

CLYBUCCA HISTORIC SITE
PLAN OF MANAGEMENT

NSW National Parks and Wildlife Service

Part of the Department of Environment and Climate Change NSW

September 2007

This plan of management was adopted by the Minister for Climate Change, Environment and Water on 5th September 2007.

Acknowledgments

This plan of management is based on a draft plan prepared by staff of the Mid North Coast Region of NPWS. Extensive negotiation with members of the Dunghutti and Gumbaynggir communities was carried out in the preparation of this draft plan. Valuable information and comments were provided by NPWS specialists, the Regional Advisory Committee and members of the public.

For additional information or enquires on Clybucca Historic Site or this plan of management, contact the NPWS Mid North Coast Regional Office at 152 Horton St, Port Macquarie or by telephone on (02) 6586 8300.

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FOREWORD

Clybucca Historic Site is located 24 kilometres north of Kempsey on the mid-north coast of New South Wales. The historic site comprises three separate areas totalling 459 hectares.

Clybucca Historic Site was reserved primarily because it contains part of one of the largest estuarine Aboriginal midden complexes recorded in temperate Australia. It is on the Register of the National Estate for its extensive, diverse and well preserved midden deposits that provide a valuable insight into continuous coastal occupation by Aboriginal people.

The site was also an important meeting and sharing place for the Gumbaynggir and Dunghutti nations, a rich source of food, and is part of a mythological and spiritual landscape with high cultural significance to present day Aboriginal people on the mid-north coast.

The natural heritage values of Clybucca Historic Site include littoral rainforest communities, coastal wetlands and estuarine environments. These are estimated to support 135 species of plants and provide habitat for a diversity of fauna species.

The New South Wales *National Parks and Wildlife Act 1974* requires that a plan of management be prepared for each historic site. A plan of management is a legal document that outlines how an area will be managed in the years ahead.

A draft plan of management for Clybucca Historic Site was placed on public exhibition for three months from 22nd February until 30th May 2005. The submissions received were carefully considered before adopting this plan of management.

This plan of management establishes the scheme of operations for Clybucca Historic Site. In accordance with section 73B of the *National Parks and Wildlife Act 1974*, this plan of management is hereby adopted.

Phil Koperberg
Minister for Climate Change, Environment and Water

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1. HISTORIC SITES IN NEW SOUTH WALES

1.1 LEGISLATIVE AND POLICY FRAMEWORK

The management of historic sites in New South Wales (NSW) is in the context of the legislative and policy framework, primarily the *National Parks and Wildlife Act 1974* (NPW Act), the *Threatened Species Conservation Act 1995* (TSC Act) and the policies of the NSW National Parks and Wildlife Service (NPWS). Section 72AA of the NPW Act lists the matters to be considered in the preparation of a plan of management. The policies arise from the legislative background, the NPW regulations and internationally accepted principles of park management. They relate to nature conservation, Aboriginal and historic heritage conservation, recreation, commercial use, research, community consultation and communication. Other legislation, international agreements and charters may also apply to management of the area. In particular, *the Environmental Planning and Assessment Act 1979* (EP&A Act) requires the assessment and mitigation of environmental impacts of any works proposed in this plan.

The plan of management is a statutory document under the NPW Act. Once the Minister has adopted the plan, no operations may be undertaken within Clybucca Historic Site except in accordance with the plan. The plan will also apply to any future additions to the historic site. Where management strategies or works are proposed for the historic site or any additions that are not consistent with the plan, an amendment to the plan will be required.

1.2 MANAGEMENT PURPOSES AND PRINCIPLES

Historic sites are reserved under the NPW Act to protect and conserve areas associated with a person, event or historical theme, or containing a building, place, feature or landscape of cultural significance.

Under the NPW Act, historic sites are managed to:

- conserve places, objects, features and landscapes of cultural values;
- conserve natural values;
- provide for sustainable visitor use and enjoyment that is compatible with conservation of natural and cultural values;
- provide for sustainable use (including adaptive reuse) of any buildings or structures or modified natural areas having regard to conservation of natural and cultural values;
- promote public appreciation and understanding of the site's natural and cultural values; and
- provide for appropriate research and monitoring.

2. RESERVE MAP

3. 3. CLYBUCCA HISTORIC SITE

3.1 LOCATION, GAZETTAL AND REGIONAL SETTING

Clybucca Historic Site (referred to as “the historic site” in this plan) is located approximately 24 km north of Kempsey on the Mid North Coast of NSW. The historic site comprises three separate land units totalling 459 ha which were reserved between 1979 and 1993 (see table 1 and reserve map). The nearest settlements to the historic site are the town of South West Rocks and the village of Stuarts Point (see map).

Table 1. Clybucca Historic Site - Gazettal dates and size

Section	Gazettal Date	Area (ha)
1	1979	377
	1983	6
2	1979	33
3	1993	43
Total		459

The historic site was gazetted primarily to preserve estuarine Aboriginal middens. The historic site includes part of one of the largest estuarine Aboriginal midden complexes recorded in temperate Australia, extending some 14 kilometres. Some parts of the midden complex are dated at between 3,500 to 4,000 years old (Vale, 2005).

The historic site is significant to the Aboriginal community and is situated within the country of the Dughutti and Gumbaynggir nations (Gumbaynggir Language and Culture Group, 1992). Ancestral Aboriginal remains were buried within the middens. It was an important meeting and sharing place, a rich source of foods and is part of a mythological/spiritual landscape with high cultural significance to present day Aboriginal people.

The land adjacent to the historic site is mostly cleared private land used for agricultural purposes. Sections 1, 2 and 3 are separated by a crown reserve, some of which is managed by the Yarrahapinni Wetland Reserve Trust. Large areas of the Yarrahapinni wetlands are protected under State Environment Planning Policy 14 – Coastal Wetland (SEPP 14). The land between Sections 1 and 2 (south of the Yarrahapinni Wetlands) has a mineral sand mining lease and has an active open cut sand mine. In section 3, there is a narrow band of SEPP 26 – Littoral rainforest growing directly over some sections of the midden.

The Yarrahapinni Wetlands and other vacant crown lands between Sections 1 and 2 have been proposed as vacant crown land additions to the historic site.

The historic site is within the Kempsey Local Government Area, Kempsey Aboriginal Land Council area, Northern Rivers Catchment Management Authority area and the Kempsey Rural Lands Protection Board area.

3.2 LANDSCAPE CONTEXT

Natural and cultural heritage and on-going use are strongly inter-related and together form the landscape of an area. Much of the Australian environment has been influenced by past Aboriginal and non-Aboriginal land use practices and the activities of modern day Australians continue to influence bushland through recreational use, cultural practices and the presence of introduced plants and animals.

The geology, landform, climate and plant and animal communities of the area, plus its location, have determined how it has been used by humans. Approximately 9,000 years ago, when Aboriginal people are believed to have lived in the Clybucca area, it would have been on an estuarine embayment where there was an extremely rich source of food. The extensive midden complex provides evidence of past Aboriginal occupation of the area and is important to the contemporary Aboriginal people of the mid north coast.

Both Aboriginal and non-Aboriginal people place cultural values on natural areas, including aesthetic, social, spiritual, recreational and other values. Cultural values may be attached to the landscape as a whole or to individual components, for example to plant and animal species used by Aboriginal people. This plan of management aims to conserve both natural and cultural values. For reasons of clarity and document usefulness natural and cultural heritage, non-human threats and on-going use are dealt with individually, but their inter-relationships are recognised.

4. VALUES AND MANAGEMENT DIRECTIONS

4.1 KEY VALUES

Cultural heritage values

- A cultural link to past use of the area by Aboriginal people for fishing, cultural, recreational and educational activities prior to European occupation.
- An area that represents a meeting place for the Gumbaynggir and Dunghutti nations.
- Part of a mythological/spiritual landscape with high cultural significance to present day Aboriginal people on the mid north coast.
- A site of national significance registered on the National Estate for its extensive, diverse and well preserved midden deposits that are amongst the largest in temperate Australia.
- A midden complex which provides a valuable insight into continuous coastal occupation by Aboriginal people.

Natural values

- Littoral rainforest communities, coastal wetlands and estuarine environments which are predicted to support 135 species of plants including three vulnerable species;
- Habitat for a diversity of fauna species including three vulnerable species, the grey-headed flying fox, glossy black-cockatoo and osprey; and

- Important wildlife corridor linking the Willawong, Fishermans-Clybucca and Tamban-Clybucca corridors (Scotts, 2003).

Recreation and tourism values

- Opportunities for visitors to appreciate and view Aboriginal middens; and
- Access to popular fishing spots on the adjacent Macleay estuary.

Research and educational values

- Aboriginal middens, which demonstrate the history and complexity of traditional Aboriginal coastal and estuarine life and are a valuable reference base for comparative studies of other occupation sites.

4.2 MANAGEMENT DIRECTIONS

In addition to the general management principles for historic sites (refer section 1.2), the following specific management directions apply to the historic site:

- protection of the archaeological deposits and features of cultural value to the Aboriginal community, in partnership with the Aboriginal Custodian Group;
- in partnership with the Aboriginal Custodian Group, continue to promote the use of the historic site as one of the prime interpretative locations for Aboriginal sites on the mid north coast of NSW;
- protect the Clybucca-Stuarts Point midden complex which is the largest estuarine midden in temperate Australia;
- encourage an integrated approach with the Yarrahapinni Wetlands Reserve Trust, for the protection and interpretation of natural and cultural values within the Yarrahapinni Wetlands and the historic site;
- encourage ongoing use of the historic site by the Aboriginal community for cultural purposes;
- encourage opportunities for employment for Aboriginal people during work programs on the historic site; and
- protect the native plants and animals and control, and where possible eliminate, pest species.

5. CONSERVATION OF CULTURAL AND NATURAL HERITAGE

5.1 ABORIGINAL CULTURAL HERITAGE

Aboriginal communities have an association and connection to the land. The land and water biodiversity values are central to Aboriginal spirituality and contribute to Aboriginal peoples identity. Aboriginal communities associate natural resources with the use and enjoyment of foods and medicines, caring for the land, passing on cultural knowledge and strengthening social bonds. Aboriginal heritage and nature are inseparable from each other and need to be managed in an integrated manner across the landscape. The Clybucca midden complex provides a valuable insight into continuous coastal occupation by Aboriginal people.

The historic site is situated in the country of the Dughutti and Gumbaynggir nations (Gumbaynggir Language and Culture Group, 1992). Both nations claim ownership of the area, and acknowledge it was a sharing place and that it should continue to be so (*pers com.* Aunty Maggie Morris, Uncle Neville Buchanan, Uncle Ray Kelly and Uncle Harold Smith 2001). A number of other tribal groups are likely to have visited the area for a range of cultural practices, including people from the nearby Ngamba tribe.

Archaeologists have dated Aboriginal occupation of the historic site at approximately 4,000 years and extending to approximately 2000 years before present (Vale, 2005). Research into sea level changes suggest that, at the time the midden was occupied, the entire Macleay floodplain was under water and the sea level was 2 metres higher (Baker *et al*, 2000, Mundell 2000). The subsequent fall in sea level created the existing coastline and estuaries.

The Clybucca-Stuarts Point midden complex is the largest of its type (estuarine midden) in temperate Australia (Hughes and Sullivan, 2002). It is almost continuous for a distance of 14km. Before it was disturbed by European landuse it had an estimated volume at 150, 000 to 200, 000m³ (Hughes and Sullivan, 2002). At least 75% of the midden complex still remains and well over 50%, (approximately 3.5km) including most of the largest and best preserved mounds, are within the historic site (Hughes and Sullivan, 2002).

Though the Clybucca midden may not be the largest shell midden in Australia, it is unique in that it contains a rich and variable assemblage of well preserved shell and bone remains dating back from about 2,500 years ago to around 6,000 years ago (Hughes and Sullivan, 2002). There are very few middens in coastal NSW that contain preserved shell or bone older than about 3,000 years ago. Also, the Clybucca midden is distinct in that it contains a diversity of archaeological contents including shell species as well as fish and land animal bone. Archaeological examination of the middens' has revealed the shells of sixteen species of mollusc, the bones of six fish species, three species of sea bird, six species of land mammal and three species of sea mammal (Knuckey, 1999). Most of the larger middens in tropical Australia generally consist almost entirely of one species of cockle (*Anadara granosa*) (Hughes and Sullivan, 2002). Though the Clybucca midden composition is not uniform, and this reflects the changing availability of foods through time (Knuckey, 1999).

The middens protected within the historic site were generally not used for limekilns, road base or land fill, as were many middens in the Limeburners Creek and Port Macquarie areas. However, some middens were disturbed by earth works and well sinking, including the large mounded midden at the Golden Hole (within the historic site), the crest of the middens in Section 1 which was cut by a road in the late 1960's to provide access to the flood gate on the Andersons Inlet flood mitigation wall, and a midden in the northern part of section 3 was slightly damaged by a backhoe in 1973 in an attempt to commercially mine it (*pers com* G. Connah, 1999). This prompted NPWS to request an archaeological report which concluded that the site was of archaeological significance (McBryde, 1973) and led to its subsequent reservation.

Littoral rainforest within the reserve is restricted to the organically rich midden deposits, providing an example of the influence of indigenous land use on the development of vegetation communities. Vegetation growing on the middens has caused some damage to the archaeological value of the middens by disturbing the sequence of the midden strata by root invasion, tree fall and root ball upheaval. The native vegetation is, however, an important part of the landscape values and nature conservation values of the historic site (refer section 5.4 Native Plants). Further research is therefore required to determine the best way to balance the aims of protecting both the rainforest and the middens.

While the above is an archaeological view of cultural heritage, it is recognised that archaeology can tell only part of the story of Aboriginal use and forms only part of the significance of the area to the Aboriginal people. The historic site is also part of a mythological landscape with high cultural significance to present day Aboriginal people and ancestral Aboriginal remains were buried within the middens.

There is strong interest by the local Aboriginal community to undertake cultural and educational activities on the historic site. Aboriginal people have regularly used a site in section 3 for camping.

An Aboriginal Custodian Group was established in 2003 for the area. The Group comprises representatives from the Dunghutti and Gumbaynggir nations, and other local Aboriginal community members. The Aboriginal Custodian Group believes that continued public use with some limited interpretation of middens at Section 3 near the Golden Hole, and use of the historic site for educational activities and camping by Aboriginal people, may be appropriate. Public use will not be encouraged in Section 1 of the historic site due to its lack of suitable public access. In Section 2 there are no known Aboriginal sites and no public road access.

Desired Outcomes

- Aboriginal sites and places are protected from damage by human activities and, where possible, by natural processes.
- Aboriginal people are involved in management of the cultural values of the historic site.

Strategies

- *Continue to manage the historic site in partnership with the Aboriginal Custodian Group.*
- *Determine an appropriate approach to vegetation management to protect middens (refer section 5.4 Native Plants).*
- *Provide Aboriginal Elders with copies of any studies undertaken at the historic site.*
- *Undertake an archaeological survey and cultural assessment prior to all works with the potential to impact on Aboriginal sites and places of significance.*
- *Encourage a survey and cultural mapping of the site with the Aboriginal Custodian Group to identify and protect bush tucker and medicinal plants.*
- *Promote Aboriginal sites and places of significance only with the agreement of the Aboriginal Custodian Group.*
- *In association with the Aboriginal Custodian Group, and subject to the above, develop appropriate interpretation of middens at Section 3 (refer section 7.1 Public use).*
- *Discourage public access to Sections 1 and 2 due to the absence of public road access and to minimise possible damage to middens from visitor use.*
- *Facilitate appropriate Aboriginal cultural and educational activities in the historic site related to maintenance of traditional links to the land. Any such activities must comply with the NPW Act, NPWS policies, and this plan of management and have minimal environmental impact.*
- *Allow camping for Aboriginal cultural purposes, as approved jointly by the Aboriginal Custodian Group and NPWS (refer also section 7.1).*
- *Liaise with neighbouring landowners about the long-term protection of the sections of the midden complex outside the historic site.*
- *Liaise with the Yarrahapinni Wetlands Reserve Trust with a view to achieving an integrated approach towards the protection and interpretation of cultural values of the Yarrahapinni wetlands and the historic site.*

5.2 HISTORIC HERITAGE

The current landscape of the historic site is a result of both Aboriginal and European use. Before its gazettal as an historic site, the general area had been used for grazing and timber getting. Evidence of these past uses occurs mainly in Sections 2 and 3, and includes small cleared areas, some derelict buildings, abandoned windmills and stockyards. These places were assessed by an NPWS Archaeologist in 2001, and were found to have no particular historic heritage value. It was determined that the relics of European occupation should be recorded, and allowed to gradually disappear through natural processes (*pers com.* Rebecca Edwards-Booth 2001).

The only other known evidence of past land use is a cutting in the bank of Andersons Inlet in Section 1, which is thought to be the launching site of one of the first boats built on the Macleay River (*pers comm.* Richard Lancaster).

Desired Outcomes

- Historic heritage sites are identified, recorded and managed in accordance with their significance.

Strategies

- *Record the boat launching site, windmills, buildings and stockyards and allow structures to naturally deteriorate.*
- *Record other historic places as they are identified, assess their significance and develop appropriate management strategies.*

5.3 LANDFORM, GEOLOGY AND SOILS

The landscape has a low relief altered only by the varying vegetation types. The historic site is less than 10 metres above sea level, apart from a small hill which encompasses most of section 2 and which is between 10 and 20 metres above sea level. The Macleay River forms the eastern boundary of the historic site.

A thin veneer of estuarine and fluvial sediments deposited in recent times overlays an older stratified sequence of estuarine or fluvial sands, silts and clays (Hails, 1968). This reflects the changing position of the shoreline relative to the site. The soils are high to medium acid sulphate risk if disturbed (Soil Conservation Service, 1995).

Desired Outcomes

- Soils are undisturbed by human activities and natural processes are allowed to continue.
- The integrity of the landscape, scenic values and natural landscape features is protected.

Strategies

- *Undertake any works in a manner that minimises erosion, soil disturbance and impact on landscape values.*

5.4 NATIVE PLANTS

Vegetation communities in the historic site include dry sclerophyll forests, in some areas dominated by blackbutt (*Eucalyptus pilularis*), and swamp sclerophyll forests consisting of *Eucalyptus robusta*. Dry sclerophyll open forests cover the western boundary of Section 1, 2 and most of Section 3, and in some sections trees reach 15-25 metres in height. Large areas of sections 1 and 2 are comprised of natural grasslands with some heathlands, mangroves and saltmarsh (SEPP 14). There is a narrow band of littoral rainforest (SEPP 26) in section 3 growing directly above some of the middens (Travis & Associates, 1997).

No comprehensive vegetation survey has been conducted at the historic site. A survey of the adjacent Yarrhapinni Wetlands found 135 plant species (Yarrhapinni Wetland Management Plan, 2001) all of which are expected to occur in the historic site. Three of these are listed as vulnerable under the TSC Act (refer table 2).

Table 2 Significant plants predicted to occur within the historic site

Common name	Scientific name	Significance
Austral toadflax	<i>Thesium australe</i>	Vulnerable ^{r #}
Square-fruited ironbark	<i>Eucalyptus tetrapleura</i>	Vulnerable [#]
Rusty plum	<i>Amorpha perum whitei</i>	Vulnerable

[#] also listed as a threatened species under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999*.

^r recovery plan in preparation

Under the TSC Act recovery plans may be prepared for listed threatened species and a threatened species Priorities Action Statement (PAS) must be prepared. The PAS outlines the broad strategies and detailed priority action in NSW to promote the recovery of threatened species, populations and ecological communities and to manage key threatening processes. These are progressively being prepared and will be used to guide management of any threatened plant species where they occur on the historic site.

Before its reservation, sections of the historic site were partly cleared for timber getting and grazing (refer 5.2 Historic heritage). Revegetation of these areas is desirable except where vegetation would threaten the middens in the historic site. Currently, remnants of mature littoral rainforest species occur in the historic site, generally on the middens.

During the 1970's the NPWS maintained the middens in Section 2 by preventing regeneration of trees over the middens. A grazing lease was also granted over Section 1 to control regeneration of tree species and maintain a grass cover over the midden. Although this impacted on native vegetation it was considered at the time important to the continued protection and management of the middens in the historic site. Grazing within the historic site is no longer permitted.

Desired Outcomes

- Structural diversity of native vegetation in the historic site is conserved, where it does not threaten the middens or other cultural values.
- Neighbours support conservation of remaining areas of privately owned native vegetation near the historic site.

Strategies

- *Encourage or undertake a vegetation survey of the historic site, with priority on predicted significant species.*

- *Prepare and implement a vegetation management plan which will aim to:*
 - *conserve areas of littoral rainforest, wetland and other significant plant communities ;*
 - *allow selected cleared areas to revegetate, except where this threatens to disturb the middens' contents or other cultural values as agreed to in negotiation with the Aboriginal Custodian Group (refer to section 5.1);*
 - *identify appropriate techniques for maintaining clearings on middens where this is the agreed strategy; and*
 - *identify other areas for natural regeneration or future bush regeneration activities using locally indigenous species.*
- *Liaise with the Yarrahapinni Wetlands Reserve Trust to achieve an integrated approach towards the rehabilitation/restoration of the natural estuarine vegetation communities of the Yarrahapinni wetlands and the historic site.*
- *Liaise with the Aboriginal Custodian Group, neighbours, Landcare, vegetation management committees and land use authorities to encourage retention, and if possible expansion, of areas of native vegetation close to the historic site.*

5.5 NATIVE ANIMALS

The historic site is recognised as a key regional wildlife habitat (Scotts, 2003). It is part of a wildlife corridor linked to Yarriabini National Park, Ngambaa Nature Reserve, State Forest, Vacant Crown Land and Flood Refuges and by coastal wetlands to Hat Head National Park. The historic site also connects the Willawong, Fishermans-Clybucca and Tamban-Clybucca wildlife corridors which are important to the eastern chestnut mouse (*Pseudomys gracilicaudatus*) and the eastern blossom-bat (*Syconycteris australis*).

No comprehensive fauna study has been conducted within the historic site, however a fauna study conducted in adjoining Yarrahapinni wetland with similar vegetation communities found 183 birds, 60 mammals, 42 reptiles and 32 amphibians (Sustainable Futures, 2000).

Three vulnerable species are known to occur within the historic site and at least a further ten significant species are likely to occur (refer table 3). The *Fisheries Management Act 1994* lists black cod (*Epinephelus daemeli*) as vulnerable, with estuary cod (*Epinephelus coioides*) and *Syngnathiformes* (i.e. seahorses, sea dragons, pipehorses, pipefish and seamoths) as protected. These species may be found in the estuaries adjoining the historic site.

Most of the species in Table 3 have large home ranges, and populations are unlikely to survive in the long term if their habitat was restricted to the historic site. The surrounding and past land uses of the historic site have altered the ecosystems through activities such as timber harvesting, increased fire frequency and the introduction of exotic predators and weeds. Remaining habitat on neighbouring lands, such as live or standing dead trees with hollows, is important to the long-term survival of native animals.

Table 3. Threatened fauna species known or likely to occur at Clybucca Historic Site.

Common name	Scientific name	Significance
Mammals		
grey headed flying fox*	<i>Pteropus poliocephalus</i>	Vulnerable
Beccari's mastiff bat	<i>Mormopterus beccarii</i>	Vulnerable ^r
hoary bat	<i>Chalinolobus nigrogriseus</i>	Vulnerable ^r
little bent-wing bat	<i>Miniopterus australis</i>	Vulnerable ^r
yellow-bellied sheath-tail bat	<i>Saccolaimus flaviventris</i>	Vulnerable ^r
common bent-wing bat	<i>Miniopterus schreibersii</i>	Vulnerable ^r
eastern free-tail bat	<i>Mormopterus norfolkensis</i>	Vulnerable ^r
yellow-bellied glider	<i>Petaurus australis</i>	Vulnerable ^r
squirrel glider	<i>Petaurus norfolcensis</i>	Vulnerable
Birds		
osprey*	<i>Pandion haliaetus</i>	Vulnerable ^r
glossy black-cockatoo*	<i>Calyptorhynchus lathami</i>	Vulnerable
Amphibians		
wallum froglet	<i>Crinia tinnula</i>	Vulnerable
Stuttering frog	<i>Mixophyes balbus</i>	Vulnerable ^{r#}

* species recorded at the site

^r recovery plan in preparation

also listed as a threatened species under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999*.

NPWS is required by the TSC Act to prepare and implement recovery plans for all listed threatened species. These are progressively being prepared and will be used to guide management of threatened species in the area.

Desired Outcomes

- The full range of native fauna species found in the historic site is conserved.
- The habitat and populations of all threatened fauna species are protected and maintained.

Strategies

- *Protect native animal habitat from the effects of introduced species, inappropriate fire regimes and visitor impacts (refer sections 6 Park Protection and 7 Visitor Opportunities and Education).*
- *Undertake a fauna survey to determine species present in the historic site, in particular threatened and significant species.*
- *Liase with neighbouring landowners about strategies to protect habitat of threatened species.*
- *Implement recovery plans for threatened species when they are prepared.*

6. PARK PROTECTION

6.1 SOIL EROSION

The sandy soil of the historic site rapidly drains rainfall to the water table at shallow depth, except in the wet heathland and wetland areas, where the water table is at or above the land surface. Due to the friable nature of the soil there is a high erosion potential throughout the historic site.

Erosion is a particular problem in parts of Sections 1 and 3 where parts of the middens have previously been disturbed through vegetation clearing and grazing.

Desired Outcomes

- Soil disturbance and erosion is minimised.

Strategies

- *Encourage natural regeneration and/or plant locally endemic plant species in disturbed areas in accordance with the vegetation management plan (refer section 5.4).*
- *Design and undertake all works in a manner that minimises soil erosion.*
- *Survey sites of disturbance for exposed Aboriginal objects/relics prior to restoration works.*

6.2 WATER QUALITY AND CATCHMENT MANAGEMENT

The *Catchment Management Act 1989* provides a framework for achieving cleaner water, less soil erosion, improved vegetation cover, the maintenance of ecological processes and a balanced and healthier environment. It also provides a focus to balance conservation needs and development pressures, and encourages a more aware and involved community. An important means of achieving these aims is the formation and support of catchment management boards at a local level. The historic site is within the area of the Northern Rivers Catchment Management Authority.

The historic site is within the Yarrahapinni Wetland catchment (60 km²), a small sub-catchment of the Macleay River. Surface water runoff occurs due to the flat and sandy or peat like nature of the soils. Water leaves the reserve via the water table and enters the Macleay Arm salt-water estuary. The water table is tapped by bores to the north of the historic site and used for irrigation water and by Kempsey Council for the domestic supply to Stuarts Point.

There are ground water sampling points within the northern part of Section 3, which are monitored by the University of New England in conjunction with Department of Environment and Climate Change.

A 60m access road was built through Section 1 in the late 1960's by Kempsey Shire Council to access the Andersons Inlet flood mitigation wall which runs from Section 1 to Section 3 where a flood gate is located. The creation of the new Macleay entrance caused tidal levels to change by as much as 45cm (*pers com* R. Lancaster). The retaining wall isolates the Yarrahapinni Wetlands to the northwest from tidal influence to the detriment of the wetlands (SWC Consultancy, 1997). In 2001 to 2002, the Yarrahapinni Wetlands Reserve Trust undertook a trial partial opening of the floodgates to reinvigorate the wetlands. This trial opening of the floodgates was identified in the management plan for Yarrahapinni Wetlands (Sustainable Futures, 2000) as a possible way to restore natural ecosystem functioning of the wetlands.

The soils at the historic site are rated at a high to medium risk for acid sulphate. Acid sulphate soils are of particular concern if vegetation is removed or soils disturbed. Leaching of acid sulphate soils into water bodies can impact on water quality and aquatic life.

Desired Outcomes

- The catchment values and the water quality and health of the estuarine environment are not degraded.

Strategies

- *Design and undertake all works in a manner that avoids contributing to the exposure of acid sulfate soils (see Section 5.3 Landform, Geology and Soils).*
- *Liaise with Yarrahapinni Wetlands Reserve Trust and other local authorities as needed to maintain the water quality of the catchment.*
- *Continue to participate as a member of the Northern Rivers Catchment Management Authority.*
- *Permit University of New England access to the historic site to maintain existing ground water sampling sites.*

6.3 PEST PLANTS

A pest species is defined in this plan as any plant or animal species not native to the historic site. Pest species within the historic site and on adjoining land have the potential to have detrimental effects on ecological values and can spread to and from neighbouring land. The NPWS Mid North Coast Region has a Regional Pest Management Strategy (NPWS, 2001a) which identifies priorities for control of pest plants and animals throughout the region.

In 2001, a survey was undertaken of the historic site for groundsel bush (*Baccharis halimifolia*). During this survey four noxious weed species and a number of environmental weeds were recorded (Kendall and Kendall, 2000) as indicated in Table 4.

Table 4 Pest plants known to occur within the historic site

Common name	Scientific name
Noxious weeds	
groundsel bush	<i>Baccharis halimifolia</i>
lantana (red flowering)	<i>Lantana camara</i>
giant Parramatta grass	<i>Sporobolus fertilis</i>
pampas grass	<i>Cortadiera selloana</i>
Environmental weeds	
coastal morning glory	<i>Ipomoea cairica</i>
whiskey grass	<i>Andropogon virginicus</i>
fennel	<i>Foeniculum vulgare</i>
pennywort	<i>Hydrocotyle bonariensis</i>
fire weed	<i>Senecio sp.</i>

The *Noxious Weeds Act 1993* places an obligation upon public authorities to control noxious weeds on land that they occupy, to the extent necessary to prevent such weeds spreading to adjoining lands. NPWS has undertaken a long-term groundsel bush management program, which has significantly reduced the spread and impact of groundsel bush at the historic site. Other weed species will be monitored and controlled as appropriate.

A survey of the adjacent Yarrahapinni Wetlands in 1997 recorded 23 pest plant species (Yarrahapinni Wetlands Management Plan, 2001).

Desired Outcomes

- Pest plant species are controlled and where possible eliminated.
- Pest plant control programs are managed in consultation with surrounding landowners.

Strategies

- *Develop a pest plant management strategy for the historic site.*
- *Ensure that the vegetation management plan (refer section 5.4) and pest management strategy addresses weed control with an emphasis on continuing the control of groundsel bush, and initiating long-term programs for species that:*
 - *are declared noxious;*
 - *have a significant environmental impact, including damage to the middens, threatened species and catchment values;*
 - *may affect neighbouring lands or are considered of high priority by the community; or*
 - *where management is needed to maintain benefits gained from previous control programs or to allow another high priority management program to be effective.*
- *Seek the cooperation of neighbours, in particular the Yarrahapinni Wetland Reserve Trust, in implementing pest plant control programs.*

6.4 PEST ANIMALS

Cattle grazing in Section 1 of the historic site was permitted prior to 1990, and was used to control natural revegetation of the site over the middens. Grazing is no longer permitted but occasionally stray cattle are found in the historic site due to incomplete boundary fencing. Cattle are considered a major threat to the middens because they lead to compaction and accelerate soil erosion. Cattle have been periodically removed from the historic site by NPWS in cooperation with neighbours.

Wild dogs (*Canis familiaris*) and foxes (*Vulpes vulpes*) have been observed within sections 1 and 2 of the historic site. Wild dogs are pest animals under the *Rural Lands Protection Act 1998*.

Predation by foxes has been listed as a key threatening process under the TSC Act. A threat abatement plan has been prepared for the fox. Whilst not directly applicable to the historic site, it will guide management of foxes in the site. The threat abatement plan provides best-practice guidelines for fox control. These guidelines aim to maximise the effectiveness of control programs, while minimising the impact of control methods on non-target species (NPWS 2001b).

Desired Outcomes

- Introduced animal species are controlled and where possible eliminated from the historic site.
- Introduced animal species are controlled and managed in consultation with surrounding landholders.

Strategies

- *Develop a pest animal strategy for the historic site.*
- *Encourage maintenance of effective fencing of strategic areas with neighbouring grazing properties to prevent cattle from entering the historic site. Provide fencing assistance where appropriate in accordance with the NPWS Boundary Fencing Policy.*
- *Remove stray cattle from the historic site as soon as possible.*
- *Control wild dogs in accordance with the NPWS Mid North Coast Regional Pest Management Strategy.*
- *Manage foxes in accordance with the threat abatement plan and the NPWS Mid North Coast Regional Pest Management Strategy.*
- *Liaise with neighbours, in particular the Yarrhapinni Wetland Reserve Trust, in implementing pest animal control programs.*

6.5 FIRE

Fire is a natural feature of the environment and is essential to the survival of some plant and animal communities. Inappropriate fire, however, can damage natural and cultural heritage and may threaten neighbouring properties. Management of bushfire in the historic site is a complex issue. Management will aim to achieve both long-term conservation of native plant and animal communities and ongoing protection of life and property within and adjacent to the historic site. It is NPWS policy to exclude fire from the known locations of historic places and Aboriginal relics or objects, including middens.

Fires have occurred every three or four years at the historic site (Travis & Associates, 1997). Most major fires occur under the influence of northerly and westerly winds and most fires have started off-site. The historic site was before gazettal, subjected to fire at a frequency that has the potential to adversely effect the biodiversity (Bradstock, 1995).

Under the *Rural Fires Act 1997* the NPWS is a fire authority and is responsible for controlling fires on the historic site and ensuring that they do not cause damage to other land or property.

An important part of NPWS fire management is participation in local cooperative fire management arrangements, including implementation of the Bush Fire Risk Management Plans developed by District Bush Fire Management Committees. The NPWS is a member of the Kempsey Bush Fire Management Committee.

The NPWS uses a zoning system for bushfire management. NPWS zones are compatible with the system adopted by the Bushfire Coordinating Committee, which is used in District Bushfire Management Committee Bushfire Risk Management Plans. Hazard reduction programs are also submitted to the district Bush Fire Management Committees.

Draft Fire Management Strategies are currently in preparation for the historic site. The use of heavy machinery in the vicinity of the middens will not be permitted. Management will aim to protect the midden from fire and maintain the biodiversity at the historic site by excluding fire from littoral rainforest.

Desired Outcomes

- Aboriginal sites, historic places and culturally significant features are protected from damage by bushfires and from fire fighting equipment.
- Fire regimes are appropriate for long-term maintenance of plant and animal communities.
- Management trails provide appropriate and adequate access for fire management purposes.
- The potential for spread of bushfires on, from, or into the historic site is minimised.
- Persons and property on or immediately adjacent to the historic site are protected from bushfires.

Strategies

- *Finalise the Draft Fire Management Strategies and manage fuel reduction programs, trail maintenance, research and monitoring in the historic site in accordance with these strategies.*
- *Exclude the use of heavy fire fighting equipment from any part of the middens.*
- *Maintain vegetation clearance along management trails by slashing only.*
- *Use prescribed fire to achieve a variety of fire regimes that maintain fire thresholds for each vegetation community in accordance with the Fire Management Strategies, including the exclusion of fire from littoral rainforest.*
- *Continue to actively participate in the Kempsey Bush Fire Management Committee. Maintain close contact and cooperation with the Rural Fire Service, Forests NSW and neighbours.*
- *Where appropriate, carry out fuel management in cooperation with neighbours for mutual protection.*

7. PUBLIC USE AND EDUCATION

7.1 PUBLIC USE

The main users of the historic site are fisherpersons and bushwalkers accessing the Macleay River and Andersons Inlet.

Although not the basis for its gazettal, these activities attract people to the historic site and offer opportunities for interpretation and public appreciation of the Aboriginal cultural heritage values for which the site was gazetted (refer to section 5.1). At the same time it is important that visitor use is managed to ensure that cultural heritage values are not adversely impacted. Only those recreational uses which are ecologically sustainable and which directly contribute to the visitor's understanding and appreciation of the historic site are considered appropriate. Hence some uses which are acceptable in other parks may not be appropriate in the historic site. For example, due to the erodible nature of the soils and the significance of the middens, horse riding and camping (other than for cultural purposes, refer 5.1) is not appropriate. Public vehicle access (including motor bikes) is permitted on the park road only.

Section 3 is currently the most popular visitor location as it is easily accessible by vehicle from Stuarts Point via Fishermans Reach Road. Sections 1 and 2 are not accessible by public roads and vehicle access is mostly through adjacent private property. The management trails in sections 1 and 2 are not available for public vehicle use. Section 1 can be accessed by watercraft from Andersons Inlet and pedestrian access is possible along the retaining wall from the Golden Hole.

Unauthorised camping and off-road trail bike riding occasionally occur in Section 3. Degradation is occurring in Section 3 through the dumping of rubbish, damage to a mound midden, a growing number of unauthorised tracks and informal campsites, trampling of vegetation and open fires.

While there are concerns with the impacts of camping, vehicle access and other activities in Section 3, part of the site has the capacity to withstand some educational and recreation use. It is easily accessible to visitors and contains a large mound midden, which, although damaged through past exploitation of the shell material, would be suitable for interpretation. This midden has been recently fenced off from vehicles and the road has been slightly relocated to minimise impacts on this area.

Interpretation signs in Section 3 would allow appreciation of Aboriginal cultural heritage values while ensuring minimal impact on these values. The area near the Golden Hole, is mainly open grassland and walking access is available from the day use area at Section 3 via the floodgates over the breakwall.

Desired Outcomes

- Visitor use is compatible with the purposes of the historic site.
- Understanding of the Aboriginal cultural heritage values of the area is increased through sustainable low key visitor use.

Strategies

- *Allow only low impact recreation activities such as nature study, recreational fishing and bushwalking in the historic site.*
- *Limit facilities within the historic site to Section 3 (see below for the facilities to be provided). Visitor facilities will not be provided in Sections 1 or 2.*
- *Install a sealed vaulted toilet system and communal fire ring in the Golden Hole area in Section 3. Require visitors to bring their own firewood.*
- *Allow camping in the Golden Hole area for Aboriginal cultural purposes only, as approved jointly by the Aboriginal Custodian Group and NPWS (refer 5.1).*
- *Put in place conservation measures to protect the values of the middens from visitor impacts prior to the development of any visitor facilities or improvements in access.*
- *No garbage bins will be provided and signs will be installed encouraging visitors to take rubbish with them.*
- *Off road motor bike riding, horse riding and domestic animals, will not be permitted at the historic site.*
- *Commercial fishing vehicles or commercial fishing utilities will not be permitted within the historic site.*
- *Apart from trailer mounted boats used for educational or maintenance purposes, launching of such boats from the banks of the historic site will not be permitted. With approval from the Regional Manager, boats for educational or maintenance purposes may be launched at the old ferry site (see map) or at a site closer to but not within the broadwater.*
- *Monitor visitor use of Section 3 to determine any impacts on cultural or natural values and if necessary limit access and / or undertake rehabilitation works.*

7.2 INFORMATION PROVISION

Information provision about the historic site, through brochures and interpretative signage assists the protection of natural and cultural heritage, promotes support for conservation, and increases the enjoyment and satisfaction of visitors.

The high visibility of middens, together with the readily observable cultural landscape in the historic site, offers excellent opportunities for interpretation of Aboriginal culture.

It is considered that section 3 of the historic site provides the best opportunities for public interpretation of the historic site's natural and cultural heritage values. The damaged mounded midden in Section 3 provides an opportunity for visitors to closely observe an Aboriginal relic without compromising the heritage or scientific value of undisturbed areas elsewhere in the historic site. Section 3 is also easily accessible by vehicle from Fishermans Reach Road.

The only signage on the historic site are entry signs at the end of Marine Parade, near the village of Stuarts Point, and at the floodgate in the Golden Hole area. Sign posting and interpretation of the area is required to fulfil its potential as a location for interpretation of Aboriginal culture.

Face-to-face interpretation, such as talks and tours, are another means of promoting the values of the historic site and should be conducted by members of the Aboriginal community where possible (refer to section 7.3).

Desired Outcomes

- Increased understanding amongst the broader community of Aboriginal heritage.

Strategies

- *Develop the following interpretative material in cooperation and close negotiation with representatives of the Aboriginal Custodian Group:*
 - *on site interpretation signage and appropriate guided tours or other face to face interpretation activities focusing on the cultural and natural values;*
 - *orientation signage to enable visitors to find their way around Section 3 and advise them about appropriate use; and*
 - *an information brochure about Aboriginal heritage of the area.*
- *Support and assist educational use of the historic site in association with the Aboriginal Custodian Group.*

7.3 EDUCATION AND COMMERCIAL ACTIVITIES

Aboriginal Elders have been taking students to the historic site for many years for educational tours. The historic site has the potential to become a prime location for interpretation of Aboriginal cultural heritage values on the mid north coast of NSW. Interpretative programs and guided tours run by local Aboriginal people are considered highly appropriate for the historic site.

Face-to-face interpretation may also include those services provided by commercial tourist operators or other organised groups. An Aboriginal tour operator has been licensed in the past for the purpose of conducting tours of the historic site.

The content and format of talks and other material provided for groups by commercial operators and education groups must be consistent with the objective of improving the public understanding of Aboriginal culture. Training and accreditation of tour operators and guides may be required to achieve this.

Desired outcomes

- The historic site is a valuable educational resource for local schools and community organisations.
- Information provided by commercial operators and organised groups is consistent with improving public understanding of cultural heritage values in the historic site.

Strategies

- *Encourage local Aboriginal people to guide tours in Section 3 in close association with representatives from the Aboriginal Custodian Group.*

- *Support and assist educational use of the historic site by schools, community groups and individuals through provision of information and programs.*
- *Allow commercial or organised tours subject to permit and the following:*
 - *agreement of the Aboriginal Custodian Group is obtained prior to issuing any permit;*
 - *limits will be placed on group size to ensure control of access and behaviour and hence avoid damage to archaeological material. The tour program and guides must demonstrate satisfactory interpretative standards or will be willing to undertake appropriate training before the tour;*
 - *permits will be altered or revoked if unacceptable environmental impacts are found to occur; and*
 - *the content of talks and other material will be reviewed by the Aboriginal Custodian Group and NPWS to ensure that the information provided to the public is sensitive to the Aboriginal community, accurate, relevant and consistent with NPWS and Government policies.*

8. RESEARCH AND MONITORING

The purpose of scientific study is to improve understanding of the natural and cultural heritage. Previous studies in the historic site have focused on the Aboriginal heritage of the area, and have sought to determine the age, extent and content of the middens. The information gained from this research has provided valuable information on the significance of the historic site.

It is anticipated that future research by NPWS, other organisations and students may provide valuable information for management. A prospectus is needed to encourage involvement in priority research areas.

Some important research topics have been mentioned in earlier sections of this plan, eg. fauna and flora surveys, and midden management.

Desired Outcomes

- Research is conducted in cooperation with the Aboriginal Custodian Group.
- Research enhances the information base and assists management of the historic site.
- Research causes minimal environmental damage.
- Monitoring programs are in place to detect any changes in the status of natural or cultural values.

Strategies

- *Assess applications for research jointly with the Aboriginal Custodian Group.*
- *Only permit research which causes minimal disturbance, unless significant benefits to knowledge of cultural heritage can be demonstrated and alternative opportunities are not available elsewhere.*
- *Encourage research that provides information which can be used to ensure the long term stability of the midden complex.*
- *Encourage the involvement of members of the Aboriginal community in fieldwork related to relevant research topics.*
- *Maintain close liaison with researchers to maximise the level of information and assistance obtained from research.*
- *Provide copies of any research findings relevant to cultural heritage to the Aboriginal Custodian Group.*
- *In negotiation with the local Aboriginal Custodian Group, prepare a prospectus as a guide to preferred research projects and promote the prospectus to potential researchers. Preferred topics will be those of direct relevance to management and to improve the level of understanding of the significance and use of the site.*

- *In negotiation with the Aboriginal Custodian Group establish a monitoring program to examine:*
 - *the condition of archaeological and other cultural heritage features, and any changes arising from increased public use and the implementation of management programs;*
 - *the requirements of site conservation works such as soil erosion work;*
 - *the condition of tracks, signs, fencing and other infrastructure; and*
 - *the behaviour of visitors to the area.*
- *Encourage bird watchers or similar groups to pass on information gathered on the historic site.*
- *Undertake a baseline survey of cultural heritage values and cultural mapping to provide information for the monitoring program to be effective.*

9. OTHER USES

A Crown land inholding in Section 3 of the historic site fronting Andersons Inlet is leased for oyster farming. Access to the oyster farm is along a park road and an NPWS management trail. There has been some encroachment upon Section 3 of the historic site by the oyster lease operation. A cleared area is maintained for fire protection and is also used for parking and storage of moveable items.

An overhead electricity and telecommunications line provides power and a telephone line to the oyster farm inholding. The lines cross Section 3 of the historic site in the northeast and southwest corners and crosses Andersons Inlet. There is currently no formal licence or lease over the area traversed by the electricity and telecommunications line.

Desired Outcomes

- Development of infrastructure and non-NPWS use does not occur in the historic site unless consistent with the NPW Act.

Strategies

- *Permit non-NPWS infrastructure and use only where it is consistent with the NPW Act.*
- *Formalise arrangements for access to the oyster lease inholding as well as maintenance of the firebreak and fencing. Ensure that no structures encroach into the historic site from oyster lease activities.*
- *Negotiate with the relevant power authority regarding the use and maintenance of the power lines within the historic site which cross Andersons Inlet and serve the oyster lease inholding.*
- *Negotiate a formal agreement with Telstra regarding the use and maintenance of the existing telecommunication lines in the historic site in accordance with NPWS Utility Services Tenures Policy and NPW Act.*

10. NPWS MANAGEMENT FACILITIES AND OPERATIONS

There are no NPWS management structures or facilities other than a limited network of management trails and a park road within Section 3. The management trails have been determined as necessary for fire management in the Draft Fire Management Strategies for the historic site.

The last 2km of Fishermans Reach Road (outside the historic site) was originally built to serve a now abandoned ferry which crossed Andersons Inlet to the north side of the Macleay River. This reserved road alignment is of variable width and has been kept open by oyster farmers, neighbouring landowner and fisherpersons. It also provides public access to section 3 of the historic site. It is understood that private landholders are negotiating with Kempsey Shire Council to move this road west under the power line as per the road realignment displayed on the map.

Access to sections 1 and 2 of the historic site is through private property.

During recent years the NPWS has undertaken management programs involving negotiation with Aboriginal people as well as their participation with weed control programs such as the Green Corps programs, rubbish removal and boundary surveys. It is desirable that members of the local Aboriginal communities be employed wherever possible in implementing works identified in this plan of management.

Desired Outcomes

- Management trails are maintained to an acceptable standard for fire and other management purposes while having limited and acceptable impact on the historic sites values.
- Employment opportunities for local Aboriginal people are pursued.

Strategies

- *Maintain the road and management trail network required for public access and management purposes as shown on the map. Close and rehabilitate all other roads and trails not shown on the map.*
- *Liaise with Kempsey Shire Council and the neighbouring landholder about maintaining public vehicle access along Fishermans Reach Road to the boundary of Section 3 of the historic site.*
- *Allow vehicle access on the management trails in Section 1 and 2 for Aboriginal cultural purposes, subject to the agreement of adjoining landholders and NPWS.*
- *Consult and formalise access arrangements with private landholders whose properties provide access to areas of Section 1 and 3 of the historic site.*
- *Seek funding for a designated Aboriginal Field Officer position to primarily undertake work in the historic site and funding for other indigenous work programs such as ongoing weed control.*

11. PLAN IMPLEMENTATION

This plan of management establishes a scheme of operations for the historic site. The plan is part of a system of management developed by the NPWS. The system includes the NPW Act, management policies, established conservation and recreation philosophies, and strategic planning at corporate, branch and regional levels. The latter may include development of related plans such as regional recreation plans, species recovery plans, fire management plans and conservation plans.

Section 81 of the NPW Act requires that this plan of management shall be carried out and given effect to, and that no operations shall be undertaken in relation to the historic site unless they are in accordance with the plan.

Implementation of this plan will be undertaken within the annual programs of the NPWS Mid North Coast Region. The actions identified in the plan are those to which priority will be given in the foreseeable future. Other management actions may be developed consistent with the plan objectives and strategies.

A major focus of this plan of management is the close involvement of the local Aboriginal communities in the management and interpretation of the historic site through the Aboriginal Custodian Group.

Relative priorities for identified activities are set out in the table below. These priorities are determined in the context of branch and regional strategic planning, and are subject to the availability of necessary staff and funds and to any special requirements of the Department of Environment and Climate Change. The implementation of the plan will be monitored and its success in achieving the identified objectives will be assessed.

The environmental impact of proposed activities will be assessed at all stages in accordance with established environmental assessment procedures under the EP&A Act. Where impacts are found to be unacceptable, activities will be modified in accordance with the plan's policies.

This plan of management does not have a specific term and will stay in force until amended or replaced in accordance with section 73B of the Act. The plan applies both to the land currently reserved and to any future additions. Where management strategies or works are proposed for additions (or the existing area) that are not consistent with the plan, an amendment to the plan will be required.

Strategies

- *Undertake regular ongoing Aboriginal community consultation / negotiation relevant to implementation of this plan through the Aboriginal Custodian Group.*
- *Undertake an annual review of progress in implementing this plan of management.*

12. TABLE OF STRATEGIES

Actions	Priority
5 CONSERVATION OF CULTURAL AND NATURAL HERITAGE	
5.1 Aboriginal cultural heritage	
Continue to manage the historic site in partnership with the Aboriginal Custodian Group.	High
Determine an appropriate approach to vegetation management to protect middens (refer section 5.4 Native Plants).	Medium
Provide Aboriginal Elders with copies of any studies undertaken at the site.	High
Undertake an archaeological survey and cultural assessment prior to all works with the potential to impact on Aboriginal sites and places of significance.	High
Encourage a survey and cultural mapping of the site with the Aboriginal Custodian Group to identify and protect bush tucker and medicinal plants.	High
Promote Aboriginal sites and places of significance only with the agreement of the Aboriginal Custodian Group.	High
In association with the Aboriginal Custodian Group, and subject to the above, develop appropriate interpretation of middens at Section 3 (refer section 7.1 recreation).	High
Discourage public access to Sections 1 and 2 due to the absence of public roads and to minimise possible damage to the middens.	High
Facilitate appropriate Aboriginal cultural and educational activities in the historic site related to maintenance of traditional links to the land. Any such activities must comply with the NPW Act, NPWS policies, this plan of management and have minimal environmental impact.	High
Allow camping for Aboriginal cultural purposes, as approved jointly by the Aboriginal Custodian Group and NPWS (refer also section 7.1).	High
Liaise with neighbouring landowners to ensure the long-term protection of the sections of the midden complex outside the historic site.	High
Liaise with the Yarrahapinni Wetlands Reserve Trust with a view to achieving an integrated approach towards the protection and interpretation of cultural values of the Yarrahapinni wetlands and the site.	High
5.2 Non-Aboriginal cultural heritage	
Record the boat launching site, windmills, buildings and stockyards and allow structures to naturally deteriorate.	Medium
Record other historic places as they are identified, assess their significance and develop appropriate management strategies.	Low
5.3 Landform, geology and soils	
Undertake any works in a manner that minimises erosion, soil disturbance and impact on landscape values.	Medium
5.4 Native plants	
Encourage or undertake a vegetation survey of the historic site, with priority on predicted significant species.	High
Prepare and implement a vegetation management plan which will aim to: <ul style="list-style-type: none"> – conserve areas of littoral rainforest, wetland and other significant plant communities ; – allow selected cleared areas to revegetate, except where this threatens to disturb the middens' contents or other cultural values as agreed to in negotiation with the Aboriginal Custodian Group (refer to section 5.1); – identify appropriate techniques for maintaining clearings on middens where this is the agreed strategy; and – identify other areas for natural regeneration or future bush regeneration activities using locally indigenous species. 	Medium

Liaise with the Yarrahapinni Wetlands Reserve Trust to achieve an integrated approach towards the rehabilitation/restoration of the natural estuarine vegetation communities of the Yarrahapinni wetlands and the historic site.	High
Liaise with the Aboriginal Custodian Group, neighbours, Landcare, vegetation management committees and land use authorities to encourage retention, and if possible expansion, of areas of native vegetation close to the historic site.	High
5.5 Native animals	
Protect native animal habitat from the effects of introduced species, inappropriate fire regimes and visitor impacts (refer sections 6 Park Protection and 7 Visitor Opportunities and Education).	High
Undertake a fauna survey to determine species present in the historic site, in particular threatened and significant species.	High
Liaise with neighbouring landowners about strategies to protect habitat of threatened species.	Medium
Implement recovery plans for threatened species when they are prepared.	Medium
6 PARK PROTECTION	
6.1 Soil erosion	
Encourage natural regeneration and/or plant locally endemic plant species in disturbed areas in accordance with the vegetation management plan (refer section 5.4).	Medium
Design and undertake all works in a manner that minimises soil erosion.	High
Survey sites of erosion for exposed Aboriginal objects/ relics, prior to restoration.	High
6.2 Water quality and catchment management	
Design and undertake all works in a manner that avoids contributing to the exposure of acid sulfate soils (see Section 5.3 Landform, Geology and Soils).	High
Liaise with Yarrahapinni Wetlands Reserve Trust and other local authorities as needed to maintain the water quality of the catchment.	High
Continue to participate as a member of the Northern Rivers Catchment Management Authority.	High
Permit University of New England access to the historic site to maintain existing ground water sampling sites.	High
6.3 Pest plants	
Develop a pest plant management strategy for the historic site.	Medium
Ensure that the vegetation management plan (refer section 5.4) addresses weed control, with an emphasis on continuing the control of groundsel bush, and initiating long-term programs for species that: <ul style="list-style-type: none"> – are declared noxious; – have a significant environmental impact, including damage to the middens, threatened species and catchment values; – may affect neighbouring lands or are considered of high priority by the community; or – where management is needed to maintain benefits gained from previous control programs or to allow another high priority management program to be effective. 	Medium
Seek the cooperation of neighbours, in particular the Yarrahapinni Wetland Reserve Trust, in implementing pest plant control programs.	High
6.4 Pest animals	
Develop a pest animal management strategy for the historic site.	Medium
Encourage maintenance of effective fencing of strategic areas with neighbouring grazing properties to prevent cattle from entering the historic site. Provide fencing assistance where appropriate in accordance with the NPWS Boundary Fencing Policy.	Medium
Remove stray cattle from the historic site as soon as possible.	High
Control wild dogs in accordance with the NPWS Mid North Coast Regional Pest Management Strategy.	High
Manage foxes in accordance with the threat abatement plan and the NPWS Mid North	High

Coast Regional Pest Management Strategy.	
Liaise with neighbours, in particular the Yarrahapinni Wetland Reserve Trust, in implementing pest animal control programs.	High
6.5 Fire	
Finalise the Draft Fire Management Strategies and manage fuel reduction programs, trail maintenance, research and monitoring in the historic site in accordance with these strategies.	High
Exclude the use of heavy fire fighting equipment from any part of the midden.	High
Maintain vegetation clearance along management trails by slashing only.	High
Use prescribed fire to achieve a variety of fire regimes that maintain fire thresholds for each vegetation community in accordance with the Fire Management Strategies, including the exclusion of fire from littoral rainforest.	High
Continue to actively participate in the Kempsey Bush Fire Management Committee. Maintain close contact and cooperation with the Rural Fire Service, Forests NSW and neighbours.	High
Where appropriate, carry out fuel management in cooperation with neighbours. for mutual protection.	High
7 VISITOR OPPORTUNITIES AND EDUCATION	
7.1 Public Use	
Allow only low impact recreation activities such as nature study and bushwalking in the historic site.	High
Limit educational and recreational facilities within the historic site to Section 3. Visitor facilities will not be provided in sections 1 or 2.	High
Install a sealed vaulted toilet system and communal fire ring in the Golden Hole area in Section 3. Require visitors to bring their own firewood.	Medium
Allow camping in the Golden Hole area for Aboriginal cultural purposes only, as approved jointly by the Aboriginal Custodian Group and NPWS (refer 5.1).	High
Put in place conservation measures to protect the values of the middens from visitor impacts prior to the development of any visitor facilities or improvements in access.	High
No garbage bins will be provided and signs will be installed encouraging people to take rubbish with them.	Medium
Off road motor bike riding, horse riding and domestic animals, will not be permitted at the historic site.	High
Commercial fishing vehicles or commercial fishing utilities will not be permitted within the historic site.	High
Apart from trailer mounted boats used for educational or maintenance purposes, launching of such boats from the banks of the historic site will not be permitted. With approval from the Regional Manager, boats for educational or maintenance purposes may be launched at the old ferry site or at a site closer to but not within the broadwater.	Medium
Monitor visitor use of Section 3 to determine any impacts on cultural or natural values and if necessary limit access and / or undertake rehabilitation works.	Medium
7.2 Information provision	
Develop the following interpretative material in cooperation and close negotiation with representatives of the Aboriginal Custodian Group: <ul style="list-style-type: none"> – on site interpretation signage and appropriate guided tours or other face to face interpretation activities focusing on the cultural and natural values; – orientation signage to enable visitors to find their way around Section 3 and advise them about appropriate use; and – an information brochure about Aboriginal heritage of the area. 	Medium
Support and assist educational use of the park in association with the Aboriginal Custodian Group.	Medium

7.3 Education and commercial activities	
Encourage local Aboriginal people to guide tours in Section 3 in close association with representatives from the Aboriginal Custodian Group.	Medium
<p>Allow commercial or organised tours subject to permit and the following:</p> <ul style="list-style-type: none"> – agreement of the Aboriginal Custodian Group is obtained prior to issuing any permit; – limits will be placed on group size to ensure control of access and behaviour and hence avoid damage to archaeological material. The tour program and guides must demonstrate satisfactory interpretative standards or will be willing to undertake appropriate training before the tour; – permits will be altered or revoked if unacceptable environmental impacts are found to occur; and – the content of talks and other material will be reviewed by NPWS and representatives of the local Aboriginal Custodian Group to ensure that the information provided to the public is sensitive to the Aboriginal community, accurate, relevant and consistent with NPWS and Government policies. 	Medium
Support and assist educational use of the historic site in association with the Aboriginal Custodian Group.	Medium
8 RESEARCH AND MONITORING	
Assess applications for research jointly with the Aboriginal Custodian Group.	High
Only permit research which causes minimal disturbance, unless significant benefits to knowledge of cultural heritage are demonstrated and alternative opportunities are not available elsewhere.	High
Encourage research that provides information which can be used to ensure the long term stability of the midden complex.	High
Encourage the involvement of members of the Aboriginal community in fieldwork related to relevant research topics.	High
Maintain close liaison with researchers to maximise the level of information and assistance obtained from research.	High
Provide copies of any research findings relevant to cultural heritage to the Aboriginal Custodian Group.	High
In negotiation with the local Aboriginal community, prepare a prospectus as a guide to preferred research projects in the site and promote the prospectus to potential researchers. Preferred topics will be those of direct relevance to management and to improve the level of understanding of the significance and use of the site.	Medium
<p>In negotiation with the Aboriginal Custodian Group establish a monitoring program to examine:</p> <ul style="list-style-type: none"> – the condition of archaeological and other cultural heritage features, and any changes arising from increased public use and the implementation of management programs; – the requirements of site conservation works such as soil erosion work; – the condition of tracks, signs, fencing and other infrastructure; and – the behaviour of visitors to the area. 	Medium
Encourage bird watchers or similar groups to pass on information gathered on the site.	Low
Undertake a baseline survey of cultural heritage values and cultural mapping to provide information for the monitoring program to be effective.	Medium
9 OTHER USES	
Permit non-NPWS infrastructure and use only where it is consistent with the NPW Act.	High
Formalise arrangements for access to the oyster lease inholding as well as maintenance of the firebreak and fencing. Ensure that no structures encroach into the historic site from oyster lease activities.	High

Negotiate with the relevant power authority regarding the use and maintenance of the power lines within the historic site which cross Andersons Inlet and serve the oyster lease inholding.	Medium
Negotiate a formal agreement with Telstra regarding the use and maintenance of the existing telecommunication lines in the historic site.	High
10 NPWS MANAGEMENT FACILITIES AND OPERATIONS	
Maintain the road and management trail network required for public access and management purposes as shown on the map. Close and rehabilitate all other roads and trails not shown on the map.	High
Liaise with Kempsey Shire Council and the neighbouring landholder about maintaining public vehicle access along Fishermans Reach Road to the boundary of the historic site in Section 3.	Medium
Allow vehicle access into Section 1 and 2 for Aboriginal cultural purposes, subject to the agreement of adjoining landholders and NPWS.	Medium
Consult and formalise access arrangements with private landholders whose properties provide access to areas of Section 1 and 3 of the historic site.	High
Seek funding for a designated Aboriginal Field Officer position to primarily undertake work in the historic site and funding for other indigenous work programs such as ongoing weed control.	High
11 PLAN IMPLEMENTATION	
Undertake regular ongoing Aboriginal community consultation/negotiation relevant to implementation of this plan through the Aboriginal Custodian Group.	High
Undertake an annual review of progress in implementing this plan of management.	Medium

High priority activities are those imperatives to achievement of the objectives and desired outcomes. They must be undertaken in the near future to avoid significant deterioration in natural, cultural or management resources.

Medium priority activities are those that are necessary to achieve the objectives and desired outcomes but are not urgent.

Low priority activities are desirable to achieve management objectives and desired outcomes but can wait until resources become available.

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14. GLOSSARY

ACRONYMS USED

EP&A Act	NSW <i>Environmental Planning and Assessment Act 1979</i>
NPW Act	NSW <i>National Parks and Wildlife Act 1974</i>
NPWS	NSW National Parks and Wildlife Service
TSC Act	NSW <i>Threatened Species Conservation Act 1995</i>

SELECTED DEFINITIONS

Biodiversity Biological diversity, namely the variety of life forms: the different plants, animals and microorganisms, the genes they contain, and the ecosystems they form. It is usually considered at three levels: genetic diversity, species diversity and ecosystem

Bushfire hazard reduction work

The establishment or maintenance of fire breaks on land, by reduction or modification of available fuels within a predetermined area to mitigate against the spread of a bushfire. Fuel reduction may be achieved by the controlled application of appropriate fire regimes, manual removal, slashing, grazing or other means. Fuel modification is a manipulation of fuels (e.g. through lopping, chipping, crushing and mowing) to reduce their flammability

Bushfire management plan

A plan of operations to prevent, detect and suppress unplanned fires and to reduce bushfire hazard, prepared by a Bushfire Management Committee, constituted under the RF Act for coordinated fire management and operations within a rural fire district.

Cultural heritage

Encompasses past and present cultural associations of all people in Australia, including tradition, knowledge and customs. It can be tangible (i.e. have physical manifestations in the form of art, buildings etc.) or intangible (i.e. spiritual or social associations, songs, stories and cultural practices). Cultural significance includes values that are social, spiritual, aesthetic, historic and scientific. When natural resources acquire meaning for a particular group, they become cultural resources as well.

Ecologically sustainable use

Using society's natural resources within the capacity of the species and ecosystems, so that the health, diversity and productivity of the environment and the ecological processes on which life depends are conserved and enhanced, and the quality of life, now and in the future, can be increased.

Fauna

Any mammal, bird, reptile or amphibian. NPWS has responsibility for the conservation of fauna. Note this definition excludes fish or invertebrates.

Feral species

A domesticated species that has become wild

Fire authorities

Organisations (including land management authorities such as NPWS) vested by the *Rural Fires Act* with the responsibility to suppress fires. Under the *Rural Fires Act*, fire management activities on NPWS reserves are the responsibility of NPWS

Fire Management Includes all activity associated with the use and control of fire in bushland designed to achieve stated objectives for the protection of life and property, and the maintenance of wildlife communities.

Historic places

Landscapes, sites buildings or other works together with pertinent contents and surroundings and include structures, ruins, archaeological sites and areas.

Ministerial roads

Road corridors through the park/ reserve/historic site which, although managed by NPWS, do not form part of the gazetted area of the park/ reserve. Typically the access to adjacent State forest or private land, these roads are vested in the Minister for the Environment.

Park roads Access roads, which form part of the gazetted area of a park/ reserve/historic site, maintained by the NPWS for public use primarily to access visitor facilities and points of interest.

Pest species

A species occurring in an area outside its historically known natural range as a result of intentional or accidental dispersal by human activities. Also known as exotic or alien species.

Policy

A statement of attitude and courses of action, directed toward the attainment of NPWS corporate goals and/or objectives.

Recovery plan

A document prepared under the TSC Act that identifies the actions to be taken to promote the recovery of a threatened species, or endangered population or ecological community.

Regeneration

The recovery of natural integrity following disturbance or degradation. This can be achieved through totally natural processes or an assisted process, where human intervention (through removing weeds or planting seedlings) accelerates recovery.