

Verons Estate, Sussex Inlet: Aboriginal & European Archaeological & Cultural Heritage Assessment



Prepared by Australian Museum Business Services
for Shoalhaven City Council

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Executive Summary

Australian Museum Business Services (AMBS) was commissioned by Shoalhaven City Council (Council) to prepare an assessment of Aboriginal and European heritage, archaeology and cultural heritage for Verons Estate, Sussex Inlet. This assessment is to form part of an environmental study in support of a draft Local Environmental Plan to rezone land within the study area. Current development planning allows for a maximum of one dwelling per Lot, in accordance with the Sussex Inlet Settlement Strategy (Shoalhaven City Council 2007).

Council's aim is that the study area is to be rezoned for residential use. The study area will require the construction of infrastructure to support residential use. Construction personnel involved in development works arising from the rezoning, including formalisation of the roads, erection of dwellings or installation of infrastructure, should be made aware of the statutory obligations for Aboriginal cultural materials, and management of impacts to the identified Aboriginal heritage sites.

Aboriginal Heritage

Two new Aboriginal sites were identified during the survey. Teatree Creek 1 is a stone artefact scatter located adjacent to a swampy area and the first order tributary of Teatree Creek, near its confluence with the main channel of Teatree Creek. This site is considered to have moderate-high potential for substantial subsurface deposit, and is assessed to have moderate-high significance. This site is located on land which is currently zoned Environmental Protection 7(a) (Ecology), which ensures that the site is protected. As such, the current zoning of this area should stand, and the road between Lots 24 and 25 in this area should not be formalised.

Should the current Environmental Protection 7(a) (Ecology) zoning on Lots 24 and 25 be rescinded, approval should not be granted for residential or development of any kind within the creek area. Any development that is proposed in the vicinity of Teatree Creek 1, or the western section of Lot 25, may require further archaeological investigation under a Section 87 Permit issued by DECC.

Teatree Creek 2 is an isolated stone artefact located on a track immediately south of the transmission line at the southern end of Wandra Road. The site is considered to have low potential for substantial subsurface deposit, and is assessed to have low archaeological significance. As such, further archaeological investigation of this site is unlikely to increase the current scientific knowledge of the region. Nevertheless, any impacts to this site will require a Section 90 consent to destroy permit from DECC. Should this track be formalised, the site will be impacted. The local Aboriginal community may wish to remove the artefact prior to any development works and to monitor any earthworks that may impact the site.

Lots 1, 2, 3 and 16 are adjacent to creeks and swamps, and remain relatively undisturbed (apart from vegetation clearance), and are therefore considered to have archaeological sensitivity and potential for substantial *in situ* archaeological deposit. Archaeological deposits in this area have the potential to reveal past Aboriginal activity within the landscape between St Georges Basin and Swan Lake, although it is predicted that the majority of archaeological deposit is likely to be found in the vicinity of the larger Teatree Creek. Nevertheless, this hinterland area has not previously been subject to subsurface archaeological work, and therefore archaeological investigation of this site is likely to increase the current scientific knowledge of the region, and particularly has the potential to contribute to the

regional predictive model. As such, if any development is proposed for this area, archaeological investigation under a Section 87 Permit issued by DECC should be undertaken. An appropriate excavation methodology would include a series of 1m² pits located at 10m intervals along each side of the creek line within the study area.

Impacts to Aboriginal heritage sites, including the collection of artefacts, requires the prior written consent of the Director-General of the DECC, under Section 87 or Section 90 of the NPW Act.

Historic Heritage

The historical record and the field survey confirm that there is no evidence of early occupation within the study area. No items or places of historic heritage value were identified within the study area. However, the Verons Estate subdivision of 32 eight hectare lots dates to 1920, and remains intact. This subdivision is assessed as having historic significance.

The rezoning and any subsequent development, including formalisation of the roads, erection of dwellings or installation of infrastructure will not have an impact on historic heritage. As such, no further investigations are required prior to rezoning. However, recognition of the Verons Estate 1920 subdivision lots should be included in the proposed rezoning.

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1 Introduction

1.1 Preamble

Australian Museum Business Services (AMBS) has been commissioned by Shoalhaven City Council (Council) to prepare an assessment of Aboriginal and European heritage, archaeology and cultural heritage for Verons Estate, Sussex Inlet (the study area). This assessment is to form part of an environmental study in support of a draft Local Environmental Plan to rezone land within the study area. Current development planning allows for a maximum of one dwelling per Lot, in accordance with the Sussex Inlet Settlement Strategy (Shoalhaven City Council 2007).

1.2 Study Area

The study area comprises 32 eight hectare Lots in DP 9897, located within the Shoalhaven Local Government Area (LGA), approximately 42km south of Nowra and 3.5km north-west of Sussex Inlet (Figure 1.1). The north-east corner of the subject land extends almost to Sussex Inlet Road (Figure 1.2). The majority of the land has remained largely undeveloped, and is approximately 1.6km x 1.6km square, with a total area of 2.7km².



Figure 1.1 Location of the study area

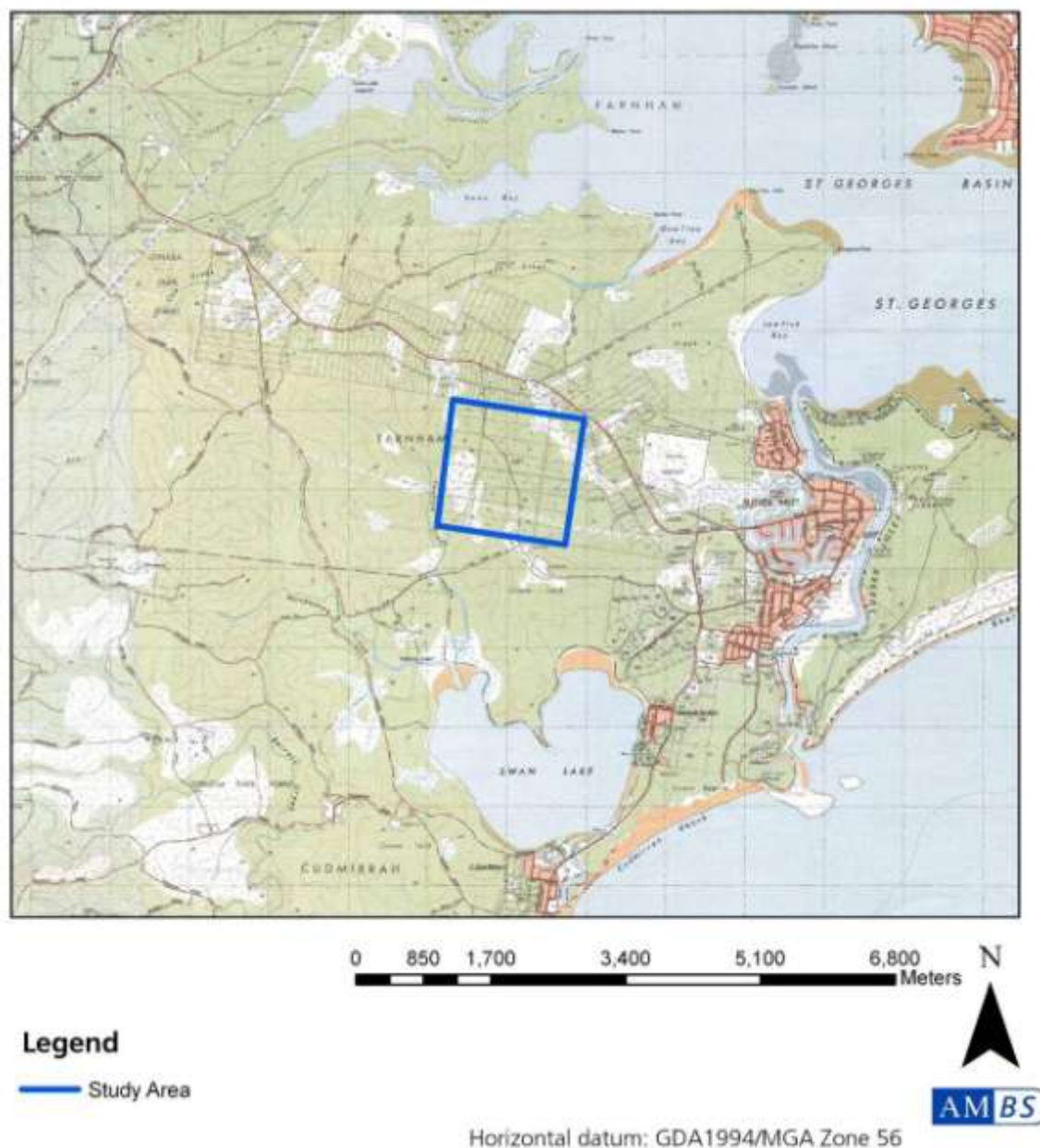


Figure 1.2 Location of study area showing Sussex Inlet Road to north, and Sussex Inlet township to east

1.3 Background & Proposed Rezoning

The subdivision comprising 32 eight hectare Lots in DP 9897 was registered on 20 February 1920. At that time, legislation did not require roads and service infrastructure to be provided to current standards.

The land is currently zoned Rural 1(d) (General Rural) under Shoalhaven LEP 1985, except for two Lots in the south west corner which are also within, in part, an area zoned Environmental Protection 7(a) (Ecology). The current zoning generally restricts Council's ability to approve dwelling-houses on individual lots within the Estate.

In 1993 Council resolved to investigate the zoning of Verons Estate with the objective of allowing for the erection of a dwelling on each allotment.

In 1995, a draft environmental study was prepared which examined the major environmental attributes of the land and its capability to accommodate dwelling houses. Preliminary consultation with the NSW National Parks and Wildlife Service indicated that the site was not considered to be significantly archaeologically sensitive. Consequently, no specialist archaeological or cultural heritage studies were undertaken at that time.

In 1994, the NSW Government placed a moratorium on rezoning of rural land in the Sussex Inlet area pending completion of a broader strategy or plan. This was initially to be in the form of a second stage of the Jervis Bay Regional Environmental Plan (JBREP). When this did not eventuate, it was to be in the form of a South Coast Planning Strategy; however, this also did not eventuate.

To enable the moratorium to be lifted, Council initiated discussions with NSW Government regarding preparation of a Sussex Inlet Settlement Strategy (SISS) and in 2004, the NSW Government agreed to fund preparation of the SISS. The SISS was endorsed by the NSW Department of Planning (DoP) in August 2007. Regarding the Verons Estate, the SISS recommended that studies be prepared to investigate the provision of a maximum of one dwelling per lot within the Verons Estate small lot rural subdivision (Shoalhaven City Council 2007:79).

1.4 Methodology

This report is broadly consistent with the principles of the Burra Charter (The Australia ICOMOS charter for the conservation of places of cultural significance), and has been prepared in accordance with current heritage best practice and the requirements of the relevant statutory authorities, the Department of Environment and Climate Change (DECC) and the Heritage Branch, Department of Planning (Heritage Branch).

The key heritage requirements for this project are:

- identification of any Aboriginal and historic heritage sites present within the study area;
- assessment of the Aboriginal and historic heritage values of the study area; and
- provision of recommendations for the management of Aboriginal and historic heritage resources in the study area.

To fulfil the requirements of the project, the following tasks were undertaken:

- consultation with the local Aboriginal community, in accordance with the draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC 2005);
- search and review of the NSW DECC Aboriginal Heritage Information Management System (AHIMS) database, to determine the location and nature of any Aboriginal heritage sites recorded within, or in the vicinity of, the study area;
- review of relevant previous archaeological reports specific to the area, to determine the extent of past archaeological research in the region;
- review of relevant contextual environmental information and previous land use history;
- site survey, to allow identification and assessment of any Aboriginal and historic heritage values present in the study area; and
- preparation of a report describing the results of the background research, the extent and significance of heritage items recorded in the study area, and outlining management recommendations and mitigation measures for

Aboriginal and historic heritage resources, including constraints and opportunities.

1.5 Authorship & Acknowledgements

This report was prepared by AMBS Project Officer Jenna Weston, and AMBS Project Manager Christopher Langeluddecke. Senior Project Manager Jennie Lindbergh provided technical input and advice, and reviewed the report.

The authors are pleased to acknowledge the help and assistance of Eric Hollinger and Joanne Scott at Shoalhaven City Council.

2 Statutory Context

2.1 National Parks & Wildlife Act 1974

Under the provisions of the *National Parks & Wildlife Act* 1974 (NPW Act), all Aboriginal Objects are protected regardless of their significance or land tenure. Aboriginal Objects can include pre-contact features such as scarred trees, middens and open campsites, as well as physical evidence of post-contact use of the area such as Aboriginal built fencing and fringe camps. The NPW Act also protects Aboriginal Places, which are defined as “a place that is or was of special significance to Aboriginal culture. It may or may not contain Aboriginal objects”, and may only be declared by the Minister administering the NPW Act.

Under Section 90 of the Act, it is an offence for a person to destroy, deface, damage or desecrate an Aboriginal Object or Aboriginal Place without the prior issue of a Section 90 consent. The Act requires a person to take reasonable precautions and due diligence to avoid impacts on Aboriginal Objects. Section 90 consents may only be obtained from the Environment Protection and Regulation Division (EPRD) of DECC. It is also an offence under Section 86 of the NPW Act to disturb or excavate land for the purpose of discovering an Aboriginal Object, or to disturb or move an Aboriginal Object on any land, without first obtaining a permit under Section 87 of the NPW Act.

2.2 NSW Heritage Act 1977

The *Heritage Act* 1977 provides protection for heritage places, items and archaeological sites that are important to the people of NSW. Where historic or Aboriginal items, places or archaeological sites have particular importance to the state of NSW, these are listed on the State Heritage Register (SHR). Items and places of Aboriginal heritage significance which are listed on the SHR, or to which an active Interim Heritage Order applies, are protected under the Act.

The Heritage Act also provides statutory protection to relics, archaeological artefacts, features or deposits. Sections 139 to 146 of the Act requires that excavation or disturbance of land that is likely to contain, or is believed may contain, archaeological relics is undertaken in accordance with an excavation permit issued by the Heritage Council (or in accordance with a gazetted exception to this Section of the Act).

The Act defines an archaeological relic as:

*any deposit, object or material evidence:
which relates to the settlement of the area that comprises New South Wales,
not being Aboriginal settlement, and
which is 50 or more years old.*

There are no items, places or sites within the study area, or its vicinity, that are listed on the SHR or that are the subject of an active Interim Heritage Order.

2.3 Environmental Planning & Assessment Act 1979

Part 5 of the *Environmental Planning & Assessment Act* 1979 (EP&A Act) requires consideration to be given to environmental impacts as part of the land use planning process. In NSW, the environment includes cultural heritage and as such any required Review of Environmental Factors (REF), Environmental Impact Statement (EIS) or Environmental Impact Assessment (EIA) should incorporate an assessment of heritage issues. The consent authority is required to consider the impact on all Aboriginal heritage values, including natural resource uses or landscape features of spiritual importance, as well as the impact on Aboriginal Objects and Aboriginal Places.

Under the provisions of Part 3 of the EP&A Act, Local Environmental Plans (LEPs) or Regional Environmental Plans (REPs) can be made. LEPs and REPs include provisions for the protection of items and places of environmental heritage. The study area is located within the Shoalhaven City Council Local Government Area.

Under Directive 2.3, Heritage Conservation, of Local planning directions issued, 19 July 2007, under section 117(2) of the Act requires that in the preparation of draft LEPs, Council needs to facilitate conservation of:

- (a) items, places, buildings, works, relics, moveable objects or precincts of environmental heritage significance to an area, in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item, area, object or place, identified in a study of the environmental heritage of the area. (see Appendix A)

This study has been prepared to fulfil these requirements.

2.4 Shoalhaven Local Environmental Plan 1985 (with Amendments made as at 15 December 2008)

Division 4A of the Shoalhaven LEP 1985 provides for the protection of environmental heritage, archaeological sites, places of Aboriginal heritage significance, heritage items, and heritage conservation areas including associated fabric, settings and views. There are no heritage items in the vicinity of the study area on the Schedule 7 'Heritage conservation' list of the LEP.

2.5 Register of the National Estate

The Register of the National Estate (RNE) was originally established under the Australian Heritage Commission Act 1975. In 2004, a new national heritage system which includes the National and Commonwealth Heritage Lists was established under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). As a result, there is now a significant level of overlap between the Register of the National Estate and heritage lists at the national, state and territory, and local government levels. To address this situation, the Register has been frozen since February 2007, meaning that no places can be added or removed.

The following is a registered place in the vicinity of the study area:

- Item 18945 – Swan Lake / Cudmirrah Area, Sussex Inlet Rd, Sussex Inlet, located approximately 1.3km south of the study area.

It should be noted that although this Area is located in the vicinity of the proposed development area, the local topography is such that the visual catchment and aesthetic value of this item should not be adversely affected by the current proposal.

3 Aboriginal Consultation

Aboriginal community consultation is an integral part of the assessment of Aboriginal cultural heritage significance. Consultation was undertaken in accordance with DECC guidelines (see Appendix B, as outlined in the *National Parks and Wildlife Act 1974: Part 6 Approvals Interim Community Consultation Requirements for Applicants* (DEC 2004), and required by the draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC 2005). The aims of this consultation process were to:

- allow identification of local Aboriginal community groups and individuals with an interest in being involved in the ongoing consultation process;
- provide the local Aboriginal community with the opportunity to inspect and comment on the Aboriginal sites and values of the study area and to be involved in the heritage assessment process;
- identify the Aboriginal cultural heritage values of the study area;
- provide an opportunity for the local Aboriginal community to comment on the outcomes and recommendations of draft heritage assessment reporting; and,
- integrate Aboriginal heritage values and recommendations for management into the assessment report.

In accordance with DECC guidelines, advertisements were placed in the Milton Ulladulla Times newspaper on 14 January 2009, and in the National Indigenous Times on 22 January 2009 (see Appendix C). The advertisements sought expressions of interest for participation in the Aboriginal heritage assessment process for the project to be registered. The closing date for registrations was 28 January 2009 and 5 February 2009, respectively.

Emails were sent on 9 January 2009 to DECC, the NSW Department of Aboriginal Affairs Registrar of Aboriginal Owners (RAO), Shoalhaven City Council and Jerrinja Local Aboriginal Land Council (Jerrinja LALC), requesting notification of any known Aboriginal groups that should be consulted for the assessment. DECC advised that Jerrinja LALC, Jerrinja Consultants, South East Coast Gadu Elders Aboriginal Corporation, Merrimans LALC, Ulladulla LALC, South Coast Aboriginal & Elders & Friends Group Organisation, and Lionel P Mongta (Yuin Traditional Owner) may each be interested in being consulted. The RAO advised that Nowra LALC should be contacted. Shoalhaven City Council advised that Jerrinja LALC and Dharwal Aboriginal Corporation should be contacted. Joanne Scott, Aboriginal Liaison Officer for Shoalhaven City Council, was also contacted, and indicated that Jerrinja LALC was the group that would be most appropriate to be involved in the assessment.

A search of the National Native Title Tribunal (NNTT) Register for Shoalhaven LGA was undertaken on 9 January 2009. No currently valid native title claims were identified for the study area.

Contact was made with Jerrinja LALC by email, asking for involvement in the consultation and assessment process, and asking that they notify AMBS of any other known Aboriginal groups or individuals that may wish to be consulted. Jerrinja LALC responded that they would like to be consulted and involved in the field survey.

Letters were sent to Dharwal Aboriginal Corporation, South Coast Aboriginal & Elders & Friends Group Organisation, and Lionel P Mongta. No response was received. A fax sent to Jerrinja Consultants elicited a phone call from an organisation that no longer hosts them, so a phone call was made to the mobile phone number supplied by DECC, and a message left on the answering service. No response to this message has

been received. A fax was sent to South East Coast Gadu Elders Aboriginal Corporation, and a follow-up phone call was made to the number supplied by DECC; however, this was the phone number of Cobowra LALC. Phone calls to the other contact numbers supplied received no response.

Ulladulla LALC and Merrimans LALC were contacted by fax, and each responded that the study area is not within their boundaries. Nowra LALC was contacted by phone, and they identified that the study area was within the boundaries of Jerrinja LALC. However, they asked to be kept informed of the results of the assessment, as some of their members lived in the vicinity of Sussex Inlet.

3.1 Fieldwork

Appropriate representatives from the community groups were engaged to participate in the fieldwork program (see Table 3.1). Prior to beginning the survey, the fieldwork methodology, the proposed development and available mapping information were discussed with all Aboriginal community representatives (see section 7.1). Information provided by the Aboriginal community groups has been integrated into the assessment where appropriate.

The draft Aboriginal heritage assessment report was provided to Jerrinja LALC for review and comment; however, no feedback was received. The LALC office is currently not staffed and it is uncertain when the office will become operational; therefore, it is unlikely that any feedback will be provided within a reasonable time. Nevertheless, the results of the survey and the proposed recommendations of the report were discussed with Jerrinja LALC representatives in the field, and no objections were raised.

The draft Aboriginal heritage assessment report was also provided to Nowra LALC for their records, as they requested, and an opportunity was given for them to provide feedback. However, given that the study area is not within the Nowra LALC boundaries, it was expected that no feedback would be provided, and none has been received.

Table 3.1 Aboriginal community fieldwork participants

Aboriginal Community Organisation	Field Representatives
Jerrinja Local Aboriginal Land Council	Edward Stewart Dennis Wellington

4 Environmental Context

This chapter describes the nature of the environment, and the known Aboriginal archaeology of the study area. This review and discussion is undertaken to establish a context for a comparative significance assessment of the archaeological material recovered during excavations.

4.1 Geology, Soils & Topography

Conglomerate, sandstone, and silty sandstone (pebbly in part) comprise the underlying geology of the study area. These rocks are part of the Wandrawandian and Conjola formations of the Shoalhaven group and are of Permian age (Geological Series Sheet 1966, S1 56-13). Alluvium gravel deposits underlie Teatree Creek and its main tributaries. The soils of the study area are predominantly sandy, overlying clay. The Bherwerre Barrier was formed during the Holocene marine transgression which ended around 6,000 years ago, and this resulted in the formation of the Bherwerre Peninsula (c.3km east of the study area). No outcrops of stone suitable for shelters, art sites (such as engraving and drawing/painting), stone quarries, or for sharpening stone axes/tools (usually done on sandstone outcrops located near water, creating grinding grooves), are present in the study area.

A ridge runs north-west to south-east through the Estate, which marks the watershed between the Swan Lake and Badgee Lagoon catchments. Overall, the Estate consists of an undulating topography.

4.2 Hydrology & Drainage

The Sussex Inlet waterway drains into Wreck Bay to the south and Jewfish Bay, in the St Georges Basin, to the north. The Sussex Inlet township is located on the western side of the Sussex Inlet waterway, and a housing development is situated on a tidal canal system so that the business area of the town is now located on an “island”. The development of the canal system has alleviated the flooding problem that the generally low-lying area had been subject to, with major flooding in 1920, 1942, 1959 and 1971.

To the north of the Estate, Booroowungun Creek drains into St Georges Basin at One Tree Bay. To the south of the Estate, Swan Lake is located behind Cudmirrah Beach, and two main creeks drain into the Lake from the north west – Mondayong and Teatree. A first order tributary of Teatree Creek flows through the south west of the study area, and the main creek channel is located c.50m to the west of the south western corner of the Estate. Four unnamed drainage lines flow through the north eastern portion of the study area. The study area is generally poorly drained by these wide, flat watercourses. Swampy areas are present in the north east and south west of the study area, and in the central south.

4.3 Vegetation

There are a number of vegetation communities in the study area, comprising predominantly Casuarina forest and bloodwood woodland/open woodland of scribbly gums, with sandstone sedgeland in riparian corridors, and some peppermint stringybark forest (Shoalhaven City Council 2007:Figure 12).

4.4 Land Use & Disturbance

The study area has been subject to some clearance and pastoral development, including the construction of some unauthorised buildings such as farm sheds. Some dams and fencing have also been installed, and an electricity transmission line easement runs through lots 7, 10, 23, 26 and 27.

There are two east-west and two north-south dirt road reserves which allow access to the subdivided lots; Mokau, Wandra, Taramung and Advance Roads (see Figure 4.1). The roads were named in 2009 using names requested by the Verons Estate landowners group. The names are those of shipwrecks in the Jervis Bay/Sussex Inlet area.

In 2005, Council acknowledged that the road reserves in Verons Estate are owned by Council. This followed a landmark decision by the NSW Court of Appeal in respect of road ownership in Pacific City, a paper subdivision near Jervis Bay. In 2008, Council commenced preliminary construction of gravel roads along the eastern section of Mokau Road and the northern section of Advance Road. It is understood that construction of gravel roads will continue as funds become available. At the time of the survey, the roads were in poor condition and predominantly unmaintained.

Mokau Road, running off Sussex Inlet Road, allows access to the Estate. A track along a central ridge formerly connected Sussex Inlet Road to the disused quarry south of the Estate, but this is now located on developed privately owned land and access is therefore closed. On the whole, the majority of the study area is relatively undisturbed, and any archaeological deposits may remain intact.

Small rural holdings are located along Sussex Inlet Road to the north of the Estate, Cudmirrah National Park is located to the south and west, and the urban township of Sussex Inlet is located c.4km east of the Estate.

There are seven (7) existing holdings in the Estate and as such, Council is legally able to approve dwellings on these holdings subject to considerations under Section 79(c) of the EP&A Act. However, road ownership and construction issues have prevented any operational consents being issued for dwellings in Verons Estate.

A Council report dated 23 November 1999 indicated that there was no approved development in Verons Estate prior to 1989 but that at the time there were two operational consents and three deferred commencement consents on properties, including:

- an operational consent for a greenhouse on Lot 31 approved by the Land & Environment Court;
- an operational consent for a rural shed (15m x 8m) on Lot 27;
- a deferred commencement consent for a dwelling-house, pool and horse stud on Lot 9, which is an existing holding; and
- a deferred commencement consent for vineyards, produce storage building and machinery shed on Lot 6.

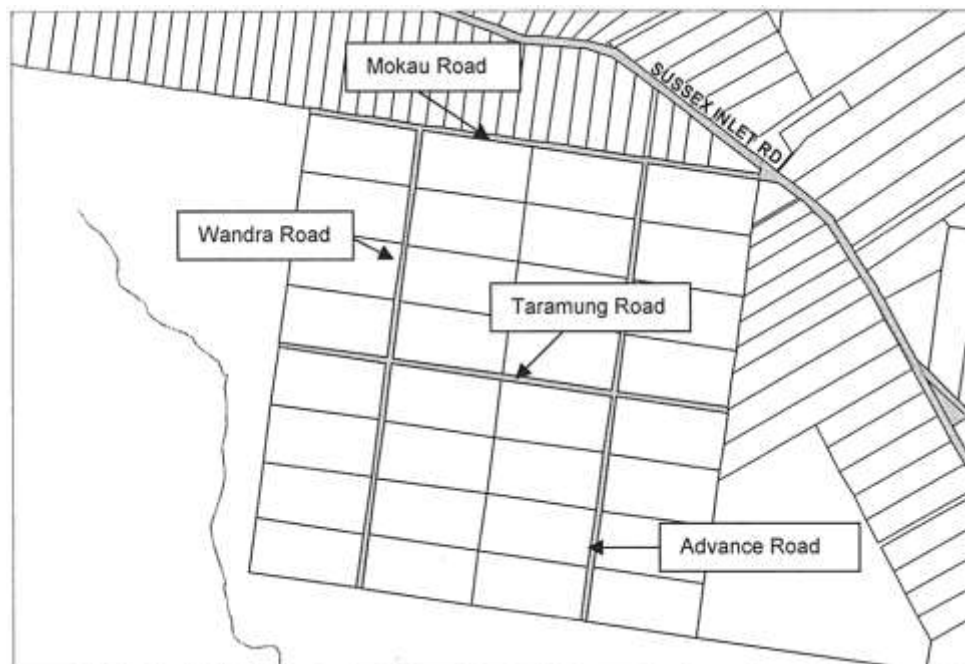


Figure 4.1 Map of Verons Estate indicating road names (source: Shoalhaven City Council)

5 Aboriginal Archaeological Context

This chapter describes the nature of the known Aboriginal archaeology of the study area, based on a review of relevant archaeological reports and publications, and a search and review of previously recorded sites in DECC's AHIMS database. This review and discussion has been undertaken to allow for the development of a predictive model for potential Aboriginal sites within the study area, and to establish a context for a comparative significance assessment.

5.1 Regional Archaeological Context

Previous archaeological work and research undertaken in the region has revealed that the majority of sites in the region date to the last 6,000 years. Midden sites in the region extend back to at least 3,000 years (Barz 1977; Collier 1975; Lampert 1971a; Paton & MacFarlane 1989). However, coastal sites older than 6,000 years were likely inundated with the rise in sea levels around this time, indicating that sites of this age are likely to be under-represented in the coastal archaeological record.

Some older Pleistocene deposits have been excavated at sites which are presently on the coast. Investigations at Burrill Lake revealed that the area was occupied in the Pleistocene from around 20,000 years ago. At Bass Point, dating of archaeological deposits indicates occupation from around 17,000 years (Lampert 1971b). Although these are now coastal sites, around 20,000 years ago they would have been approximately 14km inland.

A regional pattern in archaeological sites of eastern Australia has been identified, and described as the Eastern Regional Sequence (ERS) (Attenbrow 2002:153-158; McCarthy 1961, 1964). The earliest sites of the ERS are classified as Capertian (over 5,000 years ago). The Capertian is primarily characterised by free-hand percussion, while only limited evidence for bipolar flaking is evident in this period. Tools generally consist of flakes with retouch and usewear, and are larger on average than those recovered from later periods of occupation. The Bondaian period begins around 5,000 years ago and is characterised by types of retouched flakes known as backed artefacts. Backed artefact types include Bondi Points and geometric microliths. Other tool types include Eloueras. Tools from the Bondaian period are generally smaller than tools recovered from Capertian period deposits.

Archaeological debate regarding Aboriginal occupation of the NSW South Coast region has focussed upon the intensity of use of the coast and hinterland. The models initially proposed for occupation of the area by Aboriginal people suggested intensive use of the coast in summer during the greatest abundance of coastal and estuarine resources, and some additional exploitation of the hinterland in winter to supplement the dwindling coastal resources (Bowdler 1970; Flood 1980; Lampert 1971b; Poiner 1976). More recent models suggested that small Aboriginal groups occupied the hinterland all year round, with movement between the coast and hinterland to exploit particular resources (i.e. through hunting parties), particularly in winter or when resources were less abundant (Attenbrow 1976; Byrne 1983; Vallance 1983; Walkington 1987).

A high concentration of sites found along the coastal strip was at first taken to indicate that this area was more intensely favoured and used by Aboriginal people, because of the plentiful and varied plant and marine/estuarine resources it provided (Sullivan and Gibbney 1978). However, the effects of more intensive survey of the coast and the high visibility of sites there (particularly shell middens) have since been recognised as presenting a biased picture of occupation. Further research in the

hinterland has allowed the location of many varied (but less visible) sites, which provide evidence of long-term and frequent habitation of this area (Boot 1994, 1996a).

Another common topic of archaeological debate in this region has been evidence for site intensification, with numerous sites exhibiting a continuous and rapid rise in artefact discard from c. 5,000-2,000 BP (Flood 1980; Hughes 1977; Hughes and Lampert 1982; Lampert and Hughes 1974; Rowland 1983; c.f. Attenbrow 1987; Boot 1990; Hiscock 1981, 1986). Increased population, environmental change associated with the stabilisation of sea levels and associated coastal/estuarine resource establishment, and the use of new technologies, have all been proposed as potential causes for this change (Callaghan 1980; Hughes and Lampert 1982; Lampert and Hughes 1974). However, more recent work has shown that artefact discard at many sites remains the same or decreases in the mid-late Holocene, revealing a more complex pattern of site use in the region (Boot 1996b).

5.2 Local Archaeological Context

5.2.1 DECC AHIMS Search

The NSW DECC AHIMS database is maintained by the DECC Cultural Heritage Division, and includes a database and recorded site cards for all Aboriginal sites, items, places and other heritage objects that have been reported to the NSW DECC. It should be understood that this database is not a comprehensive listing of all Aboriginal sites, items or places in NSW. Further, the frequency of sites in a particular area recorded on AHIMS may be misleading because several sites have been recorded more than once and entered into the database more than once (Koettig 1996:57).

A search of the AHIMS database was undertaken on 22 January 2009, and identified 51 registered Aboriginal sites within a five kilometre area surrounding the study area, the results of which are summarised in Table 5.1 and presented in Figure 5.1. No Aboriginal sites have been registered within the study area boundaries.

The most common sites previously recorded in the local area are shell middens and stone artefact sites (open camp sites and isolated finds). The shell midden sites are associated with Aboriginal exploitation of the coastal and estuarine resources of St Georges Basin, Sussex Inlet and Wreck Bay, and are located in close proximity to the water. One burial has been recorded within the search area, between Swan Lake and Cudmirrah Beach, almost 4km south of the southern end of the study area.

Table 5.1 Aboriginal sites previously recorded near the study area

Site Type	Number Present	Percentage
Shell Midden	23	45%
Open Camp Site	18	35%
Isolated Find	9	18%
Burial	1	2%
Total	51	100%

Data based on results of a search of the DECC AHIMS database on 22/01/2009

The search indicates that there is one Aboriginal site registered within c.50m of the study area (58-2-0321). This open camp site ("Cudmirrah National Park 8") was recorded by Peter Kuskie during an archaeological assessment of roads within Cudmirrah National Park (Kuskie 1997a; also see section 6.2.2). The site was located on a vehicle track and exposure from installation of a Telstra cable, within a power

easement. Fifty stone artefacts, manufactured predominantly on silcrete, were recorded within a 140m x 3m area extending across a slope, and a bench, steep side slopes and narrow alluvial flat of Teatree Creek. This was noted to be an optimal resource area, at the conjunction of several resource zones (Kuskie 1997a:40). It was considered likely that the site extends over further areas of the same landform adjacent to the power easement, although the observed portion of the site was assessed as being of low integrity, given the ground disturbance. The site was assessed as having high potential for sub-surface deposits within the easement (Kuskie 1997a:23).

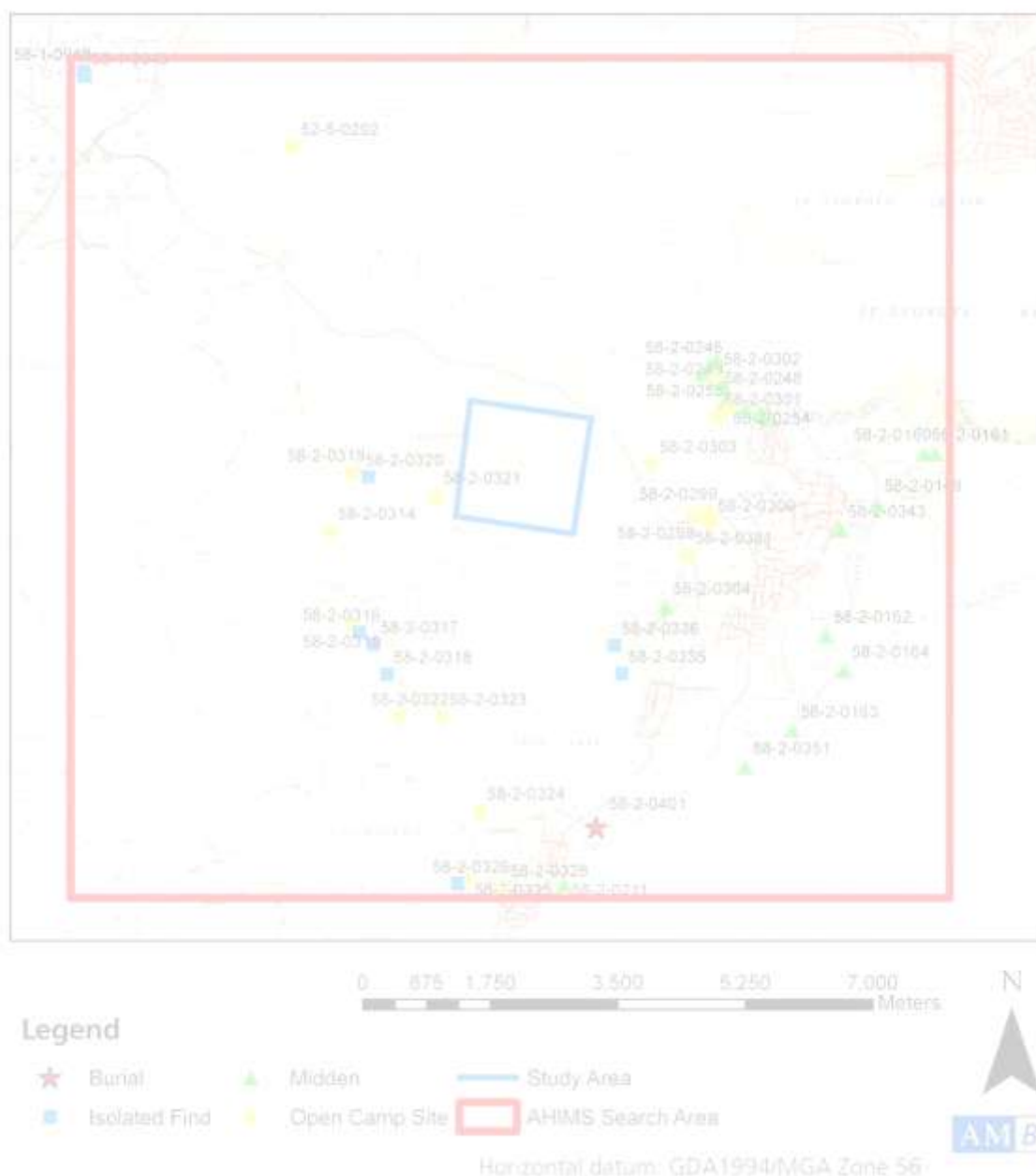


Figure 5.1 Location of registered Aboriginal sites within 5km of the study area (data based on results of a search of the DECC AHIMS database on 22/01/2009)

5.2.2 Previous Archaeological Investigations

There have been several archaeological investigations in the general vicinity of the study area. The majority of these studies are summarised in Appendix D, while the investigations that are most relevant to the study area are discussed below.

As mentioned in Section 6.2.1, an archaeological assessment of c.26km of gravel roads and electricity transmission line easements within Cudmirrah National Park was undertaken by Peter Kuskie, during which 23 stone artefact sites (eight being isolated finds) were located (Kuskie 1997a). Most of these sites were within 150m of water, but this was observed to be partially a result of the topography of the study area and distribution of watercourses. Kuskie stated that “the artefact occurrences within the study zones represent evidence of a range of Aboriginal activities, from transitory movement through the landscape to possible focused camping, resource exploitation, and stone tool manufacturing and maintenance” (1997a:40). The manufacturing and regular maintenance of tools was suggested by the number of cores and large core blanks, and the stone assemblage was dominated by silcrete, which was expected as there are sources of this stone in close proximity to the Park.

Kuskie interpreted the scatters of small quantities of artefacts as background scatter, possibly representing the movement of small groups of people between camp sites or to other activity areas (e.g. on hunting trips), while scatters with greater quantities of artefacts (including Site 8, 58-2-0321) were thought to represent repeated occupation by small groups, or single/repeated occupation by larger groups of people. Kuskie’s results confirmed that “a high density of sites exists in the coastal hinterland as well as along the immediate coast” (1997a:40).

Surface artefacts from eleven of the sites (2-5, 9-11, 15 and 17-19) were subsequently collected and removed (to areas as close to their original position as possible) from the areas to be impacted by maintenance and drainage control of the roads (Kuskie 2000a).

Surveys of land proposed for rural subdivision at Jewfish Bay have been undertaken by Vincent (1980), Blackwell (1982) and Sullivan (1982). In total, the surveys located six shallow shell midden exposures and one stone artefact scatter on the ridge crest, and one more extensive shell midden on the beach ridge.

A number of other surveys have been undertaken in the local area around Sussex Inlet, Swanhaven and Cudmirrah for small-scale development and infrastructure installation (Cane 1985, McConnell 1978, Jo McDonald Cultural Heritage Management [JMCHM] 2002a, Oakley 1996). These surveys have found no or few low-density sites, usually in disturbed contexts, which are assessed as being of low scientific significance. Surveys of areas away from the coast mainly locate low-density stone artefact scatters.

Larger sites are generally expected to occur on higher well-drained ground or flats near creeks, and in areas with access to a number of resources zones. For example, a large site complex with shell midden, stone artefact scatter, axe grinding grooves and a rock shelter has been located on the banks of Berrara Creek, near Cudmirrah Beach, c.750m from the coast (Kuskie 1997b, 2000b). Stone artefacts found in the area are predominantly manufactured on silcrete (there are silcrete sources at Bendalong and Mollymook), with smaller amounts of quartz, quartzite, chert and other raw materials. Many of the stone artefact sites exhibit evidence of manufacture and

maintenance of bipolar and microlithic tools, indicating that they were probably occupied by Aboriginal people in the last 2,000-5,000 years.

Shell middens are generally located on headlands, beaches and foreshores (with some deposits in rock shelters where suitable geology is found), and reflect localised shellfish gathering activities (e.g. see Sullivan 1977). The largest, stratified shell midden mounds are located at Christians Minde on the Sussex Inlet estuary (c.4km east of the study area). Axe grinding grooves have been found on sandstone within proximity of creeks. Burials are rare site types in the region, but are most often located in soft beach sand or middens.

5.3 Aboriginal Heritage Site Prediction Modelling

On the basis of the registered archaeological sites in the region and the review of previous archaeological studies, the following conclusions can be drawn regarding the potential presence and location of Aboriginal heritage sites within the landscape of the study area:

- sites most likely to be present within the study area are stone artefact sites. These sites are most likely to occur along the creek tributaries, particularly near confluences, in the south west or north east of the study area, or along crests or ridge lines suitable for travelling through the landscape;
- the presence of a mature trees indicates that scarred or carved trees may be present in the study area; and
- the presence of some ground exposure indicates that any open sites remaining in the study area may be visible during a site inspection.

5.3.1 Sites Unlikely to be Present

The following site types have not previously been recorded within the local region, and are unlikely to be present within the current study area:

- the lack of suitable stone outcrops indicates that shelter sites, art sites, axe grinding grooves and stone quarry sites will not be found in the study area;
- it is unlikely that midden deposits will be present within the study area, as the creek lines do not appear to support shellfish;
- burials are unlikely to occur in the area as they are usually found in association with the soft sand of beaches or in shell middens; and
- ceremonial sites (including stone arrangements and bora grounds) and art/engraving sites are unlikely to be present in the area given the history of subdivision and clearing, as these are very visible sites and would most likely have been previously located and recorded if they were present.

6 Historic Overview

6.1 Preamble

Captain Arthur Phillip established the first permanent British settlement in Sydney on 26 January 1788. However, the land in this area was too sandy for farming, so explorations to find arable lands were undertaken along the coast and into the hinterland later that year. The following year, cultivation was underway in Parramatta, and in 1791 Phillip granted lands for farming to the first emancipated convicts. By the 1790s, the fertile alluvial soils along the Hawkesbury, Nepean and Georges Rivers, and the area around South Creek and the head of the Parramatta River, were being farmed for wheat and maize. However, these areas often flooded, and throughout the 1790s the colony was under the ever-present threat of famine. Imported food came predominantly from Britain and Norfolk Island, but this was over 1,600km away and its soil was not ideal for crop cultivation either (HLA 2003:3-4).

6.2 Early Exploration

Captain James Cook voyaged along the NSW South Coast in April 1770, sighting and naming Cape St George on 23 April. However, it was not until 1791 that the area was again noticed by Europeans on ships of the Third Fleet. Lieutenant Richard Bowen named Jervis Bay after Admiral Sir John Jervis (later the Lord St Vincent, after whom the county and the town of Vincentia is named) in August 1791, from aboard the convict transport ship *Atlantic*. In November, Captain Weatherboard entered Jervis Bay to undertake repairs on the *Matilda*. Jervis Bay was noted as a good harbour with fine soils and timber (Mary Dallas Consulting Archaeologists 2006:40-41).

Early surveys along the NSW South Coast were concerned with finding quality soil for agriculture, and good harbours. Timber getters, with a particular focus on cedar, were often the first European settlers to establish towns on the South Coast, although evidence of these early towns rarely remains now, and they rapidly cleared large areas.

Nevertheless, further exploration of the South Coast did not occur until January 1822, when Alexander Berry, Hamilton Hume and Lieutenant Johnston, R.N. sailed southward from the Shoalhaven River at Burrier on HM Cutter *Snapper*, stopping in Jervis Bay for fresh water. Continuing south, they crossed the bar at the entrance to Sussex Haven (now Sussex Inlet), then followed the river to St George's Basin (Kemp & Coshaw 1980:3).

Thomas Florance also surveyed the South Coast in the 1820s, opening up more land for settlement. He travelled overland from Jervis Bay to St George's Basin in 1827, noting the native name (Bherwerre) for the Basin, and mapping out the narrow inlet ('Sussex Haven') as well as the Swan Lake and 'Canal Lagoon' (Berrara) entrances. Wreck Bay was named in 1850, having claimed many ships on its rocky coast, from as early as 1805 (Kemp & Coshaw 1980:3).

6.3 European Settlement & Land Use

6.3.1 Early Land Holdings

The Verons Estate land was a Crown Grant to Edward Flood in 1840. An early parish map reveals that other early land grants in the area were to John Hoskings, John Terry Hughes, Charles Henry Ross, James Blackett, William Charles Borlase Wilson and Christopher Moore Wilson. The map also shows that Christian Adolphson (see section 4.3.5), Isabella May Iverson and Thomas N. Ellmoos had land on the western

shore of Sussex Inlet. Marie Stuart Veron was owner of the study area land in 1921, and the Estate is named after her.

6.3.2 *The Glanville Family*

In 1866, Daniel Glanville, his wife Eliza (nee Hughes) and their eight children moved to land purchased by Daniel at Berrara, south of Sussex Inlet. The old staging post, en route from Shoalhaven to Ulladulla, was located here. Daniel soon started clearing the surrounding land for agriculture, and built temporary dwellings, stables and a blacksmith's shop, probably for the use of travellers. The family made a living from farming and grazing, and Eliza was the mid-wife for the area. Another piece of land at Berrara was purchased in Eliza's name in 1890, while Daniel's property "Mondayong" was sold in 1892 to Paul Hoffman (see section 4.3.4) (Kemp & Coshaw 1980:4-5, 19).

Sussex Inlet itself was visited rarely, when passing horsemen and wagons came to the entrance to ford the river across to Berrara, heading south. However, this situation changed in 1880 with the Ellmoos family (Kemp & Coshaw 1980:4-5).

6.3.3 *The Ellmoos Family*

Jacob Ellmoos was the second child of Danish cabinet maker and ship fitter Christian Nielsen Ellmoos and Louise Marie Petersen. He became a seaman when he was 15, but left his ship in Port Adelaide, South Australia in 1878, walking over 1,000 miles north to South Head Signal Station, near Watsons Bay (Sydney), a fishing village at the time. He soon set sail to the south, fishing the coastal waters and eventually establishing his base at Cape St George lighthouse, on the southern headland of Jervis Bay. In November 1880, Jacob crossed the bar at the entrance of Sussex Inlet and, having found rich fishing grounds and an unspoilt beauty, he sought and was granted a selection of 1200 acres of land on the northern bank of the inlet (Kemp & Coshaw 1980:10).

Before long, the rest of Jacob's family had travelled from Denmark to Sussex Inlet – his siblings Niels, Christian Jnr, Maria, Wilhelmina and Louise, followed in 1886 by his parents and three youngest siblings Thomas, Lorenz, and Anna. The family established a home by building dwellings, using timber cut from bush or dragging overland from the wrecks in Wreck Bay. For their livelihood, they cleared land for crops, raised livestock and fished, which was an important produce exported to Sydney for the market. A small family cemetery was established on a hill east of the property (Kemp & Coshaw 1980:10).

Christian's Minde

In 1888 a double tragedy befell the family, when Niels and two companions were lost at sea during a voyage to Sydney, and Christian Jnr died of pneumonia after his boat capsized, and he spent several hours in St Georges Basin before walking home through the bush. The latter event led the Ellmoos family to name the guest house, which they established on the eastern shore of the Inlet in 1896, "Christian's Minde", a Danish phrase meaning "To the memory of Christian". This was the only guest house on the NSW coast between Port Hacking and Twofold Bay, and is the oldest existing building in the Sussex Inlet district today. The business soon became very successful, with its attraction to holiday makers being traditional Danish food and hospitality, in addition to the isolation and beauty of the area, and the fishing and other water-based activities that the Inlet has to offer. This was despite the difficulties involved in travel, as visitors travelled from railhead at Nowra, then by horse-drawn coach to Pelican Point on St Georges Basin, and finally by sailing boat in the open waters of the Basin down to Christian's Minde. The clientele were generally

high class, and Christian's Minde was maintained as a favourite resort of Sydney professional men (Kemp & Coshaw 1980:10-11).

Heimdall

In 1915, the Bherwerre Peninsula became part of the Australian Capital Territory. Jacob's freehold land at Christian's Minde was within this territory, and it was swapped for Federal leaseholds. As Jacob was the only survivor of the original selectors, he was compensated for the loss of freehold. However, there was much debate between Jacob's solicitor and the Department before fair compensation was offered, with the government apparently attempting to take away Jacob's land and business on the basis that he was merely "a foreigner". Thomas and his wife Jessie took over the leasehold and Christian's Minde in 1917, building a cottage home to the north of the main house which, after being sold, enlarged by the new owner and called Sargood's, was again purchased by Thomas and used as an annexe to the guest house (NB After retiring, Thomas and Jessie retained Sargood's as a business; the original building is now called "Ellmoos"). Jacob purchased land on the western shore of the inlet from Hoskings and Hughes, and built another guest house called "Heimdall" (possibly named after the Norse god). Accommodation was now able to be provided for 60 guests on each side of the inlet. Jacob and his family were continually improving the houses and grounds, and even added a tennis court (Kemp & Coshaw 1980:11-12).

6.3.4 Paul Hoffman

In 1887, Paul Hoffman was doing compulsory duty in the German Navy and travelling along the South Coast on a German gunboat, when he decided to jump ship and swim to the shores of Sussex Inlet. Having been given a special award for his work by the Queen, and having visited the area before in a merchant ship, the authorities searched for him for three months after his desertion. Although they concluded that he must have died, the coppersmith/kettler moved into Sussex Inlet and probably worked for the Ellmoos family at first. He married Maria Ellmoos, and the couple settled at his Swan Lake property (now known as "Southdown", located c.1km to the south of Verons Estate) and had 11 children (Kemp & Coshaw 1980:21-22).

6.3.5 The Adolphsons & Settrees

Christian Adolphson seems to have been a Danish farmer who bought property on the western shore of the inlet in 1897 and built a slab cottage home called "Valhalla". He sold this property in 1912 to Alf Settree, a boat builder who had moved from Wollongong, and who pulled down Valhalla to make "Hillpine" House for a Mr Wilkinson. Settree built his own family home "Takarest" (currently Hillcrest cottage), and also had holiday flats and a camping area on the front of the property. He built and repaired boats from his property, but in 1924 he moved to Huskisson which had become the centre of boat building in the area (Kemp & Coshaw 1980:22-23).

6.3.6 Services & Roads

Initially, the Ellmoos children were educated at the school at St George's Head Lighthouse, on the southern Jervis Bay headland, where student numbers ranged from 12-20. By 1907, a school of eight children under the leadership of teach Mr William Forsythe was opened on School Flat, situated half-way between the Ellmoos property at Sussex Inlet and the Glanville property at Berrara. Over the next 40 years, the school experienced an growing student population, and increasing difficulties in providing appropriate facilities. However, the Department of Education

finally acquired land, and a new school began in 1954 with 28 students enrolled (Kemp & Coshaw 1980:35).

In 1916, Jacob and ten local men cleared a road through from Wandandian to Sussex Inlet. Today, the road is known as Sussex Inlet Road and has almost the same alignment as the original. It was largely the development of this track that opened up Sussex Inlet to development as a tourist and fishing resort. Jacob also cleared a track through to the Glanville property, as this made it easier for them to supply butter for the guest house. The access also allowed the Glanvilles to become involved in the establishment of the Sussex Inlet village, and added Berrara and Cudmirrah to the small settlement of Sussex Inlet (Kemp & Coshaw 1980:11, 19, 21).

As the use of motor cars became more popular, Thomas sought out an overland route so that visitors could travel by car from Sydney to Christian's Minde. On horseback, he determined a route through the bush from the College Road, and his son Niels cleared the scrub and built a track, which was later extended to the entrance and improved by the Forestry Commission. It is currently known as Ellmoos Road. A small saw mill was also operated on the bottom of Thomas' property, on the site of the South Sussex launching ramp (Kemp & Coshaw 1980:11, 24).

The first telephone in Sussex Inlet was connected to Christian's Minde on 14 April 1906, the line being erected by the Ellmoos sons. The second line was put in from Heimdall to Wandandian, and the Ellmoos family maintained these lines for years, often walking their full length to find faults prior to a proper line being connected (Kemp & Coshaw 1980:11-12). In 1939 a telephone exchange was opened at Sussex Inlet, having 9 subscribers, while the automatic exchange cutover on 13 August 1970 had 186 telephones connected (Sussex Inlet Foundation for Community Development Inc. [SIFCDI] 1988).

The first Post Office opened in Sussex Inlet on 1 November 1920, at which time the population was 50-60, plus 30-40 professional fishermen who camped at the entrance of the Inlet. In the summer months, about 150 visitors were accommodated in the boarding houses at any one time (SIFCDI 1988). A second non-official post office was opened at White's Store South Sussex Inlet in 1952, because of the growth of the town. Street letter delivery was introduced in 1977 (Kemp & Coshaw 1980:36).

In 1925, Anna and her husband George Junk opened the first shop in Sussex Inlet, on the eastern side of the inlet. George was a professional fisherman and caught bait to sell in the shop, and the usual drinks, sweets, and other products were sold to the holiday population. The shop closed when other stores and the post office developed on the western shore (Kemp & Coshaw 1980:12).

An electricity supply line was completed in 1947, although the power supply was inadequate at peak periods until a sub-station was built in the 1970s (Kemp & Coshaw 1980:43).

6.3.7 Land Speculation & The Sussex Inlet Estate

In 1917, it was anticipated that the principal naval base of the Commonwealth and the seaport of its Capital City would be established at Jervis Bay, and that Sussex Inlet would then become "the popular waterside residential suburb, just as Manly and Coogee, Bondi and others are for Sydney to-day" (as described in a brochure for the Sussex Inlet Estate sale). However, it was Nowra, where HMAS Albatross is located, that became the seaport for the Australian Navy. The Sussex Inlet Estate comprising water-frontage land opposite Christian's Minde was resumed by the Federal

Government, with around 100 1-acre blocks offered for sale. It was thought that this estate subdivision would be as successful as those subdivisions at Killarney Estate, Maclean's Point Estate, Pacific City and Wandandian Estate.

Subdivision of the Verons Estate area comprising 32 eight hectare lots in DP 9897, was registered on 20 February 1920; however, it appears that the land was never developed in the manner that was envisaged at the time of its initial conception. The Verons Estate may represent a surviving undeveloped land speculation, while the Sussex Inlet Estate land is now the location of the Sussex Inlet township.

6.3.8 *World War II*

When the Second World War began, there were approximately 11 families in Sussex Inlet itself and four in the Cudmirrah-Berrara area, and 28 people were registered on the electoral roll. Around six men joined the army at this time. Farms had generally been replaced by camping grounds and cottages which catered for fishing and boating holidays, making the town a sea-side tourist resort. However, war-time petrol rationing restricted the use of pleasure boats, and larger boats were taken for military use, leading to difficult times for the residents whose livelihood was in tourism and recreational holidays. Food rationing made the dining rooms of Christian's Minde and Heimdall inoperable, and in the late 1940s, Niels Ellmoos converted the guest houses into self-contained flats. Also, following the war there was a gradual, widespread move away from cities by young couples seeking a more relaxed environment, for themselves and their children. Combined with the improvement to the Princes Highway and increasing ownership of cars, this increased the residential population of Sussex Inlet (Kemp & Coshaw 1980:30, 35, 43).

6.3.9 *Development of the Town*

The township of Sussex Inlet developed around Jacob Ellmoos' land, and today the Sussex Inlet RSL Club owns the land that Heimdall was on. The guest house was demolished in 1968 to make way for a new Club house. The area is a haven for "weekenders" and holiday-makers, and after subdivision in 1935, numerous holiday homes were built and the area became popular with retirees. Recreational facilities were soon developed, with the Sussex Inlet Golf Club formed in 1953 with 8 members, and the Sussex Inlet Bowling Club established in the mid 1950s, with the new club house opened in 1966. In the early 1970s, the Royal Volunteer Coastal Patrol commenced in Sussex Inlet, with a radio watch being maintained (Kemp & Coshaw 1980:30, 49; SIFCDI 1988).

Jacob Ellmoos died in 1935, but shortly beforehand he gave two blocks of land to the district, for a public hall and an inter-denominational church. Church services alternated weekly between Methodist and Church of England, until 1970 when the latter congregation built a separate church at Sussex South (Kemp & Coshaw 1980:37).

In 1950, James Cater began work on the canal system in the township area, which was the first of its kind in Australia. All of the development sites were to have water frontages. The first part of the work was on the northern side of Jacobs Drive, followed by further canal development along Cater Crescent. Lucas & Tait brought the canal system to its present stage of development, as Cater and his company were unable to continue private financing of the development, due to capital losses and a general recession (Kemp & Coshaw 1980:46; SIFCDI 1988).

Sussex Inlet Road was sealed in 1955, which attracted increasing numbers of visitors throughout the year, and led to a great demand for caravan parks. The population growth resulted in greater progress of the town, and many stores, homes, services, business, clubs and other organisations were developed in the mid-1970s, when the population of Sussex Inlet reached 860 and Berrara/Cudmirrah reached 230 (Kemp & Coshaw 1980:49).

6.4 Conclusion

The historical record indicates that there has been no early occupation of the study area. Although the area was subdivided in 1920, the zoning has restricted Council's ability to approve dwelling-houses on individual lots within the Estate. It is understood that a number of temporary dwellings, sheds and other unapproved structures are present on several Lots; however, these have been erected in the recent past.

7 Field Survey

7.1 Survey Methodology

The Aboriginal and historic cultural heritage survey was undertaken on 12 March 2009 by AMBS archaeologists Christopher Langeluddecke and Jenna Weston, accompanied by Aboriginal community representatives Edward Stewart and Dennis Wellington (Jerrinja LALC). The fieldwork methodology, the proposed development and available mapping information were discussed with all Aboriginal community representatives prior to fieldwork. Copies of topographic maps and aerial photographs were made available to all participants to guide the survey. The findings of the survey and recommendations were discussed with all representatives in the field, and no objections were raised.

The aims of the survey were to:

- employ the predictive model to inform the survey areas;
- ensure appropriate sampling of undisturbed land, and land not previously the subject of archaeological investigation;
- record any Aboriginal sites/objects within the study area; and
- determine any areas of potential Aboriginal heritage sensitivity.

During the survey, particular attention was paid to areas of ground surface exposure, the ridge which runs north-west to south-east through the Estate, and drainage lines, especially the tributary of Teatree Creek which flows through the south west of the study area. The four small drainage lines in the north eastern portion of the study area were obscured by heavy vegetation. Where older mature native trees were observed within the study area, they were examined for the presence of Aboriginal cultural scarring. When Aboriginal artefacts were encountered, notes were to be made regarding their type, size, and material, descriptions of the site were recorded including the environmental setting and details of any disturbance to archaeological material in the site's vicinity, and Geocentric Datum of Australia (GDA) coordinates were taken by a handheld Magellan Explorist 500LE GPS unit. Photographs of objects and their location were also taken. Photographs of the study area in general were taken using a Canon EOS 300D digital camera.

7.2 Survey Results

7.2.1 Aboriginal Heritage

Two new Aboriginal sites were located during the survey (Figure 7.1). Completed AHIMS site cards for the two sites are attached in Appendix E.



Figure 7.1 Location of Aboriginal sites identified during the survey (showing southern and northern extents of Teatree Creek 1)

7.2.2 Teatree Creek 1 – Stone Artefact Scatter

Location: GDA94/MGA Zone 56 E 276 [REDACTED], N 6106 [REDACTED] (southern extent); E 276 [REDACTED], N 6106 [REDACTED] (northern extent)

Landform: Gentle slope/flat adjacent to creek

Site Size: 100m x 10m

Exposure: Soil exposed by removal of trees in fire break

Site Description:

The site is on Lot 25 DP9897, adjacent to a swampy area and the first order tributary of Teatree Creek, near its confluence with the main channel of Teatree Creek (see Figure 7.1). The area slopes very gently up towards the north. The artefacts were exposed in five areas where tree removal for a fire break has brought soil up to the surface, indicating that artefacts are present beneath the current ground surface in this area. The area of the fire break is approximately 10m wide, and approximately 100m long in the area where artefacts were noted. Ground surface visibility within the fire break was approximately 40%, and bracken fern is present on the eastern side

of the fire break, which comprises the edge of a swampy area surrounding the creek tributary. A total of 33 artefacts were recorded, comprising predominantly silcrete flaked and heat-shattered pieces. It is possible that silcrete artefacts brought to the surface of this site were damaged during a bush fire that swept through the Verons Estate in December 2008, with almost half of the artefacts classified as having been heat-shattered. Although it is possible that these artefacts were deliberately heat-treated by Aboriginal people in the past, this type of heat treatment is not commonly seen at stone artefact sites in the region.

Given the location of this site adjacent to a creek tributary and near its confluence with the main channel of Teatree Creek, and the number of artefacts identified within small areas of exposure, the site is assessed to have moderate-high potential for substantial subsurface deposit.

Table 7.1 Teatree Creek 1 artefact details

Material	Colour	Maximum Size (cm)	Artefact Type
Silcrete	Grey	3	Proximal flake
Silcrete	Grey	3	Flaked piece
Silcrete	Grey	3	Heat shatter
Silcrete	Grey	2	Medial flake
Silcrete	Grey	2	Distal flake
Silcrete	Red	1	Heat shatter
Silcrete	Grey	1.5	Distal flake
Silcrete	Grey	1	Distal flake
Silcrete	Grey	1.5	Proximal flake
Silcrete	Grey	1.5	Heat shatter
Silcrete	Grey/red	3.5	Core
Silcrete	Grey	3	Flake
Silcrete	Grey	2	Heat shatter
Silcrete	Dark grey	2.5	Heat shatter
Silcrete	Red	2.5	Heat shatter
Silcrete	Grey	2	Heat shatter
Silcrete	Grey/red	2.5	Heat shatter
Silcrete	Grey/red	2	Heat shatter
Silcrete	Grey	2.5	Heat shatter
Silcrete	Grey	1.5	Heat shatter
Silcrete	Grey	3	Flake
Silcrete	Grey	1.5	Proximal flake
Silcrete	Grey	1.5	Flaked piece
Silcrete	Grey	1.5	Flake
Silcrete	Grey	2	Heat shatter
Silcrete	Grey	4	Flake
Silcrete	Yellow	3	Proximal flake
Silcrete	Grey	3.5	Heat shatter
Silcrete	Grey	1.5	Flake
Silcrete	Red	3.5	Flake
Silcrete	Grey	3	Heat shatter
Chalcedony	Grey	1.5	Proximal flake
Silcrete	Yellow	3	Heat shatter



Figure 7.2 Southernmost area of exposure where artefacts were located, caused by tree removal (view to south)



Figure 7.3 View of site area within fire break (view to south)



Figure 7.4 Silcrete and chalcedony artefacts at Teatree Creek 1

7.2.3 Teatree Creek 2 – Isolated Find

Location: GDA94/MGA Zone 56 E 276 [REDACTED], N 6107 [REDACTED]

Landform: Gentle slope near creek

Site Size: N/A

Exposure: Dirt vehicle track extending south from Wandra Road

Site Description:

The site is on a track between Lots 23 and 26 DP9897, immediately south of the transmission line at the southern end of Wandra Road. The land gently slopes down to the south towards Teatree Creek, which is c.600m south east (see Figure 7.1). The silcrete core was exposed on a dirt vehicle track, and ground surface visibility within the exposure was approximately 95%. Despite the high level of ground exposure in this area, no further artefacts were identified. Although, the track is on the edge of a swampy area associated with a tributary of Teatree Creek, the disturbance to the area caused by construction of the nearby transmission line, use of the vehicle track, the distance from the main channel of Teatree Creek, and the lack of other artefacts identified, the site is assessed to have low potential for substantial subsurface deposit.

Table 7.2 Teatree Creek 2 artefact details

Material	Colour	Maximum Size (cm)	Artefact Type
Silcrete	Red	3.5	Core



Figure 7.5 Track where artefact was located (view to south)



Figure 7.6 Silcrete artefact at Teatree Creek 2

7.3 Historic Heritage

The historical record and the field survey confirm that there is no evidence of early occupation within the study area. Although there are buildings on some of the allotments, including sheds and temporary structures, these are consistent with a date of no earlier than the 1970s.

No items or places of historic heritage value were identified within the study area. However, the Verons Estate subdivision of 32 eight hectare lots dates to 1920, and remains intact.

7.4 Discussion of Survey Results

The majority of the study area has remained relatively undisturbed, given its zoning and other provisions under the Shoalhaven LEP 1985, including a Tree Preservation Order across the entire Estate and 'land of ecological sensitivity' over that part of the Estate which drains to Swan Lake. However, the scope of the Aboriginal heritage survey was impeded by the density of the vegetation (including uncleared forest and creeks, and grassed paddocks) covering most of the study area (see Table 7.3). These factors reduced visibility in most areas, and less than 1% of the ground surface of the study area was visible for survey (see Table 7.4).

Table 7.3 Lots surveyed and unable to be surveyed during fieldwork

Lots Surveyed	Lots Not Surveyed Due to Dense Vegetation
Lot 4	Lot 1
Lot 5	Lot 2
Lot 6	Lot 3
Lot 7 (within transmission line easement)	Lot 16
Lot 8	Lot 18
Lot 9	Lot 20
Lot 10 (within transmission line easement)	Lot 22
Lot 11	Lot 24
Lot 12	Lot 31
Lot 13 (along Taramung Road)	
Lot 14	
Lot 15	
Lot 17	
Lot 19	
Lot 21	
Lot 23	
Lot 25	
Lot 26 (dirt track between adjacent lot)	
Lot 27	
Lot 28	
Lot 29	
Lot 30	
Lot 32	

Table 7.4 Effective coverage

Landform of Transect	Description	Approx. Area (m ²)	Approx. Area Surveyed (m ²)	Visibility	Exposure	Effective Coverage (m ²)	Sample Fraction (%)
Creek / swamp	Lot 1 Vegetated; unsurveyed	80000	0	0	0	0	0
Creek / swamp	Lot 2 Vegetated; unsurveyed	80000	0	0	0	0	0
Creek / swamp	Lot 3 Vegetated; unsurveyed	80000	0	0	0	0	0
Slope	Lot 4 Cleared area Dam	80000	10000 700	0.6 0.8	0.01 0.2	60 112	0.2
Slope	Lot 5 Cleared area	80000	2000	0.5	0.3	300	0.4
Flat	Lot 6 Cleared area/dam	80000	400	0.7	0.03	8.4	0.01
Gentle slope	Lot 7 Transmission line easement	80000	8000	0.3	0.5	1200	1.5
Flat	Lot 8 Dirt tracks/cleared area	80000	750	0.9	0.3	202.5	0.3
Flat	Lot 9 Tracks/cleared areas/dam	80000	9000	0.5	0.05	225	0.3
Slope / ridge	Lot 10 Transmission line	80000	8000	0.3	0.5	1200	1.5

	easement						
Slope/ ridge	Lot 11 Tracks Dam Fire break between Lots 11 and 22	80000	2000 500 2000	0.8 1.0 0.6	0.2 0.1 0.1	320 50 120	0.6
Slope/ ridge	Lot 12 Tracks Dams Cleared areas	80000	1500 90 2000	0.6 1.0 0.7	0.2 0.7 0.5	180 63 700	1.2
Slope/ ridge	Lot 13 Unmaintained Taramung Road at southern boundary of property	80000	1200	0.9	0.3	324	0.4
Gentle slope/flat	Lot 14 Tracks/cleared areas/dam	80000	4500	0.8	0.6	2160	2.7
Gentle slope/flat	Lot 15 Tracks/cleared areas/dam	80000	200	0.9	0.7	126	0.2
Creek/ swamp	Lot 16 Vegetated; unsurveyed	80000	0	0	0	0	0
Slope/ ridge	Lot 17 Tracks/dams	80000	600	0.7	0.5	210	0.3
Slope/ ridge	Lot 18 Vegetated; unsurveyed	80000	0	0	0	0	0
Slope/ ridge	Lot 19 Tracks/cleared areas/dam	80000	4000	0.5	0.9	1800	2.3
Slope/ ridge	Lot 20 Vegetated; unsurveyed	80000	0	0	0	0	0
Slope	Lot 21 Southern fenceline Track through centre and northern fenceline	80000	2000 2000	0.5 0.4	0.05 0.05	50 40	0.1
Slope/ swamp	Lot 22 Vegetated; unsurveyed	80000	0	0	0	0	0
Slope	Lot 23 Transmission line easement	80000	8000	0.98	0.3	2352	2.94
Flat/ swamp	Lot 24 Vegetated; unsurveyed	80000	0	0	0	0	0
Gentle slope/ creek	Lot 25 Bush between fire break Fire breaks	80000	100 9500	0.05 0.35	0.03 0.5	0.15 1662.5	2.1
Gentle slope	Lot 26 Dirt vehicle between Lots 23 and 26	80000	500	0.95	0.3	142.5	0.2
Gentle slope	Lot 27 Transmission line easement Dirt vehicle tracks	80000	8000 3000	0.95 0.7	0.25 0.3	1900 630	3.2
Slope	Lot 28 Vehicle track Dam Unmaintained	80000	500 60 1250	0.3 0.3 0.4	1.0 0.6 1.0	150 10.8 500	0.8

	Taramung Road at northern boundary of property						
Flat	Lot 29 Cleared area and dam	80000	10500	0.1	0.3	315	0.4
Flat	Lot 30 Cleared area/erosion Vehicle track along fenceline	80000	9500 4000	0.85 0.75	0.1 0.05	807.5 150	1.2
Slope/ ridge	Lot 31 Vegetated; unsurveyed	80000	0	0	0	0	0
Slope	Lot 32 Cleared areas/tracks Dam	80000	2000 1000	0.6 0.9	0.1 0.2	120 180	0.4
Total		2560000	119350			18371.35	0.7

It is unlikely that the central part of the study area, extending from the north west to south east corners, contains extensive evidence of previous occupation by Aboriginal people. Although it is possible that Aboriginal people used the central ridge to travel between the coastal and hinterland areas, it is probable that this would result in a low density, background scatter of stone artefacts, representing movement through the landscape rather than extended occupation of this area.

The presence of water sources and swampy areas (which attract animals and therefore provide both plant and animal resources) in the south west and north east corners of the study area, indicates that it is likely that these areas would have been subject to more frequent Aboriginal occupation and activity, probably including knapping of stone artefacts. Given the overall lack of past disturbance (apart from vegetation clearance), areas adjacent to the creeks and swamps are considered to have the highest archaeological sensitivity and potential for substantial *in situ* archaeological deposit. It should also be noted, however, that the majority of archaeological deposit between St Georges Basin and Swan Lake is likely to be found in the vicinity of the larger Teatree Creek.

A lack of visibility prevented identification of any surface artefacts in the north east corner of the study area; however, a moderate number of artefacts were revealed in the soils brought to the surface as a result of tree felling in the south west, supporting the conclusion that substantial subsurface archaeological deposit is present in this area. The main areas of archaeological potential are along the western side of Lot 25, within approximately 50m of the main channel of Teatree Creek, and along the eastern side of Lot 25 and the western side of Lot 24, where the Teatree Creek tributary flows and which is approximately 300m from its confluence with the main channel. These areas are currently zoned Environmental Protection 7(a) (Ecology).

Although no items of historic heritage value were identified within the study area, Verons Estate comprises a historic subdivision of 32 eight hectare lots dating to 1920.

8 Assessing Heritage Significance

8.1 Preamble

A primary step in the process of cultural heritage management is the assessment of significance. Cultural significance is defined in the Burra Charter as meaning *aesthetic, historic, scientific or social value for past, present or future generations* (Article 1.2).

Not all sites are equally significant and not all are worthy of equal consideration and management. The significance of a place is not fixed for all time, and what is considered of significance at the time of assessment may change as similar items are located, more historical research is undertaken and community values change. This does not lessen the value of the heritage approach, but enriches both the process and the long-term outcomes for future generations as the nature of what is conserved and why, also changes over time (Pearson & Sullivan 1995:7).

8.2 Aboriginal Heritage Significance

8.2.1 Assessment Criteria

Professional guidelines for the assessment of significance of Aboriginal sites, objects and places discuss two types of significance: cultural significance and archaeological significance (NPWS 1997:5-11).

Cultural Significance

This area of assessment concerns the value(s) of a site or feature to a particular community group – in this case the local Aboriginal community or communities. Aspects of social significance are relevant to sites, items and landscapes that are important, or have become important, to the local Aboriginal community. This importance involves both traditional links with specific areas as well as an overall concern by Aboriginal people for sites and landscapes generally and their future protection. Aboriginal cultural significance may include social, spiritual, historic and archaeological values. Aboriginal cultural significance assessments can only be made by the relevant Aboriginal communities.

Scientific Significance

Scientific significance is assessed using criteria to evaluate the contents of a site, state of preservation, integrity of deposits, representativeness of the site type, rarity/uniqueness and potential to answer research questions on past human behaviour (NPWS 1997:5). The NPWS guidelines recommend the following criteria for assessing archaeological significance:

Archaeological Research Potential- significance may be based on the potential of a site or landscape to explain past human behaviour and can incorporate the intactness, stratigraphic integrity or state of preservation of a site, the association of the site to other sites in the region or a datable chronology;

Representativeness - all sites are representative of those in their class (site type/subtype); however, this issue relates to whether particular sites should be conserved to ensure that a representative sample of the archaeological record is retained. Representativeness is based on an understanding of the regional archaeological context in terms of site variability in and around the study area, the resources already conserved and the relationship of sites across the landscape; and

Rarity - defines how distinctive a site may be, based on an understanding of what is unique in the archaeological record and consideration of key archaeological research questions (i.e. some sites are considered more important due to their ability to provide scientific or cultural information). It may be assessed at local, regional, state and national levels.

8.2.2 Assessment of Scientific Significance

Archaeological Research Potential

Teatree Creek 1

Creek lines within the area are likely to contain evidence of past Aboriginal activity. Within the region, stone artefact sites are one of the most common site types. A moderate number of artefacts, of a type and material found commonly in the region, were located at the site. Given the relatively undisturbed nature of the site, its location adjacent to a creek tributary and swampy area, and its proximity to a confluence of Teatree Creek, it is considered likely to contain substantial in situ archaeological deposit.

Teatree Creek 2

Creek lines within the area are likely to contain evidence of past Aboriginal activity. Within the region, stone artefact sites are one of the most common site types. Only one artefact, of a type and material found commonly in the region, was located at the site, despite a high level of ground visibility. Given the relatively disturbed nature of the site caused by construction of the nearby transmission line and use of the vehicle track, its distance from the main channel of Teatree Creek, and the lack of any other artefacts identified, the site is considered unlikely to contain substantial in situ archaeological deposit.

Rarity

Teatree Creek 1 & 2

Stone artefact sites are relatively common within the local region, and as such, these sites are not considered to have archaeological rarity.

Representativeness

Teatree Creek 1

Stone artefact sites are one of the most common site types previously recorded within the local region. Such site types represent a continuity of use of the landscape, particularly water resources, across the study area. Teatree Creek 1 is considered likely to contain an archaeological deposit of some complexity, though still representative of Aboriginal use of the area. Given the relatively undisturbed nature of the area, it is considered that subsurface deposit at Teatree Creek 1 is likely to be a good representative sample of its type in this region.

Teatree Creek 2

Stone artefact sites are one of the most common site types previously recorded within the local region. Such site types represent a continuity of use of the landscape, particularly water resources, across the study area. It is considered likely that a background scatter of artefacts is present throughout similar landscapes in the region. Teatree Creek 2 is likely to represent such background Aboriginal activity within the region. Given the relatively disturbed nature of the site caused by construction of the

nearby transmission line and use of the vehicle track, this site is not considered to be a good representative sample of its type in this region.

8.2.3 *Summary of Scientific Significance*

Based on current scientific evidence, Teatree Creek 1 is considered to have moderate-high significance, and Teatree Creek 2 is regarded as being of low archaeological significance.

8.2.4 *Assessment of Aboriginal Cultural Significance*

Aboriginal communities who were consulted throughout this project have indicated that, while all Aboriginal heritage sites recorded contain intrinsic cultural significance, there are no additional specific cultural significances attached to the identified sites.

8.2.5 *Summary Statement of Significance*

Teatree Creek 1 is considered to have moderate-high significance, and Teatree Creek 2 is regarded as being of low archaeological significance. There are also creek lines and swampy ground in the north east of the study area. As in the south west corner of Verons Estate, this area has been subjected to relatively low levels of disturbance. Therefore, here, and on the western side of Lot 25 which is within c.50m of the main channel of Teatree Creek, there is potential for relatively intact archaeological deposits to be present (although it is predicted that the majority of archaeological deposit between St Georges Basin and Swan Lake, is likely to be found in the vicinity of the larger Teatree Creek). Such archaeological deposits may not have been identified during the current survey due to poor ground surface visibility and difficulty in accessing certain areas, and would have the potential to contribute to an understanding of past Aboriginal use of the local area.

8.3 **Historic Heritage Significance**

The physical evidence of past activities is a valuable resource that is embodied in the fabric, setting, history and broader environment of an item, place or archaeological site. The value of this resource to a community can be evaluated by assessing its cultural and natural heritage values. “Cultural significance” and “heritage value” are terms used to express the intangible and tangible values that a community places on an item or place, and the response that it evokes in the community. Assessment of significance will provide the framework on which the development of management strategies, designed to protect an item or place for future generations, is based (Bickford & Sullivan 1984; NSW Heritage Office 1996).

Criteria developed by the NSW Heritage Office (now Heritage Branch, Department of Planning) were designed to assess and identify the heritage significance of items, places and archaeological sites in NSW (NSW Heritage Office 2001). These criteria are derived from the Burra Charter criteria of aesthetic, historic, scientific, social or spiritual value for assessing cultural significance for past, present and future generations (Australia ICOMOS 1999). An item will be considered to be of State (or local) significance if, in the opinion of the Heritage Council, it meets one or more of the seven criteria.

8.3.1 *Assessment of Historic Heritage Significance*

As confirmed by the historic heritage background review and the field survey, there are no items or places of historic heritage significance within or near the study area. However, the Verons Estate subdivision of 32 eight hectare lots dating to 1920 has

historic significance and complies with Criterion a *Importance in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area).*

9 Conclusions and Policy Recommendations

9.1 Preamble

Council's aim is that the study area is to be rezoned for residential use. The study area will require the construction of infrastructure to support residential use. Construction personnel involved in development works arising from the rezoning, including formalisation of the roads, erection of dwellings or installation of infrastructure, should be made aware of the statutory obligations for Aboriginal cultural materials, and management of impacts to the identified Aboriginal heritage sites.

Recommendation 1

Prior to the commencement of proposed infrastructure construction works, all on-site personnel should be briefed on the statutory requirements of the NPW Act and obligations regarding the protection of Aboriginal places or objects.

9.2 Aboriginal Heritage

The following recommendations are based upon the background research, archaeological survey and significance assessment as described in this document. The recommendations have been developed with input provided by Aboriginal community representatives during the consultation process, and during the field assessment.

Impacts to Aboriginal heritage sites, including the collection of artefacts, requires the prior written consent of the Director-General of the DECC, under Section 87 or Section 90 of the NPW Act. Should previously unidentified Aboriginal objects (which are most likely to consist of flaked stone artefacts made of silcrete) be discovered during construction works arising from the rezoning, the following procedures should be followed.

Recommendation 2

Should previously unidentified Aboriginal objects be discovered during the construction works, excavation or disturbance of the area should cease and the Cultural Heritage Unit of the DECC should be informed in accordance with Section 91 of the NPW Act. Works should not continue without the written consent of the DECC.

9.2.1 Teatree Creek 1

Teatree Creek 1 site is considered to have moderate–high significance and research potential. This site is located on land which is currently zoned Environmental Protection 7(a) (Ecology), which ensures that the site is protected. As such, the current zoning of this area should stand, and the road between Lots 24 and 25 in this area should not be formalised, so as to protect the site.

Recommendation 3

The current Environmental Protection 7(a) (Ecology) zoning on Lots 24 and 25 should be retained to protect Teatree Creek 1 from future development proposals.

Should the current Environmental Protection 7(a) (Ecology) zoning on Lots 24 and 25 be rescinded, approval should not be granted for residential or associated developments within the creek area. Any development that is proposed in the vicinity of Teatree Creek 1, or the western section of Lot 25, may require further archaeological investigation under a Section 87 Permit issued by DECC. Teatree

Creek 1 has the potential to reveal past Aboriginal activity within the landscape in the vicinity of Teatree Creek. This hinterland area has not previously been subject to subsurface archaeological work, and therefore archaeological investigation of this site is likely to increase the current scientific knowledge of the region, and particularly has the potential to contribute to the regional predictive model. A program of archaeological investigation is recommended, in order to obtain a representative sample of the high density of artefacts expected at this site.

Recommendation 4

A program of archaeological test excavation should be undertaken, under a Section 87 Permit prior to proposed developments in the vicinity of Teatree Creek 1 or any areas currently zoned Environmental Protection 7(a) (Ecology). An appropriate area for excavation would be 50m² adjacent to the creek and swamp at Teatree Creek 1, and 50m² in the western section of Lot 25 near Teatree Creek.

9.2.2 Teatree Creek 2

Teatree Creek 2 is considered to have low significance and research potential. As such, further archaeological investigation of this site is unlikely to increase the current scientific knowledge of the region. Nevertheless, any impacts to this site will require a Section 90 consent to destroy permit from DECC. As the artefact is located on the dirt vehicle track which comprises the road between Lots 23 and 24 and Lots 25 and 26, if this track is used as a formalised road, the site will be impacted. The local Aboriginal community may wish to remove the artefact prior to any development works and to monitor any earthworks that may impact the site.

Recommendation 5

The low level of significance and research potential of Teatree Creek 2 is such that no further archaeological investigation of this site is required. However, should any development, including formalising a road, be proposed in the vicinity of Teatree Creek 2, a Section 90 Permit will be required prior to construction works.

9.2.3 North East Corner

The creek lines and swampy ground in the north east part of the study area was inaccessible during the survey due to the dense vegetation. However, given the potential resources associated with area and the relatively low levels of disturbance, there is potential for relatively intact archaeological deposits to be present in this area. As such, if any development is proposed for this area, which extends through Lots 1, 2, 3 and 16, archaeological investigation under a Section 87 Permit issued by DECC should be undertaken. Archaeological deposits in this area have the potential to reveal past Aboriginal activity within the landscape between St Georges Basin and Swan Lake, although it is predicted that the majority of archaeological deposit is likely to be found in the vicinity of the larger Teatree Creek. Nevertheless, this hinterland area has not previously been subject to subsurface archaeological work, and therefore archaeological investigation of this site is likely to increase the current scientific knowledge of the region, and particularly has the potential to contribute to the regional predictive model. A program of archaeological investigation is recommended, in order to determine whether substantial archaeological deposit is present in this well-resourced area.

Recommendation 6

Proposals for development in the vicinity of the creek and swampy area on Lots 1, 2, 3 and 16, should be preceded by a program of archaeological test

excavation under a Section 87 Permit. An appropriate excavation methodology would include a series of 1m² pits located at 10m intervals along each side of the creek line within the study area.

9.3 Historic Heritage

No potential historic heritage items, places or archaeological sites were identified within or near the study area. Therefore, the rezoning and any subsequent development, including formalisation of the roads, erection of dwellings or installation of infrastructure will not have an impact on historic heritage. As such, no further investigations are required prior to rezoning. However, recognition of the Verons Estate 1920 subdivision lots should be included in the proposed rezoning.

Recommendation 7

The 32 eight hectare lots comprising Verons Estate 1920 subdivision lots should be recognised as integral elements of the rezoning and proposed future developments of the study area.

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Appendix A

Directive 2.3, Heritage Conservation, of Local planning directions issued, 19 July 2007, under section 117(2) of the EP&A Act

LOCAL PLANNING DIRECTIONS

Section 117(2) of the *Environmental Planning and Assessment Act 1979*

2.3 Heritage Conservation

Objective

- (1) The objective of this direction is to conserve items, areas, objects and places of environmental heritage significance and indigenous heritage significance.

Where this direction applies

- (2) This direction applies to all councils.

When this direction applies

- (3) This direction applies when a council prepares a draft LEP.

What a council must do if this direction applies

- (4) A draft LEP shall contain provisions that facilitate the conservation of:
- (a) items, places, buildings, works, relics, moveable objects or precincts of environmental heritage significance to an area, in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item, area, object or place, identified in a study of the environmental heritage of the area,
 - (b) Aboriginal objects or Aboriginal places that are protected under the *National Parks and Wildlife Act 1974*, and
 - (c) Aboriginal areas, Aboriginal objects, Aboriginal places or landscapes identified by an Aboriginal heritage survey prepared by or on behalf of an Aboriginal Land Council, Aboriginal body or public authority and provided to the council, which identifies the area, object, place or landscape as being of heritage significance to Aboriginal culture and people.

Consistency

- (5) A draft LEP may be inconsistent with the terms of this direction only if council can satisfy the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General) that the draft LEP complies with Part 5 of the *Heritage Act 1977*, and
- (a) the environmental or indigenous heritage significance of the item, area, object or place is conserved by existing or draft environmental planning instruments, legislation, or regulations that apply to the land, or
 - (b) the provisions of the draft LEP that are inconsistent are of minor significance.

Note: In this direction:

"conservation", "environmental heritage", "item", "place" and "relic" have the same meaning as in the *Heritage Act 1977*.

"Aboriginal object", "Aboriginal area" and "Aboriginal place" have the same meaning as in the *National Parks and Wildlife Act 1974*.

Heritage conservation is covered by a compulsory clause in the Standard Instrument (Local Environmental Plans) Order 2006. A LEP that adopts the Standard Instrument should identify such items, areas, objects or places of environmental heritage significance or indigenous heritage significance as are relevant to the terms of this direction on the Heritage Map and relevant Schedule of the LEP.

Appendix B

Log of Aboriginal Community Consultation

Stage 1 – Advisory Requests

Date	Organisation	Contact Person	Details
09-Jan-09	Milton Ulladulla Times	N/A	Ad to appear on Wednesday 14 January 2009, given response date of Wednesday 28 January 2009.
09-Jan-09	National Indigenous Times	Beverley Wyner	Ad to appear on Thursday 22 January 2009, given response date of Thursday 5 February 2009.
09-Jan-09	DECC	Paul House	Email requesting groups to consult (map of study area attached).
09-Jan-09	Registrar of Aboriginal Owners	Megan Mebberson	Email requesting groups to consult (map of study area attached). Email received 16/01/09 specifying that no Aboriginal owners are known for the area. Advised that contact should be made with Nowra LALC.
09-Jan-09	Shoalhaven City Council	Eric Hollinger	Email requesting groups to consult (map of study area attached). Email received 13/01/09 advising to contact Jerrinja LALC and Dharwal Aboriginal Corporation.
09-Jan-09	Jerrinja Local Aboriginal Land Council (JLALC)	Louise Tucker	Fax asking whether they are interested in being consulted and other groups to consult (map of study area attached). Email received the same day (9/01/09) confirming their interest to be consulted and involved in the assessment.
09-Jan-09	Native Title Services	N/A	Search of NNTT website of Shoalhaven LGA shows 11 claimant applications (none active): Kim Moran#3 for the Blue Mountains (dismissed); Jerrinja/Wandi Wandian People for West Nowra (discontinued); Dariwul People for Ulladulla/ Marulan/Wollongong (dismissed); Dariwal (KEJ Tribal Elders) for Ulladulla/ Marulan/Wollongong (rejected); Walbunja People for South of Jervis Bay to Narooma (dismissed); Gundu-ngura for Sydney – Camden (rejected); Wadi Wadi#2 for Illawarra (discontinued); Wadi Wadi#3 for Illawarra (withdrawn); Jerrungarugh People#2 for Shoalhaven Heads (dismissed); Bherri Werri for Jervis Bay Territory (discontinued); and Jerrungarugh Aboriginal People for waters surrounding Pig Island (dismissed).
13-Jan-09	Dharwal Aboriginal Corporation	Robbie Williams	Letter asking whether they are interested in being consulted and other groups to consult (map of study area attached).
16-Jan-09	Nowra Local Aboriginal Land Council	Adelle	Phone call to check whether the study area is in their boundary, and other groups to contact. She said it is in Jerrinja LALC's area but she would be interested in being informed of what's happening, as the LALC has members in the Sussex Inlet area. Suggested that the following may also be interested: Jerrinja Consulting (not sure if they still operate); Dharwal Housing Company; and Shoalhaven Elders. However, she was unable to supply contact details for them.
04-Feb-09	Jerrinja Consultants Pty Ltd	Graham Connolly	Fax asking whether they are interested in being consulted and other groups to consult (map of

			study area attached). Phone call received saying that the organisation whose contact details (including phone/fax numbers) were supplied by DECC used to look after Graham but no longer do. Tried to contact by mobile; left message.
04-Feb-09	South Coast Aboriginal & Elders & Friends Group Organisation	Lena Bloxsome	Letter asking whether they are interested in being consulted and other groups to consult (map of study area attached).
04-Feb-09	South Coast Aboriginal & Elders & Friends Group Organisation	Maureen Davis	Fax asking whether they are interested in being consulted and other groups to consult (map of study area attached).
04-Feb-09	Yuin Traditional Owner	Lionel P Mongta	Letter asking whether he is interested in being consulted and other groups to consult (map of study area attached).
04-Feb-09	Merrimans Local Aboriginal Land Council	N/A	Fax asking whether they are interested in being consulted and other groups to consult (map of study area attached). Phone call to say that they aren't interested in being consulted as it is out of their area.
04-Feb-09	Ulladulla Local Aboriginal Land Council	N/A	Email and fax asking whether they are interested in being consulted and other groups to consult (map of study area attached). Fax received 5/2/09 specifying that the study area is not in their area, and that they don't know of any groups.
24-Feb-09	Shoalhaven City Council	Joanne Scott	Contact made with the Aboriginal Liaison Officer of Council, supplying names of groups who we've tried to contact in writing. Joanne said that Dharwal Aboriginal Corporation was a housing company, the Ulladulla and Merrimans LALCs are not in this area, Lionel Mongta is too far south, Jerrinja Consultants is on the border of the Jerrinja LALC and does other consulting work, South Coast Aboriginal & Elders & Friends Group Organisation was represented by Doug Longbottom who was involved with Jerrinja LALC, and Jo hadn't heard of South East Coast Gadu Elders Aboriginal Corporation. Jo said that there is a meeting of Jerrinja LALC tomorrow and it may go into receivership, but she suggested that I contact Alfred Wellington, as he will be able to provide appropriate representatives for a survey.
25-Feb-09	South East Coast Gadu Elders Aboriginal Corporation	N/A	Rang phone number supplied but it is the Cobowra LALC. They gave a contact number for SECGEAC, but when rung it was found that this has now been disconnected. Tried to ring the mobile number provided by DECC but no answer, and no message service.

Stage 2 – Draft Methodology and Survey

Date	Organisation	Contact Person	Details
04-Feb-09	JLALC	Louise Tucker	Email with proposed survey methodology, development details and feedback form. Survey date to be confirmed. Received email 20/2/09 from Louise to say she is leaving JLALC and has

			passed on the methodology to Alfred Wellington.
24-Feb-09	JLALC	Alfred Wellington	Email noting that I would be in contact about the survey this week. Email received later that day to say he would mention the survey to the JLALC board members.
26-Feb-09	JLALC	Alfred Wellington	Phoned Alfred, who said that JLALC is under administration. He said that he has passed my email on about the survey and is sure that site officers will be provided. He gave me the administrator's number and said I should talk to Yee Ching or Jonathan Colbran about the arrangements for site officers. He said he'd be interested in looking at the report when it was drafted.
26-Feb-09	RSM Bird Cameron Partners (on behalf of JLALC)	Yee Ching Cheam	Tried to contact by phone twice; left messages. Sent email with survey details and requesting 2 site officers on 12 March.
27-Feb-09	RSM Bird Cameron Partners (on behalf of JLALC)	Yee Ching Cheam	Rang and Yee Ching said that RSM would no longer be acting as administrators for JLALC, and suggested that we should get in touch with Alfred to arrange the survey.
02-Mar-09	JLALC	Alfred Wellington	Told Alfred that Yee Ching had said that RSM would no longer be acting as administrators for JLALC. He said that he would contact the regional Aboriginal Land Council to try and organise for the site officers for the survey. I emailed Alfred the methodology with survey details, which he passed on.
05-Mar-09	New South Wales Aboriginal Land Council (NSWALC)	Kerry George	Phone call saying that they had contacted one site officer and were waiting to hear back from a second. Emailed me through the engagement form, which I filled out and emailed back the following day.
05-Mar-09	NSWALC	Kerry George	Email identifying that two site officers were available to attend the survey.

Stage 3 – Draft Report

Date	Organisation	Contact Person	Details
14-May-09	JLALC	Kerry George	Sent draft report, requesting any feedback by 29 May 2009.
14-May-09	Nowra LALC	Adelle	Sent draft report, requesting any feedback by 29 May 2009.
29-May-09	NSW ALC	Kerry George	Email asking if there was any feedback on the draft report. Kerry replied to say that he has forwarded the draft report to Jerrinja LALC, but doubts that they will provide any feedback as the Office is not staffed and the LALC Chairperson and the Board are finding it difficult in keeping up with all the paperwork and reports they are receiving at present.
29-May-09	JLALC	Edward Stewart	Left phone message asking if he wanted to provide any feedback on the report.

Appendix C

Advertisements for Aboriginal Community Consultation

NEWS - National Indigenous Times

Public school fundi

By Michelle Draper

MELBOURNE

FUNDING for public schools will increase under the Rudd government over the next four years but will remain below the levels when the Howard government came into office, a report says.

An additional \$1.4 billion would be needed to restore funding to levels that applied when Labor was last in government, a new study has found.

The report, by Sydney University associate professor Jim McMurrow, found the public schools' share of federal education funding would increase from 35 per cent to

37.1 per cent by 2011-2012.

But the figure is still lower than the 43.1 per cent in place when the coalition won power in 1996, the report found.

Launching the report in Melbourne, Australian Education Union president Angelo Gavrielatos said the \$3.5 billion increase in funding announced by COAG (Council of Australian Governments) in November was "a welcome development" but was still insufficient.

"The majority of schools still miss out on what is needed," he told the AEU federal conference.

"We should be resourcing our schools to ensure we lift



NOTICE OF ABORIGINAL CONSULTATION

Verons Estate, Sussex Inlet

An Aboriginal Heritage assessment is proposed for the rezoning of land at Verons Estate, Sussex Inlet. Local Aboriginal parties wishing to be consulted for this assessment are invited to register a written expression of their interest by Thursday 5 February 2009 by fax to (02) 9330 6428, by email to jenna.watson@austrim.gov.au or by post to:

Attn: Jenna Watson
Australian Museum Business Services
6 College Street
Sydney NSW 2010

North Coast Institute

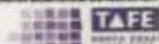
JOIN OUR TEAM

Have you got the skills we need?
Want to work in a flexible and professional environment?

The North Coast Institute encourages Aboriginal and Torres Strait Islander people to apply for our vacant positions.

Check our website on:

www.nci.tafens.edu.au/staff/employmentvacancies/default.htm



Aboriginal heritage – Bega Bypass

The Roads and Traffic Authority of NSW (RTA) is investigating options to bypass Bega on a new alignment of the Princes Highway between Bega Bridge and Finucanes Lane.

The RTA seeks the registration of Aboriginal groups and/or Aboriginal people who wish to be consulted on Aboriginal cultural heritage matters relating to the Princes Highway at Bega.

The cultural heritage assessment may result in the RTA applying for a Section 87 permit or a Section 90 consent under Part 6 of the National Parks and Wildlife Act 1974 and may also be used in the assessment of the impact of the project under the Environmental Planning & Assessment Act 1979.

Registrations from Aboriginal groups and/or Aboriginal people wishing to be consulted must be received by phone or in writing by Friday 20 February 2009.

To register your interest, please contact:

Agnes Donovan, Aboriginal Cultural Heritage Advisor
(02) 4321 2767 or PO Box 477, Wollongong NSW 2520
or email agnes_donovan@rtanew.gov.au

Notice of Aboriginal Consultation

Verons Estate, Sussex Inlet

An Aboriginal heritage assessment is proposed for the rezoning of land at Verons Estate, Sussex Inlet. Local Aboriginal parties wishing to be consulted for this assessment are invited to register a written expression of their interest by Wednesday, 28 January 2009, by fax to (02) 9320-6428, by email to Jenna.Weston@austmus.gov.au or by post to:

Attn: Jenna Weston
Australian Museum Business Services
6 College Street
Sydney NSW 2010

Appendix D

Summary Table of Previous Local Aboriginal Heritage Investigations

Reference	Location	Type of Investigation	Findings	Distance from Study Area
Kuskie (1997a)	Cudmirrah National Park	Archaeological survey for proposed road upgrades	15 scatters & 8 isolated finds identified, comprising over 649 flaked artefacts (including microlithic implements & blade technology) of predominantly silcrete (some jasper, chalcedony, chert, acid volcanics, rhyolite, quartzite, volcanic porphyry & quartz)	Immediately west, extending west & south up to 8km south
McConnell (1978)	Sussex Inlet & Swanhaven	Archaeological survey for proposed sewerage treatment works	No sites located	c.1 km east & c.3km south east
JMCHM (2002a)	Cnr Sussex Inlet Rd & The Springs Rd, Sussex Inlet	Archaeological survey for proposed subdivision	1 stone artefact scatter comprising 2 quartz flakes located on edge of track c.50m from ephemeral swamp. Assessed as having low significance	c.1.5km east
Kuskie (2000a)	Cudmirrah National Park	Archaeological recording & collection of artefacts within proposed road upgrades	187 surface artefacts from 11 sites (2–5, 9–11, 15 and 17–19) were collected and removed, to areas as close to their original position as possible, from the areas to be impacted by maintenance and drainage control of the roads	c.2km south west, up to 8km south
Blackwell (1982)	Jewfish Bay, Lakeshore Pde, Sussex Inlet	Archaeological survey for proposed rural subdivision	4 exposures of shell midden located, predominantly cockle (some pipi & oyster). Interpreted to be shellfish gathering sites, not 'home bases'	c.2km north east
Sullivan (1982)	Jewfish Bay, Lakeshore Pde, Sussex Inlet	Archaeological survey for proposed rural subdivision	8 exposures of shell midden located, predominantly cockle (some pipi, which would have been carried c.5km from the beach to the sites), some with flaked stone and hearthstones. 7 exposures assessed as not archaeologically significant, 1 being of some scientific significance	c.2km north east
Oakley (1996)	GSM Tower, adjacent to Sussex Inlet	Archaeological survey of proposed	1 shell midden comprising cockle, mud whelk, rock oyster & 2 silcrete flakes	c.2km south east

	Waste Water Treatment Plant	telephone tower	located in disturbed contexts on track near water-course; possibly dumped here from elsewhere	
Cane (1985)	Cudmirrah Beach, Swanhaven	Archaeological survey of proposed exfiltration system	No sites located	c.3km south east
Sullivan (1977)	Bherwerre Peninsula, Commonwealth Territory, Jervis Bay	Archaeological survey	47 shell middens located along the coast, 5 shelters with shell midden deposit, 3 stone artefact scatters located further inland, 3 axe grinding grooves on sand-stone shelves above creeks. Investigation revealed that pipi was exploited along Bherwerre Beach, and estuarine cockle and mud whelk along St Georges Basin, both of which reflect very localised shellfish consumption. Increased occupation (shellfish gathering, stone working) found near entrance of St Georges Basin estuary, with largest midden mounds at Christians Minde. The stone artefacts included microlithic technology, axes and hammerstones, and were predominantly made of local stone material – silcrete (from Bendalong and Mollymook) and quartz (derived from sandstone conglomerate), with some rhyolite. Concluded that as the Bherwerre Peninsula is not part of the normal coastal access route, it would have been visited specifically for food gathering, with estuary, rock platform and beach economies utilised	c.3km east, extending up to 18km east
Kuskie (1997b)	Fisherman's Rock, Cudmirrah National Park, Berrara	Archaeological management plan	Site complex of axe grinding grooves, shell midden, rock shelter & stone artefact scatter located on northern banks of Berrara Creek, assessed as having high local & moderate regional	c.5km south

			significance as a large camp site. Recommended that artefacts be collected in areas of proposed impact	
Kuskie (2000b)	Fisherman's Rock, Cudmirrah National Park, Berrara	Archaeological salvage collection of artefacts in car park and vehicle access road areas	1060 flaked, microlithic (21.5%) & transported predominantly silcrete (& small quantities of porphyritic rhyolite, quartzite, quartz, chert, chalcedony & volcanic) stone artefacts collected. Interpreted as evidence of general knapping & frequent microlithic manufacturing, food processing, & maintenance or production of wooden tools	c.5km south
Kuskie & Webster (2003)	Princes Highway, Wandandian	Archaeological survey for proposed aquaculture development	2 isolated flaked stone artefacts (silcrete & chert) located on track, and on disturbed watercourse. Assessed as having low significance. Interpreted as transitory movement within, or low intensity exploitation of, the local area	c.6km north west
Kuskie (2001)	Nebraska Estate, St Georges Basin	Archaeological assessment of proposed residential subdivision	No sites located; potential for flat adjacent to watercourse to have been a focus of occupation in this locality	c.6.5km north
Kuskie (1995)	Worowing Estate, Old Erowal Bay	Archaeological excavation of site 58-2-0298	1 silcrete broken blade located in 0.95m ³ excavated. Potential for further archaeological evidence across low spur (which has high integrity) assessed as high	c.9km north east
Colley (1988)	Vincentia	Archaeological survey for proposed urban development	Previously recorded axe grinding grooves, 3 low density stone artefact scatters, 2 isolated finds located. Further survey recommended, with larger sites predicted to occur on higher, well-drained ground near creeks	c.11km north east
Collier (1975)	Cemetery Point, Wreck Bay	Archaeological excavation	Midden deposit dated to 1500 BP, almost entirely comprising rock platform shellfish species (only occasional beach and estuarine species) and fish,	c.12km south east

			flaked stone, and shell fish hooks. Interpreted as a semi-permanent camp site occupied for shellfish gathering and near-shore fishing	
Silcox (1992)	Vincentia	Archaeological test excavation of midden & open camp site, for proposed expansion of sewerage treatment plant	Site complex situated on toe-slope of flat beach ridge which borders low-lying margins of Moony Moony Creek floodplain. Disturbed, medium-sized estuarine shell midden deposit on low spur ridge, found to comprise predominantly cockle, mud whelk & rock oyster, with some fish bone. Interpreted as specialised estuarine exploitation site, of low significance. Extensive open artefact scatter on ridge adjacent to midden, found to comprise 1139 silcrete, quartz, chert, quartzite, fine grained basic & acid volcanic flaked, bipolar & microlithic stone artefacts recovered from 181 test pits, representing a range of activities including stoneworking	c.13.5km north east
Oakley (2002)	Plantation Point, Vincentia	Archaeological survey of proposed sailing/yacht club	No sites identified	c.14km north east
JMCHM (2002b)	Jervis Bay Hotel, Huskisson	Archaeological survey for proposed expansion of hotel	No sites identified	c.15km north east
Stone (1995)	Between Narrawallee and Tabourie Lake	Archaeological assessment for Milton-Ulladulla Urban Expansion Area	5 stone artefact scatters & 2 isolated finds located (flaked silcrete, quartz & chert), the largest located on forested bench overlooking Croobyar Creek. Headlands, foreshores areas, ridgelines, benches above swampland and alluvial flats along Croobyar Creek assessed as being archaeologically sensitive	c.16km south west, extending up to 32km south west
Navin Officer (2001)	Between Narrawallee and	Archaeological assessment for	4 low density stone artefact sites (flaked	c.16km south west, extending

	Tabourie Lake	Milton-Ulladulla Sewerage Scheme Augmentation	silcrete, quartzite, quartz & chert), 2 shell middens (rock platform species), 11 PADs and a possible scarred tree located	up to 34km south west
Navin Officer (2005)	Croobyar Creek Bridge, Princes Highway, Milton	Archaeological test excavation for proposed bridge upgrade	206 flaked, bipolar & microlithic silcrete, quartz, quartzite & chert stone artefacts recovered from 18 test pits	c.18.5km south west
Navin Officer (2003)	Ulladulla	Archaeological test excavation for Milton-Ulladulla Sewerage Scheme Augmentation	13 flaked & microlithic stone artefacts of silcrete, quartzite & quartz recovered from 6 test pits	c.24km south west

Appendix E

New Site Cards

Teatree Creek 1

**Aboriginal Sites Register of NSW**

NPWS, PO Box 1967, Hurstville NSW 2220

Standard Site Recording Form

Site recorded by	Jenna Weston, Chris Langeluddecke	attached	
		Date of recording	12 March, 2009
Address/institution	Australian Museum Business Services (AMBS) 6 College St Sydney NSW 2010		

Version: June 1998

Data entered by:

Date entered:

Teatree Creek 2

**Aboriginal Sites Register of NSW**

NPWS, PO Box 1967, Hurstville NSW 2220

Standard Site Recording Form

Site recorded by	Jenna Weston, Chris Langeluddecke	Date of recording	12 March, 2009
Address/institution	Australian Museum Business Services (AMBS) 6 College St Sydney NSW 2010		

Version: June 1998

Data entered by:

Date entered: