# Proposed subdivision of Lot 2 DP867104 Banyandah Street, South Durras
# Aboriginal Archaeological Assessment

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A Report to Michelle Halemai
3 Mill Close
South Durras NSW 2536

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## 1. SUMMARY

### 1.1 Introduction

New South Wales Archaeology was commissioned by Michelle Halemai (the proponent) in September 2004 to undertake an archaeological assessment of Lot 2 DP 867104, Banyandah Street, South Durras, NSW.

The proponent is planning to subdivide the property. To date there is no subdivision layout or plan relating to the property. The final number of subdivided lots and the subdivision layout will be formulated on the basis of the results and recommendations ensuing from a number of studies including the archaeological assessment.

This Aboriginal archaeological assessment has been undertaken for the purposes of identifying whether or not any Aboriginal sites or archaeologically sensitive landforms are present in the proposal area.

### 1.2 The Archaeological Study

An archaeological investigation for Aboriginal archaeological sites within the proposal area has been conducted by Julie Dibden and Andrew Pearce, New South Wales Archaeology Pty Ltd, and Violet Parsons, Batemans Bay Local Aboriginal Land Council.

The study has sought to identify and record any Aboriginal archaeological sites which may be present in the proposal area, to assess the archaeological potential of the landform elements present and to formulate management recommendations based on the results of background research, a field survey and site significance assessment.

The New South Wales National Parks and Wildlife Service (now incorporated in the Department of Environment and Conservation) has prepared a draft document which provides a series of guidelines regarding the assessment and management of Aboriginal cultural heritage in New South Wales. This report has been prepared in accordance with these draft guidelines (NSW NPWS 1997).

### 1.3 Previously Recorded Sites

A search of the New South Wales Department of Environment and Conservation Aboriginal Heritage Information Management System (AHIMS) has indicated that there are no previously recorded Aboriginal sites located within the proposal area (AHIMS #11004). A large number of sites are listed to be present in the immediate local area.

### 1.4 Results and conclusions

Field work was undertaken on 19th October 2004. The proposal area was subject to a comprehensive field survey. The field survey encompassed the entire property and can therefore be considered to have been comprehensive.

Three Aboriginal archaeological sites were recorded. Site 1 and Site 2 are each assessed to be of low archaeological significance. Site 3 is provisionally assessed to be of low/moderate archaeological significance. If impacts are proposed in relation to any of these sites management and mitigation measures will need to be implemented prior to the development of the proposal.

The majority of the property is assessed to be of low archaeological sensitivity. However one landform is predicted to be archaeologically sensitive (Survey Unit 4). If impacts are proposed for this landform further archaeological investigation will need to be undertaken for the purposes of clarifying its archaeological nature and significance. Survey Units 5 and 6 in addition are assessed to be potentially archaeologically sensitive however, given their nature and location, neither are expected to be impacted by the proposal.

Generally however, it is assessed that the proposed activity has very low potential to cause impacts to any Aboriginal archaeological sites of high archaeological significance.

1.5 Statutory Context

Sections 84 and 90 of the *National Parks and Wildlife Act 1974* (as amended) provide statutory protection for any physical/material evidence of Aboriginal occupation of NSW and places of cultural significance to the Aboriginal community.

The implementation of the Aboriginal heritage provisions of the Act is the responsibility of the NSW Department of Environment and Conservation. It is an offence to damage, deface or destroy an 'Aboriginal object' *irrespective of its nature or significance* without the prior consent of the Director-General of the NSW DEC.

The Act defines an Aboriginal 'object' as

> 'Any deposit, object or material evidence (not being a handicraft for sale) relating to indigenous and non-European habitation of the area that comprises New South Wales, being habitation before or concurrent with the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains'.

1.6 Recommendations

It is recommended that (see Section 12 for a full listing of recommendations):

- Sites 1 and 2 are assessed to be of low scientific significance only. The sites do not surpass any significance criteria thresholds. Accordingly, it is recommended that a management strategy of *unmitigated destruction* is appropriate in regard to both sites.

  Accordingly if the proponent proposes to subdivide any of the land in which Site 1 and Site 2 is situated s90 Consent should be sought from the Director-General Department of Environment and Conservation. Any s90 Consent application will need to be supported with written documentation from the Batemans Bay Local Aboriginal Land Council.

- If the proponent proposes to subdivide any of the land encompassed by Survey Units 4, 5 and 6 a small program of subsurface test excavation should be undertaken by a qualified archaeologist prior to the subdivision of the land for the purposes of clarifying the archaeological status of these areas.

  Ensuring from the results of this further work appropriate management and mitigation strategies can be duly formulated.

*Acknowledgements*

Gratitude is extended to the following people for their assistance in this project:

Violet Parsons, Batemans Bay Local Aboriginal Land Council

Chris Conway, Conway Burrows and Hancock


Figure 1 The proposal area (1:100,000 topographic map Batemans Bay Sheet 8926 1st ed.)

## 2. INTRODUCTION

New South Wales Archaeology was commissioned by Michelle Halemai in September 2004 to undertake an archaeological assessment of Lot 2 DP 867104, Banyandah Street, South Durras, NSW.

The proposal area measures ca. 4 ha in area. The proponent is planning to subdivide the property however to date there is no plan of the subdivision layout.

This Aboriginal archaeological assessment has been undertaken for the purposes of identifying whether or not any Aboriginal sites and/or archaeologically sensitive landforms are present in the proposal area. The archaeological assessment has been conducted in partnership with the Batemans Bay Local Aboriginal Land Council.

### 2.1 Report Outline

In accordance with the NSW Department of Environment and Conservation guidelines for archaeological survey reporting this report aims to document (NPWS 1997):

- the proposal (as much as is practicable in the absence of a subdivision plan);
- the potential impact of the proposal on any Aboriginal archaeological sites which may be present within the area;
- the participation of the Aboriginal community in the archaeological assessment;
- the methodology implemented during the study;
- the environmental setting of the study area in order to establish background parameters;
- a review of archaeological and relevant literature, heritage listings on the NSW Department of Environment and Conservation Aboriginal Heritage Information Management System and other relevant registers;
- any Aboriginal archaeological sites known to exist within the study area;
- a synthesis of local and regional archaeology;
- a predictive model of site location for the study area;
- the field survey strategy and results;
- the archaeological sensitivity of the study area and the potential impact of the development on the known and potential archaeological heritage; and
- a series of recommendations based on the results of the investigation.

### 2.2 Project Personnel

This archaeological investigation has been conducted by Julie Dibden and Andrew Pearce, New South Wales Archaeology, and Violet Parsons, Batemans Bay Local Aboriginal Land Council. Fieldwork was conducted in October 2004. This report has been written by Julie Dibden.

## 3. PARTNERSHIP WITH THE ABORIGINAL COMMUNITY

The study area falls within the boundaries of the Batemans Bay Local Aboriginal Land Council (BBLALC). Violet Parsons has represented BBLALC in this project. Mrs Parsons has participated in Aboriginal archaeological assessments over a thirty year period and accordingly has a vast body of prior experience in Aboriginal site assessment on the south coast.

All assessments in regard to the archaeological sensitivity and potential of the study area and recommendations were formulated jointly by Julie Dibden and Violet Parsons while in the field.

A draft copy of this report will be provided to BBLALC for review and endorsement. Mrs Parsons will provide written documentation which will set out BBLALC's view of the archaeological assessment and recommendations. The BBLALC document is required by NSW DEC and will need to accompany this archaeological report.

## 4. THE DEVELOPMENT PROJECT

The proponent is proposing to subdivide Lot 2 DP 867104, Banyandah Street, South Durras, into a number of residential lots. The number of lots and the layout of the proposal will be determined on the basis of the results of a number of studies including a fire assessment and this archaeological study.

However, it can be expected that the subdivision will entail the construction of a number of dwellings, access roads, a cleared Asset Protection Zone and the installation of services including water and power.

All of the above components of a subdivision will have the potential to cause direct impacts to any Aboriginal archaeological sites which may be present on the property.

## 5. STUDY METHODOLOGY

This Aboriginal archaeological study has included the following components:

- A NSW DEC Aboriginal Heritage Information Management System site search to determine whether or not previously recorded sites are present on the proposal area and to give consideration to the type of sites known to be present within the local area.
- A review of local and regional archaeological reports and other relevant documents in order to provide a contextual framework to the study and heritage management process.
- A comprehensive field survey of the study area aimed at recording Aboriginal sites, survey coverage data and assessing the archaeological potential of the various landform elements present.
- Documentation of survey results.
- An analysis of survey results.
- Site significance assessment.
- The formulation of management recommendations ensuing from the above.

### 5.1 Review of Existing Documentation

Background research has been conducted to determine if known Aboriginal archaeological sites are located in the vicinity of the development area and to facilitate site prediction on the basis of known regional and local site patterns in order to place the study area within an archaeological research and heritage management context.

The following information sources were accessed for this study:

- NSW DEC Aboriginal Heritage Information Management System.
- Relevant archaeological reports held in the NSW DEC Cultural Heritage Unit.
- Durras 8926-1S 4th ed. 1:25,000 topographic map.

### 5.2 Field Survey and Methodology

The field survey was carried out by three people on the 19th October 2004. The proposal area was located by recourse to a property plan supplied by Conway Burrows and Hancock. In addition the property boundary was delineated in the field by marker pegs.

Field survey was designed to encompass as much of the proposal area as possible. The survey was conducted on foot and was comprehensive. The survey methodology entailed walking parallel transects across individual archaeological terrain units (see below) with each surveyor situated ca. 3 m apart. Each terrain unit was surveyed until the entire area had been systematically inspected. This methodology enabled direct visual inspection of as much of the ground surface of each survey unit as practicable and to maximize the chance of inspecting all areas of ground exposure which were present. Given the systematic and comprehensive nature of the survey transects are not shown on Figure 3 in Section 8 for practical reasons.

The field survey was aimed at locating archaeological material (Aboriginal objects as defined under the Act) situated on or in ground surfaces. An assessment was also made of prior land disturbance, survey coverage variables (ground exposure and archaeological visibility) and the potential archaeological sensitivity of the land. All trees assessed to be of sufficient age as to bear evidence of Aboriginal scarring were examined.

Survey units have been defined as archaeological terrain units (a combination of landform element, gradient and aspect). Archaeological terrain units are defined as individual units of land that are bounded on all sides by different archaeological terrain units. The rationale for dividing the study area in this way is that each unit is assumed to potentially have been utilised differently by Aboriginal people and that this will result in variability in the nature of the archaeological evidence between different areas: archaeological terrain units are "…discrete, recurring areas of land for which it is assumed that the Aboriginal land use and resultant heritage evidence in one location may be extrapolated to other similar locations" (Kuskie 2000: 67). The employment of this methodology is useful for predicting the archaeological potential of different landforms in the study area. Both the predictive model of site location relevant to the study area and the results of the field survey assist in informing the archaeological potential of the different landforms within the study area.

Survey units inspected are described in Section 8 below.

## 6. LANDSCAPE CONTEXT

A consideration of the landscape is necessary in archaeological work in order to characterise and predict the nature of Aboriginal occupation across the land (NPWS 1997). In Aboriginal society landscape could be both the embodiment of Ancestral Beings and the basis of a social geography and economic and technological endeavour. The various features and elements of the landscape are/were physical places that are known and understood within the context of social and cultural practice.

Given that the natural resources that Aboriginal people harvested and utilised were not evenly distributed across landscapes Aboriginal occupation and the archaeological manifestations of that occupation will not be uniform across space. Therefore, the examination of the environmental context of a study area is valuable for predicting the type and nature of archaeological sites which might be expected to occur. Factors which typically inform the archaeological potential of landscapes include the presence or absence of water, animal and plant foods, stone and other resources, the nature of the terrain and the cultural meaning of a place.

Additionally, geomorphological and humanly activated processes need to be defined as these will influence the degree to which archaeological sites may be visible and/or conserved. Land which is heavily grassed will prevent the detection of archaeological material while land which has suffered disturbance may no longer retain artefacts or stratified deposits. A consideration of such factors assists in the formulation of site significance and site management assessment.

The following sections provide information in regard to the landscape context of the study area.

### 6.1 Topography, geology, climate and vegetation

The proposal area is located at the coastal village of South Durras situated on the South Coast of New South Wales. The property measures approximately 4 ha in area and is essentially a narrow rectangular shaped block (400 m east – west x ca. 100 m north – south).

The property is a bush block with several clearings associated with domestic usage. An occupied dwelling is present in the middle of the block.

Access to the property is via a forest trail which extends to the south between existing houses on Banyandah Street. From the forest trail a road extends eastward to the existing house.

The property is bounded to the north by existing houses (and at the east end by Banyandah Street itself), to the west by private property and to the south and east by Murramarang National Park. The eastern boundary of the property adjoins the Murramarang Eco Resort.

The western end of the property is situated on the crest of a spur. The remainder of the property slopes to the east into a 2$^{nd}$ order unnamed drainage line and small swamp. The property comprises as number of landforms including a spur crest, spur side slopes, basal slope, swamp and hind dune.

The bedrock geology of the upper portions of the area is a sandstone conglomerate. Soils are grey silty loams which contain large quantities of sandstone shatter and pebbles from the parent rock. Soils are shallow and rocky.

The vegetation on the spur crest and upper slopes consists of a forest dominated by spotted gum (*Eucalyptus maculata*) and stringy bark with a pittosporum, exocarpus and wattle understorey. Ground cover species include burrawang (*Macrozamia*), lomandra and bracken. Lower slopes contain a mix of Bangalay (*Eucalyptus botryoides*) and Blackbutt (*E. pilularis*) with a ground cover of lomandra and bracken. The swamp in the eastern portion of the property contains tea tree and casuarina.

The climate of the area is described as meso-thermal. Precipitation is uniformly distributed throughout the year and summers are long and mild. (Kalma and McAlpine 1978).

The property has undergone relatively extensive ground surface disturbance presumably over a long period of time. The majority of that disturbance appears to be associated by numerous clearing events probably associated with bushfire protection. Numerous graded piles of soils and vegetation are present

across the property particularly behind the existing houses which border the north boundary of the property. The presence of tree stumps are also evidence of prior logging.

An old forest trail traverses the property in a north south orientation, extending south from Banyandah Street. This track is deeply incised through the soil profile up to 40 cm in depth. A track extends eastward from the trail providing access to the existing house. Blue metal and other road base rocks are present along both road surfaces. Graded water diversion drains also extend from the tracks.

The southern boundary of the property is generally cleared of understorey associated with bushfire protection.

The area occupied by the existing house contains in addition numerous enclosures, sheds, a water tank, some landform terracing, and driveways and parking areas. This area which measures ca. 75 m x 75 m is a highly disturbed.

A cleared area is situated at the east end of the spur and is currently grassed. Below this area and further to the east the natural drainage depression has been artificially widened and deepened apparently for the purposes of channelling water through pipes present under Banyandah Street. Further to the east the swamp depression appears to be generally unmodified although a fence extends through it in an east-west orientation. All land situated to the north of the swamp borders Murramarang Resort carpark and appears to be generally disturbed as a result of carpark, road and drainage construction.

In summary the property would have provided Aboriginal land users with a variety of edible plant and faunal species. The swamp is likely to have been a source of reliable water. In addition the area is situated in close proximity to a variety of additional resource zones (*eg* the ocean) that would have been easily reached from the study area. Such Aboriginal occupation of the proposal area is likely to have resulted in the discard of stone artefacts and food remains such as shell.

However a long period of European land usages at the property has resulted in a reasonably heavily disturbed environment. The consequences of this prior disturbance is that by and large any Aboriginal sites which may be present are likely to have been correspondingly disturbed.

Plate 1 Survey Unit 4 taken from south boundary looking 270º.


Figure 2 Location of the proposal area and topographic context (Durras 8926-1S 4th ed. 1:25,000 topographic map: GDA)

## 7. ARCHAEOLOGICAL CONTEXT

### 7.1 Social geography

A deep understanding of social geography which obtained in the local area is limited given the absence of reliable information. The main sources of information relating to Aboriginal life in south east come from Howitt and Mathews, both of whom obtained information between the years 1880 and 1900. During this time Aboriginal people had adjusted to the new settler economy and accordingly, the information recorded at this time is limited in regard to pre-European social life and geography. In addition, the work of both Howitt and Mathews is complicated further by the nature of their assumptions regarding Aboriginal society; "…they were working with ethnographic models which laid emphasis on a rather limited view of social and cultural life" (Rose 1990: 8). The work of Matthews is regarded as "slight and unreliable" (Flood 1982: 8) and Howitt, who collected information by questionnaires, is often found to be contradictory.

Relying heavily on these early writers, Tindale (1974) defined 'tribal' groups in this area: according to Tindale the study area lies within the country of the Walbanga people. Tindale's (1974) modeling was based on an uncritical adoption of the Radcliffe-Brown model of social organization in which the band is perceived as the most important structural feature in Aboriginal social organisation. Tindale's tribal boundaries were largely defined according to what he understood to be language groups (Flood 1980: 107). Tindale's work was conceptualized according to a model of band social organisation in which the 'horde' or clan was considered to be the group which possessed political power and proprietary rights to land (Rumsey 1989: 70). The 'tribes' which Tindale determined to have existed were seen as coterminous with language groups with the implication that these groupings were territorial units.

The assumptions inherent in this conflation of language group with tribe are no longer seen to be relevant, and furthermore the concept of tribe as a territorial group is not regarded as being correct. In Aboriginal society people were multilingual rather than monolingual; therefore conceiving of language groups as bounded social groupings is not appropriate (Rumsey 1989: 74). In the Radcliffe-Brown model the land/language relationship was seen as indirect: the estate of a tribe was seen as the aggregation of all the clan estates who spoke the same language. This relationship is know viewed to be direct – it is recognised that the importance of land/language relations in Aboriginal society is that particular languages and particular tracts of country were directly linked according to Dreaming activity (Rumsey 1989: 74-75).

Previously it was assumed that tribes or language groups functioned as politically cohesive corporate groups, however, more recently it has been recognised that linguistic groupings do not structure the Aboriginal social and geographical landscape. Sutton and Rigsby (1979: 722) argue that Tindale's tribal boundaries are not meaningful at either a demographic or political level.

Howitt (1904) defined the Yuin tribal area as extending from Cape Howe in the south to the Shoalhaven River in the north. Howitt recorded information provided to him by Aboriginal people during the 1880's relating to socially sanctioned marriages which extended over a large area from coast to the tablelands. It is generally understood that movement of individuals and small groups occurred between the coast and tablelands and that relationships had the potential for both amity and conflict (Flood 1980; Rose 1990).

While a persons Yuin identity derived from both mother and father more fine grained aspects of identity which are likely to have prevailed include totemic identity and specific relationships to country inherited via birth rights, place of birth and so on (Rose 1990). In addition people would have traveled to and resided in different tracts of country, forging temporary groups of varying personnel and clan composition for the fulfillment of a variety of economic, familial and ceremonial purposes. Certainly archaeological conceptions of social groupings need to consider the multidimensional nature of groups based on clan, gender and age identities which are likely to have been both contemporaneously and generationally fluid.

Wesson (2000) has defined the multi-dimensional aspect of Aboriginal social geography in the region based on habitual place of residence, dominant mode of livelihood and language. The study area is situated within the area named as Kurregal/Kurial or northern fisher people. The Dhurga (Thoorga)

language was spoken over a large area extending from Jervis Bay in the north to Wallaga Lake in the south and west to Braidwood (Eades 1976). Wesson (2000) defines a local variant of the Thoorga named Thurumba/Mudthung as spoken in the area in which the proposal area is situated.

The study area is located within the Batemans Bay Local Aboriginal Land Council area.

## 7.2 Previously Recorded Sites

A search of the NSW DEC Aboriginal Heritage Management Information System (AHIMS #11004) was undertaken for an area which measures 16km² situated between eastings 253000-257000 and northings 6048000-6052000.

Thirty seven Aboriginal sites are recorded on AHIMS as being present within the site search area, none of which are situated within the proposal area. The AHIMS register only includes sites which have been reported to NSW NPWS. Accordingly, this search cannot be considered to be an actual or exhaustive inventory of Aboriginal sites situated within the local area. Generally, sites are only recorded during targeted surveys undertaken in either development or research contexts. It can be expected that sites may be present in the study area but that to date they have not been recorded and/or reported to NSW DEC.

The following discussion in Section 7.3 will present a review of previous archaeological work in the region for the purposes of producing a predictive model of site type and location for the study area.

## 7.3 Archaeology – The local area

On the basis of archaeological research it is known that Aboriginal people have occupied Australia for at least 40,000 years and possibly as long as 60,000 years (Mulvaney and Kamminga 1999: 2). By 35,000 years before present (BP) all major environmental zones in Australia, including periglacial environments of Tasmania, were occupied (Mulvaney and Kamminga 1999:114).

At the time of early occupation Australia experienced moderate temperatures. However, between 25,000 and 12,000 years BP (a period called the Last Glacial Maximum) dry and either intensely hot or cold temperatures prevailed over the continent (Mulvaney and Kamminga 1999: 114). At this time the mean monthly temperatures on land were 6-10ºC lower; in southern Australia coldness, drought and winds acted to change the vegetation structure from forests to grass and shrublands (Mulvaney and Kamminga 1999: 115-116).

During the Last Glacial Maximum at about 24-22,000 years ago, sea levels fell to about 130m below present levels and accordingly, the continent was correspondingly larger. With the cessation of glacial conditions, temperatures rose with a concomitant rise in sea levels. By ca. 6000 BP sea levels had more or less stabilised to their current position. With the changes in climate during the Holocene Aboriginal occupants had to deal not only with reduced landmass, but changing hydrological systems and vegetation; forests again inhabited the grass and shrublands of the Late Glacial Maximum. As Mulvaney and Kamminga (1999: 120) have remarked:

> When humans arrived on Sahul's shores and dispersed across the continent, they faced a continual series of environmental challenges that persisted throughout the Pleistocene. The adaptability and endurance in colonising Sahul is one of humankinds' inspiring epics.

Occupation of the NSW south coast dates from at least 20,000 years ago as evidenced by dated sites at Burrill Lake (Lampert 1971), Bass Point (Bowdler 1970) and two sites near Buchan in Victoria; Cloggs Cave (Flood 1980) and New Guinea 2 (Ossa *et al* 1995). The Bulee Brook 2 site in the south coast hinterland ranges, excavated by Boot (1994), provides evidence that occupation of this zone had occurred by at least 18,000 years ago. These known Pleistocene occupation sites are few on the south coast; the majority of recorded sites date from the mid to late Holocene at the time when the sea more or less stabilized to its current level. It is nevertheless reasonable to assume that the Durras area was occupied and utilised by Aboriginal people from the late Pleistocene onwards.

Numerous studies have been undertaken, both in an academic and consultancy context, in the broader region of the New South Wales south coast. Consideration of a predictive model of site type and site location within a geographical context relevant to the study area can be made through recourse to these previous studies. From this a contextual and relevant assessment of the archaeological potential of the study area can be formed.

The contemporary consideration by a number of researchers with regard to the nature of Aboriginal occupation on the South Coast prior to European settlement has resulted in conflicting arguments. Perceived higher site densities on the coast compared to forested hinterland contexts have led researchers, until recently, to argue that the coast was the focus of Aboriginal occupation and landuse.

Poiner (1971) proposed semi-nomadic occupation of the coast during summer and nomadic occupation of both the coast and hinterland during winter. However, this model was based on scanty evidence (Hiscock 1982) and an assumption that hinterland sites were few in number, small and widespread (Boot 2002). The strong seasonal focus of Poiner's (1971) model is inappropriate however, given that the mesothermal climate which prevails on the south coast presents only limited seasonal variation (Boot 2002).

Attenbrow (1976) argued that the major determinant of Aboriginal land use would have been the carrying capacity of the land. While Attenbrow (1976) proposed that groups would have utilized the coast and inland at all times of the year she argued that in spring, summer and autumn more people in larger numbers would have occupied the coastal zone practicing a largely marine economy and in winter smaller groups would be spread more evenly across country subsisting on a higher proportion of land animals. She predicted that areas such as coastal margins and inland valleys would have supported larger populations than the mountain slopes or foothills.

The forest-woodland environment contains large numbers of land mammals and plants (Attenbrow 1976). Poiner (1976) and Attenbrow (1976) have argued that both inland and marine resources declined in both range and abundance during winter. Poiner (1971) argued that the sea was the source of the bulk of food resources.

Vallance (1983) argued that a range of subsistence strategies would have been pursued and that these would have varied both within and between seasons and from year to year. This shift away from a seasonal model has been further expanded by Boot (1994) who has predicted that based on the Vallance (1983) model larger archaeological sites could be expected to be situated in areas where large quantities of food are available, either on a single occasion or on a regular basis, with smaller sites located elsewhere reflecting short term occupation or movement between focused occupation sites. Based on work undertaken during his doctoral research Boot (1994) has argued that the hinterland occupation was "widespread and very dense…" during the past 4000 years.

One of the preliminary consultancy projects undertaken on the south coast was conducted by Sullivan and Gibbney (1978) for the Eurobodalla Shire Council. The study was aimed at identifying and recording locations containing evidence of Aboriginal and early non-Aboriginal occupation. Two hundred and eleven Aboriginal sites were listed during the survey. Site types recorded include shield and canoe trees, surface campsites, hatchet grinding grooves and stratified deposits including open shell middens and rock shelters (Sullivan and Gibbney 1978: 197).

From this time archaeologists began investigations in the south coast conducted within the context of the environmental impact assessment process.

The most exhaustive body of information relating to the South Coast was undertaken by undergraduate students at the Australian National University. The research focused primarily on the hinterland of the Batemans Bay region between Moruya and Ulladulla. Over 5,000 hours of field survey was undertaken covering over 1,000 kilometres of roads, tracks and exposures. In total, 2270 sites were recorded, 78 percent of which were identified in the hinterland and 22 percent on the coast (Knight 1996).

Treloar (1985) produced the first basic analysis of these recordings asserting that open artefact scatters are generally found on ridge lines and spurs where relatively level ground is available (Treloar 1985).

Proximity to permanent water sources was also found to be a factor relating to long term occupation of a site.

More recently Knight (1996) compiled and analysed this archaeological data at a basic level identifying several trends in site type and distribution. Over 55 percent of the sites recorded are located on high points such as ridges or hills, peaks, spurs or saddles. Over 12 percent occur on slopes of which foot and upper slopes are most common. Valley locations comprised 6.4 percent of the total number of sites and 13.5 percent occur within the ocean shoreline, including dunes, cliff tops and headlands. Approximately 7.4 percent of sites were found to occur near estuarine features such as lake shores and river banks.

Knight (1996) also records that almost 90 percent of all sites occur on landform units with a gradient of less than 6 degrees, with 73 percent of the total occurring on gradients of less than 3 degrees. Forty percent of sites are located within 60m of potable water, with large, complex sites occurring in close proximity to permanent supplies of fresh water in the hinterland.

Artefact scatters are notable for their small size with over 95 percent of artefact scatters recorded containing less than 50 artefacts. The average number of artefacts found at each site was only 7. The sites are generally confined to the surface with minimal potential for subsurface deposits, with the exception of depositional contexts such as creek beds and river terraces. Larger, more complex sites tend to be located at high linear feature junctions and in close proximity to permanent fresh water. Flakes, flaked pieces and chips dominate the stone artefact assemblages representing approximately 80 percent of artefacts found. Another 14 percent is represented by hammers and anvils with formal tools such as backed blades and scrapers comprising only 5 percent of assemblages. The primary raw materials used are silcrete and volcanics with quartz, chert and quartzite being used less commonly. Knight (1996) notes a clear emphasis upon the use of locally available material in stone artefact manufacture.

A number of studies have been undertaken in the Batemans Bay area within the context of environmental impact assessment.

Hughes (1982) surveyed a 200 x 50m area proposed for the development of a townhouse complex near Denhams Beach. The development site was located on a headland. On the southern side of the headland a stone artefact scatter and two isolated artefact finds were found. The site consisted of six artefacts made from silcrete, acid volcanic and feldspar porphyry. The two isolated finds included a quartz core and a quartz porphyry acid flake. The excellent visibility available to Hughes (1982) over the survey area led him to assert that these findings were a true reflection of prehistoric Aboriginal land use in the study area. The amount of archaeological material on this headland is considerably less than would be expected when compared with other headlands along the south coast. Hughes (1982) explains this lack of material as the likely product of restricted access to and from the area by the steep cliffs that back the platform around the headland.

Approximately four kilometers southeast of Batemans Bay Hughes (1983) surveyed an area in which Eurobodalla Site Council proposed to construct a 3.5km road connecting George Bass Drive in the south with Glenella Road in the north. Surface visibility was found to be poor along most of the route due to a dense cover of shrubs, grass and organic litter. However, areas with greatest visibility were those considered most likely to contain sites, such as flat areas along ridges or creek banks. Ridge tops tended to have only a thin veneer of soil and no colluvium which might have buried archaeological materials. Three Potential Archaeological Deposits were identified. One was located on the bank of a creek and two others were noted on ridge tops. However despite good visibility around each of these areas, no archaeological remains were found. An artefact scatter was located on the eastern bank of Short Beach Creek, consisting of three silcrete flakes and one quartz flake. Hughes (1983) considers the identification of only one site in the survey area to support the theory that sites away from the coastline tend to be relatively scarce in number and sparse in content.

Lance (1988) surveyed an area proposed for subdivision between Vista Avenue and Glenella Road, Batemans Bay, in grazing land and forest south of existing residential areas at Catalina Heights. The development was restricted to the ridges and slopes of this area, with creeks and valleys proposed as parkland. As such, greater attention was paid to the survey of ridge and slope landforms. Visibility was quite variable throughout the survey area, ranging from extremely poor in swampy, grassy areas to

between ninety and one hundred percent on vehicle tracks and exposures. Lance recorded one site and two isolated finds. The site, located on a gentle slope beside an ephemeral creek, comprised two artifacts: one made from a porphyry pebble fragment and a broken backed blade made from an unidentified fine siliceous material. One of the isolated finds was a quartz core found in an extensively disturbed area with other fragments of machine fractured quartz. A second isolated find was a fine grained siliceous flaked piece located on a saddle ridge.

Williams (1992) surveyed an area proposed for subdivision at Lots 22, 23 and 24, DP 1068, Clyde Road, Batemans Bay. The area is located north of the Clyde River and to the east of Clyde Road at approximately 2km north of the Princes Highway/Clyde Road intersection. A total of four sites were located with a combined count of twenty four artefacts. Artefact types included cores and unretouched flakes made from quartz, silcrete, quartzite, chert and volcanics. Several fragments of *Anadara* shell were also identified. The method of survey for this study comprised following existing tracks and a ridgeline which had good visibility and high potential for the identification of archaeological material. Consequently, the identification of all sites along the ridgeline was a product of such a survey strategy.

Officer and Navin (1995) investigated a 2.8 kilometre road route stretching from the Princess Highway at the Ridge Road east along Glenella Road to a section of George Bass Drive, Batehaven. The route included a range of landforms including ridge crests, simple and basal slopes and creek flats. Four artefact scatters and four isolated finds were located during the study. These scatters ranged in size from five to eighteen artefacts and were located predominantly on basal slopes fringing the flats and one scatter was found on a ridge crest saddle. Most of the thirty six artefacts located were quartz flakes and cores, with silcrete and porphyry flakes also found. One backed blade and two retouched flakes made from quartz were also located. Three of the sites found in this survey were salvaged prior to the commencement of roadworks (Officer 1997). Excavation recovered an additional thirty four artefacts not recorded during the first survey, including three microblades and a bipolar core as well as several quartz flakes and flake fragments.

Kuskie (1995) surveyed a thirty nine hectare property proposed for a rural/residential housing subdivision at Lot 8 DP 837396 located at the intersection of the Clyde Road and Princes Highway, North Batemans Bay. Kuskie (1995) recorded three artefact scatters and four isolated finds. The Liamena Sites 1, 3 and 4 consisted of artefact scatters of three, thirteen and two artefacts respectively. Raw materials included quartz, porphyry, silcrete and volcanics with a range of artefact types including flakes, cores and one blade. Sites 2, 5, 6 and 7 were isolated finds of silcrete flakes and a volcanic manuport. Very high levels of ground disturbance caused by heavy machinery and vegetation removal were noted at all sites. Sites were commonly located on simple, gentle basal slopes with two sites found along a ridge line or crest with low gradients. Most sites were noted to have a southerly aspect and to be situated within three hundred meters of potable water. Kuskie (1995) interpreted these findings as conforming to the results of previous studies in the area.

A 1.2 hectare area proposed for the upgrade of the intersection of Old Malua Bay Road (The Ridge Road) and Burri Road (Ridge Avenue), west of Malua Bay, was surveyed by Navin (1995). The survey area is situated on a hinterland ridge crest and associated slopes at ninety meters above sea level. All ground surface exposures were inspected with forty percent of the survey area estimated to have provided effective survey coverage. One open artefact scatter was located along Ridge Road and included five artefacts made from chert, quartz and silcrete. However the construction and maintenance of existing roads were found to have impacted on substantial portions of the ridge crest. It is likely that prior ground disturbance reduced the potential for recording archaeological sites.

Navin and Officer (1997) surveyed a 130 hectare area along Long Beach, Batemans Bay proposed for subdivision for residential purposes. The locale comprises ridge crests, sides, shoulders, saddles and flat elevated ground adjacent to creek flats and basal slopes. Much of the area had been heavily disturbed by the clearance of original vegetation, logging, army exercises, gravel quarrying and the clearance of ridge crests, slopes and flats for tracks. As such, Navin and Officer (1997) note that such extensive disturbance is likely to have destroyed many surface and subsurface archaeological deposits. Visibility was substantially higher on crests and spurs than on valley floors. Nevertheless, a total of nine artefacts were located distributed as two open scatters and three isolated finds. Artefact types included flakes, a core and a thumbnail scraper. Navin and Officer (1997) note that the results conformed to expected patterns of site type content and distribution for the region. Artefact scatters

exhibited low densities and technological diversity, except where they are located within close proximity to major water sources or wetlands.

Approximately seven kilometres south of Batemans Bay Williams (1997) surveyed a ca. four hectare area proposed for subdivision at Lot 5, George Bass Drive near Surf Beach. The area covers a range of topographic areas including spur crest, upper, mid and lower slopes and a drainage line. One small open artefact scatter was recorded on a spur crest and adjacent upper slope. The site was located within 125m of ephemeral water and 1.5-2km of permanent water. The site comprised six quartz artifacts all of which were unretouched with no formal types identified. All the artifacts tended to be small with a maximum size of 23mm recorded. Williams (1997) noted that the identification of sites was significantly hampered by poor surface visibility.

Barber (1998) undertook a survey of an area proposed for a rural/residential subdivision on Lots 363 and 364 DP809776, Long Beach Road. The study area measured approximately fourteen hectares. Barber (1998) identified two open artefact scatters and one isolated find on a ridge crest adjacent to a wetland and a saddle overlooking the wetland. The scatters were low density with twenty artefacts found at one scatter and six at the other. Both assemblages were dominated by quartz and no specific formal tool types were identified. All three sites were found within two hundred and fifty meters of potable water with easy access to both wetland and land based resources. Barber (1998) comments that visibility was generally poor across the area with graded tracks and eroded surfaces providing the only areas of good visibility. Survey along the edge of the wetland and drainage gully provided very low visibility due to vegetation cover. The most effective survey coverage was over the main ridge and spurs which coincided to those areas which were most highly disturbed. The identification of sites along these areas alone may therefore be a product of visibility and effective survey coverage.

Officer (1998) surveyed the proposed eastern extensions to Ridge Road at Malua Bay. In addition areas for a water reservoir, water main and associated pump station and sections of Burri Road were surveyed. In total, a stretch measuring approximately 600 meters in length was surveyed. In addition to relocating one of two previously recorded sites Officer (1998) recorded one artefact scatter comprising three quartz flakes and one rhyolite flake and an isolated find. Both sites were found in areas that had been subject to extensive disturbance primarily from the construction and maintenance of the existing roads. These tracks are noted to traverse those areas of highest archaeological sensitivity such as the ridge crests and gentle slopes where the two sites were identified. Such disturbance is noted to have hindered the ability to identify sites and heavily reduced the possibility of *in situ* archaeological deposit being present.

Kuskie (1998a) investigated five sections of George Bass Drive between Surf Beach and Batehaven. A total of 3.9 km of the George Bass Drive was surveyed, with approximately 2.8 km covering the same ground Hughes (1983) surveyed previously. Kuskie (1998a) was unable to locate any additional sites during his survey, and attributes the lack of sites to a combination of high levels of disturbance and the low archaeological potential of the landforms surveyed in relation to predictive models for the Bateman's Bay coastal hinterland.

Within this same area Kuskie (1998b) surveyed a 4-5% sample of a 100 hectare area of the Surf Beach Waste Management Site. Only one Aboriginal site was identified, comprising a porphyrytic rhyolite flake located in an easement adjacent to George Bass Drive. Kuskie judged the artefact to be an isolated discard event lost during the movement of Aboriginal groups between the hinterland and coastline along the ridgeline (Kuskie 1998b). The low level of Aboriginal evidence identified was seen to reflect low intensity usage of the area in the past as well post European ground disturbance.

Nearer to the study area Kuskie (2002a, 2002b) undertook extensive survey of a number of areas in Murramarang National Park prior to the construction and rehabilitation of roads and the establishment of new walking tracks and installation of facilities. Sites were recorded in the localities of Pebbly Beach, Durras North, Durras Lake, Honeysuckle Beach, North Head and Acheron Ledge. Within these areas Kuskie (2002a) divided survey areas into forty six units, representing specific combinations of landform element and class of slope. Despite disturbance to the area imposed by the removal of vegetation, timber harvesting and the construction of roads and walking tracks, bioturbation and erosion, a number of sites were identified within the survey area. A total of fifty five stone artefacts were recorded during the survey with locally available volcanic materials such as rhyolite dominating the assemblages. Quartz and silcrete artefacts were also recorded. Cores and flakes tended to be

represented equally amongst the assemblages, representing an unusually high frequency of cores. Six retouched flakes were also recovered.

Kuskie (2002a) records that in general, sites were located on simple slopes of very low gradient, but he comments that surface visibility was influential in the location and identification of sites. Distance to multiple resources zones, potable water and stone raw materials are further argued to be major factors affecting the location of activities and sites. Each of the areas covered in the survey feature a range of resources, good proximity to water, and flat, elevated and well drained land.

Navin and Officer (1995) conducted a survey of Lot 24 DP777407 at Forster Drive Bawley Point. The study area comprised 39.56 ha of land located adjacent to the southern foreshore of Willinga Lake. The area consisted of two spurlines separated by a low lying area. Four stone artefact scatters, one isolated find and two possible scarred trees were recorded. Four zones of archaeological potential were defined. Subsurface test excavation was recommended however, this work may not have been carried out.

Robert Paton Archaeological Studies (1995) conducted a survey of a section of the North Durras Road in respect of proposed road works. Two artefact scatters and one isolated find were recorded.

Allen (2003) conducted a survey of Lot 100 DP 755904, Durras Lake Road, South Durras. The study area measured 9,250m² in area and is situated approximately 1.5 km north of the study area. The site consisted on a two linear sand dunes which run north-south parallel to the coast. The largest of these dunes slopes down to the west into a low swale which in the south west contains ephemeral sedgeland. No sites were found despite good effective coverage. Allen (2003) considered this result to be a reasonably accurate reflection of the status of the study area.

Saunders (2004) conducted a survey of Lot 2 DP243451 at Bawley Point in respect of a proposed subdivision. The study area comprised gently inclined south east facing basal slopes of a low spur. The area is located at ca. 0.6 km west of the coast. No Aboriginal sites or areas of archaeological potential were recorded. The site was assessed to be of low archaeological potential generally given its location away from resources which are likely to have resulted in concentrated occupation.

Based on the above review and a consideration of the elevation, geology, hydrology and topography of the study area the type of sites known to occur in the region and the potential for their presence within the study area are listed as follows.

**Open Artefact Scatters of Stone Artefacts** are located either on the ground surface and/or in subsurface contexts. Typically stone artefacts recorded in open sites are representative of debris which results from flaking stone and will include unmodified flakes, cores and flaked pieces. Actual stone tools such as deliberately formed artefacts (such as scrapers, backed blades or adzes) or pieces which possess evidence of use are generally present in low frequencies only. The raw materials used for artefact manufacture in the local area include quartz, silcrete, volcanics, quartzite and chert.

Within the study area it is predicted that stone artefact occurrences will be assemblages of low density on the higher elevations and of higher density in the east close to the swamp.

The detection of artefact scatters depends on ground surface factors and whether or not the potential archaeological bearing soil profile is visible. Prior ground disturbance, vegetation cover and sediment/gravel deposition can act to obscure artefact scatter presence.

**Isolated Finds** are artefacts which occur singly without other associated or contextual evidence. They may represent random loss or deliberate discard. An isolated artefact can be true reflection of artefact density or rather, a result of low visibility variables. Actual isolated finds can occur anywhere in the landscape however their location can not be reliably predicted.

**Potential Archaeological Deposit (PAD)** PAD sites are soil deposits which are assessed as having a high likelihood of containing sub-surface artefacts. In Australian contexts stone artefacts and other archaeological features are located within soil profiles rather than in deposits created by the erosion of macro archaeological features (ie Tells which are formed by the collapse and erosion of buildings).

PAD sites can be actively aggrading landform features, shallow soil profiles on bedrock or the floors of rock shelters. PAD sites may occur in association with a surface scatter of stone artefacts or alternatively show no evidence of archaeological surface material. Generally, subsurface deposits are difficult to characterise on the basis of their surface artefacts.

The potential for subsurface deposits to be present in the study area is assessed to be high adjacent to the swamp where soils are deep and low elsewhere where soils are relatively shallow.

**Grinding Grooves** are always located on sandstone exposures and are the result of the manufacture and maintenance of ground edge tools. Such tools were generally made of stone, however bone and shell were also ground to fine points.

The location of sites with grinding grooves is dependent on the presence of a suitable rock surface, usually fine grained homogeneous sandstone, and a water source. Grinding groove sites may consist of a single groove, or a large number which are sometimes arranged in groups. They commonly occur as an open site, however, are sometimes found in shelter contexts. Usually grinding grooves are located on horizontal sandstone exposures, however, they can occasionally be found on vertical surfaces.

Given the absence of large sandstone exposures in the study area this site type will not be found during the study.

**Burials** Several Aboriginal burial sites are known to have been present within the wider region. Burials are generally only visible in areas where the deposit has been disturbed either by natural erosion or human activity. This site type is not usually found during field survey. The potential for burials to be present is assessed to be low.

**Rock Shelter Sites** consist of any form of rock overhang which contains artefacts and/or art. Common archaeological features of rock shelter sites are: surface artefacts, occupation deposit such as stone artefacts, shell, bone and charcoal, rock drawings, paintings and stencils, engraved imagery, potential archaeological deposit and grinding grooves.

Given the absence of large vertical stone exposures in the study area this site type is unlikely to be recorded.

**Scarred and Carved Trees** result from the removal of bark from trees by Aboriginal people for either domestic or ceremonial purposes. These site types can occur anywhere that trees of sufficient age are present, however, in an Aboriginal land use context would most likely have been situated on flat or low gradient landform units in areas suitable for either habitation and/or ceremonial purposes.

Bark removal by European people through the entire historic period and by natural processes such as fire blistering and branch fall, make the identification of scarring from a causal point of view very difficult. Accordingly, given the propensity for trees to bear scarring from natural causes their positive identification is impossible unless culturally specific variables such as stone hatchet cut marks or incised designs are evident and rigorous criteria in regard to tree species/age/size and it specific characteristics in regard to regrowth is adopted.

Nevertheless, the likelihood of trees bearing cultural scarring remaining extant and *in situ* in the study area is low given events such as land clearance and bushfires. Generally scarred trees will only survive if they have been carefully protected such as the trees associated with Yuranigh's grave at Molong where successive generations of European landholders have actively cared for them.

While not out of the question, this site type is unlikely to have survived and therefore be extant in the study area.

**Stone Quarry and Procurement Sites** are exposures of stone material which have been exploited by Aboriginal people as a source of raw material. These sites will commonly have evidence of exploitation including extraction and preliminary flaking preparation. The presence of these site types is dependent on the surface exposure of suitable stone. Quarries are a rare site type in this region. They are unlikely to be recorded during the current study.

## 8. SURVEY RESULTS

### 8.1 Survey Coverage Variables

Survey Coverage Variables are a measure of ground surveyed during the study and the type of archaeological visibility present within that surveyed area. Survey coverage variables provide a measure with which to assess the effectiveness of the survey so as to provide an informed basis for the formulation of management strategies.

Two main variables were used to measure ground surface visibility during the study; the area of ground exposure encountered and the quality and type of ground visibility (archaeological visibility) within those exposures.

The two visibility variables estimated during the survey are defined as follows:

Average Ground Exposure – a percentage estimate of the total area of ground inspected which contained exposures of bare ground; and

Average Archaeology Visibility – a percentage estimate of the average levels of potential archaeological surface visibility within those exposures of bare ground.

Based on the two visibility variables as defined above, a net estimate (Net Effective Exposure) of the archaeological potential of exposure area within a survey unit or set of units has been calculated. The Effective Survey Coverage (ESC) calculation is a percentage estimate of the archaeological potential of the ground surveyed; this calculation is defined and required by the NPWS.

Survey coverage is described in Table 1 below; the location of survey units is shown on Figure 3.

The survey area measured ca. 4 hectares. Approximately 3.2 hectares of this area was subject to comprehensive survey. Ground exposure of the area surveyed is assessed to have been ca. 0.166 hectares, with 0.1199 hectares of that area assessed to be archaeological visibility. Accordingly, effective survey coverage is calculated to have been ca. 3 % of the total survey area.

The ESC provides an estimate of the proportion of the total study area which provided a net 100% level of ground surface visibility (with archaeological potential). The ESC achieved in during the survey was reasonably high in Survey Units 1, 2 and 3. ESC is assessed to have been reasonably adequate for determining the archaeological nature of the area in these survey units. However, ESC was low in Survey Units 4, 5 and 6 and correspondingly the ESC in these survey units is assessed to have been inadequate for determining the archaeological status and nature of these units.

| Survey Unit | Landform | Survey Unit Area | Area surveyed | Ave. ground exposure | Ave. arch visibility % | Net effective exposure | Effective survey coverage % | No. of artefacts recorded | Predicted density of undetected artefacts |
|---|---|---|---|---|---|---|---|---|---|
| SU1 | Spur slope; aspect: 330º; gradient: 7º | 5000 m² | 95 % 4750 m² | 10 % 475 m² | 75 % | 356.3 m² | 7.1 % | 7 | Low; highly disturbed |
| SU2 | Spur crest; aspect: open; gradient: 1-2º | 7000 m² | 95 % 6650 m² | 5 % 332.5 m² | 75 % | 249.4 m² | 3.6 % | 0 | Low; highly disturbed |
| SU3 | Spur slope; aspect: 120º; gradient: 7º | 7500 m² | 95 % 7125 m² | 10 % 712.5 m² | 75 % | 534.4 m² | 7.1 % | 6 | Low; highly disturbed |
| SU4 | Basal slope; aspect: 90º; gradient: 2º | 7500 m² | 90% 6750 m² | 2% 135 m² | 40 % | 54 m² | 0.72 % | - | Moderate; generally disturbed |
| SU5 | Swamp | 11000 m² | 50% 5500 m² | 0 | 0 | 0 | 0 | - | Low/ moderate |
| SU6 | Hind dune; aspect: 240; gradient: 0-1º | 1000 m² | 75% 750 m² | 1% 7.5 m² | 75% | 5.6 m² | 0.6 % | 4 | Moderate; highly disturbed |
| **Total** | | **3.9 m²** | **31525 m²** | **1662.5 m²** | | **1199.7 m²** | **3 % average** | **17** | |

**Table 1**: Survey Coverage Data

8.2 Results: Aboriginal Heritage

Three Aboriginal sites were located during the field survey. These sites are described further below and their location is shown on Figure 4.

Site 1 grid reference: 255190e 6049600n north end - 255191e 6049552n south end (Hand GPS: WGS 84)

Seven stone artefacts were recorded in Survey Unit 1. The artefacts are situated on an old fire trail and within areas of bare earth exposures adjacent to the trail. The area is disturbed by original clearance, road construction and maintenance, and grading.

The artefacts are described as follows:

1. grey silcrete flake measuring 32 x 23 x 10 mm;
2. coarse grey silcrete flaked piece (large black and white inclusions) measuring 42 x 35 x 15 mm;
3. brown silcrete core; 1 rotation and 6 scars; measuring 43 x 34 x 15 mm;
4. grey silcrete flaked piece measuring 22 x 9 x 3 mm;
5. volcanic flaked piece; 80% pebble cortex measuring 56 x 30 x 25 mm;
6. volcanic flaked piece measuring 25 x 26 x 7 mm; and
7. quartzite flake; 90% pebble cortex; measuring 61 x 35 x 12 mm.

The artefacts were found distributed across an area measuring 60 x 8 (480m²). Ground exposure in that area is estimated to be 70% with 60% of that exposure assessed to be archaeological visibility. The site is assessed to be a low density scatter of stone artefacts. There is low potential for the wider area to contain subsurface artefacts.

Site 2 grid reference: 255270e 6049581 north end 255223e 6049488n south end (Hand GPS: WGS 84)

Six stone artefacts were recorded in Survey Unit 3. The artefacts are situated on various bare earth exposures extending from south and west of the existing house and northward to the northern boundary of the property. The area is disturbed by original clearance, house (and outbuildings and tanks) and driveway construction and usage and grading.

The artefacts are described as follows:

1. grey silcrete flake measuring 30 x 27 x 12 mm (behind house);
2. brown silcrete flake; feather termination; measuring 32 x 26 11 mm (behind house);
3. porphyry volcanic flaked piece measuring 39 x 22 16 mm (15m east of house);
4. porphyry volcanic flaked piece; 90% pebble cortex; measuring 66 x 58 x 24 mm (on carpark at house);
5. grey silcrete core fragment; broad platform; 1 rotation; 5 scars; measuring 43 x 40 x 15 mm;
6. grey/pink silcrete core fragment; 3 microblade scars; measuring 30 x 20 x 12 mm.

The artefacts were found distributed across an area measuring 100 x 50 (5000m²). Ground exposure in that area is estimated to be 10% with 70% of that exposure assessed to be archaeological visibility. The site is assessed to be a low density scatter of stone artefacts. There is low potential for the wider area to contain subsurface artefacts.

Site 3 grid reference: 255527e 6049491n (Hand GPS: WGS 84)

Four stone artefacts and a small amount of highly fragmented shell are present Survey Unit 5. Six pieces of cockle and a gastropod fragment were recorded. The artefacts are situated in a road gutter and at the base of a tree. The area is disturbed by original clearance, landform modification (road construction) and the construction of a carpark associated with the Murramarang Resort.

The site is probably a part of a previously recorded site (NPWS #58-4-788).

The shell present includes both rock platform and estuarine species. The presence of cockle (an estuarine species) in the suite of shell suggests that the soil may well be introduced from an estuarine

location. The shell is old and fragmented. Based on a surface inspection alone it is unable to be determined whether or not the shell is representative of midden material or natural processes.

The artefacts are described as follows:

1. brown volcanic flake; broad platform; measuring 30 x 27 x 7 mm;
2. milky quartz flake measuring 17 x 17 x 3 mm;
3. milky quartz flake measuring 21 x 11 x 3 mm;
4. brown volcanic flaked piece measuring 32 x 18 x 10 mm.

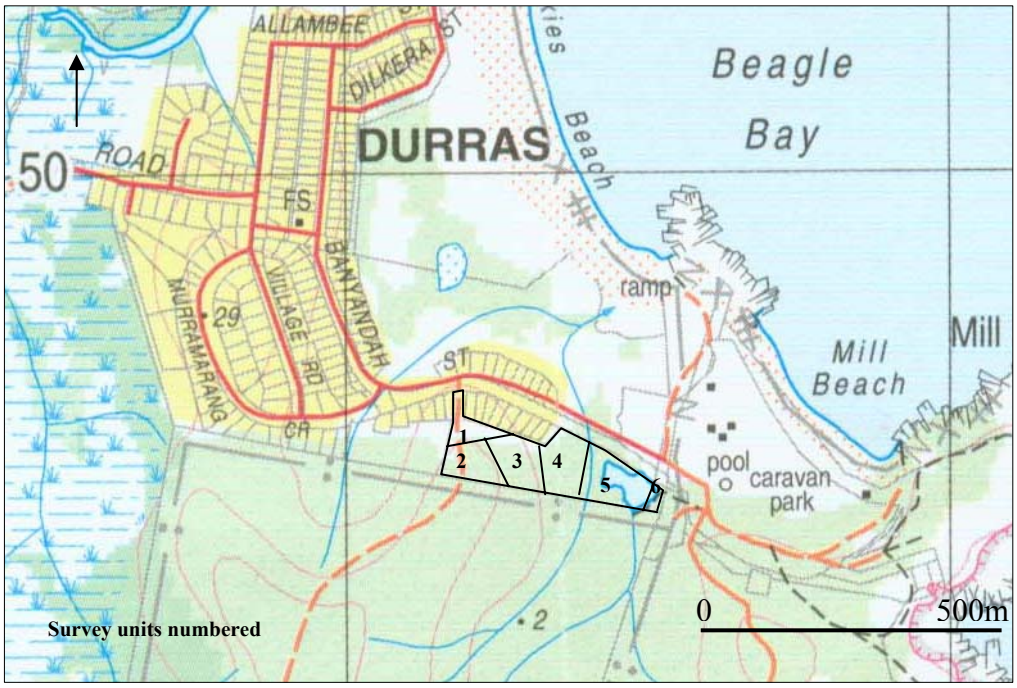


Figure 3 Location of Survey Units (Durras 8926-1S 4th ed. 1:25,000 topographic map: GDA).

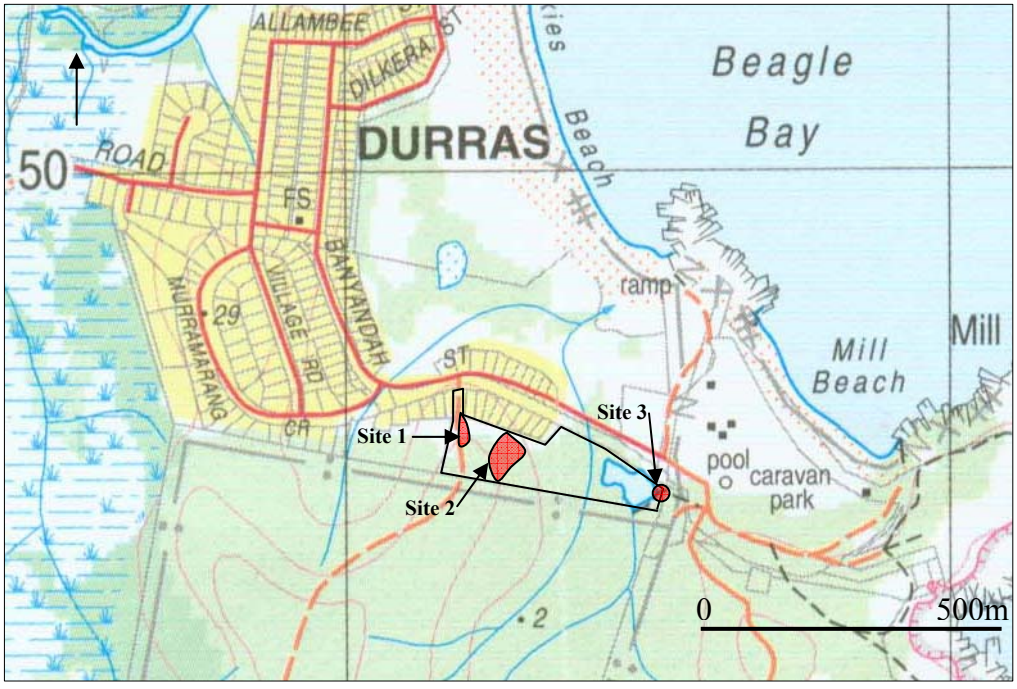


Figure 4 Location of Aboriginal Sites (Durras 8926-1S 4th ed. 1:25,000 topographic map: GDA).

Plate 2. Survey Unit 1 and Site 1 looking 170º

Plate 3. Survey Unit 3 and part of Site 2 looking 130º.

Plate 4. Survey Unit 3 looking 175º.

Plate 5. Survey Unit 3 looking 130º.


Plate 6. Survey Unit 6 and Site 3 looking 170º.

Plate 7. Survey Unit 5 looking 220º into the swamp.

## 9. SIGNIFICANCE ASSESSMENT

The information provided in this report and the assessment of significance of Aboriginal sites provides the basis for the proponent to make informed decisions regarding the management and degree of protection which should be undertaken in regard to the sites located within the study area.

9.1 Assessment Criteria Aboriginal Heritage

The Burra Charter of Australia defines cultural significance as 'aesthetic, historic, scientific or social value for past, present and future generations' (Aust. ICOMOS 1987). The assessment of the cultural significance of a place is based on this definition but often varies in the precise criteria used according to the analytical discipline and the nature of the site, object or place. The following criteria is derived from the relevant aspects of ICOMOS Burra Charter and NSW Department of Urban Affairs and Planning's 'State Heritage Inventory Evaluation Criteria and Management Guidelines'.

In general, Aboriginal archaeological sites are assessed using the following potential categories of significance:
- cultural value to contemporary Aboriginal people,
- scientific or archaeological value,
- aesthetic value,
- representativeness, and
- value as an educational and/or recreational resource.

Many sites will be significant according to several categories and the exact criteria used will vary according to the nature and purpose of the evaluation. Cultural significance is a relative value based on variable references within social and scientific practice. The cultural significance of a place is therefore not a fixed assessment and may vary with changes in knowledge and social perceptions.

*Aboriginal cultural significance* can be defined as the cultural values of a place held by and manifest within the local and wider contemporary Aboriginal community. Places of significance may be landscape features as well as archaeologically definable traces of past human activity. The significance of a place can be the result of several factors including: continuity of tradition, occupation or action, historical association, custodianship or concern for the protection and maintenance of places, and the value of sites as tangible and meaningful links with community ancestors. Aboriginal cultural significance may or may not parallel the archaeological significance of a site.

Most heritage evidence is valued by Aboriginal people given its symbolic embodiment and physical relationship with the ancestral past.

Consultation with the local Aboriginal community is necessary to identify the cultural significance attached to heritage sites and the broader landscape. The Batemans Bay Local Aboriginal Land Council may provide to the proponent a written expression of cultural value in regard to the sites located within the study area.

*Scientific value* can be defined as the present and future research potential of the artefactual material occurring within a place or site. This is also known as archaeological significance. The assessment of scientific value involves determining the potential of a place to provide information which is of value in scientific analysis and the resolution of potential archaeological research questions. Relevant research topics may be defined and addressed within the academy, the context of cultural heritage management or Aboriginal communities. Increasingly, research issues are being constructed with reference to the broader landscape rather than focusing specifically on individual site locales. In order to assess scientific value sites are evaluated in terms of nature of the evidence, whether or not they contain undisturbed artefactual material, occur within a context which enables the testing of certain propositions, are very old or contain significant time depth, contain large artefactual assemblages or material diversity, have unusual characteristics, are of good preservation, or are a constituent of a larger site complex. Increasingly, a range of site types, including low density artifact distributions, are regarded to be just as important as high density sites for providing research opportunities.

*Representativeness* of a place is a measure of the degree to which a place is characteristic of its type, content, context or location. Under this criteria a place may be significant because it is very rare or because it provides a characteristic example or reference. The criteria of representativeness is important given that the primary goal of cultural heritage resource management is to provide greatest protection to a representative sample of cultural heritage throughout a region. Accordingly, the more unique or rare evidence is, the greater its value as being representative in a regional context. Representativeness is assessed on criteria which includes a consideration of commonality, the extent to which the type of place is subject to existing or future impacts, integrity and whether or not the site is an outstanding example of its type in a region.

*Educational value* of a heritage resource is dependent on the potential for interpretation to a general visitor audience, compatible Aboriginal values, a resistant site fabric, and feasible site access and management resources.

*Aesthetic value* relates to aspects of sensory perception. This value is culturally contingent.

*General*

The principal aim of cultural resource management is the conservation of a representative sample of site types and variation from differing social and environmental contexts. Sites with inherently unique features, or which are poorly represented elsewhere in similar environment types, are considered to have relatively high significance.

The significance of a place can be usefully classified according to a comparative scale which combines a relative value within a geographic context. In this way a site can be of low, moderate or high significance within a local, regional or national context. This system provides a means of comparison, between and across places. However it does not necessarily imply that a place with a limited significance is of lesser value than one of greater significance rating. All places irrespective of significance are representative of a variety of behaviours and accordingly contribute to a broader understanding of Aboriginal social life.

9.2 Significance Value of Aboriginal Sites in the Study Area

Sites 1 and 2 are characterised as low density artefact scatters situated in moderately disturbed contexts. They each possess low aesthetic values given their nature and disturbed contexts. The educational value of each site is low particularly given their situation within private property and hence restricted access. The sites are common site types in the region. Given the low artefact numbers and predicted absence of any subsurface deposits each site is assessed to have low scientific values.

Neither site surpasses representative, aesthetic, educational or scientific significance thresholds and are each assessed to be of low archaeological significance within a local context.

Site 3 is characterised as a disturbed stone artefact and possible shell midden site. Artefact density at the site is unknown and can not be reliably predicted. The site possesses low aesthetic values given its disturbed context. The educational value of the site is low particularly given its presence within private property and hence restricted access. The site is a common site type in the region. The scientific value of the site cannot be reliably predicted on the basis of its surface attributes.

Site 3 does not surpass representative, aesthetic or educational significance thresholds. It is probable given the disturbance that it has previously suffered that it does not surpass scientific significance thresholds. The site is provisionally assessed to be of low/moderate archaeological significance within a local context.

Most Aboriginal sites have cultural value to the Aboriginal community given that they provide direct physical and symbolic linkages to their ancestral past and to the landscape.

## 10. STATUTORY INFORMATION

The *National Parks and Wildlife Act 1974 (as amended)*

The National Parks and Wildlife Act 1974 (as amended) provides the primary basis for the legal protection and management of Aboriginal sites within New South Wales. Implementation of the Aboriginal heritage provisions of the Act is the responsibility of the Environment Protection and Regulation Division of the NSW Department of Environment and Conservation (DEC).

The rationale behind the Act is the prevention of unnecessary or unwarranted destruction of Aboriginal objects and to actively protect and conserve Aboriginal objects where such action is considered warranted.

With the exception of some artefacts in collections, the Act generally defines all Aboriginal objects to be the property of the Crown. The Act provides various controls for the protection, management and destruction of these Aboriginal objects.

An 'Aboriginal object' is defined as

> 'Any deposit, object or material evidence (not being a handicraft for sale) relating to indigenous and non-European habitation of the area that comprises New South Wales, being habitation before or concurrent with the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains'.

In practice, archaeologists tend to subdivide the legal category of Aboriginal object into different site types which relate to the way artefacts are found within the landscape. The archaeological definition of a site may vary according to survey objectives, however it should be noted that single artefacts are protected under the Act.

Under the terms of the Act it is an offence for a person to disturb or excavate any land for the purpose of discovering, disturbing or moving an Aboriginal object without the written consent of the Director-General of the NSW DEC. Consents regarding the use or destruction of Aboriginal objects are managed through a NSW DEC permit system. The issuing of permits is dependent upon adequate archaeological review and assessment, together with an appropriate level of Aboriginal community liaison and involvement.

To excavate or disturb land for the purposes of discovering an Aboriginal object approval of a Section 87 Preliminary Research Permit application is required. To enable unmitigated destruction of Aboriginal objects a Section 90 Consent must be obtained. To enable the mitigated destruction of Aboriginal objects involving measures such as collection and salvage excavation a Section 90 Consent and Permit to Salvage is required.

An appeals process is available whereby an applicant, dissatisfied with the refusal of the Director-General to grant Consent or other conditions, may appeal to the Minister. The Minister may refuse to grant an appeal partially or wholly grant an appeal. The decision of the Minister on the appeal is final and binding on the Director-General and the appellant.

The Act, together with the policies of the NSW DEC provide the following constraints and requirements on land owners and managers:

- It is an offence to knowingly disturb an Aboriginal object or site without an appropriate permit;
- Prior to the instigation of any action which may conceivably disturb an Aboriginal object (generally land surface disturbance or felling of mature trees), archaeological survey and assessment is required;

- When the archaeological resource of an area is known or reliably predicted, appropriate land use practices should be adopted which minimise the necessity for the destruction of sites/Aboriginal objects, and prevent destruction of sites/ Aboriginal objects which warrant conservation;

- Documented and appropriate consultation with relevant Aboriginal Community representatives is required by the DEC as part of the prerequisite information necessary for endorsement of consultants recommendations in regard to the provision of Consents and Permits by the NPWS.

Penalties for infringement of the Act include up to 50 penalty units or imprisonment for six months, or both (or 200 penalty units in the case of a corporation).

## 11. MITIGATION AND MANAGEMENT STRATEGIES

The aim of this study has been to identify Aboriginal archaeological sites and/or areas of archaeological potential which may be present in the study area, to assess their significance and thereafter, to given consideration to their management within the context of the proposed development. Two low density artefact scatters (Site 1 and Site 2) and one artefact scatter and midden (Site 3) have been identified to be located within the property. In addition a potentially archaeologically sensitive landform has been identified (Survey Unit 4).

In the following sections a variety of strategies that can be considered for the mitigation and management of development impact to the identified Aboriginal sites and archaeologically sensitive landforms present within the study area are listed and discussed.

### 11.1 Management and Mitigation Strategies

Further Investigation

The current field survey has been focused on recording artefactual material present on visible ground surfaces. Further archaeological investigation entails subsurface excavation which is generally undertaken as test pits for the purposes of identifying the presence of artefact bearing soil deposits and their nature, extent, integrity and significance.

Further archaeological investigation in the form of sub-surface test excavation can be appropriate in certain situations. Such situations generally arise when the proposed development is expected to involve ground disturbance in areas which are assessed to have the potential to contain moderate to high density artefactual material. Additionally subsurface investigation is increasingly being undertaken for the purposes of characterising spatial variation in subsurface deposits across a range of landform elements.

Such a strategy is pro-active and enables the proponent to properly manage archaeological sites and potentially sensitive landforms prior to development activity occurring. Subsurface investigation provides a level of surety in regard to the archaeological status of a place so that informed management decisions can be duly made.

Test excavation can be undertaken in a variety of ways including hand excavation, shovel pits, auger holes, mechanically excavated trenches or surface scraps. Sub-surface test excavation can only be carried out after a Section 87 Permit is issued by the Director-General, NSW DEC.

If impacts are proposed for Site 3 (situated in Survey Unit 6) or Survey Unit 4 further investigation in the form of subsurface excavation is considered to be warranted. Effective survey coverage achieved during the current survey was generally low in Survey Unit 4 and at Site 3. The absence of a site recording in Survey Unit 4 may simply be a factor of low effective survey coverage rather than an accurate reflection of the archaeological status and significance of the unit. Similarly, low effective survey coverage in Survey Unit 6 (Site 3) prohibited a full assessment of the site to be made. Therefore subsurface investigation is proposed for these two locations (if impacts are proposed) for the purposes of clarifying the extent and nature of archaeological deposits present.

Ensuing from the results of subsurface investigation of Survey Unit 4 and Site 3 appropriate management and mitigation strategies can by duly made.

Subsurface investigation is *not* considered to be warranted in regard to the following survey units:

- Survey Unit 1
- Survey Unit 2
- Survey Unit 3

It is considered unlikely that the development will entail impacts to Survey Unit 5 (the swamp) however if impacts are proposed for this location subsurface investigation should precede such works in this unit.

Conservation

Conservation is a suitable management option in any situation, however, is not always feasible. Such a strategy is generally adopted in relation to sites which are assessed to be of high cultural and scientific significance, but can be adopted in relation to any site type.

When conservation is adopted as a management option it may be necessary to implement various strategies to ensure sites and 'Aboriginal objects' are not inadvertently destroyed or disturbed during construction works or within the context of the life of the development project. Such procedures are essential when development works are to proceed within close proximity to identified sites.

Any of the sites recorded on the proposal area are suitable to be considered within a conservation management framework, however, none have yet been identified as surpassing a significance threshold whereby conservation is considered to be necessarily warranted.

However, the subsurface investigation conducted in relation to the sites and survey units as identified above (under heading Further Investigation) may result in the formulation of recommendations for a strategy of conservation or conservation of sampled portions of sites.

Unmitigated Destruction

Unmitigated destruction of a site can be given consideration when a site is assessed to be of low or low/moderate archaeological and cultural significance and otherwise in situations where conservation is simply not feasible. In order to conduct unmitigated destruction of a site the proponent must apply for and obtain a Section 90 Consent from the Director-General, NSW DEC. Section 90 Consent applications must be accompanied by documentation from the local Aboriginal community supporting site destruction.

In the case at hand unmitigated destruction of Sites 1 and 2 is considered to be justified given the low significance rating they have each been accorded.

In order for the proponent to conduct unmitigated destruction of either of these sites s90 Consent will need to be sought from the Director-General DEC. The proponent will need to consult further with the Batemans Bay Local Aboriginal Land Council in order to obtain its written endorsement of the s90 Consent application.

If any of the above sites will not be subject to proposed impacts it is recommended that the proponent actively seek to conserve and protect the sites in question.

Mitigated Destruction

Mitigated destruction usually takes the form of partial site destruction and/or salvage prior to destruction. Such a management strategy is appropriate when sites are assessed to be of moderate or high scientific significance to the scientific and/or Aboriginal community and when avoidance of the site is not feasible. Salvage can include the surface collection or sub-surface excavation of artefacts as a condition of a Section 90 Consent issued by the Director-General, NSW DEC.

None of the sites present at the proposal area are assessed to warrant partial conservation or salvage as a condition of a s90 Consent on the basis of the current assessment. However, pending the results of the subsurface investigation (if this work is undertaken) a strategy of mitigated destruction may be proposed in relation to some of the sites or survey units for which it is recommended that further work be undertaken in.

Monitoring

Monitoring during construction for the purposes of identifying cultural material that may be uncovered during earth disturbance can be implemented as a management strategy. Monitoring is a reactive rather than pro-active management strategy, and as such, is not an ideal management tool in cultural heritage management. Monitoring as a management strategy should only be adopted, if at all, when all other management options have been considered and implemented.

Monitoring for artefacts is not a widely accepted method of management because sites of significance can be destroyed as monitoring is taking place and because it can result in lengthy and costly delays to development works if significant cultural material is uncovered. It is assessed that there is no scientific justification for monitoring to take place in the proposal area.

## 11. RECOMMENDATIONS

The following recommendations are made on the basis of:

- Legal requirements as set out under the National Parks and Wildlife Act 1974 (as amended) which states that it is illegal to deface or destroy an Aboriginal object or Aboriginal place in NSW without first obtaining consent of the Director-General of the NSW Department of Environment and Conservation (see Section 10 Statutory Information).
- The results of the investigation as documented in this report.
- An analysis of the survey results.
- Consideration of the potential nature of proposed impacts.
- Consultation with the Violet Parsons, Batemans Bay Local Aboriginal Land Council.

It is concluded and recommended that:

1. The proponent will need to undertake mitigation and management measures prior to development in regard to the Aboriginal sites and the potential archaeologically sensitive landforms situated within the proposal area.

2. Sites 1 and 2 are assessed to be of low scientific significance only. These sites do not surpass any significance criteria thresholds. Accordingly, it is recommended that a management strategy of *unmitigated destruction* is appropriate in regard to both sites. Ms Violet Parsons, Batemans Bay Local Aboriginal Land Council, has indicated that this strategy is appropriate.

   Accordingly if the proponent proposes to subdivide any of the land in which Site 1 and Site 2 are situated s90 Consent should be sought from the Director-General Department of Environment and Conservation. Any s90 Consent application will need to be supported with written documentation from the Batemans Bay Local Aboriginal Land Council.

   The proponent is reminded that s90 applications are reviewed by the DEC in conjunction with the relevant archaeological report and correspondence from the Local Aboriginal Land Council. S90 applications take at least 8 weeks to be processed by DEC.

3. If the proponent proposes to subdivide any of the land encompassed by Survey Unit 4, 5 and 6 a small program of subsurface test excavation should be undertaken prior to the subdivision of the land for the purposes of clarifying the archaeological status of these areas. Ensuing from such work appropriate management strategies can be duly formulated.

4. A single bound copy of this report should be forwarded to:

   Violet Parsons
   Batemans Bay Local Aboriginal Land Council
   PO Box 542
   Batemans Bay NSW 2536

5. Three bound copies of this report should be sent to:

   Dr Phil Boot
   Environment Protection and Regulation Division
   NSW Department of Environment and Conservation
   PO Box 2115
   QUEANBEYAN NSW 2620

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