View of Cooloobindi.

ABORIGINAL CULTURAL HERITAGE STUDY

PART ONE: REPORT

NARRABRI LOCAL GOVERNMENT AREA

SEPTEMBER 2020

Report prepared by

OzArk Environment & Heritage

for Narrabri Shire Council

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DISCOVER THE POTENTIAL

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Acknowledgement

OzArk and Narrabri Shire Council acknowledge the Traditional Owners of the area on which this assessment took place and pay respect to their beliefs, cultural heritage and continuing connection with the land. We also acknowledge and pay respect to the post-contact experiences of Aboriginal people with attachment to the area and to the elders, past and present, as the next generation of role models and vessels for memories, traditions, culture and hopes of local Aboriginal people.

ABBREVIATIONS AND GLOSSARY

AHIMS	Aboriginal Heritage Information Management System. Administered by Department of Premier and Cabinet, AHIMS is the central register of all Aboriginal sites within NSW.
Assemblage:	All artefacts recorded at a location. In this report, assemblage refers to stone artefacts as this was the only artefact class recorded.
NPW Act	*National Parks and Wildlife Act 1974*. Primary legislation governing Aboriginal cultural heritage within NSW.
PAD	Potential archaeological deposit. Indicates that a particular location has potential to contain subsurface archaeological deposits, although no Aboriginal objects are visible.
TSR	Travelling Stock Reserves. A network of Crown land reserves used for moving and grazing stock around New South Wales.

EXECUTIVE SUMMARY

OzArk Environment and Heritage (OzArk) has been engaged by Narrabri Shire Council (Council) to complete an Aboriginal Heritage Study over the Narrabri Local Government Area (LGA) (the study). This study has been funded by the New South Wales (NSW) Government in association with Council.

The study has two objectives:

1. To ensure that the Aboriginal community of Narrabri LGA is meaningfully consulted in regard to which sites and places within the shire are important to them.
2. To identify a group of sites of significance to Aboriginal people that may be appropriate for listing as Local Heritage Items on the Narrabri Local Environmental Plan (LEP) under Schedule 5 Environmental Heritage.

In the period between April to September 2019, OzArk undertook consultation with relevant Aboriginal persons with interests in the Narrabri LGA. Community workshops were held on 20 August and 21 August 2019. Both community workshop meetings were well-attended and valuable discussion occurred.

As a result of the consultation undertaken for this study, a number of places were put forward by the local Aboriginal community as being significant and warranting further investigation and potential inclusion on the Narrabri LEP.

There are a number of recommendations for further work which have been identified during the course of this study:

- Oral history surveys of life at town camps and reserves, and to a lesser extent for missions, may be necessary to assist in the preparation of heritage assessments for potential LEP listings. Oral history records of Aboriginal life in the early post-contact period in the Narrabri LGA contain less detail than comparable areas near missions such as Brewarrina (Bourke Shire Council LGA) and Terry Hie Hie (Moree Plains Shire LGA).
- Multiple sites, with identified Aboriginal heritage significance, have not been located by the current study. The location of these sites, such as natural bores across the Narrabri LGA, could be investigated by future studies.
- The process of listing any suggested sites must involve Aboriginal community consultation to gain consent for the publication of the location or knowledge concerning any LEP sites. The Aboriginal community should also be consulted when determining appropriate curtilages for any sites and places listed.

There are eight (8) places that are recommended to be considered for listing on the Narrabri LEP. Some of these locations are still in use today by the local Aboriginal community and will be used into the future as well.

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1 INTRODUCTION

1.1 AIMS AND OBJECTIVES

OzArk has been engaged by Council to complete an Aboriginal Heritage Study over the Narrabri LGA. This study has been funded by the NSW Government in association with Council.

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2. To identify a group of sites of significance to Aboriginal people that may be appropriate for listing as Local Heritage Items on the Narrabri Local Environmental Plan (LEP) under Schedule 5 Environmental Heritage.

We note that this document is not prepared as evidence to support any Native Title aspirations of local Aboriginal people and accordingly we seek to ensure that we do not pre-judge the research which we understand to be ongoing for that purpose.

1.2 REPORT AUTHORS AND CONTRIBUTORS

This report has been written and contributed to by:

- Report Author: Dr Alyce Cameron (OzArk Senior Archaeologist, BA [Hons] and PhD [Archaeology & palaeoanthropology] Australian National University).
- Report Author: Harrison Rochford (OzArk Heritage Officer, MPhil (Ancient History), BLib. Studies [Hons], University of Sydney).
- Reviewer: Ben Churcher (OzArk Principal Archaeologist; BA [Hons], Dip Ed).

We are indebted to the Aboriginal community stakeholders who met with us and spent time discussing the study and sites.

1.3 LOCATION

Narrabri LGA is located in the central north region of New South Wales (**Figure 1-1**). It is located adjacent to the Namoi River and the town of Narrabri is at the junction of the Newell Highway and the Kamilaroi Highway. There are a number of smaller towns, villages and localities in the LGA including Baan Baa, Bellata, Boggabri, Edgeroi, Gwabegar, Pilliga and Wee Waa (Figure **1-2**).

Figure 1-1: Location of the Narrabri LGA.

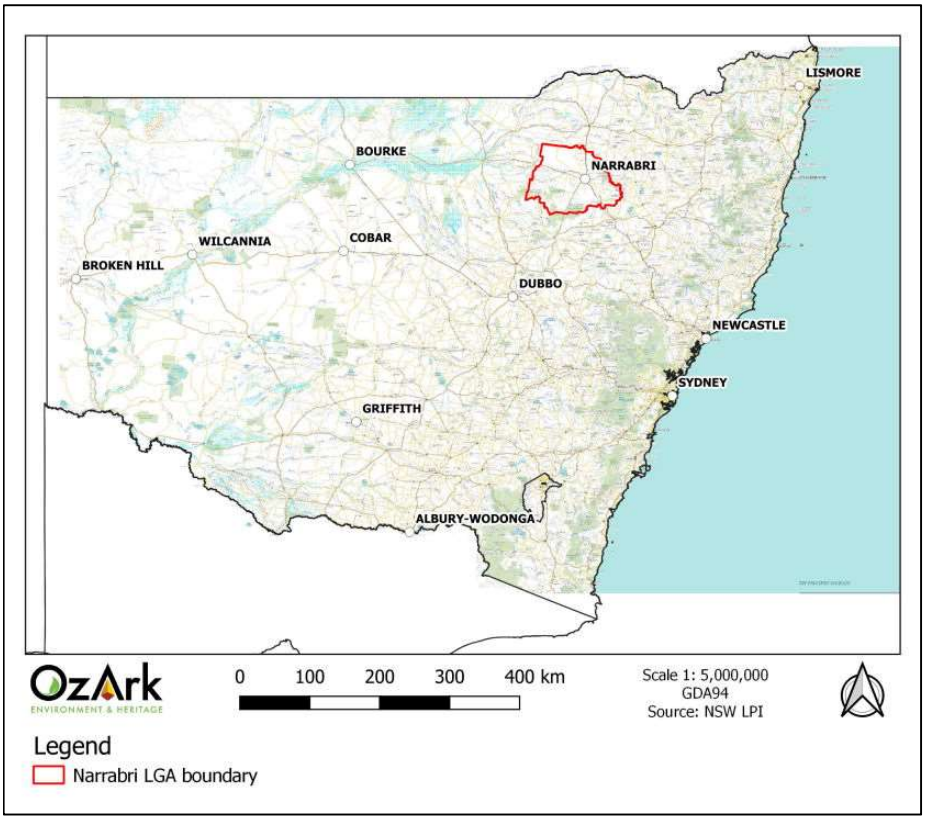
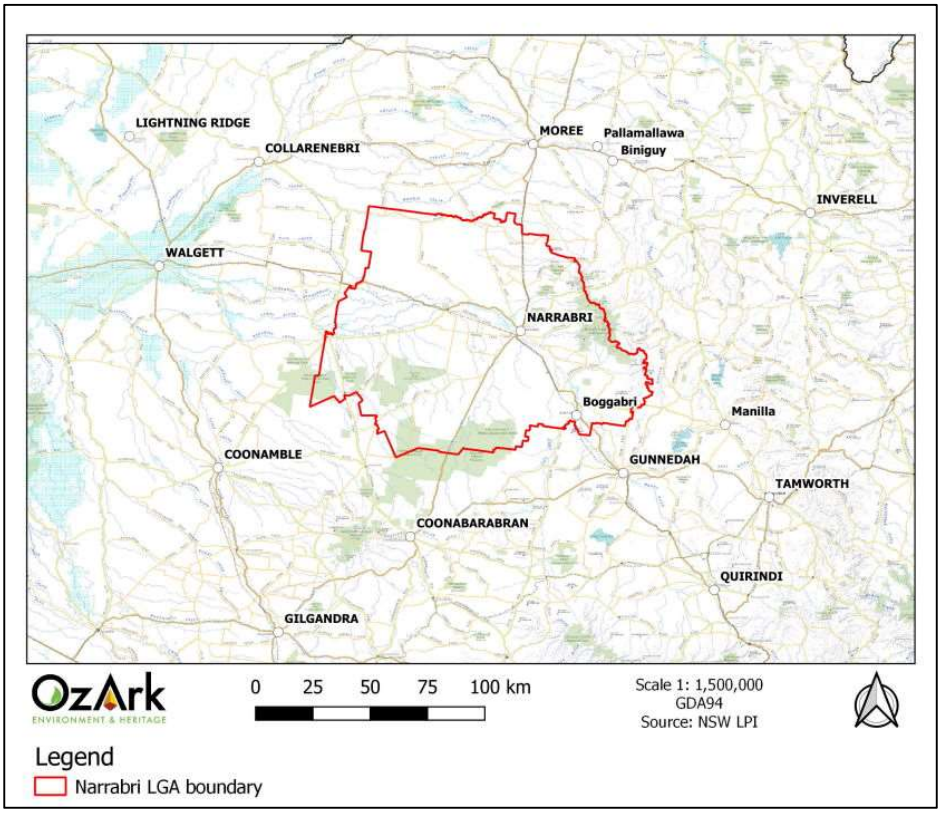


Figure 1-2: The Narrabri LGA in its regional context.



1.4 CONSTRAINS AND LIMITATIONS

A primary aim of this study was to engage with the local Aboriginal community and workshops were scoped and held in Narrabri and Wee Waa. Although the workshops were well-attended and good outcomes were achieved, there are further people with varying types of knowledge to contribute who may not have been able to attend these meetings.

While the nominated places of significance came as a result of the community consultation with local Aboriginal people, many of the findings of this report are, nevertheless, based on a desktop review of resources.

This study did not rely on any field survey within the Narrabri LGA and no site visits were undertaken. However, those Aboriginal people who were able to participate expressed enthusiasm that the Narrabri Shire Council was seeking to engage with the Aboriginal community for this study and are hopeful that this study might form the basis of further studies.

An additional constraint of the study was that the signatures from the appropriate Local Aboriginal Land Councils were unable to be obtained to support the application for an *Aboriginal Heritage Information Licence Agreement* (AHILA). An AHILA would have meant the study could have obtained all Aboriginal site data across the Narrabri LGA from the Aboriginal Heritage Information Management System (AHIMS). The reasons for the LALCs not providing their agreement are not given, however, it is suspected that there is a general concern within the Aboriginal community about how such information will be used. As set out in **Section 5.2.1**, the lack of an AHILA meant a number of separate AHIMS searches had to be undertaken that did not entirely cover the LGA.

1.5 RELEVANT LEGISLATION

Aboriginal heritage in NSW is managed by a number of state and national Acts. Baseline principles for the conservation of heritage places and relics can be found in the *Burra Charter* (Australia ICOMOS 2013). The *Burra Charter* has become the standard of best practice in the conservation of heritage places in Australia, and heritage organisations and local government authorities have incorporated the inherent principles and logic into guidelines and other conservation planning documents. The *Burra Charter* generally advocates a cautious approach to changing places of heritage significance.

In NSW Aboriginal cultural heritage is currently largely managed by provisions within the *National Parks and Wildlife Act 1974* (NPW Act) which provides protection for all Aboriginal objects (whether they are known or recorded or otherwise) and declared Aboriginal places[1].

There are a range of other heritage protection facilities also available for the purpose of protecting Aboriginal cultural heritage in NSW, including: the *NSW Heritage Act 1977* (Heritage Act), which protects the state's most outstanding heritage items and places, Aboriginal and otherwise; the *Environment Planning and Assessment Act 1979* (EP&A Act) and the *Crown Lands Act 1989* (CL Act).

The EP&A Act is also a key piece of legislation for the management of development in NSW. Cultural heritage is considered to be a part of the environment under this Act and requires that Aboriginal cultural heritage, and the possible impacts to Aboriginal heritage that development may have, are formally considered in land-use planning and development approval processes.

The CL Act enables covenants to be placed over Crown Land to protect environmental, cultural and heritage values before the land is sold or transferred.

The NPW Act remains the core NSW legislation to be relied upon to protect Aboriginal cultural heritage and it operates to do so in a range of ways. Firstly, all Aboriginal objects are automatically protected under this law (including objects which are not recorded or 'known'). Further, places of importance to Aboriginal individuals and communities may be given additional legal protection under provisions of the NPW Act by the following steps:

- Declaration of new Aboriginal Places.
- Reservation and management as Aboriginal Areas and national parks.
- Formal agreements on the joint management of national parks.
- Formal agreements with land owners (Voluntary Conservation Agreements).

Table 1-1 further sets out the wide range of additional legislative and regulatory frameworks which have a direct relationship with the protection of Aboriginal cultural heritage in NSW (OEH 2012: 5–6).

[1] See, for example, Aboriginal heritage legislation in NSW: How the Aboriginal heritage system works. Published by the State of NSW and the Office of Environment and Heritage (2012). https://www.environment.nsw.gov.au/resources/cultureheritage/20120401system.pdf.

In essence, if there are any steps that a party is anticipating taking which might potentially have an impact on Aboriginal heritage then the overarching form of protection is to take reasonable steps to identify any such potential impacts in relation to the various Acts and regulations described below.

Table 1-1: Aboriginal Heritage Legislation in NSW (source: OEH 2012: 5–6).

Legislation / Policy	Relevance to Aboriginal culture and heritage
National Parks and Wildlife Act 1974	Provides for the protection of Aboriginal objects and declared Aboriginal Places in NSW; and to foster appreciation, understanding and enjoyment of Aboriginal cultural heritage. Provides protection by establishing offences for 'harm' (damage, destroy, deface or move). Requires that information on Aboriginal cultural heritage be maintained in AHIMS. Allows for the reservation of Aboriginal Areas and for the co-management of some national parks through Boards of Management.
Heritage Act 1977	Lists and gives protection to places of Aboriginal heritage significance that are of 'State' heritage significance on the State Heritage Register. Consultation is undertaken with Aboriginal groups for places listed specifically for Aboriginal significance.
Environmental Planning and Assessment Act 1979	Provides planning controls and requirements for environmental assessment. Oversees land-use planning for local areas. Compulsory clause in standard Local Environmental Plan template specifically for conservation of locally significant Aboriginal heritage.
Crown Lands Act 1989	Sets out processes and principles for using and managing Crown land. The Act enables covenants to be placed over Crown land to protect environmental and cultural and heritage values before the land is sold or transferred.
Aboriginal Land Rights Act 1983	Establishes a system of Local Aboriginal Land Councils (LALC) across NSW. LALCs and NSWALC can also acquire and deal in land and negotiate agreements for access to private land for cultural resource use. LALCs have a role in the protection and promotion of awareness of Aboriginal culture and heritage.
Native Title Act (NSW) 1994	Enables full ownership of land via native title as well as provision for making agreements via Indigenous Land Use Agreements (ILUA).
Forestry Act 1916	Allows for the co-management of State Forests. Boards of Management have been established and resourced for three State Forests. Under this Act, Aboriginal people can gain access to state forests for obtaining forest products and materials.
Catchment Management Authorities Act 2003	Aboriginal Reference Groups and Advisory Committees advise CMAs. Aboriginal employment facilitated via projects funded through the Commonwealth 'Caring for Country' program.
Fisheries Management Act 1994; Marine Parks Act 1997	The NSW Indigenous Fishing Strategy supports involvement of Aboriginal people in fisheries management and aquaculture. The Fisheries Management Act issues permits for taking fish for cultural community events. The Marine Parks Act permits Aboriginal cultural resource use in certain areas/zones of marine parks in particular circumstances.
Rural Fires Act 1997; Bush Fire Environmental Assessment Code	When hazard reduction and wildfire control is carried out, Aboriginal heritage is considered via AHIMS searches and consideration of relevant management plans.
Water Management Act 2000	Aboriginal representation on water management committees; Aboriginal cultural access and community development licences as part of Water Sharing Plans.
Game and Feral Animals Control Act 2002	Certain Aboriginal people are exempt from licence requirements for hunting feral animals.
Land Acquisition (Just Terms Compensation) Act 1991	An authority of the State of NSW may acquire land in exceptional circumstances.
Threatened Species Conservation Act 1995	Requires that Aboriginal people's interests be considered in threatened species recovery plans.
NSW Cultural Resource Use Framework	Enables access to land for cultural purposes; outlines processes of community engagement to be undertaken for public lands.

1.5.1 The role of a Local Environmental Plan

In NSW a LEP protects Aboriginal heritage items within a LGA. The Narrabri LEP (gazetted 21 December 2012) states its aims at **Section 1.2**, to encourage '*protecting, enhancing and conserving…places and buildings of heritage significance*'. The currently listed places of environmental and heritage significance are listed at Schedule Five (5). There are currently no heritage places listed that protect identified Aboriginal cultural values.

1.5.1.1 Commonwealth legislation

There is commonwealth legislation of relevance but in NSW all state avenues would have been exhausted prior to looking further afield. The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* may be relevant where state-based processes are unable to protect any item under threat of injury or desecration that is of importance to an Aboriginal community. The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* may also be relevant to some development proposals, particularly where there are heritage values which are arguably of national significance.

1.5.1.2 State legislation

National Parks and Wildlife Act 1974 (NPW Act)

As presented above in **Table 1-1,** the NPW Act provides for the protection of Aboriginal objects and declared Aboriginal Places in NSW. There are currently no Aboriginal Places gazetted within the Narrabri LGA.

In cases where there is no way to avoid directly impacting an item or place with Aboriginal heritage significance then a process of applying for a permit to impact Aboriginal heritage is available through the NPW Act. To quote from OEH 2012: 8:

> *The NPW Act also contains the process to help people determine that their actions will not harm Aboriginal objects. The process is described in the OEH* (Heritage NSW) *guideline titled Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (2010). If the due diligence process shows that an activity such as development may harm an Aboriginal object or declared Aboriginal Place then the developer must investigate, assess and report on the harm that may be caused by that activity. This second process is described in the OEH guideline titled Guideline to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (2011). Where harm*

> *to an Aboriginal object cannot be avoided, an application for an Aboriginal Heritage Impact Permit (AHIP) must be made by the developer. These permits are issued at the discretion of the Director General. All AHIP applicants must undertake consultation with Aboriginal communities in accordance with the NPW Regulation.*
>
> *If a developer harms an Aboriginal object or declared Aboriginal Place without an AHIP, the developer has broken the law and can be prosecuted in the courts. The NPW Act identifies a number of defences and exemptions to the offence of harming an Aboriginal object or declared Aboriginal Place*
>
> OEH 2012: 8

Heritage Act 1997 (Heritage Act)

The Heritage Act is applicable to the current study.

This Act established the Heritage Council of NSW. The Heritage Council's role is to advise the government on the protection of heritage assets, make listing recommendations to the Minister in relation to the State Heritage Register, and assess/approve/decline proposals involving modification to heritage items or places listed on the Register. Most proposals involving modification are assessed under Section 60 of the Heritage Act.

Automatic protection is afforded to 'relics', defined as 'any deposit or material evidence relating to the settlement of the area that comprised NSW, not being Aboriginal settlement, and which holds state or local significance' (note: formerly the Heritage Act protected any 'relic' that was more than 50 years old. Now the age determination has been dropped from the Heritage Act and relics are protected according to their heritage significance assessment rather than purely on their age). Excavation of land on which it is known or where there is reasonable cause to suspect that 'relics' will be exposed, moved, destroyed, discovered or damaged is prohibited unless ordered under an excavation permit.

2 ABORIGINAL STAKEHOLDER CONSULTATION: METHODS AND RESULTS

In the period between April to September 2019, OzArk undertook consultation with relevant Aboriginal persons with interests in the Narrabri LGA. This consultation was in the form of email, postal mail and phone calls to relevant Aboriginal agencies and individuals.

Formal notice of the study objectives and announcement of dates for local workshops to discuss the study were provided to all parties identified in the consultation period. Newspaper and social media advertisements were placed, and posters were created.

On 20 August 2019, a community workshop meeting was held at the Bowls' Club at Wee Waa; and on 21 August 2019, a community workshop meeting was held at the Narrabri Shire Council Chambers, Narrabri. Both community workshop meetings were well-attended and valuable discussion occurred.

One of the key outcomes of the consultations with Aboriginal stakeholders was that the community consultation meetings were considered a good first step, and that participants were interested in the process following the submission of this report to Council.

3 LANDSCAPE CONTEXT

3.1 TOPOGRAPHY

The topography of the Narrabri LGA is characterised mostly by flat plains, with some waterways and associated terraces. There is little deviation in elevation across the western half of LGA, especially when compared to the eastern half which has several distinct small hills or mountain ranges (**Figure 3-1**).

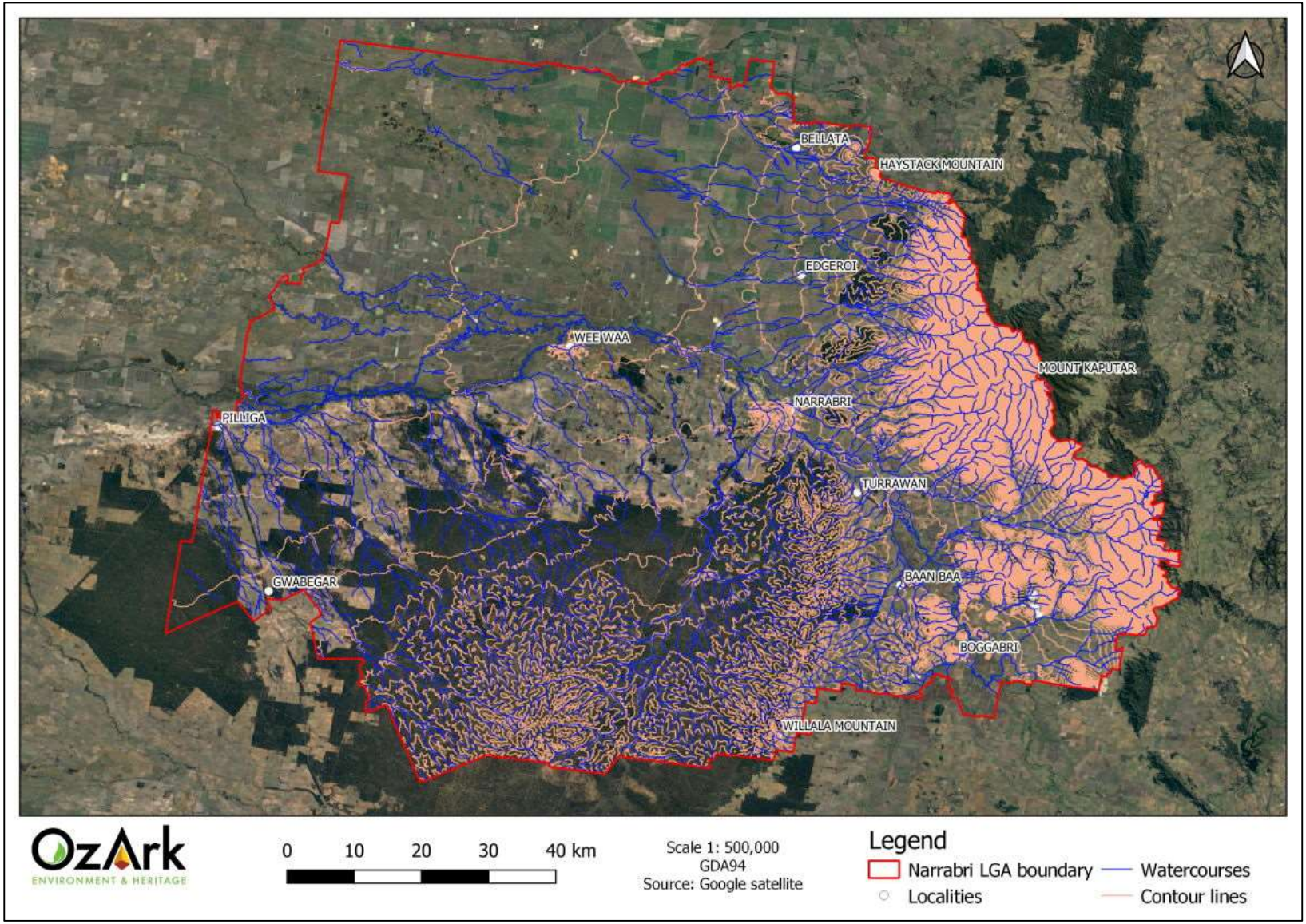
Australia's landscape can be classified into eighty-nine (89) geographically distinct bioregions. The classification is based on climate, landform, native vegetation and species information. These eighty-nine (89) bioregions are refined further into four hundred and nineteen (419) sub bioregions which are localised and homogenous geomorphological units inside each bioregion (DEE 2019).

Narrabri LGA has three bioregions: Darling Riverine Plains, Brigalow Belt South and Nandewar. These are further refined into two sub bioregions of Nandewar (Kaputar and Peel) and five sub bioregions of the Brigalow Belt South (Northern Outwash, Northern Basalts, Liverpool Plains, Pilliga and Pilliga Outwash). Both the Brigalow Belt South and Darling Riverine Plains are dominated by Quaternary sediments (from the past two and half (2.5) million years) tended to be coarser in the east and finer to the west. The Nandewar bioregion contains the youngest geological features in NSW, with Triassic sandstones and shales deposited two hundred and fifty (250) million years ago on the edge of the Gunnedah basin.

3.2 GEOLOGY AND SOILS

Narrabri LGA falls predominantly into the Brigalow Belt South bioregion, which is characterised by landscapes derived from either basalt flows or quartz sandstone. Basalt areas tend to have well structed clays and high levels of nutrients, whereas the sandstone country has thin sandy soil with fewer nutrients. The bedrock features of Darling Riverine Plains to the west are covered by alluvial deposits, leaving sandy soils with low nutrient values and rapid drainage. The Nandewar soils around Kaputar are stony brown loams between the frequent basalt outcrops. (NPWS 2003).

Figure 3-1: Topography of the Narrabri LGA.



3.3 HYDROLOGY

Narrabri LGA is dominated by the Mooki-Namoi River system, with the main waterways draining into the system, with only a few to the north of the LGA flowing to the Gwydir. Areas west of the Nandewar Ranges contribute to the Murray-Darling River basin, consisting of the Macintyre-Dumaresq, Culgoa, Narran, Warrego, Paroo, Moonie, Barwon, Gwydir, Namoi, Macquarie, Yanda, Castlereagh and Darling catchments.

The main waterways in the LGA are Bohena Creek, Coghill Creek, Cubbo Creek, Etoo Creek, Maules Creek, Millie Creek, Pian Creek, Mulgate Creek, Horsearm Creek, Long Gully and Narrabri Creek, an altered anabranch of the Namoi River. The area also includes Yarrie Lake, an endorheic lake that does not flow to the river systems and was likely caused by a meteorite impact.

Much of the landscape of the Narrabri LGA contains Quaternary alluvial plains with extensive scalding interpreted as relic floodplains or terraces. This indicates that there has been considerable channel migration of the LGA's main drainage lines, particularly areas to the west approaching the confluence of the Namoi and Barwon rivers.

3.4 VEGETATION

There are three (3) National Parks (NP) within the Narrabri LGA: Couradda NP, Moema NP and Mount Kaputar NP. There are also two (2) NSW National Parks and Wildlife administrated Aboriginal Areas: Deriah and Willala.

Reflecting the logging history of the area, there are also twenty-three (23) state forests and conservation areas inside the LGA: Barr; Bobbiwaa; Bubblewindi; Coomore; Couradda; Cubbo; Culgoora; Cumbil; Deriah; Etoo; Euligal; Jack's Creek; Janewindi; Killarney; Leard; Minnon; Moema; Orr; Pilliga East; Quegobla Rusden; Plagyan; and Vickery.

The vegetation today is greatly altered from its pre-1788 form across much of the LGA, even in these reserves. The Pilliga forests in the southwest of the LGA would have consisted of sparse blue-leafed and silver-leafed ironbark (*Eucalyptus fibrosa* and *Eucalyptus melanophloia*) and large white cypress pine (*Callitris glaucophylla*) interspersed with grasses (mostly *Triodia sp.*) (Rolls 1981:1–7). Vegetation today is much denser as acacia species and casuarina species form a solid undergrowth between the eucalypts.

The Riverine landscapes to the northwest of the LGA support a less diverse range of vegetation, featuring hardy species such as myall (*Acacia pendula*), white cypress, poplar box and belah (*Casuarina bristata*).

3.5 CLIMATE

The climate throughout the Narrabri LGA ranges from subhumid and temperate in the southeast to semi-arid and hot in the west. The annual mean maximum temperature is 26.9 degrees Celsius for Narrabri. The highest mean maximum temperature is during January (34.9 degrees Celsius), while the lowest mean minimum temperature is during July (18.1 degrees Celsius) (BOM 2019). Rainfall ranges from 566–1270 millimetres (mm) per annum in the Kaputar National Park to 213–607 mm in the semi-arid northwest.

3.6 LAND–USE HISTORY AND EXISTING LEVELS OF DISTURBANCE

Narrabri LGA is predominantly agricultural land with the larger urban centres (Boggabri, Narrabri and Wee Waa) along the banks of the Namoi.

According to the Australian Land Use and Management (ALUM) classification, most of the Narrabri LGA is classified as production from dryland agriculture and plantations, including cropping, grazing and horticulture. The dryland agriculture is interspersed with production from irrigated agriculture and plantations. Along the southern boundaries of the LGA, land use is mostly production from relatively natural environments, which includes native plant grazing, forestry and conservation (DAWR 2019).

3.7 CONCLUSION

The topography, hydrology and climate of the Narrabri LGA would have been conducive to nearly year-round occupation by Aboriginal people prior to 1820s when the land of the Pilliga forests and the Liverpool plains were settled by colonial graziers.

The environment of the Narrabri LGA would therefore support varying densities of population that will be reflected in the distribution of Aboriginal sites. Obvious nodal points are the major waterway of the Namoi running east–west across the LGA, but smaller waterways that would have had more reliable water pre-1788 are also likely to have been significant. Areas away from these water sources, such as the subhumid grasslands and open forests of the southeast, would have supported a range of food producing activities. The flat alluvial plains that characterise much of the northwest may have been more difficult to manage in terms of resource procurement and

supported a smaller population, although changes to vegetation and hydrology in the post-contact era are likely to have exacerbated the harshness of this environment.

Further complicating the past population distribution is the fact noted in **Section 3.3** that areas of the Narrabri LGA contain relic floodplains and terraces. Therefore, it is not possible in this environment to conclude that where there is water today always had water in the distant past. Conversely, landforms distant to water today, may well have been near water in the past. As will be seen in **Section 6**, this makes the task of predicting where Aboriginal sites are likely to be located difficult in such a dynamic landscape.

4 BRIEF HISTORY OF THE NARRABRI LGA

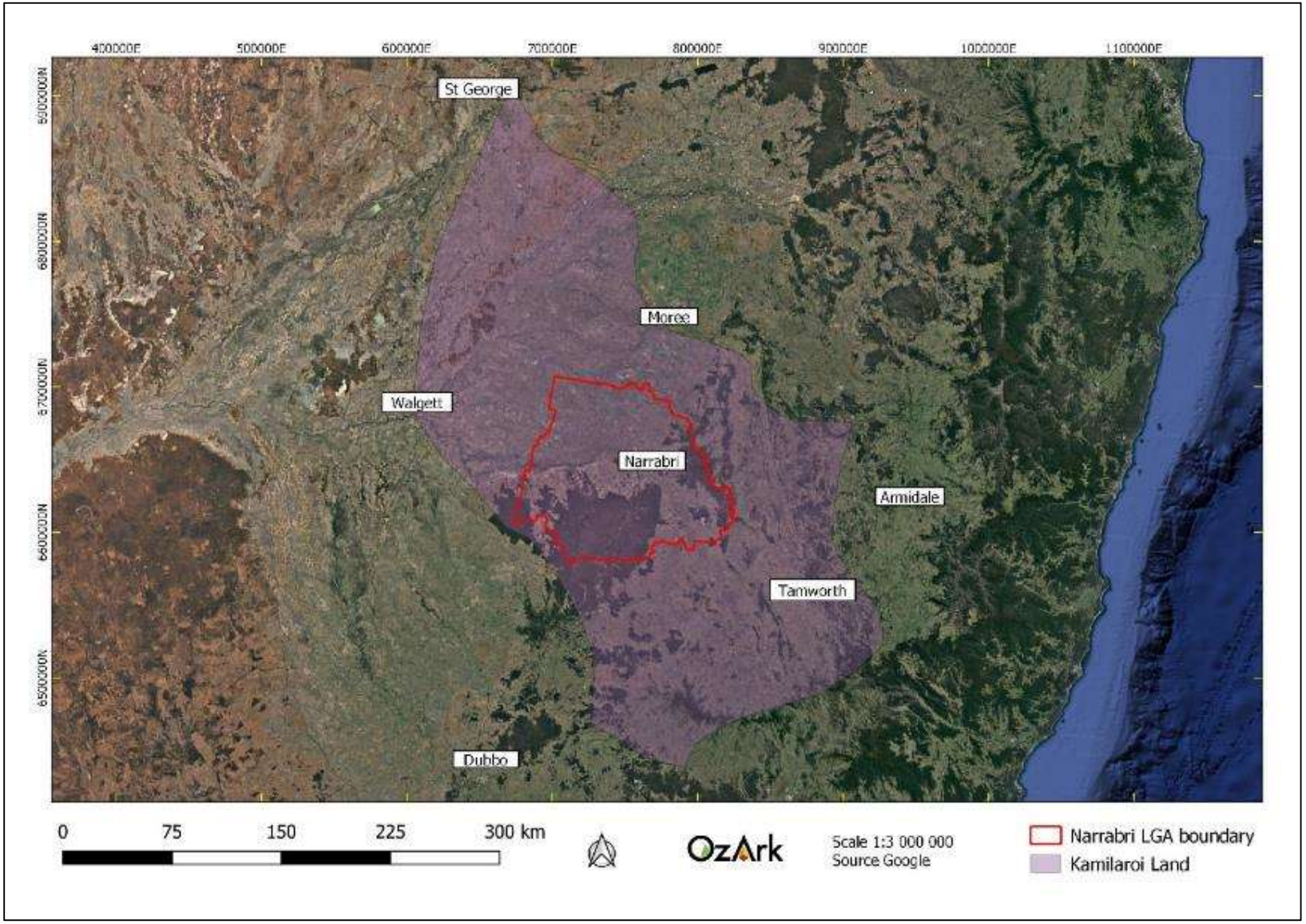
4.1 KAMILAROI LAND

The Narrabri LGA falls within the traditional lands associated with the Kamilaroi people. The Kamilaroi traditional lands extend from the northern end of Hunter Valley up through the Brigalow Belt to Mungindi and the northern reaches of the Barwon River. The westernmost point of the Kamilaroi bounds tends to be Walgett, although the Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) mapping project continues Kamilaroi areas up to Lightning Ridge and Brewarrina (AIATSIS 1996). The Great Dividing Range represents the eastern limits of the tribe's lands before colonial occupation.

The approximation presented in **Figure 4-1** has been adapted from Tindale 1974 with reference to more current AIATSIS resources. While **Figure 4-1** also shows the limits of the Narrabri LGA, a history of the Kamilaroi people is not limited to the Narrabri LGA, nor is the first nation's history of Narrabri LGA limited to the actions and customs of the Kamilaroi.

It should be noted early in this chapter that Aboriginal groups have often been described as tribes or nations with relatively distinct language groups and boundaries. This was often a reflection of colonial expectations of Aboriginal social groups, misapplication of anthropological concepts or incomplete information. The boundaries presented in **Figure 4-1** are a guide to lands associated with Kamilaroi people.

Figure 4-1: Traditional lands of the Kamilaroi.



4.2 KAMILAROI HISTORY

Introduction

Social network theory studies have questioned the usefulness of discrete nations or societies as classifications (Keen 1997: 261; Kenny 2012: 131–2). This network approach effectively highlights and stresses the transcendence of language, custom and ritual between 'nation' groups as a result of contact between smaller social units. The sources relevant to the present study represent information concerning Aboriginal people and their practices within the artificial boundary of the Narrabri LGA.

This section avoids using the past tense to describe Kamilaroi traditions due to the continuity of concepts (food, social structure) in the present-day Aboriginal population of the area.

Landscape context

Kamilaroi land largely falls within current landscapes of semi-arid grasslands, although the exact characteristics of the land before colonial influence are difficult to establish. The Brigalow Belt South bioregion has no dry season with hot summer conditions and comprises part of the Aboriginal 'grain belt' that provided appropriate conditions for grass seed cultivation across central Australia (Mulvaney and Kamminga 1999: 86).

Kamilaroi use of the land appears to have been balanced between cultivation and hunting of game, with a preference for the latter. Archaeological evidence suggests that seed-cakes made of harvested *panicum* species were consumed widely through Kamilaroi lands, with greater frequency of grinding stones on the plains west of the ranges (McBride 1977). It is also likely that native plant food associated with the area such as melons (*Cucumis trigona*), potatoes (*milaan*), yams (*gubiyaay* or *Dioscorea sp.*) and oranges (*bambul*) were cultivated by the inhabitants of the region (O'Rourke 1997: 151–3). Written sources from the early colonial period suggest that Kamilaroi peoples preferred animal food sources, especially possum, yabbies and fish (O'Rourke 1997: 151).

Languages

The name Kamilaroi, although more evident in an alternative transcriptive name 'Gamilaraay', refers to the group of people who 'have' (-araay) the word 'gamil' for 'no' (Austin 1993: 7). The same naming principle is evident in name of the neighbouring language groups the Yawaalaraay (those having 'waal' for no) and Wayilwan ('wayil' is 'not' and '-wan' means 'having' in this

language) (Austin 1993: 7). The names of towns in the Narrabri area can be recognised for their Kamilaroi origins, such as Boggabri ('*bagaaybaraay*' which is a place having creeks) and Narrabri ('*nharibaraay*' which is a place having knotty wood).

Social Structure

Kamilaroi society is traditionally divided into four sections, rather than the dual (moiety) system more widespread in NSW. This structure is now referred to as the section system, a term popularised following the studies of Ridley (1856) and Lorimer & Fison (1880) documenting their contact with Kamilaroi society. The four sections also interact with a matrilineal totemic moiety division between *dhilbay* (crow) and *gubadhin* (eagle) that extends beyond humans to all living things in the region.

These social sections and totems overlay smaller family units, usually consisting of a wife and a husband with their children. Descent was understood as matrilineal and determined the formation of 'clans' or 'bands' (collections of families) within the Kamilaroi nation that associated with a totem. Self-taught anthropologist R.H. Mathews recorded 68 clans of the Kamilaroi nation in 1897 and estimated more (Mathews 1905). Collections of bands coexisted as communities of possibly 150 individuals occupying a defined spatial territory within the nation (O'Rourke 1997: 131–2).

Leadership of these social units in the Kamilaroi nation follows established but indefinite practices. In discussions of marriage, mothers and their brothers reached decisions concerning offspring with little input from the father (O'Rourke 1997: 167–70). Inter-clan or inter-community feuds and combat tended to be decided by male elders with input from younger males with expertise or experience (O'Rourke 1997: 155–6).

Dreaming

Baayama (Baiame) is the most significant being in the Kamilaroi interpretation of the cosmos, a creator figure who is common to most Aboriginal nations in NSW. Baayama and his wives brought forward the existing world order, including animals and plants, from a previous void of existence. Baayama's contact with the present world tends to be limited to appearing, rather than altering, and carries no prescriptive moral force (Stanner 1960: 256; Stanner 1979: 31, 57; 84; O'Rourke 1997: 173–7). Baayama's son Dharramulan and Garriya the Rainbow Serpent were the beings that had more influence on rituals and behaviour. Dharramulan presided over bora ceremonies and their associated initiation rites and Garriya rests in waterholes and in the Milky Way (O'Rourke 1997: 178–80).

Significant Locations

The bora grounds in the Narrabri region are actively remembered to the present day, although their exact location is restricted knowledge. Bora ceremonies have been recorded in written sources at Wee Waa in 1861 and 1905 (Kenny 2012: 136 and O'Rourke 1997: 210, respectively).

4.3 EARLY COLONIAL OCCUPATION

While population estimates are a difficult proposition, accepting O'Rourke's reasonable figure of ten thousand (10 000) Kamilaroi speaking people in 1826 puts the impacts of colonial occupation into a comprehensible frame of reference. By 1841 it appears that there were only 4 000 Kamilaroi speakers remaining. In 1856, the Kamilaroi population was no more than 1 000. This ninety (90) per cent decline of the Kamilaroi population occurred at a rate of three (3) per cent per year (O'Rourke 1997: 217–34).

The first recorded colonial journey into Kamilaroi country was John Oxley's second expedition (1818), travelling northwest on the Macquarie River up to the Macquarie Marshes and heading back east through the Pilliga. His records indicate that he passed through Kamilaroi country, being closely watched by its first people, from Baradine past Boggabri before reaching the ranges near Walcha (Oxley 1820: 109–12). The cautious reaction of the first group of Aboriginal people the party encountered, before they reached the Warrumbungles, suggests that the local population had interacted with colonial settlers before (Oxley 1820: 109; Rolls 1981: 1–3).

Oxley's written account, often inadvertently, displays aspects of the multifaceted relationship of Kamilaroi peoples with their country before colonial occupation: a man threw his firestick at Oxley (Oxley 1820: 108); widespread use of fire for hunting (Oxley 1820: 135) and descriptions of open woodland managed by burning (Oxley 1820: 80; cf. Rolls 1981: 7, 127); and the country Oxley frequently criticises for being uninhabitable supported a 'numerous' population (Oxley 1820: 108).

Oxley's exploratory journey into Kamilaroi country was too difficult and roundabout for settlers and graziers to follow (Rolls 1981: 8). The next non-Aboriginal person to have recorded interaction with the people of the Narrabri area had the opposite intention, escaping rather than colonising. George 'the Barber' Clarke was a convict, attached to a station run by Benjamin Singleton in the Upper Hunter, who fled in the mid-1820s (Boyce 1970: 22; Hunt 1980: 10). Clarke was taken in by a band of Kamilaroi people, often interpreted as conforming with series of episodes in which colonial runaways were accepted by Aboriginal groups as returned ghosts of their ancestors (*wonda* in Gamilaraay, Boyce 1970: 22–8). The 'returned ghost' concept has been challenged as

the sole explanation for indigenous acceptance of colonial wanderers by a broader theory incorporating additional Aboriginal social factors that limit exclusivity and allow all members to contribute to the group (Maynard and Haskins 2016: 1–8).

Although George Clarke is not included in the case studies of Maynard and Haskins, the recurrent features of his story demonstrate some inclusive social features of the Kamilaroi band who supported him. Clarke was fed until he learned how to contribute hunting and food gathering, was initiated into the tribe at bora ceremony and married into the society (Boyce 1970: 26–9; Rolls 1981: 94–5). He offered his skills to the group by cattle rustling, which led to his arrest near Boggabri in 1831 and undoubtedly reprisal attacks on his adoptive band by the squatters (Rolls 1981: 94).

The band that accepted Clarke lived near present Boggabri and had a camp near the lagoon now called 'Barber's Lagoon'. Major Thomas Mitchell, who surveyed the area in the 1830s, noted that the nearby peak now usually called Barber's Pinnacle, was known by the local name, *Tangulda* (Mitchell 1939: 44). Mitchell's stated aim to continue original names, rather than new colonial labels, led to the name of a nearby feature, now sometimes called 'Gin's Leap', being named '*Bullabalakit*' (Mitchell 1939: 45). Current tradition refers to the place as Cooloobindi, possibly adapted from an early station in the area called 'Coocoobiandi' (Rolls 1981: 139).

4.4 SQUATTING AND SETTLEMENT

The speed of squatting and land occupation in Kamilaroi country was overwhelming. It took only sixteen (16) years for landholders to expand from the Upper Hunter to Goondiwindi (1826–42) once the first plots were claimed (O'Rourke 1997:201). Conflict between first inhabitants of the area and the squatters was constant. Early sources suggest that cohabitation between Aboriginal people and colonial settlers could be peaceful until there were assaults on Aboriginal women or competition for areas continuously cultivated by Aboriginal people (Conner 2017: 996). The mass introduction of sheep and cattle to the fire-curated grasslands of the Kamilaroi people quickly destroyed the delicate balance of soils and grasses in the region and subsequently led to large scale conflict (Rolls 1981: 129; Gammage 2011: 3–8).

Between 1820, the year after Oxley's expedition, and 1829, the sheep population of Australia reached half a million. The colonial population increased from 40 000 to over 120 000 in the same period (Davidson and Wells 1988: 43, cit. in Hagan and Castle 1998: 26). While population increase in the Narrabri region was a small portion of the overall growth, colonial settlers went from

exploration of the land to division of cattle runs and the establishment of the Australian Agricultural Company land grants by 1825 (Rolls 1981: 67; Lydon and Ryan 2018: 17). The occupation and collapse of the previous ecosystem of the region led to conflict and eventually determined killing of the Kamilaroi people.

The earliest recorded land conflict between first people of the Kamilaroi region and the growing squatter population was on a cattle run known as Boorambil near modern Quirindi in 1827 or 1828 (Rolls 1981: 91). Estimates of the Aboriginal casualties from this encounter are perhaps unlikely to have been as high as the estimated two hundred (200), but there were a devastating number of deaths regardless. The Colonial Frontier Massacres project defines six (6) or more deaths in an Aboriginal group as a 'fractal' event that reduces the likelihood of survival in adverse conditions (estimates, see Rolls 1981: 91; fractal massacres, see Ryan et al 2017).

In 1829–30, a second smallpox outbreak spread into Kamilaroi lands, following the original outbreak in 1788–9 (Butlin 1983: 25–30). Most white settlers were either inoculated or had been exposed to the virus as children, whereas the Aboriginal population had no resistance to the introduced disease. Estimating the precise impact of the highly contagious virus is difficult, but George Clark's testimony in Bathurst gaol indicating that the disease was fatal for one (1) in six (6) of the tribe he joined was accepted at the time (Campbell 2002: 180–5). Campbell argues that the smallpox outbreaks were not of colonial origin but came from the trading networks connected to the far north (Campbell 2002: 14–5). Regardless of the origin of the outbreak, the first people of the Narrabri area in 1830s were bearing the effects of fatal diseases and the expansion of colonial grazing.

In the Narrabri region, there was increasing competition between landholders of large cattle runs, and the first nations people of the area. This was exacerbated by the drought conditions of the early 1830s (Rolls 1981: 101; Conner 2017: 1000). These large cattle runs would later give their names to towns (e.g. South Wee Waa, Baan Baa). Enduring constant incursions on their land by determined squatters, Kamilaroi people retaliated to the occupation of their land or perhaps assault on their people by killing five stockmen near Boggabri in 1833 (Rolls 1981: 100).

There are no records of an immediate reaction to this attack. Unlike the years of extended but small-scale attacks and retaliations in the Hunter region between settlers and the Wonnarua (Lydon and Ryan 2018: 90–1) or the later open war between the colony and the Wiradjuri (Read 1988), the Kamilaroi and their Warrayiraay neighbours on the Gwydir were the victims of organised assassination.

Although mostly outside the Narrabri region, there were systematic attacks on Kamilaroi and Warrayiraay people along the Gwydir and Namoi Rivers from 1836–8 by stockmen, soldiers and policemen. Attacks targeted entire hearth group units, rather than just those accused of spearing settlers or their stock, and destroyed the functional structures of traditional groups and their chances at continuity.

In response to the complaints of settlers in the wider Namoi and Gwydir region being raided by Kamilaroi, the colonial government dispatched the Mounted Police to the region in 1837 (Conner 2002: 103). Even before this organised response, a Mounted Police unit under a Sargent Temple was reported to have killed eighty (80) Kamilaroi in 1836 on the eastern side the Nandewar range, although the casualty estimate has been questioned (Milliss 1992: 101–2; Conner 2002: 102). Similarly, stockmen banded together to massacre possibly up to two hundred (200) Kamilaroi on the Gwydir River east of Moree over multiple days, giving the current town 'Gravesend' its name (Lydon and Ryan 2018: 18).

The Mounted Police expedition in 1837, led by Major James Nunn, ambushed and captured one hundred (100) Kamilaroi south of the Namoi near Manilla, executing one (1) man on the charge of killing a stockman eighteen (18) months previous (Conner 2002: 108). Roger Milliss argues that the evidence gathered from this attack and a visit to a station further north suggested that Nunn should have headed east to the Masterman Ranges seeking the perpetrators of the recent raids, but chose to head northwest to the Gwydir for '*a punitive expedition* … [against] *any Aborigines he happened to come across*' (Milliss 1992: 174; *contra* Windschuttle 2000).

Nunn found a large encampment at a waterhole now known as Waterloo Creek or Jews Lagoon near modern Bellata in January 1838. Nunn ordered his troops to surround the group and advanced, opening fire and attacking when the Kamilaroi reacted, leaving over forty (40) dead (Conner 2002: 111; Lydon and Ryan 2018: 18). Nunn's unit returned to Jerrys Plains, where they faced little examination for their actions (Conner 2002: 113).

Three months later, stockmen and large landholders continued their determined attacks on the Kamilaroi population. On a station eighty (80) kilometres (km) east of Waterloo Creek, station workers killed hundreds at Slaughterhouse Creek (Milliss 1992: 200–3; Lydon and Ryan 2018: 18). In the same month, an organised gang arrived on Henry Dangar's property at Myall Creek, tying up and abducting the Wirrayaraay group who had been visiting and working at the station. The gang killed at least thirty-eight (38) men, women and children after leading them away and spent

the next three days hunting for the ten Wirrayaraay warriors who were not present (Lydon and Ryan 2018: 20–8).

Unlike the other slaughters in the area, eleven (11) of the twelve (12) perpetrators of the Myall Creek Massacre were brought to trial late in 1838 and seven were found guilty and sentenced to death. The station workers who had worked with the Wirrayaraay testified against the perpetrators, but the trial largely galvanised the frontier farming community and encouraged them to be more conscientious in hiding their attacks on local peoples (Tedeschi 2016: 161).

The actions of colonial settlers in the two (2) decades after Oxley's first survey devastated the lives, structures and ecosystem of the first inhabitants of the Narrabri region. The unrestricted expansion of grazing into carefully managed country deprived the Aboriginal population of their customary food sources and disrupted their traditional patterns of culture, movement and communication. Up to one (1) in five (5) Kamilaroi people died from smallpox during this first period of land dispossession. The Aboriginal people who lived in the Narrabri region and surrounds before the arrival of white people were subject to systematic attacks with the intended to completely remove them from the area. The shape of Aboriginal life after 1840 had been irreversibly altered.

4.5 POST-CONTACT

The effect of colonial settlement outlined above drastically changed patterns of movement, subsistence and culture in the Kamilaroi lands during the latter half of the 19th century. The settler occupation of Kamilaroi lands along the rivers of the Narrabri region by 1840 removed the ability of people to hunt, gather and cultivate food using their methods honed over millennia.

Around the Namoi, Peel and Gwydir, basic survival now depended on interaction with colonists, performing unfamiliar work with introduced plant and animal species. Knowledge of country helped Aboriginal workers adapt quickly to contract work as shepherds and stockmen. Despite underpay, resentment and violence from colonial employers and station workers, Aboriginal people developed methods of survival on their occupied lands. The goldrush of the 1850s led to a shortage of non-Aboriginal workers, who left for the goldfields, and an increase in Aboriginal labour in the pastoral sector (Hagan and Castle 1998: 30). Large runs with absentee owners necessitated much contract labour, but this eventually decreased as fencing replaced shepherding as the primary means of flock management in the Narrabri area. The Lloyd brothers fenced their holds on the banks of the Namoi from Manilla to Wee Waa, nearly one hundred and eighty

(180) km of contiguous property (Rolls 1981: 165). This limited both employment opportunity and the ability of Aboriginal people in the area to live by their traditional means (Hagan and Castle 1998: 30).

The land use of the Narrabri area diversified between the 1850s and 1900 with the introduction of logging in the Pilliga scrub and cropping around Wee Waa. During the same time, towns began to form, and the railway connected the Narrabri with the rest of the state in 1882. These changes complicated the role of Aboriginal people in the rural economy and resulted in underemployment and population migration towards towns and cities. There was resistance to the growing presence of Aboriginal people in the town-based social and domestic space of white settlers, a situation that had rarely been the case on stations (Goodall 1996: 84). The foundation of the New South Wales Aborigines Protection Board (APB) in 1883 reflected these tensions but was also a reaction to Aboriginal groups campaigning for ownership of land (Goodall 1996: 105). A group of thirty-five (35) indigenous people requested a one hundred (100) acre lot of land at Borah Creek near Narrabri in 1890 that was rejected, although Heather Goodall notes that forty-five (45) percent of Aboriginal reserves created in this decade were responses to petitioning (Goodall 1996: 110).

The Aboriginal missions, stations and reserves in the Narrabri LGA were mostly founded around the turn of the 19th and 20th centuries. Tulladunna Reserve at Wee Waa (AR 19783) was founded in 1894; Bohena Creek at Narrabri in 1888 (AR 7903, 28098, 54612); Baan Baa in 1901 (AR 32747/8); Minnom Mission and Pilliga Reserve at Pilliga in 1902 (AR 33753/4, 42571/2); and Cuttabri in 1904 (AR 37420). These mission and reserve foundations represented a clear change in the relationship between the Aboriginal people of the area and the government of the colonial occupiers. Despite often relying on Aboriginal labour, the APB aimed to segregate Aboriginal people from non-Aboriginal settlements and urban centres. Between 1910 and 1915, under the influence of Robert Donaldson as chair, segregation began to shift toward assimilation as the APB began to remove children under their control, even in cases where there was no discernible neglect (Goodall 1996: 147). Between 1910 and 1970, between ten (10) and thirty-three (33) per cent of Aboriginal children were separated from their parents by the Australian government or organisations that they had endorsed (*Bringing Them Home* 1997: 34–5).

Life in the missions was typically austere, and evidence suggests that the reserves near Narrabri were no different. Wailwan elder Allan Hall remembers hunting rabbits to supplement rations given out at Minnom Mission in Pilliga. Pilliga Reserve, which pre-dated Minnom Mission, was independent, according to Billy Reid, an activist born at Wee Waa Reserve (possibly Tulladunna),

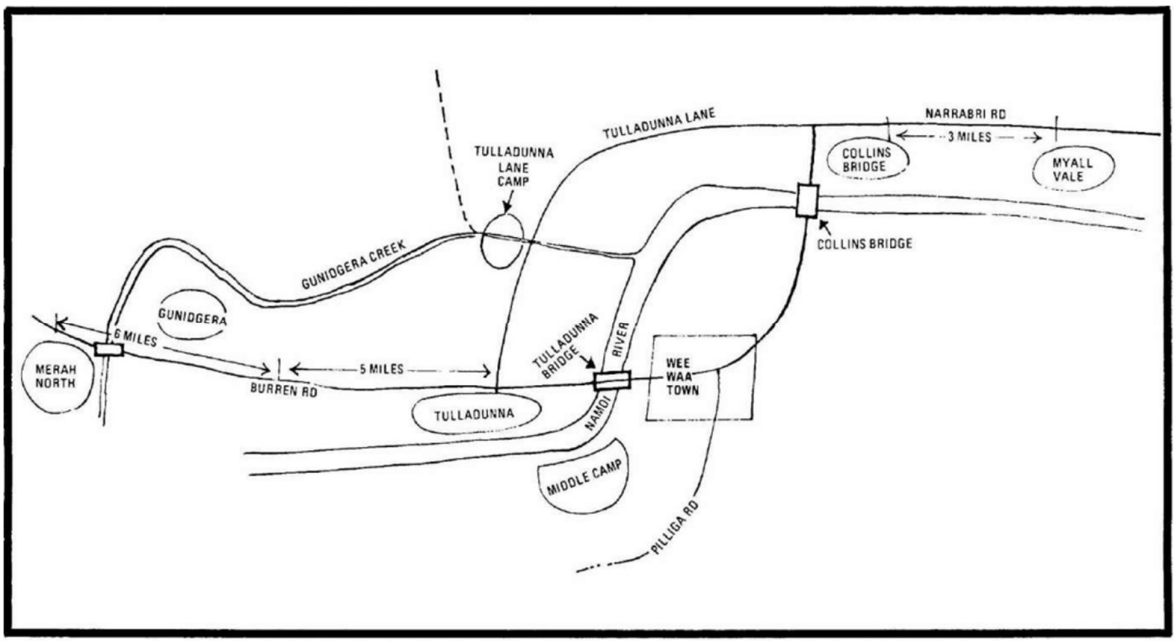
who grew up at Cuttabri (Catabrai) and moved to Pilliga Station as a teenager (Morgan 1983). Reid recalled his education at the reserves and missions being cursory, aiming to provide manual 'slave labour' (Ellis 1993: 28). Overcoming the pervasive evangelism and the obfuscation of traditional social networks, Reid remembers visits from friends living at Burrabadee in Coonabarabran. Hall similarly wished to emphasise the good times he had as a young man as well as the difficulties.

Despite an increase in the percentage of Aboriginal people living under state managerial control rising to thirty-three (33) per cent by 1936, the majority of the population lived on private property or unreserved camps on private properties, crown land or Travelling Stock Reserves (TSRs) (Goodall 1996: 230-1). Unlike in some of the more densely populated and cultivated areas of NSW, Aboriginal people in the Narrabri region could move between camps and reserves to avoid the APB or look for employment, as well for cultural and social purposes. At Wee Waa, bora ceremonies were still initiating new members into Kamilaroi adulthood in the area in 1905 (O'Rourke 1997: 210). The Aboriginal population of early 20th century in the Kamilaroi lands were mobile for these reasons, but also because they were denied land rights available to the non-Aboriginal population. 154 ANZAC soldiers in the First World War were Aboriginal men from NSW, only one of whom gained land from the Returned Servicemen's Settlement scheme.[2] The result of the scheme for most Aboriginal people was in fact to create further pressure on the few reserves that offered some land security (Goodall 1996: 148). Although there were soldier settlement blocks in the Pilliga and at Edgeroi, there is no direct evidence of these blocks being taken from Crown Land that may have been part of Aboriginal reserves, as occurred elsewhere in NSW.

The Aboriginal population and their camps in the Narrabri region remained as close as possible to traditional waterways and work opportunities. Aboriginal workers were employed as fettlers throughout NSW and the railway line between Narrabri and Moree had many camps. Wee Waa became a centre for cotton, a significant industry in the economic and social development of the Narrabri area. Cotton farms employed many Aboriginal workers under poor conditions. Wee Waa had at least seven (7) camps for chippers with no facilities until 1973. **Figure 4-2** shows mud map of their location from an edition of *New Dawn*.

[2] The only known Aboriginal serviceman to be granted land in the scheme was George Kennedy near Wilcannia (Goodall 1996:148).

Figure 4-2: Diagram of cotton camps at Wee Waa (New Dawn 1973).



Arthur Murray and others had gatherings at the Royal Hotel in 1972 to plan industrial action to improve their pay, hours and poor conditions, including being sprayed with pesticides from overhead crop dusters (Forde 2012). An estimated fifteen thousand (1 500) workers went on strike and five hundred (500) marched through Wee Waa to steady abuse and attacks on their camps. Murray and the workers won a pay increase from $1.12 per hour to $1.45 and an eight-hour day (New Dawn 1973: 3). There was resentment to increasing activism of the Wee Waa workers and emergence of land rights occupations. Arthur Murray's son, Eddie, was arrested in 1981 and died in police custody, with police explaining that he had hung himself in his cell. Exhumation of his body in 1997 under a court order determined that his sternum had been broken while he was still alive. Arthur and Leila Murray campaigned tirelessly for reform and the Royal Commission into Aboriginal Deaths in Custody that concluded in 1991.

Under challenging conditions and active disruption from government and church agencies, Kamilaroi language began to be extinguished. By 1975, no grammatical structures were fluently spoken by the few remaining speakers, rendering the language functionally extinct (Austin 1993: 15). The revival of Gamilaraay from functional extinction has been a successful collaborative project of the late 20th century. S.A. Wurm and Peter Austin collected lexicons and interviewed speakers such as Billy Reid, Peter Lang and Hannah Duncan who offered their knowledge (Austin 1993: 14–5). In 2018, the Australian National University expanded their Gamilaraay courses, TAFE NSW has had Gamilaraay course options since 2011 and high schools in the region (Peel High,

Tamworth High, Quirindi High School) have had increasing number of year twelve (12) students completing Gamilaraay as a subject.

5 ARCHAEOLOGICAL CONTEXT

5.1 REGIONAL ARCHAEOLOGICAL CONTEXT

The study area is located within the Murray-Darling Basin. Aboriginal people have occupied this part of Australia for over forty thousand (40,000) years, with early occupation focussed on the resources of freshwater lakes and rivers and their floodplains. This occupation also occurred along various river channels that pre-date the present Murray-Darling river system (MDBMC 1987: 353).

Archaeological evidence indicates that with the drying up of the lakes around twenty-six thousand (26 000) years BP (years before present) in response to changes in climatic conditions, Aboriginal people remained near major rivers. However, by four thousand (4 000) years BP there is evidence of a major increase in site numbers and more intensive occupation of more marginal environmental regions (MDBMC 1987: 354).

Prior to the 1980s only a few archaeological studies had been conducted within the central north region. Two (2) broader regional studies which are relevant is Balme (1986) and Purcell (2002). Balme's (1986) assessment of the North Central Rivers, included Narrabri LGA. There were three hundred and twenty-two (322) sites compiled from previous assessments, with an additional ninety-six (96) sites identified. Balme concluded that there was widespread evidence of Aboriginal culture through culturally modified trees and bora grounds, but few sites which would have dateable materials and contexts present. It was also identified that silcrete artefacts were more prevalent in the north and east of the North Central Rivers region, with quartz being more prevalent in the south and west.

Purcell (2002) identified and compiled one thousand and two (1002) sites in the Brigalow Belt South (BBS) bioregion. It was found that the highest number of sites occurred in alluvial landforms (n=668), with ninety (90) per cent of sites occurring within two hundred (200) to three hundred (300) metres (m) of water. Part of Purcell's assessment covered the south and central sections of the Narrabri LGA.

5.1.1 Regional archaeological context

5.1.1.1 Previous studies within the Narrabri LGA

Systematic, regional based archaeological studies have not been undertaken and development driven studies have comprised the bulk of archaeological assessment within the region over the past forty (40) years.

In addition, many of the sites recorded within the Narrabri LGA have been registered with AHIMS but no report has been attached to the recordings. As such, it is difficult to gain contextualising information regarding the site recordings. Several of the main clusters of site recordings without accompanying reports are shown in **Table 5-1**.

Table 5-1: Clusters of recorded sites without accompanying reports.

Recorder	Location	Number of sites
Stewart / Trindall	Moema National Park	25
Richards	Bobbiwaa CCA Zone 3 State Conservation Area	7
Therin	Gunidgera Creek and Kamilaroi Highway	6
Quayl / Cain / Hatch / Wheeler / Ruttley / Leslie / Sutherland	Pilliga Nature Reserve on west side of Newell Highway	21

Of the reports available, **Table 5-2** presents the information regarding the major assessments that have taken place within the Narrabri LGA extending back to the 1980s. There have been a large range of studies for specific mining operations in the Narrabri LGA, including Maules Creek Coal Mine, Narrabri Coal Mine and Boggabri Coal Mine. **Table 5-3** summarises these specific assessments. It is worth noting that not all the sites mentioned in **Table 5-3** have been included in the analysis as discussed in **Section 5.2.1**.

Table 5-2: Synopsis of major assessments within the Narrabri LGA.

Author	Year	Project	Results
Silcox & Bowdler	1982	Archaeological survey of a proposed transmission line Walgett to Narrabri	Inside Narrabri LGA, there were eight (8) sites recorded along the proposed 66kV electricity transmission line. Five (5) sites are scarred trees, and three (3) sites artefact scatters.
Balme	1986	North Central Rivers Archaeological Project	The purpose of the study was to provide a regional archaeological context for the North Central Rivers including the Narrabri LGA. Three hundred and twenty-two (322) sites were compiled from previous assessments and an additional ninety-six (96) identified. There was widespread 'recent evidence' of Aboriginal culture (modified trees and bora grounds) but few datable site contexts reflecting regional culture before colonial contact. Areas in the north and west tended to contain silcrete artefacts, whereas the south and west had a higher number of quartz tools and debitage (Balme 1986: 181–3).
Roberts	1991	Investigation of Aboriginal Archaeological resources of the Pilliga Forests	Roberts identified eighty-nine (89) sites, mostly scarred trees (n=62). Concluded that burial sites, rock engravings and art were unlikely in the Pilliga Forests due to soil conditions. Likely to have been a higher number of modified trees before post-contact logging.
Purcell	2002	Brigalow Belt South Bioregion Aboriginal Cultural Heritage Assessment	Identified and compiled records of one thousand and two (1 002) sites in the BBS bioregion, with the highest number of sites occurring in alluvial landforms (n=668). 90% of sites occurred within 200–300 m of water.
Sneddon & Whincop	2017	Aboriginal Heritage Conservation Strategy: Maules Creek coal mine, Tarrawonga coal project, Boggabri coal	Includes desktop assessment, cultural values assessment, proposed methodology for targeted assessments, recording of cultural values and conservation of Aboriginal heritage values.

Author	Year	Project	Results
		mine and related biodiversity offset areas	
NSW National Parks and Wildlife Service	2006	Mount Kaputar National Park Plan of Management	Twenty-five (25) Aboriginal sites recorded in the NP, including campsites, scarred tree, rock carvings, and artefacts. There is also a possible stone arrangement on the Kaputar Plateau, a midden on Spring Creek and axe grinding grooves on Carinya. No comprehensive survey has occurred in the NP.

Table 5-3: Synopsis of assessments done for mining operations within the Narrabri LGA.

Author	Year	Results
Maules Creek Coal Project		
Haglund	1983 and 1986	Haglund surveyed the Maules Creek Coal Mine area and identified a total of twenty-one (21) sites, predominantly stone artefact scatters on flat or gently sloping areas near temporary water sources.
AECOM	2010	Recorded fifty-nine (59) new sites, mostly artefact scatters including a large site (320 artefacts) near Lawler's Waterhole in the Leard State Forest.
Whitehaven	2015	The *Aboriginal Archaeology and Cultural Heritage Management Plan* for Maules Creek Coal Mine identified sixty-seven (67) Aboriginal sites that have been recorded. Forty-three (43) sites are artefact scatters and twenty-four (24) sites are isolated finds.
Narrabri Coal Operations		
Appleton (Australian Archaeological Survey Consultants)	2007 & 2009	2007: Seven (7) sites identified during survey, two (2) isolated finds, two (2) artefact scatters, two (2) scarred trees and one (1) resource site. 2009: Recorded one hundred and twenty-one (121) sites, largely low-density artefact scatters and isolated finds. A place of cultural and scientific significance, a large camp with indications of repeated use, was identified at Pine Creek.
Niche Environment & Heritage	2015	Modification 5. Recorded an additional six (6) sites, all artefact scatters or isolated finds along Pine Creek and Kurrajong Creek.
Boggabri Coal Mine		
ARAS	2002	Assessment identified sixty-one (61) Aboriginal sites: thirty (30) artefact scatters, twenty-six (26) isolated finds and five (5) scarred trees. In 2007, forty-two (42) sites were approved for salvage.
Insite	2010	Assessment identified an additional seventy-seven (77) Aboriginal sites, including two (2) sets of grinding grooves in Leard State Forest.
Kayandel	2011	Fourteen (14) Aboriginal sites recorded during Tarrawonga Cultural Heritage assessment.
Hansen Bailey	2010	Identified one hundred and four (104) sites in the study area, including parts of the Leard State Forest. Potential for subsurface deposits in the Leard State Forest was considered high.
Tarrawonga Coal Project		
Kayandel	2011	No additional sites or areas of high archaeological significance identified during assessment.
Whitehaven	2016	The *Heritage Management Plan* for Tarrawonga Coal Project lists all Aboriginal sites inside mine boundary. There are one hundred and thirty-three (133) Aboriginal sites, with fifty (50) artefact scatters, fifty-nine (59) isolated finds and twenty-four (24) scarred trees.

5.1.1.2 Previous studies concerning site prediction and modelling

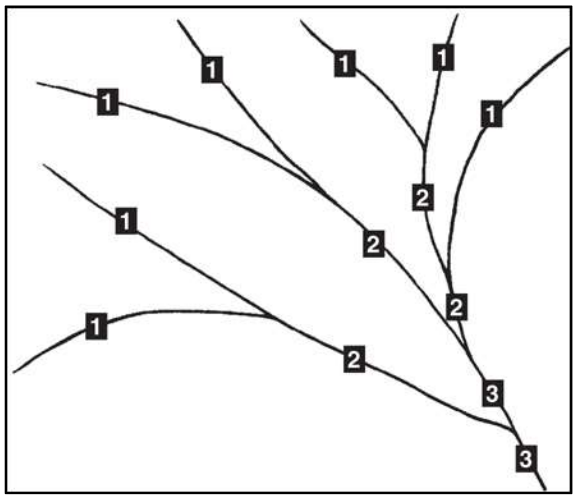
OzArk 2014

The OzArk study of the former Dubbo City Council Local Government Area (LGA) (now incorporated into the Western Plains Regional Council) was able to establish a stream order

correlation to site location. Although distance to the nearest water source is a concept widely used in the analysis and description of Aboriginal sites, it proved to be particularly difficult to achieve/demonstrate this in a GIS model (OzArk 2014). Nonetheless, the analysis used in OzArk 2014, demonstrates a close relationship between the presence of water and site location.

OzArk 2014 employed the Strahler Stream Order to describe stream rankings (**Figure 5-1**). According to the Strahler Stream Order, to qualify as a stream it must be either recurring or perennial. Recurring streams have water in the channel for at least part of the year. When two (2) first-order streams come together, they form a second-order stream. When two (2) second-order streams come together, they form a third-order stream. Streams of lower order joining a higher order stream do not change the order of the higher stream. Thus, if a first-order stream joins a second-order stream, it remains a second-order stream. It is not until a second-order stream combines with another second-order stream that it becomes a third-order stream.

Figure 5-1: Diagram of the Strahler Stream Order.

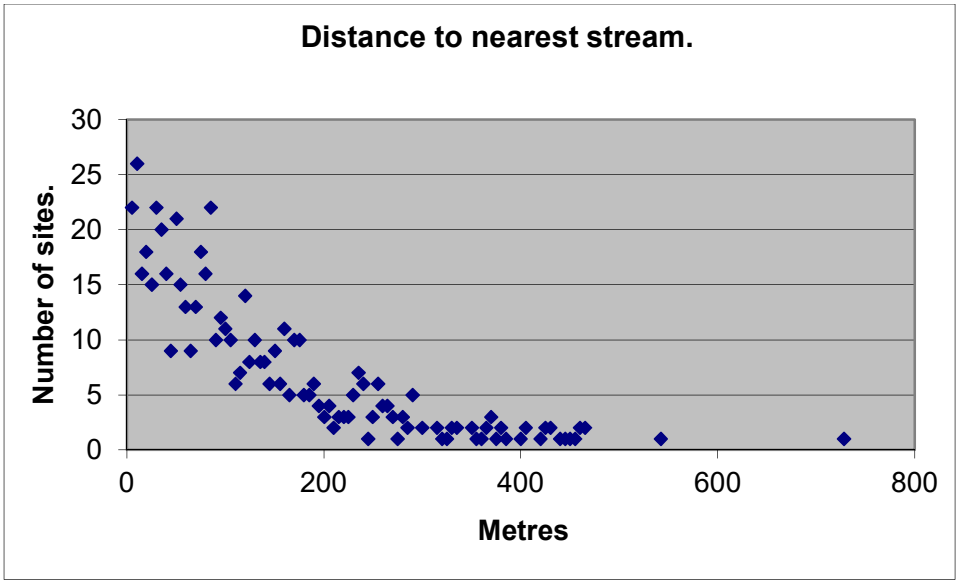


When the data was plotted (**Chart 5-1**) there was a clear distance decay curve consistent with normal expectations about Aboriginal site distribution. The two outliers were near the edge of the LGA and may be closer to streams that were not mapped in the OzArk 2014 exercise. If they are ignored, the evidence is that all sites are found within five hundred (500) m of a stream of some sort. Further analysis was undertaken to try and improve the distance modelling based on different stream orders. The overall conclusions from the stream order analysis were:

- All sites occur within five hundred (500) m of streams (of any kind)
- Most sites cluster within one hundred (100) m of a stream and become very infrequent further than two hundred (200) m from a stream

- Landforms within one hundred (100) m of streams that would be expected to provide more reliable water supplies, that is those with an order number of three (3) or greater, are likely to contain most sites in that area.

Chart 5-1: Distance to the nearest stream for all sites (n=583).



OzArk (2014) also examined the relationship of site location to landform type, by dividing sites into four groups. These four groups included:

- Group 1: Open sites of any type that are assumed to be located on a soil mantle. These comprise artefact sites such as open camp sites; potential archaeological deposits (PADs); hearths; ceremonial / bora rings; burials; and shell mounds. This group clearly contains both occupation types of sites and ceremonial / ritual sites, and are collected because of their physical locations, i.e. within (on or below) the ground surface
- Group 2: Sites that are defined by trees. These comprise modified trees; scarred trees (definite, probable and possible); and carved trees
- Group 3: Sites that depend on local geology and rock outcrop. These sites comprise grinding grooves; ochre and stone quarries; and stone arrangements
- Group 4: Sites that do not have any ready identification / landform association criteria. These sites comprise Aboriginal resource gathering site; ceremonial and dreaming sites; and water holes.

OzArk 2014 also amalgamated landform types into floodplain and channels; low benches; high terraces; alluvial/colluvial plains and low angle soil mantled bedrock slopes; and steeper bedrock slopes to outcrop areas.

The results of this analysis indicated that:

- Sites can occur anywhere within the landscape. All landforms that were subject to archaeological survey have been documented as containing Aboriginal sites, albeit in very low levels for some landforms
- Average background density is 1.45 sites per km^2. If Aboriginal site presence is averaged out over all landform units, it can be predicted that for every square kilometre, there will be 1.45 Aboriginal sites, based on existing data
- The density of sites on the floodplain and channels landform is greater than elsewhere despite the expected losses from human disturbance, hydrology, erosion etc. This was seen by OzArk (2014) as an expected outcome, as the location of Aboriginal sites has a strong correlation with the proximity of water sources.

OzArk 2016

Following on from the observations of OzArk (2014), OzArk (2016) undertook an assessment of Travelling Stock Reserves (TSRs) in the Central West Local Land Services (CW LLS) area.

The CW LLS was divided into two stream orders: major waterways (normally named rivers) and minor waterways (normally named creeks and their larger tributaries). Based on the evidence of site location obtained by OzArk (2014), two buffers were established for each waterway type, namely:

- Two hundred (200) m either side of a major waterway (Drainage 1)
- One hundred (100) m either side of a minor waterway (Drainage 2).

According to the results of the 2014 study the two hundred (200) m buffer on either side of named rivers would capture most sites, while the one hundred (100) m buffer on either side of named creeks would capture most sites.

An example of the mapped buffers surrounding the two hierarchies of waterways is shown in **Figure 5-2**.

While the OzArk (2014) study focused on a higher resolution of landform type (i.e. distinguishing between lower and upper terraces), this was not possible for the CW LLS area that covered such an extensive region. Instead, Mitchell landscapes were used to understand the underlying landform type of an area which is often obscured by local variations in topography.

As even the resolution of Mitchell's landscapes is too fine to be of use across such a broad area, the 2016 OzArk study used a higher-level classification within Mitchell landscapes to describe the landscapes within the CW LLS area. This study divided various landscape types into:

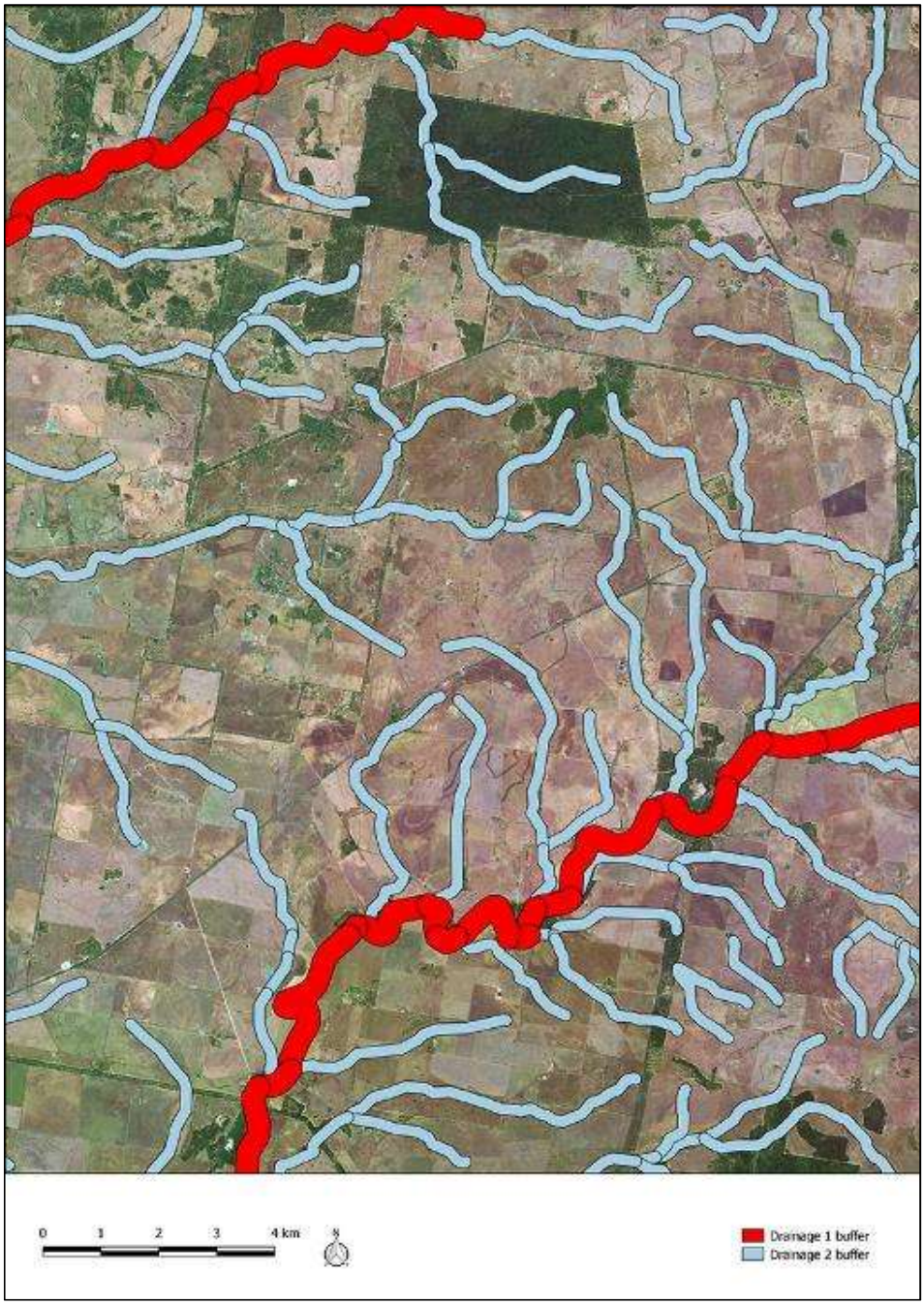
- Channels and floodplains
- Alluvial Plains
- Slopes
- Uplands
- Downs.

In this way, although the landscape type was Lachlan - Bland Channels and Floodplains in one part of the CW LLS study area, and Bogan Channels and Floodplains in another, 'channels and floodplains' was a defining landscape type irrespective of localised names.

When previously recorded sites were plotted against these gross landscape types, the following observations were made:

- A high number of sites (n=876) have been recorded in slope landscapes. This is perhaps biased by the fact that Dubbo is located within this landscape type and the highest number of sites in the CW LLS area have been recorded in and around Dubbo
- The highest concentration of sites is within channel and floodplain landscapes (n=927)
- Alluvial plains landscapes have the third highest concentration of sites (n=770)
- Relatively small numbers of sites are recorded in uplands (n=5) or plateau landscapes (n=34)
- A reasonable number of sites have been recorded in downs landscapes (n=255). These recordings are largely due to three or four clusters of sites that may have skewed the data slightly. If the veracity of all site recordings in this category was able to be verified, it is suspected that the actual number of sites in downs landscapes would be lower.

Figure 5-2: Example of mapped buffers surrounding waterways.



The result of mapping AHIMS sites against landform type indicates that sites should be most frequently recorded in channels and floodplain landscapes, alluvial plains landscapes and downs landscapes. Conversely, sites should be infrequently recorded in uplands landscapes and plateau landscapes. Overriding this observation is the fact that AHIMS recordings are not an accurate indicator of Aboriginal site distribution and therefore cannot be used to accurately describe site distribution within landscape types. For example, as noted, the concentration of sites in Slopes landscapes may be skewed due to the location of Dubbo in this landscape type where many sites

have been recorded largely because this is where assessments have taken place. If other landscape types were assessed to the same level, then the prominence of sites within Slopes landscapes may not seem so extraordinary. However, in gross terms, it appears that sites were more likely to be in areas of lower elevation (plains/channels/downs) and in areas of more moderate gradient (slopes).

It was noted that these results broadly agree with the observations of OzArk 2014 that the higher density of sites are in landforms in closer proximity to water.

Elements of the predictive model was then tested through targeted survey. Fifty-nine (59) sites were recorded during the survey. Twenty-six (26) (44%) of the recorded sites were scarred trees, twenty-two (22) (37%) were artefact scatters and eleven (11) (19%) were isolated finds.

The final results of OzArk 2016 demonstrated that:

- Most sites will be recorded within channels and floodplains, and slopes landscapes
- Sites in channels and floodplains landscapes are likely to be scarred trees, while those in slopes landscapes are likely to be artefact scatters.

5.1.1.3 Desktop database searches conducted

A desktop search was conducted on the following databases to identify any potential previously recorded heritage within the study area. The results of the AHIMS search are summarised in **Table 5-4**. As it was not possible to obtain an AHILA, five (5) extensive AHIMS searches were undertaken to cover the majority of the Narrabri LGA. These are detailed in **Section 5.2**.

Table 5-4: Aboriginal cultural heritage: desktop-database search results.

Name of Database Searched	Date of Search	Type of Search	Comment
Commonwealth Heritage Listings	13 June 2019	Narrabri LGA	No places listed on either the National or Commonwealth heritage lists are located within the Narrabri LGA
National Native Title Claims Search	13 June 2019	NSW	The Gomeroi people have an active claim over a wide region including the Narrabri LGA, filed on 20/12/2011 (Tribunal file no. NC2011/006, Federal Court no. NSD2308/2011).
Heritage NSW AHIMS	13 June 2019	Five extensive searches to cover the Narrabri LGA	Two hundred and thirty (230) sites within the Narrabri LGA
Local Environmental Plan (LEP)	13 June 2019	Narrabri LEP	No Aboriginal Places recorded within the Narrabri LGA

5.2 AHIMS DATA IN THE NARRABRI LGA

As set out in **Section 1.1**, a principal component of this assessment was to devise strategic mapping related to Aboriginal cultural heritage for the Narrabri LGA.

This task involves a large area (13 031 km^2) covering a diverse range of topographies and it is understood that any predictive model over such an area can only ever be general in its application.

In formulating the predictive model, the following variables were considered. Each of these steps will be expanded on below:

1. Mapping known Aboriginal site locations within the Narrabri LGA
2. Mapping drainage features within the Narrabri LGA
3. Mapping Mitchell landscape types within the Narrabri LGA
4. Mapping accumulated impacts from the Aboriginal Site Decision Support Tool (ASDST)
5. Mapping land use categories.

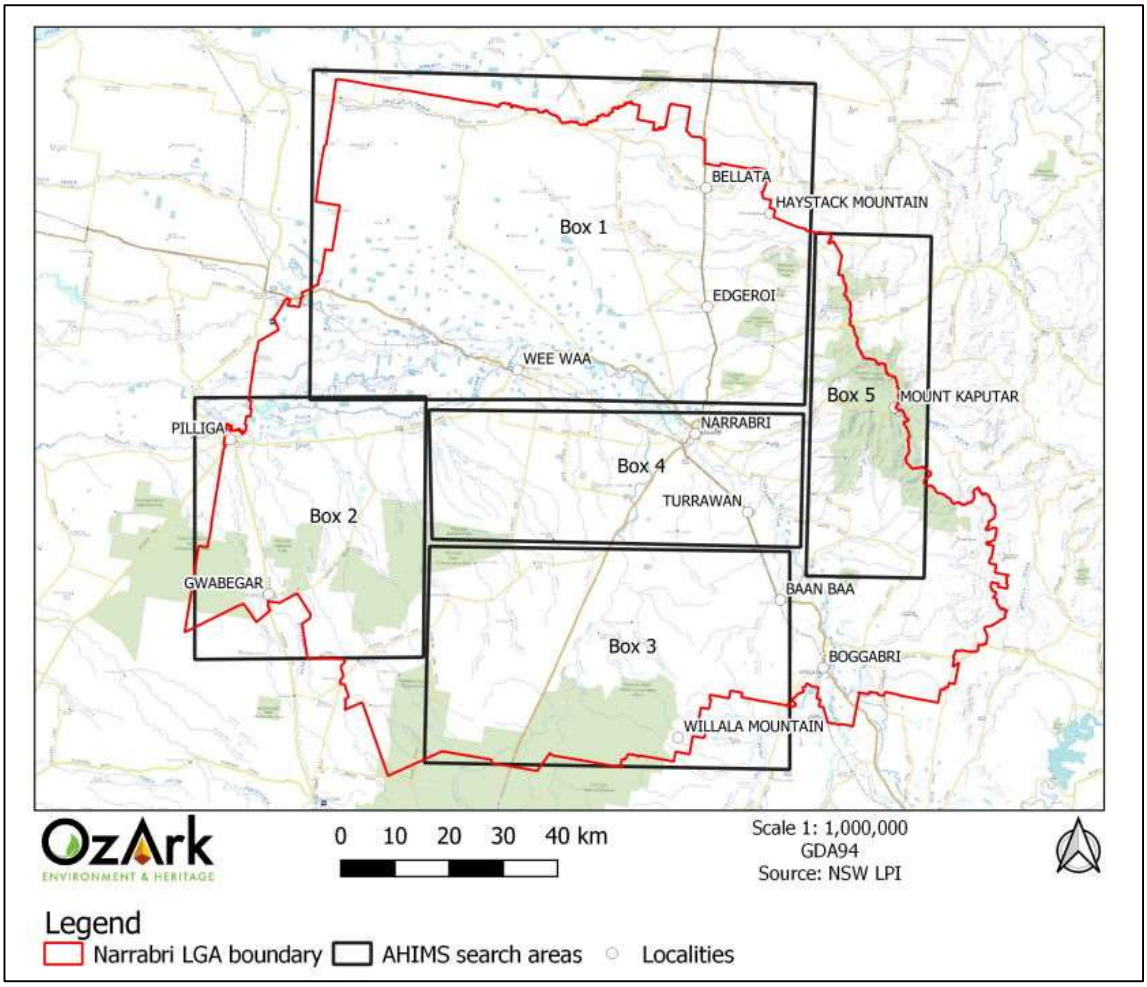
5.2.1 Mapping known Aboriginal site locations

Due to the size Narrabri LGA and the large number of registered AHIMS sites, five search areas were used to maximise the amount of the data gained. The areas of the LGA included in these searches are shown in **Figure 5-3**. **Table 5-5** shows the number of AHIMS sites which were returned from each search.

Table 5-5: Number of AHIMS sites from extensive search areas.

Search Box and details	Number of AHIMS sites
Box 1 Eastings: 696547–789328 Northings : 6648000–6708885	116
Box 2 Eastings: 675486–718177 Northings : 6602744–6649257	118
Box 3 Eastings: 718814–784187 Northings: 6580873–6619800	120
Box 4 Eastings: 719069–786991 Northings: 6623181–6645100	116
Box 5 Eastings: 211143–233550 Northings: 6616394–6678979	117
Total	**583**

Figure 5-3: Search areas used for AHIMS extensive searches.



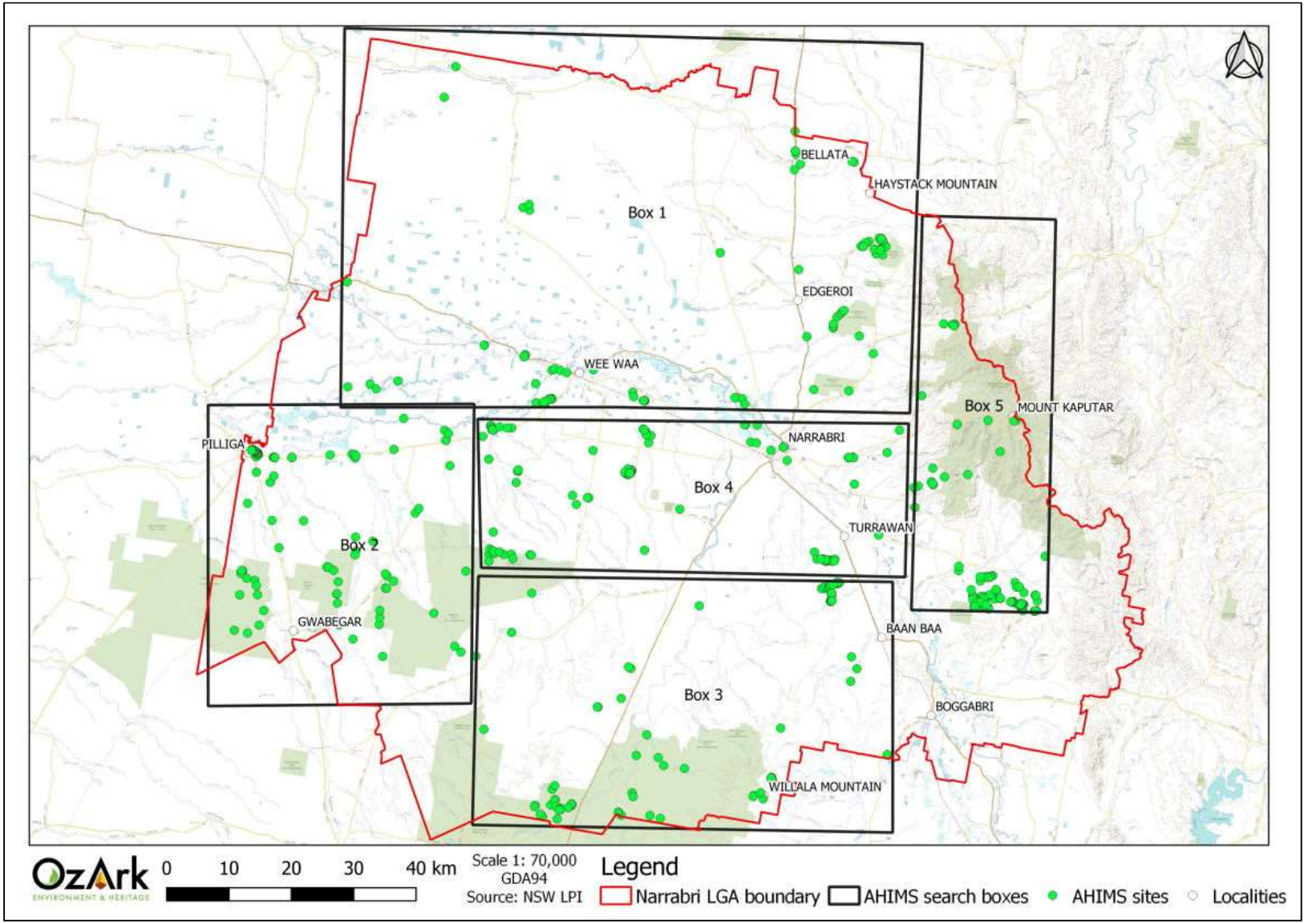
In total, the searches of the Heritage NSW administered AHIMS database returned 583 records for Aboriginal heritage sites. Of this, forty-six (46) of these sites were outside the Narrabri LGA boundary and have been excluded from further analyses. The Boggabri area was excluded from a search due to the high number of previous assessments conducted due to mining activities, and that the high number of recorded sites in this area would skew the data. This is discussed further in **Section 5.2.8**.

In total, there are five hundred and thirty-seven (537) Aboriginal sites from inside the search areas. **Table 5-6** shows that the most frequent type of site recorded in the Narrabri LGA search areas is artefact scatters (36.5%), followed by modified trees (34.1%) and isolated finds (12.3%). **Figure 5-4** shows the location of the AHIMS sites that have been recorded inside the search areas for the Narrabri LGA.

Table 5-6: Site types and frequencies of AHIMS sites inside the Narrabri LGA.

Site Type	Number	% Frequency
Artefact scatter	196	36.5
Modified tree	183	34.1
Isolated find	66	12.3
Axe grinding groove	36	6.7
Aboriginal ceremony and dreaming (& burial/s or modified trees)	7	1.3
Artefact scatter & additional feature	7	1.3
Art (pigment &/or engraved)	6	1.1
Shelter with deposit	6	1.1
Burial/s (& additional feature)	5	0.9
Axe grinding groove & additional feature	4	0.7
Habitation structure	4	0.7
Hearth	4	0.7
Water hole	4	0.7
Aboriginal resource and gathering	3	0.6
Ochre quarry	3	0.6
Quarry	1	0.2
Shell	1	0.2
Shelter with art	1	0.2
Total	**537**	**100**

Figure 5-4: Distribution of AHIMS sites inside Narrabri LGA.



The distribution of previously recorded sites within the Narrabri LGA (**Figure 5-4**) is skewed by several factors that are discussed below:

1. Recordings are somewhat associated with major population centres such as Narrabri and Wee Waa and Pilliga
2. There is some correlation between site recordings and major transport routes such as the Newell Highway, Pilliga Road and the Kamilaroi Highway
3. There is some correlation between site recordings and national parks or state conservation areas
4. There are clusters of sites recorded by members of the Aboriginal community, probably on an ad hoc basis
5. There are clusters of discrete site recordings throughout the LGA which are likely due to development approval purposes
6. There are several clusters of sites in the southeast corner of the LGA which are due to archaeological assessments for coal mines.

The result of this non-systematic recording of sites, mostly for development approval purposes and mining, therefore means that the established distribution of sites as seen in the AHIMS data (**Figure 5-4**) cannot be taken as a true indicator of past Aboriginal occupation patterns. Consequently, the distribution of sites as registered with AHIMS can only be tentatively used to formulate a predictive model for site location.

This conclusion underlies some major flaws in the AHIMS recording system as it has developed over the years. Some general observations on the veracity of the site distribution pattern as represented by the AHIMS data is:

- AHIMS registrations can be made by any individual and, therefore, the veracity of many of the AHIMS recordings remains questionable
- The 'dots on a map' approach is not informative as one dot may represent a single stone artefact, and another may represent a cluster of one hundred (100) artefacts
- The location of sites is more driven by development proposals rather than systematic research. Therefore, the data tends to skew towards population centres and public land (i.e. TSRs) while private land, where no development has ever been proposed, remain as 'blanks' on the map
- **Table 5-6** indicates that 'modified trees' are the second most common site type recorded in the Narrabri LGA (34.1%). This site type is not only often mis-recorded (where natural

scars are interpreted as cultural scars), but of all site types, scarred trees have been most affected by widespread land clearing (unlike scarred trees, land clearing may disturb but not completely remove artefact sites). Therefore, it is difficult to use this site type to map past occupation distribution patterns as the examples of this site type on AHIMS are either not actually culturally modified, or are biased to those areas where vegetation clearing has been less such as: riparian corridors; road corridors; or public land such as TSRs. The distribution of site types is further examined in **Section 5.2.2**.

As a result, while the data is normally available to interrogate the AHIMS site distribution pattern more fully, at face value it is of limited use.

5.2.2 Site types

The site type categories developed in OzArk (2014) were used to divide sites into four groups, namely:

- Group 1: Open sites of any type that are assumed to be located on a soil mantle. These comprise artefact sites such as open camp sites; PADs; hearths; ceremonial / bora rings; burials; and shell mounds. This group clearly contains both occupation types of sites and ceremonial / ritual sites, and are collected because of their physical locations, i.e. within (on or below) the ground surface.
- Group 2: Sites that are defined by trees. These comprise modified trees; scarred trees; and carved trees.
- Group 3: Sites that depend on local geology and rock outcrop. These sites comprise grinding grooves; ochre and stone quarries; and stone arrangements.
- Group 4: Sites that do not have any ready identification / landform association criteria. These sites comprise Aboriginal resource gathering site; ceremonial and dreaming sites; and water holes.

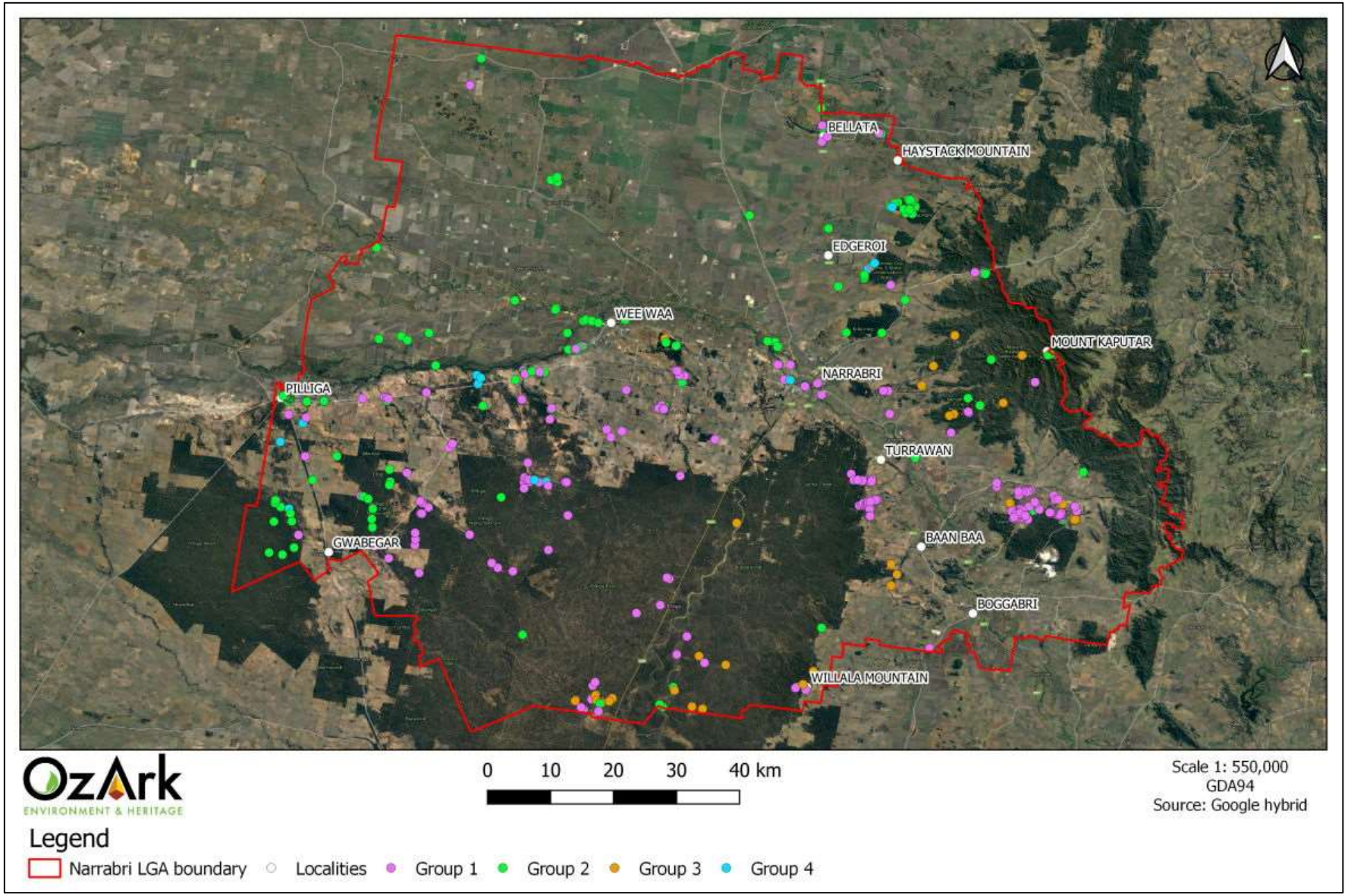
In the Narrabri LGA, there is a nearly even split of sites between Group 1 and Group 2–4 types. There are two hundred and eighty-three (283) sites which classify as Group 1, one hundred and eight-three (183) as Group 2 and fifty-seven (57) as Group 3 and fourteen (14) as Group 4 (**Figure 5-5**).

Over half of the sites in the Narrabri LGA are Group 1 sites, specifically, open artefact sites. The distribution of stone artefact sites is a good indicator of past Aboriginal occupation within the LGA. Stone artefact sites (Group 1) are less ambiguous to recognise, and while historic land use may disturb the site's integrity, it rarely removes it entirely from the landscape.

Group 2 consisting of modified trees, is the second most prevalent group type in the Narrabri LGA. As noted in **Section 5.2.1**, this site type is problematic as it is often mis-recorded, and its distribution is heavily skewed by historic land use practices, primarily widespread tree clearance that removes this site type. As a result, not too much faith can be placed in nearly half of the site recordings within the Narrabri LGA to act as an indicator of past Aboriginal occupation distribution.

The distribution pattern seen on **Figure 5-5** shows a clustering of Group 1 sites around the waterways in the LGA. This patterning supports the view that Aboriginal site location is closely associated with available water resources (**Section 5.2.3**).

Figure 5-5: AHIMS registered sites by site types.



5.2.3 Mapping drainage features

Throughout NSW there is an observed and accepted correlation between site location and waterways. Several previous studies conducted by OzArk in different areas of NSW have shown that there is a correlation between distance from water and likelihood of Aboriginal sites being present (OzArk 2014 and 2016).

Two (2) types of drainage buffers were used to determine which type of drainage buffer would provide the most data:

1. The first method applies distance buffers around named and unnamed waterways and determining the number of recorded AHIMS sites within and outside these buffers (see **Section 5.2.3.1**).
2. The second method applies specific distance buffers based on waterway or waterbody type (see **Section 5.2.3.2**).

5.2.3.1 Non-specific drainage buffers for named and unnamed waterways

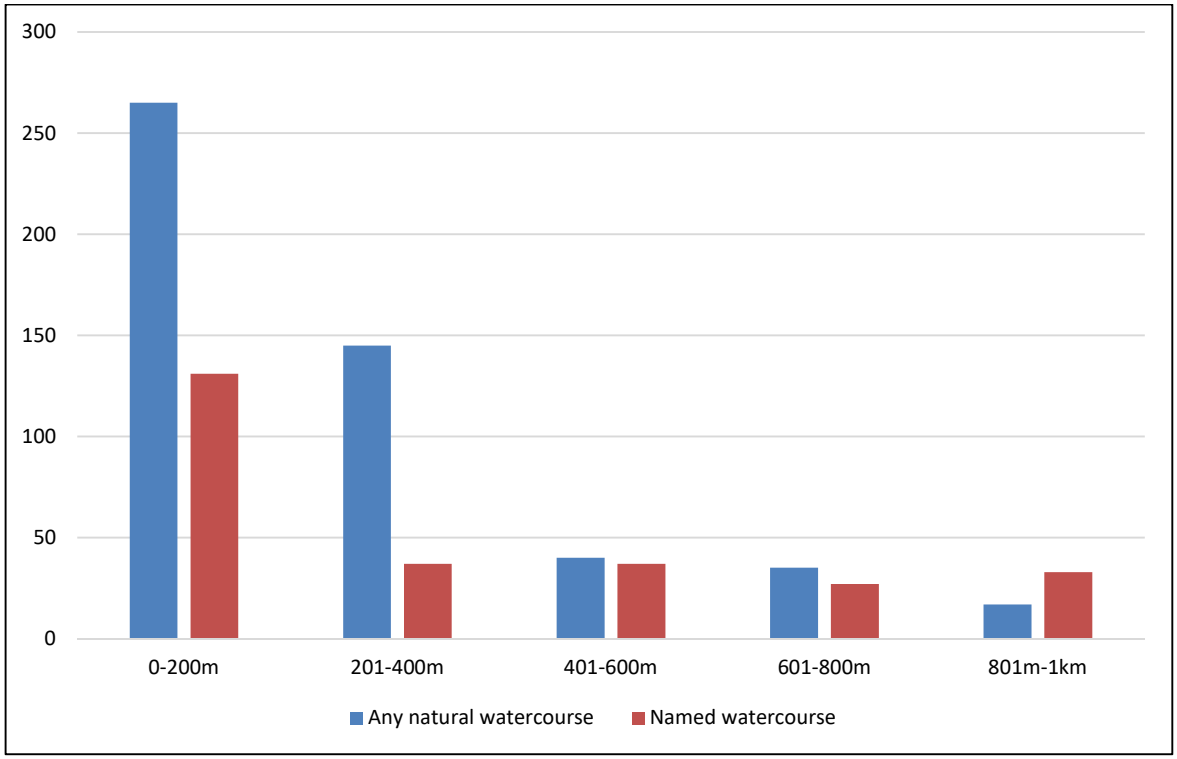
There are five hundred and thirty-seven (537) AHIMS sites recorded in the search areas of Narrabri LGA, and of these, one hundred and thirty-one (131) sites are within two hundred metres (200 m) of a named watercourse. This means nearly one quarter (24%) of AHIMS sites from the search areas are within two hundred metres (200 m) of a named watercourse. Of these one hundred and thirty-one (131) sites, 47% (n=62) are the Group 1 type sites, 43% (n=56) are Group 2, 4% (n=5) are Group 3 and 6% (n=8) are Group 4 site types.

In comparison, there are two hundred and sixty-five (265) sites within two hundred metres (200 m) of any natural watercourse. This is nearly half (49%) of all sites from the search areas, and the majority of these sites are within one hundred metres (100 m) of any natural watercourse (n=166, 31%). The type of sites within two hundred meters (200 m) of any natural watercourse are Group 1 (n=168), consisting of open occupation sites, followed by Group 2 (n=69), Group 3 (n=19) and Group 4 (n=8).

Chart 5-2 shows the number of sites in relation to distance from water, and whether the buffer area includes all watercourses or only named watercourses. There is a large difference in the number of sites within four hundred metres (400 m) of either any watercourse or only named watercourses. This indicates that Aboriginal occupation of the landscape occurred in proximity to

watercourses, including the minor or non-perennial watercourses prevalent throughout the Narrabri LGA.

Chart 5-2: Number of AHIMS sites within 1 km of watercourses.



5.2.3.2 Specific drainage buffers for type of waterway or waterbody

Nearly half of the sites in Narrabri LGA are within two hundred meters (200 m) of any type of natural watercourse. To further investigate, specific distance buffers were applied based on the type of watercourse. Buffers of varying distances was applied to all natural watercourses within the Narrabri LGA. This includes rivers, creeks, and unnamed waterways. These specific drainage buffers are outlined in **Table 5-7** and shown on **Figure 5-6**.

Table 5-7: Specific distance buffers for types of waterways.

Name	Applied distance buffer	Water feature type
Drainage buffer 1	200 m buffer	Named rivers
		Named creeks
Drainage buffer 2	100 m buffer	Unnamed natural watercourses

When the specific drainage buffers are applied in relation to AHIMS sites, two hundred and eighteen (218) sites (41%) in the Narrabri LGA are inside one of the two (2) specific drainage buffers (**Table 5-8**).

Table 5-8: Number of AHIMS sites and specific drainage buffers.

Drainage buffer	Number	Frequency (%)
Drainage buffer 1	131	60
Drainage buffer 2	87	40
Total	**218**	**100**

Figure 5-6: Example of specific drainage buffers inside the Narrabri LGA.

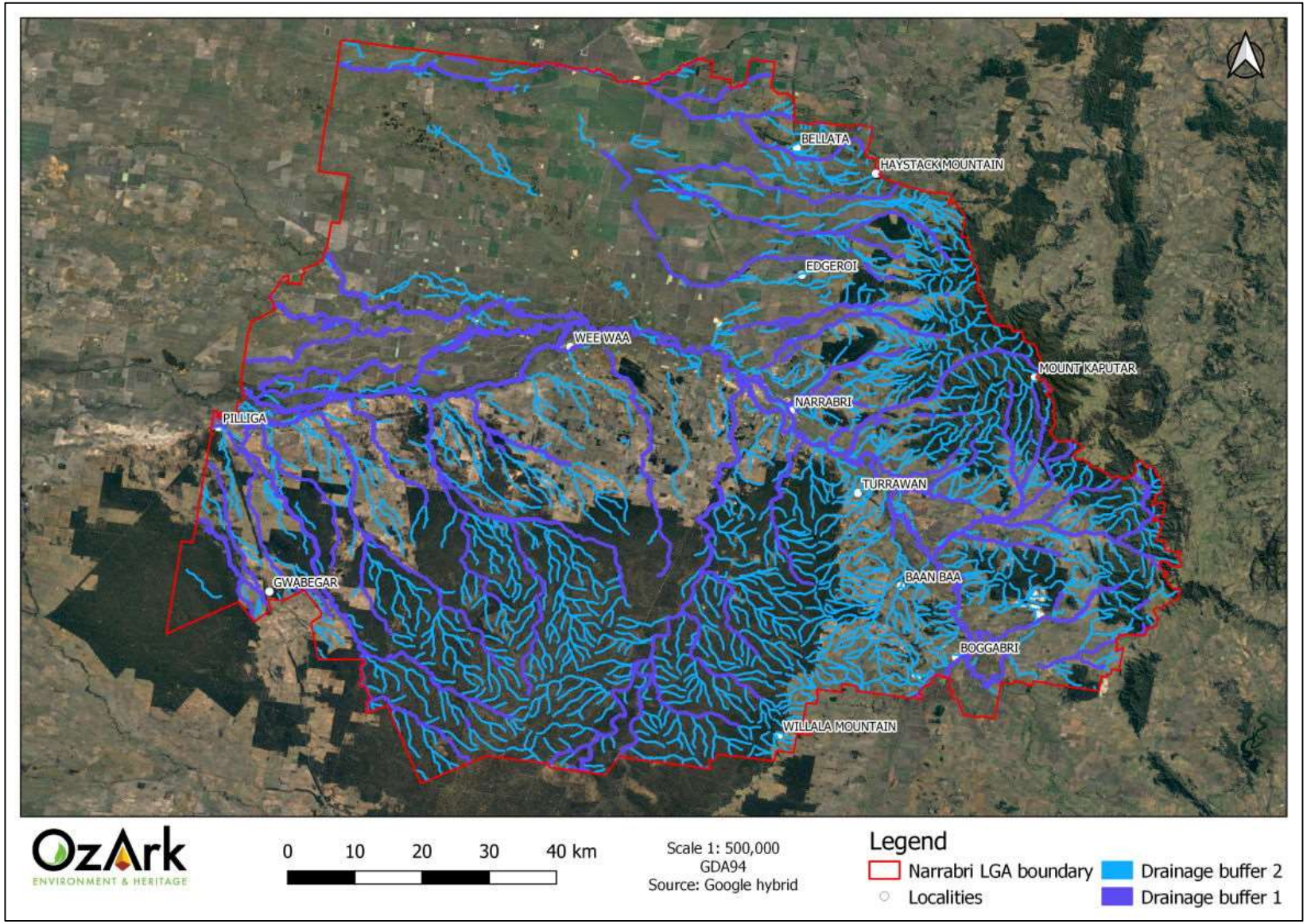
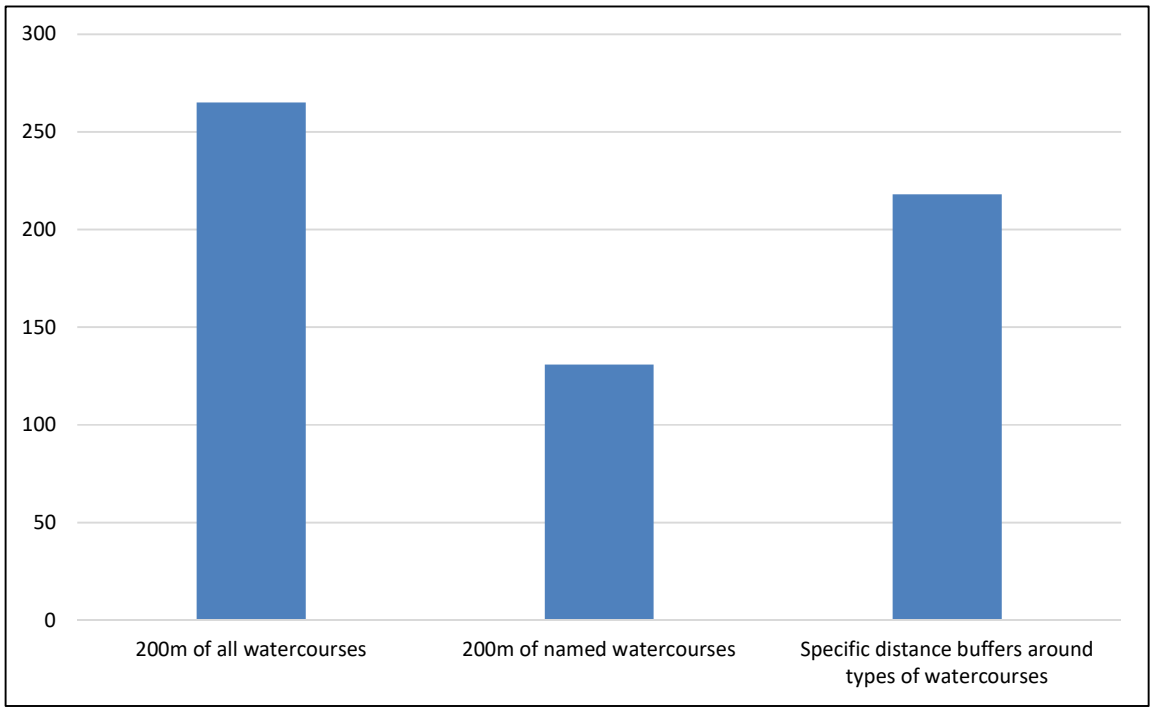


Chart 5-3 shows the total number of AHIMS sites for each type of drainage buffer analyses conducted: within two hundred metres (200 m) of all watercourses, within two hundred metres (200 m) of only named watercourses, and within either Buffer 1 or Buffer 2 as outlined in **Table 5-7**. It shows that Aboriginal occupation along watercourses was not restricted to the larger and more permanent water courses but included frequent use of perennial and less constant sources of water as well.

Chart 5-3: Number of AHIMS sites within 200 m using the two types of drainage buffers.



5.2.4 Mapping landscape types

There are two tiers of landscape types which were used in the analysis:

1. Bioregions and sub bioregions.
2. Mitchell's landscapes.

5.2.4.1 Bioregions and sub bioregions

Narrabri LGA has three bioregions: Darling Riverine Plains, Brigalow Belt South and Nandewar. These are further refined into eight sub bioregions as summarised in **Table 5-9**.

Table 5-9: Bioregions and sub bioregions of Narrabri LGA.

Bioregion	Sub bioregion
Darling Riverine Plains	Castlereagh-Barwon
Brigalow Belt South	Northern Outwash
	Northern Basalts
	Liverpool Plains
	Pilliga
	Pilliga Outwash
Nandewar	Kaputar
	Peel

There is a difference in the amount of AHIMS sites when classified by which sub bioregion the sites are located (**Table 5-10**). The Pilliga Outwash has the highest frequency of sites (34%), followed nearly evenly by Liverpool Plains (34%). Aboriginal sites are more likely to be recorded in the Brigalow Belt South bioregion than either the Darling Riverine Plains bioregion or the Nandewar bioregion.

Table 5-10: Number of AHIMS sites and sub bioregions.

Sub bioregion	n	Frequency (%)
Pilliga Outwash	185	34
Liverpool Plains	182	34
Pilliga	62	12
Castlereagh-Barwon	42	8
Northern Basalts	33	6
Northern Outwash	20	4
Kaputar	13	2
Peel	0	0
Total	**537**	**100**

5.2.4.2 Mitchell's landscapes

While the resolution of Mitchell's landscapes is too fine to be of use across such a broad area, this study used a higher-level classification within Mitchell landscapes to describe the landscapes within the Narrabri LGA. This study groups various landscape types as defined by Mitchell (2002) into:

- Sands, outwash sands and aeolian sands
- Alluvial plains
- Channels and floodplains

- Plateaus
- Ranges
- Slopes and plains
- Swamps and lagoons
- Tops
- Uplands.

Table 5-11 identifies the broader classifications that Mitchell's landscapes are grouped into for the purposes of the analysis. **Figure 5-7** shows the landscape types distribution across the Narrabri LGA as well as the location of AHIMS sites. The alluvial plains (37%) and uplands (30%) have the highest frequency of recorded sites, followed by the channels and floodplains (20%), slopes and plains (9%), sands, outwash sand and aeolian sands (3%) and tops (1%).

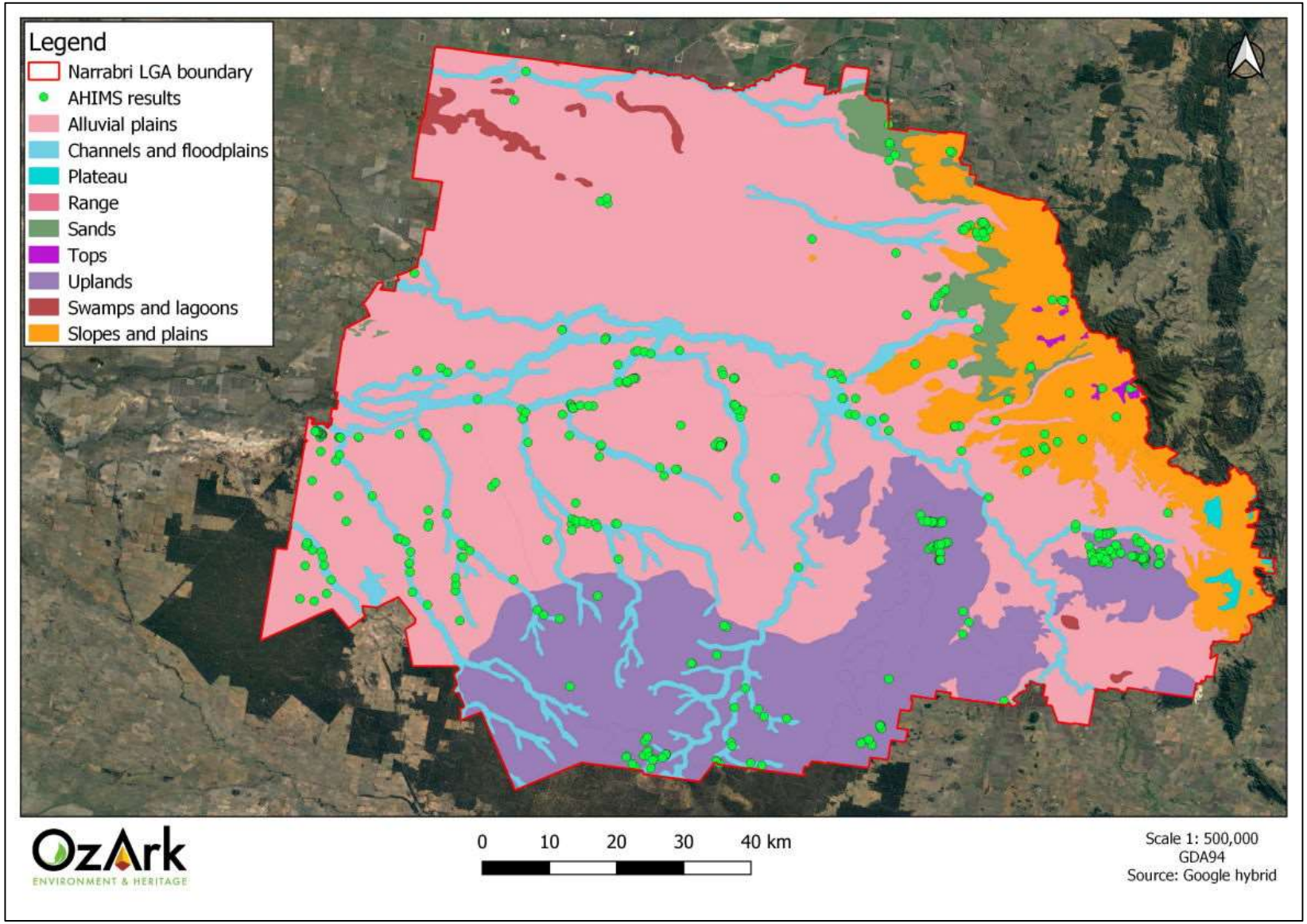
Table 5-11: Grouping of Mitchell's landscapes and number of AHIMS sites.

Landscape Number	Landscape types	Mitchell's landscapes (2002)	Number of AHIMS sites	Frequency of AHIMS sites (%)
1	Sands, outwash sands and aeolian sand	Namoi aeolian sands Belata sands Kerringle outwash sands	18	3.4
2	Alluvial plains	Baradine alluvial plains Coghill alluvial plains Gwydir alluvial plains Liverpool alluvial plains Namoi alluvial plains	196	36.5
3	Channels and floodplains	Baradine-Coghill channels and floodplains Gwydir channels and floodplains Mooki-Namoi channels and floodplains Namoi channels and floodplains	110	20.5
4	Plateau	Split yard plateau	0	0.0
5	Range	Kelvin Range	0	0.0
6	Slopes and slopes and plains	Kaputar slopes Tamwoth-Keepit slopes and plains	47	8.8
7	Swamps and lagoons	Gwydir swamps and lagoons Upper Namoi swamps and lagoons	0	0.0
8	Tops	Kaputar Tops	3	0.6
9	Uplands	Bugaldie uplands Cubbo uplands	163	30.4

Aboriginal sites are most likely to be recorded in the alluvial plains and uplands, followed by channels and floodplains landscapes. These results are unsurprising as much of the Narrabri LGA is either alluvial plains, uplands, or slopes and plains landscapes (**Figure 5-7**). The alluvial plains

also include the areas around the channels and floodplains landscapes and current natural water sources such as the Namoi River and its creeks and tributaries. The inclusion of terraces in these landscape types, especially overlooking permanent or semi-permanent water sources, are ideal locations for Aboriginal occupation sites. Such sites are shown through archaeological evidence such as artefact scatters, hearths and earth mounds.

Figure 5-7: Landscape types and AHIMS sites.



5.2.5 Mapping combined accumulated impacts

To approximately determine the impacts of colonial land use history on Aboriginal site features in the landscape, the 'combined accumulated impacts' spatial data from the Aboriginal Sites Decision Support Tool (ASDST) was used (OEH 2014). The combined accumulated impact data shows areas with high values which reflects where most feature types have been heavily impacted. Areas were the combined impacts are low, reflect where land use has had a minimum impact on likely survival of site features.

High impact areas typically include those that have been mined, dense urban areas, or areas that have been cleared and regularly cropped. Low impact areas can include locations such as long-established national parks, rangelands, or where agricultural activity has been restricted to livestock grazing. The accumulated impacts can be shown as five categories: low; low-moderate; moderate; moderate-high; and high.

The full range of accumulated impacts are present inside the Narrabri LGA (see **Figure 5-8**). A large proportion of the Narrabri LGA is classified as having low-moderate or moderate accumulated impacts. There are also a few areas of low, moderate-high or high impacts. The areas of moderate-high or high impacts are mostly related to urban centres including Narrabri, Wee Waa, Boggabri, Bellata.

Chart 5-4 shows the AHIMS data categorised by accumulated impacts. There are a high proportion of AHIMS sites recorded in areas where accumulated impacts are moderate-low (n=302, 56%) or moderate (n=191, 36%). Only seven (7) per cent of AHIMS sites are in areas categorised as having moderate-high (n=37, 6.9%) or high (n=1, 0.2%) accumulated impacts. There are no sites in the areas categorised as having low accumulated impacts as there is so little of the LGA mapped as having this level of accumulated impact (**Figure 5-8**).

Chart 5-4: Frequency of AHIMS sites and accumulated impacts.

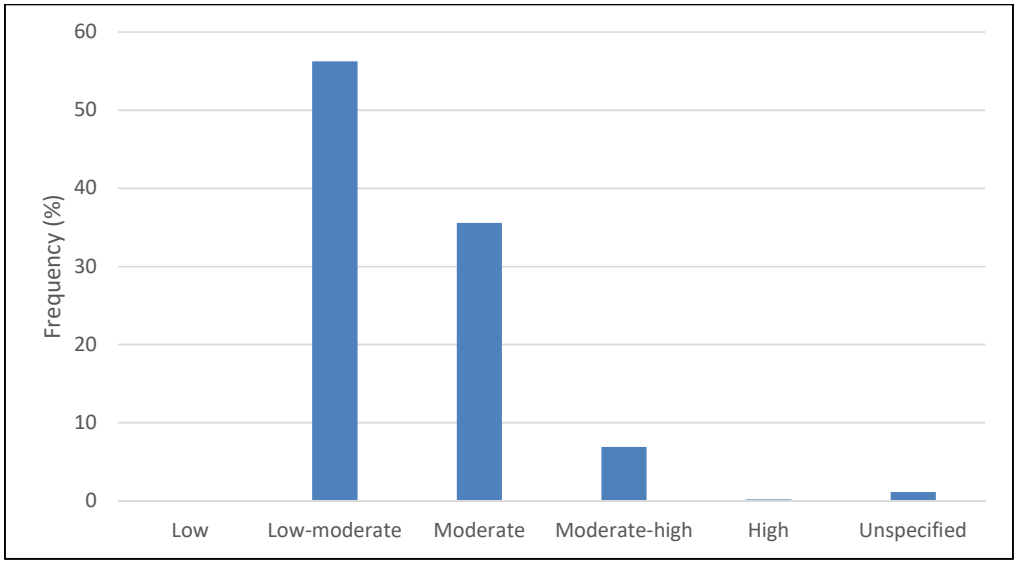
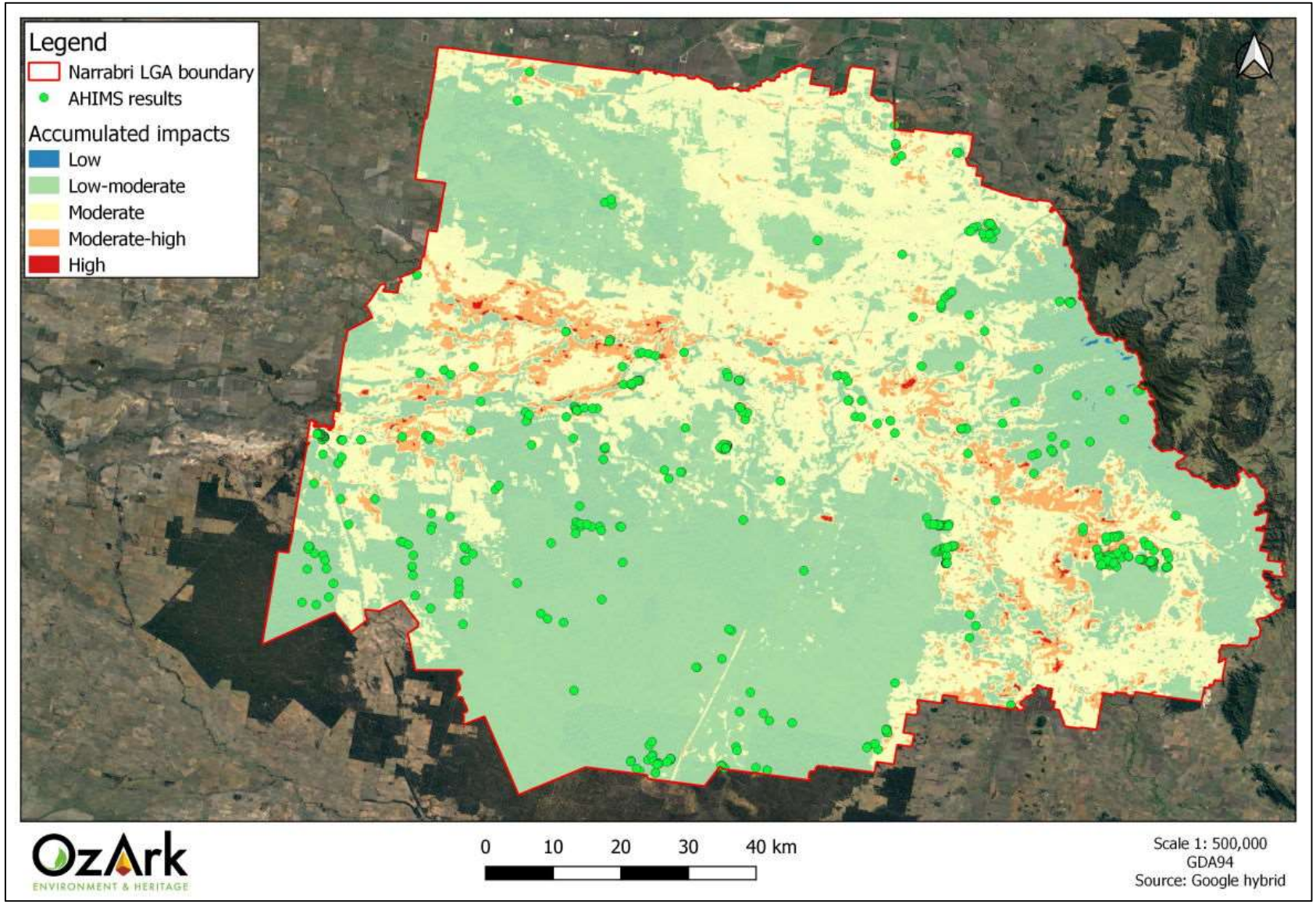


Figure 5-8: AHIMS sites and accumulated impacts.



5.2.6 Mapping land use categories

Land use of an area can be mapped using spatial data provided by the Australian Government which is based on the Australian Land Use and Management (ALUM) classification (DAWR 2019). There are six (6) high-level land use categories which are further broken down in more specific uses (see **Table 5-12**). For the purposes of this analysis, only the high-level land use categories are used.

Table 5-12: Land use categories.

High level category	Second level category
1. Conservation and natural environments	1.1.0 Nature conservation 1.2.0 Managed resource protection 1.3.0 Other minimal use
2. Production from relatively natural environments	2.1.0 Grazing native vegetation 2.2.0 Production forestry
3. Production from dryland agriculture and plantations	3.1.0 Plantation forestry 3.2.0 Grazing modified pastures 3.3.0 Cropping 3.4.0 Perennial horticulture 3.5.0 Seasonal horticulture 3.6.0 Land in transition
4. Production from irrigated agriculture and plantations	4.1.0 irrigated plantation forestry 4.2.0 Grazing irrigated modified pastures 4.3.0 Irrigated cropping 4.4.0 Irrigated perennial horticulture 4.5.0 Irrigated seasonal horticulture 4.6.0 Irrigated land in transition
5. Intensive uses	5.1.0 Intensive horticulture 5.2.0 Intensive animal husbandry 5.3.0 Manufacturing and industrial 5.4.0 Residential and farm infrastructure 5.5.0 Services 5.6.0 Utilities 5.7.0 Transport and communication 5.8.0 Mining 5.9.0 Waste treatment and disposal
6. Water	6.1.0 Lake 6.2.0 Reservoir/dam 6.3.0 River 6.4.0 Channel/aqueduct 6.5.0 Marsh/wetland 6.6.0 Estuary/coastal waters

Figure 5-9 shows the high-level land use categories for the Narrabri LGA. The land use category with the largest area inside the Narrabri LGA is Category 2 (production from relatively natural environments). This is followed by Category 3 (production from dryland agriculture and

plantations) and Category 4 (production from irrigated agriculture and plantations) and Category 1 (conservation and natural environments). As these land use categories cover a large area of the Narrabri LGA, it is unsurprising that the frequency of AHIMS sites located inside Category 2 and 1 is also proportionally higher (**Chart 5-5** and **Figure 5-9**).

Chart 5-5: Frequency of AHIMS sites for land use categories.

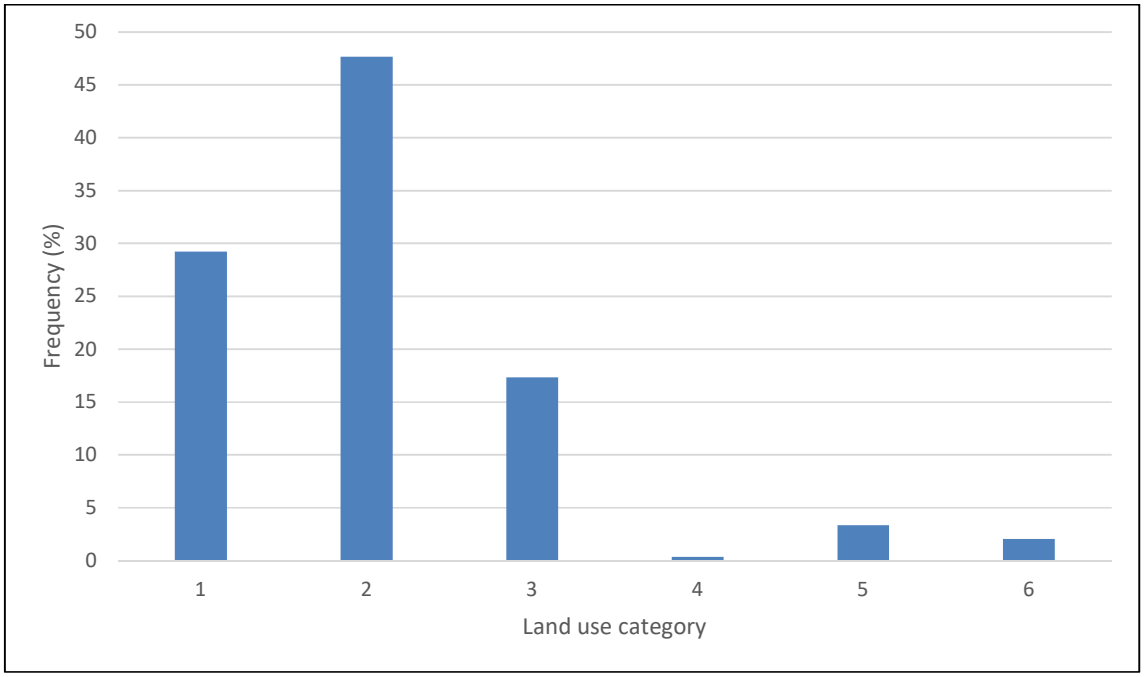
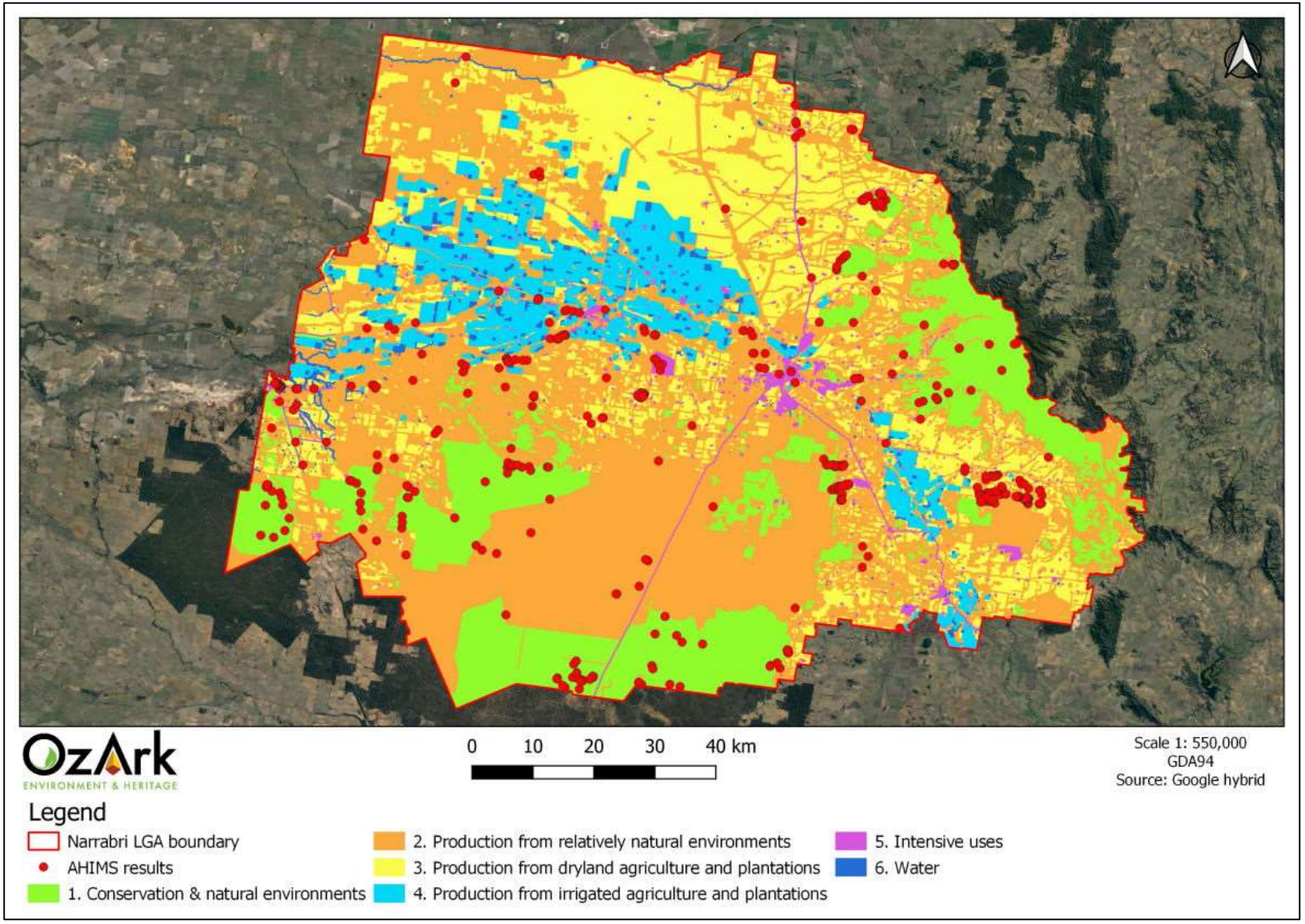


Figure 5-9: AHIMS sites and land use categories.

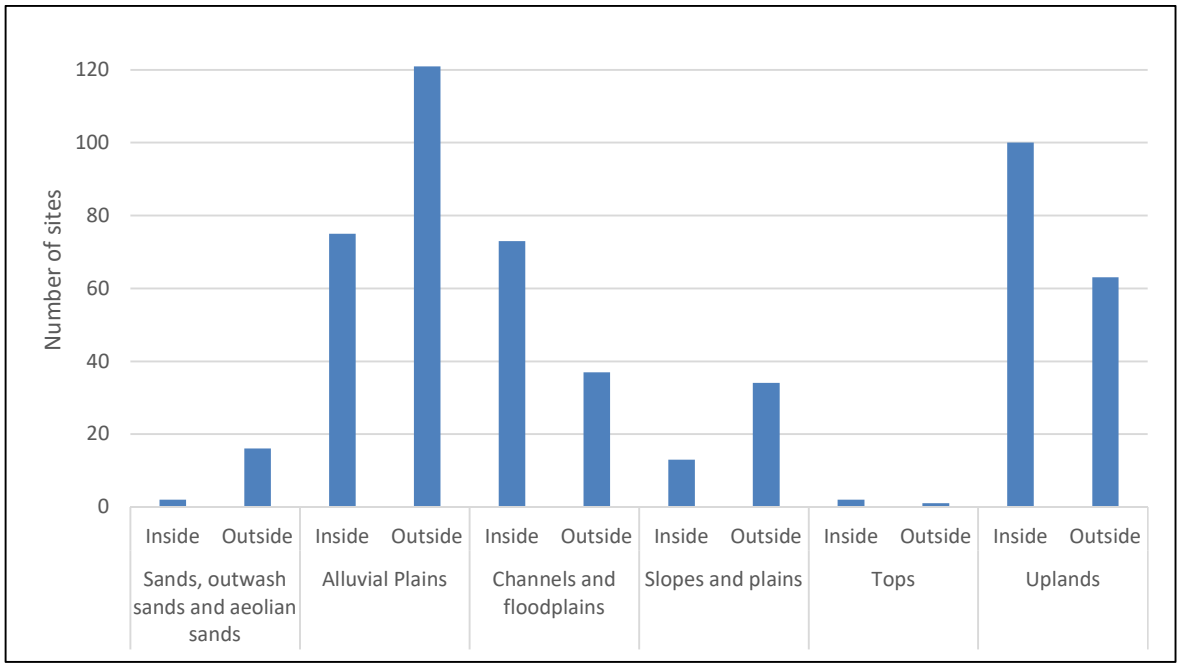


5.2.7 Discussion

Proximity to water is an important consideration in terms of predictive modelling for Aboriginal sites in NSW. Nearly half of the sites used in this analysis tend to go against this principle, with fifty-one (51) per cent of sites being outside a two hundred metres (200 m) area from any type of current natural water source. The most likely explanation for this occurring could be due to the landform types.

The landscape types can be compared to whether sites are within two hundred metres (200 m) of a natural water source, or outside this buffer area. There is a higher number of sites outside the two hundred metres (200 m) water buffer for the majority of landscape types, excepting the channels and floodplains or the uplands (**Chart 5-6**). Of interest is the number of sites recorded in the alluvial plains and outside of the two hundred metres (200 m) water buffer. This landscape is formed by the deposition of sediment over a long period of time by rivers coming from highland regions, from which the alluvial soil forms. Floodplains are part of this process, by being a smaller area over which the rivers flood at particular times, while the alluvial plains are the region over which the floodplains have shifted.

Chart 5-6: Sites by landscape type and whether inside or outside the 200 m water buffer.

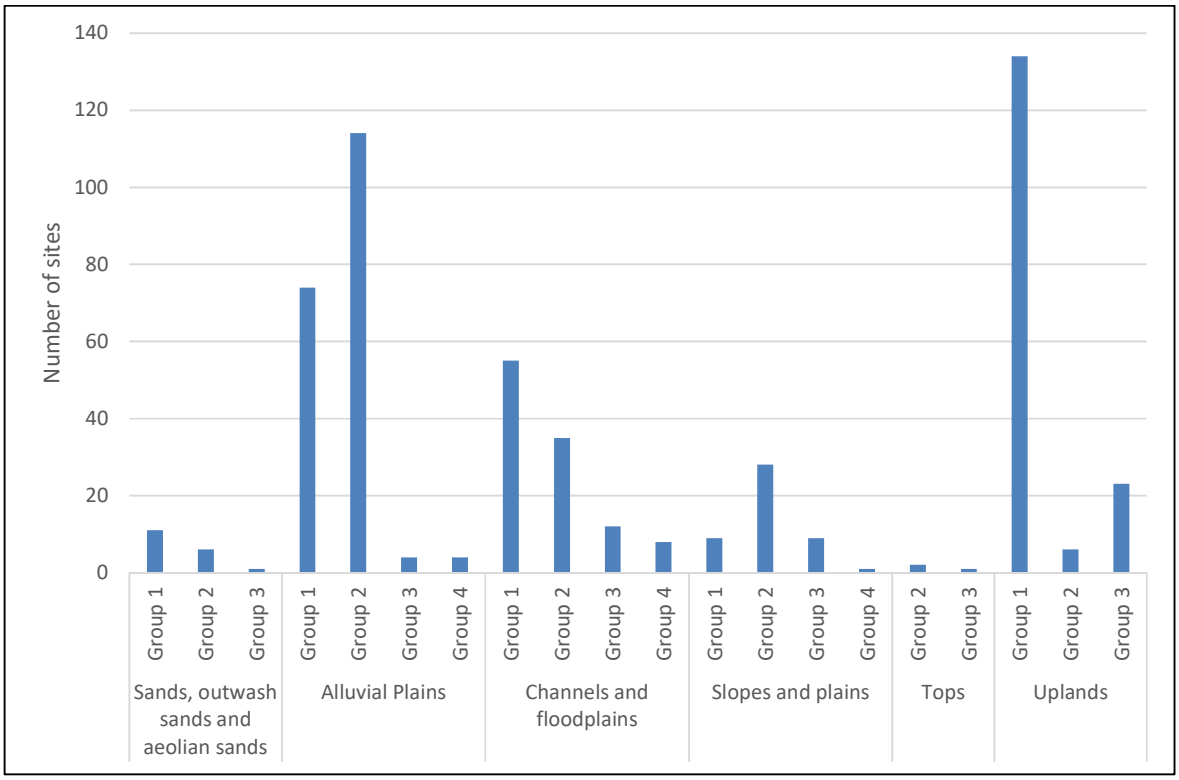


There is not any significant variation in site type group whether the sites are inside two hundred metres (200 m) of a natural water source or outside the two hundred metres (200 m) area. There are some differences when site type group is compared against landscape type (**Chart 5-7**). The

number of sites in Group 1 and Group 2 are nearly equal in the sands, outwash sands and aeolian sands landscape. The uplands have a higher number of Group 1 and Group 3 sites compared to the other landscape types. The alluvial plains have a higher number of Group 2 sites, followed by Group 1 sites.

Of interest is the channels and floodplains, where the majority of sites are Group 1, followed by Group 2, Group 3 and Group 4 sites. Of the sites in the slopes and plains landscape, Group 2 is the most prevalent.

Chart 5-7: Number of sites by site type groups and landscape types.



To test the veracity of the conclusions (see **Section 5.2.8**), the one hundred and thirty (130) AHIMS sites relating to two mines (Whitehaven Coal and Maules Creek) were removed from the data, and the general analyses regarding drainage buffers and landscape types were redone and compared. The main difference relates to the number of sites in the Uplands landscape type, due to the majority of the mine AHIMS sites (n=98) being located in this landscape type. When removed, sixteen (16) per cent of the remaining AHIMS sites are located in the Uplands landscape, as opposed to thirty (30) per cent of sites when the mine AHIMS sites are included (**Chart 5-8**). When the AHIMS sites recorded in mining districts are excluded, there is little major variation in the results concerning drainage features (**Chart 5-9**).

Chart 5-8: Comparison of frequency of sites for each landscape type for all AHIMS sites and excluding AHIMS sites in mining districts.

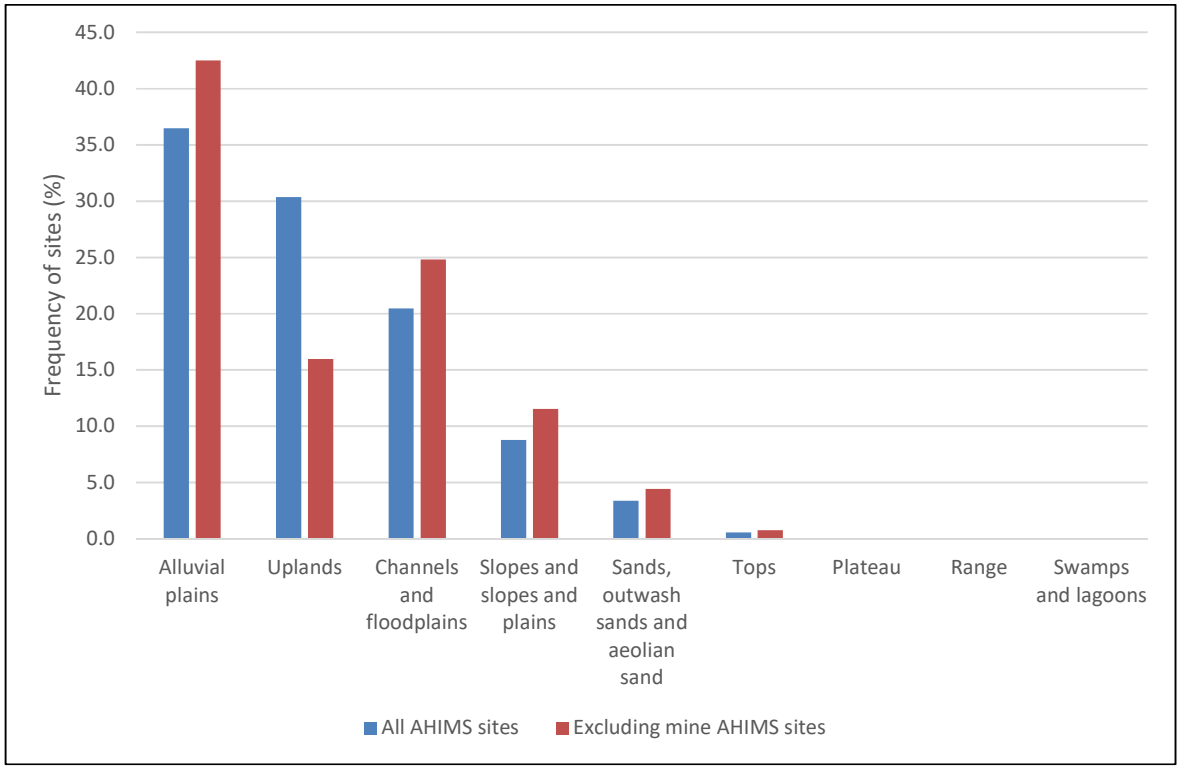
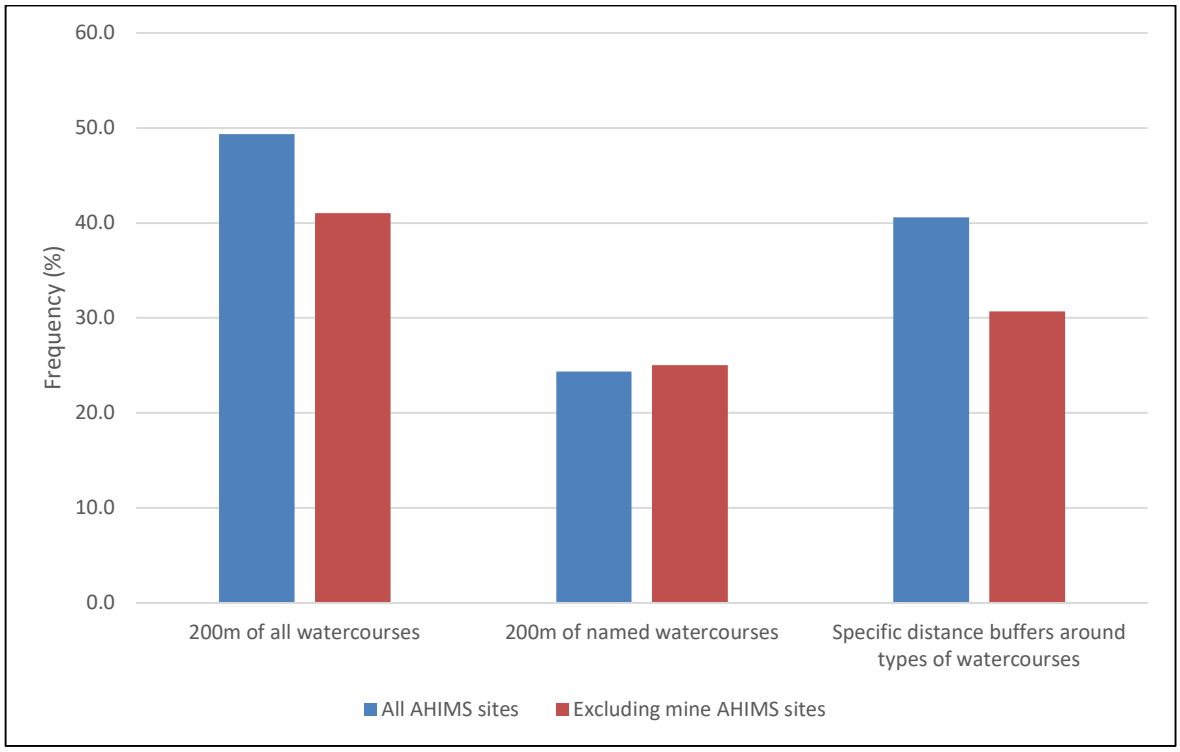


Chart 5-9: Comparison of frequency of sites for drainage features for all AHIMS sites and excluding AHIMS sites in mining districts.



5.2.8 Conclusions

There are several broad conclusions which can be drawn from the predictive model:

- Drainage buffers: Nearly half (n=265) of the AHIMS sites are within two hundred metres (200 m) of a natural water source, while nearly all of the sites are within one kilometre (1 km) of water (n=502)
- Sub bioregion: sixty-eight (68) per cent of sites are in either the Pilliga Outwash or Liverpool Plains sub bioregions. Overall, the majority of sites are in the Brigalow Belt South bioregion (n=482)
- Landscape types: Most sites (70%) are in the alluvial plains landscape type. The alluvial plains have the greatest number of Group 2 sites (n=114)
- Accumulated impacts: Most sites have been recorded where accumulated impacts are categorised as low-moderate or moderate. This is likely due to the extremely low frequency of areas classified as having low accumulated impacts
- Land use categories: Most sites are recorded in areas where the land use category is either production from relatively natural environments or conservation and natural environments. The less destructive nature of these land uses would have helped to preserve sites to a certain degree, especially in relation to the production from relatively natural environments
- When sites recorded in mining districts are included in the analysis, the results become slightly skewed. This is most apparent regarding the landscape types where at least half of the sites recorded in the Uplands landscape type are within mining districts (n=98). However, this skew does not appear to unduly affect the other variables, especially regarding drainage features.

5.3 SIGNIFICANCE OF AHIMS SITES

5.3.1 Introduction

The appropriate management of cultural heritage items is usually determined based on their assessed significance, as well as the likely impacts of any proposed developments. Cultural, scientific, aesthetic and historical significance are identified as baseline elements of significance assessment, and it is through the combination of these elements that the overall cultural heritage values of a site, place or area are resolved.

Social or Cultural Value

This area of assessment concerns the importance of a site or features to the relevant cultural group: in this case the Aboriginal community. Aspects of social value include assessment of sites,

items, and landscapes that are traditionally significant or that have contemporary importance to the Aboriginal community. This importance involves both traditional links with specific areas, as well as an overall concern by Aboriginal people for their sites generally and the continued protection of these. This type of value may not be in accord with interpretations made by the archaeologist: a site may have low archaeological value but high social value, or vice versa.

Archaeological/Scientific Value

Assessing a site in this context involves placing it into a broader regional framework, as well as assessing the site's individual merits in view of current archaeological discourse. This type of value relates to the ability of a site to answer current research questions and is also based on a site's condition (integrity), content and representativeness.

The overriding aim of cultural heritage management is to preserve a representative sample of the archaeological resource. This will ensure that future research within the discipline can be based on a valid sample of the past. Establishing whether a site can contribute to current research also involves defining 'research potential'. Questions regularly asked when determining significance are: can this site contribute information that no other site can? Is this site representative of other sites in the region?

Aesthetic Value

This refers to the sensory, scenic, architectural and creative aspects of the place. It is often closely linked with the social values. It may consider form, scale, colour, texture and material of the fabric or landscape, and the smell and sounds associated with the place and its use (Burra Charter 2013).

Historic Value

Historic value refers to the associations of a place with a historically important person, event, phase or activity in an Aboriginal community. Historic places do not always have physical evidence of their historical importance (such as structures, planted vegetation or landscape modifications). They may have 'shared' historic values with other (non-Aboriginal) communities.

Places of post-contact Aboriginal history have generally been poorly recognised in investigations of Aboriginal heritage. Consequently, the Aboriginal involvement and contribution to important regional historical themes is often missing from accepted historical narratives. This means it is often necessary to collect oral histories along with archival or documentary research to gain enough understanding of historic values.

5.3.2 Discussion

Assessing the significance of the AHIMS sites used in the predictive model is impossible at the individual site level for the purposes of this study. However, it is possible to discuss the archaeological significance of certain site types, based on previous studies and experience with AHIMS sites in the broader region. In order to do this, generalised site types located inside Narrabri are discussed in relation to archaeological significance. The grouping of sites as described in **Section 5.2.2** has been used.

5.3.2.1 Group 1 site types

Group 1 site types include open sites of any type assumed to be located on a soil mantle. This includes artefact sites such as open camp sites, PAD, hearth, ceremonial / bora rings, burials, and shell mounds.

Archaeological evidence of Group 1 site types is often evidenced by several archaeological features. The most common type of site type are stone artefact sites, which are often located in proximity to water sources. Other features which may indicate camp sites, in association with stone artefacts, include hearths, middens, and rock shelters.

There are several factors which help determine archaeological significance and the research potential of Group 1 sites and include: the size of the camp site and density of archaeological features such as stone tools; whether the site has been previously disturbed; and whether there is potential for archaeological sub surface deposits.

5.3.2.2 Group 2 sites

Group 2 sites are those defined by trees. These comprise modified trees, scarred trees, and carved trees.

Modified trees include scarred and carved trees. Scarred trees are evidence of bark and wood being removed for shields, shelters, coolamons and canoes. Sometimes evidence of toe-holes or climbing footholds will be visibility indicating the tree was used to hunt possum or for gathering honey.

Carved trees have had a section of bark removed (as with scarred trees), then the underlying wood carved into. Carved trees are highly significant due to their ceremonial meanings, as they are often associated with burials.

The archaeological significance of modified trees often varies depending on surrounding sites, such as camp sites or associated burials.

5.3.2.3 Group 3 site types

Group 3 site types are those which depend on local geology and rock outcrop. These sites comprise grinding grooves, ochre and stone quarries, and stone arrangements.

The archaeological significance of these types of sites vary depending on whether any there are any associated sites, such as artefact scatters or open camp sites.

5.3.2.4 Group 4 site types

Group 4 site types comprise sites such as Aboriginal resource gathering site, ceremonial and dreaming sites, and water holes. In general, these sites have lower archaeological potential, as there is often limited archaeological evidence remaining at them, or such evidence is not identified.

5.4 CONCLUSION

The unique nature of the Narrabri LGA makes strategic mapping of the Aboriginal cultural values within the LGA very difficult. These 'unique' features include:

- A large number of water courses, especially minor drainage lines. These readily available water sources would have possibly been used during differing seasons depending on water availability. This availability would have made travelling over distances less precarious for the local Aboriginals
- The LGA contains large areas of relic floodplains and terraces. Due to this fact, it is difficult to predict where sites may be located as the landscape has altered markedly over time. Commonly available aerials can show the ephemeral lakes/depressions and relic drainage channels. While most of these landforms are captured in the 'high' and 'moderate' archaeological potential categories on **Figure 6-1**, should any such relic drainage features fall into the 'low' potential category landforms, it should be assumed that they may contain potential to contain Aboriginal objects (see **Chart 6-1**).

In conclusion, the Aboriginal cultural heritage values of the Narrabri LGA are relatively well documented. This will get better as more heritage studies are conducted over time.

Until a systematic study provides more empirical data on Aboriginal site distribution across the LGA, the precautionary principle should be applied. While the strategic mapping provided here is

a useful start, it should be assumed that impacts in all but the most-disturbed landforms within the LGA could harm Aboriginal objects.

6 STRATEGIC PLANNING MAP

The strategic planning map is the result of the processes set out in **Section 5**. It should be stressed that the map is not designed to be a definitive record of all areas of Aboriginal cultural heritage within the Narrabri LGA. Rather, it is designed to show most of the sites that are registered with AHIMS, along with areas where there is a predicted higher likelihood of Aboriginal sites being located.

It is accepted that at such a broad level, not all areas of archaeological sensitivity have been mapped and that the strategic planning map is envisioned to be used as an indicative guide only and does not replace formal assessment of areas where development may be proposed. For example, the AHIMS data is presented as a single point although the actual site may be larger than this. Therefore, further research and assessment will be required to ascertain the archaeological values of an area where impacts may be proposed.

However, the strategic map shown on **Figure 6-1** can be used as a guide to the likelihood of a landform containing Aboriginal objects. OzArk will provide Narrabri Council with the GIS data used to generate this map and this will allow the locations of proposed activities to be assessed at a finer resolution than is possible with a printed map. **Table 6-1** provides the rationale behind the classifications shown on the strategic map. This indicates that the map is an interplay between a landform's distance to water, its landscape type, its land use and the level of previous impact in that landform.

Table 6-1: Rational behind strategic mapping categories.

Likelihood for Aboriginal sites	Characteristics
High	Includes landforms: • Within two hundred meters (200 m) of natural water sources • Within fifty meters (50 m) of recorded AHIMS sites Excludes landforms which have a high or high-moderate level of accumulated impacts
Moderate	Includes: • Landforms where land use category is either conservation and natural environments or production from relatively natural environments in either the alluvial plains, uplands or channels and floodplains. Excludes landforms which have a high or high-moderate level of accumulated impacts
Low	Includes everything else

Figure 6-1: Aboriginal cultural heritage strategic planning map showing a landform's potential to contain Aboriginal objects.

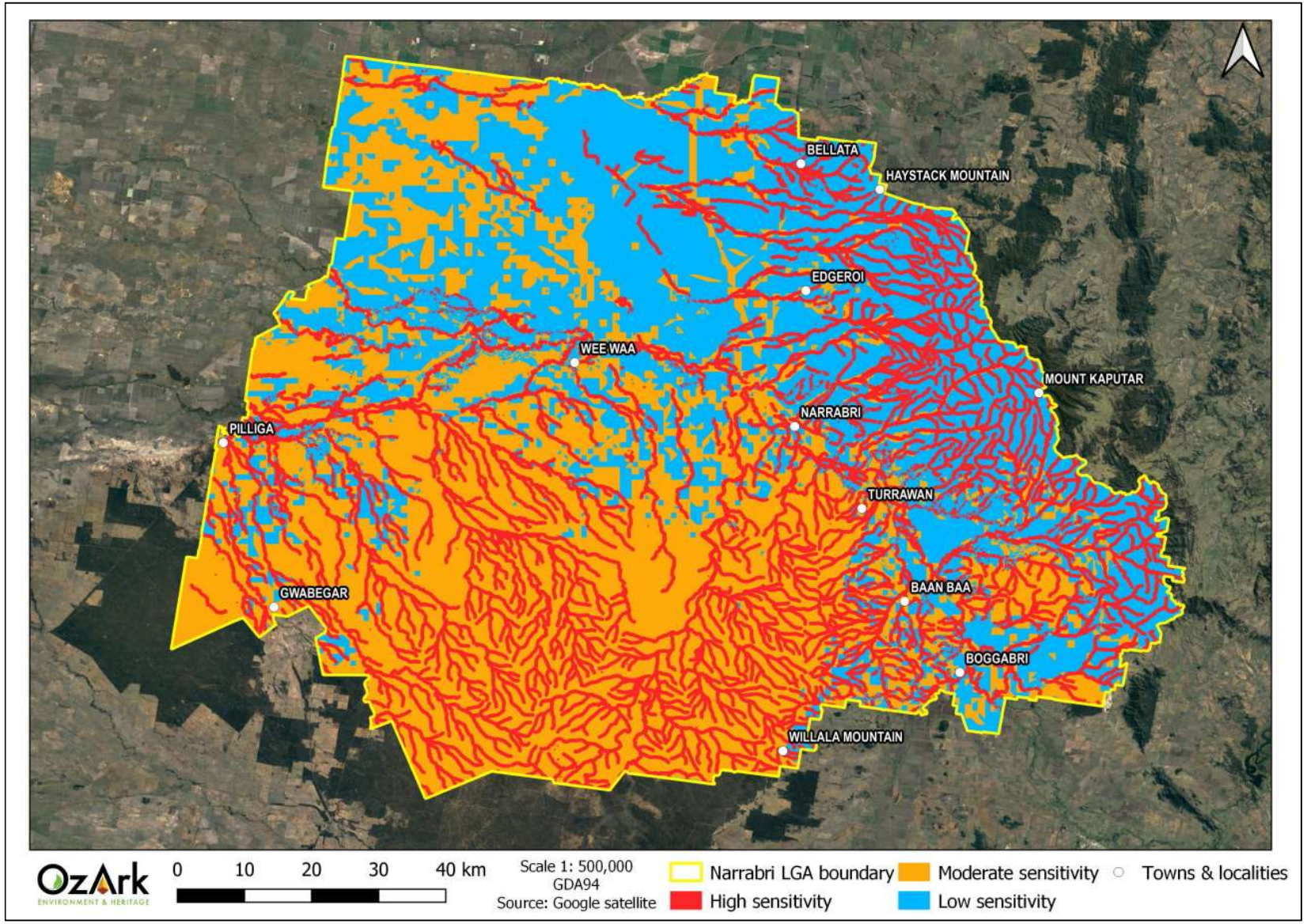
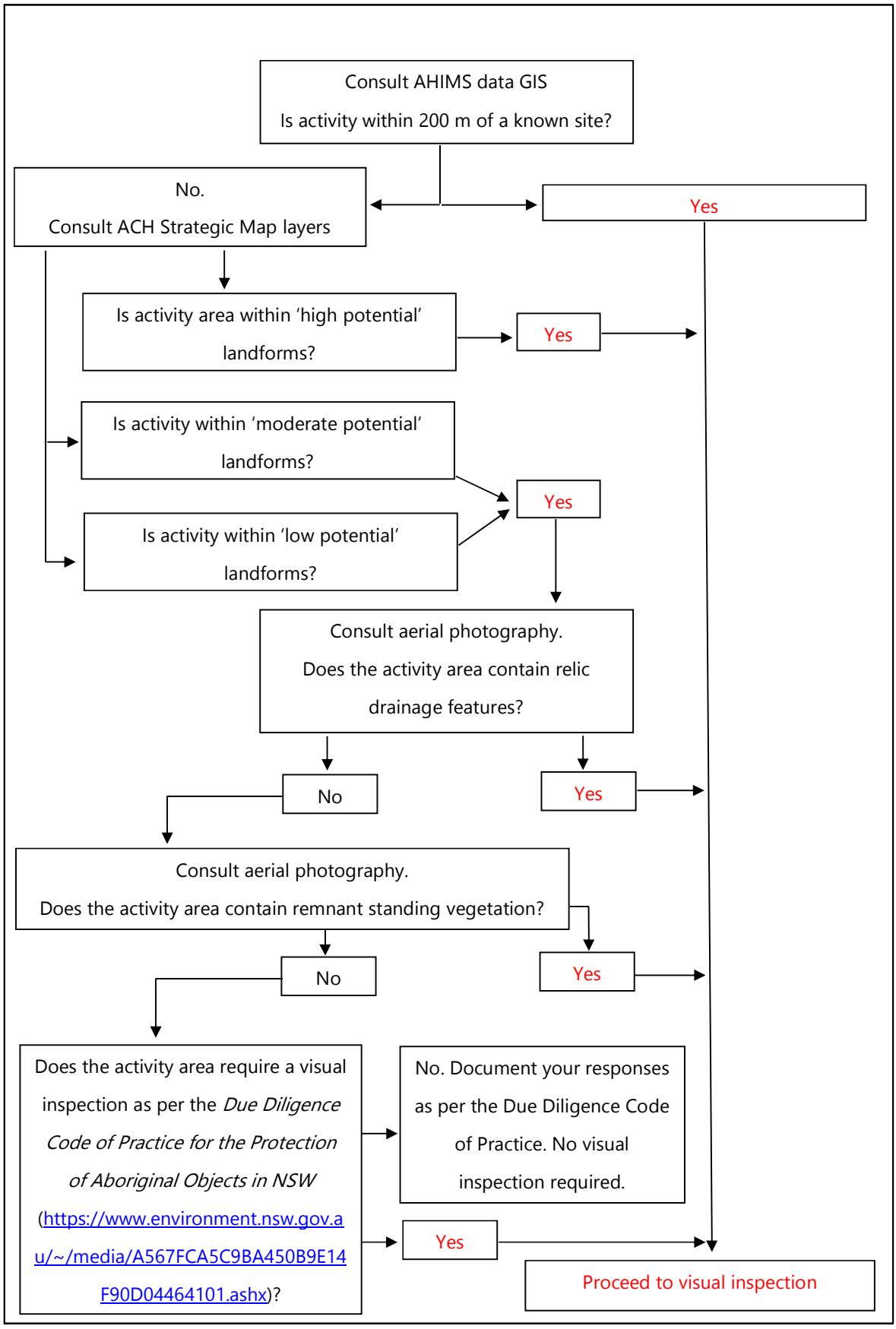


Chart 6-1 has been provided to aid in the determination of whether a visual inspection of an activity area is required. At all stages, due diligence should be applied. As such, should an area be determined by the flow chart to require a visual inspection, this should be double-checked against aerials of the activity area to determine if this is the case. For example, the activity area may be within a landform that can be defined as 'disturbed land' under the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (Due Diligence Code of Practice, DECCW 2010) and is therefore exempt from the requirement for a visual inspection.

At all times, the Due Diligence Code of Practice should be followed. The information provided here is to help inform the undertaking of the Due Diligence Code of Practice.

Chart 6-1: Generic flowchart to determine if a visual inspection is required.



7 SIGNIFICANT ABORIGINAL SITES/PLACES

As a result of the consultation undertaken for this study, a number of places were put forward by the local Aboriginal community as being significant and warranting further investigation and potential inclusion on the Narrabri LEP. A list of these places is provided in **Table 7-1**.

Section 7.1 provides a brief commentary on the main themes determined from the results presented in **Table 7-1**. Many of the locations generated through the consultation process relate to recent places or broader geographical areas, such as rivers and creeks. While documenting these places has been important in beginning to understand the significance of parts of the LGA to the local Aboriginal community, the potential listing of such geographical areas on the LEP is not attainable. Many of the proposed locations also require further investigation past the desktop-level of research conducted for this study. Places which are candidates for LEP listing are discussed in detail in **Section 8**, while **Section 7.1.3** outlines locations which can be considered following further research and consultation and research.

Table 7-1: Places proposed as significant by Aboriginal community.

Name of Place	Details	Preliminary location information
Tulladunna	Aboriginal reserve and campsite. Was used as site for many families of itinerant cotton (chip) workers dating back to the 1950s.	732410E / 6653727N (GDA94 Zone 55)
Pilliga Mission Sites (Minnom Mission)	There are two missions associated with Pilliga, not necessarily at the same site.	Minnon: 685832E 6637070N (GDA94 Zone 55) Pilliga: 685151E 6635880N (GDA94 Zone 55)
Burren Rd ancestral remains	Remains relocated off Coonabarabran Rd from Pilliga, southward.	Exact location unknown. Possibly outside Narrabri LGA.
Top Camp Pilliga	Town camp near Pilliga Lagoon. Suspect location of camp relates to where AHIMS sites have been recorded around confluence of two creek northeast of Pilliga town.	Exact location unknown. Possibly located around confluence of Pilliga Lagoon Creek and Oaky Creek.
Wee Waa Bora Ground/ Corroboree	Described as being circular and still evident today. No AHIMS site recording for location.	Either on eastern or western edge of Wee Waa lagoon. Exact location unknown.
The Pines	Site near Tulladunna believed to have been cleared.	Exact location unknown.
Ancestral remains	Spring Plains Rd.	Exact location unknown.
Scarred trees at Tulladunna bridge	Culturally scarred portion of tree has been relocated next to south side of Kamilaroi Highway on the west side of bridge coming into Wee Waa from Narrabri. Unable to determine which (if any) AHIMS site is scarred tree original location, or relocation spot. Since being relocated, the scarred tree has been vandalised.	Original location unknown, but likely along Kamilaroi Highway alignment. Relocated location is south of Kamilaroi Highway, west of bridge into Wee Waa, and east of Wee Waa proper.
Cooloobindi / Gin's Leap	Rock formation near Boggabri with cultural and pedagogical significance.	216388E / 6604600N (GDA94 Zone 56)
Boggabri Massacre	Boggabri contact suggested: Alfred Priestley (company name 'Gomeroi Dreaming').	Location unknown.

Name of Place	Details	Preliminary location information
Waterloo Creek	Process for site to be registered on SHR and recognised by Narrabri LGA ongoing. Listed on Moore Plains LEP (A009).	On northern border between Narrabri LGA and Moore Plains LGA.
Cuttabri Reserve	Reserve between Pilliga and Wee Waa near Coghill Creek and Namoi River.	713714E 6643684N
Narrabri Lake (West Narrabri)	Burial site in West Narrabri now covered by man-made lake.	765135E 6640521N
Trindall's Travelling Stock Reserve	Possible location of a camp at TSR west of Narrabri.	Located south of Kamilaroi Highway, west of Narrabri and north of Narrabri Creek.
Moree-Narrabri route	Railway line between towns had numerous cotton (chip) worker camps.	Specific locations unknown at this time.
Bellata 'Black' School	The Bellata 'Black' School and the nearby Myall Woodland.	Location unknown.
Deriah	Site already co-managed with National Parks and Wildlife Service (NPWS). Includes a variety of recorded archaeological sites including grinding grooves, modified trees and artefact scatters (AHIMS #20-1-0073, #20-1-0032, #20-1-0070, #20-1-0033, #20-1-0017, #20-1-0018).	Located adjacent to south west boundary of Mount Kaputar National Park.
Powell's Travelling Stock Reserve	Camp east of Narrabri on Gunnedah Road.	Along Old Gunnedah Road east of Narrabri, between Deep Creek and Bullawa Creek. Largest area is between Old Gunnedah Road and Namoi River.
Tarriaro Travelling Stock Reserve	Camp at reserve 15 km east of Narrabri on Maules Creek Road.	Around intersection of Old Gunnedah Road and Maules Creek Road. Includes section of land in south elbow of Namoi River.
Yarrie Lake	Crater lake 17 km southeast of Wee Waa. Part is a TSR (R24046). 21 AHIMS sites recorded around Yarrie Lake consisting of artefact scatters and modified trees.	East of Nuable Road with Lake Circuit cutting through east-west of area.
Dripping Rock	Waterflow and waterhole 10 km southeast of Maules Creek.	Approximate 242296E / 6612929N (GDA94 Zone 56)
Bore sites	Traditional camp sites, water sources and meeting points located at: Burren (on property now called 'Elmore'); Barwon and Doyle St (Narrabri near TAFE); Pilliga; Bellata; Millie.	Exact locations of bores not known.
Quarries	Locations unknown.	Locations unknown.
Ancient fauna remains	Diprotodon skeletons at Coonabarabran. Diprotodon skeleton found at Vox's Creek near Tambar Springs.	Tambar Springs is located outside the Narrabri LGA.
Old growth area around Harparary Rd north east of Baan Baa	Mature trees near the Harparary Bridge (spans Namoi River).	787648E / 6616290N (GDA94 Zone 55)
Willala Gorge and caves	NPWS Aboriginal Area designation already in place.	Located adjacent to Pilliga East State Conservation Area.
Doctor's Creek	Creek catchment northeast of Narrabri.	Approximate location only: suspect is tributary from Horsearm Creek and around Narrabri Airport.
Bohena Creek Reserve	Referred to as Black's Camp cf. *Tipperina/ Bohena Ck / Tibbereena* reserve/mission from Parish data. Also known as Narrabri Reserve. Ran from 1888–1920.	Located south of confluence of Namoi River, Narrabri Creek and Bohena Creek.
Cemeteries	The issue of Aboriginal remains in existing LEP landmarks such as Narrabri Gaol and the cemeteries listed at Pilliga, Wee Waa, Narrabri, Drildool and Boggabri.	Narrabri Cemetery (LEP I018), Narrabri Gaol (SHR 334, LEP I040), Pilliga General Cemetery (LEP I007), Drildool Private Cemetery (LEP I005), Wee Waa

Name of Place	Details	Preliminary location information
		General Cemetery (LEP I004), and Boggabri General Cemetery (LEP I037).
Scarred Trees	Two lots of land at Old Gunnedah Rd and Kaputar Rd near airport. No AHIMS sites recorded inside the Kaputar Corner TSR, which is on north side of Old Gunnedah Road and east and west side of Kaputar Road.	Exact location unknown, though suspect scarred trees are inside the Kaputar Corner TSR.
Town camps	Town camp locations along Namoi River, Narrabri Creek, Doctors Creek and Bohena Creek suggested.	766655E 6641571N (GDA94 Zone 55) – where 'Trindall's Reserve' and 'Narrabri Reserves' are located according to AIATSIS Map.

7.1 THEMES FOR POTENTIAL LEP LISTINGS

From the locations raised during consultation, it has been possible to determine several main themes. These are discussed in detail below, especially in relation to the specific locations proposed for LEP listing by the community during the workshops and as summarised in **Table 7-1**.

It is worth noting that several suggested places clearly follow topographic features, especially where reliable water has been available from the Namoi River in the modern period. The two sites furthest from the Namoi River are Yarrie Lake and Dripping Rock, both remembered for offering clean water before the current drought. In contrast to these potential LEP sites, AHIMS sites, as explored in **Section 5.2**, are more widespread, which may indicate variation in water access and resource location over time.

7.1.1 Missions, camps and reserves

The community consultation raised several suggestions of Aboriginal missions, camps and reserves from several areas inside the Narrabri LGA.

From the mid-1800s the British government became concerned regarding the expansion of pastoralism through Australia and the impact it was having on Aboriginal people's access to their Country. By 1850, thirty-five (35) Aboriginal reserves were created throughout regional NSW. These reserves were selected based on locations already used by Aboriginal people (i.e. major existing camp sites). Further reserves were created from the 1870s onwards, and the management of the reserves resulted in the appointment of a 'Protector of Aborigines' in 1881, replaced by the Aboriginal Protection Board (APB) in in 1883. The purpose of the APB was to look after the welfare of Aboriginal people and provide grants of land for living on, which represented a new phase of control over Aboriginal's peoples in NSW. The APB also helped to financially support existing missions (DPIE 2020).

The reserves were not created as acknowledgement of Aboriginal property rights, but to remove Aboriginal people from society and public view. Following its inception, the APB created new reserves and 'stations'. By 1915, there were at least eighteen (18) APB stations, including one (1) at Namoi and one (1) at the Pilliga Scrub.

In the 1920s and 1930s, as well as the 1950s and 1960s, many of the reserves were closed or reduced size by the APB or the Aborigines Welfare Board, which replaced the APB in 1940. The closures of reserves in the 1920s and 1930s was due to the APB attempting to move Aboriginal people from town camps, smaller reserves and stations to larger and more tightly controlled managed stations. The closures of reserves in the 1950s and 1960s, were replaced by smaller sized reserves on the edges of towns. In 1983, the *Aboriginal Land Rights Act* meant any remaining Aboriginal reserves were handed back to local Aboriginal communities (DPIE 2020).

Broadly, these were spaces formally set aside by the government specifically for Aboriginal people to live on. The three broad categories are:

- Missions. Created by churches or religious individuals to house Aboriginal people and train them in Christian ideals and prepare them for work. Most missions were developed on land granted by the government for this purpose. There were approximately ten (10) missions established in NSW between 1824 and 1923, though missionaries often visited some managed stations.
- Reserves. Parcels of land set aside for Aboriginal people to live on and were not managed by the government or its officials. The first reserves began in 1850, when thirty-five (35) reserves were established throughout regional NSW. Often existing major Aboriginal campsites were used. Aboriginal people living on unmanaged reserves from 1883 received rations and blankets from the Aborigines Protection Board (APB) but were responsible for their own housing.
- Stations or 'managed reserves'. Established by the APB from 1883 onwards. Stations were managed by officials appointed by the APB. The station managers controlled the station tightly, and schooling, work training, rations and housing was provided. The station managers also controlled who could and could not live at the managed reserves. There was propaganda surrounding managed reserves as them being 'safe havens' which defended Aboriginal people from settlers. However, the reality and legislation passed in the early 1900s regarding managed reserves, meant the APB, and government, had total control of Aboriginal and Torres Strait Islanders, including legal guardianship of their children (AIATSIS 2020).

The plotted location of two reserve sites (Cuttabri and Bohena Creek) according to AIATSIS data appears to correlate with smaller lots than the surrounding agricultural lots and have attached areas of Crown Land (waterways or TSRs). It is possible that this reflects past subdivision of the land for the reserves and may facilitate the listing of the land on the LEP.

The location of one camp, Tulladunna Reserve, is well known and in continuous use in the current Wee Waa community. The reserve area covers parts of four Deposited Plan (DP) lots, although there is existing interpretation signage on site, suggesting that the importance of the site is already recognised by the landholders.

Differentiating the location of the Minnom Mission and Pilliga Reserve on Mission Lane in Pilliga was uncertain. Both sites appear to be associated with the same lot of land in between Etoo Creek and Friday Creek and may indeed have functioned on the same lot at different times.

7.1.2 Geological features

A part of Aboriginal connection to Country often includes geological and topographic features, such as mountains, cliff faces, rivers and creeks. Often these natural features have non-archaeological cultural values and highlight the inter-connectedness of places along established routes which were defined by topography. Movement through the landscape is reflected in traditional stories and places, often called song lines and dreaming places (Sneddon & Whincop 2017).

The dreaming and post-contact memorial site at Cooloobindi (Gin's Leap) has existing interpretation signage and a small cemetery containing the remains of early colonial residents of the area. There is currently debate within the Aboriginal community as to formally changing the name of Gin's Leap and is currently being investigated. The site of Cooloobindi is the location of a Kamilaroi story. The signposted version of the story is that two young lovers from differing tribes eloped together, and upon being found together, jumped off the cliff at Cooloobindi together. The Kamilaroi version of the story, as told by elders in the documentary 'The Kamilaroi' (2019), is that a local squatter drove an Aboriginal woman off the cliff to her death.

Dripping Rock is on crown land and access to the site is permitted, though only available using 4WD vehicles. The cultural values associated with the Dripping Rock site require further investigation for interpretation at the site to be effective, though in previous nearby assessments it has been mentioned as being part of a song line in the area (Sneddon & Whincop 2017).

Yarrie Lake is an existing recreation park that offers camping and water activities when the lake is full. The recreation park is administered by the volunteer Yarrie Lake Flora and Fauna Trust, but the ownership of the land appears to be private. There are AHIMS sites recorded at and around Yarrie Lake consisting of artefact scatters and modified trees, providing evidence that the area was used for occupation by Aboriginal groups in the past. It is a three (3) km saucer shaped lake thought to have been formed by a falling meteor several thousands of years ago.

7.1.3 Sites with unknown or undefinable extents

Several locations were raised during the workshop which have unknown or undefinable extents.

The Moree-Narrabri rail route was raised as a significant site in the workshops but listing the railway line or easement would be difficult. It may be possible to update the interpretation and titles of existing Narrabri railway heritage sites, Narrabri Railway Station (I024) or the Railway Station Precinct (I035), to recognise the contribution of Aboriginal fettlers.

An exact location for Top Camp, near the Namoi River at Pilliga, and Wee Waa Bora Ground could not be determined from archival material. Further community consultation will be required to advance the listing of these sites.

Two (2) camp sites, Powell's Reserve and Tarriaro Reserve, are associated with currently designated TSRs, although no certain location of the previous Aboriginal camps could be identified at a desktop level. Only one identified Aboriginal Reserve, Trindall's Reserve, appears to have since been subdivided into residential lots. The listing of the eighteen (18) lots associated with the location would be unfeasible, although the camp areas may have been larger than the current residential block.

8 DISCUSSION ON LEP LISTING

8.1 INTRODUCTION TO ABORIGINAL SITE PROTECTION

As discussed in **Section 1.5**, the accepted and lawful approach to protecting Aboriginal cultural heritage in the context of land use impacts is to properly consider what impact a particular project may have on the Aboriginal heritage resource in that location. Such impacts will differ from project to project. Each proposal must be considered on its own merit and appropriate courses of action decided upon in the context of any relevant legislative requirements of the NPW Act.

The possibility of also affording particular locations of importance to the local Aboriginal community protection via listing on the Narrabri LEP is being explored. This type of listing allows diverse elements of the significance of sites and locations to the local community to be documented and recorded.

8.2 ABORIGINAL SITES IN NARRABRI LGA

As the previous sections have demonstrated, Narrabri LGA possesses a wide range of Aboriginal heritage resources with at least five hundred (500) sites recorded on the AHIMS database for the LGA. These records are only those places that have been registered on AHIMS inside the search areas; and it is known that many more exist. AHIMS sites also focus nearly exclusively on archaeological sites, such as artefact scatters, etc., and generally do not consider more recent sites and locations of importance to the Aboriginal community.

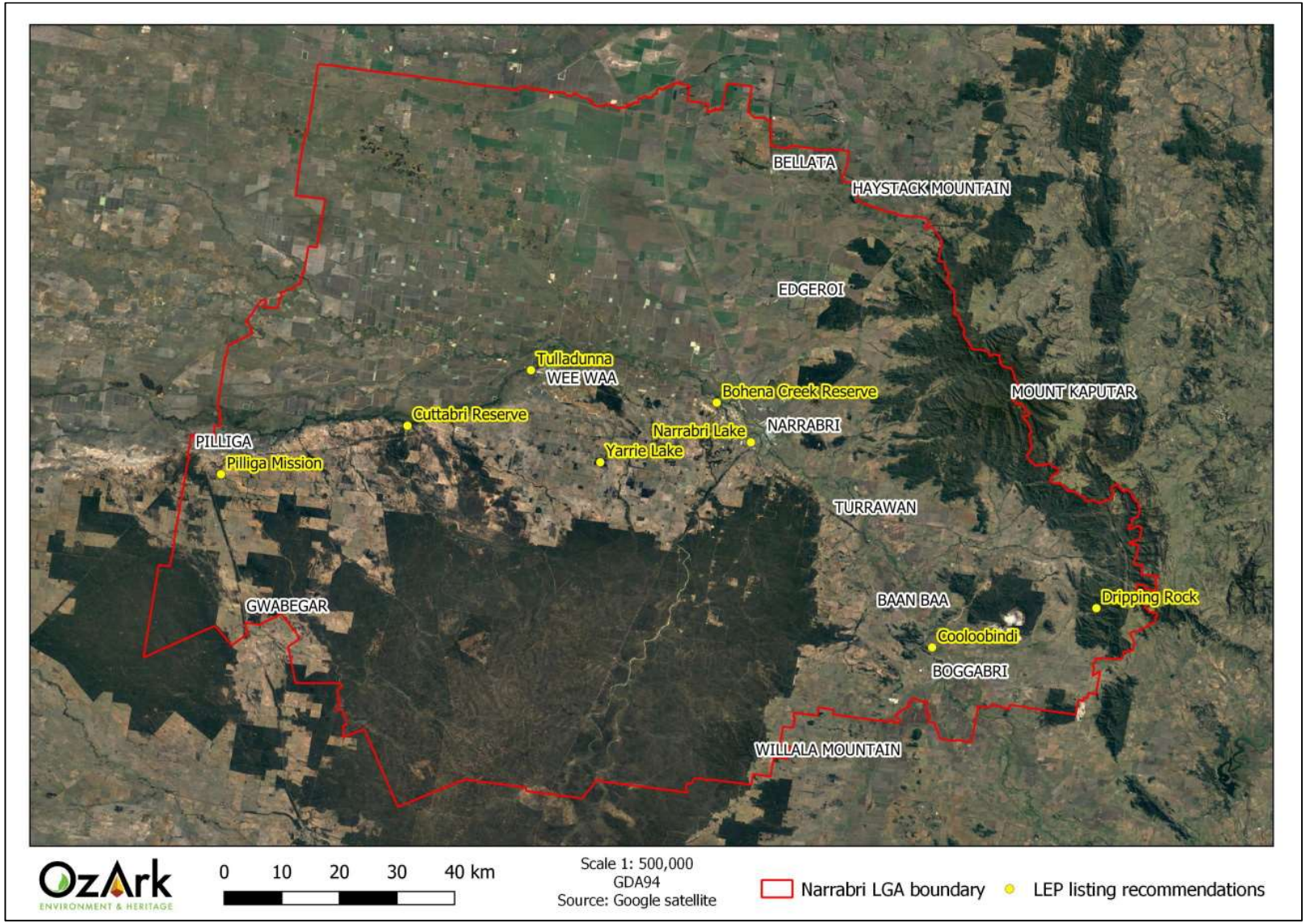
Table 8-1 and **Section 8.3.2** outlines the details of locations proposed for LEP listing and the relevant information relating to each one. This includes addressing significance criteria to a certain degree. We note in some cases certain criteria are unable to be determined at a desktop level (such as the aesthetics of a location).

The locations which need further investigation prior to be considered for LEP listing are outlined in **Section 9.2**.

Table 8-1: Sites for consideration towards LEP listing.

No	Name of Place	Type of Place	Themes	Lot//DP
1	Tulladunna	Aboriginal Reserve	Peopling Australia – Aboriginal cultures and interactions with other cultures. Peopling Australia – Migration	7006, 7007, 70010, 7011 // DP1121835
2	Pilliga Mission	Aboriginal Reserve	Peopling Australia – Aboriginal cultures and interactions with other cultures. Peopling Australia – Migration	64//DP 750305
3	Cooloobindi / Gin's Leap	Geological and landscape feature	Tracing the natural evolution of Australia – Environment – naturally evolved. Peopling Australia – Aboriginal cultures and interactions with other cultures. Marking the phases of life – Birth and Death	87// DP755475
4	Cuttabri Reserve	Aboriginal Reserve	Peopling Australia – Aboriginal cultures and interactions with other cultures. Peopling Australia – Migration	10//DP757088
5	Narrabri Lake (West Narrabri)	Geographical and landscape feature.	Peopling Australia – Aboriginal cultures and interactions with other cultures. Peopling Australia – Migration Marking the phases of life – Birth and Death	7024//DP1059185
6	Yarrie Lake	Geographic and landscape feature	Peopling Australia – Aboriginal cultures and interactions with other cultures.	51, 52, 53// DP43308
7	Dripping Rock	Geographic and landscape feature	Tracing the natural evolution of Australia – Environment – naturally evolved. Peopling Australia – Aboriginal cultures and interactions with other cultures.	29//DP754927
8	Bohena Creek Reserve	Aboriginal Reserve	Peopling Australia – Aboriginal cultures and interactions with other cultures.	131//DP757093 (1921) 130//DP757093 (1888-1920)

Figure 8-1: Location of sites for consideration towards LEP listing.



8.3 ASSESSMENT OF HERITAGE SIGNIFICANCE

8.3.1 Assessment of significance—general principles

The current assessment will evaluate the heritage significance of the sites identified within the study area in accordance with the NSW Heritage Office publication *Assessing Heritage Significance* (Heritage Office 2001). In order to be listed on the Narrabri LEP a site must satisfy at minimum one (1) of the following criteria to be assessed as having heritage significance:

Criterion (a): *An item is important in the course, or pattern, of Narrabri LGA cultural or natural history*

Criterion (b): *An item has a strong or special association with the life or works of a person, or group of persons, of importance in Narrabri LGA cultural or natural history*

Criterion (c): *An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in Narrabri LGA*

Criterion (d): *An item has strong or special association with a particular community or cultural group in Narrabri LGA for social, cultural or spiritual reasons*

Criterion (e): *An item has potential to yield information that will contribute to an understanding of Narrabri LGA cultural or natural history*

Criterion (f): *An item possesses uncommon, rare or endangered aspects of Narrabri LGA cultural or natural history*

Criterion (g): *An item is important in demonstrating the principal characteristics of a class of Narrabri LGA cultural or natural places; or cultural or natural environments*

Significance assessments are carried out on the basis that decisions about the future of heritage items must be informed by an understanding of these items' heritage values. The *Australia ICOMOS Burra Charter* (Burra Charter 2013) recognises four categories of heritage value: historic, aesthetic, scientific, and social significance.

Items are categorised as having local or state level, or no significance. The level of significance is assessed in accordance with the geographical extent of the item's value. An item of state significance is one that is important to the people of NSW whilst an item of local significance is one that is principally important to the people of a specific LGA.

8.3.2 Assessment of significance of historic items

Several of the locations discussed at the LEP workshops are suitable for listing on the Narrabri LEP to facilitate the conservation of Aboriginal objects and Aboriginal places of heritage significance. This section provides details of each location, as well as assessing its viability towards listing on the Narrabri LEP. Only locations and sites with enough details have been included here. **Section 9.2** provides a list of locations which may considered for LEP listing following further investigation.

Table 8-2 details the assessed significance of items identified during this study in accordance with the NSW Heritage Office guidelines and the *Burra Charter*.

Table 8-2: Historic heritage: assessment of significance.

Site Name	Level of Significance
Tulladunna Reserve	Local
Pilliga Mission Sites (Minnon Mission and Pilliga Mission)	Local
Cooloobindi	Local
Cuttabri Reserve	Local
Narrabri Lake	Local
Yarrie Lake	Local
Dripping Rock	Local
Bohena Creek Reserve	Local

1. Tulladunna Reserve

Tulladunna Reserve is located approximately one (1) km west of Wee Waa along the Namoi River. Before the location was turned into a reserve, it was already used as a camp site by local Aboriginal people. Tulladunna Reserve (AR 19783) was founded in 1894. The location is best known for being a camp site where the cotton chip workers, Aboriginal and otherwise, would camp during the harvest season. Tulladunna Reserve also includes places of significance such a Bora site, scarred trees and burial sites.

Wee Waa was the location of a significant workers rights movement in the early 1970s and early meetings of the Wee Waa Aboriginal Cotton Chippers Caucus took place in the back of the Royal Hotel. The Tulladunna Reserve was the location of key strikes in 1973 and sit-ins after the attempted closure of the camp in 1981, the formation of a worker's caucus was an important moment in this process.

Wee Waa LALC, in partnership with the community, TAFE students and North West Local Land Services have put up fencing around the site, planting native species and undertaking cultural burns. There is also interpretative signage around the Reserve to help inform the local community. Fences have been installed to protect riverbanks from stock on the property.

Table 8-3 assesses Tulladunna against the assessment criteria established in the Heritage Office publication, *Assessing Heritage Significance* (Heritage Office 2001). Tulladunna is assessed as having local significance and should be considered for listing on the Narrabri LEP.

Table 8-3: Assessment of heritage significance – Tulladunna Reserve.

Criteria	Comments	Significance
a	Tulladunna Reserve is an important location to the local Aboriginal Community. It was one of the first Aboriginal reserves founded in Narrabri LGA in 1894. Prior to being used as a reserve, the location was already important to the local Aboriginal people, evidenced through the presence of a Bora site, scarred trees and burial sites, and was likely used for short- and long-term occupation prior to non-Aboriginal settlement. The reserve is also the location of key strikes in 1973 by the Wee Waa Aboriginal Cotton Chippers Caucus in regards to working conditions.	Local
b	Tulladunna Reserve remains an important link to many local Aboriginal people, families and the community. There are members of the community who lived or grew up at Tulladunna or had family who lived at Tulladunna. The reserve was also used by cotton chippers coming from other areas such as Collarenebri, Goodooga, Brewarrina and Lightning Ridge.	Local
C	The location of Tulladunna Reserve is aesthetically pleasing. The area retains its natural environment with native vegetation present and traditional Kamilaroi practices of land management being used today.	Local
d	Tulladunna Reserve has several strong associations with the local Aboriginal community. There is archaeological evidence of use of the reserve prior to non-Aboriginal settlement in the area. The location was also one of the first Aboriginal reserves founded in Narrabri LGA, and Tulladunna has close associations to cotton chipping, as well as activism related to cotton chipping worker conditions during the 1970s.	Local
e	Tulladunna is a focal point of cultural history in the Wee Waa area. The continuous use of the location for occupation and living in the past, as well as its current use in helping educate the broader community and as a gathering place shows that Tulladunna has potential to yield further information regarding the cultural history of Narrabri LGA.	Local
f	Tulladunna Reserve is the location of a Bora site, scarred trees and burial sites. All these site types are of high cultural significance and have become less common due to post non-Aboriginal impacts in the surrounding region.	Local
g	Tulladunna Reserve is a good example of a location which has been used continuously by the local Aboriginal Community, from pre non-Aboriginal settlement through to today.	Local

2. Pilliga Mission

The Pilliga Mission Reserve (also known as Minnom Mission) was formed in 1902. Initially it was approximately twenty-four hectares (24 ha) in size, though an additional thirty-four hectares

(34 ha) was added to the area in 1908. There was a lot of people movement during the earlier years of the reserve between Pilliga, Wingadee and Cuttabri.

A school was set up at the Pilliga Mission in 1912. In 1923, the APB turned the reserve into a station and appointed a manager. It became a large producer of timber for the Board's stations and reserves throughout the region. The station had its own sawmill and employed local people. Today, some buildings remain at Pilliga Mission, and the cemetery is at risk of flooding.

Table 8-4 assesses Pilliga Mission against the assessment criteria established in the Heritage Office publication, *Assessing Heritage Significance* (Heritage Office 2001). Pilliga Mission is assessed as having local significance and should be considered for listing on the Narrabri LEP.

Table 8-4: Assessment of heritage significance – Pilliga Mission.

Criteria	Comments	Significance
a	Pilliga Mission is an important location in the cultural history of the Narrabri area as one of the locations to which a significant proportion of the local Aboriginal population were forcibly relocated. Members of the local community will have memories of growing up there or have family who would. Aboriginal people are also likely to have camped along Etoo Creek near the mission site before the foundation of the mission.	Local
b	Pilliga Mission has strong associations to the Aboriginal people of the local area due to family history and as a location that represents the purposeful disenfranchisement of their people since colonisation.	Local
c	Pilliga Mission site not understood to remain in a state that would meet the aesthetic or technical threshold of this criteria.	None
d	Pilliga Mission has strong associations to the Aboriginal people of the local area for multiple social, cultural and spiritual reasons including the burial locations of ancestors.	Local
e	The research potential of the site has not been assessed as part of this study. Intact archaeological remains at the site would have local significance, if present.	Local
f	While there are multiple reserve and camp locations in the local area, there is high potential for historical values of sites in this category to be endangered. Neglect of the site's values might lead to memories of the site being lost.	Local
g	There are few characteristic features of mission and reserve sites across NSW and the local area. This does not reduce the assessed local significance of the site in this instance.	Local

3. Cooloobindi

Cooloobindi, also known as Gin's Leap, is a rock formation near Boggabri with cultural and pedagogical significance. There is an existing campaign to change name due to both racist nomenclature and a reference to massacre event. Direct evidence for the massacre event requires further investigation.

The location has cultural significance dating to the pre-contact period as well as the importance of the later violence against Aboriginal people at the site.

Table 8-5 assesses Cooloobindi against the assessment criteria established in the Heritage Office publication, *Assessing Heritage Significance* (Heritage Office 2001). Cooloobindi is assessed as having local significance and should be considered for listing on the Narrabri LEP.

Table 8-5: Assessment of heritage significance – Cooloobindi.

Criteria	Comments	Significance
a	Cooloobindi has importance to the local population for both natural and cultural story of the local area. The geological formation is associated with both traditional dreaming stories and post-contact history.	Local
b	Cooloobindi has special associations with Aboriginal people of the local area and their traditional cultural history and its relationship to place.	Local
c	Cooloobindi has high natural aesthetic value as a prominent outcrop with cultural significance to first nations people of the local area.	Local
d	Cooloobindi has strong social, cultural and spiritual value to the local Aboriginal population, including as an area of storytelling and learning.	Local
e	The research potential of the site itself is considered to be low.	None
f	The outcrop is an uncommon and striking geological feature of the local area.	Local
g	The site does not have features characteristic of a class of sites.	None

4. Cuttabri Reserve

Cuttabri Reserve is between Pilliga and Wee Waa. located on east side of Coghill Creek between Pilliga Rd and the Namoi River. It was founded in 1904 and officially merged with Pilliga mission in the late 1930s. The reserve is likely to have remained an unmanaged camp in later years and may have been referred to as Maranatha.

There are four associated AHIMS sites near Cuttabri Reserve (#19-6-0019 to -0021 and 19-6-0024) which include a burial site.

Table 8-6 assesses Cuttabri Reserve against the assessment criteria established in the Heritage Office publication, *Assessing Heritage Significance* (Heritage Office 2001). Cuttabri Reserve is assessed as having local significance and should be considered for listing on the Narrabri LEP.

Table 8-6: Assessment of heritage significance – Cuttabri Reserve.

Criteria	Comments	Significance
a	Cuttabri Reserve is an important location in the cultural history of the Narrabri area as one of the locations to which a significant proportion of the local Aboriginal population were forcibly relocated. Members of the local community will have memories of growing up there or have family who would. Aboriginal people are also likely to have camped along Coghill Creek near the mission site before the foundation of the mission.	Local
b	Cuttabri Reserve has strong associations to the Aboriginal people of the local area due to family history and as a location that represents the purposeful disenfranchisement of their people since colonisation.	Local

Criteria	Comments	Significance
c	Cuttabri Reserve site is not understood to remain in a state that would meet the aesthetic or technical threshold of this criteria.	None
d	Cuttabri Reserve has strong associations to the Aboriginal people of the local area for multiple social, cultural and spiritual reasons, possibly including the burial locations of ancestors.	Local
e	The research potential of the site has not been assessed as part of this study. Intact archaeological remains at the site would have local significance, if present.	Local
f	While there are multiple reserve and camp locations in the local area, there is high potential for historical values of sites in this category to be endangered. Neglect of the site's values might lead to memories of the site being lost.	Local
g	There are few characteristic features of mission and reserve sites across NSW and the local area. This does not reduce the assessed local significance of the site in this instance.	Local

5. Narrabri Lake

Narrabri Lake in West Narrabri was an Aboriginal burial site which is now covered by the man-made lake. In 1975 a grant was allocated to build the artificial lake and construction was completed in 1982 (Brook 1998:144). Several participants of the workshops mentioned that during construction of the lake that Aboriginal burials were identified although no direct evidence of this has been sighted.

In 1966, the idea of an artificial lake was suggested by Mrs Dorothy Bendeich as part of a town beautification project for Narrabri. The lake scheme was considered an improvement to the then swampy wetlands which stretched from the Narrabri Showground to the residential area of Narrabri West. Enthusiasm from the public for the lake scheme increased in 1975 following a Regional Employment Development grant and works were set to proceed in 1976. However, the Regional Employment Development grant scheme ended before the money could be spent. The project was revived and finished in 1982.

Today the lake is a local landmark within Narrabri and is used for a recreation area for tourists and townspeople. There is a walkway and cycle track around the lake, and water sports take place in the lake.

Table 8-7 assesses Narrabri Lake against the assessment criteria established in the Heritage Office publication, *Assessing Heritage Significance* (Heritage Office 2001). Narrabri Lake is assessed as having local significance and should be considered for listing on the Narrabri LEP.

Table 8-7: Assessment of heritage significance – Narrabri Lake.

Criteria	Comments	Significance
a	As an artificial lake, the item does not have known importance in the pattern of local cultural or natural history.	None
b	Narrabri Lake is potentially the location of Aboriginal burial sites before inundation and the area has special significance to the local Aboriginal community.	Local
c	While Narrabri Lake has aesthetic values, these are not demonstrative of creative or technical skill.	None
d	Narrabri Lake is potentially the location of Aboriginal burial sites before inundation and the area has social, cultural and spiritual significance to the local Aboriginal community.	Local
e	Narrabri Lake is not understood to have research potential for historical themes in the local area.	None
f	Narrabri Lake is not considered to represent an endangered or rare aspect of local history.	None
g	Narrabri Lake is not considered to demonstrate key characteristics of a wider class of heritage item.	None

6. Yarrie Lake

Yarrie Lake is an existing recreation park that offers camping and water activities when the lake is full. Yarrie Lake is seventeen kilometres (17 km) southeast of Wee Waa.

There are AHIMS sites recorded at and around Yarrie Lake consisting of artefact scatters and modified trees, providing evidence that the area was used for occupation by Aboriginal groups in the past. It is a three (3) km saucer shaped lake thought to have been formed by a falling meteor several thousands of years ago.

Table 8-8 assesses Yarrie Lake against the assessment criteria established in the Heritage Office publication, *Assessing Heritage Significance* (Heritage Office 2001). Yarrie Lake is assessed as having local significance and should be considered for listing on the Narrabri LEP.

Table 8-8: Assessment of heritage significance – Yarrie Lake.

Criteria	Comments	Significance
a	Yarrie Lake is not considered to be important in the course and pattern of local history.	None
b	Yarrie Lake is not associated with any significant local figures and there are no known associations of the site to particular groups.	None
c	Yarrie Lake has widely appreciated aesthetic values in the local area.	Local
d	There are previously registered sites at the lake but no known social, cultural or spiritual values associated with the site.	None
e	The research value of the site is considered low.	None
f	Yarrie Lake is an example of a rare hydrological feature, an endorheic lake, that does not flow to the sea and may be the result of a meteor impact.	Local

Criteria	Comments	Significance
g	Yarrie Lake has local significance as representative of a type of hydrological feature as the nearby example Round Swamp is on private land and inaccessible to the public.	Local

7. Dripping Rock

Dripping Rock is a waterfall and waterhole ten kilometres (10 km) southeast of Maules Creek. Dripping Rock is on crown land and access to the site is permitted, though only available using 4WD vehicles. It has been mentioned as being part of a song line in the area (Sneddon & Whincop 2017).

Table 8-9 assesses Dripping Rock against the assessment criteria established in the Heritage Office publication, *Assessing Heritage Significance* (Heritage Office 2001). Dripping Rock is assessed as having local significance and should be considered for listing on the Narrabri LEP.

Table 8-9: Assessment of heritage significance – Dripping Rock.

Criteria	Comments	Significance
a	Dripping Rock is not considered to be important in the course and pattern of local history.	None
b	Dripping Rock is not known to have associations with individuals or particular groups of local significance.	None
c	Dripping Rock has widely appreciated aesthetic values in the local area.	Local
d	There are known social and cultural values of the site to the local Aboriginal people. Previous studies have marked it as a location on a song-line.	Local
e	The research value of the site is considered low.	None
f	Dripping Rock is not considered to be a rare or endangered hydrological feature.	None
g	Dripping Rock does not represent the characteristic features of a wider class.	None

8. Bohena Creek Reserve

Bohena Creek Reserve (AR 7903), possibly also referred to as Black's Camp, Tipperina or Tibbereena. Earliest available evidence suggests that an area near the junction of Bohena Creek and the Namoi River was reserved for Aboriginal use since at least 1898.

Table 8-10 assesses Bohena Creek Reserve against the assessment criteria established in the Heritage Office publication, *Assessing Heritage Significance* (Heritage Office 2001). Bohena Creek Reserve is assessed as having local significance and should be considered for listing on the Narrabri LEP.

Table 8-10: Assessment of heritage significance – Bohena Creek Reserve.

Criteria	Comments	Significance
a	Bohena Creek Reserve is an important location in the cultural history of the Narrabri area as one of the locations to which a significant proportion of the local Aboriginal population were forcibly relocated. Members of the local community will have memories of growing up there or have family who would. Aboriginal people are also likely to have camped along Bohena Creek and the Namoi near the mission site before and after the foundation of the reserve.	Local
b	Bohena Creek Reserve has strong associations to the Aboriginal people of the local area due to family history and as a location that represents the purposeful disenfranchisement of their people since colonisation.	Local
c	Bohena Creek Reserve site would not meet the aesthetic or technical threshold of this criteria.	None
d	Bohena Creek Reserve has strong associations to the Aboriginal people of the local area for multiple social, cultural and spiritual reasons.	Local
e	The research potential of the site has not been assessed as part of this study. Intact archaeological remains at the site would have local significance, if present.	None
f	While there are multiple reserve and camp locations in the local area, there is high potential for historical values of sites in this category to be endangered. Neglect of the site's values might lead to memories of the site being lost.	Local
g	There are few characteristic features of mission and reserve sites across NSW and the local area. This does not reduce the assessed local significance of the site in this instance.	Local

9 CONCLUSIONS AND RECOMMENDATIONS

9.1 ABORIGINAL COMMUNITY SUMMARY

The Aboriginal people consulted for this study expressed strong interest and desire in sites and places important to the Narrabri Aboriginal community being listed on the Narrabri LEP. The inclusion of some of the Aboriginal Reserves and Missions on the LEP was also highlighted during the workshops.

9.2 RECOMMENDATIONS FOR FURTHER WORK

There are a number of recommendations for further work which have been identified during the course of this study.

- Oral history surveys of life at town camps and reserves, and to a lesser extent for missions, may be necessary to assist in the preparation of heritage assessments for potential LEP listings. Oral history records of Aboriginal life in the early post-contact period in the Narrabri LGA currently contain less detail than comparable areas near missions such as Brewarrina (Bourke Shire Council LGA) and Terry Hie Hie (Moree Plains Shire LGA)
- Multiple sites, with identified Aboriginal heritage or cultural significance, have not been located by the current study. The physical location of these sites, across the Narrabri LGA, could be investigated by future studies. Several of these places are included in **Table 7-1** or **Section 7.1.3**.
- Several themes have emerged throughout the course of this study that warrant further research. These themes include Aboriginal participation in: transport infrastructure (such as Aboriginal fettlers who worked on the Narrabri-Moore Railway line and the currently unknown location of any Aboriginal fettler cottages); as well as the Aboriginal workers at the Wee Waa cotton camps.

9.3 CONCLUSIONS

There are eight (8) places that should be considered for listing on the Narrabri LEP. All of these places have a strong connection to the local Aboriginal community, both past and present. Some of these locations are still in use today by the local Aboriginal community and will be used into the future as well.

Whether these eight (8) places are included in Schedule 5 of the Narrabri LEP, or as new category such as 'places of Aboriginal cultural significance' has yet to be determined. However, prior to any determination of a development application for development on land which these locations are

on, the likely impact of proposed developments on the cultural significance should be considered, and the local Aboriginal community should be consulted.

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