flinders Ranges.

The camels drivers were mostly from Baluchistan in what is today southern Pakistan, and writers looking at modern maps frequently criticize historical usage, pointing out that the so-called 'Afghans' were in fact Pakistanis. This is incorrect; most Afghans were really from Afghanistan. They came from a loosely-defined and disputed area between expanding British India and the declining Khanate of Afghanistan. Before 1893, when the modern border was negotiated to Britain's benefit, both Peshawar and Karachi were in Afghanistan. Other Australian cameleers came from Kabul or Kandahar, indisputably Afghan cities. (Stevens 1989, pp. 1-3) The one marked Afghan grave in the Marree cemetery is of Wahub from Kandahar.

Most of the cameleers moved on from being Elder's employees and established their own carrying businesses, based first at Marree and later Oodnadatta as the railway was extended north. Many more came to Australia in the next few decades before 1901, when the new Commonwealth's *Immigration Restriction Act* abruptly shut them out. They lived separately from the rest of the community, the majority being devout Muslims, although there were also Hindus and Parsees among them. Their camel teams, often in trains or strings of up to 60 camels, carried supplies, food, machinery, building materials and other goods to the network of isolated stations up the Birdsville and Strzelecki Tracks. When the Cordillo Downs station north of Innamincka ran sheep, improvements to the station included the building of a huge stone, barrel vaulted roofed woolshed and outbuildings in 1885. The wool scouring machinery was carried north on the backs of camels. On the return journey they carried wool bales, four per camel, down to the railhead at Farina.

From South Australia the use of camel transport spread throughout outback Australia, and by the early twentieth century there were Afghan communities operating camel teams out to remote pastoral homesteads and mining camps from the railheads at Broken Hill, Bourke, Cloncurry and Coolgardie. A few Afghan entrepreneurs such as Faiz Mahomet and Abdul Wade operated major businesses with hundreds of camels based in widely-separated parts of Australia. The cameleers had a reputation as skilful, reliable and hard-working, and being mostly Muslim they had a further advantage over many European teamsters in not touching alcohol. This meant that their teams were not subject to the lengthy delays outside isolated pubs that plagued the rest of the transport industry, and crates of rum arrived at their destination miraculously intact.

Despite these virtues, the Afghan cameleers were ostracised by the rigidly race-conscious Anglo-Australian mainstream society. They were segregated into separate communities called Ghantowns in the railhead townships, and treated as alien, untrustworthy and socially inferior. In townships such as Marree and Oodnadatta the Afghan men mixed with the Aboriginal and Chinese communities rather than the Europeans. Journalist George Farwell described the Marree Ghantown in the late 1940s:

> In reality, Marree is two towns - a western and an eastern town, divided by the railway line. This distinction between west and east is not simply a question of geography, for to walk 'across the line' - using a local phrase - means entering a different world. East of the railway the inhabitants are predominantly Eastern; they are Mohammedans, with the exception of a few Aborigines and half-castes who also live there. Their tin shacks and cottages are not so well appointed as those on the other side of the line, but there is a fine sense of community, a picturesqueness in the turbans and baggy trousers of the older Afghans, a grace in speech or gesture that is alien to the laconic Australian opposite. (Farwell 1949, p. 66)

The state government was slower to realise the benefits of camel transport, but from the 1890s established a number of camel depots to supply transport for outback police, surveyors and bore-sinkers along the tracks north. Whereas the Afghan cameleers usually loaded their camels individually, Europeans often treated them like horses and trained them to work in harness, hauling wagons. The Lake Harry camel depot supplied camels for government engineers sinking bores along the Birdsville Track until about 1919. After 1900 many of the camels were transferred to Muloorinna on the eastern shore of Lake Eyre. Other government camel depots included one at Mount Searle to the south of the

Strzelecki Track, which was described in 1905 as an area of 30 square miles, divided into six paddocks:

> The headquarters are the old homestead of the Mount Searle station and consist of a splendid five roomed house, substantially built of stone, a store, a stone woolshed, men's quarters and numerous outbuildings, besides very large cattle and sheep yards. A splendid supply of good water is obtained from the well, over which is erected a large windmill, and the water is pumped into a large stone tank, having the capacity of 28,000 gallons. Troughing to allow 160 camels to drink at one time is provided…. The present stock consists of 75 camels – 30 males and 45 females – a number of calves… Among this number is an old camel which is the property of H.Y.L Brown, the Government Geologist. This camel carried his owner many thousands of miles in the northern and western portions of the almost waterless districts of the Northern Territory, and at the present time is in splendid condition and appears capable of carrying his owner on his expeditions into unexplored regions for many years to come. Another identity is a large camel fifteen years old, known as Simler which has the following history: In 1896 he was lost at Coolgardie from the late Captain Hubbe's expedition to open up a stock route to the west, and in 1897 turned up at Lake Phillipson, having travelled over 1,000 miles to return to his old headquarters. (Donovan 1998, p. 64)

The use of camels began to be supplanted by the increased use of motor vehicles from the 1920s onward. In 1926 the mail was carried from Marree to Birdsville by truck for the first time, and this signalled the end of the camels, although surveyors and police patrols in sand dune country continued to use them. In dry seasons, mail contractors such as Cobb and Company used camels to haul coaches through the 65km stretch of fine white sand of the Cobbler sandhills that their horses could not negotiate. Often camels continued to serve the same role in conjunction with cars; in 1916 when the Railway Standing Committee toured the north by motor car, there were camels teams waiting to tow the cars through the Natterannie and Cobbler sand dunes, and when Elizabeth Burchill travelled to Innamincka in 1930, the luggage was unloaded from the mail truck and carried over the Cobbler on camels. As late as the 1940s, camels proved invaluable to police stationed at Innamincka and those at Marree who were responsible for patrolling an area of 40,000 square miles from the Queensland border to Mundowdna Station south of Marree.

During the early twentieth century the Afghans gradually declined in numbers at Marree, with many returning to Afghanistan or Pakistan and others taking up hawking and shopkeeping around Marree and Port Augusta or travelling south to Adelaide. By the late 1940s, a small community of elderly Afghans was concentrated around the mosque in Little Gilbert Street, and there are Afghan sections in both the West Terrace and Centennial Park cemeteries. George Farwell described the fading years of the Afghan community at Marree:

> There used to be a large Afghan population in Marree. Today many have drifted away, or diluted their racial characteristics by inter-marriage with whites. Most of those who remain are old-timers, eking out an inactive life or living on pensions. There is no vision left to them now, only the descending scale of reminiscence -

> bygone exploration and achievement. Paradoxically, the only camels consistently worked today are owned by white men. (Farwell 1949, p. 61)

Muloorina station remained a government camel depot until closed in 1918. The remaining camels ran wild along around the shores of the salt lake. They acclimatised well and by 1936 their numbers had increased to over 1,500. In order to control their numbers, over 1,000 were shot and the lease was taken up by the Price brothers who re-stocked the station with sheep. The Afghans found their pack animals, once worth £40 to £50 each, had become a feral pest, and were only of value for their skins from the 1940s onwards. A few camels continued to be used by Australians; for example by Mounted Constable Homes during his patrols from Marree and by a few boundary riders checking the dog fence north of Marree and on station properties for cleaning dams or shifting drift sand. There are still thousands of feral camels on remote pastoral stations, immune to predators. In recent decades many camels have been domesticated and used for tourism purposes.

Historic Theme 4.5: Making Settlements to Serve Rural Australia

There are only three early townships in the Birdsville and Strzelecki Tracks study area today: Marree, Birdsville and Innamincka. All were founded in the 1880s as government administrative centres, and Marree and Birdsville have retained that role for nearly 120 years. Innamincka however faded away and was completely abandoned for nearly twenty years before being revived by the tourism industry in the modern era. A visitor in 1890 would have found other townships - Oontoo in Queensland had a pub and a customs house, Mungerannie on the Birdsville stock route had a pub and a police station, Killalpaninna mission was a sizable settlement - but all were abandoned in the early twentieth century.

Marree

Marree has been South Australia's gateway to the northern interior since the 1880s. The mound springs outflow at Herrgott Springs nearby was named by Stuart in 1859, and the Overland Telegraph line was poled through the area in 1870. When the railway was extended north from Quorn, its ever-shifting destination was at first Government Gums (Farina) and then Herrgott Springs. South Australian Railways initially intended to use the mound springs to water their locomotives, but by the time the railway was approaching Herrgott Springs, artesian water had been struck at Tarkaninna nearby. This more convenient and reliable water source changed everything; a railway bore was sunk two miles south of the springs, and the resulting water supply determined the terminus of the railway.

1883-84 were busy years: the bore was sunk; the Great Northern Hotel was built, the railway arrived and a township was surveyed. The township was officially called Marree, although local usage retained the older name, frequently abbreviating and mis-spelling it Hergott. Marree was briefly the railway terminus for the entire north, but within a few months the Great Northern Railway was extended west toward Strangways Springs and ultimately Oodnadatta. No railway was ever built to the north-east, so from 1884 Marree was the railhead for the Birdsville and Strzelecki Tracks region.

Immediately an Afghan community was established at Marree to provide camel transport to the north-east, and this interface between steam and camel transport was to provide much of Marree's economic activity for the next forty years. A regular mail service to Birdsville in Queensland opened in 1886. The township also became the regional centre for police and medical services and has retained those roles to the present day.

Stock movement in the early years was opportunistic, based on rainfall and the state of the waterholes, but between 1890 and 1916 the South Australian government sank a chain of artesian bores along the stock route north, which by the early twentieth century had come to define the modern Birdsville Track. One of the principal beneficiaries was Sidney Kidman, who bought a chain of pastoral properties extending down the stock route from the channel country to Marree, and drove fat cattle in easy stages down to the railhead. Kidman's cattle yards and railway loading ramp were on Mundowdna station, just south of Marree.

From 1926 the mail was carried by truck, and motor vehicles were beginning to displace camel transport. Some of the aging Afghan cameleers retired in Marree, but more moved south to Adelaide. The closure of the Finniss Springs mission in 1960 brought a community of Arabana and other Aboriginal people into Marree. Technological change came to Marree in 1957, when Commonwealth Railways converted the railway from Port Augusta to standard gauge, but left the Central Australia Railway to Alice Springs at narrow gauge. For the next twenty-three years Marree became a break-of-gauge station, and overhead gantries hauled goods from one train to another across its long platform. The railway closed in 1980, leaving four narrow gauge diesel locomotives stranded in Marree. The principal business of Marree today is servicing the expanding outback tourism industry. (Litchfield 1983)

Mungerannie

Mungerannie is now the only stopping place where the traveller can buy food or fuel on the Birdsville Track, and it held the same role for a few years in the nineteenth century. Mungerannie Waterhole on Cowarie Run became a stopping place on the Birdsville to Marree stock route in the late nineteenth century, and a hotel traded there from about 1887 to 1894. A government bore was put down in 1900, and a police station was established there for a while in the early twentieth century. The bore-keeper, police officers, a store, eating house, coaching stables and a blacksmith shop made up a little settlement until the drought of the 1920s, although it was never really a town. Mungerannie Station was subdivided out of Cowarie in 1914, and has existed since, intermittently abandoned during droughts. However, the hotel did not revive for nearly a hundred years until the present roadhouse was licensed in 1989.

Birdsville

The Diamantina River was known from the early 1860s, but the frontier of pastoral settlement was still hundreds of miles away to the east, and the great drought came and went before the first pastoral runs were taken up in the mid-1870s: Glengyle and Cacoory on the Queensland side, Pandie Pandie and Clifton Hills on the South Australian side.

The Diamantina Crossing, just north of the colonial border, was a convenient crossing point beside a permanent waterhole, and by the late 1870s carrier Matthew Flynn had established a store there. Another was built by Robert Frew, lessee of Pandie Pandie, and by 1880 there was a small informal settlement known locally as Diamantina Crossing. Folklore says that the first race meeting was held there in 1881.

When the Queensland government came to provide services to the South Gregory district, the crossing was the site chosen, at exactly the same time as Marree was being established 400km to the south. The colonial border was surveyed and fenced in 1883 (its location along the east-west alignment had never been controversial, as latitude was much easier to measure than longitude), a police station and border customs post were built and a town gazetted. Two hotels, the Birdsville and the Royal, were trading soon after, and the town of Birdsville was surveyed in 1885.

Birdsville rapidly became the administrative centre for the region, head office of the Diamantina Divisional Board (later Shire) in 1886, with a handsome sandstone courthouse completed in 1890. By 1893 the town had a population of about 260, and the doctor's wife, newly-arrived from Adelaide, described it in her journal:

> There is a Chinaman's garden, a river (fish in it) three hotels, three stores, customs house (two officers), three policemen, police magistrate, and as far as we know, the house we are to occupy has four rooms, detached kitchen, bathroom, and underground tank, and mail comes from Herrgott once a week. (Ferber 1964)

Another account of Birdsville's businesses and social institutions that year said there were an aerated water manufacturer, auctioneer, blacksmith, two booksellers, two builders, butcher, medical man, saddler, two storekeepers, cricket club, two jockey clubs, lawn tennis club and three hotels: the Birdsville, Royal and Tattersalls. (*Pugh's Almanac* 1894) It says something about the audience that this entry was written for that it mentions the lawn tennis club and leaves out the Chinese garden, which made a far more fundamental contribution to Birdsville's life and health.

The sinking of artesian bores confirmed the importance of the Birdsville-Marree stock route in the early twentieth century, and Birdsville has remained a major regional centre in south-west Queensland ever since it was founded. A school opened in 1899, and an Australian Inland Mission Nursing Home was established in 1923 in the former Royal Hotel: the re-use of the building making a comment on changing priorities in outback settlements.

For the past century, the fortunes of Birdsville have fluctuated with the rainfall and the price of beef. The town shrank in size during the great drought of the 1930s, but was never abandoned, and thrived again by the 1960s with trucks replacing drovers on the Commonwealth-funded beef road. The town waterhole was supplemented by an artesian bore in 1961, giving Birdsville not only clean reticulated water, but domestic electricity generated by a water-powered turbine at the bore head. In recent decades air transport, radio communications and the Birdsville Developmental Road from Windorah have greatly improved the quality of life in the district. Birdsville now has a thriving tourism industry, with thousands of people annually travelling through the district to experience the Birdsville Track, the Simpson Desert National Park and the annual Birdsville Races

Oontoo

Queensland's little-known far western township of Oontoo had a brief life on the north bank of Cooper Creek, within sight of South Australia. During the 1880s, Queensland sought to raise revenue by increasing its border customs charges, and establishing customs posts on its borders with South Australia and New South Wales to collect the fees. The other colonies naturally retaliated in kind, and for the last fifteen years of the colonial era, pointless bureaucratic battles were fought at remote little government offices across the Australian outback.

In 1886 an area of land was resumed from Nappa Merrie run and surveyed as Oontoo township on the stock route running down Cooper Creek. The border customs collector started work in a tent, but within a few months the Oontoo Customs House had been built beside the road west; a mud-walled cottage with an iron roof. Because of a surveyor's error, it was built on the Police Reserve, but as no police station was ever built at Oontoo, this didn't matter much. Collecting customs dues at Oontoo was a farce; the drovers simply detoured around the township. If someone was caught committing an offence, the only way to lay a charge was to escort the offender to the court house at Thargomindah, leaving the border post unattended for up to two weeks. (QSA A41618)

A second government program also brought life to Oontoo later in 1887 when the Queensland government let contracts for fencing the border to keep out South Australian rabbits. Tons of fencing wire and posts were stockpiled, and a tent encampment of fencers and woodcutters grew up near the customs house; the biggest population Oontoo ever saw. (Tolcher 1986, pp. 114-116) Thirsty workers attract hotelkeepers, and the Oontoo Hotel was licensed early in 1888 by William Nankervis. Within a year his licence was bought by Thomas Costello, who invested in the township's most impressive building, a seven-roomed hotel in attractive stonework with its own stables and yards. (*Queensland Government Gazette* 1888-89) John Conrick of Nappa Merrie was incensed; when he arrived in 1873 the nearest pubs had been on the Barcoo River or in the Flinders Ranges, and now he worried that his stockmen would be led astray.

Conrick had little to fear, for Oontoo's heyday was to be brief. For a while the township supported a store, a school and a doctor. Then a series of floods in the Cooper, the first in 1891, showed that the site was badly chosen, as the town was completely cut off for months whenever the creek rose. The fencing contractors soon moved on, by 1897 the population had shrunk to 14, and Costello was forced to take up the Innamincka mail contract to supplement the pub's earnings. By 1899 depression and the general drought had all but closed down the cattle industry, and a visiting police officer reported, 'Oontoo is a quiet place, and there are very few people pass through there.' (QSA A41618) In 1900 Costello sold the hotel to John Hayson, but it did not appear in the list of publican's licenses in 1901. Probably it burned down, as unprofitable outback pubs so often did. The final blow was Federation, which did away with colonial border tariffs. It took two years to wind down the colonial customs services, but in 1903 the Oontoo customs post closed, and the only residents left in Oontoo were the rabbit fence rider and his family. (Tolcher 1986, p. 116)

Innamincka

As Helen Tolcher said, the town of Innamincka has had two lives. (Tolcher 1990) In the first few years of pastoral settlement, a steady stream of droving parties were using Cooper Creek, and there were complaints from pastoral lessees about horse stealing and sly grog sales. In 1882 a police camp was established at the strategic crossing place on the Cooper, just above the junction with Strzelecki Creek. The location was roughly midway between the places where Burke and Wills had died 21 years earlier. By 1884 a stone police station was under construction on the south bank of the crossing, there was a store trading beside it, and in 1885 the Innamincka hotel was licensed. On the north bank was a Chinese garden. In 1886 the Queensland government established a customs post on the Cooper stock route just across the border, and the township of Oontoo was surveyed. The Innamincka police collected the South Australian customs duties when they weren't out on patrol.

In 1890 a township was surveyed, following the model laid down by Surveyor-General George Goyder: a miniature Adelaide with a square grid plan surrounded by parklands, although in this case the parkland was mostly red gibbers. South Australia's Governor the Earl of Kintore named the new town Hopetoun after his friend Lord Hopetoun, Governor of Victoria, but this name was ignored completely by the local people, and two years later the name was re-gazetted Innamincka. (Manning 1990, p. 155)

Innamincka was never as large or stable a settlement as Marree or Birdsville. It was never more than a police outpost and a stopping place for travellers, and its population probably never reached 30. The customs service ceased after Federation and the township of Oontoo over the border was abandoned. Innamincka township briefly had enough children for a government school from 1904 - the publican had a family of six - but it closed again in 1906. In 1904 Sidney Kidman bought the surrounding Innamincka station, and his smaller labour force and austere regime probably did nothing for business in the town.

Medical services came to the north-west in 1929 when the Elizabeth Symon Nursing Home opened at Innamincka. It was an initiative of the Presbyterian church's Australian Inland Mission, founded by John Flynn, who had already built nursing homes at Beltana, Oodnadatta and Birdsville. A two story concrete building designed for the hot dry climate, the nursing home was an imposing landmark; the largest building north of the Great Northern Hotel at Marree.

As the twentieth century advanced, long periods of drought closed the Strzelecki Track to droving, and little traffic passed through Innamincka. Under the combined effects of depression, drought and a declining rural population, Innamincka faded away to a population of only five at the end of the Second World War; nothing remained but the hotel, the police station and the nursing home. In 1952 the publican was faced with demands to improve the premises and responded by closing the hotel. Without a hotel, the police had nothing to do, and the government closed the police station. The following year the Flying Doctor Service made an experimental flight from Broken Hill, and concluded that the needs of the Innamincka district could be met by air. The Australian Inland Mission closed its nursing home, and Innamincka was deserted. (Tolcher 1990, pp. 28-29) Over the next few years the roofs of the hotel and the nursing home were taken away - unused roofs rarely last long in the outback - and the police station burnt down.

That would have been the end of the story, with Innamincka abandoned and all but vanished like its neighbour Oontoo, but for the oil and gas surveys of the 1950s which brought better roads and activity in the local area. South Australia's first exploratory gas well, Innamincka Number One, was drilled just north of the township site in 1958. It found nothing, but in 1963 gas flowed from the Gidgealpa field to the south, and the district had a new industry. In 1972 a syndicate built a new hotel and store in the Innamincka town site, and tourism has dominated the local economy since. In 1988 the Innamincka Regional Reserve was created to conserve the natural heritage values of the Cooper outflow lakes, and in 1994 the Elizabeth Symon Nursing Home was reconstructed within the original concrete walls to become park headquarters.

The Chinese

The population of the townships included an ethnic minority which has received little attention either from historians or in folklore. In the late nineteenth century, Chinese gardeners were active supplying vegetables in Birdsville, Marree, Innamincka as well as Oodnadatta further west. The usual pattern was for a gardener to establish a patch in the fertile alluvial soil on the river flat beside a reliable waterhole and plant a market crop which could be watered by hand: usually including potatoes, cabbages, watermelons and maize. A Chinese garden, cleared of stones, can still be seen on the bank of the Diamantina at Birdsville. Some of the larger homesteads such as Cordillo Downs also had Chinese gardeners.

In larger towns, the garden sometimes supplied a nearby Chinese eating house, but the only record that this happened in the north-east of South Australia was in 1890, when Chinese proprietor William Bing opened an eating house at Innamincka. (Tolcher 1999, p. 54) Other Chinese gardeners presumably sold vegetables to the hotel cooks, or hawked them in the township. While it was well known in the outback that Chinese-grown vegetables provided a valuable dietary supplement which reduced the incidence of scurvy, the Chinese were everywhere ostracised by the European community. The numbers of Chinese gardening in the region must have been small, and there is no record of what became of them; they are not mentioned in the documentary record after the late nineteenth century, although local informants say the Birdsville garden operated until the 1950s.

Historic Theme 3.7.1: Establishing Postal Services

Delivering the Mail

Mail deliveries in the Birdsville and Strzelecki Tracks region were first established on a regular basis through local contracts from Farina and Herrgott Springs. In 1883, when the Great Northern Railway terminated at Farina, mail contracts were let for mail stages from Farina to The Peake and Cowarie, and there was a separate contract from Cowarie to Haddon Downs, via Birdsville. The Birdsville mail contract was to be a fortnightly service, using packhorses or horse drawn vehicles, but in the drought of the 1880s it was to be three years before a mail service got through; the Birdsville Police daily occurrence book records that on 10 April 1886, 'Mr. Ellon arrived with the first mail coach from Marree with four good horses'. The journeys were feats of endurance, and the next mail did not get through to Birdsville until 5 months later. In 1889, the Birdsville Police daily occurrence

book noted 'mail arrived by packhorse as rain at Herrgott held up the coach'. There were changing stations for horses at Clayton, Blazes Well, Kopperamanna, New Well, Mungerannie, Mirra Mitta, Mulka, Mount Gason, Goyder Lagoon, Andrewilla, Pandie Pandie and Birdsville. (Litchfield 1983, p 48) These stations each provided a *de facto* post office service for the communities that lived on and around the station.

In early 1884, Mr. J. O'Brien was the stationmaster transferred from Farina to open a Post and Telegraph Office in the then Herrgott Springs railway yard. O'Brien's home and Post Office were initially in a railway truck. As there were over 1,000 navvies camped within four miles of the township working on the construction of the Great Northern railway; the telegraphic and money order services were constantly in demand. With only small boy delivering messages as his assistant, O'Brien worked up to 20 hours a day, and his customers were a handful:

> To describe the letter deliveries on Saturday night is beyond me. Suffice to say that it took three police officers all their time to manage the crowd and the tent was often in danger. The Government provided me with a six chambered revolver and ammunition. (Litchfield 1983, p. 35)

Facilities improved over the years, with the present Post Office and quarters erected in 1891. Marree continued to be the main clearing post office for mail sent up the Birdsville Track for many decades.

Further south, a fortnightly mail coach service ran between Farina and Innamincka station from the end of 1878, and the service continued until the 1920s. The first trip, with a bullock wagon of supplies for properties along the Strzelecki Creek, took five months to reach Innamincka in April 1879, and from 1909 donkeys were used. Camels were used to negotiate shifting sandhills along both tracks when needed. John Patterson held the mail contract from 1913 until the 1920s, and appointed his nephew Arch Burnett to care for the stage coach horses at Tilpiree waterhole. Many travellers on the coach stayed overnight at the homestead in what was a seven day journey (without mishaps) to Innamincka. The route was seriously considered for a rail extension to Innamincka during the first few decades of the twentieth century. The South Australian Parliament formed a party to investigate the possibility, but their experiences on the Strzelecki Track in 1916 soon dissuaded them from proceeding.

Motor vehicles were used early in the 1920s, when the mail contract for the Strzelecki Track was awarded to Scott Napier, who provided a one tonne Model T Ford truck. Deliveries of mail, supplies and people were all accomplished by the contractors in conditions that put both beast and vehicles to the challenge. In 1933, the Strzelecki stock route virtually closed when the Engineering and Water Supply Department stopped maintaining the wells and bores along the track. Mail was then delivered via Tibooburra in northwest New South Wales from Broken Hill.

Along the Birdsville Track, the fortnightly mail run from Marree was the only regular freight service up until 1926, when contractors began using motor vehicles, usually a light truck or utility. In July 1936 Harry Ding took up the Birdsville Mail run, supplied with two tons of corrugated iron sheets from the South Australian government. Eight sheets were carried on his five ton truck, as well as up to 22 passengers at a time. The slow process of

travelling over sandhills was accomplished by laying the iron sheets over the sand. Journeys varied from three trips a week in good weather, to sixteen days for one trip. It was no wonder that camels in strings of up to 70 in number were still competing with trucks on the Birdsville Track until the 1930s.

In 1948, Harry Ding handed over the Marree-Birdsville contract to his off-sider Tom Kruse, who continued with the deliveries for nearly 20 years, until the 1960s. The writings of George Farwell established the legend of Tom Kruse, who is now by far the best known of the outback mail drivers. (Farwell 1949, pp. 41-43; Litchfield 1983, pp. 56-60) But he was in fact just one of eight or nine Birdsville mailmen who routinely made epic journeys by truck through seemingly impassable outback conditions from 1926 onward.

Communication along the Birdsville Track was provided by the Flying Doctor Service using the pedal radio developed by Alf Traeger for John Flynn during the 1930s. Harry Ding came to an agreement with Alf Traeger to provide a radio base and Ding purchased transceivers lent to the occupants of Lake Harry, Mungerannie, Mirra Mitta and Mulka stations along the Birdsville Track. Ding's long distance trucks carried transceivers as well, so it was possible to maintain communication in transit to learn how much rain had fallen ahead, and other local conditions from the stations.

At Marree, long distance telephone services replaced the telegraph in 1931. A local telephone exchange opened in April 1938 with Harry Ding as the sole subscriber. Development of the service was slow, and it was not until 1975 that 20 subscribers were connected. Internet and telephone services have since improved with the result that outback communication is no longer the problem it used to be.

Historic Theme 7.6.3: Policing Australia

The early European settlers of the north-east were a mobile, predominantly male population, a long way from the civilising influences of both families and courtrooms. Since the 1860s the region has always been policed by a small number of officers from both the South Australian and Queensland jurisdictions, who became accustomed to carrying out an extraordinarily wide range of duties as well as travelling very great distances in the course of their work.

The first police sent into the Birdsville and Strzelecki Tracks region in 1866 were there to protect European sheep and cattle herds from the Dieri people, inflamed by the treatment they had received from the employees of Blanchewater Run. While there were vague sentiments expressed in Adelaide about 'keeping the peace', it is clear that the police in the region never saw their role as protecting Aboriginal people from white settlers; they were there to guard economic property and facilitate occupation of the land for grazing purposes. In the early pastoral period, these police camps were usually transient, consisting of little more than a tent and a stockyard, but camps of this kind were based for quite long periods at Lake Hope, Andrewilla, Mungerannie and Kopperamanna.

As the number of Europeans in the district increased, crime among the European population became of more concern, and police stations were established at Marree, Birdsville and Innamincka in the 1880s. It was not entirely coincidental that in the townships, a police station was usually built at about the same time that a hotel was

licensed. A few years later in 1890, a Police Magistrate was stationed in Birdsville, and a sandstone courthouse was built. (Johnston 1992) South Australia had a more centralised judicial structure, and there was no courthouse north of Port Augusta. This meant that on the relatively infrequent occasions when someone was charged with a crime, the prisoner had to be escorted south by train for trial.

While the deterrent effect of having the police stationed alongside the public house was undoubedly desirable in outback townships, the reality was, as Helen Tolcher pointed out, that 'the bulk of their work was concerned with duties other than law enforcement.' (Tolcher 1986, p. 101) The area for which they were responsible was immense - something like 100,000 square kilometres in the case of the Marree police - and they spent extended periods of time simply travelling from place to place, either on specific errands or on routine patrols, which were usually completely uneventful. The police at Marree and Innamincka were given camels for their patrols, and they remained in use until the 1940s. Their most common law enforcement activity was investigating reported stock thefts, but police were also expected to search for missing travellers, and to identify and bury those found dead. When not out on patrol, police officers in the north-east were usually checking travelling stock, collecting customs duties or filling in forms. Among their duties, they were required to:

> ... act as Assistant Returning Officer at election time; Bailiff and Clerk of the Local Court; Customs Officer; Crown Lands Ranger; Collector of Agricultural Statistics; Commissioner for Taking Affidavits; Destroyer of Wild Dog Scalps; Issuer of Miners' Rights; Issuer of Rations to Aborigines; Inspector of Stock; Inspector of Public Houses; Inspector under the Rabbit Suppression Act; Inspector of Hides; Inspector of Slaughter Houses; Public Vaccinator; Registrar of Dogs and of Births, Marriages and Deaths, and Sanitary Inspector. (Tolcher 1986, p. 102)

Not every police officer in the district was a model citizen. Mounted Constable James de Pury, while based at Innamincka between 1924 and 1928, reported that he had paid bounties on the astonishing number of 25,716 dingo scalps. Local graziers thought this very odd, as the number of live dingoes on their land was increasing steadily throughout the period, and an investigation found that de Pury had falsified the scalp records and pocketed the bounties. He was jailed for fraud, but swindling the Treasury obviously brought little public disapproval in the Innamincka district, for after being released from prison, de Pury returned to the township and ran the Innamincka hotel from 1930 to 1949. (Tolcher 1999, pp. 114-116)

As time passed, the outlying and transient police stations were all closed by the early twentieth century, leaving only the three in the townships. The population of the region progressively shrank, and police and administrative work diminished even further, so that in the 1950s the Innamincka police station closed, shortly after the pub. In the modern era, radio and aircraft have made it possible for police to keep in touch with events over the enormous distances of the region without going out on camel patrols lasting weeks. Today there are only two police officers based at Marree and Birdsville, who are responsible for the entire region.

Historic Theme 3.11: Altering the Environment

Water, bores and pests

Pastoral industry in the Birdsville and Strzelecki Tracks region was utterly dependent on a reliable source of water. Before the Great Artesian Basin was discovered, the getting and storing of water was an uncertain and difficult business. Many of the natural waterholes that sustained the Aboriginal peoples of the area became silted up as a result of years of intensive stocking and grazing along their banks. The mound springs were impacted by unprecedented demands from sheep flocks and cattle herds. When it did occasionally rain, the disturbed banks collapsed into the waterholes and further siltation occurred. The importance of locating reliable water supplies became a major objective in the development of pastoralism in the area.

Dam construction to conserve rainwater runoff was an expensive and laborious process in a country where rainfall was sporadic and unreliable. The sinking of wells was much preferred, if sub-surface water was available. The first recorded well sinking in the region occurred in 1860 (SAPP 177 of 1860, p. 1). Even well sinking did not guarantee a reliable result. When found, often well water turned saline and unpalatable to stock, with a number of dry wells the result of ground waters being too deep to reach. Raising water from reliable wells was a labour intensive process, and required water raising machinery or animals, to lift the water out of the well and transfer it into a stock trough. In some instances, it became a job for a person as a well lifter. The job involved being at the well site constantly and using camels, horses or mules to operate a water whip along a towpath or whim, a circular structure around which the horse or camel walked. A typical whip utilised two 70 litre buckets on a rotating cable, so that as one bucket rose from the well full of water, the other empty bucket descended into the well. The full bucket was then guided to a trough to channel the water into a tank reservoir. A typical whip could equal the capacity of a six horsepower motor or an average windmill. In the early twentieth century, the Beltana Pastoral Company spent lavishly on water improvements on properties like Cordillo Downs and Murnpeowie, building stone tanks and troughs, and installing gas engines to power pumps at a chain of bores. By about the 1920s the reliable steel windmill was becoming the most common means of raising water to tanks and stock troughs.

(The words 'bore' and 'well' sometimes became blurred in the north-east. A well was traditionally dug by hand to an aquifer at relatively shallow depth, whereas a bore was drilled mechanically, usually to very great depth. After the artesian basin was opened in the 1880s, the common availability of drill rigs meant that they were often used to put down shallow bores to aquifers, in place of more labour-intensive wells. Hence 'bore' became an ambiguous term, which could be either artesian, meaning it was very deep and produced hot water flowing under its own pressure, or sub-artesian, meaning it was relatively shallow and produced cold water which had to be pumped to the surface.)

In 1882 the South Australian government adopted a policy for water conservation for the development of the interior and appointed J.W Jones as Conservator of Water (*SAGG* 4 October,1883) Over the next six years Jones and his team had improved or repaired 125 wells and 130 reservoirs, with the aim of providing a watering point every 20 miles along a stock route. But shortly after his appointment, a revolutionary development was to transform water supply throughout much of the Birdsville and Strzelecki Tracks region. In the late 1870s, deep artesian water had been discovered in a borehole in western New

South Wales, and the implications of the discovery had quickly been grasped in South Australia and Queensland. A test bore at Tarkaninna, north-east of Marree, struck South Australia's first artesian water in 1883. Shortly afterward a railway bore was drilled at Marree to water locomotives, defining the location of the township, and as the Great Northern Railway was constructed north-west toward Oodnadatta over the next few years, more bores were drilled along its route.

The South Australian government next proceeded to construct ten bores between Marree and Goyder Lagoon between 1890 and 1916 at a cost of £84,655 to assist in moving stock from the Channel Country in south-western Queensland down to the railhead at Marree. Commencing with the Marree Town Bore which supplemented the railway bore in 1889, the drill teams then moved north, putting down the Lake Harry Bore in 1890, the Kopperamanna Bore in 1897, Dulkaninna Bore in 1898, Mungerannie Bore in 1899, Mount Gason and Mirra Mitta Bores in 1904, Mulka Bore and Goyder Lagoon Bore on Clifton Hills station in 1906, the Clayton Bore in 1908 and Cannuwulkalanna Bore in 1916. (Walpole 1916) By the time the process was well underway, the erratic zigzag course between waterholes was no longer necessary, and stock were following a route between bores that was recognisable as the modern Birdsville Track. From early in the twentieth century, the Birdsville Track and the Strzelecki Track ran roughly parallel across the north-east deserts, about 150km apart. But from this time on, the Birdsville Track would increase in importance, as it headed straight for the railway, and its artesian water was more reliable than the waterholes of Strzelecki Creek.

Originally the government employed a bore keeper to maintain each artesian bore, and their cottages at regular intervals, some with cheerful fruit orchards and vegetable gardens watered from the bore, provided points of human contact in the arid landscape. But the austerity of the early twentieth century put a stop to that tradition, and by 1953 most Water Reserves on which the watering points were originally established had been cancelled and incorporated into the surrounding pastoral lease. As a result the pastoral lessees were required to maintain the appliances at the bores and ensure a 'satisfactory drink' for travelling stock. Over time, many of the bores deteriorated, their originally controlled flow blowing out after the iron bore casings corroded. A government inspection of the bores in 1953 reported that few lessees had done anything to provide a satisfactory watering place for travelling stock and that where such existed they were 'due primarily to the nature of the bore site and secondly to the absence over recent years of serious dust storms in the area'. One recommendation of the report was that "the attention of each lessee be drawn to his obligation to provide a suitable watering point for travelling stock and his responsibilities to maintain the bores and appliances in good order and condition". (Johnson 1953)

A further recommendation of the report was that a 'qualified technical officer make an early inspection in order to advise on the repair of those bores already damaged and the correct maintenance procedure to be adopted in future'. Repairing the blown-out bores was no easy matter, given that most bores had water ejected by high pressure from depths of up to 5,000 feet in a scalding hot stream. Some of the bores had been running out of control for the previous 30 years. For example, at Dulkannina Bore a million gallons of water a day came from a depth of 2,226 feet, reaching the surface at a temperature of 64 degrees Celsius. Today blown-out bores are repaired from a safe distance by skilled drill crews, but that technology was in its infancy in the 1950s.

The repairs were carried out by the Superintendent of Boring in the Mines Department, Mr. R.J. Wilson, who had taken on a daunting task. Wilson tackled the job of repairing the bores by donning a rubber suit, headpiece with goggles, gloves and rubber boots, all filled with cold water. During the heat of summer, he repeated the process for each of the hot artesian bores in need of repair, where broken casings and pipes had corroded and parts needed replacing. A newspaper article reported he had been scalded a few times, but not seriously, resisting the temptation to take his goggles off when they became steamed up. He went on to repair the Goyder Lagoon, Mungerannie and Mulka bores as well as Dulkaninna, his work drawing editorial endorsement in the *Advertiser* newspaper. The episode was certainly one of the more bizarre water management actions in the droving history of the Birdsville Track. (*Advertiser* 13 & 14 August 1957)

Pests

The most dramatic environmental impact to strike the Birdsville and Strzelecki Tracks region was a plague of rabbits, which in combination with other pests and droughts rendered the landscape into a shifting nightmare of erosion and devastation in the first half of the twentieth century. The origins of the rabbit problem occurred during the 1860s when a few rabbits were released by Samuel White in South Australia. Like their Victorian counterparts released in 1859 by Thomas Austin, they were released in the spirit of colonial philosophy to introduce species for practical and recreational purposes. From these unrelated events, dreadful consequences ensued. The rabbits spread north and east and proliferated, providing a plentiful food source for the dingo and devastating the countryside. Combined with massive numbers of sheep and cattle, the rabbits added another pressure onto a landscape that was very different in both character and climate to that of England. Their impact was swift: the Murray River pastoral districts that prior to the arrival of the rabbit could carry 80 sheep per square mile, were reduced to a carrying capacity of 25 to 30 sheep per square mile. (*SAPP* 33 of 1891, p. xxvii) In South Australia, legislation was passed in 1875 to force local government bodies to initiate destruction programs to control the rabbit population. References to the rabbit plague are frequent in the proceedings of the Pastoral Land Commissions of 1891 and 1898.

The arrival of the first rabbits in the Birdsville and Strzelecki Tracks region was precisely documented, for on 1 November 1886, the manager of Blanchewater wrote to Elders' head office in Adelaide: 'I am very sorry to report rabbits have made their appearance on the run.' (Cooper 1965, p. 42) The Queensland government moved quickly to stem the South Australian epidemic, and by 1887 tons of wire netting were being stockpiled beside Cooper Creek as contractors set out to build a rabbit-proof fence along the colonial border. (Tolcher 1986, pp. 114-116) It did nothing to slow the rabbit plague. The helplessness of graziers in the face of the rabbits was described years later by William Oliffe, the manager of Stuart Creek Station, west of Marree:

> About 1890 the rabbits came in thousands and appeared to travel from east to west. they took everything before them in the way of feed and ringbarked all the young trees, such as mulga, box and young gums. They were a curse to the country as the country deteriorated every year. The company (Willowie Pastoral Company) spent a lot of money on the run trying to cope with the rabbits. We tried just about everything we could think of - poison water and trap yards we found the most effective - but

> where we could kill 500 or 600, as many would come to the funeral. There were no vermin fences then. The wild dogs were not so plentiful but they came later, and as they had plenty of rabbits to eat, they soon bred up. Stuarts Creek was one of the best runs in the North for fattening stock until the rabbits overran the country and destroyed the bush. They ruined miles and miles of young mulga and other edible bush which never grew again. (Gee 2000, p. 69)

The rabbits altered the fragile surface soils, in some places already weakened by over-grazing. They stripped all plant cover right at ground level, bared the soil so that it was vulnerable to wind erosion, forming hard crusts so that new seedlings could not emerge. These bare crusted surfaces, if level, pooled rainwater so that it evaporated before the soil could absorb it, and if sloping, eroded into gullies. (Wright *et al* 1990, p. 72) the result was to transform vegetated areas into bare eroded ground which would sometimes persist for generations.

A new industry arose in the north-east: rabbit trapping. Its main purpose was simply to kill rabbits, but there was an economic by-product in rabbit skins, which were used for low-grade furs, or more often processed into felt to make hats. A rabbit processing plant was set up at Lyndhurst south of Marree, and 'rabbiting' provided a subsistence income for a small number of men throughout the early twentieth century. It was a lonely and arduous life, but it kept a few families fed in times when there was no other work available.

The rabbits exacerbated a general depression that was settling over the northern grazing industry. In the same year that Oliffe observed the advent of rabbits at Stuart Creek, a Commission was appointed by the South Australian government 'to inquire into the best means of dealing with available pastoral lands of this colony'. Rabbits had added another woe to a pastoral industry beset by a worldwide depression, low wool prices and other pests such as feral goats, donkeys, foxes and weeds. The pastoral properties along both the Birdsville and Strzelecki Tracks reflected the rest of the industry, when sheep numbers did not recover to the 1890s levels until 1926. In 1916 the members of the Railways Standing Committee observed the effects of rabbits on the Strzelecki landscape:

> Years ago (in 1885) this was a fertile and attractive spot, being covered with verdure and studded with multi-coloured wild flowers. But rabbits roamed over the land in millions, and ate off every bit of vegetation. At one time 10,000 head of sheep were to be seen depastured at Carraweena and Montecollina, now not a sheep could live for miles round. Not only was vegetation destroyed, but the country was so honey-combed with rabbit-burrows that it is now a vast sand-swept area .... As a fact, the party encountered the biggest sandhills here - the Carraweena, the Accalana, and the Cobbler, the last-named being four miles in length, over which the cars were drawn by camels and a big team of donkeys. (Cole 1917, p. 21)

The Cobbler sand dunes on the Strzelecki Track and the Naterrannie sand dunes on the Birdsville Track became famous in travellers' folklore for decades. Once again the landscape resembled what Sturt saw in the drought of 1845, when he described the dunes as 'like the waves of the sea.' But now the sand sea did not just exist in time of drought; the rabbits kept the vegetation from growing in even the best of years. The Pastoral Board, appointed in 1894 under the *Pastoral Act* that resulted from the 1890 Commission

of Enquiry, acknowledged the role of the rabbit in urging the pastoralists to rest their leases from grazing pressure:

> Practically the whole of the pastoral runs of the State held under the provision of the Pastoral Acts 1904 to 1929 are areas with a very low rainfall and are dependent to a large extent for their grazing possibilities on perennial fodders such as salt bush, blue bush and cotton bush, with top feed of mulga, Myall gidyea and other acacias. No doubt, before the advent of stock and rabbits (particularly the latter) the severe droughts to which the country is subject, had no serious effect on the regeneration of these fodders, on the contrary, probably the rainless periods were Nature's fallow for the land, compensating by increased production in the years that follow but unfortunately, through the stocking with cattle and sheep (and in some cases severely overstocking, particularly around water supplies) and the ravages of vermin, rabbits particularly, Nature has not been allowed to bring about the regeneration of the indigenous fodders which are so essential to the successful occupation of this type of country with its low rainfall. (Donovan 1995, pp. 78-79)

The Board refused to reallocate the Montecollina, Carraweena, Tinga Tingana and Chidlee blocks on the Strzelecki Track when they were abandoned in 1935 in order to allow the land to recover from stocking pressure. This however did not stop the rabbits who continued to eat out the country, and the land was used for agistment purposes and restricted grazing by adjoining lessees for another 30 years. Every time there was a good season, the rabbits proliferated and it was not until the 1950s with the release of myxomatosis that the rabbit population was checked. Even then, in one year 12 million rabbits were processed at the rabbit receiving depot in Lyndhurst from Innamincka station alone. This represented more meat than from the cattle sent to market from the station in that year. (Information from Jim Vickery)

The impact of rabbits on both tracks resulted in increased dust storms and sand drifts as the vegetation that anchored the soil was consumed. In combination with drought and other grazing pressure, the impact of rabbits on the vegetation and through the digging of warrens destabilised large areas of dunes, and dust storms intensified following the 1930s droughts. Traffic travelling the Cobbler sandhills of the Strzelecki and those of the Birdsville Track found them increasingly harder to negotiate, as tracks disappeared beneath the drifting sand and homesteads were threatened with engulfment by sand during dust storms. The storms generally lasted three of four days in searing heat and wind. Sand piled up outside buildings, collapsed ceilings and blew in through cracks and under doors of homesteads. Litchfield writes of the 'devastating sensation of checking a sleeping baby in his cot, only to find him completely covered with sand, ears and eye sockets full, as though he'd been there for months rather than minutes.' (Litchfield 1983, p. 73). Eradication programs had little effect as the rabbit was superbly adapted to the environment, dying in their thousands and choking wells and other water sources during times of drought but able to breed up rapidly in good seasons and regain the population numbers that were destroying the country. Rabbits developed immunity over time to the myxomatosis virus released in the 1950s which initially had a dramatic impact on the population.

The escape of the calici virus in the 1990s from Wardang Island where it was being trialled has again reduced the rabbit population throughout the north-east. The rapid spread of

the virus again demonstrated how few barriers there are to rabbit migration throughout the state and how markedly their wholesale destruction will improve vegetation cover. On the whole, the rabbit proved to be a more rapid traveller and hardy settler than human beings, who have always struggled to establish a lasting presence along the tracks.

Dingoes

Destruction of stock by dingoes had been a nuisance to the north-east pastoral industry from the commencement of grazing in the 1860s. However, in the 1890s it grew rapidly from more than a minor annoyance to a major problem. In the first seasons after rabbits arrived in the north, graziers noticed the numbers of dingoes also steadily increasing. There is much debate about the ecological role of dingoes in Australian history, but it is widely believed that there were few if any wild dingoes in Australia before European settlement. They were introduced into Australia by Aborigines as domestic and hunting dogs, and were not tolerated as competitors for food. The journals of early European explorers in the north-east do not mention seeing or hearing dingoes, although they are a daily occurrence today. It was only after dispossession and the collapse of traditional Aboriginal society that feral dingoes began to appear in the landscape in great numbers, and in the arid north, it was only after the arrival of rabbits as an abundant new food source that they flourished.

The Railways Commission of 1916 was shown figures on the deaths of sheep in South Australia attributed to dingoes and foxes, a total of over 650,000 sheep in just seven years:

1908	76,029	
1909	94,938	
1910	83,574	
1911	93,148	
1912	136,409	
1913	96,307	
1914	71,528	(Cole 1917, p. 29)

Graziers responded to the dingoes much as they had to the rabbits, by poisoning, shooting, trapping and fencing, and all of these activities still continue to the present day. The worst impact was on the wool industry, for while adult cattle could defend themselves and their young against dingoes, sheep were completely defenceless. Killalpaninna and Etadunna had their sheep flocks savagely attacked, and gave up wool production in the early twentieth century. This spelled the end of sheep grazing in much of the Birdsville and Strzelecki Tracks region, although the Beltana Pastoral Company which owned Cordillo Downs and Murnpeowie persisted in running sheep until well into the twentieth century, at great cost in doggers and shepherds, and even extensive wire fencing, a practice previously unknown in the region.

Historical accounts are silent on the effect of the rabbit and dingo plagues on the Aboriginal people still living a traditional lifestyle. It is likely that they would have found hunting and food-gathering more difficult, and that the changes in the environment hastened the tendency to drift to the townships. Certainly by early in the twentieth century

there were semi-permanent camps of Aboriginal people at the townships and large homesteads throughout the region.

Dingo predations on sheep resulted in the construction of fences to keep them out. The more affluent pastoralists constructed dingo proof cells of wire netting fences to protect their flocks; the Beltana Pastoral Company fenced the entire northern boundary of its Murnpeowie run. The 1896 *Vermin Act* offered bounties for wild dog scalps and encouraged enclosure areas in the north of the state, although it was also concerned with feral camels, goats and foxes. It was 1912 before the *Wild Dogs Act* specifically aimed government powers at the dingo problem. The early vermin fences were formalised into the establishment of Vermin Fenced Districts, outside of which individual pastoral lessees continued dog proof fencing in the northeast.

Early in the 1940s the pastoralists and government considered joining together the dingo proof cells to form one continuous fence. This dog fence was to run 2,230km across the State from the New South Wales border to the Great Australian Bight. In 1946 the *Dog Fence Act* came into effect, creating a Dog Fence Board to administer the management of the fence. The fence continued on through New South Wales and Queensland under separate jurisdictions, and is now claimed to be the world's longest human-made barrier, extending 5,490km from the Great Australian Bight near Ceduna in western South Australia to Jimbour, about 200km west of Brisbane in southern Queensland. The South Australian fence is unique in that each section is owned and maintained by the pastoral lessee abutting it on the 'inside' or southern side of the fence. Income from a levy on all land in the rateable area is subsidised by the state government on a dollar for dollar basis and held by the Dog Fence Board in the Dog Fence Fund. The fence has been an effective barrier to the dingo, and demarcates the southern inside (sheep country) from the outside (cattle) country north of the fence. It crosses the Birdsville Track 42km north of Marree, and on the Strzelecki Track forms the boundary between Murnpeowie and the Strzelecki Regional Reserve.

Historic Theme 3.5: Developing Primary Production

Sidney Kidman

Since its beginnings in the 1860s, the pastoral industry in the Birdsville and Strzelecki Tracks region had been transformed by recurring drought, economic depression, and now rabbits and dingoes. Some homesteads had been abandoned and re-occupied two or three times. The original small runs had all been amalgamated into larger holdings, and the population of the region was already beginning to shrink. By the 1890s the cattle industry was coming to dominate the region, but it was a long way from the markets and its profits were small.

However, the region's cattle industry had three assets working for it; one was the intermittently excellent fattening country of the Cooper and Diamantina channels, the second was the railhead at Marree, and the third, its potential scarcely realised, was refrigeration. Into this world stepped a new player who would shape its methods for the next hundred years. Sidney Kidman was to become one of the dominant figures in the Australian beef cattle industry, and the largest landholder in the country. His strategy was to build up large holdings in chains focused on the railways to the capital cities and export

ports, with sufficient geographical diversification so that he could control both breeding and fattening properties, and do his own agistment in time of drought. Unlike the nineteenth century grazing magnates such as Thomas Elder and Charles Fisher who concentrated on wool, Kidman was one of the new breed like William Angliss who made their fortunes from beef. Their markets were the metropolitan consumers, and the export trade to Britain, opened up by commercial developments in refrigeration since the 1880s. Whereas the cattle producers of the 1870s had hoped to sell their beef in Adelaide, Kidman sold his in London.

He did not share the optimism of earlier generations of owners who took up the country when it was lush after rain. On the contrary, Kidman frequently bought up the land at its worst, and used it to make profits during droughts. He lost at least 85,000 stock in the great drought of 1900-02, but he understood the effect of reduced supply on the market, for the cattle that made it to the abattoirs in those years fetched premium prices. (Bowen 1987, pp. 112 & 249)

Kidman acquired Cowarie station in 1895, his first in the north-east, then Haddon Downs, Pandie Pandie and Clayton in 1897. After the great drought at the turn of the twentieth century he bought Coongie in 1903 and Mundowdna in 1906, establishing a rough line down to the Marree railhead. The focus of this chain of holdings was at his Mundowdna cattle yards on the railway just south of Marree, where stock were loaded onto rail trucks for Adelaide and the overseas markets. In later years he would add Innamincka, Alton Downs, Mount Gason, Mungerannie, Tarkaninna, Tilcha, Merty Merty and Dulkaninna to his empire. His South Australian landholdings also dominated the Oodnadatta Track in the aftermath of the drought, acquiring an interest in The Peake in 1901, and in Blood Creek, Allandale, Strangways Springs and Stuart Creek in the next few years. Kidman also owned Annandale, Durrie, Glengyle, Carcoory, Thargomindah, Durham Downs and Bulloo Downs over the border in the Queensland Channel Country. These landholdings fluctuated during his lifetime, and have diminished since his death, but the Kidman Pastoral Company still controls large areas of this land today, notably Innamincka in the Birdsville and Strzelecki Tracks region. (Bowen 1987)

Kidman shaped the modern Australian cattle industry. Buying up adjacent properties allowed him to utilise economies of scale in working properties jointly, so that he was able to reduce the size of his workforce, sharing teams of stockmen between three properties and managing them all from a single homestead. There are legends about his meanness, which are probably reasonable - he certainly had a grim single-mindedness about cutting costs - and criticism of his attitude to conserving the land, which are probably unfair. However ruthless his methods seemed, Kidman's management had a lot in common with modern environmental philosophy; he did not try to alter the land to make it more productive as earlier generations of pastoralists had, but worked with the land and the climate as he found them. His stockmen and managers had a loyalty not found in any of the other great pastoral companies, and it was said in praise of their quality that 'a Kidman stockman was [equal to] a Vesteys manager'. (Bowen 1987, p. 98) Kidman's methods encouraged a dry masculine austerity in cattle grazing, a business without sentiment or frills. His aim was to create a lean, efficient beef-producing machine that would put meat on domestic tables at the lowest possible production cost, and the scale and success of his methods forced other producers to emulate them, shaping the whole industry to the Kidman model.

Historic Theme 3.16: Struggling with Remoteness, Hardship and Failure

The isolation of the early homesteads meant that each had to be a completely independent community for months at a time. When the runs were being taken up in the 1870s, the nearest post office was at Blinman in the Flinders Ranges, hundreds of miles away. (Lewis 1922, p. 71) Supplies of manufactured goods such as flour, blankets and clothing arrived from Port Augusta once or twice a year, and between supply wagons everything else had to be made on the spot or done without. Beef and mutton of course provided everybody's staple diet, but most station cooks tried to grow vegetables to combat scurvy. Station hands became expert at making their own harness, boots and hats. The homesteads were usually all-male communities, because it was believed women could not cope with the hardships, and the care and upbringing of children presented major problems, although Henry Colless and his wife took up an early run alongside Innamincka in 1874. She was the first European woman in the Cooper basin. (Tolcher 1986, p. 54) A few sheep runs preferred to employ married couples as shepherd and hutkeeper, because it encouraged them to stay longer.

Health was always an issue on remote pastoral runs. Legendary outback ailments such as Sandy Blight and Barcoo Rot were endemic; the former a painful form of ophthalmia brought on by fly bites, irritation and dirt, the latter an unsightly rash of skin ulcers resulting from the infection of minor scratches in a body deficient in vitamin C. Most people lived on a diet of fresh meat and damper, and generally poor nutrition left many people chronically short of vitamins, especially B and C. Scurvy was probably more common on the Cooper than it was on sailing ships. In wet weather, many people suffered from mysterious 'fevers', probably insect-borne diseases such as dengue and Ross River fever. In dry weather 'dysentery' increased, as it usually does among people practising primitive sanitation while drawing their drinking water from stagnant waterholes. If anything more serious happened, the nearest medical assistance was weeks away; in the event of severe toothache, the blacksmith’s pliers provided the only remedy. Almost every homestead had a little row of grave mounds on a nearby sand ridge.

The way of life and work in the outback meant that death by accident or misjudgment was not uncommon. Stockmen died in falls from horses in the early decades, and when their four-wheel-drive vehicles overturned in more recent decades. Being gored or trampled by cattle was more likely to cause painful injury, but deaths in stock handling were not unknown. After rain, travellers were frequently drowned trying to cross flooded creeks. Police records tell of the many ways people succumbed unexpectedly to a hazardous work environment; by accidental gunshot wounds, falling from bore-sinking rigs, mistakenly drinking sheep dip, or in light plane crashes. Wellsinkers died when wells collapsed on them. A small number died in Aboriginal attacks. Loneliness and depression drove some to suicide. In the vastness of the outback, a few people simply disappeared in circumstances forever unexplained. But the most common cause of premature death was thirst.

Lonely Graves

One of the most sombre words in the vocabulary of the outback is 'perish'. It means to die of dehydration, and it has been the fate of many people in the Birdsville and Strzelecki Tracks region. It is customary today to write romantically of 'the stark beauty and changing moods of Australia's Outback' (2002 Year of the Outback website), but to take those changing moods lightly is to risk an unpleasant death.

A person who perishes is actually killed by their own bodily processes raising their temperature to fatal levels. The human body's metabolic processes are continuously generating heat which has to be shed in order to maintain our constant body temperature. In a temperate environment where the surroundings are cooler than the body, most of this heat is simply lost in our breath and by radiation from our skin. However, when the surroundings rise above our body temperature of about 37°C - as it does for hours nearly every day in summer in the Birdsville and Strzelecki Tracks region - these processes no longer work, and instead our body begins to gain heat from the environment. In these circumstances, the only efficient way our bodies can lose heat is by the cooling effect of evaporation of perspiration from the skin. In that process our bodies can lose as much as ten litres of water in a day. Unless that water is replaced, perspiration fails and our core body temperature rises, causing death. A person exposed to the sun in the extremely hot air temperatures of the outback summer, with no water to drink, can die within hours.

The location of all European settlement in the arid north-east was determined by water; every homestead, shepherd's hut, mission, police station and roadside pub was located beside a natural waterhole, a well or a bore. But the nature of pastoral industry meant that at any one time, many people were on the move between these water sources for a dozen reasons: droving cattle, carrying wool, delivering mail, visiting neighbours, checking stock or looking for work. These were the vulnerable people, especially if they were unfamiliar with the district, for to lose the track, to take longer than planned to travel between homesteads, or to find a waterhole unexpectedly dry, were all ways in which travellers perished. One regular duty of outback police was searching for lost travellers; between 1892 and 1896 the Birdsville police found the bodies of nine people who had perished. (Johnston 1992, p. 52) In hot weather, death came so quickly that there was no possibility of rescue: 'by the time a traveller was missed in summer it was inevitably too late to save him.' (Tolcher 1999, p. 44)

Helen Tolcher documents the lonely deaths of dozens of people in the north-east, most of them travelling on foot, but some on horseback; a German well-sinker walking from Cordillo Downs to Innamincka, two stone masons walking from Innamincka to Haddon Downs, two Chinese gardeners on the same road, stockmen on Cordillo Downs, Innamincka, Cadelga, Coongie and Tinga Tingana. In December 1885 a group of nine men set out on foot from Birdsville to Innamincka to find work. Four lost their nerve halfway and turned back. The other five made it, but the four were found dead among the dunes on Clifton Hills a few days later, at a place remembered for decades as Deadman Sandhill. In all, ten travellers died in the north-east in that dreadful summer. (Tolcher 1986, pp. 182-189) There were other summers like it; in the month of January 1896, six people died in the Birdsville district. (Johnston 1992, p. 52) By that time, images of lonely death in the outback had become a part of Australian folklore and literature:

> Out on the wastes of the Never-Never
> That's where the dead men lie!
> Out where the grinning skulls bleach whitely
> Under the saltbush sparkling brightly;
> Out where the wild dogs chorus nightly
> That's where the dead men lie!
> (Barcroft Boake 1891, in Jalland 2002, p. 246)

Even the experienced could fall victim; overseer Henry Smith or 'Little Jack' as he was known, was out checking waterholes on the Strzelecki in summer when his horse died. His grave beside Toolatchie waterhole has a marble headstone that says: 'Perished Feby 24th 1889'. A marble headstone was rare indeed; a rough wooden cross was a more usual monument, and some who lost the track simply disappeared without trace. In a short time after death, crows and dingoes left little evidence of the victims. On occasions, travellers' scattered bones were found in lonely places and buried years later, some of them never identified.

> In hundreds of Instances the man who is lost in the Australian waste disappears silently forever ... There are so many homeless wanderers tramping across the continent that the here and there one who drops out of the ranks is never missed. Maybe tears are shed in far-away lands, but the bush keeps its secrets well, and rarely lets slip a clue to the identity of its victims. (*Bulletin* 13 October 1894, p. 6; quoted in Jalland 2002, p. 248)

Stock losses of course were far greater than human losses; in a bad summer cattle died by the thousands. In 1914, at the onset of the fourth great drought, drovers taking cattle south for Sidney Kidman miscalculated the distance between water sources, and barely made it to the Koonchera Waterhole near Goyder Lagoon. Trapped there with weakened stock and no water within reach in any direction, they could only watch helplessly for the next few weeks as the water dried up completely, and 1,200 cattle died. (Farwell 1960, p. 159)

An appalling tragedy at Christmas 1963 reminded Australians that death by thirst on the Birdsville Track was not something confined to the pioneering past. Ernest and Doris Page lived in the little village of Shadoxhurst in Kent until they emigrated to Australia with their daughter and three sons, arriving in Melbourne in August 1959, and moving to Adelaide soon after. Ernest was fascinated by the arid interior, and in 1961 he found a job as a motor mechanic in Marree. After two years there, he bought a second-hand Ford Customline and announced to relatives in England and local friends that he was taking the family on a 'working holiday' to Queensland. Towing a trailer of possessions, the Pages left Marree on 21 December 1963 with their young sons Douglas, 12 and Gordon, 10. They began their journey at the height of a sustained heat wave affecting much of Queensland and central Australia. The following day the family reached Clifton Hills station, where they picked up their oldest son Robert, 19, who had been working there as a stockman, and headed north up the track for Birdsville.

A week later, a rabbit trapper found the Pages' abandoned car on a remote station track on Clifton Hills, south of Pandie Pandie homestead. Foot tracks heading away from the

car were covered by blowing sand. A note read: “The Page family from Marree. Ran out of petrol. Are heading south. Have only sufficient water for two days. December 24th.”

It took the trapper another two days to reach Birdsville with the news. On New Years Day 1964 a search began, with police from Birdsville, Marree and Port Augusta, Aboriginal trackers, light aircraft from local stations and an RAAF Dakota. Within hours, a Cessna pilot spotted four people lying under a small tree by the dry Coocherapoonie waterhole nearly twenty kilometres west of the car, but they did not move when the plane buzzed them. Police arrived on the scene to find the parents and the two young boys lying dead. The next day the oldest boy was found dead a kilometre away in the direction of Clifton Hills homestead. The five family members were buried together by the coolibah tree.

Not long after leaving Clifton Hills, Ernest Page must have lost the Birdsville road in sand drifts and headed east on a station track. The car had only 16 gallons (72 litres) of petrol, which ran out while they were casting about, looking for the road. The family probably stayed with the car for two days in 50°C heat before setting out to walk on Christmas Eve. Inexplicably, a four gallon drum containing some water was found not far from their car; they apparently found it too awkward to carry. They headed for a line of trees on the horizon, but finding the waterhole dry they remained there in the shade, probably dying about Boxing Day. Robert struggled on a little further, but was dead long before the search began.

The place where the Page family died is not very far from Deadman Sandhill, and their deaths were a tragic reminder that the realities of life in the Birdsville-Strzelecki region had not changed in a hundred years. The Pages made several fundamental mistakes; to set out in a heavily loaded car on uncertain roads in the most dangerous possible weather was the first. They did not carry enough fuel or water, and they did not tell anyone where they were going or when to expect them. When they knew they were in trouble, they left the shade of their car - and amazingly, their meagre water - and set off to walk cross-country in conditions that meant certain death. Their grave is marked with a simple metal cross, inscribed: “The Pages Perished Dec 1963”. An editorial in the Brisbane *Courier-Mail* spelled out their epitaph more fully as a warning to others:

> ... it can only be hoped that the publicity given to this tragedy will deter others from attempting similar motor trips during the inland summer. (*Courier-Mail* 3 January 1964)

Historic Theme 3.26: Providing Health Services

John Flynn's Mantle of Safety

In the early decades of European settlement in the north-east, there was simply no medical assistance available closer than Port Augusta, a journey which could take two weeks. Any illness or injury had to be taken very seriously in the outback, because many conditions that could be treated simply in the city - influenza or an infected wound - were likely to cause the victim to die before medical attention could be reached. Premature death was accepted stoically as one of the hazards of life in the region, but it had impacts on life and industry; many people were unwilling to live there because of the risk, childbirth was too hazardous for many women to contemplate, and elderly people, women and

children were rarely seen. As a result, few people in the region lived a normal family life, contributing to the transient life that many rural workers led.

This situation was not to change fundamentally until the twentieth century. There was intermittently a resident doctor in Birdsville by the 1890s, and briefly another at Oontoo, but these were private ventures which came and went with the state of the local economy, and were never able to serve more than a small part of the region. The arrival of more reliable health services in the north-east was to be the initiative of the South Australian Government and the Presbyterian church.

In 1906, the Presbyterian Church's Smith of Dunesk Mission sent a nurse to open a bush nursing home at Oodnadatta, which was the terminus of the Great Northern Railway, and serviced an enormous area of inland Australia. When a measles epidemic overwhelmed the service five years later, the Reverend John Flynn raised £350 and built a larger nursing home which opened late in 1911. Realising the need extended far beyond Oodnadatta, the following year Flynn formed the Australian Inland Mission, which was to be the major provider of health services in the outback for many years to come.

State services were getting underway simultaneously. From 1912 a visiting District Nurse held consultations in a room at the Great Northern Hotel in Marree. After an epidemic of enteric fever early in 1916, when the hotel refused to admit the patients, the Marree community raised £400 for a Cottage Hospital and Nursing Home, which opened in August. Hence both the early health initiatives in the South Australian outback were in the railway towns, and prompted by the circumstances of a local epidemic in the township. Both the Oodnadatta and Marree nursing homes have functioned continuously since, and have been on the Royal Flying Doctor Service circuit since the 1950s. Both are now operated by the South Australian Health Commission, and visiting medical and dental clinics operate from Port Augusta.

Birdsville's first nursing facility was opened by the Presbyterian Church's Australian Inland Mission, which took over the closed Royal Hotel in September 1923 and converted it to a Nursing Home, one of a chain which were being established through the outback. It was replaced in 1937 by a purpose-built hospital on the present site, but the new building burnt down in 1951. It was in turn replaced by the present building, which opened in August 1953.

By the early 1920s each of the region's townships had a nursing home, but between them was an enormous area stretching from Marree and Birdsville to Tibooburra in New South Wales, which remained without medical services. To plug this gap, the Australian Inland Mission built the Innamincka Nursing Home in the following years. Sir Josiah Symon of Adelaide made a substantial donation toward its cost and requested that it be named after his mother. The Elizabeth Symon Nursing Home opened on 11 May 1929, and for nearly twenty-five years provided the only nursing facility in the north-east corner of South Australia. Symon's donation enabled the home to be far more elaborate than the modest corrugated iron cottages in Marree and Birdsville. Designed by architect Thomas Macadam of Adelaide, it and the similar AIM home at Alice Springs were the state of the art in design for hot dry conditions, with high roofs, thick concrete walls and wide screened verandahs.

Flynn's vision extended well beyond scattering nursing sisters across the outback. He was one of the generation who had been deeply impressed by the new technologies of aviation and radio communication which had been developed during the First World War, and as early as 1918 had been pressing for their use in providing medical services to isolated parts of Australia. He described this as spreading a 'mantle of safety' over the inland. Early aeroplanes and radios were expensive and needed adapting to cope with outback distances and climate, so it was 1928 before an experiment was set up at Cloncurry in Queensland, using radio transmission to call in a doctor by chartered aircraft. By 1937 the first Flying Doctor Service base was established at Broken Hill, and Traeger radio transceivers were coming into use at homesteads and mining camps. Further bases across Australia followed, including Alice Springs in 1939 and Charleville in 1947, which between them put the whole of the Birdsville and Strzelecki Tracks region under Flynn's mantle of safety.

By about 1950, most of the outback had become much safer, and people were more confident about living in places that had once been dangerously isolated. For the first time, station owners and managers were happy about having their families living at outback homesteads. And to a greater extent than Flynn or anyone else had expected, the prevalence of these new technologies had implications far beyond the provision of medical assistance in an emergency. First, in a landscape that for generations had been inhabited mostly by laconic men in big hats, there were now many more families. The presence of more children and the availability of radio services led in 1950 to the establishment of the School of the Air, which still educates thousands of children in isolated areas today. Most pastoralists built a landing strip, at first for the Flying Doctor to land, but then in the prosperous years of the 1950s, many could afford to buy a light aircraft and park it in a little corrugated iron hangar; transport in the outback was transformed beyond recognition. The radio in every homestead also became a means for business communication, for organising social activities, or just for chatting with friends. The isolation of outback life, which had caused so much despair in the past, was now diminishing.

The most conspicuous monument to Flynn's services in the Birdsville and Strzelecki Tracks region today is the re-built Elizabeth Symon Nursing Home. By 1953, with the Royal Flying Doctor Service providing medical services throughout the outback, the Innamincka nursing home closed. The building was dismantled in 1954, and its timbers and roof cladding were taken to Mount Leonard station in Queensland to build stockmen's quarters, which were destroyed by fire in 1970. The town of Innamincka was completely abandoned, and the concrete walls of the nursing home stood as a gaunt monument for 40 years. In 1994, the building was reconstructed by National Parks and Wildlife SA as the headquarters of the Innamincka Regional Reserve, and is now the focus of conservation, government administration and tourist interpretation in the district. (Bilton 1961; Burchill 1960; *Elizabeth Symon Nursing Home* 1994; Idriess 1932)

Historic Theme 3.4: Utilising Natural Resources

The Oil and Gas Industry

The early twentieth century saw the slow decline of the far north-east of South Australia, the township of Innamincka and the Strzelecki Track. Extended periods of bad seasons and depression shrank the population. Drought and dingoes put an end to sheep grazing,

and the Beltana Pastoral Company sold its interests. There had never been much government support for the Strzelecki Track; while the government artesian bores kept open the stock route further west between Marree and Birdsville, along Strzelecki Creek there were only a few government wells and one artesian bore, sunk at Monte Collina in 1903. In the dry seasons the Strzelecki route simply became impassable to stock.

Sidney Kidman followed the government bores and extended his empire along the Birdsville Track, but showed little interest in the Strzelecki. His company bought Merty Merty in 1924 and grazed it intermittently, but he didn't trust the Strzelecki waterholes to get his cattle south. During droughts, Kidman's cattle from Innamincka were driven west to Mount Gason bore and down the Birdsville Track to Marree. The Farina mail coach ceased to run in the 1920s, and the town of Innamincka slowly shrank away to nothing over the next thirty years. By 1933 droving down the creek had virtually ceased, and the government stopped maintaining the wells along the stock route. By the 1950s, all the homesteads along Strzelecki Creek were abandoned.

What brought life back to Strzelecki Creek was the oil and gas industry. The rise of private motor vehicles as an important form of transport had created an enormous demand for petroleum-based fuels and lubricants, and petroleum prospecting was a booming industry all over the world. The new explorers in the Birdsville and Strzelecki Tracks region were geophysicists and geologists who combed the land for indications of oil. Early in the 1940s the government of Thomas Playford made much of South Australia available to private companies for mineral exploration under licence, and the Department of Mines played a significant part in early exploration. The remoteness of the area made exploration an expensive and difficult undertaking. In 1941 the *Petroleum Act* came into effect, but it was not until after the end of the Second World War that further investigation of the north-east region became possible, given the absence of encouraging signs. The new explorers were backed initially by the state government and later by private companies or state/private consortiums. Exploration was expensive, and the process was assisted by subsidies by the Playford government in South Australia and by the Federal government through its *Petroleum Search Subsidy Act* 1957.

After an overseas trip in 1953 where he observed seismic surveying in progress, Playford decided that the state should run its own seismic surveys. In the same year, the South Australian Northern Territory Oil Search (Santos) and Geosurveys of Australia were formed. Geosurveys carried out magnetic and gravity surveys in the Great Artesian Basin between Birdsville and Marree in mid 1956. After the Suez crisis in that year the search for oil and gas in Australian became more intense.

By 1958, geological surveys had identified prospective oil- and gas-bearing formations in the Innamincka area. Test drilling was the next step, but the district was virtually abandoned, and road access for heavy trucks was feasible only through Tibooburra in New South Wales. The Playford government was determined to build a road that would allow drill rigs from South Australia into the area. After a hasty reconnaissance of the deserted stock route, construction work began on a truck road from Murnpeowie to Innamincka. Under political pressure, the road was opened to Innamincka in January 1959, and the first drill hole, Innamincka No. 1, was commenced in March. (Donovan 1996, pp. 26-29)

The first wells at Innamincka were barren, and drilling moved south-west to Gidgealpa. The Delhi-Santos consortium unsuccessfully drilled a well at Gidgealpa No. 1 and were reluctant to undertake the expense of drilling a second well, prompting a reassessment by the Department of Mines of the area. When the Department insisted under the provisions of the *Petroleum Act* that the companies test the Permian section of Gidgealpa No. 1 or alternatively drill a second well, there was some controversy. It took the persuasive powers of Premier Playford to get Santos to agree to drill the second well. On 31 December 1963, Gidgealpa No. 2. struck a natural gas deposit later measured at 2.8 million cubic feet of gas. When news of the discovery reached Adelaide, Delhi recalled a supply plane that was already in the air bound for the Gidgealpa site, and loaded it with cartons of champagne, so that the discovery could be celebrated along with New Year. (O'Neill 1998, pp 205-209).

Encouraged by the first gas flow, operations expanded to Moomba and Tirrawarra in the later 1960s, and more gasfields were mapped out. Further discoveries of gas at the Moomba field in 1966 resulted from a flurry of exploration in all parts of the State and precipitated the establishment of the Pipelines Authority of South Australia (PASA) under the *Natural Gas Pipelines Authority of South Australia Act* in 1967. With a commercial gas flow assured, in 1969 a gas processing plant was built at Moomba, 40km west of Strzelecki Creek, the first new township established in the Birdsville and Strzelecki Tracks region since Innamincka in 1890. By July 1969, a 56cm diameter pipeline from Moomba to Adelaide was completed over a distance of 750 kilometres, making Adelaide the second city in Australia after Brisbane to be supplied with natural gas through a pipeline. Adelaide’s gas supply converted from coal distillation to natural gas between 1969 and 1971 as a result of the Moomba development. (O'Neil 1998, p. 24)

The first discoveries were gas, not oil, but the search for petroleum continued. Activity in the Cooper Basin intensified when Delhi-Santos farmed out areas of their petroleum exploration licences, and eventually ten companies formed a consortium named the Cooper Basin Producers Unit to effectively control the development of the area. An oil flow from Tirrawarra No. 1 well in 1970 brought confirmation that the geology of the Cooper Basin contained excellent oil producing deposits. During the 1980s this was confirmed when the Cooper Basin was proven to contain Australia's largest known on-shore oil reserves and the Cooper Basin Liquids Project was commenced. The latter resulted in production facilities at Port Bonython, the first shipment of condensate through the Moomba-Port Bonython liquids pipeline for shipping to Geelong in Victoria, the commencement of liquefied petroleum gas (LPG) and the first shipment of LPG to Japan. Further discoveries of oil in the Eromanga Basin during the 1990s led to it becoming of interest after the deeper deposits of the Cooper Basin had been discovered. The producing oil and gas fields now extend far east into the Jackson Basin of south-western Queensland.

The Cooper Basin area through which the Birdsville and Strzelecki Tracks run became one of the most important economic resources discovered and developed in Australia during the second half of the twentieth century. More than 350 drill holes were carried out between 1977 and 1984, and thousands of kilometres of seismic data recorded. The oil and gas resource exploration program heightened an awareness of the fragility of the arid landscape. Early shot lines bulldozed across the desert landscape could be seen clearly from outer space, and it was clear that natural rehabilitation was a very slow process in an

arid environment. There was also unnecessary damage to historic sites; the ruins of old Tinga Tingana homestead were severely damaged by seismic line crews. Public criticism of the environmental practices of exploration activity led to the development of environmental codes of practice, with the first code for seismic work adopted in 1984 by Delhi and the Department of Mines. In 1989, an environmental assessment and a code of environmental practiced became a mandatory requirement before exploration and development operations could be approved. During the last two decades of the twentieth century, the mining companies involved in the area have managed their activities with greater awareness and environmental care, and terms such as 'sustainable production' express regard for the ecological issues inherent in any exploitation of the arid landscape.

Historic Theme 3.8.7: Building and Maintaining Roads

Building Roads to the Interior

Although the Birdsville Track had become the main road to the north-east during the first half of the twentieth century, it was the Strzelecki Track that was resuscitated by the oil and gas surveys of the 1950s. More specifically, it was resuscitated by Premier Thomas Playford, who was determined not to have drilling equipment arriving in the district by way of the existing road through Tibooburra, which would shift some of the economic benefits to New South Wales. The Playford government was determined to build a road that would allow drill rigs from South Australia into the area, and issued orders to get road construction underway immediately. Laurie Steele, Mines Department engineer for the Far North, led a reconnaissance of the old route to the north-east in two Land Rovers in September 1958. Interviewed by Peter and June Donovan many years later, he gave an interesting description of the state of the abandoned Strzelecki Track:

> We stopped the first night at Murnpeowie Station and got all the information we could and the next day we set out at first light. Our first aiming point was the lake crossing between the lakes because we found out there had been the odd dingo trapper who used to go up the Strzelecki after dingoes and they said that maybe we could follow some of their tracks. The first part of the trip was quite okay. The station had tracks out as far as Blanchewater.
>
> After we got past Blanchewater the tracks were pretty vague and we actually had to use a compass to get towards the lake crossing. We hit it pretty well straight away. Just before we got to the lake crossing, we could see the Cobbler Sandhills. they were really frightening. All you could see was the high sandhills in the distance. They didn’t look at all good. So we got across at this lake crossing alright.
>
> Once we got into those Cobblers the going was dreadful. It was sandhills but they were sort of tusky spinifex-like tusks, and we had to ride our way around these tussocks. It was very, very slow going. One land rover got bogged and we had to pull it out. We were aiming by compass for the Monte Collina Bore. We had that location from the pastoral plan. We battled all day getting through these Cobbler sandhills, driving and taking rough notes. We were just getting an idea of what was involved in making a road, making a track through it. It wasn’t very easy. The idea of making a road through there wasn’t very appealing at all. But anyway we got to Monte Collina Bore and that was like an oasis. We could see it for quite some distance.. There was

> a pipe sticking up in the air like a pole and of course, there was water flowing on the ground. It was obvious that any road we'd have to build we'd have to make for that as a point where we could get water because water was obviously needed for putting a road in. The supply of water was going to be quite a problem.
>
> After the Monte Collina Bore we made for the crossing over the Strzelecki on the old pastoral route. it was obvious that around the crossing things were going to be pretty difficult. the sandhills seemed to come right down to the Strzelecki and getting a passage through them was going to be very difficult.
>
> We passed the old Carraweena ruins and found the old Tinga Tingana homestead that had simply been abandoned. I remember we even saw an old chamber pot under an old bedstead, and there was a grave of one of the owners or lessees of the place there.
>
> It was quite an experience travelling along the flats adjacent to the Strzelecki soon after rain. All the waterholes were full, there were ducks on every waterhole, there were brumbies, there were dingoes, wild camels and a few cleanskin cattle. On the flats there were brolgas, many of them dancing.
>
> The next decent water point we came to was the Merty Merty Well that had been used up till a few years before by the Innamincka Station people. The last fifty miles was dreadful going because we were going across the clay flats called crab hole country. There were holes up to about a foot in diameter and six or eight inches deep and we lurched in and out of these. The whole area was pock marked with these holes. It was much more comfortable walking alongside the vehicles because they had to go very, very slow going through these things.
>
> Eventually we got to Innamincka and were made very welcome by Jim Vickery who was the station manager there, where we stopped the night. (Donovan 1996, pp. 24-25)

After this hasty reconnaissance of the deserted stock route, construction work began on a truck road from Murnpeowie to Innamincka. Under political pressure, the task was urgent, and was pushed on through the summer months. No survey was done; a Land Rover simply went ahead cross-country to pick out a route, and the construction teams followed its signals. Generally the new road paralleled the western side of Strzelecki Creek, staying close to it to avoid the dunefields. The road was opened to Innamincka in January 1959 allowing the first drill hole to be commenced in March. (Donovan 1996, pp. 26-29)

Large convoys of trucks began to use the road immediately it opened, and heavy traffic continued for the next ten years. From 1959, the new Strzelecki Track became the principal route to the oil and gas fields of the Cooper Basin, first at Innamincka, then Gidgealpa where the first gas was struck in 1963, and expanding to Moomba and Tirrawarra in the later 1960s. When the underground gas pipeline was laid to connect Moomba with Adelaide in 1969, it ran parallel to the west of the road, crossing under it near Monte Collina bore and continuing south while the road swung west.

This energy infrastructure was to have a dramatic economic effect on South Australia, but it would also shape traffic patterns in the Strzelecki Creek region. The road built in 1958 had headed straight up Strzelecki Creek with Innamincka as its objective, and in the process its builders were essentially following Conrick's 1874 dray route past every waterhole. However, the Moomba processing plant and its service township were built in the desert to the west, and the new road to it diverged from Strzelecki Creek near Toolatchee waterhole. Relatively little traffic followed the creek north from there to Innamincka. From 1969 onward, the new Strzelecki Track began to part company from the old stock route.

Nature imposed even greater changes in 1974, when enormous floods from Queensland flowed down the Cooper, and Strzelecki Creek filled both lakes Blanche and Callabonna. It was the greatest inundation since Europeans had arrived in the Cooper Basin, and the Strzelecki Track was blocked by water for six months. Major roadworks followed, and most of the hastily-built 1958 route was abandoned for a new alignment further from the creek. With greater funds available, and no political need for haste, the gasfield roads were completely rebuilt to modern specifications. The new road diverged from Strzelecki Creek nearly 100km south of Moomba and followed the pipeline north. Another new road connected Moomba to Innamincka. The new generation of roads, completed in 1979, no longer followed any of the Strzelecki channel, simply crossing it at one point. Since then, only tourists have followed the old road alignment along Strzelecki Creek, and after more than 20 years without maintenance, much of it is now difficult to find. (Donovan 1996, pp. 41-52)

Historic Theme 3.23: Catering for Tourists

Tourism and Conservation

After decades of drought and disillusionment, depressed prices for beef, the thinning of the population by Sidney Kidman's grazing methods, and the drift to the cities, the population of the north-east had shrunk back to a few hundred people by 1945. Travelling from Marree to Birdsville with the mail truck in the late 1940s, George Farwell passed only five occupied homesteads in 330 miles: Lake Harry, Dulkaninna, Mungerannie, Clifton Hills and Pandie Pandie. (Farwell 1949, p. 88) If he made the same journey today, Farwell would be startled to see thousands of people using the Birdsville Track.

Motivated by new interest in the natural environment and a sense of adventure, and given the means to travel in the outback by modern four-wheel drive vehicles, tens of thousands of tourists now visit the Birdsville and Strzelecki Tracks region every year. The influx is seasonal, occurring mostly in the winter months, and peaking during school holiday times, for many of the travellers are in family groups. This has brought new commercial life to Marree and Birdsville, which supply fuel, food and campground accommodation to tourists. Innamincka came back to life in the 1970s and Mungerannie in the 1980s to provide services to tourists on the two tracks. As the pastoral stations rely on long distance road transport and obtain very few goods and services locally, tourists now generate virtually all of the local townships' business. That business is not to be sneezed at; some tourist suppliers along the tracks now see bigger annual cash flows than the neighbouring cattle stations.

The re-opening of the north-east in the 1960s, and the extensive studies of flora and fauna that accompanied the geological investigations and the commencement of gas production, brought the first understanding of the environmental values of the Cooper Basin. Several areas were of particular interest: Lake Eyre, the largest salt lake in Australia, the relatively unaltered arid zones of the Simpson and Strzelecki deserts, and the Coongie Lakes and other wetlands of the Cooper outflow. The Simpson Desert Conservation Park was created in 1967, and Lake Eyre was declared a National Park in 1985.

However, there were potential conflicts in land use, for the Strzelecki Desert and Cooper outflow lakes were areas that were highly prospective for oil and gas; indeed the Tirrawarra, Dullingari, Della, Kidman and Toolachee fields were already in production in those areas by the 1980s. In a compromise intended to conserve the environmental values of these areas while permitting commercial production to continue, the South Australian government created a new form of land tenure called regional reserves. The Innamincka and Strzelecki Regional Reserves were created in 1988. These are effectively National Parks with conservation management plans, administered by Park Rangers, but they also permit both oil and gas production and cattle grazing, within environmental guidelines. Nearly three-quarters of the length of Strzelecki Creek is within these reserves; Strzelecki Regional Reserve takes in roughly the southern half of the Strzelecki Creek channel, and Innamincka Regional Reserve roughly its northern quarter. The newest industry on the Strzelecki Creek region is tourism, which has been growing steadily since the 1970s. Almost all the traffic along the old Strzelecki Track today is generated by tourists, and concentrated in the winter months.

The dominant heritage of the Birdsville and Strzelecki Tracks is the nature of the land, with its unique ecology and character. Not surprisingly, the total park area within the north east of South Australia is 71,000 square kilometers representing 29% of the total area of the north east deserts. In 1990 Bonython identified five large parks, including Lake Eyre National Park, Witjira National Park, Simpson Desert Conservation Park, Simpson Desert Regional Reserve and Innamincka Regional Reserve. Others are the Elliot Price Conservation Park and an extension of the Gammon Ranges National Park into the north eastern desert area. (Bonython 1990, pp. 215-221) Conservationists view the status of the parks with some reservations, given that a wide licence is permitted for resource exploration and the regional reserves must reconcile the conflicts between potential resource exploitation with management of the environment and its ecology. In 2001, the tourist map of the Strzelecki Track traverses the Strzelecki Regional Reserve and the Innamincka Regional Reserve and visitors can purchase a ‘Desert Pass’ from the National Parks and Wildlife Service which advises of places within the area and provides information on sensible behaviour in a potentially hostile environment.

Summing Up

The early history of the Birdsville and Strzelecki Tracks region was the story of the intrusion of a European people bringing grazing animals into an arid landscape already occupied by Aboriginal people with a totally different economy and view of the world. The first thirty years of the region's history are mostly the story of the failure of those two groups of people to accommodate, so that one largely took possession of the land and dispossessed the other. The activity of the early decades - the flurry of explorers, surveyors, pastoral lessees, German missionaries, battles for land and water - had all calmed down to a steady state by the 1890s, with the Europeans in control of the land, but still coming to terms with it.

Then the Europeans began to alter the landscape, sometimes deliberately with stock routes, camels, wells and artesian bores, sometimes inadvertently with their over-stocking, rabbits and the feral dingoes that followed. Paradoxically, they created an environment in which it was much more difficult for their grazing industry to prosper, and sheep began to disappear from their landholdings. They were forced to amalgamate small land holdings into larger ones, and the population began to decline.

By the turn of the twentieth century the economic geography of the region was already taking on its present form; the staple cattle industry and the modern transport routes were taking shape, and today's towns (except Moomba) were all in place. All three townships established as administrative centres by 1885 are still there (or in Innamincka's case, there again) while all the later ones have vanished. This implies that government administration was a powerful force in shaping the settlements.

The changes that have happened since have mostly been brought about by three forces: Sidney Kidman, motor transport and the oil and gas industry. Kidman, for all his faults, converted cattle producers to accepting the land as it was instead of trying to change it, and did much to create the modern industry. The decades of austere but reasonably stable beef industry were his legacy. The discovery and production of fossil hydrocarbon fuels has transformed the regional economy of the north-east, bringing back population and infrastructure to serve a new staple industry.

And the third staple industry is tourism, created by wealth and leisure time among city dwellers, and made possible by the abundance of cheaply available motor vehicles. For a few weeks each year in the winter school holidays, there are more people in the Birdsville and Strzelecki Tracks region than there have ever been before. What most tourists want to see is the land itself, so tourism is closely linked to efforts to conserve the natural environment. The modern history of the Birdsville and Strzelecki Tracks region is the process of coordinating the activities of the three modern staple industries so that each has a viable future.

2.2 Chronology of Events

1824 Moreton Bay settlement in Queensland (NSW)
1836 Colony of South Australia established
1840 Eyre explores north and formulates theory of the 'horseshoe' lake
1842 Free settlement begins in Queensland (NSW)
1845 Sturt reaches Strzelecki Creek and Cooper Creek
1846 Mitchell names the 'Victoria' River
1847 Kennedy establishes that the 'Victoria' is the Barcoo, joining Cooper Creek
1851 Waste Lands Act (SA) creates 14-year pastoral leases
1856 Babbage explores north-west of the 'horseshoe'
Gregory drives stock from Kimberleys to Darling Downs
1857 Hayward and Sleep take up Mount Chambers and Rawnsley Bluff (SA)
1858 Baker takes up Blanchewater run (SA)
Gregory arrives from Queensland through the 'horseshoe'
Babbage and Warburton discover the Mound Springs
Parry surveys the Marree region
1859 Separation of Queensland from New South Wales (boundary 141° meridian)
Stuart names Herrgott Springs
Stuckey takes up Lake Hope run (SA)
Hack and McDonald explore Cooper Creek
Davenport and Chambers take up Finniss Springs and Stuart Creek (SA)
1860 Burke & Wills expedition to cross Australia leaves Melbourne
Goyder surveys and names Lake Eyre
Lands Act (Qld) creates 14-year pastoral leases
1861 Burke & Wills perish at Cooper Creek
Rescue expeditions led by Howitt, McKinlay, Landsborough & Walker
Mitchell District opened to grazing (Qld)
1862 Howitt returns to Melbourne with remains of Burke & Wills
Queensland border shifted west to 138° longitude
Enniskillen, Bowen Downs & Nive Downs runs taken up (Qld)
Stuart succeeds in crossing Australia from south to north
1863 Northern Territory annexed to South Australia
1864 Gregory District opened to grazing (Qld)
1865 Elder and Stuckey import camels from Pakistan
1866 Cullamurra Mission Block reserved
Moravians establish Kopperamanna mission
1867 Lutherans establish Killalpaninna as Hermannsburg mission
Queensland railway extended west to Toowoomba
1868 Elder takes up Manuwalkaninna run (SA)
Debney and Woodford take up Mundowdna (SA)
Durack takes up Thylungra (Qld)
German missions move to Lake Bucaltaninna
1869 Lutheran catechism published in Dieri language
1870 Overland Telegraph construction commences
Milner drives sheep from Kopperamanna to Darwin
Redford drives stolen cattle from Bowen Downs to Blanchewater
Lake Harry taken up

1871 German missions abandoned
MacGilliray rides from Queensland to South Australia
1872 Overland Telegraph opens
Debney takes up Etadunna (SA)
Elder buys Blanchewater (SA)
Bostock selects Innamincka (SA), believing it to be in Queensland
1873 Conrick takes up Nappa Merrie (Qld)
Elder takes up Monte Collina (SA)
1874 Campbell takes up Innamincka (SA)
Gilp and McCallum take up Tinga Tingana (SA)
MacGregor takes up Glengyle (now Roseberth) (Qld)
1875 Wilson brothers take up Land of Promise (later Coongie) (SA)
Hood brothers take up Tirrawarra (SA)
Laughton takes up Cullamurra (SA)
Helling and Paull take up Cowarie (SA)
1876 Pizey takes up Clifton Hills (SA)
Pain takes up Pandie Pandie (SA)
1877 Frew takes up Cadelga (SA)
Muloorina taken up (SA)
Wilson takes up Cacoory (Qld)
Costello takes up Arrabury (Qld)
1878 Vogelsang revives Killalpaninna as Bethesda mission
Chapman takes up Cordillo Downs (SA)
Whittingham takes up Alton Downs (SA)
Conrick drives first cattle from the Cooper to Adelaide
Logic murders Mulhall at Tinga Tingana
1879 Poeppel surveys Queensland-South Australia border
Burt establishes store at Diamantina Crossing (Birdsville)
Cave takes up Kalamurina (SA)
South Australian railway extended north to Quorn
1880 Spence takes up Goyder lagoon (SA)
Howie brothers take up Haddon Downs (SA)
1881 First Birdsville race meeting
1882 Police station established at Innamincka
Tirrawarra incorporated into Innamincka (SA)
1883 Great Northern Railway reaches Farina
Marree township surveyed
Queensland customs post established at Birdsville
Tarkaninna bore strikes artesian water (SA)
Great Northern hotel opens at Marree
Birdsville and Royal hotels open at Birdsville
Queensland-South Australia border fence built
Waite takes up Kanowana (SA)
Waite, Elder & Barr Smith buy Cordillo Downs (SA)
1884 Great Northern Railway reaches Herrgott Springs (Marree)
Marree railway bore sunk
Railway extended west from Marree toward Oodnadatta

1885 Birdsville township surveyed
South Australian customs post established at Innamincka
Etadunna homestead established (SA)
Cordillo Downs wool scour established
Logic escapes from prison
Bad summer - many travellers perish
1886 Marree-Birdsville mail service established
Diamantina Divisional Board (later Shire) established at Birdsville
Queensland customs post established at Oontoo
Oontoo township surveyed
Innamincka hotel licensed
Cullamurra incorporated into Innamincka station
Rabbits arrive in the region
1887 Betoota township surveyed
Mungerannie hotel opens
1888 Oontoo hotel opens
Great Western Railway reaches Charleville
Coal discovered at Kuntha Hill
1889 Marree town bore sunk
1890 Innamincka township surveyed (briefly named Hopetoun)
Birdsville courthouse built
Lake Harry bore sunk
Blanchewater run incorporated into Murnpeowie (SA)
Murnpeowie homestead established (SA)
Kidman buys Cowarie (SA)
1891 Birdsville Railway Royal Commission
Kidman buys Glengyle (Qld)
Tinga Tingana abandoned
1894 Mungerannie hotel closes
1896 Dulkaninna subdivided from Mundowdna
1897 Kopperamanna bore sunk
Kidman buys Alton Downs (SA)
1898 Railway reaches Cunnamulla
Beltana Pastoral Company buys Murnpeowie and Cordillo Downs
Dulkaninna bore sunk
1900 Lake Harry date plantation and Muloorina camel depot established (SA)
Mungerannie bore sunk
Kidman buys Cacoory (Qld)
Oontoo hotel closes
1901 Mirra Mitta bore sunk
Lake Callabonna Fossil Reserve created
1902 Oontoo customs house closes
Kidman buys Coongie (SA)
1903 Killalpaninna Aboriginal Reserve created
Cadelga incorporated into Cordillo
Kidman buys Pandie Pandie (SA)
Mount Gason and Monte Collina bores sunk
1904 Kidman buys Innamincka (SA)

1905 Kidman buys Mundowdna (SA)
Haddon Downs incorporated into Cordillo (SA)
Goyder Lagoon bore sunk
1906 Mulka bore sunk
1907 Machine shearing introduced at Cordillo and Murnpeowie (SA)
Marree school built
Marree township bore sunk
1908 Coongie incorporated into Innamincka station (SA)
Clayton bore sunk
1912 Aiston establishes Mulka store
1914 Mungerannie subdivided from Cowarie (SA)
Royal Commission into Aboriginal Welfare
1916 Marree nursing home established
Cannawaukaninna bore sunk
First motor car drives Birdsville Track
Visit of Railway Standing Committee
Kopperamanna abandoned
1917 Killalpaninna abandoned
Railway reaches Quilpie
1919 Merty Merty subdivided out of Innamincka, Tinga Tingana & Strzelecki
1920 Dulkaninna abandoned (SA)
Powell occupies Killalpaninna
Royal hotel at Birdsville closes
1923 AIM nursing home in former Royal hotel at Birdsville
1924 Aiston relocates Mulka store to New Well
1926 Commonwealth takes over Central Australia Railway
Birdsville mail carried by trucks
1929 Elizabeth Symon Nursing Home (AIM) opens at Innamincka
Killalpaninna abandoned
Government camel depot abandoned
Monte Collina abandoned
1931 Cordillo Downs abandoned
1932 Dulkaninna re-occupied
1935 Manu Main outstation occupied
1936 Cordillo Downs re-occupied
1937 Flying Doctor Service base at Broken Hill
Traeger radio transceivers in use
AIM vacates former Royal hotel at Birdsville
1938 Muloorina re-occupied
1939 United Aborigines Mission established at Finniss Springs
Flying Doctor Service base at Alice Springs
1942 Cordillo Downs grazing cattle - last sheep gone from region
1945 Clifton Hills homestead relocated to Goyder Lagoon bore
1946 Dog Fence Act (SA)
1947 Flying Doctor Service base at Charleville
1948 Manu Main outstation abandoned
1949 Large flood in Cooper Creek
1950 School of the Air established
1952 Innamincka hotel closes

1953 Elizabeth Symon Nursing Home closes
Innamincka police station closes
Birdsville nursing home opens
Mulka store abandoned
1954 Santos (South Australian Northern Territory Oil Search) formed
1956 Clayton subdivided from Mundowdna
1957 Marree railway converted to standard gauge
1958 Oil and gas surveys commence in Strzelecki-Cooper region
Strzelecki Track upgraded for oil and gas survey traffic
1959 Innamincka Number 1 Well drilled
1960 Finniss Spings Mission closes
1961 Birdsville town bore sunk
1963 Natural gas flow from Gidgealpa Number 2 Well
Page family perish at Clifton Hills
1964 Campbell breaks world land speed record on Lake Eyre
Dig Tree Memorial Reserve created
1965 Birdsville hydro power station operating
1966 Gidgealpa station subdivided from Innamincka and Merty Merty
1967 Natural Gas Pipelines Authority Act (SA)
Simpson Desert Conservation Park created
1968 Petroleum Act (SA)
1969 Moomba township established
Gas pipeline to Adelaide opens
Monte Collina incorporated into new Tinga Tingana
1970 Oil flow from Tirrawarra Number 1 Well
1972 Innamincka hotel re-opens
1974 Large flood in Cooper Creek
Strzelecki Track re-routed on higher ground
1975 Cooper Basin Ratification Act (SA)
1980 Central Australian Railway closes
1985 Lake Eyre National Park created
1988 Innamincka and Strzelecki Regional Reserves created
1989 Mungerannie hotel re-opens
1994 Elizabeth Symon Nursing Home reconstructed as NPWS office
1995 Rabbit calicivirus released