Cultural Heritage Survey and Assessment
For
DP 1596 Ramsgate Estate, Wyee Point

Prepared by:

RPS Harper Somers O'Sullivan Pty Ltd

241 Denison Street,
Broadmeadow NSW 2292
PO Box 428, HAMILTON NSW 2303

T: 612 4961 6500
F: 612 4961 6794
E: enquiries@rpshso.com.au
W: www.rpshso.com.au

Prepared for:

Lake Macquarie City Council

Box 1906
Hunter Region Mail Centre
NSW 2310

Job No: 25757
Date: November 2009

Document Status

Version	Purpose of Document	Orig	Review	Review Date	Format Review	Approval	Issue Date
Draft A	Draft for Client Review	LN	DR	22.7.09	JH 22-7-09	D. Rigby	22-7-09
Draft B	Draft for Client Review	LN	DH	27.7.09	JH 30-7-09	D. Rigby	30-7-09
Final	Final report for client	LN	DR	12.11.09	JH 13-11-09	D Rigby	13-11-09

Disclaimers

EXECUTIVE SUMMARY

RPS Harper Somers O'Sullivan Pty Ltd (RPS HSO) has been commissioned by Lake Macquarie City Council (LMCC) to assess the potential Aboriginal and European cultural heritage of an area known as Ramsgate Estate, Wyee Point in the LMCC Local Government Area (LGA) to support a Stage 1 Local Environment Study (LES). The study area of approximately 37.5 hectares comprises all Lots in DP 1596 and Lot 1 in DP 124592, Wyee Point.

All procedures were conducted in accordance with the guidelines of the Department of Conservation and Climate Change (DECC) Interim Community Consultation Requirements (2005) with both Koompahtoo Local Aboriginal Council and Awabakal Traditional Owners Aboriginal Corporation participating in the project.

The archaeological pedestrian survey was conducted on Monday 6 July 2009. The survey area comprised a largely natural landscape. The north and north west of the Study Area is bordered by the shoreline of Lake Macquarie and an unnamed creek, whilst the southern boundary is marked by Saddlers Way. An earlier subdivision forms the eastern limit. While the Study Area was generally covered in eucalypt forest, a number of well used walking tracks gave access to all landform types. The lake foreshore was readily accessible although dense ground cover provided limited opportunity for surface visibility.

Two Aboriginal cultural heritage sites were identified as a result of this study.

- RPS HSO MwP1
  GDA E 361537 N 6332127 (Eastern Extent)
  GDA E 361046 N 6332379 (Western Extent)

- RPS HSO M1
  GDA E 361555 N 6331952

The RPS HSO midden with Potential Archaeological Deposit (RPS HSO MwP1) was recorded along the lake foreshore. As the same midden material is present in a number of exposures along the foreshore and to a lesser extent on the terrace, it could be assumed that the deposit is more extensive, but hidden by both vegetation and soil. To reflect this, the area was been designated as a midden with PAD with eastern and western extent coordinates. The RPS HSO midden (RPS HSO M1) was recorded on a lower slope approximately 80-100 metres south from the lake shoreline.

An investigation for potential historical archaeological sites in the area was conducted and no items of European cultural historical significance were observed.

The recommendations included in this report (Section 11) provide advice on the requirements necessary if disturbance to these Aboriginal cultural heritage sites is

proposed. Recommendations that address the concerns of the study area are detailed below:

Recommendation 1
Liaison established with the registered Aboriginal stakeholders and other interested parties as per the DECC Interim Community Consultation Requirements for Applicants (2004) during this project should be maintained until all issues in relation to the management of Aboriginal cultural heritage have been resolved;

With regard the management of RPS HSO MwP1:

Recommendation 2
Subject to further design and development of the subdivision layout, a series of test excavations should be carried out to determine the terrestrial extent of RPSHSO MwP1 by a qualified archaeologist in conjunction with the registered Aboriginal stakeholders.

If impact from the development to RPSHSO MwP1 is unavoidable, a *Section 87/90 Consent* application under the National Parks and Wildlife Act (1974) is required.

The research design developed for the *Section 87/90 Consent* application should incorporate an investigation into the complexity of the midden matrix to clarify the horizontal and vertical extent of the deposit above the two metre ASL contour line.

Recommendation 3
No disturbance, vegetation clearance or earth works should occur below the two metre ASL contour line along the Lake Macquarie foreshore without prior application for a Section 87/90 Consent under the National Parks and Wildlife Act (1974).

With regards the management of RPS HSO M1:

Recommendation 4
No disturbance, vegetation clearance or earth works should occur within an area of 3 metres by 3 metres around the area designated as RPS HSO M1 without prior application for a Section 87/90 Consent under the National Parks and Wildlife Act (1974).

In general during the course of construction work:

Recommendation 5
If it is suspected Aboriginal cultural heritage material has been encountered, work should cease immediately. The NSW Department of Environment and Climate Change (DECC), KLALC, ATOAC and ADTOAC should be notified. Works should only recommence when an appropriate and approved management strategy has been agreed to by all of the relevant stakeholders.

Recommendation 6

In the event that skeletal remains are uncovered whilst operations are underway, work is to stop in the vicinity immediately and the NSW Coroner's Office and NSW Police contacted. If skeletal remains are deemed to be of Aboriginal origin, a representative of the local Aboriginal Community (KLALC, ATOAC and ADTOAC) and the DECC are to be contacted.

TABLE OF CONTENTS

Page

TABLES

Page

FIGURES

Page

PLATES

APPENDICES

APPENDIX 1

Legislative Requirements

APPENDIX 2

AHIMS Registered Sites

APPENDIX 3

Aboriginal Consultation Log

APPENDIX 4

Glossary of Site Types

APPENDIX 5

NSW Heritage Branch Significance Criteria

APPENDIX 6

Documented ICCG Advertisement Process

APPENDIX 7

Site Cards

1.0 INTRODUCTION

RPS Harper Somers O'Sullivan Pty Ltd (RPS HSO) has been commissioned by Lake Macquarie City Council (LMCC) to assess the potential Aboriginal and European cultural heritage of an area known as Ramsgate Estate, Wyee Point in the LMCC Local Government Area (LGA) to support a Stage 1 Local Environment Study (LES). This report will form part of a strategic and statutory assessment.

1.1 The Study Area

The study area comprises all Lots in DP 1596 and Lot 1 in DP 124592, Wyee Point. The site of approximately 37.5 hectares has been divided into 606 lots with this study considering the area as one entity.

The study area is bounded by Saddler Way and a truncated road to the south, with High, Railway, Lake, Bay and Short Streets to the east. The northern boundary is defined by the shoreline of Lake Macquarie with an unnamed creek to the northwest.

The location of the study area can be found in Figure 1-1.

1.2 Background

The LMCC had received a rezoning proposal for approximately 37.5 hectares of a current zoned mixture of 5 infrastructures, 6(1) Open Space, 7(3) Environmental (General) and 10 Investigation at Wyee Point. The proposed rezoning of the subject land aims to accommodate continued growth and the conservation of environmentally sensitive land. The land was originally proposed for a residential subdivision, to be known as Ramsgate Estate in 1887, with preliminary work in clearing and partial construction of roads undertaken. The development was abandoned following disagreements with an adjacent landholder with regards to access. At this stage work on the proposed 1887 subdivision ceased.

As at 2009 the only improvement is a single story residential dwelling in the south-western portion of the estate. The adjoining land to the east has been developed and the streets noted in Figure 1.1 are part of that later subdivision.

TITLE: FIGURE 1-1 SITE LOCATION | LOCATION: WYEE | DATUM: | PROJECTION: MGA ZONE 56 (GDA 94) | DATE: 15/6/2009 | PURPOSE: ARCHAEOLOGY | LAYOUT REF: 25757 Figure 1-1 Site Location | VERSION (PLAN BY): A-A4 (SC)

CLIENT: LAKE MACQUARIE CITY COUNCIL
JOB REF: 25757

241 DENISON STREET BROADMEADOW PO BOX 428 HAMILTON NSW 2303
T: 02 4961 6500 F: 02 4961 6794 www.rpshso.com.au

RPS HARPER SOMERS O'SULLIVAN

1.3 Legislative Context

It is incumbent on any land manager to adhere to legislative requirements that protect both Aboriginal cultural heritage and European cultural heritage in NSW. Appendix 1 details the various relevant legislative Acts.

1.4 Scope of Assessment

This cultural heritage report has incorporated a desk top review and a pedestrian survey of the study area. The objective was to determine through a desk top review if there was likelihood for Aboriginal and European historic sites to occur and through field survey test that premise.

This archaeological report for Aboriginal cultural heritage impact assessment is written in accordance with the National Parks and Wildlife Act of 1974 (NPW Act) and meets all of the requirements of the NPWS survey and assessment writing guidelines (1997). A review of the documentary evidence includes a search of the Department of Environment and Climate Change (DECC) Aboriginal Heritage Information Management System (AHIMS) database (Appendix 2).

In terms of European heritage the report was written with guidelines detailed in the NSW Heritage Manual (1994) issued by the NSW Heritage and the Burra Charter (rev. ed 1999).

1.5 Aboriginal Community Consultation

An advertisement was placed in the Newcastle Herald (23 May 2009) and the Central Coast Express Advocate (22 May 2009) (Appendix 6). Letters in accordance with the Interim Community Consultation Guidelines were mailed (15 May 2009). Koompahtoo Local Aboriginal Land Council (KLALC), Awabakal Traditional Owners Aboriginal Corporation (ATOAC) and Awabakal Descendants Traditional Owners Aboriginal Corporation (ADTOAC) responded.

All respondents were advised of the survey. Ashley Hudson (KLALC) and Kerrie Brauer (ATOAC) participated in the survey on 6 July 2009.

A copy of this report will be sent to all respondents for comment.

The Consultation Log can be found at Appendix 3.

1.6 Limitations

The desk top review was limited to all available documents with regard to the study area. The pedestrian based survey covered all landform types occurring in the study area with existing tracks providing good visibility. Away from these tracks visibility could be considered as nil with dense ground cover and leaf litter limiting the effectiveness of the survey.

1.7 Authorship and Acknowledgements

This RPS HSO report was written by Laraine Nelson with assistance from Philippa Sokol, and reviewed by Darrell Rigby, all of RPS HSO.

1.8 Abbreviations

• Aboriginal Heritage Information Management System	AHIMS
• Awabakal Descendants Traditional Owners Aboriginal Corporation	ADTOAC
• Awabakal Traditional Owners Aboriginal Corporation	ATOAC
• Department of Environment and Climate Change	DECC
• Koompahtoo Local Aboriginal Land Council	KLALC
• Lake Macquarie City Council	LMCC
• Local Environment Plans	LEP
• Local Environment Study	LES
• Local Government Authority	LGA
• NSW National Parks and Wildlife Service	NPWS
• Potential Archaeological Deposit	PAD
• RPS Harper Somers O'Sullivan	RPS HSO

2.0 ENVIRONMENTAL CONTEXT

The environmental context of an area is researched by archaeologists in order to obtain data relevant to the regional area and the specific Study Area. Environmental factors assessed include local geology and soils, topography, hydrology, climatic conditions, and the availability of flora and fauna resources. This information is then utilised to predict what the past local environment was like. Interactions between people and their environment are important in predicting the formation of the archaeological record and its preservation.

2.1 Geology and Soils

The Study Area comprises Doyalson and Wyong soil landscape. The Doyalson is an erosional landscape. The Wyong is an alluvial landscape generally associated with the shoreline and the foreshore of Lake Macquarie within the Study Area.

The Doyalson landscape is located amongst gently undulating rises on Munmorah Conglomerate situated north of Tuggerah Lake on the Central Coast and comprises all of the surrounding suburbs. Other major geological groups include the Narrabeen group and Clifton subgroup formations which predominantly include pebbly sandstone, grey green and grey siltstone and claystone. Some small areas in the landscape may contain coarse quartz sandstone (Murphy, 1993:49).

The Wyong landscape is located on the broad, poorly drained floodplains of Quaternary alluvium in the Central Coast lowlands. Some smaller portions of the landscape may be associated with floodplains. The major geological group comprises Quaternary sediments that include sand, silt, gravel and clay (Murphy, 1993: 81).

The geology, detailed above, indicates that the study area potentially lacks suitable raw material resources available for stone tool manufacture. Quarrying of raw materials most likely occurred in other areas where suitable raw material was available. The low fertility of both Doyalson and Wyong soil type, but in particular the Doyalson soil type, results in low diversity of flora and fauna resources. However, with two soil landscapes and the presence of both a creek and a lake in the Study Area, there is a significant increase in the potential for greater diversity of resources.

A description of both Doyalson and Wyong soil landscapes is detailed Table 2.1 and 2.2.

Table 2-1: Doyalson soil landscape

	Do1	Do2	Do3	Do4	Do5
Colour	Brown loose loamy sand	Bleached yellowish brown clayey sand	Bright yellowish brown sandy clay loam	Earthy light grey clay	Light to medium pedal clay
Landform element	Top soil (A horizon) on low and mid slopes	Shallow subsoil and sometimes exposed at the surface (A horizon)	Subsoil mainly on mid slopes (B horizon)	Deep subsoil overlaying bedrock (B-C horizon)	Subsoil on fine-grained bedrock (B horizon)
Features	Course-grained texture with single-grained structure.	Roots, charcoal fragments, quartz and conglomerate pebbles are common	Sandstone fragments, quartz and conglomerate pebbles, roots are few	Stones including sandstone rocks, quartz and conglomerate pebbles. Roots are few	Small rock fragments are common roots few and charcoal fragments rare
Structure	Localised stoniness	Localised stoniness	Localised stoniness	Localised stoniness	Localised stoniness
pH level	Moderately acid (Ph 5.0) to slightly acid (pH6.0)	Strongly acid (Ph 4.5) to moderately acid (Ph 5.5)	Strongly acid (Ph 4.5) to moderately acid (Ph 5.5)	Strongly acid (pH 4.5) to slightly acid (pH 6.0)	Moderately acid (Ph 5.0) to slightly acid (pH6.0)
Permeability	High	High	High	Low	Low
Erosion	Moderate to high	High	Moderate	Moderate	Low to very high
Fertility	Very low	Very low	Very low	Very low	Very low

Table 2-2: Wyong soil landscape

	Wy1	Wy2
Colour	Brownish black pedal loam	Mottled brownish grey plastic clay
Landform element	Topsoil (A horizon)	Subsoil (B horizon)
Features	Roots are common and absent of charcoal and rock fragments	Roots are rare, charcoal and rock fragments are absent
Structure	Friable surface condition and hardsetting when dry	Plastic and silty and often permanently waterlogged.
pH level	Strongly to slightly acid (pH 6.0)	Strongly acid (Ph 4.0) to slightly acid (Ph 6.0)
Permeability	Moderate	Low
Erosion	Moderate	Moderate
Fertility	Low	Low

2.2 Topography and Hydrology

The topography of the Doyalson landscape comprises undulating rises with local relief to 30 metres and slope gradients of generally <10% (Murphy, 1993:49). The broad crests and elevated terraces tend to be long with gently inclined slopes and are the dominant landform elements. Surrounding the Doyalson landscape are broad drainage lines with minimal if any rock outcropping (Murphy, 1993:49). Limitations to the Doyalson landscape consist of high erosional hazards, location in a mine subsidence district, localised seasonal waterlogging, with strongly acid soils of low fertility (Murphy, 1993:49).

The topography of the Wyong landscape consists of poorly drained, deltaic floodplains and alluvial flats. Local relief averages to <10 metres with slope gradients of <3% (Murphy, 1993: 81). Commonly situated in the landscape are levees, meander scrolls, oxbows and swamps. Low lying and slightly elevated terraces are infrequently present (Murphy, 1993: 81). Limitations to the Wyong landscape consist of flooding, seasonal and permanent waterlogging, localised stream bank erosion, strongly acid soils, and poorly drained and impermeable soils that have very low fertility (Murphy, 1993: 81).

The study area is on the southern foreshore of Wyee Bay with the northern boundary provided by Lake Macquarie and the western perimeter marked by an unnamed creek. The unnamed creek, upstream from its junction with the Lake, would potentially provide a source of fresh water. While the brackish creek water nearer to the lake and the saltwater of the lake would provide a diverse array of aquatic species.

The topography and hydrology suggest that the local environment would have been favourable to past Aboriginal occupation with freshwater available from the nearby creek and a diverse local habitat providing a variety of food and other exploitable resources.

2.3 Climate

Approximately 18,000 years ago climatic conditions began to change affecting the movement and behaviour of past human populations in their environments. During this time, notably at the start of the Holocene (11,477 years ago), the melting of the ice sheets in the Northern Hemisphere and Antarctica caused the sea levels to rise, with a corresponding increase in rainfall and temperature. The change in climatic conditions reached its peak about 6,000 years ago (Short, 2000:19-21). Up until 1,500 years ago, temperatures decreased slightly and then stabilised about 1,000 years ago, which is similar to the temperature currently experienced. Consequently, the climate in the locality of the Study Area for the

past 1,000 years would be much the same as present day providing a year round habitable environment.

The climatic conditions will impact upon the soils, vegetation and the potential occupation of an area. They may also affect the durability of associated cultural materials. The area has a warm temperate to sub humid climate which is dominated by high and low pressure systems in accordance with coastal environments. In the summer months the area will experience onshore winds with hot and humid weather. In the winter months the offshore winds will produce cool to mild and drier weather with frosts developing in low lying areas (Australian Bureau of Meteorology, 2009). Average temperatures throughout the year can range between 4.6 degrees in July and 27.5 degrees Celsius in January. Summer and autumn seasons are the wettest and produce an average rainfall of 153.4mm in February and a minimum of 68.5mm in September (Australian Bureau of Meteorology, 2009). These regional temperatures would be suitable for occupation for the majority of the year, with appropriate shelter required during the cool and wet periods.

2.4 Flora and Fauna

The following vegetation communities were recorded by Travers Environmental (2009:20).

- Scribbly Gum Open Forest – Dry Understorey
- Scribbly Gum Open Forest – Moist Understorey
- Forest Red Gum Woodland
- Swamp Mahogany – Smooth-barked Apple – Scribbly Gum Woodland
- Swamp Mahogany Woodland
- Swamp Oak Woodland / Saltmarsh

In general the communities reflect the low lying swamp areas around the shoreline of the lake and the creek.

Fauna species in the Study Area should be consistent with resources found in coastal and inland areas. A number of faunal species were observed in the study area by Travers Environmental (January 2009). Fauna species commonly seen in the study area include a combination of marine and terrestrial birds, mammals, reptiles, amphibian and a mollusc species.

As a result of the continual land clearing and subsequent vegetation regrowth of newer species in the Study Area, the flora and fauna resources that would have been available for foraging in the past have now become limited at this location.

2.5 Condition of the Study Area

The Study Area adjacent the shoreline of Lake Macquarie comprises a low lying often inundated landscape with vegetation comprising a Swamp Oak Woodland and Salt Marsh. The area, a narrow band (<15 metres) on the eastern end and wider on the western extremity (<30 metres) contains in addition to the native vegetation, introduced exotic species with evidence of soil disturbance from both humans and animals (Plate 1).

Away from the shoreline Scribbly Gum Open Forest – Dry Understorey; Scribbly Gum Open Forest – Moist Understorey; Forest Red Gum Woodland; Swamp Mahogany – Smooth-barked Apple – Scribbly Gum Woodland; and Swamp Mahogany Woodland occur (Travers Environmental 2009:20). Across the wider Study Area a small number of old trees (*Angophora sp*.) are present, however, in general the trees are predominately younger. The second storey vegetation varies from dense to sparse with density associated more often with the south north trending drainage lines. The vegetation community as a whole has evidence of re-growth (Plate 2) following previous land clearing and bushfires (Conacher Travers 2009:6).

Ground surface disturbance has been caused by a considerable number of well used dirt walking tracks and two areas used by motorbikes recreationally. One was cleared over an area of approximately 50 metres by 20 metres while the other consisted of a well marked and used track (Plate 3).

In some sections of the Study Area it is possible to distinguish the layout of some roads pertaining to the original Ramsgate Estate. These appeared as areas largely devoid of trees, though dense shrub growth was still present, with the roads width marked by low embankments and gutters. These gutters were heavily eroded in some instances (Plate 4).

2.6 Discussion

The south western shoreline of Lake Macquarie and in particular the Wyee Point area with a diverse habitat ranging from the lake, lake foreshore, swamps and hinterland provided potential for sustained Aboriginal occupation in the past.

The ethnographic record for the southern Lake is limited with early records concentrating mostly on the northern sector of the Lake. In the southern Lake the archaeological record is dominated by shell middens which indicate that the lake foreshore and most likely the hinterland were widely used.

3.0 ABORIGINAL PREHISTORY

The earliest recorded evidence of people living around coastal Lake Macquarie was obtained through the dating of occupation sites and middens at Swansea Heads approximately twenty six kilometres north east of the study area. Excavations conducted by Dyall (1975) provided evidence of occupation dated to 8,000 years ago, whilst coastal Pinny Beach approximately twelve kilometres due east of the study area was dated to 1,200+/- 60 years BP. Regionally, other NSW coastal sites include Ettalong (1740 +/- 80 years BP) approximately 65 kilometres to the south (Donlon, 1991).

The complexity of the Lake Macquarie environment resulted in ecological diversity and an abundance of food resources. The southern lake area has a diverse environment ranging from the lake and Lake Foreshore, wetlands, freshwater creeks and the hinterland which includes the Watagan Mountains to the west. Extensive shell middens provide evidence that the lake foreshore together with freshwater creeks and wetlands provided a resource rich environment with a range of water birds, fish, shellfish, terrestrial animals and plant species (Haglund, 1986:7).

3.1 Ethnography

The ethnographic information used to interpret the archaeological record is often biased and may be deeply prejudiced particularly in relation to lifestyle, social practices, community interactions, religion and other facets of Aboriginal life (L'Oste-Brown et al 1998). It is important to recognise this possible bias when using early European accounts that describe the lifestyles of Aboriginal people, particularly the interpretation of their daily life and beliefs. Nonetheless, some of these ethnographic records can provide important information and insight on local Aboriginal customs and cultural materials evidenced during the early years of European settlement.

In 1824 the Reverend Lancelot Threlkeld established a mission for Aboriginal people first at Belmont on the eastern shores of the lake and later at Toronto on the western shore. Threlkeld recorded in detail the daily life of the Awabakal people. In detailing their resource gathering strategies he found the lake provided an abundance of fish and shellfish, describing Aborigines using canoes to exploit the wider area of lake. Threlkeld often accompanied Aboriginal people on hunting expeditions recording their skilful techniques with a spear (Threlkeld in Gunson 1974:190).

Henry Dangar (1828:95-96) when surveying the area supported the description of the Lake area being rich in resources commenting that it was not suited to a

settler who looked to manage large flocks and herds, but was more suited to a gentleman fond of shooting, hunting and fishing with ducks, kangaroos, swans, pigeons, quails as well as fish and oysters in abundance.

Cooksey (1926a) surveyed the river and coastal area south from the Hunter River to the entrance of Lake Macquarie. He recorded what he termed as sites and factories of stone tools at the areas now known as Bar Beach, Dudley, Redhead Lagoon, and Swansea Heads. In a later paper Cooksey (1926b) describes the factories or campsites as containing:

> "heaps of burnt stones, all that is left of rough fireplaces and occasionally large pieces of sandstone are met with what appeared to have been used as anvil blocks. A few highly coloured small pebbles and pieces of crystalline quartz that may have been used by the medicine men to work magic. Animal remains are represented by a few bones of birds and marsupials, the shells of many sorts of saltwater fish and one small piece of bone that formed the gorge of a native fish hook. The only other relics worth mentioning are pieces of yellow and red oxide of iron ready for grinding into colouring matter".

In compiling an ethnographic overview of the Awabakal people it is valuable to consider descriptions of other Aboriginal coastal groups nearby. Early visitors and residents of the Port Stephens area, north of the Hunter River, documented the way of life of the Worimi people who had a similar living environment to that of the Awabakal people. Aboriginal groups widespread across variable marine environments will commonly experience similar subsistence patterns influenced by their coastal occupation. These similarities include exploitation of flora and faunal resources, climatic conditions, material culture and food acquisition from terrestrial and marine environments.

3.2 The Traditional Owners

The Study Area is located within the boundaries of the Awabakal land, the Aboriginal people of the Lake Macquarie area. There is some conjecture about the relationships between the Aboriginal clans, however, the following is generally accepted: to the north of the Awabakal territory were the Worimi people, the Darkinjung people were located to the south of Awabakal territory, the Wonnarua people were in the north-west (Brayshaw 1986:40). There is ethnographic evidence of interaction and communication between the clans, with Threlkeld reporting on the Awabakal visiting the Tuggara Beach tribe (Threlkeld in Gunson 1974:96) and interaction between the Worimi to the north (Threlkeld in Gunson 1974:56) and the Wonnarua to the west (Threlkeld in Gunson 1974:3).

3.3 Implements for Gathering Food and Weapons

The toolkit of the coastal Aborigines included a diverse range of implements that ranged from fish hooks fashioned from shell to stone tipped spears with a significant number of tools associated with using marine and estuarine resources. The following are a few early descriptions of implements, their manufacture and use.

Scott (n.d:18) describes a typical fishing spear of the Worimi as comprising three distinct parts. The main shaft was the dried stem of the gigantic lily fitted into the dried stem of the grass tree. The head consisted of multiple prongs made of ironbark, sharpened pronged and hardened in the fire. Fibre cord and resin from the grass tree was used to secure the head to the shaft.

The hunting spear was similarly described as comprising of three sections, two made of grass tree and the point made of hardwood. The sections were joined with gum resin, while the point was sharpened to a fine point and in some instances fitted with bone barbs. These spears produced by the coastal tribes were highly prized and often exchanged for opossum rugs and balls of cord made from opossum fur with inland tribes (Threlkeld 1974:61). Threlkeld describes a hunting party setting out armed with spears, throwing sticks, hatchets and fire brands (1974:46).

McKiernan (1911:892) describes bark shields as part of the armoury used during disputes. The shields were described as oval in shape approximately 0.8 metres in length and 0.4 metres in width and made of fire hardened ironbark or mangrove wood. Coloured with pipeclay and ochre they were held by a grip made of vine.

The canoe was important in catching fish both on the lake and in ocean. The canoe, made from the bark of a tree, was described as being between twelve and fourteen feet long and three to four feet in width. Whenever the canoe was readied for use a small fire was setup, burning on an earth mound inside the canoe. This fire was used to cook fish as they were caught and to provide warmth in cold weather (Threlkeld 1974:54).

The stone axe or hatchet was used as both a weapon and a tool. The stone axe head was ground to a fine edge with a stick wound over a ‘waist’ section and fastened with gum from the Xanthorrhea. The handle was flat to enable the axe to be carried under the possum skin belt (Dawson 1831: 202). McKiernan (1911:890) reported that the fine edge of these stone axe heads were ground to perfection over years.

3.4 Foods and Useful Plants

Miller (1886:352) listed kangaroos, emus and reptiles as sources of protein, with a variety of roots, most importantly that of the water lily, that was often roasted and eaten. Fawcett (1898:152) observed wallabies, bandicoots, kangaroo rats, opossums, rats, snakes, lizards, fish, shellfish, caterpillars, grubs, larvae of wasps, other insects and birds used as a food source.

Threlkeld provides numerous descriptions of the foods favoured by the Aboriginal people which included maggots (witchetty grubs) called cobra, wild plum, lizards, snake, geese, wild swan, pigeons and kangaroo. Other foods included fish, porpoises (dolphin), crawfish (lobster) and whale when these were washed onto the beach. Threlkeld also describes the processing of the highly toxic macrozamia kernels before they were eaten (1974:55).

The sweet blooms of flowers such as banksia were eaten, particularly by children while honey was prized by both adults and children (Sokoloff 1980:6).

The food from the lake and seashore included cockles (*Anadara trapezia*). Threlkeld (1974:35) described these as an everyday dish not because of a superior taste but because they were readily available. They were roasted, squeezed of juice and then eaten.

Fishing was undertaken by both men and women, women using fishing lines while men used spears. It would appear that women fished to ensure a food supply for the family, with Threlkeld recording that often women needed to fish under difficult conditions in poor weather. Threlkeld (1974:35) also described the stranding of a whale on a local beach with the abundant food providing the opportunity for a feast.

3.5 Campsites and Shelters

Fawcett's (1898:152) description of preferred campsites is supported by the archaeological record, that is:

"proximity to fresh water was one essential; some food supply a second, whilst a vantage ground in case of attack from an enemy was a third important item".

While huts were described as primitive with:

"A couple or three forked sticks, a few straight ones and some sheets of bark, stripped from trees growing nearby, supplied the requisites for the construction of their homes. The forked sticks were thrust into the ground, and the straight

ones placed horizontally in the forks. The sheets of bark were then set up against the horizontal pole in a slanting position".

Threlkeld (1974:45) describes the Aboriginal camp at Newcastle as:

"boughs of trees, or sheets of bark placed upright and supported by stakes".

3.6 Clothing

Summer weather and the milder days of Autumn and Spring required little in the way of protective clothing. Winter however saw the use of animal skins for both clothing and as blankets (Heath,n.d.:43), with Scott (n.d.:8) describing opossum skin as a commonly used resource for cloaks. Bone needles were used for fashioning garments and stone and shell scrapers used for processing the skins (Turner and Blyton 1995: 19).

Miller (1886:352) describes Aboriginal dress as being of opossum skin cloaks with a girdle of spun opossum hair next to the skin with their principal ornament a nautilus shell suspended around the neck on a string.

3.7 Aboriginal History after European Contact

The first recorded evidence of Europeans visiting the Lake Macquarie was in 1800. Captain William Reid, master of the vessel 'Martha' mistakenly entered the entrance to the Lake's channel assuming it to be the mouth of the Hunter River. (Clouten 1967:10)

In 1801 again the Lake entrance was confused with that of the Hunter River when the vessel the 'Lady Nelson' with Lieutenant Colonel William Paterson and his party on board was nearly wrecked while attempting to enter. The surgeon John Harris on venturing ashore was met by a friendly party of Awabakal. These included a native who called himself Budgeree Dick and used the word whaleboat. Budgeree Dick joined the 'Lady Nelson' on its voyage to the Hunter River then disappeared the day after disembarking there. Some days later Budgeree Dick returned with two natives, one who had met Lieutenant Colonel Paterson in Sydney (Turner and Blyton 1995:27).

From the discovery of coal at the Hunter River by Shortland in 1797 until the establishment of a penal colony there in 1804, the area was regularly visited by parties to extract coal and timber. While contact between the Awabakal and the Europeans occurred it was the establishment of a permanent settlement at Newcastle in 1804 that drastically changed the way of life for the Awabakal people. This small penal colony with a community of around 200 people was

engaged in coal extraction and lime burning. The designation of Newcastle as a penal settlement led to the banning of settlement within the Hunter area, including Lake Macquarie until the mid 1820's (Clouten 1967:13).

After the mid 1820's European settlement in the Lake Macquarie area began to grow. The presence of a growing convict community led to escapes, with a number attempting to return to Sydney. It is likely that these escapees were early white visitors to the western shore of Lake Macquarie. Given the following report it is likely that the interaction of convicts with local Aborigines was problematic.

Bigge (1822: 117) reported:

> 'The native blacks that inhabit the area of Port Hunter and Port Stephens have become very active in retaking the fugitive convicts……and ……by their expertise in throwing their long and pointed wooden darts they wound and disable them, strip them of clothes, and bring them back as prisoners…and are… rewarded by presents of maize and blankets.'

By 1828 the Reverend Threlkeld had established a mission for the Awabakal people under the auspices of the London Missionary Society. The first mission site was at present day Belmont, on the eastern shore of Lake Macquarie, but, following its failure Threlkeld moved his residence to Ebenezer, present day Toronto in or about 1830. Even by 1828 Threlkeld reported a decline in the numbers of Aborigines in the area listing 64 persons comprising all Aboriginal people that could be found between Swansea Channel (now) and Newcastle in his report to the Colonial Secretary (Murray 2005:59) and in 1837 he reports that only thirty four of those people are still alive (Threlkeld 1974:262).

4.0 EUROPEAN HISTORY

The earliest European occupants were most likely timber getters targeting the cedar of the Watagan Mountains to the west and the stands of timber around the lake foreshore. In 1830 there is record of a land selection by Thomas Walker in the present day Wyee Point area, though there is no evidence that the land was developed (Clouten 1967:53). From the 1830's onward the south western boundary of Lake Macquarie was known as a haunt of cattle thieves, in particular Wyee located approximately five kilometres south west of Wyee Point. Wyee, with abundant fresh water, was an important crossroads and a stopping point on Aboriginal and European tracks as here the road diverged either to the east of Lake Macquarie or to the west toward Maitland (Bennett 1969:16).

The known European history of the Wyee Point area commenced in the mid-1870's with the construction by a Mr Wakefield of a large steam sawmill built adjacent the lake foreshore. Mr Wakefield had secured a contract for the supply of railway sleepers for the northern railway line (Clouten 1967:216).

A large wharf was part of the complex with the railway sleepers transported by boat via the lake entrance at Reid's Mistake. The mill was of considerable size with a contemporary report noting 60 men were employed in both the felling and preparation of sleepers. Linked to this was the growth of the small village of Wyee Point for the mill workers. In 1879 application was made for a school teacher to be appointed to a school building that had been constructed by the residents. Although seventeen children were recorded on the roll in 1879 by 1883 the school had closed with the opening of a government school in Wyee. Wyee Point remained a small village as many of the timber workers preferred to live at Cooranbong approximately twelve kilometres northwest (Clouten 1967:217).

With regard to the Study Area, in 1885 the Deposit Plan 1596 (Ramsgate Estate) was registered, this plan included 12 streets and 608 allotments. Preparatory work commenced with site clearing and some roadwork, however, at this early stage the project stalled. A dispute with neighbouring property holders over site access caused the venture to fail (Lake Macquarie City Council 2009:2). The area has remained undeveloped to the present day.

4.1 European Cultural Heritage

4.1.1 Registered Historic Items

The State Heritage database is maintained by the NSW Heritage Office and lists all items that have been identified as of heritage value on Regional Environment Plans and Local Environment Plans throughout NSW.

The State Heritage Register lists those places which are of State Significance which have been listed by the NSW Heritage Office under the NSW Heritage Act. In contrast the NSW State Heritage Inventory contains items considered by Local Councils and State Government Agencies to be of heritage value.

In the Wyee Point area:

- there are no State heritage items listed; and
- there are no Heritage Inventory items listed.

4.1.2 Potential Historic and Archaeological Elements

There are no registered historic or archaeological items in proximity of the study area. The location of the 1870's timber mill reported on in Section 4 European History of this report has not been ascertained during the desk top review.

5.0 ABORIGINAL ARCHAEOLOGICAL CONTEXT

This chapter presents a review of documentary and physical evidence pertaining to Aboriginal archaeology of the region and in particular the Study Area. Such information is considered as it provides context and accuracy to predictions made about the potential for archaeological remains within the Study Area.

5.1 Aboriginal Heritage Information Management System

A search was undertaken of the DECC Aboriginal Heritage Information Management System (AHIMS) for an area encompassed by coordinates Easting 353405 to 369405 and Northing 6323934 to 6339934 (MGA Zone =56).

The AHIMS results indicate that middens (n=57) are the most frequent site type found in the locality, followed by Artefact Scatter (n=11); Artefact/s unspecified (n=11); and Isolated Finds (n=11).

Table 5-1 lists site type and frequency.
Figure 5-1 provides the location of the AHIMS sites.

Table 5-1: AHIMS site type and frequency

Site Type	Frequency in Search Area
Artefact Scatter	11
Artefact(s) Unspecified	11
Ceremonial Other (Aboriginal Natural Mythological Place)	1
Grinding Grooves	5
Isolated Find	11
Midden	57
Ochre Quarry	1
Potential Archaeological Deposit (PAD)	9
Scarred Tree	7
Total	**113**

A complete list of results from the AHIMS search can be found in Appendix 2.
A glossary of Aboriginal site types can be found in Appendix 4.

5.2 Regional Archaeological Context

In 1986 Haglund was commissioned by Lake Macquarie City Council to produce an assessment of the prehistoric heritage of the Lake area. Using a combination of interviews and desktop research the author found that the lifestyle of the

inhabitants would have resulted in few records remaining within the environment, this assessment was confirmed by subsequent archaeological surveys.

Tools, weapons, utensils, housing and food stuffs are organic material that are rarely preserved. The most durable remnants were stone tools and shell debris from shellfish meals. The conclusion was that the limited number of site types identified did not fully reflect the Aboriginal culture nor use of the environment. Those sites identified were shell middens, open or camp sites, rock shelters, engraving and art sites, stone arrangements, ceremonial sites, burials, axe grinding groves and mythological sites.

Haglund concluded that the Aboriginal people exploited the resources of the open and rocky coast as well as the swamp and hilly hinterland. It was also found likely that the preferred resource areas were the coastal strip and the swampy margins of the lake while the western rugged area was less popular.

Haglund provides a settlement model for the Aboriginal people in this region based on the resource rich areas of Lake Macquarie, the wetlands that fringe the Lake, and the hinterland including the Watagan Mountains to the west. The lake foreshore with an abundance of resources and the considerable number of sites has led most researchers to believe that this was the preferred environment of the Aboriginal people with the hinterland forest areas used for short term foraging and hunting.

Extensive finds of flaked stone artefacts were recorded by Dyall (1972: 168-175), during survey work conducted in the Dudley-Jewells Swamp area approximately 42 kilometres to the north-west. Stone such as chert, silcrete, mudstone, etc was used to manufacture implements such as knives, scrapers, axe heads and choppers. Excavations by Dyall (1982) at Birubi Point, Port Stephens north of Newcastle revealed large quantities of Turban shell in various stages of processing for fish hooks. These hooks together with fibre fishing lines were used for catching fish from both canoe and shore. Another method of catching fish was the use of poison, the narcotic bark of the acacia being used to stun fish in waterholes (Sokoloff 1980:10). All spears were propelled by a throwing stick that provided exceptional accuracy (Sokoloff 1980:18).

WARNING
No part of this plan should be used for critical design dimensions. Confirmation of critical positions should be obtained from Harper Somers O'Sullivan Pty Ltd.

45-7-0239

45-7-0158

45-7-0228

45-7-0256

45-7-0244 45-7-0257

45-7-0258

45-7-0255

45-7-022

Zoom Box

45-3-3165

45-3-3166

45-7-0001

45-7-0190

45-7-0003

45-3-1553

0 0.5 1km

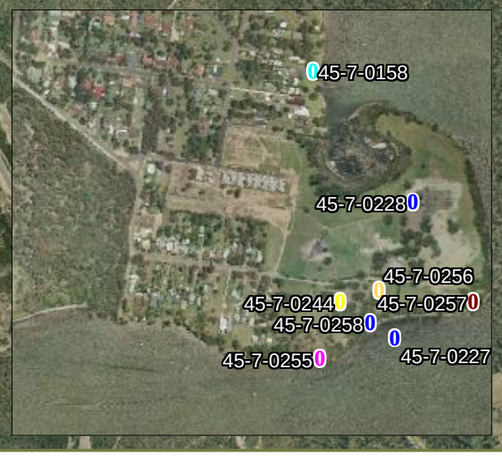
SCALE: 1: 15000 AT A3 SIZE

Legend

Site Boundary

AHIMS Records

- 0 Aboriginal Place, Natur
- 0 Artefact Scatter
- 0 Artefact(s) unspecified
- 0 Grinding Grooves
- 0 Isolated Find
- 0 Midden
- 0 Ochre Quarry
- 0 Potential Archaeologica
- 0 Scarred Tree



TITLE: FIGURE 5-1 AHIMS SITES

LOCATION: WYEE

DATUM: DATUM
PROJECTION: MGA ZONE 56 (GDA 94)

DATE: 15/6/2009
PURPOSE: ARCHAEOLOGY

LAYOUT REF: 25757 Figure 4-1 AHIMS Sites A-A3
VERSION (PLAN BY): A-A4 (SC)

CLIENT: LAKE MACQUARIE CITY COUNCIL
JOB REF: 25757

241 DENISON STREET BROADMEADOW PO BOX 428 HAMILTON NSW 2303
T: 02 4961 6500 F: 02 4961 6794 www.rpshso.com.au
creativepeople making a difference
RPS HARPER SOMERS O'SULLIVAN

5.3 Local Archaeological Context

A number of archaeological surveys and reports have been produced for the western Lake Macquarie region. This section details the most relevant investigations to the study area. The following information will assist with predictive modelling to help identify potential archaeological sites and allows for planning and management recommendations to be made with confidence. The following are in descending chronological order.

Insite Heritage, 2008 – Archaeology Assessment of Part Lot 358 DP755242 Part Lot 9 DP244002 Morisset Park.

This study was conducted to support a rezoning application from Zone 10 Investigation to Zone 2(1) Residential. The site was located at Morisset Park Road, Morisset Park, approximately 5.5 kilometres north of the current study area.

The soils on the site consist of silty and clayey sands in the Doyalson soil landscape. A pedestrian survey examined three landscape units, described as a slope between 2-5 degrees (85% of the area); a slope <2 degrees (10% of the area); and elevated terrace crest (5% of the area).

The field survey identified potential for a scatter existing within a small area of the site. It was concluded that there was a low to moderate potential for small artefact scatter/s to be concealed under topsoil with a recommendation that the area be designated a PAD.

Insite Heritage. 2005 – Archaeology Assessment of various lots bounded by Gradwell and Cooranbong Roads, Dora Creek

An archaeological investigation was carried out to inform a proposed re-zoning of 30 hectares off Cooranbong Road, Dora Creek. Dora Creek is approximately 7.5 kilometres from the study area. The area comprised a spur with drainage lines to Dora Creek approximately 250 metres south. No Aboriginal cultural heritage sites were located during the survey due to a lack of surface visibility. The conclusion drawn from the survey was that surface visibility was low and the assessment of environmental context of the site, areas of potential archaeological deposits (PAD) were identified. The area of PAD was identified on the spur in the northern portion of the study area. The PAD area was recommended for sub surface testing.

Besant, A. 2001 - St John of God School Site – Archaeology Assessment.

A series of test probes located at two sites at Morisset peninsular on the lake foreshore. The St John of God area is approximately 4.5 kilometres north of the current study area. A total of eighty-eight artefacts associated with a beach

elevated terrace and midden were located through sub-surface testing. The artefacts included geometric microliths and a knapping floor. It was considered that some of these artefacts were located in situ while other artefacts, displaying water worn features, appeared to have been re-deposited by wave action. The author considered that the presence of microliths indicated that the site dated to the last 5,000 years. The initial drowning of the river valleys and formation of the lake foreshore around 6,000 years ago would lend support to this assumption.

Officer, K., Navin, K. and Saunders, P. 1996. Test Excavations at 'The Hole 1' Mannering Bay, Lake Macquarie, NSW.

This study was commissioned by Pacific Power to carry out a subsurface investigation of a previous archaeological site, located at 'The Hole 1, Mannering Bay', approximately 1.5 kilometres south of the current study area. This study was not prompted by any specific development or proposed activity; it was aimed to provide data for the formulation of general site management strategies.

The site was originally called "Vales Point, Site #3" before being renamed "The Hole 1, Mannering Bay' to reflect its actual location and distinguish it from other sites in the area. The topography of the site has been altered by construction of the ventilation channel for Vales Point Power Station. The underlying geology of the area comprises the Narrabeen Group, including sandstones, claystones and shales.

This investigation comprised a surface survey; a subsurface testing and salvage program; and basic artefact analysis. The surface survey and subsurface testing program found that artefacts occurred over an area of 180 metres x 100 metres. The southern extents of the deposits were not fully determined. Disturbance was estimated for approximately 55% of the site. The area had been previously disturbed during the ventilation channel construction, with spoil from that construction obscuring parts of the site.

A total of 137 artefacts were recorded, 95 on the surface while seven of the eight test pits returned 42 artefacts. The majority of the surface artefacts (n=51) were found adjacent the channel in an area, prior to construction activity, that would have been the basal slope of a small spurline crest. The site location appears downslope of a remnant 'A' soil horizon with few artefacts found above and upslope from that horizon. These results were confirmed with the test pits where the greatest artefact density was found in the 'A' horizon of pits 1 and 2.

Based on surface and subsurface artefact density the indication is that the elevated spurline crest and adjacent low lying swampy ground, was the preferred occupation zone with density increasing closer to the shoreline of the lake.

Artefact analysis of the 137 artefacts found that the rhyolitic, volcanic tuff (36%) was the predominant raw material used followed by rhyolite and igneous materials (19.5%), chert (13%), quartzite (11.5%), quartz (1%), not identified (0.5%), jasper (1%) and volcanic (0.5%). While detailed investigation of the raw material source was not carried out it was noted that 12% of the artefacts had alluvial pebble cortex indicating that the locally occurring conglomerate cobbles may be the source.

A lithic analysis found that the tools would be classed as part of the Small Tool Tradition which includes backed blades and microblade manufacture. Artefact types included flakes microflakes, blades, microblades, backed blades, cores, blade cores, hatchet head, flaked pieces and manuports.

There was a marked contrast between the maximum size of artefacts in the surface collection (average 33 millimetres) and the subsurface (average 19 millimetres). This was assumed to be a result of taphonomic processes and sampling methodologies.

Site interpretation resulted in the following conclusions:

- Artefacts originally occurred over an area possibly as large as two hectares;
- The key topographic feature of the site was the elevated basal and spurline slope adjacent the shoreline of Mannering Bay and Wyee Creek;
- Artefact manufacture and tool utilisation occurred at the site;
- Raw material was probably from local sources;
- Shellfish was not utilised;
- Significant variation in artefact density across the site suggests spatial or temporal differentiation however the small sample precludes definitive analysis; and
- Lithic technology indicates a time frame within the last 5,000 years with this supported by the upper soil profile.

The authors speculated that the site reflects periodic occupation debris from interim camp sites. While the production of tools at the site would reflect a base camp, the absence of any shell or midden close to the lake foreshore was problematic. If the area was used as a base camp the need to maximise available food resources such as shellfish would have been expected.

A major issue at the site was the degree of disturbance caused by earlier earthworks associated with the construction of the ventilation channel and the relocation of soil. The authors considered it likely that these earlier works disturbed a high density artefact scatter that occurred on the basal slope of the spurline elevated terrace.

Within the undisturbed area it was suggested that archaeological deposits may exist and were considered to have moderate scientific significance within a local context and possibly a low to moderate significance within a regional context.

Dallas, M. 1995 – Archaeological Survey at Wyee Point Lake Macquarie, NSW.

This archaeological survey was conducted to support a proposed housing subdivision on the south eastern portion of Wyee Point (located within 2km of the current study area).

The underlying geology of the site was Narrabeen Group (Clifton Sub-group) of sandstone, claystones and shale. The topography of Wyee Point rises to the height of 24m a.s.l. with a gradual north facing slope and steep east facing slope. A pedestrian survey identified one previously listed Aboriginal shell midden (NPWS Site # 45-7-0190) north east of Wyee Point. In addition one Aboriginal midden (WP1) at the mouth of Cobra Creek and an area of Potential Archaeological Deposit (PAD 1) was newly identified. At WP1 shell was visible as a surface scatter of *Anadara trapezia* (cockle) with a maximum area of 15 metres x 4 metres. The PAD was assessed as being a likely site location and as having the potential to contain surface or buried midden material.

It was recommended that WP1 be protected and managed and further investigations into PAD 1 conducted. The previously recorded midden (NPWS Site # 45-7-0190) was not considered as it was located outside the study area.

Nelson, L. 1994 – Shell Middens of Lake Macquarie. University of New England

A systematic survey was conducted around the foreshore of Lake Macquarie with sixty-one Aboriginal shell middens located. The middens displayed a consistent content pattern with *Anadara trapezia* the most exploited of the available shell fish with lesser quantities of Ostrea angasi (oyster). A significant aspect of the research focussed on identifying environmental factors that could be used in establishing a predictive model for midden site location. It was found that the larger middens were most likely to be located on the Wyong soil type, on Quaternary Alluvium and within three kilometres of a creek.

Nelson, L and Ruig, J – 1993. Report on an archaeological survey for a proposed retirement village, Bonnells Bay, NSW.

An investigation at Bonnells Bay for a proposed retirement village complex located an isolated artefact and disturbed midden material. The area is approximately 4 kilometres north of the current study area. The landform unit was flat and on a slight rise above the Lake Macquarie shoreline. Outside the development footprint of the site a mudstone core was recorded. The banks of

Freshwater Creek and Fullers Creek were found to contain shell midden material, this appeared to be an extension of a previously recorded midden.

Dallas, M., Navin, K., and McConchie, D. 1993 – Archaeological Investigation of the Morisset Peninsula Sewerage Scheme.

This archaeological investigation was commissioned by the Hunter Sewage Project, Public Works Department for the construction of sewer lines, rising mains and pumping stations on Morisset Peninsula. The closest point of the Morisset peninsular is approximately 2.5 kilometres north of the current study area.

The study consisted of a surface survey and subsurface testing. The underlying geology of the site comprised of the Narrabeen Group (Clifton Sub-group) of sandstones, claystones and shale, with the topography comprised of low elevated terraces and spurlines, which are interspersed by small and intermittent catchments.

Twelve Aboriginal midden sites and a number of areas of shell of uncertain origin were located during the survey. The location of the middens was consistently on flat areas, often low benches ranging from adjacent the lake foreshore up to 25 metres inland (N=11). One site was located on a bluff. In terms of site contents *Anadara trapezia* was the sole species in three sites. The remainder of the sites (N=9) were dominated by *Anadara trapezia* with small quantities of *Ostrea angasi* with one site also containing gastropods.

The conclusions drawn were:

- Shell accumulations at distances greater than five metres landward and at higher elevation than 0.5 metres are most likely midden material.
- Middens were dominated by the large shells of Anadara trapezia and lesser quantities of Ostrea angasi. Most substantial deposits are close to small freshwater creeks.
- Establishing original midden size is difficult because of significant development along the peninsular foreshore.

Attenbrow, V. 1986 – Ruttleys Road, Wyee Point, Lake Macquarie.

Excavation at Ruttleys Road, Wyee Bay uncovered a shell midden that was subsequently investigated by a NSW National Parks and Wildlife archaeologist and LALC representatives. The shell consisting mainly of Anadara trapezia with some Ostrea angasi appeared to cover an area of approximately 50m x 20m. The site when first observed had some stone artefacts although these were not re-identified during the 1986 survey.

The midden, adjacent the foreshore was located on a council reserve and privately owned land. Significant clearing had occurred with the integrity of the midden compromised. The archaeologist considered that the midden had not

been deeply stratified and it was unlikely shell material would occur beyond a depth of 60cm.

Dallas, M., 1986 – Appendix C: Pipeline Route between Gwandalan and Mannering Park Sewage Treatment Works.

This archaeological survey was conducted as an additional component to the Wyong Shire Sewerage Scheme for the pipeline route between the Gwandalan and Mannering Park Sewage Treatment Work sites. This study was commissioned by the Public Works Department of NSW, and was located approximately 4 kilometres south-east of the current study area.

A pedestrian survey located an Aboriginal midden on the south side of the mouth of Tiembula Creek. The midden, containing only Anadara trapezia, was seen as a series of sparse scatters of shell on a fine black soil over an area of approximately 60 metres x 40 metres and thin sections of shell along a well formed track. The area was highly disturbed with significant vehicle use both on and off the track. The midden had little scientific significance or research potential, with no archaeological evidence other than a single type of shell.

5.4 Literature Review Discussion

The reports detailed in 5.3 Local Archaeological Context found that the most commonly occurring site type associated with the Lake Macquarie foreshore is a midden (n.57), with artefact scatters occurring in two instances. This supports the ethnographic evidence (*3.1 Ethnography*) that the Aboriginal people relied on shellfish as a consistent and plentiful resource.

Whilst the results of surveys have provided useful indicators of site location, excavations carried out (Besant, 2001; Officer, Navin & Saunders, 1996; Dallas, Navin & McConchie 1993) have provided significantly more information on site location and complexity. These reports found that artefact deposits, including midden shell are related to an elevated area adjacent the lake shoreline and creeks.

In addition site contents have proved more diverse than what has been observed on the surface. Excavations (Besant, 2001; Officer, Navin & Saunders, 1996) have located substantial stone artefact deposits and one must note the Officer et al excavation at Mannering Bay situated just 1.5 kilometres from the Study Area.

The implication for the Study Area is that there is a high probability that middens will occur given the proximity of the Lake foreshore and creek. The presence of an elevated area in association with the Lake foreshore may indicate that as well as a surface midden feature, further evidence of Aboriginal cultural heritage may be present sub-surface.

6.0 PREDICTIVE MODEL FOR THE STUDY AREA

6.1 Predictive Modelling

A predictive model is created to form an educated estimate of the potential for an archaeological site to occur. It involves reviewing existing literature and consulting site databases to determine basic patterns of site distribution and correlating this distribution with the associated environment. The use of land systems and environmental factors in predictive modelling is based upon the assumption that these factors provided constraints that influenced land use patterns by past populations resulting in different spatial distributions and types of sites in the archaeological record. Predictive models can be used as a basis for the planning and management of Aboriginal heritage, and for formulating survey strategies to include areas of maximum archaeological potential.

The summary of environmental data (Section 2) and previous archaeological work (Section 4 and Section 5) was used to create a predictive model for sites in the Study Area.

6.2 Predictive Model for Aboriginal Archaeology in the Study Area

6.2.1 Site Types and Location

The climate information indicates that the area was suitable for habitation year round. The AHIMS records that midden sites regularly occur along the shoreline of Lake Macquarie and in close proximity to the Study Area. The small number of isolated artefacts and artefact scatters recorded may be a reflection on the lack of available raw material in the area or site formation processes where occupation areas have been covered or degraded by erosion.

6.2.2 Site Aspect

The aspect of the site is oriented towards the north and the shoreline of Lake Macquarie with the slope rising progressively south across the Study Area. The aspect provides for a sheltered environment from the colder southerly and westerly winds with some positive influence from the cooling north-easterly summer winds.

6.2.3 Slope

The terrain of the Study Area comprises low lying flats along the shoreline. Away from the shoreline the slope increases from 1:20 to 1:10. The Study Area is marked by minor drainage lines that drain from the south to the north entering the Lake. Archaeological surveys in the vicinity of the study area have identified a preference for sites to be located along the lake shoreline. A number of midden

sites have been found associated with Lake Macquarie shorelines and in particular nearby elevated terraces.

6.2.4 Distance from Water

The Study Area is located to the immediate south of Wyee Point and adjacent to the marine environment of Lake Macquarie. Distance to fresh drinking water is an important factor in the location of Aboriginal occupation sites. The unnamed creek could be considered tidal with the water close to the Lake unsuitable for drinking. Fresh water may be obtainable along the creek at some distance inland or there may have been fresh water available on a seasonal basis from the drainage lines.

6.2.5 Food

Within a one kilometre radius, a range of environmental types were available; the saltwater Lake Macquarie, estuarine resources from Cobra Creek, wetlands around Wyee Creek, Mannering Lake and surrounding woodland areas stretch west to the Olney State Forest. A diverse and abundant variety of flora and fauna, both terrestrial and estuarine would be available throughout the region and for a majority of the year, including along the shoreline of Lake Macquarie.

6.2.6 Summary

The area presents as a particularly diverse and abundant environment for exploitation by Aboriginal peoples. The AHIMS results demonstrate the regular use of the Lake Macquarie shoreline as evidenced by the number of midden sites. The proximity of estuarine and terrestrial environments would have made the Study Area potentially desirable as a campsite and as a base for targeting a multitude of flora and fauna species.

6.3 Predictive Model for European heritage in the Study Area

The results of database searches (NSW Heritage Office) and the Lake Macquarie City Council (Section 4.1.1) and additional historical research provide a concept of the types of sites and activities that could have been carried out in the subject area.

The area had marginal value for agriculture with poor thin soils away from creeks. The early occupants were most likely timber getters and settlers with small herds of cattle. Wyee Point is first recorded as the site of a large steam driven timber mill with associated infrastructure and domestic dwellings. It is the cultural remains of these activities that are most likely to occur in the subject area. As such the following items may occur in the landscape:

- Timber industry relics;
- Agricultural yards, implements and structures; and
- Built structures from the early years of settlement.

In determining the value of sites from a heritage perspective, The Heritage Branch Assessment Criteria was used (Refer Appendix 5).

7.0 FIELD SURVEY

The archaeological pedestrian survey of the Wyee Point Study Area was conducted on 6th July 2009 in good weather with clear skies and good visibility. Team members included Ashley Hudson (KLALC) and Kerrie Brauer (ATOAC) together with Laraine Nelson and Philippa Sokol, Archaeologists, RPS HSO.

Shell midden material was found to occur extensively across the Study Area in proximity to the Lake shoreline. No stone artefacts were located. The shell midden was seen to occur along the Lake foreshore as an intermittent band and along an elevated terrace line associated with the shore line and parallel to it at more discrete intervals. One other isolated deposit of shell was also observed on the area designated mid-slope approximately 80 to 100 metres from the shoreline.

The only items potentially qualifying as European heritage were initial earthworks for the streets associated with the defunct 1887 Ramsgate subdivision (Plate 4).

7.1 Methodology

To ensure effective coverage of the area all landform units were inspected equally. The north and north western parts of the Study Area are low lying and bounded by the lake foreshore and an unnamed freshwater creek. Parallel to the lake shore there is a sharp rise to an elevated terrace. From this the land rises as a low slope (1:20) changing from a low to mid-slope landform unit. Systematic coverage of these areas provided the basis for an assessment of the probability of Aboriginal cultural heritage sites occurring.

7.2 Landforms

The study area has been divided into four landform units for comparative purposes and predictive modelling. Those present in the study area moving south are:

- the Lake Macquarie foreshore and creek banks;
- elevated terrace adjacent and parallel to the foreshore;
- the lower slope; and
- the mid-slope.

A drainage line runs from south to north approximately mid-centre of the Study Area. There was no evidence that this area carried a permanent flow of water, however, the vegetation was dense and the ground boggy.

A map detailing the survey area and survey units is at Figure 7-1 while at Table 7-1 is an Effective Coverage Table.

7.3 Survey Units

7.3.1 Survey Unit 1 - Lake Macquarie foreshore and creek banks

The foreshore and creek bank forms the north and north-western boundary of the Study Area. The lake foreshore, approximately 20 to 30 metres wide, has a distinct southern boundary formed by a steep slope to an elevated terrace. Visibility along the foreshore varies with introduced and native shrubs and grasses present. In most areas of ground exposure shell midden material was observed. This was present as singularly large and predominant *Anadara trapezia* (Cockle) and occasional *Ostrea angasi* (Native Oysters). In one area where ground cover was dense, animal burrows created small mounds of earth containing shell indicating that while midden material was not apparent on the surface it did occur sub-surface (Plate7).

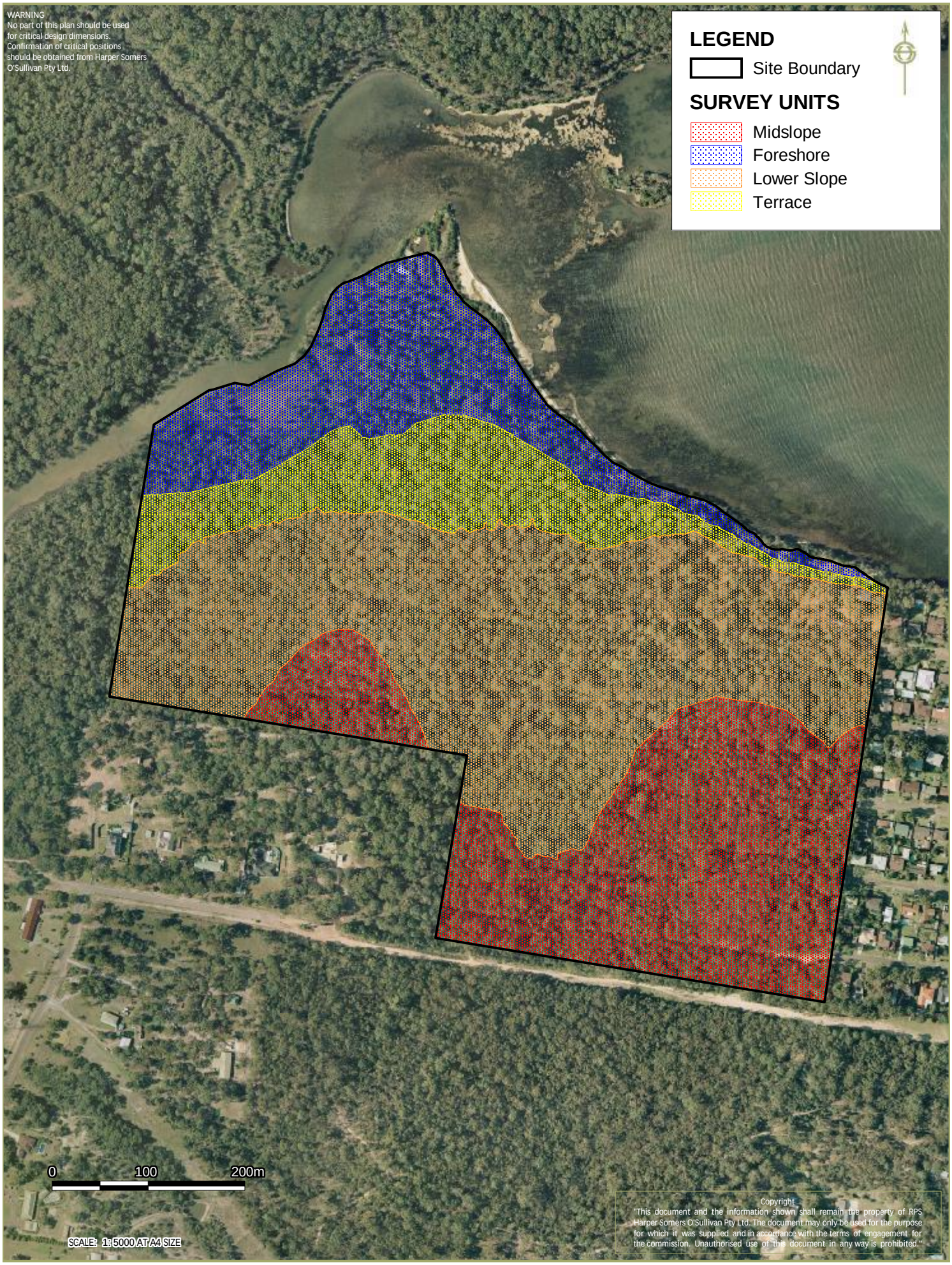
At the western limit of the shoreline where the creek entered the lake some sectors were low lying, inundated and inaccessible. The creek bank was walked as far as practicable with again low lying swampy and mangrove areas limiting access. A slightly elevated terrace area adjacent where the creek enters the lake contained evidence of shell midden deposits were observed.

All midden shell were predominately *Anadara trapezia* with occasional *Ostrea angasi*. No stone artefacts were observed in the area (Plates 5-8).

7.3.2 Survey Unit 2 – Elevated terrace adjacent and parallel to the foreshore

Approximately three to five metres landward of the Lake shoreline was a short sharp slope to an elevated terrace approximately 20 metres wide. The terrace extended the length of the shoreline for approximately 550 metres. At the eastern end, the terrace was approximately 20 metres distant from the shoreline which increased to around 40 metres at its western end nearer the creek. The highest point was at the eastern boundary, with elevation gradually diminishing further towards the western boundary near the creek.

An eroded walking track that followed the length of the embankment was used to examine exposures. Away from the track visibility could be considered as nil. In the eastern area the vegetation appeared as open eucalypt forest and grassland. Moving west along the track the vegetation became denser and more sup-tropical in appearance as the elevation decreased close to the creek.



TITLE: FIGURE 7-1 SURVEY UNITS
LOCATION: WYEE
DATUM:
PROJECTION: MGA ZONE 56 (GDA 94)
DATE: 09/07/2009
PURPOSE: ARCHAEOLOGY
LAYOUT REF 25757 Figure 7-1Survey Units
VERSION (PLAN BY): A-A4 (AP)

CLIENT: LMCC
JOB REF: 25757

241 DENISON STREET BROADMEADOW PO BOX 428 HAMILTON NSW 2303
T: 02 4961 6500 F: 02 4961 6794 www.rpshso.com.au

RPS HARPER SOMERS O'SULLIVAN

Small quantities of shell were observed at varying distances along the section of the track associated with the open forest. In the area of the track closest to the creek the distance to the foreshore was greater and the elevations lower with no shell midden material observed. Most occurrences were small with approximately five to ten shells present, single shells were noted and in one area a denser group of shells were observed. Most shells were degraded though still identifiable as *Anadara trapezia.*

All shell observed was *Anadara trapezia*, though degraded *Ostrea angasi* may have been present. No stone artefacts were observed (Plate 10).

7.3.3 Survey Unit 3 – Lower slope

The lower slope rises as a gentle incline (1:20) from the elevated ridge toward the southern extent of the Study Area. The vegetation ranges from open eucalypt forest to eucalypt forest with a dense understorey.

A number of well defined dirt tracks criss-cross the area and these together with exposures around tree bases provide good ground visibility. Away from these tracks understorey, native grass, leaf and bark litter impede visibility.

In this area two dirt bike tracks provided good visibility. The first track provided a good opportunity to survey a large cleared area, approximately 35 metres by 25 metres, and was almost totally devoid of ground cover. The second dirt bike track was a long circuit possibly a kilometre in length through a wide cross section of the bush.

One localised area of highly degraded shell comprising around 20+ fragments including *Anadara trapezia* was observed. This site, on an eroding walking track, was approximately 80 – 100 metres from the lake foreshore with an approximate one metre by one metre exposed area. No stone artefacts were observed (Plate 12 & 13).

7.3.4 Survey Unit 4 – Mid slope.

The mid slope continues south from the lower slope to an upper slope and elevated terrace, both situated outside the Study Area. This survey unit was again dominated by a eucalypt forest that had a dense and in many cases impenetrable understorey. An unformed dirt track possibly used by cars and motor bikes runs from east to west across the Study Area, this track is most likely the road designated as Ash Street on the original 1885 Ramsgate subdivision proposal (Plate 14).

This track was walked in its entirety giving a good cross section of the north-south drainage line. On the western extremity of the track the fence line of the adjoining property was reached. At this point the survey team turned to walk in a

northerly direction along what would have been and was still visible as the area cleared for Sweetland Street in the original subdivision. In addition Broughton Street, Bewick Street and White Street from the original subdivision were noted and walked where possible (Plate 15). As the team got closer to the western border of the development the vegetation in close proximity to the unnamed creek became too dense for access (Plate 16). No Aboriginal cultural heritage material was observed.

Table 7-1: Survey Coverage Data

Landform Unit	Survey Unit	Total area of LF Unit sq. m.	Exposure %	Area of Exposure sq. m	Visibility %	Area Available for Detection (sq.m)	% of landform area available for site detection
Lake foreshore and creek bank	1	7424	5	371	50	185	2.5
Elevated terrace	2	6560	1	65	100	65	1
Lower slope	3	17104	5	855	75	641	4
Mid slope	4	13568	5	678	75	508	4

7.4 Survey Results – Aboriginal Archaeology

The survey team recorded a shell midden along the Lake foreshore, with smaller deposits occurring along an adjacent elevated terrace. It has been recorded as one extensive occupation area and designated as a Midden with PAD. The site was recorded as RPS HSO MwP1 with eastern extent GDA coordinates of E 361537 N 6332127 and western extent GDA coordinates of E 361046 N 6332379.

A further small localised area of what appears to be unstratified midden shell was recorded south of the foreshore on the landform unit designated as lower slope. The site was recorded as RPS HSO M1 with GDA coordinates E 361555 N 6331952.

No stone artefacts were observed at either of the sited described above.

WARNING
No part of this plan should be used for critical design dimensions. Confirmation of critical positions should be obtained from Harper Somers O'Sullivan Pty Ltd.

TITLE: FIGURE 7-2 SITES IDENTIFIED DURING FIELD SURVEY

LOCATION: WYEE

DATUM: DATUM
PROJECTION: MGA ZONE 56 (GDA 94)

DATE: 15/6/2009
PURPOSE: ARCHAEOLOGY

LAYOUT REF: 25757 Figure 7-2 New Site A A3
VERSION (PLAN BY): A-A4 (AP)

CLIENT: LAKE MACQUARIE CITY COUNCIL
JOB REF: 25757

241 DENISON STREET BROADMEADOW PO BOX 428 HAMILTON NSW 2303
T: 02 4961 6500 F: 02 4961 6794 www.rpshso.com.au

creative people
making a difference

RPS HARPER SOMERS O'SULLIVAN

7.5 Survey Results – European Historic

The only evidence of European heritage noted was the now overgrown but definable earthworks associated with a number of streets (Ash, Sweetland, Broughton, Berwick, and White) from the original 1887 Ramsgate Subdivision. Early fencing wire that has now been incorporated into a tree trunk was seen at the junction of Sweetland and Broughton Street (Plate 17).

While there was a large sawmill documented in the Wyee Point area in the nineteenth century, given it was established only ten years prior to the Ramsgate subdivisions first proposal, it would be highly unlikely they would have occupied the same location. The sawmill was also recorded as having a large wharf associated with it. No evidence of a wharf was seen by the survey team and in addition, the area of Wyee Bay that fronts the Study Area appears to be shallow and would appear unsuitable for access by larger boats.

No evidence of the sawmill or other items of European cultural historical significance were observed during the field survey investigation.

8.0 ABORIGINAL ARCHAEOLOGY SIGNIFICANCE ASSESSMENT

The term 'archaeological significance' (also referred to as scientific significance) is a value allocated to Aboriginal or European heritage sites by archaeologists to help determine appropriate management strategies and mitigation recommendations for their ongoing care and management.

8.1 Archaeological Significance

The study area varies in the degree of disturbance affecting it. These factors informed the decision to classify the study area as containing areas of nil; low; and moderate archaeological significance.

A full discussion of significance can be found below, but, in general the following can be stated:

- The lower and mid slope areas in general can be considered to have nil to low significance.
- The midden located on the lower slope and the lake foreshore is considered to have low significance.
- The midden on the elevated terrace is considered to be of medium significance.

Table 8-1 describes the sites located during this study while Table 8-2 describes those sites previously located.

Table 8-1: New sites located during Survey

Study Area	Site Name	Site Type	Easting GDA	Northing GDA	Location
Ramsgate	RPS HSO MwP1	Midden with PAD	361537 to 361046	6332127 to 6332379	Wyee Point
Ramsgate	RPS HSO M1	Midden	361555	6331952	Wyee Point

The archaeological significance given to a site or area in the absence of identified sites is based on several criteria detailed below;

- Rarity in a local and regional context
- Representativeness in a local and regional context
- Integrity in a local and regional context
- Connectedness in a local and regional context
- Complexity in a local and regional context
- Ability to contribute to the archaeological understanding of the cultural sequence in a local and regional context

Rarity: This criterion examines the site type against those occurring in the local and regional context. If the site type being assessed is considered to be rare at either regional or local levels, this raises its importance in the archaeological record. In Australia, the most common site type is an artefact scatter. For the local area, the most common site types are middens.

A midden site within the Lake area would be considered to be of low importance in terms of rarity.

Representativeness: This criterion relates to determining if the site can be characterised as representative of the sites (types, integrity etc) present in the local and regional context. The purpose of this is to conduct further investigations on a sample of sites within a given area, in order to add to the archaeological understanding of the area, but to leave a representative sample in situ for future generations.

Middens are representative of the most common site found across the local and regional area, however, significant destruction and disturbance has occurred at the majority of midden sites. There is potential for the terrace site, if it has not been significantly disturbed, to be assessed as medium in terms of representativeness.

Integrity: This criterion refers to how undisturbed and intact a site is. A site with contextual integrity can provide information relating to chronology, social systems, tool technology, site formation processes, habitation, frequency of use as well as other forms of analysis. If a site has been the subject of moderate to large degrees of disturbance, it has a low probability of retaining integrity, and thus the information able to be obtained from the site is reduced.

It would appear that the midden site along the foreshore has been disturbed with evidence of possible soil removal, burrowing by animals and the growth of invasive plants such as lantana. The area of midden shell on the terrace may be less disturbed. While the walking track has impacted upon the site, away from the track dense grasses may have offered some protection. The area is considered to have low to medium integrity.

Connectedness: The connectedness criterion relates to the relationship between a site and others in the local and regional environment. If a site is determined to have connectedness with other sites, the depth of knowledge that can be obtained from the connected sites increases and can be used to develop an understanding of more traditional practices that cannot be identified by looking at one site in isolation. The connectedness could relate to age, the landform in which they are contained, the contents of the sites etc. This criterion is often ascertained without subsurface investigations.

The connectedness of this site is in evidence in the link between the foreshore, the terrace and potentially the midden deposit located on the lower slope. The area is considered to have low – medium significance for connectedness.

Complexity: The complexity criterion relates to the contents of the site. This may relate to a high number of artefacts per square metre or features which can add to the layer of information that can be obtained from a site (e.g. hearths, knapping floors, ochres etc).

The complexity of the sites at this point can only be assessed in terms of size with no evidence of complexity apparent at the surface. It is considered that given the size of RPS HSO M1 that site complexity would be most likely be assigned as low and this is also likely for RPS HSO MwP1 the foreshore midden.

For the terrace, the results of earlier excavation work at nearby 'The Hole' Mannering Bay and the St John of God site to the north indicate there is potential for this area to contain cultural artefacts such as stone tools. It has been assessed as having potential for medium complexity.

Contribute to Knowledge: The ability of a site to contribute to knowledge is largely dependent on the site having moderate to high significance assessments for the other criteria. The ability to contribute to knowledge requires 'new' knowledge to be drawn from the site and add to the local and/or regional context.

The area would appear, although disturbed, to contain a midden of significant size stretching for possibly 500 metres. The presence of the three distinct areas of shell, on the foreshore, the terrace and lower slope may have the capacity through further research to add to the archaeological record of resource use at the lake. It therefore has medium potential to contribute to knowledge.

8.2 Cultural Significance

This can only be determined by Aboriginal community. This section is to be completed once community feedback has been received with the responses at Appendix 8.

9.0 EUROPEAN HISTORIC SIGNIFICANCE ASSESSMENT

No items of European cultural historical significance were observed.

10.0 DISCUSSION

The midden site recorded during this survey was in part previously noticed during the Conacher Travers archaeological survey (2003). That survey considered the midden to be small, approximately 2 square metres, and situated midway along the Study Area shoreline. Investigations by RPS HSO indicate that Conacher Travers did not notify AHIMS of the site. As such RPS HSO have prepared a site card for submission to AHIMS, with the site name designated as RPS HSO MwP1.

The evidence from this survey is that the midden RPS HSO MwP1 is extensive with shell apparent in a series of exposures both along the foreshore and to a lesser extent on the elevated terrace above the shoreline. These two locations have been recorded as a single midden because of the close correlation between the two regarding site contents but most importantly because of their close physical proximity.

The lack of observable fresh water near to the site is problematic. A drainage line is located along the western border of the Study Area, this drainage line runs south to north to the Lake and may have been a source of fresh water. This area was densely vegetated and as a result not fully investigated.

The small concentration of shell recorded as RPS HSO M1 is unusual given its distance from the shoreline. The shell present at the site is weathered, old and where identifiable consists of *Anadara trapezia,* the most common midden shell and as such it has been recorded as a midden.

Previous excavations by Officer, Navin & Saunders (1996) at the nearby site in Mannering Bay revealed a significant though highly disturbed deposit of stone artefacts. They considered that the artefacts were in association with an elevated spur of land adjacent the Lake shoreline. This finding supports the work by Dallas, Navin & McConchie (1993) who following a detailed program of survey and archaeological excavation of the Morisset peninsular determined that shell accumulations at distances greater than five metres landward and at higher elevation than 0.5 metres are most likely midden material.

RPS HSO MwP1 and possibly RPS HSO M1 have the potential to add to our knowledge of the Awabakal people's use of the southern shores of Lake Macquarie. RPS HSO MwP1 is located on a slightly elevated terrace adjacent a lake and creek, which is also the most commonly defined landform indicator for the presence of large midden sites.

11.0 RECOMMENDATIONS

The management recommendations that stem from this archaeological assessment are based on the legislation designed to address the impact of development upon sites of cultural significance.

11.1 Aboriginal Community Consultation

Recommendation 1
Liaison established with the registered Aboriginal stakeholders and other interested parties as per the DECC Interim Community Consultation Requirements for Applicants (2004) during this project should be maintained until all issues in relation to the management of Aboriginal cultural heritage have been resolved;

11.2 Aboriginal Archaeological Management

The *Section 87/90 Consent* under the National Parks and Wildlife Act (1974) described below is required where impact is likely to occur on items or sites of Aboriginal cultural heritage value.

With regard the management of RPS HSO MwP1:

Recommendation 2
Subject to further design and development of the subdivision layout, a series of test excavations should be carried out to determine the terrestrial extent of RPS HSO MwP1 by a qualified archaeologist in conjunction with the registered Aboriginal stakeholders.

If impact from the development to RPS HSO MwP1 is unavoidable, a *Section 87/90 Consent* application under the National Parks and Wildlife Act (1974) is required.

The research design developed for the *Section 87/90 Consent* application should incorporate an investigation into the complexity of the midden matrix to clarify the horizontal and vertical extent of the deposit above the two metre ASL contour line.

Recommendation 3
No disturbance, vegetation clearance or earth works should occur below the two metre ASL contour line along the Lake Macquarie foreshore without prior application for a Section 87/90 Consent under the National Parks and Wildlife Act (1974).

With regards the management of RPS HSO M1:

Recommendation 4
No disturbance, vegetation clearance or earth works should occur within an area of 3 metres by 3 metres around the area designated as RPS HSO M1 without prior application for a Section 87/90 Consent under the National Parks and Wildlife Act (1974).

In general during the course of construction work:

Recommendation 5
If it is suspected Aboriginal cultural heritage material has been encountered, work should cease immediately. The NSW Department of Environment and Climate Change (DECC), KLALC, ATOAC and ADTOAC should be notified. Works should only recommence when an appropriate and approved management strategy has been agreed to by all of the relevant stakeholders.

Recommendation 6
In the event that skeletal remains are uncovered whilst operations are underway, work is to stop in the vicinity immediately and the NSW Coroner's Office and NSW Police contacted. If skeletal remains are deemed to be of Aboriginal origin, a representative of the local Aboriginal Community (KLALC, ATOAC and ADTOAC) and the DECC are to be contacted.

12.0 REFERENCES

Attenbrow, V. 1986, Ruttley Road, Lake Macquarie. Unpublished report NSW National Parks and Wildlife Service.

Australian Bureau of Meteorology.2009. http://www.bom.gov.au/climate/averages/tables/cw_061273.shtml Accessed on 07 July 2009.

Bennett, F. 1969. An historical tour of the Wyong District. Historical Monograph 3. Brisbane Water Historical Society. Wyong

Besant, A. 2001 St John of God School Site – Archaeology Assessment. Unpublished report to Harper Somers Pty Ltd.

Bigge, J.T. 1822. Report of the Commissioner of Inquiry into the state of the Colony of New South Wales, Ordered by the House of Commons to be printed, 19 June 1822. London.

Brayshaw, H. 1986. Aborigines of the Hunter Valley: a study of colonial records. Scone and Upper Hunter Historical Society. Scone.

Clouten, Keith. 1967. Reid's Mistake. Lake Macquarie Shire Council.

Conacher Travers. 2003. Aboriginal Site Survey: Proposed Development of DP1596 Ramsgate estate. Wyee Point. Unpublished report.

Cooksey, D. F. 1926a, Aboriginal flakes and tools of the Newcastle (NSW) and district. Paper 1. Unpublished. Cooksey Family Papers, Auchmuty Library ARBSC, University of Newcastle

Cooksey, D. F. 1926b, Aboriginal flakes and tools of the Newcastle (NSW) and district. Paper 2. Unpublished. Cooksey Family Papers, Auchmuty Library ARBSC, University of Newcastle.

Dallas, M. 1995 – Archaeological Survey at Wyee Point Lake Macquarie, NSW. Unpublished Report.

Dallas. 1986. Pipeline Route between Gwandalan and Mannering Park Sewerage Treatment Works. Appendix c. Unpublished report to NSW Public Works Department.

Dallas, M, Navin, K and McConchie, D. 1993 – Archaeological Investigation of the Morisset Peninsula Sewerage Scheme. Unpublished Report.

Dangar, Henry. 1828, Index and directory. Joseph Cross. London.

Dawson, R. 1831. The Present State of Australia. London.

Donlon, D. 1991, Skeletal Remains from the Swansea Channel Burial Ground, NSW. Report for The Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra.

Dyall, L. K. Aboriginal Fishing Stations on the Newcastle Coastline, New South Wales. in Coastal Archaeology in Eastern Australia: Proceedings of the 1980 Valla Conference on Australian Prehistory, ed. Sandra Bowdler. Canberra: Australian National University, 1982: 52-62.

Dyall, L. and Bentley, F.1975. Archaeological excavations at Swansea. Report to NPWS.

Fawcett, J W. 1898. Notes on the customs and dialect of the Wonnah-ruah tribe. Science. August 22, 152-154.

Haglund, L. 1986, Assessment of the Prehistoric Heritage in the Lake Macquarie Area. A report to Lake Macquarie City Council. Lake Macquarie City Council.

Heath, J. n.d. Muloobinbah: The contribution of Aboriginal people to the resources of the Hunter region. Self published.

Insite Heritage, 2008. Archaeology Assessment of Part Lot 358 DP755242 Part Lot 9 DP244002 Morisset Park. Unpublished Report

Insite Heritage. 2005 – Archaeology Assessment of various lots bounded by Gradwell and Cooranbong Roads, Dora Creek.

Lake Macquarie City Council. 2009. Specifications for Preparation of a Local Environment Study. DP1596. Ramsgate Estate, Wyee Point.

L'Oste Brown, S., Godwin, L. and Porter, C. In Association with Bowen Basin Aboriginal Steering Committee. 1998. Towards and Aboriginal Social and Cultural Landscape of the Bowen Basin Aboriginal Cultural Heritage Project. Cultural Heritage Monograph Series Volume 2. Queensland Department of Environment and Heritage, Brisbane.

McKeirnan, B. Some notes on the Aborigines of the Lower Hunter River, NSW. Anthropes. 6:1911 pp.885-9

Miller,R. 1886-1887. No.188 – The Hunter River. The Wonnarua Tribe and Language in The Australian Race: Its origins, languages, customs, place of landing and the routes by which it spread itself over that continent. Ed. by E M Curr. Melbourne, John Farnes, Govt. Printer. 1886-1887.

Montgomery, J. 1831. Journal of the voyages and travels of Rev. Daniel Tyerman and George Bennett. Esq. London. Frederick Wesley and AH Davis.

Murray, P. 2005, From Bahtahbah to Belmont. A history of Belmont 1826-1926. Self Published.

Needham, W J. 1981. Burragurra: where the spirit walked. A study of Aboriginal sites in the Cessnock – Wollombi region of the Hunter Valley, New South Wales. Dobson & McEwan. Adamstown, NSW.

Nelson, L. 1994. Shell middens at Lake Macquarie. Unpublished thesis for Master of Letters. University of New England. NSW.

Nelson, L and Ruig, J. 1993, Report of an archaeological survey for a proposed retirement village at Bonnells Bay, Lake Macquarie, NSW.

NSW Heritage Office. 1996. NSW Heritage Manual.

Officer, K Navin, K and Saunders, P. 1996. Test Excavations at 'The Hole 1' Mannering Bay, Lake Macquarie, NSW. Unpublished Report.

Scott, W. The Port Stephens Blacks. Edit. Gordon Williams. n.d. Dungog.

Short, 2000, 'Sydney's Dynamic Landscape', in Sydney – Emergence of a World City, ed. J. Connell, Oxford University Press, Melbourne.

Sokoloff, B. 1980. The Worimi: the hunter gatherers of Port Stephens. Raymond Terrace Historical Society.

Threlkeld, L.E. Australian Reminiscences and papers of LE Threlkeld, Missionary to the Aborigines, 1824 – 1859. Edit. Neil Gunson. 1974. Australian Institute of Aboriginal Studies.

Travers Environmental. 2009. Ramsgate Estate Ecological Report. Report prepared for Kyle Fuller, Trent Matheson.

Turner, J. and Blyton, G. 1995, The Aboriginals of Lake Macquarie. Lake Macquarie City Council, Lake Macquarie.

13.0 PLATES

Plate 1: Vegetation along foreshore.

Plate 2: Vegetation along mid- slope landform

Plate 3: Eroded area used by motorbikes

Plate 4: Line of Sweetland Street from the original proposed Ramsgate subdivision

Plate 5: Survey Unit 1 - Midden along Lake Macquarie shoreline.

Plate 6: Survey Unit 1 - Midden adjacent the unnamed creek containing *Anadara trapezia* (Cockle) and *Ostrea angasi* (Native Oyster). NB: scale pole is in 50 cm increments.

Plate 7: Survey Unit 1 - Midden shell excavated by burrowing animal. NB: scale pole is in 50 cm increments.

Plate 8: Survey Unit I – Shell Midden Containing *Anadara trapezia* (Cockle).

Plate 9: Survey Unit 2 – Profile of the elevated terrace looking north-west.

Plate 10: Survey Unit 2 - Midden shell on elevated terrace

Plate 11: Survey Unit 2 - Track

Plate 12: Survey Unit 3 – Midden shell - RPS HSO M1.

Plate 13: Survey Unit 3 – location of RPS HSO M1. NB: scale pole is in 50cm increments.

Plate 14: Survey Unit 4 – North-south track.

Plate 15: Survey Unit 4 – Vegetation.

Plate 16: Survey Unit 4 – Vegetation.

Plate 17: Early fencing wire incorporated into a tree trunk at the junction of Sweetland and Broughton Street

APPENDIX 1

Legislative Requirements

SUMMARY OF STATUTORY CONTROLS

The following overview of the legal framework is provided solely for information purposes for the client, it should not be interpreted as legal advice. RPS Harper Somers O'Sullivan will not be liable for any actions taken by any person, body or group as a result of this general overview, and recommend that specific legal advice be obtained from a qualified legal practitioner prior to any action being taken as a result of the summary below.

COMMONWEALTH

Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (ATSIHP Act), Amendment 2006

The purpose of this Act is to preserve and protect all heritage places of particular significance to Aboriginal and Torres Strait Islander people. This Act applies to all sites and objects across Australia and in Australian waters (s4).

It would appear that the intention of this Act is to provide national baseline protection for Aboriginal places and objects where State legislation is absent. It is not to exclude or limit State laws (s7(1)). Should State legislation cover a matter already covered in the Commonwealth legislation, and a person contravenes that matter, that person may be prosecuted under either Act, but not both (s7(3)).

The Act provides for the preservation and protection of all Aboriginal objects and places from injury and/or desecration. A place is construed to be injured or desecrated if it is not treated consistently with the manner of Aboriginal tradition or is or likely to be adversely affected (s3).

THE AUSTRALIAN HERITAGE COMMISSION ACT 1975

The Australian Heritage Commission Act 1975 established the Australian Heritage Commission which assesses places to be included in the National Estate and maintains a register of those places. Places maintained in the register are those which are significant in terms of their association with particular community or social groups and they may be included for social, cultural or spiritual reasons. The Act does not include specific protective clauses.

The Australian Heritage Council Act 2003 together with The Environment Protection and Biodiversity Conservation Act 1999 (Amended) includes a National Heritage List of places of National heritage significance, maintains a Commonwealth Heritage List of heritage places owned or managed by the Commonwealth and ongoing management of the Register of the National Estate.

STATE

It is incumbent on any land manager to adhere to legislative requirements that protect Aboriginal culture heritage in NSW. The relevant legislation includes but is not limited to:

National Parks & Wildlife Act 1974 (NPW Act), Amended 2001.

The DECC issued their Interim Community Consultation Requirements in January 2005 to replace all previous consultation guidelines that related to Part 6 of the NPW Act 1974. The requirement of the guidelines is for the proponent, or consultant for the proponent, to contact the Local Aboriginal Land Council(s), Registrar of Aboriginal Owners, Native Title Services, local councils and the DECC, to request contact information for any/all potential Aboriginal people/groups with an ancestral interest in the cultural heritage of the project area.

The NPW Act provides statutory protection for all Aboriginal relics (not being a handicraft made for sale), with penalties levied for breaches of the Act. Part 6 of this Act is the relevant part concerned Aboriginal objects and places, with the Section 86 and Section 90 being the most pertinent:

Section 91: Under Section 91 of the Act it stipulates that a person who is aware of unregistered Aboriginal sites must report these to the DECC, regardless of the land status (Freehold, leasehold, Crown land).

Section 90: "A person who, without first obtaining the consent of the Director-General, knowingly destroys, defaces or damages, or knowingly causes or permits the destruction or defacement of or damage to, an Aboriginal object or Aboriginal place is guilty of an offence against this Act." Under s.5 of the Act "object" means any deposit, object or material evidence (not being a handicraft made for sale) relating to Aboriginal habitation of the area. This applies to habitation both prior to and concurrent with the occupation of that area by persons of non Aboriginal extraction, and includes Aboriginal remains.

Section 87: Preliminary Research Permits issued under Section 87 of the Act, allow the permit holder to conduct investigations of areas considered to be potential sites for the purpose of research, and also for conservation work associated with known sites.

Impact Permits issued under Section 90 of the Act are for salvaging sites prior to ground disturbance works associated with construction. Any disturbance, damage or destruction of Aboriginal sites, known or unknown, is considered to contravene the NPW Act (1974) and the DECC will pursue the person/company responsible.

Penalties under these two sections are currently 50 penalty units, or 6 months in gaol, or both for an individual and 200 penalty units for a corporation. The DECC record all S.87 and S.90 permits issued in order to manage Aboriginal sites and ensure representative samples of sites are left in situ for future generations. In order to achieve this, the DECC need to be made aware of all Aboriginal sites located in NSW.

Section 86: This section of the Act states that "A person, other than the Director-General or a person authorised by the Director-General in that behalf, who:

(a) disturbs or excavates any land, or causes any land to be disturbed or excavated, for the purpose of discovering an Aboriginal object,

(b) disturbs or moves on any land an Aboriginal object that is the property of the Crown, other than an Aboriginal object that is in the custody or under the control of the Australian Museum Trust,

(c) takes possession of an Aboriginal object that is in a national park, historic site, state conservation area, regional park, nature reserve, karst conservation reserve or Aboriginal area,

(d) removes an Aboriginal object from a national park, historic site, state conservation area, regional park, nature reserve, karst conservation reserve or Aboriginal area, or

(e) erects or maintains, in a national park, historic site, state conservation area, regional park, nature reserve, karst conservation reserve or Aboriginal area, a building or structure for the safe custody, storage or exhibition of any Aboriginal object,

except in accordance with the terms and conditions of an unrevoked permit issued to the person under section 87, being terms and conditions having force and effect at the time the act or thing to which the permit relates is done, is guilty of an offence against this Act."

Section 84: Aboriginal places of traditional significance (that may or may not contain archaeological material) are given protection under Section 84 of the NPW Act. To be an Aboriginal place for the purposes of this Act, this is a place that, in the opinion of the Minister, is or was of special significance with respect to Aboriginal culture.

ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 (EP&A ACT)

This Act regulates a system of environmental planning and assessment for New South Wales. Land use planning requires that environmental impacts are considered, including the impact on cultural heritage and specifically Aboriginal heritage. Within the EP&A Acts, Parts III, IV, and V relate to Aboriginal heritage.

Part III regulates the preparation of planning policies and plans. Part IV governs the manner in which consent authorities determine development applications and outlines those that require an environmental impact statement. Part V regulates government agencies that act as determining authorities for activities conducted by that agency or by authority from the agency. The National Parks & Wildlife Service is a Part V authority under the EP&A Act.

In brief, the NPW Act provides protection for Aboriginal objects or places, while the EP&A Act ensures that Aboriginal cultural heritage is properly assessed in land use planning and development.

Part 3A of the EPA relates to major projects, and if applicable, obviates the need to conform to other specific legislation. In particular, s75U of the EPA Act explicitly removes the need to apply for s87 or s90 permits under the NPW Act. This means that although Aboriginal cultural heritage is considered during the planning process, a permit is not required to disturb or destroy an Aboriginal object or place. However, the Director-General of Planning must nonetheless consult with other government agencies, including DECC and National Parks & Wildlife, prior to any decision being made.

THE HERITAGE ACT 1977

This Act protects the natural and cultural history of NSW with emphasis on non-Aboriginal cultural heritage through protection provisions and the establishment of a Heritage Council. Although Aboriginal heritage sites and objects are primarily protected by the National Parks & Wildlife Act 1974 (NPW Act), Amended 2001, if an Aboriginal site, object or place is of great significance, it may be protected by a heritage order issued by the Minister subject to advice by the Heritage Council.

Other legislation of relevance to Aboriginal cultural heritage in NSW includes the NSW Local Government Act (1993). Local planning instruments also contain provisions relating to Aboriginal heritage and development conditions of consent.

APPENDIX 2

AHIMS Registered Sites

Site ID	Site Name	AGD Easting	AGD Northing	Site Types
14-7-0149	Gwandalan	368000	6333300	Midden
45-3-0334	Tiembula Creek Midden;Tiembula Creek;	366730	6330420	Midden
45-3-1132	Dora Creek;Dora Creek North Bank; Beauty Point;	357200	6337300	Artefact Scatter
45-3-1133	Dora Creek:Dora Creek South Bank;Beauty Point;	357300	6337000	Artefact Scatter
45-3-1140	Morisset;	359290	6335970	Scarred Tree
45-3-1224	Wyee Creek;	353600	6328900	Grinding Grooves
45-3-1225	Wyee Creek	353500	6329600	Grinding Grooves
45-3-1235	Moran's Creek;	355300	6331100	Grinding Grooves
45-3-1309	Pourmalong Creek;	357361	6330396	Artefact Scatter
45-3-1310	Pourmalong Creek;	357823	6330130	Artefact Scatter
45-3-1311	Pasadena;	356972	6326822	Artefact Scatter
45-3-1553	Wyee Bay;Ruttleys Road;	362540	6330400	Midden
45-3-3165	K 1 Koompahtoo	359490	6332490	Artefact Scatter
45-3-3166	K 2 Koompahtoo	359840	6332530	Isolated Find
45-3-3176	B;1	359750	6324715	Artefact(s) unspecified
45-3-3179	B11	359563	6325450	Artefact(s) unspecified
45-3-3180	B14	359150	6325075	Artefact(s) unspecified
45-3-3186	BR10	359612	6326462	Artefact(s) unspecified
45-3-3187	BR13	359375	6325050	Artefact(s) unspecified
45-3-3188	BR12	359427	6325219	Artefact(s) unspecified
45-3-3232	Dora Ck Pad	358640	6339200	Potential Archaeological Deposit
45-3-3260	B3, Bushells Ridge	360187	6325275	Isolated Find
45-3-3261	B9, Bushells Ridge	359601	6326537	Artefact Scatter
45-3-3274	Cooranbong 1	354520	6337790	Isolated Find
45-3-3275	Cooranbong 2	354380	6337800	Artefact Scatter
45-3-3335	PAD 4 - Munmorah (not a PAD)	357900	6326000	Potential Archaeological Deposit
45-6-2516	Pipers Point Rocky Point;	363450	6339000	Midden
45-7-0001	Morisset Hospital	361550	6332450	Midden
45-7-0002	Goat Island;Dora Creek;	361438	6337149	Midden

Site ID	Site Name	AGD Easting	AGD Northing	Site Types
45-7-0003	Vales Point;Lake Macquarie;	363738	6331615	Midden
45-7-0079	Crangan Bay; Strangers Gully;	368450	6330750	Midden
45-7-0080	Mannering Park;	364780	6328890	Scarred Tree
45-7-0086	Pulbar Island	368947	6336560	Midden
45-7-0087	Pulbar Island	368661	6337195	Midden
45-7-0088	Palbah Island 2	368445	6337000	Aboriginal Place, Natural Mythological (Ritual)
45-7-0089	Bonnells Bay;	361832	6335693	Midden
45-7-0090	Dora Creek;	362950	6338410	Midden
45-7-0131	Summerland Point;	366820	6332970	Midden
45-7-0138	Bonny Boy Gully;	366820	6332970	Midden
45-7-0140	The Promenade;	366560	6339280	Midden
45-7-0141	Pump Station 7;	366550	6339650	Midden
45-7-0143	Dobell Drive;	368400	6339620	Midden
45-7-0144	Windemere Ck 1;	363000	6334600	Midden
45-7-0147	Eraring;	362300	6339460	Scarred Tree
45-7-0151	M4;Balcolyn Street;	364620	6337170	Midden
45-7-0154	M7:Fishery Point;	366050	6334500	Midden
45-7-0157	M10 Casuarina Point Reserve	366300	6334990	Midden
45-7-0158	M11;Lakeview Road, Bardens Bay;	363500	6334110	Midden
45-7-0159	M12;Bulgonia Road, Bardens Bay;	363950	6334850	Midden
45-7-0161	M1;Hungary Point public reserve;	361610	6336400	Midden
45-7-0162	M2;Hungary Point Public Reserve;	361700	6336350	Midden
45-7-0163	M3;Crusader Camp, Yarrawonga Point;	363900	6336850	Midden
45-7-0164	M6;Silverwater;	366050	6336100	Midden
45-7-0166	M8;Dandaraga Road, Sugar Bay;	365300	6334500	Midden
45-7-0167	M9;Camp Brightwaters;	363500	6334880	Midden
45-7-0171	M13;Balcolyn;	364620	6337170	Midden
45-7-0172	M5;Beach Road, Boat Harbour;	365500	6336580	Midden

Site ID	Site Name	AGD Easting	AGD Northing	Site Types
45-7-0173	NN1;Fullers Creek, Bonnells Bay;	360800	6336100	Midden
45-7-0174	BB2;Freshwater Creek, Bonnells Bay;	361100	6335990	Isolated Find
45-7-0176	Gwandalan;	367200	6333300	Midden
45-7-0178	Hembula Creek - Scarred Tree 1&2;HC-ST 1&2;	366800	6330400	Scarred Tree
45-7-0179	Black Neds Point;	365150	6331450	Midden
45-7-0181	Chain Valley Bay 1	366150	6329600	Midden
45-7-0182	Chain Valley Bay 2;	366120	6330950	Midden
45-7-0183	Diamond drill Pt. North;	368050	6333200	Midden
45-7-0184	Gwandalan;	368500	6331800	Midden
45-7-0186	Pt Wolstonecraft 1;	368350	6334200	Midden
45-7-0187	Pt Wolstonecraft 2;	367490	6336250	Midden
45-7-0188	Pulbah Island 3	368250	6337850	Midden
45-7-0189	Sandy Beach 1;	364950	6331450	Midden
45-7-0190	Wyee Point;	362500	6332150	Midden
45-7-0191	Pulbah Island 3;	368250	6337850	Midden
45-7-0205	Rocky point;	364500	6339500	Midden
45-7-0206	Rocky Point;	364500	6339500	Midden
45-7-0207	The Hole 1 (TH1)	361820	6329800	Artefact Scatter
45-7-0208	Pipers Point;	363200	6338550	Midden
45-7-0213	Wangi Wangi Point;	368450	6338750	Midden
45-7-0214	Sunshine Park;	365900	6335650	Midden
45-7-0219	Pulbah Island 4	368500	6337000	Midden
45-7-0225	K 3 Koompahtoo	360650	6334900	Isolated Find
45-7-0226	K 4 Koompahtoo	360390	6334990	Isolated Find
45-7-0227	St Johns 1	363680	6333520	Artefact(s) unspecified
45-7-0228	St Johns 2	363720	6333820	Artefact(s) unspecified
45-7-0230	K 3 KOOMPAHTOO	360650	6334900	Artefact(s) unspecified
45-7-0232	B2	360937	6325205	Scarred Tree
45-7-0233	Sunshine 2	365924	6335524	Midden

Site ID	Site Name	AGD Easting	AGD Northing	Site Types
45-7-0234	Sunshine Park, Sunshine	365895	6335284	Potential Archaeological Deposit
45-7-0235	Winding creek 1	365997	6336449	Artefact Scatter
45-7-0236	Fig Tree Point 1	365421	6337201	Midden
45-7-0237	Jonny's Point 2	365997	6336449	Midden
45-7-0238	Jonny's Point 1	365992	6336253	Isolated Find
45-7-0239	MP 1	362100	6334400	Potential Archaeological Deposit
45-7-0240	Dora Creek (Stingaree Road)	360613	6337218	Midden
45-7-0242	Bonnells Bay PAD	362150	6335830	Potential Archaeological Deposit
45-7-0243	WWSS3-2	360438	6337770	Potential Archaeological Deposit
45-7-0244	St Johns 3	363560	6333600	Isolated Find
45-7-0245	B5, Bushells Ridge	360800	6325350	Artefact Scatter
45-7-0249	PAD 1 - Munmorah	363200	6325900	Potential Archaeological Deposit
45-7-0250	PAD 2 - Munmorah	363175	6325350	Potential Archaeological Deposit
45-7-0251	PAD 3 – Munmorah	361000	6326250	Potential Archaeological Deposit
45-3-3259	B7	360227	6325388	Isolated Find
45-3-3262	B4, Bushells Ridge	360008	6325262	Isolated Find
45-3-3263	B8, Bushells Ridge	359931	6325584	Isolated Find
45-3-3315	WC-ST1	355162	6324145	Scarred Tree
45-3-3317	WC-OS1	355185	6324252	Artefact(s) unspecified
45-7-0253	gwandalan 2	367386	6331169	Midden
45-7-0254	gwandalan 1	368088	6329979	Midden
45-7-0255	Trinity Point GG2 (Catherine Hill Bay)	363618	6333664	Grinding Grooves
45-7-0256	Trinity Point Scarred Tree 2 (Catherine Hill Bay)	363749	6333815	Scarred Tree
45-7-0257	Trinity Point Ochre (Catherine Hill Bay)	363958	6333791	Ochre Quarry
45-7-0258	Trinity Point IF1 (Catherine Hill Bay)	363730	6333744	Artefact(s) unspecified
45-7-0262	SJOG 7	364036	6333848	Grinding Grooves
45-7-0263	SJOG 6	364026	6333875	Midden

APPENDIX 3

Aboriginal Consultation Log

Date	Contacted	RPS HSO Staff	Location	Subject	Outcomes
15/05/09	Lake Macquarie City Council	Philippa Sokol	Mail	Aboriginal Consultation letters regarding Wyee Assessment interest groups.	
15/05/09	NSW Native Titke Services	Philippa Sokol	Mail	Aboriginal Consultation letters regarding Wyee Assessment interest groups.	
15/05/09	NSW Department of Aboriginal Affairs	Philippa Sokol	Mail	Aboriginal Consultation letters regarding Wyee Assessment interest groups.	
15/05/09	Koompahtoo Local Aboriginal Land Council	Philippa Sokol	Mail	Aboriginal Consultation letters regarding Wyee Assessment interest groups.	
15/05/09	Bahtabah Local Aboriginal Land Council	Philippa Sokol	Mail	Aboriginal Consultation letters regarding Wyee Assessment interest groups.	
15/05/09	Department of Environment and Climate Change	Philippa Sokol	Mail	Aboriginal Consultation letters regarding Wyee Assessment interest groups.	
15/05/09	Jodi Higginbottom (RPS HSO Admin)	Philippa Sokol	Email	Ask for ICCG Advert to be placed in Newcastle Herald and Central Coast Express Advocate	Advert in Express Advocate 22/05/09 Advert in Newcastle Herald 23/05/09
25/05/09	Shane Frost (Awabakal Descendents)	Philippa Sokol	Email	Received Shane Frost letter of interest	Sent email acknowledging SF registration of interest and will update him accordingly.
28/05/09	Gidawaa Walang Cultural Heritage Consultancy	Philippa Sokol	Mail	Received Annie Hickey letter of interest.	22/06/09 Letter to group advising their interest to be involved in the survey was not successful.
03/06/09	Kerrie Brauer (Awabakal Traditional Owners)	Philippa Sokol	Email	Received Kerrie Brauer letter of interest	Sent email acknowledging KB registration of interest and will update him accordingly.
18/06/09	Minagen Wajaar,	Philippa Sokol	Mail	Letters of interest	19/06/09 Cacatua

	Wonn1 Contracting, Cutlurally Aware, Cacatua Culture Consultants and Yamuloong Group Initiatives			to Stakeholder groups listed on the DECC register	Culture Consultants faxed in a letter of interest.
19/06/09	Lois Towney (Koompahtoo LALC)	Philippa Sokol	Email	Wyee Site Survey letter and attached methodology, study area and survey details letter	LT said she will pass the documents onto Ashley Hudson (KLALC Sites Officer)
22/06/09	Kerrie Brauer (Awabakal Traditional Owner)	Philippa Sokol	Email	Wyee Site Survey letter and attached methodology, study area and survey details letter	KB sent through valid insurance certificates. Said not available to do survey until later than proposed date
22/06/09	Shane Frost	Philippa Sokol	Email	Advising SF that their interest to be involved in the survey was not successful.	
29/06/09	Kerrie Brauer (TO)	Philippa Sokol	Telephone	PS Received phone call from KB asking if PS received KB valid insurances and has a date been set for survey	PS received insurances. KB mentioned is available 02/07/09 for survey. PS said should be able to move it to that day.
29/06/09	Ashley Hudson (KLALC Site Officer)	Philippa Sokol	Telephone	Asked if info was received from Lois and is she available for 02/07/09	AH not available until Monday 06/07/09.
29/06/09	Kerrie Brauer (TO)	Philippa Sokol	Email	Date for survey moved to 06/07/09, does this date suit	KB returned email saying 06/07/09 is fine and appreciated organising dates to suit all stakeholders.
29/06/09	Ashley Husdon	Philippa Sokol	Telephone	Checked with AH if Monday 06/07/09 suits for the site survey	AH confirmed 06/07/09 suits for survey.
29/06/09	Lois Towney & Kerrie Brauer	Philippa Sokol	Email	Sent through survey meeting details and locality map.	
03/07/09	Ashley Hudson & Kerrie Brauer	Philippa Sokol	Telephone & Email	Confirming that everyone is OK for Monday 06/07/09 survey	AH yes and pick up details from land council in afternoon. KB OK for survey.
09/07/09	Lois Towney & Kerrie Brauer	Philippa Sokol	Email	Sent site survey invoicing details and Purchase Order Numbers	

APPENDIX 4

Glossary of Site Types

GLOSSARY OF SITE TYPES

The following is a brief description of most Aboriginal site types.

Artefact Scatters

Artefact scatters are defined by the presence of two or more stone artefacts in close association (i.e. within fifty metres of each other). An artefact scatter may consist solely of surface material exposed by erosion, or may contain sub-surface deposit of varying depth. Associated features may include hearths or stone-lined fireplaces, and heat treatment pits.

Artefact scatters may represent:

- Camp sites: involving short or long-term habitation, manufacture and maintenance of stone or wooden tools, raw material management, tool storage and food preparation and consumption;
- Hunting or gathering activities;
- Activities spatially separated from camp sites (e.g. tool manufacture or maintenance); or
- Transient movement through the landscape.

The detection of artefact scatters depends upon conditions of surface visibility, including vegetation cover, ground disturbance and recent sediment deposition. Unfavourable conditions obscure artefact scatters and prevent their detection during surface surveys.

Bora Grounds

Bora grounds are a ceremonial site associated with initiations. They are usually comprise two circular depressions in the earth, and may be edged with stone. Bora grounds generally occur on soft sediments in river valleys, although they may also be located on high, rocky ground in association with stone arrangements.

Burials

Human remains were often placed in hollow trees, caves or sand deposits and may have been marked by carved or scarred trees. Burials have been identified eroding out of sand deposits or creek banks, or when disturbed by development. The probability of detecting burials during archaeological fieldwork is extremely low.

Culturally Modified Trees

Culturally modified trees include scarred and carved trees. Scarred trees are caused by the removal of bark for use in manufacturing canoes, containers, shields or shelters. Notches were also carved in trees to permit easier climbing. Scarred trees are only likely to be present on mature trees remaining from original vegetation. Carved trees, the easiest to identify, are caused by the removal of bark to create a working surface on which engravings are incised. Carved trees were used as markers for ceremonial and symbolic purposes, including burials. Although, carved trees were relatively common in NSW in the early 20th century, vegetation removal has rendered this site type extremely rare. Modified trees, where bark was removed for often domestic use are less easily identified. Criteria for identifying modified trees include: the age of the tree; type of tree (the bark of many trees is not suitable, also introduced species would be unlikely subjects); axe marks (with the need to determine the type of axe - stone or steel – though Aborigines after

settlement did use steel); shape of the scar (natural or humanly scarred); height of the scar above the ground (reasonable working height with consideration given to subsequent growth).

Fish Traps

Fish traps comprised arrangements of stone, branches and/or wickerwork placed in watercourses, estuaries and along coasts to trap or permit the easier capture of sea-life.

Grinding Grooves

Grinding grooves are elongated narrow depressions in soft rocks (particularly sedimentary), generally associated with watercourses, that are created by the shaping and sharpening of ground-edge implements. To produce a sharp edge the axe blank (or re-worked axe) was honed on a natural stone surface near a source of water. The water was required for lubricating the grinding process. Axe grinding grooves can be identified by features such as a narrow short groove, with greatest depth near the groove centre. The grooves also display a patina developed through friction between stone surfaces. Generally a series of grooves are found as a result of the repetitive process.

Isolated Finds

Isolated finds occur where only one artefact is visible in a survey area. These finds are not found in apparent association with other evidence for prehistoric activity or occupation. Isolated finds occur anywhere and may represent loss, deliberate discard or abandonment of an artefact, or may be the remains of a dispersed artefact scatter. Numerous isolated finds have been recorded within the study area. An isolated find may flag the occurrence of other less visible artefacts in the vicinity or may indicate disturbance or relocation after the original discard.

Middens

Shell middens comprise deposits of shell remaining from consumption and are common in coastal regions and along watercourses. Middens vary in size, preservation and content, although they often contain artefacts made from stone, bone or shell, charcoal, and the remains of terrestrial or aquatic fauna that formed an additional component of Aboriginal diet. Middens can provide significant information on land-use patterns, diet, chronology of occupation and environmental conditions.

Mythological / Traditional Sites

Mythological and traditional sites of significance to Aboriginal people may occur in any location, although they are often associated with natural landscape features. They include sites associated with dreaming stories, massacre sites, traditional camp sites and contact sites. Consultation with the local Aboriginal community is essential for identifying these sites.

Rock Shelters with Art and / or Occupation Deposit

Rock shelters occur where geological formations suitable for habitation or use are present, such as rock overhangs, shelters or caves. Rock shelter sites generally contain artefacts, food remains and/or rock art and may include sites with areas of potential archaeological deposit, where evidence of rock-art or human occupation is expected but not visible. The geological composition of the study area greatly increases the likelihood for rock shelters to occur.

Stone Arrangements

Stone arrangements include lines, circles, mounds, or other patterns of stone arranged by Aboriginal people. These may be associated with bora grounds, ceremonial sites, mythological or sacred sites. Stone arrangements are more likely to occur on hill tops and elevated terrace crests that contain stone outcrops or surface stone, where impact from recent land use practices has been minimal.

Stone Quarries

A stone quarry is a place at which stone resource exploitation has occurred. Quarry sites are only located where the exposed stone material is suitable for use either for ceremonial purposes (e.g. ochre) or for artefact manufacture.

APPENDIX 5

NSW Heritage Branch Significance Criteria

Heritage Council of New South Wales

Heritage Act 1977

CRITERIA FOR LISTING ON THE STATE HERITAGE REGISTER

The State Heritage Register is established under Part 3A of the Heritage Act (as amended in 1998) for listing of items of environmental heritage[1] which are of state heritage significance[2].

To be assessed for listing on the State Heritage Register an item will, in the opinion of the Heritage Council of NSW, meet one or more of the following criteria[3]:

a) an item is important in the course, or pattern, of NSW's cultural or natural history;

b) an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history;

c) an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW;

d) an item has strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons;

e) an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history;

f) an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history;

g) an item is important in demonstrating the principal characteristics of a class of NSW's
- cultural or natural places; or
- cultural or natural environments.

An item is not to be excluded from the Register on the ground that items with similar characteristics have already been listed on the Register.

---

[1] ***environmental heritage*** means those places, buildings, works, relics, moveable objects, and precincts, of state or local heritage significance (section 4, *Heritage Act, 1977*).

[2] ***state heritage significance***, in relation to a place, building, work, relic, moveable object or precinct, means significance to the State in relation to the historical, scientific cultural, social, archaeological, architectural, natural or aesthetic value of the item (section 4A(1), *Heritage Act, 1977*).

[3] Guidelines for the application of these criteria may be published by the NSW Heritage Office.

APPENDIX 6

Documented ICCG Advertisement Process

Registration of Interest
Aboriginal Archaeological Survey and Assessment

Aboriginal stakeholders who wish to register their interest in work located in the Lake Macquarie City Council LGA are requested to register their interest in writing before 5th June 2009.

Written applications should be forwarded to:

Philippa Sokol
RPS Harper Somers O'Sullivan
PO Box 428
Hamilton NSW 2303
Tel: 02 4961 6500
archaeology@rpshso.com.au

PUBLIC ANNOUNCEMENTS

REGISTRATION OF INTEREST
Aboriginal Archaeological Survey and Assessment
Aboriginal stakeholders who wish to register their interest in work located in the Lake Macquarie City Council LGA are requested to register their interest in writing before 5th June 2009.
Written applications should be forwarded to:
Philippa Sokol, RPS Harper Somers O'Sullivan
PO Box 428
HAMILTON NSW 2303
Tel: 02 4961 6500
archaeology@rpshso.com.au

APPENDIX 7

Site Cards

Aboriginal Sites Register of NSW

NPWS, PO Box 1967, Hurstville NSW 2220

Standard Site Recording Form

New Recording ☐ Additional information ☐

SITE IDENTIFICATION			
Site name	RPS HSO M1	**NPWS Site Number**	
Owner/manager	Various owners		
Owner Address			

LOCATION					
Location	Wyee Point				
How to get to the site	Drive to the end of Short Street, Wyee Point. Walk approximately 100 metres along a foot track that heads south and west away from the road.				
1:250,000 map name	Catherin Hill Bay			**NPWS map code**	
AMG Zone	56	**AMG Easting**		**AMG Northing**	
Method for grid reference	Hand-held GPS	**Map scale (if method = map)**		**Map name**	
NPWS District	Northern			**NPWS Zone**	
Portion no.				**Parish**	Munro

SITE DESCRIPTION			
Site type(s)	Midden	**Site type code (NPWS use only)**	
Description of site and contents CHECKLIST: eg. length, width, depth, height of site, shelter, deposit, structure, element eg. tree scar, grooves in rock. DEPOSIT: colour, texture, estimated depth, stratigraphy, contents-shell, bone, stone, charcoal, density & distribution of these, stone types, artefact types. ART: area of decorated surface, motifs, colours, wet,/dry pigment, engraving technique, no. of figures, sizes, patination. BURIALS: number & condition of bone, position, age, sex, associated artefacts. TREES: number, alive, dead. likely age, scar shape, position, size, patterns, axe marks, regrowth. QUARRIES: rock type, debris, recognisable artefacts, percentage quarried	The site appears as a small scatter of shell on an eroding track. The shell is fragmented and appears to consist of Anadara trapezia though other shell type may be present but not readily identifiable. The visible shell is over approximately 50 centimetres. It did not appear to have any depth to the deposit. The site is approximately 80-100 metres from the lake foreshore.		

Aboriginal Sites Register of NSW

NPWS, PO Box 1967, Hurstville NSW 2220

Standard Site Recording Form

	Attach photographs and sketches, eg. plan & section of shelter. **Do NOT dig, disturb or damage site or contents.**

Aboriginal Sites Register of NSW

NPWS, PO Box 1967, Hurstville NSW 2220

Standard Site Recording Form

SITE ENVIRONMENT

Land form	low slope	**Aspect**	north	**Slope**	<3
Mark position of the site					
Local rock type	sandstone/conglomerate	**Land use/effect**	possible early timber getting and clearing		
Distance from drinking water	unknown	**Source**	creek - upstream of lake. Ephemeral drainage lines		
Resource zone (eg. estuarine, river, forest)	forest	**Vegetation**	Swamp mahogany/ Smooth barked apple/ Scribbly gum woodland		
Edible plants		**Faunal resources** (include shellfish)	Forest. Lake and creek species		
Other exploitable resources (eg. ochre)					
Are there other sites in the locality	Yes	**Are they in the Sites Register**	Yes	**Other site types include**	middens, open artefact scatters

SITE MANAGEMENT

Site condition	Very disturbed	The midden may have been small in size originally or suffered loss through land management practices.	
Management recommendations	The midden is in poor condtion other than a record of its existence it is considered there would be little scientific advantage to retaining or further investigation of the site.		
Have artefacts been removed from site	No	**When**	
By whom		**Deposited at**	
Consent applied for	☐	**Consent issued**	☐
Date of issue		**Consent number**	

SITE INSPECTION AND RECORDING

Reason for investigation	Survey of the area to inform a draft amendment to Lake Macquaire Environmental Plan. The draft amendment will facilitate urban development.		
Were local Aborigines contacted or present for the recording	☐ Not contacted ☒ Contacted and present ☐ Contacted but not present	**Names and addresses**	Ashley Hudson. Koompahtoo LALC Kerrie Brauer. Awabakal Tradiotnal Owners Aboriginal Corporation.
Is the site important to local Aborigines	no		
Verbal/written reference sources	verbal	**ASR report number(s)**	C- C-
Photographs taken	Yes	**No of Photos attached**	2
Site recorded by	Laraine Nelson	**Date of**	6 July, 2009

Version: June 1998	Data entered by:	Date entered:

Aboriginal Sites Register of NSW

NPWS, PO Box 1967, Hurstville NSW 2220

Standard Site Recording Form

		recording	
Address/institution	RPS HSO PO Box 428 Hamilton NSW 2303		

Version: June 1998	Data entered by:	Date entered:

Plates to accompany SITE CARD – RPS HSO M1

RPS HSO M1 Shell fragments – *Anadara trapezia*

RPS HSO M1 looking west

Aboriginal Sites Register of NSW

NPWS, PO Box 1967, Hurstville NSW 2220

Standard Site Recording Form

New Recording ☒ Additional information ☐

SITE IDENTIFICATION

Site name	RPS HSO MwP1	**NPWS Site Number**	
Owner/manager	Various owners		
Owner Address			

LOCATION

Location	Wyee Point				
How to get to the site	Drive to end of Short Street, Wyee Point. Walk to waterfont . The midden and PAD are in evidence along the foreshore and on an elevated terrace immediately behind the foreshore and parallel to it.				
1:250,000 map name	Catherine Hill Bay			**NPWS map code**	
AMG Zone	56	**AMG Easting**	359424	**AMG Northing**	6334225
Method for grid reference	Hand-held GPS	**Map scale (if method = map)**		**Map name**	
NPWS District	Northern			**NPWS Zone**	
Portion no.				**Parish**	Munro

SITE DESCRIPTION

Site type(s)	MIdden with PAD	**Site type code (NPWS use only)**	

Description of site and contents

CHECKLIST: eg. length, width, depth, height of site, shelter, deposit, structure, element eg. tree scar, grooves in rock.
DEPOSIT: colour, texture, estimated depth, stratigraphy, contents-shell, bone, stone, charcoal, density & distribution of these, stone types, artefact types.
ART: area of decorated surface, motifs, colours, wet,/dry pigment, engraving technique, no. of figures, sizes, patination.
BURIALS: number & condition of bone, position, age, sex, associated artefacts.
TREES: number, alive, dead. likely age, scar shape, position, size, patterns, axe marks, regrowth.
QUARRIES: rock type, debris, recognisable artefacts, percentage quarried

Midden shell was visible in a number of exposures the length of the foreshore, a distance of approximately 550 metres from just north of Short Street up to the unamed creek to the west.

The midden shell consisted predominately of Anadara trapezia with some Ostrea angasi

No other artefacts were observed.

The Lake foreshore was approximately 20 metres wide it was defined on the landward extent by a sharp slope to a terrace.

This elevated terrace is in evidence on a topographic map as the 2m asl.contour line. Small quantities of shell ranging from 1 to 15+ pieces were also observed on a narrow walking path on this terrace. The extent of this shell appear to correlate with where the terrace was in close proximity to the shoreline, a distance of approximately 200 metres.

The midden shell on this track was weathered and fragmented, most was identifiable as Anadara trapezia however it is possible Ostrea angasi was present well.

Aboriginal Sites Register of NSW

NPWS, PO Box 1967, Hurstville NSW 2220

Standard Site Recording Form

	Attach photographs and sketches, eg. plan & section of shelter. **Do NOT dig, disturb or damage site or contents.**

Aboriginal Sites Register of NSW

NPWS, PO Box 1967, Hurstville NSW 2220

Standard Site Recording Form

SITE ENVIRONMENT

Land form	Flat - lake foreshore and elevated terrace	**Aspect**	NE	**Slope**	<3
Mark position of the site					
Local rock type	sandstone / conglomerate	**Land use/effect**	nil		
Distance from drinking water		**Source**	creek - upstream? ephemeral drainage lines		
Resource zone (eg. estuarine, river, forest)	forest	**Vegetation**	Swamp Mahogany – Smooth-barked Apple – Scribbly Gum Woodland		
Edible plants		**Faunal resources** (include shellfish)	Forest. Lake and creek species		
Other exploitable resources (eg. ochre)					
Are there other sites in the locality	Yes	**Are they in the Sites Register**	Yes	**Other site types include**	middens, open artefact scatters

SITE MANAGEMENT

Site condition	Disturbed	The midden along the foreshore is disturbed. The midden material on the terrace may have little disturbance.
Management recommendations	Foreshore area - any work within this area should take into account the potential presence of midden material along the extent of the shoreline. Any work carried out (for example vegetation removal) should not impact on surface or subsurface deposits. Terrace area- Prior to any development in the area of the midden taking place further investigation should include the testing of the vertival and horizontal extent of the area behind the 2 metre asl contour line. A component of this should be investigating the area around a drainagle line that runs approximately mid centre south to north through the site.	

Have artefacts been removed from site	No	**When**	
By whom		**Deposited at**	
Consent applied for	☐	**Consent issued**	☐
Date of issue		**Consent number**	

SITE INSPECTION AND RECORDING

Reason for investigation	proposed rezoning for housing subdivision		
Were local Aborigines contacted or present for the recording	☐ Not contacted ☒ Contacted and present ☐ Contacted but not present	**Names and addresses**	Ashley Hudson. Koompahtoo LALC Kerrie Brauer. Awabakal Traditional Owners Aboriginal Corporation
Is the site important to local Aborigines	yes		

Version: June 1998	Data entered by:	Date entered:

Aboriginal Sites Register of NSW

NPWS, PO Box 1967, Hurstville NSW 2220

Standard Site Recording Form

Verbal/written reference sources	verbal	**ASR report number(s)**	C- C-
Photographs taken	Yes	**No of Photos attached**	4
Site recorded by	Laraine Nelson	**Date of recording**	6 July, 2009
Address/institution	RPS HSO PO Box 428 Hamilton NSW 2303		

Plate 1 - RPS HSO MwP1 - Lake foreshore looking west

Plate 2 - RPS HSOMwP – Midden exposure

Plate 3 - RPS HSOMwP1 – midden exposure adjacent unnamed creek and its junction with Lake Macquarie.

Plate 4 – RPS HSO MwP1 – midden shell exposed by burrowing animal

APPENDIX 8

Community Response

Community Response

Koompahtoo Local Aboriginal Land Council – comments not received
Awabakal Traditional Owners Aboriginal Corporation – attached