



NSW NATIONAL PARKS & WILDLIFE SERVICE

# Kamay Botany Bay National Park

Planning Considerations



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# How to use this document

This planning considerations document outlines the matters considered in preparing the Kamay Botany Bay National Park Plan of Management, including the park's key values, management principles and management considerations. Further information, including scientific names for common names of species, is provided in the appendices.

**It is recommended that readers of this document also read the plan of management.**

The plan of management describes the desired outcomes for the park's values and actions that the National Parks and Wildlife Service (NPWS) proposes to undertake to achieve these outcomes. It also sets out the recreational and commercial activities that are permitted in the park and any requirements to undertake these activities, including whether consent must be sought from the National Parks and Wildlife Service to undertake them.

This planning considerations document will be updated when appropriate, for example, if we have new information on:

- the values of the park (e.g. new threatened species)
- management approaches (e.g. new pest management techniques)
- new programs.

Changes will only be made to this document if they are consistent with the plan of management.

## Acknowledgments

NPWS acknowledges the traditional owners of Kamay Botany Bay National Park.

This planning considerations document was prepared by the staff of NPWS.

## Contact us

For more information or any inquiries about this plan of management or Kamay Botany Bay National Park, contact NPWS by mail at PO Box 461, Rose Bay 2029 or by telephone (02) 9337 5511.



Figure 1 Kamay Botany Bay National Park – overview

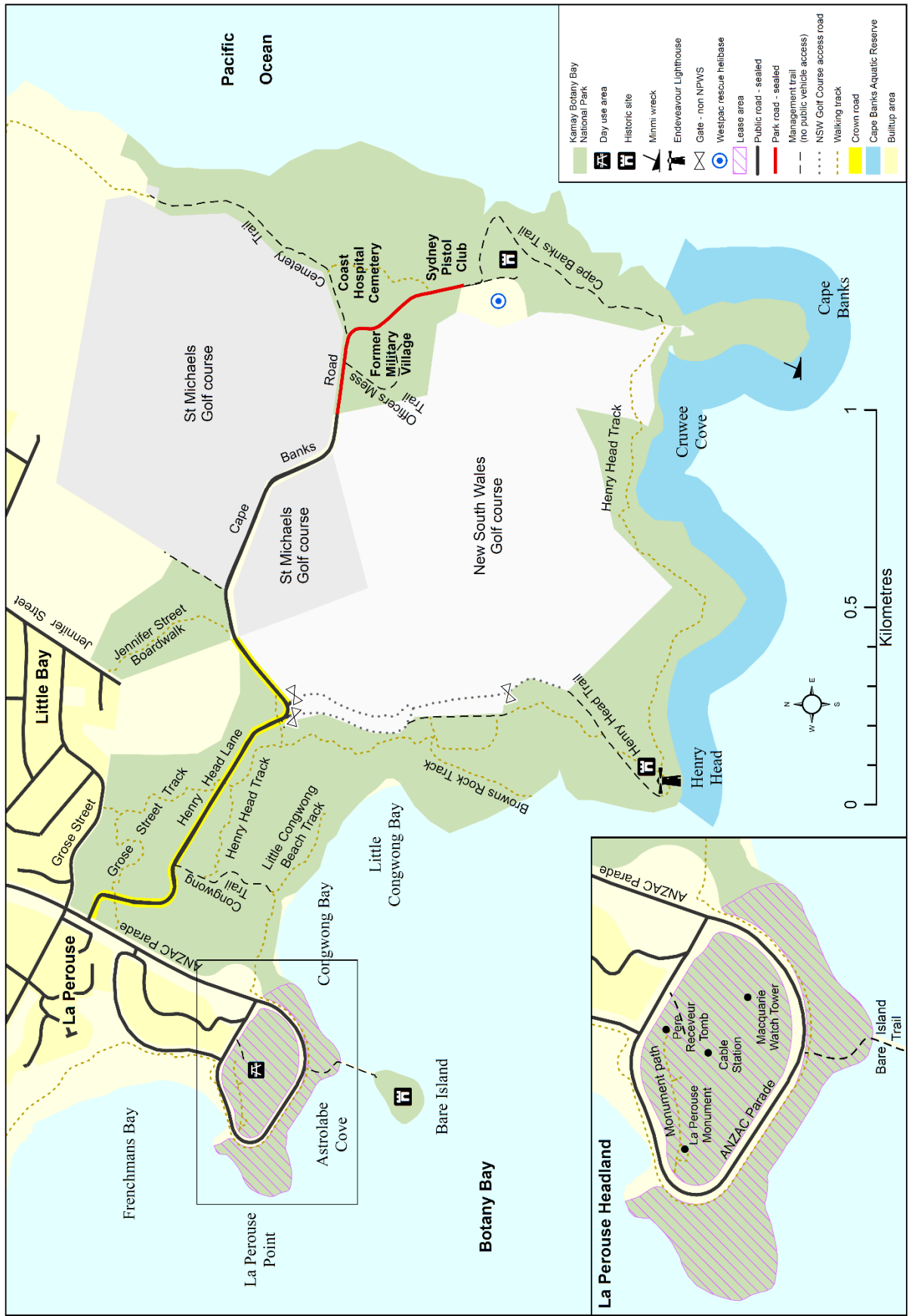


Figure 2 Kamay Botany Bay National Park (La Perouse Section)

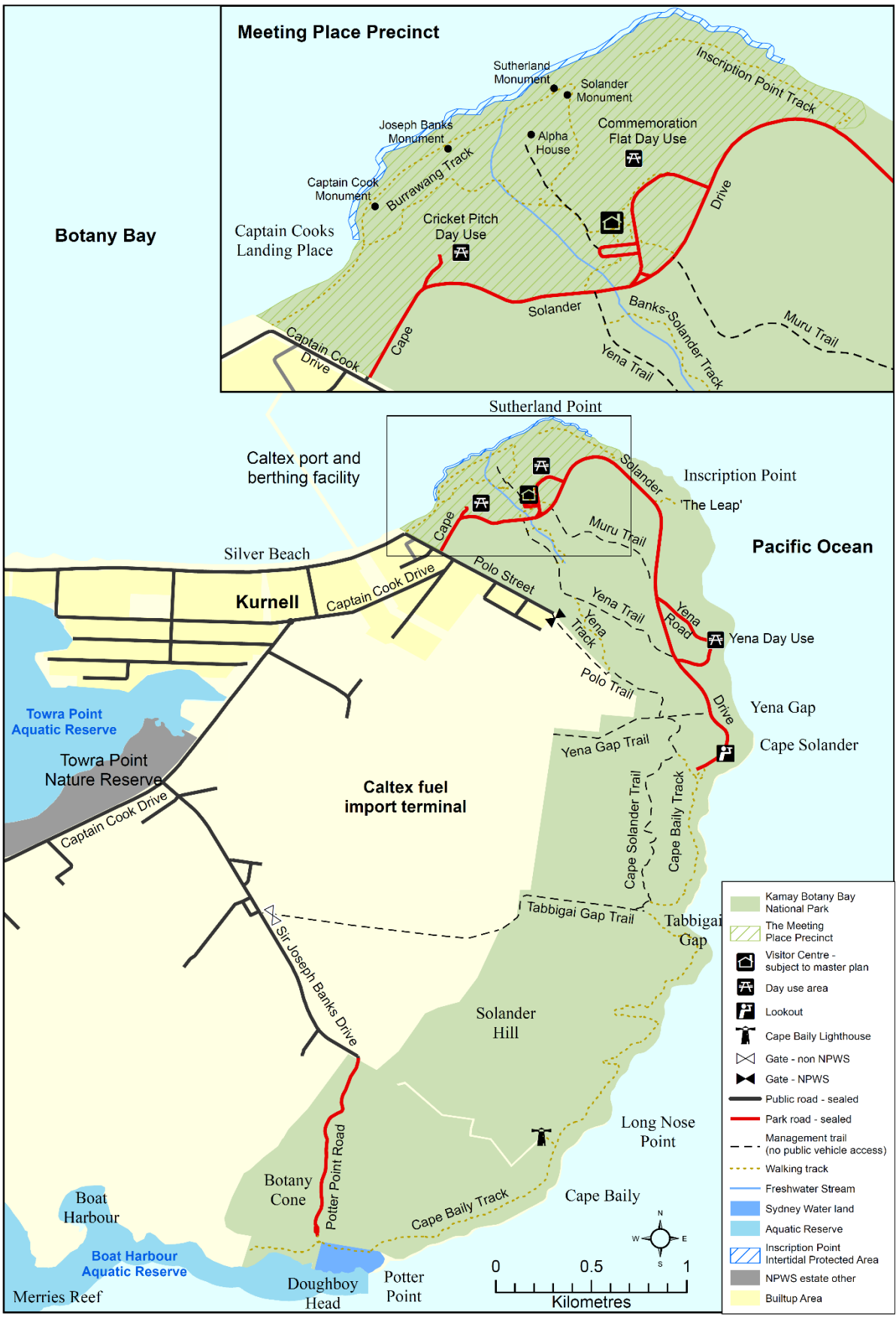


Figure 3 Kamay Botany Bay National Park (Kurnell Section)



# Setting the scene – a place of national significance

Kamay Botany Bay National Park (see Box 1) holds a special and unique place in Australia's history. The park is important to all Australians because it includes the site of first contact in 1770 between Aboriginal Australians and the crew of Lieutenant James Cook's *Endeavour*. As the meeting place of Aboriginal and European cultures, the park is part of our shared history and that history continues to have deep social and community meaning. The NSW National Parks and Wildlife Service (NPWS) acknowledges and respects the significance of this event and the place to Aboriginal people (see Box 2).

The park contains a range of Aboriginal sites where evidence of the physical presence of Aboriginal peoples and their long association with the area can be seen. It is also the place where the French explorer Jean-Francois de Galaup, comte de Laperouse, was last sighted in 1788. It is the location where many Australian plants were first collected and described, including those by Joseph Banks and Daniel Carlsson Solander in 1770, making it the type locality (the place in which a specimen is first identified) for these plants.

The park has important scenic values, such as dramatic rocky cliffs and beaches, and habitat for important native plants and animals, including highly valued remnants of endangered ecological communities. In addition, it contains many historic buildings, monuments and landscape features. The park attracts local and international visitors who come to experience its history, socialise with friends and family, appreciate its natural values and to undertake a range of recreational and visitor activities (such as bushwalking, birdwatching, picnicking and whale watching).

This diverse history of human activity, changing ecosystems and developing cultures has strongly influenced the overall significance of the place and its status as a national park and the need to carefully manage and protect the place in perpetuity.

## The Meeting Place

The term 'Meeting Place' reflects the history of Kamay Botany Bay National Park as a key location in which peoples of different cultural backgrounds first encountered each other. It also reflects an ongoing role for the park as a meeting place where people can come together to learn about the past and to reflect on future opportunities for building cultural understanding, recognition and respect.

The Meeting Place Precinct in the Kurnell section of the park will be the place where the stories of the encounter between Aboriginal people and the Cook expedition will be told through experiencing and understanding the land, the peoples who have come here, their cultures and the ways in which that moment of encounter has shaped Australia today.

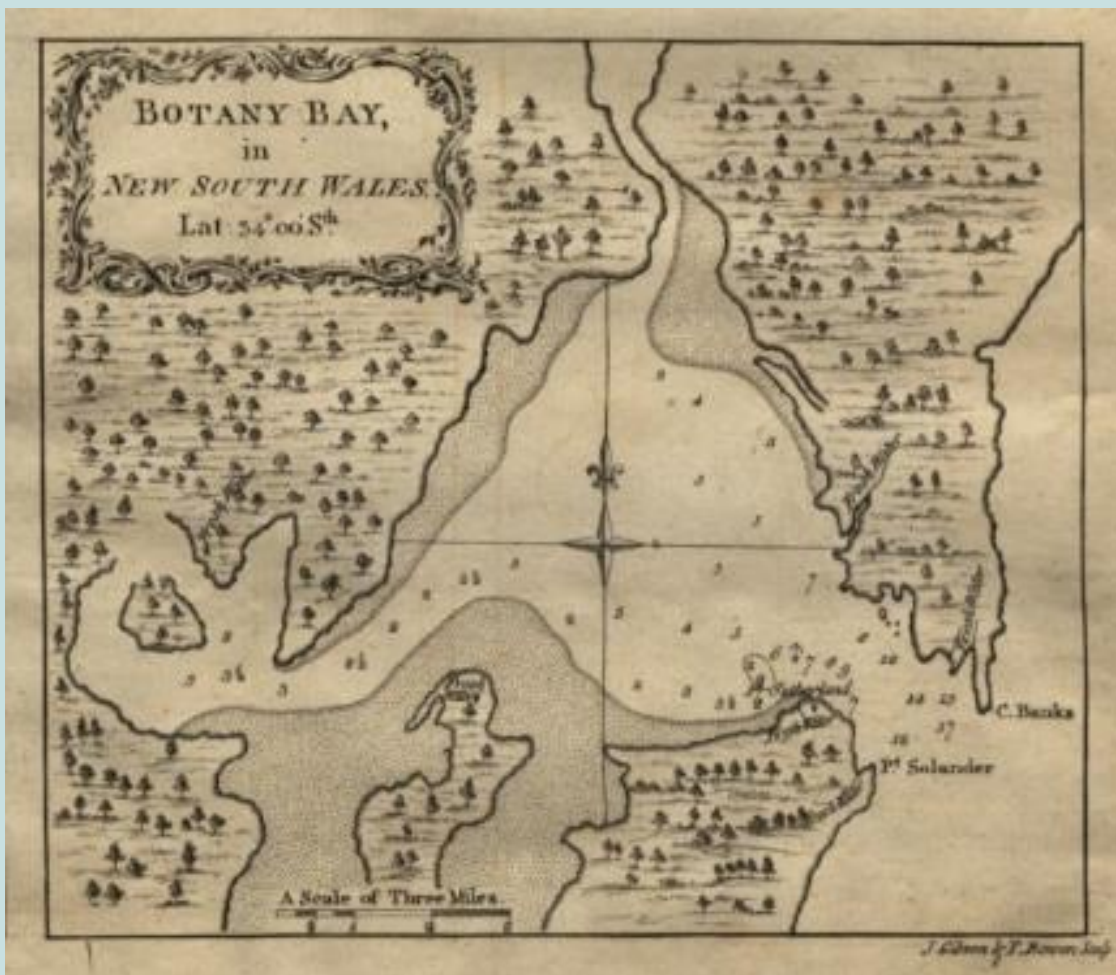
Botany Bay National Park was gazetted under the NSW *National Parks and Wildlife Act 1974* on 23 November 1984. It includes some areas that had been reserved and protected much earlier, including 100 hectares of land at Captain Cooks Landing Place, which was first dedicated for public recreation in 1899. The dual name Kamay Botany Bay National Park was formally adopted in 2018.

## Box 1 What's in the name Kamay Botany Bay?

Kamay is a Dharawal word. *Kamay* means 'fresh water'. The word *kamayagal* refers to 'the people (or possibly the men) of Botany Bay'. Aboriginal people did not necessarily apply names to geographical units in the same way that Europeans have done. However, today it is generally accepted that the local Aboriginal people referred to Botany Bay as 'kamay'.

Botany Bay was initially called Sting Ray Harbour by James Cook and other journal keepers in their logs of 1770, named after the many stingrays they caught while in the bay. However, in the journal prepared later from his log, Cook wrote: 'The great quantity of new plants Mr Banks and Dr Solander collected in this place occasioned my giving it the name of Botany Bay' (Aughton 2002).

In consultation with the local Aboriginal community, Kamay Botany Bay has been adopted as the dual name for the park. The name for the park has been registered by the Geographical Names Board of NSW.



A 1773 map of Botany Bay

In 2004 the Kurnell section of the park was included on the National Heritage List under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*<sup>1</sup>. In 2017 the site 'Kamay Botany Bay: botanical collection sites', including the Kurnell and La Perouse sections of the park and Towra Point Nature Reserve, was added to the National Heritage List. In 2013 the entire park was listed on the State Heritage Register under the NSW *Heritage Act 1977* (see Appendix D).

The core values of Kamay Botany Bay National Park are:

- The long and continuing connection between Aboriginal people and this landscape.
- The association with European expeditions of exploration and settlement and the history of contact between Aboriginal Australians and Europeans.
- The diverse and evolving symbolism that derives from these initial and later meetings between cultures. The 'Meeting Place' theme allows for ongoing recognition of this symbolism and the opportunity to explore current social issues such as reconciliation.
- The enduring scenic landscapes, which define the entrance to Botany Bay and provide a continuing connection between the place that existed prior to 1770 and today. The landscape provides the setting and backdrop for park visitors to enjoy and learn about its natural and cultural values.
- The largest remnants of the original vegetation communities of the Kurnell Peninsula and eastern suburbs, representing an important sample of the landscapes, ecosystems and habitats of the Sydney coastline.

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<sup>1</sup> the listing was amended in 2005 to alter the boundary and the description of heritage values

# 1. Landscape setting

## 1.1 Physical setting

Kamay Botany Bay National Park is 456 hectares of the northern and southern headlands of the entrance to Botany Bay. The La Perouse section is 102 hectares and the Kurnell section is 354 hectares. The park is located within the southern Sydney metropolitan area and is surrounded by lands used for a range of residential, commercial, industrial and environmental protection purposes.

Kamay Botany Bay National Park is close to several other metropolitan parks managed by NPWS, and reserves managed by local councils and other organisations. These include Malabar Headland National Park, Towra Point Nature Reserve, Royal National Park, Sydney Harbour National Park, Cape Banks Aquatic Reserve, Towra Point Aquatic Reserve, Boat Harbour Aquatic Reserve, Inscription Point Intertidal protected area, the Botany wetlands, Wollie Creek Regional Park and Barton Park wetlands.

NPWS seeks to protect the values of Kamay Botany Bay National Park as part of an integrated strategic approach to the management of other parks in the region. That ensures key issues such as bushfire management, pest species control and planning for park visitors takes account of broader trends and opportunities, rather than just looking at an individual park in isolation.



A modern-day aerial image of Botany Bay

As surrounding land use change occurs, there may also be scope to add further lands to the park. Such options will be considered where this would improve management of the park, provide protection for conservation values or support visitor use and enjoyment.

The retention of natural vegetation and landforms across the headlands of Botany Bay defines the character of the area for the local community and international visitors alike. The park also plays a critical role in maintaining a network of conservation areas along the eastern coast of Australia. These coastal conservation areas act as repositories of habitat and as stepping stone wildlife corridors for native fauna. The park has over 13 kilometres of coastline.

## 1.2 Social and economic landscape

The park is located within the administrative areas of the La Perouse Local Aboriginal Land Council, Randwick City Council (La Perouse section) and Sutherland Shire Council (Kurnell section).

Botany Bay is a working harbour. Close to the park are the Port Botany precinct, Sydney International Airport and Caltex's Kurnell port, berthing and fuel storage terminal. Port Botany is Australia's second busiest container port. Sydney airport handles more than 35 million passenger movements and more than half a million tonnes of freight per year. The Caltex facility is Australia's largest fuel import terminal. Current and future uses in these and surrounding industrial zones may have implications for the park.

The management of Kamay Botany Bay National Park takes account of broader strategic environmental and land use planning initiatives. The Greater Sydney Region Local Land Services has developed a Local Strategic Plan for 2016-21 under the *Local Land Services Act 2013* that includes strategies to protect environmental features, including waterways such as the Botany Bay estuary and catchment. The Sutherland Shire and Randwick local environmental plans identify environmental zones for the protection of important local environments.

The NSW Government's *A Plan for Growing Sydney* sets the future direction for the Sydney metropolitan area over the next 20 years. The plan provides key directions and actions to guide Sydney's productivity, environmental management, and liveability. A feature of the plan is to protect Sydney's natural environment and distinct biodiversity. On a subregional level, district plans are being prepared and overseen by the Greater Sydney Commission (DPE 2014). District planning for Greater Sydney will directly inform local council planning and influence the decisions of state agencies. Sustainability priorities for the South District (encompassing Kurnell) and Central District (encompassing La Perouse) include:

- creating great places
- enhancing the Districts in their landscape
- protecting the Districts' waterways
- managing coastal landscapes
- protecting and enhancing biodiversity
- responding to people's needs for services (GSC 2016).

### 1.2.1 La Perouse section

In 2016, the population of Randwick City was about 147,000. Average annual population growth is 1.3%. The forecast population is expected to grow by about 30,000 people by 2031. The largest group is 25 to 29-year-olds (DPE 2014).

The Randwick Local Environmental Plan 2012 shows zoning adjacent to the park as general, low and medium intensity residential (established suburbs of Little Bay, Phillip Bay and La Perouse) and public recreation (including the Coast Golf Club).

*The Randwick City Plan: A 20-year plan* (RCC 2006) is a 20-year guide for future planning of Randwick City.

## **1.2.2 Kurnell section**

In 2016, the population of the Sutherland Shire was about 230,000. Average annual population growth is 0.9%. The forecast population is expected to grow by about 40,000 people by 2031. The largest group is 40 to 44-year-olds. Compared to Greater Sydney there is a higher proportion of people in older age groups of 65 years or greater (DPE 2014).

The Sutherland Shire Local Environmental Plan 2015 shows zoning adjacent to the park as environmental living (established suburb of Kurnell), heavy and general industrial, public reserve and environmental management. Residential housing is currently being developed at Greenhills Beach close to the park. Further residential development is proposed for Boat Harbour. These new developments will likely create future visitor pressures on the park (see Section 4).

The Caltex oil refinery was converted to a major import terminal in 2014 and the refinery infrastructure was converted for storage of finished fuel products or made redundant. The Sydney Desalination Plant is situated south of the refinery site.

The Sutherland Shire Community Strategic Plan 2011 guides future planning for the Shire to 2030 (Sutherland Shire 2011).

## 2. Looking after our living culture and heritage

Both Aboriginal and non-Aboriginal people place values on cultural and natural landscapes. These values may be attached to the landscape as a whole, or to parts of the landscape (e.g. a particular plant, animal or place). All landscapes contain the imprint of human use. On any given area of land, some historical activity will have taken place. Much of the Australian environment has been influenced by past Aboriginal and non-Aboriginal land use practices and people continue to influence the land through recreational use, cultural practices, the presence of introduced plants and animals and, in some cases, air and water pollution.

Kamay Botany Bay National Park is a place of national significance. Its historically remote, yet strategic location as the southern entrance to Sydney, together with its natural beauty, have influenced the present complex layering of heritage values.

### **Box 2 Kurnell, Kamay Botany Bay National Park Master Plan**

Kamay Botany Bay National Park has significant social value as the place of first contact between Aboriginal and European cultures. The Meeting Place Precinct in the Kurnell section of the park is the historic core of the site. This is where stories of the encounter between Aboriginal people and the Cook expedition are told through experiencing and understanding the land, the peoples who have come here, their cultures and the ways in which they have understood that moment of encounter.

Within the Meeting Place Precinct, the tangible and intangible heritage values are recognised and respected and co-exist. The significance of the place will be told through actions that balance both conservation and change.

The Meeting Place Precinct has a complex and layered history of land uses. Landscape modification began with the fire regimes of the Aboriginal people. It continued with the agricultural clearing of the second half of the 19th century and the development of the site as a 'pleasure ground' in the first half of the 20th century.

There are significant opportunities to revitalise the physical appearance, visitor facilities and accessibility of parts of the Kurnell section, particularly around the Meeting Place Precinct and existing Visitor Centre. A master plan has been developed for this area and was publicly exhibited at the same time as the draft plan of management. The master plan supports a range of initiatives leading up to the 250th anniversary of Cook's landing in 2020 and will guide management of the site into the future.

The master plan will drive efforts to better present this part of the park and convey its significance and stories to the community. Delivery of the master plan may include partnership arrangements with a range of organisations, including through lease or licence agreements. Adaptive re-use of facilities will be explored, as will options for new facilities including buildings and structures and improvements to landscaping, public access and amenity. The master plan seeks to balance protection of the cultural and natural characteristics of the landscape with visitor access, enjoyment and opportunities to interpret the values of the area.

The Kamay Botany Bay National Park Plan of Management and the master plan are linked and will complement each other.



The obelisk, erected in 1870, to mark Captain Cooks Landing Place. (Photo: Paul Wileman)



Old postcard showing Captain Cooks Landing Place in 1895



## 2.1 Aboriginal heritage

Aboriginal people have lived in the Botany Bay area for thousands of years. There is a long and continuing connection between Aboriginal peoples and Kamay Botany Bay National Park (see Box 3).

The local Aboriginal community is diverse. Some people have traditional connections with Kamay Botany Bay National Park and some bring cultural beliefs, languages and practices from other Aboriginal nations. Local clans include the Bidjigal or Bediagal, traditionally associated with the Sydney coast, and the Gweagal clan of the Dharawal<sup>2</sup> language group who are associated with Kurnell and the southern Sydney area. They all are proud of their past and of the continued survival of Aboriginal culture. Many Aboriginal people live near the park, notably at La Perouse and surrounding areas.

Cook and Banks saw abundant evidence of Aboriginal people around the shores of the bay when they arrived in 1770. This included huts, bark canoes, fishing equipment and scarred trees. The first contact between Cook's party and local Aboriginal groups was not auspicious, with an Aboriginal person being wounded by gunshot.

### What is 'Country'?

To Aboriginal people, the landscape is made up of many features that are interrelated. These include land, water, plants and animals, places and stories, historical and current uses and people and their interactions with each other and place. These features are central to Aboriginal spirituality and contribute to Aboriginal identity. They are inseparable and make up what is known as 'Country'.

Aboriginal use of the Botany Bay area was severely disrupted and irreversibly impacted by the early 1800s because of disease and other impacts of colonisation including removal of Aboriginal people from the area (NPWS 2002). Documentary material on the language, traditions and everyday life of the Aboriginal people who occupied the area is largely confined to early historical accounts such as the journals of James Cook, Joseph Banks, William Dawes (Nathan et al 2009) and Watkin Tench (Tench 1788). There are also oral traditions among Aboriginal people that record significant information about the area, and archaeological evidence remains as testimony to the vast period of pre-European occupation. Despite the impacts of settlement, Aboriginal people continued to live in the Botany Bay area and utilised the resources of their Country in traditional and new ways.

The Aboriginal heritage of Kamay Botany Bay National Park is highly varied and includes movable and immovable heritage, traditional ecological knowledge and documentary history. It includes the significance of the site to contemporary Aboriginal communities.

Over 40 Aboriginal sites have been recorded in the park. It is likely more sites are in the park, yet to be exposed or recorded. A summary of Aboriginal archaeological heritage in the park is at Appendix C.

An Aboriginal Place, the Dharawal Resting Place - Coast Hospital Cemetery, gazetted under the National Parks and Wildlife Act, is in the park in the La Perouse section. The place contains historic burials and is used for the return of ancestral remains. This place is very significant to Aboriginal people and visitation to the site supports close connections to

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<sup>2</sup> Other recorded spellings include Turewal, Turuwal, Tharawal and Thurawal

Country and ancestors. Further work and consultation with the Aboriginal community is required to properly assess the values of this place and provide for future management.

There is a rich Aboriginal oral tradition in relation to Kamay Botany Bay National Park. This includes some of the traditional names of specific places, important locations for hunting and fishing and a range of culturally sensitive information. Members of the community have been examining archival sources, past community sources and current community sources to document and revive language (Ray Ingrey 2016; Les Bursill 2012).

Kamay Botany Bay National Park has significant social value as one of the very first points of contact or encounter between Aboriginal and European cultures. The park has developed a profile as a venue in which to explore the concept and practice of reconciliation. It is expected that this aspect of the social significance of the site will continue to evolve and change.

The northern section of the park is near land owned by the La Perouse Aboriginal community. The community has had a strong association and interest in the management of this area since an Aboriginal Reserve was established at Frenchmans Bay in 1883 under the Aborigines Protection Board.

### **Box 3 A place of Aboriginal connection**

The long and continuing connection between Aboriginal people and the park's landscape is recognised and respected.

Tangible heritage elements include Aboriginal sites. These are places with evidence of Aboriginal occupation or places that are related to other aspects of Aboriginal culture. They are important as evidence of Aboriginal history and as part of the culture of local Aboriginal people. Aboriginal sites in Kamay Botany Bay National Park include shell middens, human burials, stone artefacts and rock engravings.

Intangible heritage elements include traditional and continuing Aboriginal knowledge of the landscape and its plants and animals, spiritual (totemic) connections to the landscape, the views of Kurnell and La Perouse across Botany Bay that offer a link to a traditional Country and personal and community stories, memories and oral traditions.



**Engraving of Aboriginal implements recorded in 1789 during the voyage of Governor Phillip to Botany Bay (Source: Jill Sheppard Consultants 2009)**

## 2.1.1 Management challenges and opportunities

NPWS acknowledges the right of Aboriginal people to make decisions about their own heritage. Aboriginal communities will be consulted and involved in the management of Aboriginal sites, places and related issues and the promotion and presentation of Aboriginal culture and history.

The Botany Bay area has a complex history. NPWS understands that the community is continuing discussions on identifying traditional and custodial connections to the park. NPWS recognises and supports the role of Aboriginal people in undertaking and leading this process. While those discussions are underway, NPWS will continue to engage widely with the local Aboriginal community regarding management of Country. The plan of management will be revised to acknowledge traditional owners and custodial families when the outcomes of these processes are known.

Aboriginal traditions and activities have continued, but the opportunities for these cultural practices have been impacted by changing ownership, management and access arrangements, among other things. Other traditions have been created, as part of the ceremonial role of the site or by communities and families establishing their own traditions.

Opportunities will be provided to Aboriginal people to access Country, to maintain, renew or develop cultural practices and associations. NPWS will work with the Aboriginal community to develop mechanisms for ongoing involvement in park management decision making. Preparation of a management plan for the Dharawal Resting Place Aboriginal Place at the Coast Hospital Cemetery will be a priority.

NPWS proposes to progressively upgrade and improve existing walking tracks in the park that are currently impacted by unauthorised access leading to erosion and potential damage to Aboriginal sites, particularly in beachside locations such as around Little Congwong Beach (La Perouse section). The walking track to Inscription Point (Kurnell section) requires upgrading to protect an important Aboriginal site and provide safe pedestrian access. New linkages, enhancements and track connections will also be considered in other locations where Aboriginal values are being negatively impacted.

Improved access may support opportunities for cultural fishing by Aboriginal people, subject to addressing safety considerations (such as cliff access) and any implications for general public access to areas that may be used for this purpose.

Targeted mapping and condition assessments will improve management and protection of Aboriginal sites.

The Aboriginal community has expressed a desire to have a designated cultural learning space in the park. The area near the Burrawang Walk in the Kurnell section will be investigated and its suitability assessed. Former military residences at Cape Banks may also have potential for Aboriginal community use. Opportunities to convey the Aboriginal values of the park will be considered as part of the revitalisation of the La Perouse Headland area, including options to incorporate interpretive material in the museum.

The park provides an ideal venue for the Aboriginal community to hold community days on Country.

Both sections of the park have the potential to act as a 'keeping place'. A keeping place is a secure area that can be used for the storage or return of culturally sensitive materials such as ancestral remains or cultural artefacts.

There is also scope for artworks, such as sculptures, to interpret or commemorate the Aboriginal past. Innovative artistic options may be considered. Any proposal would need to consider and be consistent with the aim of improving understanding of the heritage significance of the place.



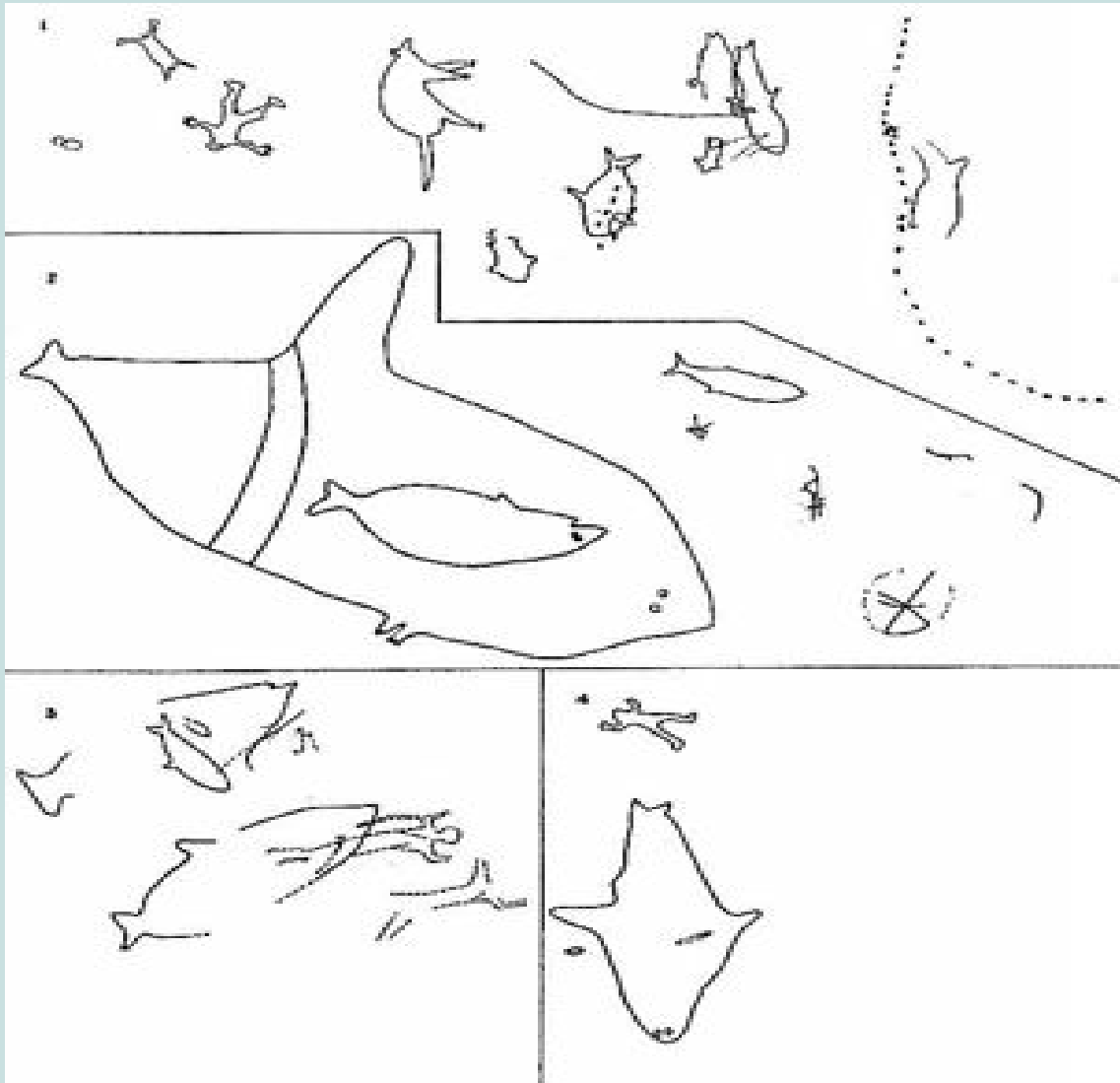
Mural of an Aboriginal man in the Henry Head fortifications. (Photo: Ben Khan/DPIE)

## Box 4 Rock art

Rock art is the oldest surviving human art form. In Australia, it is a link with Aboriginal life and customs before European settlement. Pictures on rocks were used in ceremonies. They were an important part of Aboriginal songs, stories and customs that connected people to Country.

There are many different styles of rock art used across New South Wales. In Kamay Botany Bay National Park rock art is present as rock engravings. Rock engravings are found throughout the Sydney region on sandstone. Engravings were created on rock surfaces by abrading, cutting, hitting or drilling the rock with tools made of stone, shells or wood (Stanbury and Clegg 1990).

There are several documented sites on the La Perouse Headland and one from the Meeting Place Precinct. They contain images/motifs of animals, inanimate objects and footprints or tracks known as mundoes. They occur on sandstone on both horizontal and upright surfaces.



An 1898 recording of rock engravings on the La Perouse Headland, including (centre) a whale and calf (Source: Jill Sheppard Consultants 2009)

## 2.2 Shared heritage

### Shared history

History has taken place across the landscape and across time. It includes the history of the first Australians, Aboriginal people, and **our shared history** since European settlement.

Cultural heritage reflects this history and comprises places and items that may have historic, scientific, cultural, social, archaeological, architectural, natural or aesthetic significance. NPWS conserves the significant heritage features of NSW parks and reserves and works to help the community understand the rich stories and meaning of this history.

Kamay Botany Bay National Park is regarded as highly significant among the Australian community as the site of two of the earliest landings of European maritime explorers on the Australian continent, the expeditions of Lieutenant James Cook on the southern side of the bay and Jeane-Francois de Galaup, comte de Laperouse, on the northern side. From a historical perspective, there were earlier landings in the northwest of Australia and a greater number of maritime explorers associated with the southeast of Tasmania. However, the events at Botany Bay retain a special place in the early history of Australia. In large part, this is attributable to the direct link between the reports of Cook and Banks and the subsequent colonisation of Port Jackson.

On 29 April 1770, during the first of his three Pacific expeditions, Cook and his party landed on the southern side of Botany Bay and spent eight days exploring the area. During that time naturalists Joseph Banks and Daniel Solander made a methodical collection of natural history specimens. Seaman Forby Sutherland died and was buried ashore. Fresh water was taken from the Freshwater Stream near the landing place and at several other sites around the bay. Cook also named Bare Island and Banks landed on the island to search for shells.

The expedition's favourable reports on the area influenced the British government to establish a new penal colony at Botany Bay. On 18 January 1788, the First Fleet entered Botany Bay and anchored in the lee of Bare Island before deciding that Botany Bay was unsuitable for a settlement and moving north to Port Jackson (Sydney Harbour).

Before the First Fleet left Botany Bay for Port Jackson, the French expedition under the command of Jean-Francois de Galaup, comte de Laperouse, arrived in Botany Bay. The French stayed for six weeks and built a stockade, observatory and a garden for fresh produce on the La Perouse peninsula. Laperouse continued his voyage on March 1788 and was not sighted again.

The Laperouse expedition was one of the earliest and most comprehensive Pacific voyages of discovery and scientific exploration. Published records of the voyage remain important sources of cartographic and scientific information, witnessing the founding of the British colony in Australia and contributing to the knowledge of the Enlightenment scientists.

Joseph Lepaute Dagelet carried out some of Australia's earliest physical scientific experiments at the temporary observatory at La Perouse. The expedition was associated with European expansion into the Pacific and competition between the French and British governments. A triangle of French sites at La Perouse, consisting of the La Perouse exhibition in the museum, the Laperouse Monument commemorating the lost expedition and Pere Receveur's grave, are held in particular affection for their association and symbolic meaning to the past and present French community and as contemporary places of cultural celebration (Jill Sheppard Consultants 2009).

## Box 5 A place of history making

The park has significance as a place of history making. This refers to the way the history of the site has been shaped and interpreted through activities, memorials and landscape design (Context 2008). From the early part of the 19th century onwards, Cook, Laperouse and others on expeditions were commemorated by the construction of monuments and memorials. Aboriginal people have marked the significance of the site in other ways. During the 1970 bicentenary of Cook's arrival in Botany Bay, Aboriginal people and their supporters protested a re-enactment of the landing staged at Kurnell and performed before Queen Elizabeth II (Nugent 2006). Today the park is promoted as a place for all Australians to reflect on our shared history.

Today there are elements of the park that connect us with the landscape that existed prior to European settlement (see Box 5). Since settlement the landscape and setting has been altered by clearing, farming and grazing, the creation of ceremonial and recreational spaces and installation of infrastructure. Structures have been built for practical, ceremonial, military, housing and educational purposes. A number of these structures, buildings and places have historic significance.

In 2004 the Kurnell section of the park was included on the National Heritage List under the Environment Protection and Biodiversity Conservation Act<sup>3</sup> (see Box 6). In 2017 the site 'Kamay Botany Bay: botanical collection sites', including the Kurnell and La Perouse sections of the park and Towra Point Nature Reserve, was added to the National Heritage List. In 2013 the entire park was listed on the State Heritage Register under the Heritage Act (State Heritage Inventory 2016).

The level of historic significance of the following items is reflected in the park's listing both nationally and at a state level.

In the La Perouse section structures and places with historic significance include:

- the camp of the La Perouse expedition (location unknown)
- graves of expedition members and memorials, including the La Perouse monument and tomb
- La Perouse Museum
- Macquarie Watchtower
- Bare Island and Henry Head fortifications
- Cable Station
- Cape Banks fortifications and defence infrastructure
- Happy Valley depression-era camp
- wreck of the Minmi
- Coast Hospital Cemetery
- historical rock carving.

In the Kurnell section structures and places with historic significance include:

- Alpha Farm
- monuments, including Cook's obelisk, and commemorative plantings

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<sup>3</sup> the listing was amended in 2005 to alter the boundary and the description of heritage values

- Captain Cook's Landing Place
- Freshwater Stream
- a row of Norfolk Island pines along the foreshore near the monuments
- Ferry Shelter Shed
- remains of former depression cave dwellings (such as at Tabbigai Gap)
- Cape Baily Lightstation.

The resulting contemporary landscape is now characterised by a complex combination of land uses, perceptions, community attachments and aspirations and management practices.

An overview of the history of the La Perouse and Kurnell sections is provided in Appendix D.



**Clockwise from top left: Coast Hospital Cemetery (Photo: Kevin McGrath/DPIE); La Perouse monument and the cable station; Bare Island military fort (Photo: Andrew Richards, DPIE); Macquarie Watchtower (Photo: Kevin McGrath/DPIE)**



## Box 6 National Heritage Listing

The Kurnell Peninsula Headland is of outstanding heritage value to the nation as the site of first recorded contact between Aboriginal people and the British in eastern Australia. The place symbolises the birthplace of a nation and the dispossession of Aboriginal people, and this is reflected by its inclusion on the National Heritage List. The first landing at Kurnell Peninsula in April 1770 by James Cook has been commemorated since 1822. The Meeting Place Precinct, including Captain Cook's Landing Place, features memorials and landscape plantings celebrating the events. Attributes specifically associated with its Aboriginal values include the watering point and immediate surrounds and the physical evidence of Aboriginal occupation in the area broadly encompassed by the watering place and the landing stage. The story of Cook's first landing on the east coast of Australia is nationally important and an integral part of Australian recorded history and folklore (Context 2008).

### 2.2.1 Management challenges and opportunities

NPWS aims to conserve the historic heritage of the park in accordance with the principles of the Burra Charter (ICOMOS 2013) and requirements of the Heritage Act and Environment Protection and Biodiversity Conservation Act.

Conservation plans have been prepared for some precincts that contain historically significant heritage values, including La Perouse Headland (Jill Sheppard Heritage Consultants 2009) and the Meeting Place at Kurnell (Context 2008). Some features require more research, such as the Happy Valley depression-era camp and the Cape Banks fortifications and defence infrastructure.

Elements of high historic significance will be interpreted to visitors to the park. NPWS will work with the community and potential partner organisations to conserve and improve interpretation and public understanding of the full range of cultural heritage values of the park. That may include opportunities for physical works to support better accessibility and to help interpret and explain the history of the place, such as landscaping, buildings (e.g. alterations, removal of current structures and new structures), signage and emerging techniques for interpretation (e.g. soundscapes) and artistic features (e.g. sculptures, statues). Any such future improvements, upgrades, new facilities and new structures will be in line with the Kurnell, Kamay Botany Bay National Park Master Plan.

Moveable heritage items are kept by NPWS at La Perouse and Kurnell. Care is required to store these items in appropriate conditions and ensure they are properly catalogued and made available for presentation to the community.

## Box 7 The enduring landscape – the Freshwater Stream

The enduring landscape refers to the land, water, plants and animals that connect Aboriginal people and the European expeditions of discovery to the place in the present. These are elements of the landscape that existed prior to 1770 and that have endured from that moment (Context 2008).

For eight days between late April and early May in 1770, Lieutenant Cook's ship *Endeavour* was anchored on the southern side of Botany Bay. After several attempts to find water, on 29 April Cook found a reliable source. He wrote in his log '... I sent a party of men ashore in the morning to the place where we first landed to dig holes in the sand by which means and a small stream they found fresh water sufficient to water the

ship ...' Thereafter, for the remainder of the stay Cook refers to the stream as the 'watering place' (South Seas 2004).

Aboriginal people were frequently encountered at the 'watering place' by Cook and others in 1770. Evidence of Aboriginal occupation today includes extensive shell middens along the shore around the Freshwater Stream. The place has strong spiritual and cultural associations for the Aboriginal community.

This stream has previously been referred to as Cooks Stream but is now known as the Freshwater Stream. Since 1815 and the establishment of Alpha Farm, the 700-metre-long Freshwater Stream has been substantially changed. Clearing, grazing, exotic plantings, diversion channelling, piping and the addition of a small ornamental dam have all changed the nature of the stream. The construction of roads, trails and buildings has also occurred throughout its catchment.

The Freshwater Stream is a significant element of the enduring landscape of the park. It supported Aboriginal people for thousands of years and subsequently two centuries of settlement.

In recent years, restoration works have reconnected the stream to the bay, recovered some of the original hydrology, ponding and channel morphology and restored natural vegetation along the stream banks. The stream continues to be ephemeral, only flowing during periods of prolonged or heavy rainfall. In the future, it is likely that works will be required to ensure the mouth of the stream remains stable (e.g. a seawall).



**The Freshwater Stream where it meets Botany Bay (Photo: Georgina Eldershaw/DPIE)**

## 3. Protecting the natural environment

### 3.1 Geology and landform

Kamay Botany Bay National Park lies within the Sydney Basin Bioregion on the east coast of New South Wales.

#### What is the Sydney Basin Bioregion?

Australia is divided into bioregions. Bioregions are relatively large land areas characterised by broad, landscape-scale natural features and environmental processes that influence the functions of entire ecosystems. Bioregions do not recognise administrative boundaries. Bioregions are characterised by climate, landform and biodiversity. The Sydney Basin Bioregion covers about 4.53% of New South Wales.

The Sydney Basin is a geological basin filled with near horizontal sandstones and shales of Permian to Triassic age that overlies older basement rocks of the Lachlan Fold Belt. The dominant sandstone is often referred to as Hawkesbury sandstone named after the Hawkesbury River where this sandstone is particularly common. The Sydney Basin includes uplifted landscapes in the west (such as found in Blue Mountains National Park) and coastal landscapes of cliffs, beaches and estuaries in the east (such as Kamay Botany Bay National Park). Coastal cliffs are often spectacular and feature exposed 'layer cake' geology and well-developed rock platforms.

The geology of the park is dominated by Hawkesbury sandstone. Exposed sandstone cliffs occur on each headland of Botany Bay reaching up to 40 metres above sea level. During the early Tertiary period (66 million to 2.5 million years ago) 10 basalt dykes intruded into the sedimentary rocks within the park, but since then the basalt has been eroded leaving narrow gorges in the sandstone cliffs. Four of these gorges are close to the northern boundary of the La Perouse section of the park and six near Yena and Tabbigai in the Kurnell section.

Cape Banks, the northern headland of Botany Bay, has exceptionally fine stratification of the Hawkesbury sandstone. This type of sedimentary structure is considered by the Geological Society of Australia to be crucial to an understanding of the deposition of this formation and as such is an important site for research and educational purposes.

The major feature of the geomorphology of the park is widespread aeolian (wind-borne) and alluvial sands. White Pleistocene aeolian sands and alluvial deposits overlay the sandstone in most of the park, while younger yellow Holocene dunes are found nearer the current coastline. The sands range in depth from a thin veneer in the east to 20 metres on the higher areas of the park. The Botany Cone (Kurnell section) is the largest of the dunes in the park and one of the largest coastal dunes remaining in Sydney.

Large areas of aeolian dune sands and alluvial deposits are also found at the southern end of the Kurnell section of the park near Potter Point. These have been deposited as parabolic dunes with a generally north-south orientation and are part of the Botany sand beds, which contain a large unconfined aquifer.



**Clockwise from top left: Sandstone cliffs and rock platform (Photo: Kevin McGrath/DPIE); La Perouse beach (Photo: Kevin McGrath/DPIE); Inscription Point (Photo: Mike Cufer/DPIE); coastal landscape (Photo: Andrew Richards/DPIE)**

Numerous sources of fresh water are found in the park. The La Perouse section has several intermittent streams that flow into the park and into Congwong and Little Congwong bays. Springs with a permanent flow of water occur at the bottom of the gully lines. The swales between the dunes carry surface water during wetter periods.

Several freshwater springs occur on the margins of the aquifer on the Kurnell side of the park, supporting wetland areas. Many intermittent streams are also present in the Kurnell section. A small stream rises near the Visitor Centre and flows into Botany Bay adjacent to the Alpha Farmhouse during high rainfall events. This stream, known as the Freshwater Stream, provided fresh water for Aboriginal people and the crew of the *Endeavour* in 1770 (see Box 7).

### **3.1.1 Management challenges and opportunities**

Geological formations in the park appear to be relatively stable. However, soil landscapes have been subject to severe and large-scale erosion in some areas. The sands in the dune fields are extremely susceptible to erosion where the vegetation has been removed. This is partly the result of the low nutrient status of the sand beds, which inhibits re-establishment of vegetation on eroded sections.

In the area behind Congwong Bay (where sand was excavated in the early 1950s for the construction of Sydney Airport) and the area north-east of the cemetery, there have been severe blowouts in the dunes. Rehabilitation works and revegetation have improved this area. Smaller blowouts and gully erosion occur where unauthorised tracks cross the dunes.

Botany Cone in the Kurnell section has been damaged by four-wheel drives, motorbikes and horse riding activity. The largest eroded area in the park is a major blowout west of Potter Point, adjacent to land owned by Sydney Water. The head of this blowout was the subject of stabilisation works in the late 1980s. Erosion is a continuing issue and will require ongoing efforts to stabilise and repair.



**Erosion at Potter Point (Photo: Adam Henderson/DPIE)**

The main impacts on the hydrology of the park have been associated with the clearance of stream catchments and landscape erosion processes.

Sea level rise associated with climate change (see Box 8) is an emerging threat to the park. Seawall maintenance and repairs in key locations will be an early priority, with implications for park management resourcing.

## **Box 8 Climate change**

Human-induced climate change is listed as a key threatening process under the *Biodiversity Conservation Act 2016* and habitat loss caused by human-induced greenhouse gas emissions is listed under the Environment Protection and Biodiversity Conservation Act.

Climate change projections for the Sydney region by 2050 (DECCW 2010) include:

- the climate is virtually certain to be hotter — the magnitude of projected increases ranges from 1.5 to 3°C
- there is a likely increase in summer rainfall and a decrease in winter rainfall
- increased evaporation is likely to lead to drier conditions in spring
- sea level is virtually certain to keep rising.

Sea level rise and resulting inundation and erosion will have impacts on the coastline. The park has over 13 kilometres of coastline. Salt water intrusion is likely to affect lowland coastal ecosystems (for example, by converting freshwater wetlands into wetland types adapted to more saline conditions). Ecosystems that establish in affected areas will contain a reduced structural complexity and diversity of species, particularly in more fragmented or isolated landscapes such as those in Kamay Botany Bay National Park.

Sea level rise is likely to reduce habitat for shorebirds, including the little tern and sooty oystercatcher. Changes from sea level rise will modify habitat features such as rock platforms, sand spits, beaches, mudflats and salt marshes.

Kamay Botany Bay National Park contains a variety of sites, places and objects that are culturally significant to Aboriginal people, including stone artefacts, rock engravings and middens. Sea level rise, extreme storms and surge events are likely to result in the loss of or damage to middens and other coastal sites. There will also be impacts and risks to park visitor infrastructure and key assets, such as the Bare Island Bridge (La Perouse section) and seawalls (Kurnell section).

Seasonal drying is likely to degrade freshwater wetlands and higher temperatures are likely to cause many ecosystems to change or contract. Increased temperatures and altered fire regimes are likely to impact ecosystems. Highly fragmented and isolated ecosystems such as those in the park are likely to be at greater risk than more intact ecosystems.

Intensification of fire danger levels within peak fire season (spring to summer) is likely. Very high to extreme fire danger days will increase by 10 to 50%.

The challenge for NPWS is to adjust to the inevitable consequences of climate change and apply adaptive management.



Seaside rock platforms at La Perouse (Photo: Rosie Nicolai)

## 3.2 Native plants

Aboriginal people occupied the Botany Bay landscape for thousands of years. Aboriginal use of land, including application of fire, influenced the form of native vegetation. Since the arrival of Europeans in 1770 the park landscape has been further altered in response to a succession of different land uses, including farming and grazing, and by extensive drainage alterations and tree planting programs associated with the creation of the public reserve (Benson & Eldershaw 2007).

The native vegetation protected in Kamay Botany Bay National Park is a remnant of the coastal vegetation extant in 1770. It is the location where many Australian plants were first collected and described, including those collected by Banks and Solander in 1770, making it the type locality for these plants. This importance is recognised by the inclusion of Kamay Botany Bay botanical collections sites on the National Heritage List (see Appendix D). The area around the park has been highly developed for urban, transport and industrial needs. This gives the area a very high scientific value. The continued protection of Kamay Botany Bay National Park is important to the maintenance of the natural biodiversity of the Sydney region.

Vegetation formations, classes and communities have been mapped and detailed for the Sydney region (OEH 2013), including the area occupied by the park. This work provides a

solid information base for future detailed planning in the park, noting that individual projects and proposals will require site-specific vegetation assessment and verification.

Native vegetation formations in Kamay Botany Bay National Park (Figure 4) include:

- dry sclerophyll forests
- forested wetlands
- freshwater wetlands
- grasslands
- heathlands
- saline wetlands (Keith 2004; OEH 2013).

A description and map of vegetation classes and communities in the park are included in Appendix E.

A total of seven threatened plant species have been recorded in the park (see Table 1) together with several threatened ecological communities (see Table 2 and Figure 5).

**Table 1 Threatened plants in the park**

Common name	Scientific name	BC Act status	EPBC Act status
Port Jackson heath	<i>Epacris purpurascens</i> var. <i>purpurascens</i>	V	
Black-hooded sun orchid	<i>Thelymitra atronitida</i>	CE	
Botany Bay bearded greenhood orchid	<i>Pterostylis</i> sp. Botany Bay	E	E
Coastal groundsel	<i>Senecio spathulatus</i>	E	
Magenta lilly pilly	<i>Syzygium paniculatum</i>	E	V
Netted bottle brush	<i>Callistemon linearifolius</i>	V	
Sunshine wattle	<i>Acacia terminalis</i> subsp. <i>terminalis</i>	E	E

Source: OEH 2016.

V = vulnerable, E = endangered, CE = critically endangered.

BC Act = Biodiversity Conservation Act 2016; EPBC Act = Environment Protection and Biodiversity Conservation Act 1999.

**Table 2 Threatened ecological communities in the park**

Common name	BC Act status	EPBC Act status	Area in park (hectares)	% of park
Coastal Upland Swamp in the Sydney Basin Bioregion	E	E	10	2%
Eastern Suburbs Banksia Scrub in the Sydney Basin Bioregion	E	E	120	26%
Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner Bioregions	E		1	0.2%
Sydney Freshwater Wetlands in the Sydney Basin Bioregion	E		10	2%

Common name	BC Act status	EPBC Act status	Area in park (hectares)	% of park
Themeda Grassland on Seacliffs and Coastal Headlands in the NSW North Coast, Sydney Basin and South East Corner Bioregions	E		0.5	0.1%

E = endangered.

BC Act = Biodiversity Conservation Act; EPBC Act = Environment Protection and Biodiversity Conservation Act.



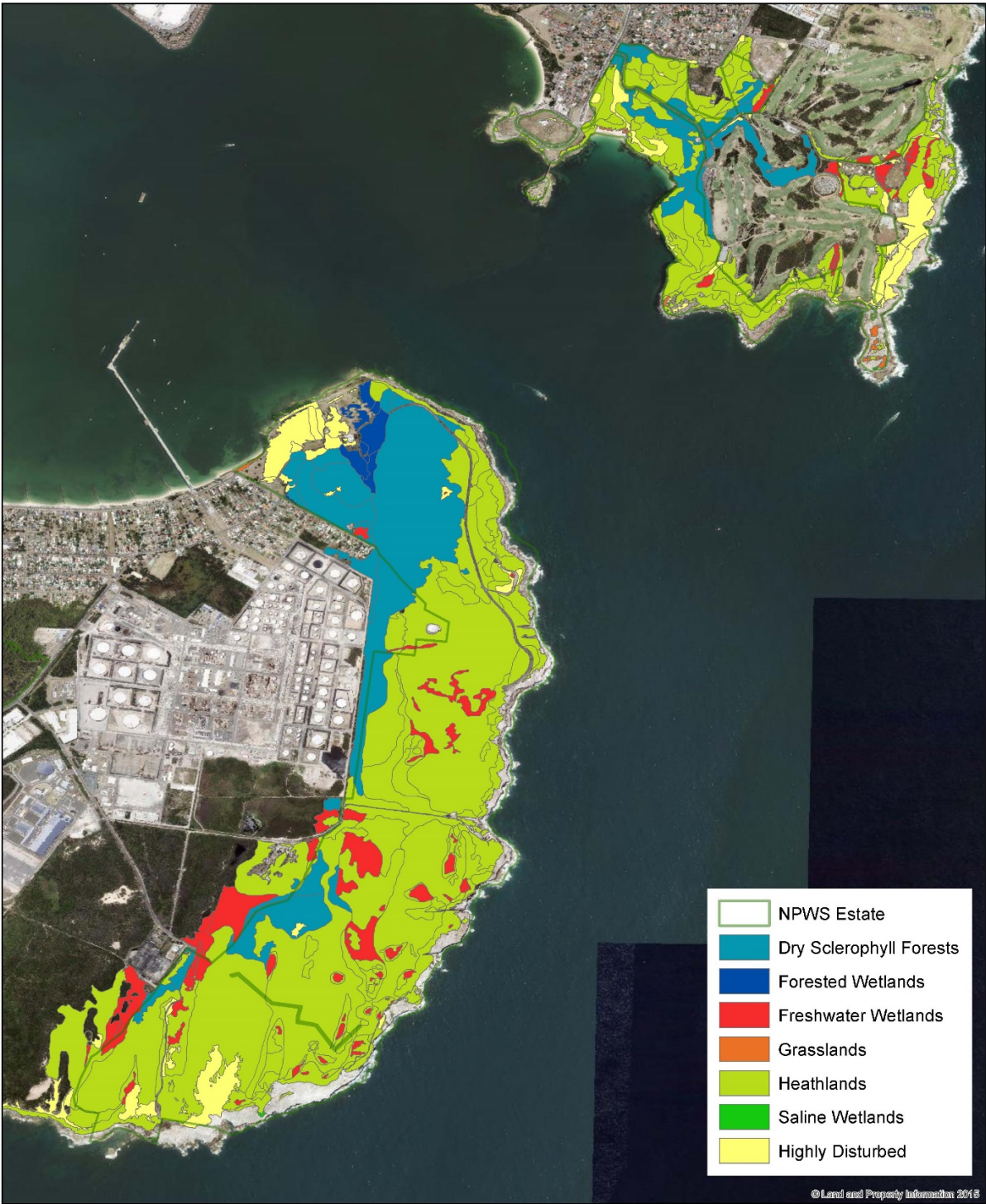
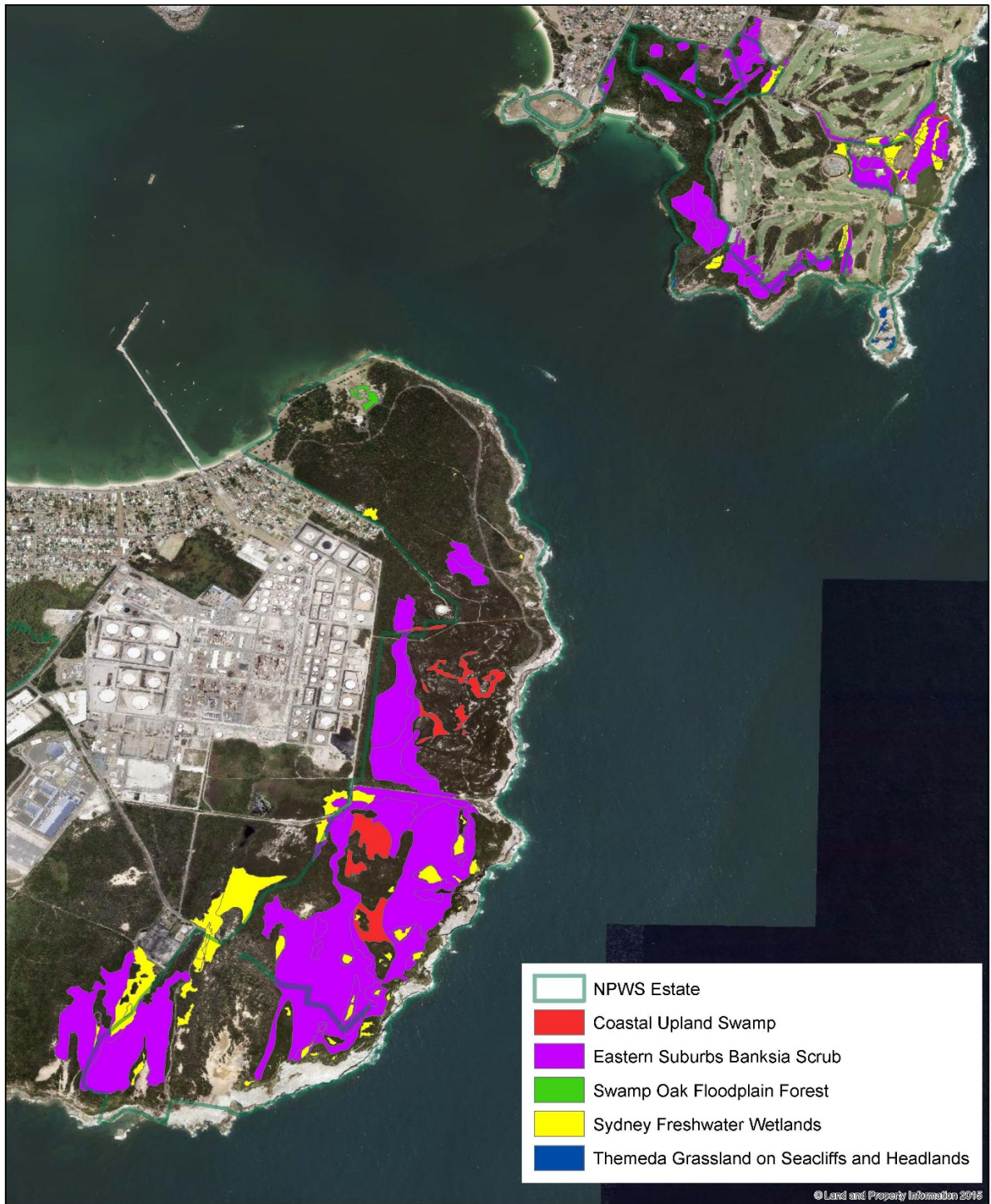


Figure 4 Native vegetation formations in the park



**Figure 5** Threatened ecological communities in the park

In addition, an endangered population of the seagrass strapweed, listed under the *Fisheries Management Act 1994*, occurs in Botany Bay near the park. Aquatic reserves adjoining the park play an important role in conserving marine species.

The protection and conservation of native vegetation in Kamay Botany Bay National Park is important because it provides:

- examples of what would have existed before 1770, as compared to the more formal parkland style landscape that exists in parts of the park
- a contrast to the surrounding urban and industrial environments
- a relaxed and enjoyable setting for walks and other activities for visitors, giving respite from urban life and a sense of the original natural landscape character
- habitat for native plants and animals.

There are significant differences in the vegetation found on the park's two headlands because of their separation and differences in underlying soils.

### 3.2.1 La Perouse section

The vegetation of the La Perouse section of the park is representative of the vegetation that was once common throughout the eastern suburbs of Sydney.

Most of the La Perouse section of the park consists of heath communities dominated by heath banksia, prickly tea-tree, tick bush and a prickly-leaved paperbark. On the higher, western sections of this part of the park there are dense thickets of coastal tea-tree and an open scrub dominated by coast banksia and bangalay. A low closed forest dominated by smooth-barked apple is found in the sheltered valleys in the sand dunes, particularly behind Little Congwong Bay. The variety of vegetation found in the area is of high educational and scientific value.



**Bare Island vegetation circa 1870 to 1875, before the construction of fortifications and bridge (Source: Jill Sheppard Consultants 2009)**

## Box 9 Botany Bay bearded greenhood orchid

There are more than 800 species of orchids in Australia. Orchids are one of the largest families of flowering plants in the world.

Botany Bay bearded greenhood orchid (*Pterostylis* sp. Botany Bay) is a terrestrial orchid that grows to about 20 centimetres tall. It is known from only one small disjunct population on the Kurnell Peninsula in Kamay Botany Bay National Park. Consequently, it is listed as endangered under both the Biodiversity Conservation Act and the Environment Protection and Biodiversity Conservation Act.

All species of *Pterostylis* orchids are deciduous and die back to underground tuberoids in dry and hot conditions. Timing of emergence and flowering is dependent on the right weather conditions between August and September.



Botany Bay bearded greenhood orchid (Photo: Greg Steenbeeke)

Research is currently underway as part of the *Saving Our Species* program to resolve taxonomy to determine if the park population is distinct from populations of the orchid *Pterostylis plumosum* found at Abercrombie and Kanimbla.

The heath around Henry Head, the wet heath between Henry Head and Cape Banks and the closed forest at the head of Happy Valley are important due to the rarity of these types of vegetation in the area.

The La Perouse section of Kamay Botany Bay National Park is the southernmost occurrence of wallum banksia. This is one of a few places where the full diversity of Eastern Suburbs Banksia Scrub Endangered Ecological Community can still be seen. The section also includes remnants of several other threatened ecological communities (see Figure 5 and Appendix F).

### **3.2.2 Kurnell section**

The vegetation in the Kurnell section of the park has historical importance, as it is here that the botanists Banks and Solander made their first observations and collections during the Cook expedition of 1770. Despite extensive clearing of the area visited by Banks and Solander, a few bangalays survive as remnants of the original woodland and small groves of swamp oak, cabbage tree palms and broad-leaved paperbark still grow along the creeks. The swamp oaks on the foreshore of Commemoration Flat are likely to have regenerated from a pre-1770s genotype and therefore have genetic importance as seed (or root) stock.

Most of the southern section of the park consists of extensive areas of low to medium heath dominated by old man banksia, scrub she-oak and a grass tree. Near Inscription Point there are dense thickets of the fine-leaved paperbark. Swamps occur in small pockets and support wetland associations dominated by red-fruited saw-sedge/club rush with lemon-scented bottlebrush, swamp banksia and heath banksia. Where aeolian dunes cover the sandstone, there is a low scrub including old man banksia, coast banksia and coast tea-tree. In the northern area of the Kurnell section of the park is a sclerophyll woodland characterised by eucalypt, acacia and casuarina species, while small pockets of swamps and wet gullies also occur.



**Natural woodland – Kurnell section (Photo: Rosie Nicolai)**

The broad-leaved paperbark is believed to reach its southernmost limit in the Kurnell section of the park. The southern area of the Kurnell section also contains several threatened plants, including the Botany Bay bearded greenhood orchid (see Box 9). A number of threatened ecological communities are represented in the Kurnell section (see Figure 5 and Appendix F).

### 3.2.3 Management challenges and opportunities

The invasive nature of weeds, their widespread occurrence in the broader landscape and the fact they compete with native species requires continued monitoring and management. The previous use and disturbance of the land that is now Kamay Botany Bay National Park for activities such as recreation, military uses, sand mining and rubbish dumping has resulted in the invasion of weeds into parts of the park, particularly in the La Perouse – Cape Banks area (see Box 10).

Surrounding urban development also impacts the park as it creates conditions favourable to weed invasion (including nutrient-enriched runoff, sewage overflows, high flow stormwater, soil disturbance, vegetation clearing, dumping of fill and garden waste and garden escapee plants). Many of the weeds found in the park have spread from garden cuttings deposited on the park or on adjoining Crown land.

Populations and distribution of weeds need to be monitored and appropriate treatment applied as required.

The *Biosecurity Act 2015* and regulations provide specific legal requirements for the prevention, eradication or containment of state-level priority weeds. These requirements apply equally to both public and privately owned land. A regional strategic weed management plan prepared under the Biosecurity Act identifies those weeds that are being prioritised for management action, investment and compliance effort within the Greater Sydney Local Land Services region (GSLLS 2017). These priorities will be implemented via the relevant NPWS pest management strategy. Weed priorities in the park are currently bitou bush, lantana, kikuyu, buffalo grass, ground asparagus fern, alligator weed and blackberry (see Appendix G).

Revegetation or regeneration programs target degraded areas and priority weed control sites. These programs are planned and often undertaken with the assistance of community volunteers. Revegetation or regeneration programs must only use native species that occur in the local area and all seed stock should be sourced from the park or as close as possible to work sites. Care should be given to protecting the genetic integrity of those native plant species for which the park is a type location (these include old man banksia, coast banksia, heath banksia and other species) (Benson & Eldershaw 2007).

Cooperative arrangements with neighbours and the community are important for the management of access, fire (see Box 11), weeds and pest animals. Additionally, long-term conservation of biodiversity depends on protecting, enhancing and connecting remaining habitat across the landscape, incorporating vegetation remnants on public and private lands.

#### **Box 10 Bitou bush and lantana – Weeds of National Significance**

There are 32 Weeds of National Significance listed by Australian governments. Bitou bush and lantana are two of these weeds that occur in the park. They are flowering shrubs that readily grow into dense thickets that exclude native plants. They occur in most coastal and eastern escarpment areas of New South Wales. Bitou bush was originally planted to reduce dune erosion, but spread rapidly.

Invasion of native plant communities, establishment and spread of bitou bush and lantana are listed as key threatening processes under the Biodiversity Conservation Act. A threat abatement plan for bitou bush has been prepared under this Act.

Control of these weeds is a critical priority in the park due to their ability to affect native vegetation communities, threatened species and ecological communities. Lantana can also impact on cultural heritage sites.

NPWS uses an integrated approach to the management of lantana, combining different control methods and working in conjunction with surrounding landholders to achieve the best results. Control methods include herbicide application (foliar spraying), mechanical control (hand removal), fire, revegetation and biological control.

NPWS has been successful in implementing bitou bush and lantana control in Kamay Botany Bay National Park, including introducing biological control such as the bitou leaf-rolling moth, bitou tip moth, bitou seed fly and bitou tortoise beetle.

A research site for biological control of bitou bush has been established by CSIRO at Cape Banks near the Sydney Pistol Club facility. It is an important location for testing and collecting control agents that are then redistributed to other bitou bush infestations in New South Wales. This site is protected from conventional methods of control, such as herbicide application, so that biological control research can continue.



**Bitou bush (Photo: S Booth/DPIE)**

Non-local native species used in historical plantings at Captain Cooks Landing Place (Kurnell section) are spreading into bushland. For example, planted tallowwoods are re-establishing naturally from seed and are the most dominant of the introduced tree species. Saplings are establishing in the remnants of the original banksia scrub near the landing place. In 2004 there were about 300 mature tallowwoods and another 300–400 saplings. Tallowwoods, which can reach 40 metres in height, have the capacity to dominate the

generally low woodland structure of the natural banksia scrub. The trees may displace local native overstorey species, with impacts on associated bird and invertebrate populations (Benson & Eldershaw 2005). Tallowood is compromising the integrity of native ecosystems and strategies for its control are required where it has spread into native bushland.

Some other planted trees in the cleared zone of Captain Cooks Landing Place are accepted to be of cultural value, including the Norfolk Island pines on the bay foreshore.

Soil borne pathogens, such as root-rot fungus (*Phytophthora cinnamomi* and *Armillaria luteobubalina*), have the potential to severely impact native species. The most likely vector (carrier) for these pathogens is illegally dumped garden waste. Another potential threat is nitrification. Garden waste is a source of excess nutrients, but the most significant sources are waterborne pollutants including fertilisers.

Illegal dumping is also a vector for weeds. This is an issue primarily at Potter Point in the Kurnell section and the entry road and Grose Street in the La Perouse section.

*Saving our Species* is a conservation program that aims to maximise the number of threatened species that can be secured in the wild in New South Wales for 100 years, on-park and off-park. The program aligns the efforts of the public and private sectors under a single banner, so investment in threatened species can have a strong influence on outcomes. Conservation projects under the program in or around the park are on the sunshine wattle at Little Bay, coast groundsel at Potter Point and the Botany Bay bearded greenhood orchid. Other projects may be established as part of the program.

## **Box 11 Fire in the park**

Fire is a natural feature of many environments and is essential for the survival of some plant communities. However, inappropriate fire regimes can lead to loss of plant and animal species and communities and high-frequency fires have been listed as a key threatening process under the Biodiversity Conservation Act.

Fire has been an important factor influencing the environment of Kamay Botany Bay National Park for many thousands of years. It is possible that Aboriginal burning practices were a major factor in producing the open tussock grass and forest landscape that inspired James Cook's comments in his journal:

'The woods are free from underwood of every kind, and the trees are at such a distance from another that the whole Country ... might be Cultivated without being obliged to cut down a single tree.'

A fire management strategy that defines the fire management approach for the park has been prepared separately for the La Perouse and Kurnell sections. The strategies include biodiversity thresholds for the key vegetation communities to show the appropriate periods of time between burns. In some communities fire should be avoided.



NPWS maintains cooperative arrangements with surrounding landowners and the Rural Fire Service.



### 3.3 Native animals

A total of 18 threatened species listed under the Biodiversity Conservation Act have been recorded in the park (see Table 3). Many of these species rely on the park as it provides isolated habitat remnants within a highly urbanised, industrialised and fragmented landscape (see Box 12). Some are likely to be residents, and may or may not forage beyond park boundaries.

Of the threatened species, five are listed as critically endangered or endangered and the remaining species are listed as vulnerable. Four species are also listed under the Environment Protection and Biodiversity Conservation Act. In addition, three threatened pelagic birds have been recorded off the coast.

Within the park, sightings of native animals are relatively common. Targeted and comprehensive fauna surveys were carried out in the park in 2007 and 2010 (DECCW 2011), and results recorded in the NSW wildlife database [BioNet](#) (OEH 2016) A total of 190 native vertebrate animals are currently known to be residents or visitors to the park. This includes 10 amphibians, 14 mammals, 28 reptiles and 138 birds.

**Table 3 Threatened animals in the park**

Common name	Scientific name	Recorded in survey (DECCW 2011)	BC Act status	EPBC Act status
<b>Frogs</b>				
Green and gold bell frog	<i>Litoria aurea</i>		E	V
Wallum froglet	<i>Crinia tinnula</i>	X	V	
<b>Birds</b>				
Grass owl	<i>Tyto capensis</i>	X	V	
Lesser sand-plover	<i>Charadrius mongolus</i>		V	E,C,J,K
Little tern	<i>Sternula albifrons</i>		E	C,J,K
Little lorikeet	<i>Glossopsitta pusilla</i>		V	
Osprey	<i>Pandion haliaetus</i>		V	
Pied oystercatcher	<i>Haematopus longirostris</i>	X	E	
Powerful owl	<i>Ninox strenua</i>		V	
Regent honeyeater	<i>Xanthomyza phrygia</i>		CE	E
Sooty oystercatcher	<i>Haematopus fuliginosus</i>	X	V	

Common name	Scientific name	Recorded in survey (DECCW 2011)	BC Act status	EPBC Act status
Square-tailed kite	<i>Lophoictinia isura</i>		V	
Swift parrot	<i>Lathamus discolor</i>		E	E
<b>Mammals</b>				
Australian fur-seal	<i>Arctocephalus pusillus doriferus</i>		V	
Eastern bentwing-bat	<i>Miniopterus schreibersii oceanensis</i>	X	V	
Grey-headed flying-fox	<i>Pteropus poliocephalus</i>	X	V	V
New Zealand fur-seal	<i>Arctocephalus forsteri</i>		V	
Yellow-bellied sheath-tail-bat	<i>Saccolaimus flaviventris</i>		V	

Source: OEH 2016 and DECCW 2011.

V = vulnerable, E = endangered, CE = critically endangered.

BC Act = Biodiversity Conservation Act; EPBC Act = Environment Protection and Biodiversity Conservation Act.

Twelve bird species listed under the Japan–Australia Migratory Bird Agreement (JAMBA), China–Australia Migratory Bird Agreement (CAMBA) and Republic of Korea – Australia Migratory Bird Agreement (ROKAMBA) have been recorded in the park.

Kamay Botany Bay National Park adjoins several highly significant intertidal and aquatic habitats, including the important marine habitat of Cape Banks Aquatic Reserve at La Perouse. This reserve has been the site of Sydney University research, including long-term monitoring locations, supported by NPWS. The park also borders the Towra Point Aquatic Reserve, Boat Harbour Aquatic Reserve, Inscription Point Intertidal protected area and Towra Point Nature Reserve, which is a wetland of international significance under the Ramsar Convention. Seven threatened species listed under the Fisheries Management Act have been recorded adjacent to the park. Aquatic reserves play an important role in conserving these marine species.

To sustain the suite of native animals in the park, it will be necessary to provide habitat diversity in the park and support the conservation of surrounding natural habitats.



The green and golden bell frog is an endangered species. There is a recognised population on the Kurnell Peninsula, mostly outside the park, which is believed to be the second largest in the Sydney region (DECC 2007). (Photo: Lynne Raffan/DPIE)

### 3.3.1 Management challenges and opportunities

Introduced animals are a major concern as they cause damage to the native vegetation, disturb and kill wildlife, are a vector for disease transmission to native species and pose a danger to people in the park. Non-native animals found in the park include deer, rabbits, rats, cats, foxes and dogs.

Local Land Services has prepared regional strategic pest animal management plans for each of its 11 regions, including the Greater Sydney Region (GSLLS 2018).

The Local Land Services (LLS) plan identifies priority pest animals in each of the regions, plus the appropriate management response for the region (i.e. prevention/alert, eradication, containment or asset protection).

Domestic dogs and rabbits are of greatest concern at La Perouse, while cats, dogs, deer and foxes are the major problem in the Kurnell section of the park. The NSW Golf Club that adjoins the northern part of the park undertakes rabbit control on its land.

Red foxes (*Vulpes vulpes*) suppress native animal populations, particularly small to medium-sized mammals, ground-nesting birds and freshwater turtles. They have also been implicated in the spread of a weed species such as bitou bush and blackberry. As foxes are known to prey on domestic stock, including lambs and poultry, the red fox is identified as a priority pest animal in the Greater Sydney Regional Strategic Pest Animal Management Plan (GSLLS 2018).

Predation by the red fox is a key threatening process under the Biodiversity Conservation Act (NSW SC 1998) and Environment Protection and Biodiversity Conservation Act (DoE

2009). The [NSW Fox Threat Abatement Plan](#) was initiated in 2001 (and revised in 2010 — see OEH 2011) with the primary objective of establishing long-term control programs to protect priority threatened fauna species and populations. Foxes are being controlled at priority sites across New South Wales to protect biodiversity.

Since 2007 NPWS has been successful in implementing fox control across the Kurnell Peninsula, providing protection for and enabling successful breeding of little terns and other migratory shorebirds.

Wild dogs (*Canis lupus* subsp.) include any wild-living dog in New South Wales, including dingoes, feral dogs and their hybrids. Wild dogs can have a major impact on domestic stock and may also have significant impacts upon the distribution and abundance of native wildlife. NPWS manages wild dogs in parks in accordance the Greater Sydney Regional Strategic Pest Animal Management Plan (GSLLS 2018).

Tunnels within the remains of the Cape Banks and Henry Head fortifications and defence infrastructure are known to provide roosting habitat for the threatened eastern bentwing-bat. Special care is required to maintain tunnel entrances that allow bentwing-bat roosting and ensure any public access is managed to avoid impacting the bats.

Vertebrate pest management programs are implemented in accordance with the relevant [NPWS pest management strategy](#). Critical priorities include control programs for deer.

Current conservation projects under the *Saving Our Species* program in or around the park are focused on the pied oystercatcher and little tern in the southern Botany Bay area, including Kamay Botany Bay National Park and Towra Point Nature Reserve. Other projects may be established as part of the program.

## **Box 12    Sooty oystercatcher — a threatened species**

The sooty oystercatcher is an unmistakable large wader. It is closely related to the uncommon pied oystercatcher, which can also be seen around Botany Bay. Like the pied oystercatcher, the sooty oystercatcher has a bright orange-red bill, eye ring and iris and coral pink legs and feet. However, the sooty oystercatcher has entirely black plumage while the pied, as the name suggests, is black and white.

In New South Wales the sooty oystercatcher is found along the entire coast and is listed as vulnerable under the Biodiversity Conservation Act. It occurs on rocky intertidal areas and occasionally adjacent ocean beaches of both the La Perouse and Kurnell sections of Kamay Botany Bay National Park. It also occurs to the south of the park at Boat Harbour and Merries Reef. These areas are considered significant to the conservation of the species at a regional scale (DECCW 2011).

Oystercatchers feed on bivalve molluscs, which are prised apart with their specially adapted bills. The sooty oystercatcher forages for food such as limpets and mussels on exposed rock or coral at low tide. It breeds in spring and summer, almost exclusively on off-shore islands and occasionally on isolated promontories. The nest is usually a shallow scrape on the ground above the high tide mark.

The species is currently threatened by a range of factors. Key local threats include predation of eggs by foxes, cats, rats and dogs, the disturbance of the birds through human activity such as beachcombing, dog walking and fishing and pollution of inshore waters, which impacts on intertidal invertebrates.



Sooty oystercatchers, male and female (Photo: Michael Jarman/DPIE)

## 4. Providing for visitor use and enjoyment

National parks are places where landscapes, biodiversity and cultural heritage values are protected for both their intrinsic value and for the benefit of present and future generations. They are where opportunities are encouraged for public appreciation, inspiration and sustainable visitor or tourist use and enjoyment that are compatible with conservation goals. These fundamental purposes are recognised in the management principles for national parks established under the National Parks and Wildlife Act.

### 4.1 Interpretation and promotion

#### 4.1.1 Whole of park

Kamay Botany Bay National Park will be promoted as a place of significance to all Australians, regardless of their background and cultural heritage (see Box 13). It is a place of importance to the Australian sense of identity, and holds many stories and layers of history and meaning.

The interpretation of the La Perouse and Kurnell sections as part of the one Kamay Botany Bay National Park is a challenge, primarily affected by the physical separation of the two halves of the park by the waters of Botany Bay. NPWS will aim to integrate and build community understanding of both sections as part of a single national park. Opportunities to re-establish a ferry link between La Perouse and Kurnell may provide for an enhanced interpretation program and deliver a unique experience for park visitors. Improving access within the park for disabled and less mobile persons will also be addressed.

The use of Aboriginal language, where agreed and supported by Aboriginal people, adds to the significance of the park. The naming of key precincts and locations within the park should continue to reflect the special significance of these locations and support community understanding and awareness of our shared history.

#### **Box 13** A place to rest, play and learn

Kamay Botany Bay is a popular visitor destination. People are attracted to its beaches, picnic areas, historical sites and spectacular views and scenery.

A park visitor survey undertaken by NPWS in 2014 indicated that the park was the 10th most visited park in New South Wales by domestic visitors (Valerio 2015). In that year, an estimated 750,000 domestic visits were made as well as around 75,000 international visits. Visitors typically expressed strong interest in family-friendly and social activities, such as walking, picnicking and cultural and educational experiences. Track counters at Henry Head (La Perouse section) indicate around 2000 people walk through just this part of the park each month (just over 25,000 per year).

Visits to the park are also influenced by broader tourism offerings and interest, and emerging Australian tourism markets. In recent years, there has been rapid growth in cultural and heritage tourism in Australia, with interest from south-east Asian visitors (TTF 2016).

Tourism is an important part of the local economies in both Randwick and Sutherland local government areas. In Randwick, an estimated 214,000 domestic overnight visitors and 424,000 domestic day-trippers came to the area in 2015. Around 72,000 international overnight visitors also visited Randwick. In Sutherland, there were 271,000 domestic overnight visitors, 941,000 day-trippers and 24,000 international overnight

visitors (Valerio 2015). In total, 34% of day-trippers to Sutherland nominated visiting a national park as an activity (Destination NSW 2014).

There are opportunities to improve and enhance the recognition of the natural heritage assets of the park. The coastal tracks provide a ready means to experience the scenic beauty of the park and its native plants and animals. NPWS will work to ensure the track network provides safe and enjoyable access to coastal and other locations and will look to partner and work with neighbours and other land managers on cross-tenure opportunities for extended walks.

There is scope in some parts of the park to allow for larger, well-managed events and community celebrations. These could support improved recognition and understanding of the heritage of Kamay Botany Bay National Park and its relevance to all Australians. They may also provide an important source of revenue, which can be reinvested into conservation and visitor facilities.

### **4.1.2 La Perouse section**

The La Perouse monuments are the site of ceremonies held on Laperouse Day (23 February), on the anniversary of Pere Receveur's death (17 February), and on Bastille Day (14 July). In 1988 the La Perouse Museum was established as a joint Australian–French Bicentennial project in the southern wing of the Cable Station. The museum interprets the La Perouse expedition and contains a number of valuable historical artefacts. The Friends of Laperouse Museum maintain an active interest in the museum and hold fundraising activities and other gatherings in the Cable Station.

Bare Island is currently open during limited hours, including Sundays, for guided tours or for booked events. Similarly, the museum is generally only open to the public on Sundays or by appointment. Depending on demand, tours can access these and other locations at La Perouse, including the monuments, Macquarie Watchtower and Henry Head. Community events and displays of Aboriginal arts and crafts are also held in the La Perouse Headland area and Bare Island.

Comparatively few people use the centre of the La Perouse Headland (the area within the public ring road — see Figure 2) due to its exposed landscape and lack of facilities. Part of this site was identified as a 'modified natural area' in the previous plan of management, meaning it is not capable of or appropriate for restoration to a natural state. This categorisation remains appropriate and is reflected in this plan of management (see Figure 2).

The La Perouse Headland also lacks a cohesive pedestrian system, creating challenges for people to explore the inner precinct, and does not provide suitable access for less mobile or disabled persons. The current access to the Cable Station building is not inviting. There are significant opportunities to improve physical access arrangements and the appearance (including the surrounding landscape) within this part of the park and to allow for the full range of historical themes and values to be conveyed, linking the Laperouse story to other aspects of the headland's history, including the Aboriginal community, depression-era, recreational pursuits and local community.

Revitalising the La Perouse Headland also provides scope to examine new uses that support enhanced public access and enjoyment in ways that are compatible with the protection and promotion of conservation values. Examples could include functions or events, a cafe and other dining spaces. In examining ways to deliver these opportunities, it is appropriate to consider a range of options, including partnerships with other organisations and lease and licence arrangements. On 5 September 2017, Randwick City Council signed a 42-year lease, taking over care, control and management of the La Perouse Headland

precinct, including the Cable Station (containing the La Perouse Museum), Macquarie Watchtower, La Perouse Monument, Pere Receveur Tomb and associated Aboriginal and archaeological sites (see Figure 2 for lease area).

Parts of the Cable Station, Macquarie Watchtower, Bare Island, Cape Banks former military village and identified modified natural areas within the park may be made available for group activities including functions, events, conferences and meetings. Any future upgrades to the La Perouse Headland area (the 'lease area' shown in Figure 2) will be subject to relevant environmental assessments and approvals, which may include opportunities for public consultation.

There is potential to expand tours to include additional locations and sites that convey the broader natural and cultural values of the area.



**Bare Island (left) and La Perouse Museum (Photo: Andrew Richards/DPIE)**

In the Cape Banks area of the La Perouse section, there may be scope to adaptively re-use the remaining buildings in the former military village. In the same area, opportunities exist to support interpretive walks incorporating the fortifications at Cape Banks and Henry Head. These will require further investigation and community consultation.

### **4.1.3 Kurnell section**

The Visitor Centre at Kurnell currently contains information and exhibits telling the story of Cook's expedition to Botany Bay and providing insight into Aboriginal life at that time. Information on conservation values of the park and area, such as the wetlands of Botany Bay, is also available. Much of the material and exhibits are essentially static and there is a strong need to review the type of interpretative information, how it is presented and how to ensure it can capture the community's interest and convey the significance of the place.

In 1988 the Banks–Solander Walking Track was constructed near the Visitor Centre to interpret some of the plants identified and named by Banks and Solander and the landscape of the area as it was in 1770. The foreshore track (previously referred to as the Monument Track) at Kurnell was constructed to provide access to the monuments along the foreshore. In 2006 interpretation along the track was upgraded, but there is scope to improve access and presentation. The Burrawang Walk provides a loop track from the Visitor Centre via the Freshwater Stream and a bush track to Captain Cook's Landing Place (encompassing the foreshore track). It includes a 'soundscape' experience that conveys messages and information from Aboriginal people about the values and history of the park.

The whale watching area at Cape Solander is a popular visitor location. It provides a viewing platform and interpretive signage regarding whales and their seasonal migrations.



## 4.2 Education and research

Kamay Botany Bay National Park is easily accessible to many schools and universities. Its location and diversity of cultural and natural features makes it an ideal spot for education, conferences, meetings and research in quiet surroundings.

An Environmental Education Centre run by the NSW Department of Education is based in the Visitor Centre at Kurnell. Programs run by the Education Centre have been successful at attracting large numbers of school groups to the park and delivering educational information that is relevant and targeted to meeting curriculum requirements. This is supported by NPWS and is expected to continue.

There are an increasing number of commercial tour operators who have expressed interest in conducting tours in the park. NPWS recognises the valuable service that tour operators can provide in enabling people to access the park safely and to help improve understanding of park values. Key issues include ensuring that the number and timing of tours is appropriate and capable of being supported by visitor facilities, and encouraging and building partnerships with Aboriginal communities in relation to interpreting and providing information on Aboriginal cultural heritage.

The long-term volunteer-led whale monitoring program at Cape Solander provides important conservation information about population size and migration of marine mammals. Support for the program will continue.

## 4.3 Recreation

The park includes a range of facilities that support visitors' enjoyment and use of the park, including toilets, signs, viewing platforms, barbeques, picnic shelters, day use areas, park roads, carparks, bridges, walking tracks, heritage structures and buildings such as the Visitor Centre and La Perouse Museum (see Box 14).

### 4.3.1 La Perouse section

In the 1830s La Perouse became a major tourist destination, popular because of its picturesque setting, historical places and landscapes and involvement of the Aboriginal community. The construction of a tram line from Sydney to La Perouse in 1902 brought greatly increased visitation. Boomerang throwing demonstrations and souvenir selling continued and snake handling became an attraction. Vehicles could drive everywhere over the headland until a loop road was constructed in 1963.

Today the La Perouse section of the park attracts several hundred thousand visitors each year. The main visitor use area in the northern part of the park is the La Perouse peninsula and particularly Congwong Beach. On weekends, and especially Sundays, the demand for parking in the area is high.

Camping is not currently permitted in the La Perouse section. Given access issues, the significance of native vegetation, soil erosion risks and surrounding land uses, there are no plans to consider camping in this part of the park.

The La Perouse section provides walking tracks and management trails for pedestrian access to key visitor areas at Congwong Beach, Little Congwong Beach, Bare Island, Henry Head, Cape Banks and the Coast Hospital Cemetery.

Bare Island is currently accessible to the public only via guided tours on Sundays. It is also a venue for hire for private, public and commercial events.

Access is provided through the park to the Sydney Pistol Club (which is in the park) and the NSW Golf Club, St Michael's Golf Club and Coast Golf Club (all of which are outside the

park). NPWS regularly collaborates with the various golf clubs on programs for boundary management, pest, weed and fire control and to manage public access along the coast.

Fishing, snorkelling, surfing and scuba diving are popular activities within this part of the park and surrounds. Discussions continue regarding proposals to require the use of lifejackets for rock-fishing in the Randwick local government area.

### **4.3.2 Kurnell section**

For the first 50 years following its proclamation in 1902, access to the Kurnell section of the park was difficult. There was only a rough track or a ferry from La Perouse, and there were comparatively few visitors. In 1953 a large oil refinery was built at Kurnell, just outside the park, and a bitumen road was constructed to provide access to the refinery. Visitation to the park immediately increased and picnic areas, parking areas and a kiosk/tearoom were constructed in 1958. In 1965–66 a scenic drive was constructed to Cape Solander and a large area near the cape was cleared for a picnic area. A museum and information area was opened in 1967 and redeveloped as the Discovery Centre in 1988 (now Visitor Centre).

The ferry wharf near Captain Cooks Landing Place was destroyed by storms in 1974. Today access to the site is either by road or by foot along the waterfront from Kurnell. A short jetty near Captain Cooks Landing Place was constructed in the mid-2000s, primarily as a lookout and place for interpretation (it is not accessible to boats). Reconnection of the water transport link to Kurnell would also likely increase public use of the headland. A feasibility study to investigate the re-establishment of public wharves at La Perouse and the Kurnell Peninsula for commercial use has been prepared and public consultation undertaken (Transport for NSW 2016). The feasibility report outlines the preferred locations for the proposed wharves, an overview of the potential services that could be provided at the wharves and a review of potential environmental, social and heritage impacts. The preferred location on the Kurnell side of the bay is at the site of the old wharf and existing viewing platform.

The Kurnell section of the park receives several hundred thousand visits annually. Data indicates that over 300,000 people go through the Visitor Centre at Kurnell per annum and many more visit the Kurnell section without going through the centre.

Popular walks in the Kurnell section of the park include:

- the loop Burrawang Walk from the Visitor Centre to Captain Cook's Landing Place
- Inscription Point Track
- coast tracks along the cliff tops from Cape Solander to Potter Point (such as the Cape Baily Track)
- Muru and Yena Tracks, which provide access from the Visitor Centre to the coast
- The Leap Track, which accesses sea rocks and a popular diving site from Cape Solander Drive (and The Steps) south from Cape Solander to Potter Point.

Upgrading of the Inscription Point Track is continuing. The route of the Cape Baily Track, which connects to the Cape Baily Lighthouse and Potter Point, is also a focus of improvement works.

The road to Cape Solander is used by cars, cyclists and walkers. This is a shared space, where appropriate speed limits and pedestrian crossings will be in place and may be amended over time.

The Burrawang Track between the park entry at Silver Beach and Commemoration Flat is a dual-use track for pedestrians and cyclists.

Fishing, surfing and scuba diving are popular activities in the waters adjacent to this part of the park. Life rescue equipment has been erected in several key places along the coast in

the Kurnell section of the park and is maintained by the Australian National Sportsfishing Association NSW. These activities are potentially hazardous, and risks will be highlighted in any interpretation relating to the coast.

Vehicle access is provided to the cricket pitch, Commemoration Flat and Yena day use areas and the whale watching viewing platform at Cape Solander. Gas barbeques are provided at Commemoration Flat.

### **Box 14 Key visitor areas**

Visitors are attracted by the park's historical, cultural and natural assets. There are spectacular views over Botany Bay and out to the South Pacific Ocean, recreational spaces including open grassy areas and beaches, coastal landscapes such as headlands, native vegetation and sea cliffs and major tourist attractions such as Captain Cooks Landing Place.

Key visitor areas provide focal points and facilities to enhance the visitor experience. There are four day use visitor areas in the park and a number of walking tracks. There are also park management trails that are open to walkers and cyclists (these are managed to allow park and emergency vehicle access, but not private vehicles).



**Commemoration Flat day use visitor area, Kurnell section (Photo: Andrew Richards/DPIE)**

The Visitor Centre at Kurnell hosts a shop, kiosk, displays, a museum and theatrette. There are also public toilets, a large audio-visual meeting room and offices.

Cape Solander is a very popular whale watching location. A community-based program to count and track the annual northern migration of humpback whales occurs here annually. Cape Banks and other locations in the La Perouse section also provide good whale watching opportunities.



Humpback whale (left) and the Cape Solander viewing platform (Photo: Andrew Richards/DPIE)

### 4.3.3 Management challenges and opportunities

#### Whole of park

There has been a proliferation of informal walking tracks established throughout the park, usually to provide access to beaches and fishing spots. These have led to erosion and loss of vegetation. Informal tracks will be closed and revegetated as resources and other priorities permit.

Mountain bikes have the potential to have unacceptable impacts in both sections of the park because of the highly erodible nature of the soils. The small size of the park and potential risks to other park visitors also makes off-trail mountain biking unsuitable. Mountain bike usage is only sustainable in the long term on hardened management trails (which are designed to take park management vehicles) and public roads.

Horses are occasionally ridden in both sections of the park. However, horse riding has never been a permitted activity in the park due to the sandy nature of the soils and the consequent erosion of tracks and gulying of dunes. Horse riding will continue to not be permitted.

Rock climbing and abseiling are very occasionally undertaken in the park. Rock anchoring has caused damage, with the sandstone cliffs being particularly friable.

Diving, surfing and recreational fishing occur either from the park or require access through parts of the park. While these activities are welcomed, careful management is needed in some locations to support safe access and minimise risks to park visitors.

Dog walking is not permitted in NSW national parks. Occasionally dogs enter the park illegally. NPWS will continue to ensure appropriate signage is in place and undertake compliance action as required.

The use of recreational drones is increasingly popular across New South Wales, particularly in coastal and scenic locations. Drones are aircraft and are covered by civil aviation laws. NPWS does not control aircraft above parks, but can regulate certain behaviour in parks. Except for authorised filming activities, the launching of recreational drones and model aeroplanes within the park is not considered appropriate due to the small size of the park and potential impacts to other park users.

Use of the park for family and social gatherings, such as picnics, is encouraged. There is continued evidence of coal and other similar fuels from portable barbecues being dumped in the park.

Opportunities to re-establish a ferry link between La Perouse and Kurnell may provide for an enhanced interpretation program and deliver a unique experience for park visitors. The re-establishment of a ferry link would require development of associated infrastructure to cater

for the activity and increased visitor use, both in the La Perouse and Kurnell sections. A potential ferry link, with supporting bus and transport connections, could also help build the profile of the La Perouse section as a key gateway into the whole park.

Park use fees are currently charged in the Kurnell precinct but not at La Perouse. Fees are an important source of funding to assist in managing the park and providing visitor facilities to required standards. Further consideration of park use fee arrangements for the whole park will occur over time and adjustments and new measures may be introduced.

Park facilities and visitor areas will be maintained to appropriate standards. Upgrades and enhancements may be required to improve the visitor experience and ensure protection of the environment. Facilities that are not needed to support visitor or conservation management may be decommissioned or removed.

Proposals for major new facilities or upgrading existing visitor sites will involve public consultation and an appropriate level of analysis, planning and design. Requirements for environmental assessment of projects will be met and facilities will be delivered to meet applicable government and industry standards, including standards for disability access and mobility issues.

Vehicle access to Kamay Botany Bay National Park is via publicly accessible roads, which provides for both private vehicles and public transport services. There are two vehicle access points to the park that present issues: access to Cape Banks (La Perouse section); and Potter Point (Kurnell section). See relevant sections below.

### La Perouse section

Visitor use is growing in this part of the park, particularly via emerging recreational opportunities such as the Eastern Beaches Coastal Walk. Increasing local residential development, a growing population and changing demographics are likely to see its popularity increase, especially with families. NPWS will continue to work with Randwick City Council to support initiatives such as the Coastal Walk. This may require complementary supporting facilities to be considered, such as toilets, car parking, signs and track upgrades. Other track improvements, including new sections and links, will be progressively undertaken where these support safe and environmentally sustainable access to the park.

Nude bathing occurs at Little Congwong Beach, but is not authorised under the NSW *Local Government Act 1993* or endorsed by NPWS. This is a difficult activity to regulate. NPWS will ensure the community is aware of legal requirements and the possibility of encountering nude bathers in the area.



Erosion from informal tracks above Little Congwong Beach (left), and Little Congwong Beach (Photo: Ben Khan/DPIE and Adam Henderson/DPIE)

Other areas near Little Congwong Beach are subject to various forms of inappropriate behaviour (including sexual encounters). Such behaviour can adversely affect other park visitors, making them feel unsafe and diminishing their experience of the place. It also has physical impacts on the park, including the proliferation of unauthorised access paths that are impacting native vegetation and causing localised erosion.

NPWS promotes appropriate use of the park and works with other relevant authorities to meet the challenge of deterring inappropriate and antisocial behaviour. NPWS will undertake walking track, fencing, erosion and signage works as required to help reduce the risks to park visitors and values from such behaviour.

Opportunities for the future management and revitalisation of the La Perouse Precinct, including through lease or licence agreements, will be explored and implemented subject to relevant statutory requirements. These may include, but are not limited to, adaptive re-use of existing buildings and improving landscaping, public access and amenity.

Future uses and opportunities for Bare Island and Cape Banks require further investigation in consultation with the community. At Bare Island, there may be scope for shared and flexible spaces for dive schools, cafe, retail and short-term accommodation.

Vehicle access to the Cape Banks area is via the Cape Banks Road. This is a narrow road that winds between high banks of vegetation, which makes visibility around corners very difficult. The road is used by members of the golf clubs and the Pistol Club, Sydney Westpac Life Saver Helicopter base and park visitors. The road is a Crown road and is not part of the national park. Dumping of rubbish in the park and car arson after dark are problems. The road is also used by dog walkers. NPWS continues to work with the golf clubs and the Department of Industry - Lands regarding maintenance of the sealed road. A formal arrangement is required to ensure ongoing arrangements and responsibilities are clear.

### **Kurnell section**

Unauthorised four-wheel driving, trail bike riding and horse riding are causing environmental damage in the Kurnell section of the park. Affected locations include the sand dunes at Potter Point and sites in the Tabbigai area. Trail bikes are also accessing the Cape Baily Track, Yena Trail, Muru Trail, Polo Trail, Cape Solander Trail and the Burrawang Loop Track.

Major surfing events can occur in the Kurnell section dependant on optimal weather and resulting surf conditions (such as the 'Cape Fear' big wave competition). These impromptu events can pose access, parking and other logistical challenges at Yena. NPWS works with event organisers to ensure safe and appropriately managed access to the park during these events.

The Kurnell section does not currently provide camping opportunities. There may be potential to establish a small-scale camping area at Yena, subject to further investigation and assessment. This could include visitor facilities such as camping platforms, picnic tables and toilets.

NPWS proposes to further develop the Cape Solander whale lookout area, including possible expansion of the viewing platform and additional seating. This will provide a safer, more enjoyable whale watching experience for visitors and support the ongoing volunteer whale monitoring program.

There is an opportunity to upgrade the Cape Baily Track to improve the walking experience and support connections to Potter Point and beyond to Cronulla and Royal National Park. Upgrading of the track near Potter Point may also present an opportunity to improve the appearance of and manage erosion issues in this area.

As outlined in Box 2, a draft master plan was exhibited concurrently with the draft plan of management for the park. The master plan will drive efforts to better present the Kurnell section of the park. Implementation of the master plan may involve partnerships with other organisations, including leases or licences. Adaptive re-use of facilities will be considered, as well as options for new facilities and improvements to access and amenity.

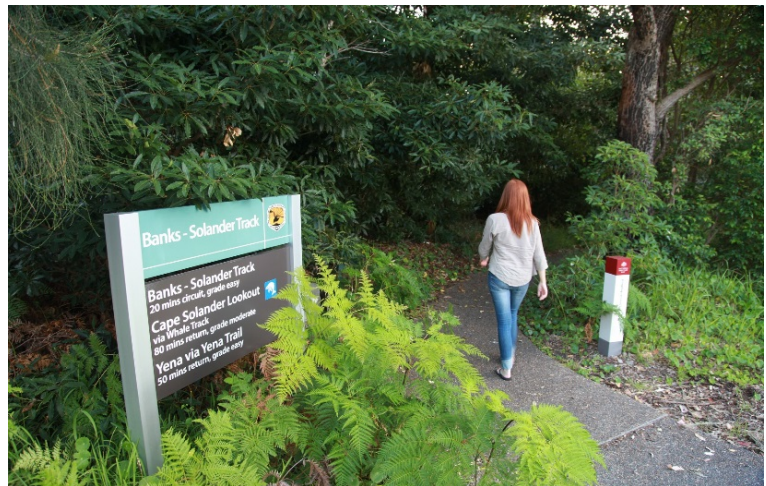
Vehicles have for many years also used the Potter Point Road, which was formalised by Sydney Water to provide access to its facilities at Potter Point. This is a bitumen sealed single lane road. Public vehicles use the road to gain access to surfing and fishing spots in the area. Unfortunately, significant damage has been caused to the vegetation and sand dunes in the Potter Point area by public vehicles driving off the road. Littering, dumping of cars and arson are common occurrences. In response, the road has been closed to vehicles at night. There is an opportunity to improve management of access to Potter Point to improve security and limit vehicle access for authorised uses only.

## 5. Park infrastructure and services

NPWS aims to ensure park infrastructure and assets are necessary and strategically and operationally efficient. NPWS will carry out assessments and consider such factors as asset relevance and asset performance in determining the types, location and quality of NPWS infrastructure provided. Prioritisation is a necessary management response to asset management. This may lead to further capital investment, bringing current assets up to standard, maintaining assets at standard, or the decommissioning or disposal of assets (OEH 2015).

NPWS is responsible for many infrastructure assets in Kamay Botany Bay National Park. Assets include visitor facilities (see Section 4), park roads, vehicle and pedestrian bridges, a jetty and infrastructure specifically for park management purposes (such as management trails).

NPWS offices and workshops are in both sections of the park. These support administrative functions and on-ground management services.



**Henry Head Walking Track, upgraded in 2012 (left) and the Banks–Solander Walking track head (Photo: Adam Henderson/DPIE and Andrew Richards/DPIE)**

There are a range of buildings in the park that have previously been used or currently are used for staff residences. It is likely that some will continue to provide accommodation for staff or contractors where this is needed to support security and emergency response capabilities.

Table 4 lists existing residences and their current uses. Future use will be subject to ongoing review to consider heritage significance, operational needs and the viability of alternative uses such as visitor use, meeting or conference facilities, education, cafe/restaurant and short-term accommodation. Buildings may be demolished based on the outcomes of these assessments.



**Table 4 Residences and their current use**

Residence	Use
Alpha Farm annexe	Caretaker role or staff housing
Laperouse Museum flat	Contact point for after-hours issues
Bare Island	Contact point for after-hours issues
Cape Banks (former military village)	Staff residences and the Officers' Mess (currently leased to the La Perouse Local Aboriginal Land Council)

In 2016 around eight kilometres of sealed roads and seven kilometres of unsealed management trails were listed on the NPWS Asset Maintenance System. It is anticipated that Cape Solander Track will be reclassified to management vehicle use, adding another 4.5 kilometres of unsealed management trail. Management trails are accessible for park and emergency vehicles for purposes such as fire control and weed and pest control activities. They are also available for public walking and cycling access, but not private vehicles.

A range of firefighting equipment is maintained in both sections of the park. Local NPWS staff have specialist skills in fire suppression and this is supplemented by the support of other NPWS staff.

The Kurnell section adjoins a major fuel ship berthing and fuel storage terminal. There have been a few cases in the past when oil spills from ships in the bay have caused damage to the shoreline and parts of the park. NPWS has been involved in the development of a response plan to minimise any damage to the environment in the event of an oil spill in the bay. NPWS will work in cooperation with other agencies during oil spill events. Oiled fauna kits are located with the Port Authority of NSW to aid quick response time in case of a spill event.

## 6. Non-park infrastructure and services

Many national parks contain a variety of infrastructure or assets owned, operated and maintained by other parties. To ensure appropriate management arrangements are in place all such uses must be authorised to occupy and use the park.

There is a variety of non-park infrastructure in Kamay Botany Bay National Park. These include pipelines:

- Two pipelines associated with the old oil refinery, which cross the park from west to east to the ocean near Yena Gap and Tabbigai Gap. The Tabbigai pipeline is no longer in use and it is anticipated the above-ground section will be removed by the refinery operator. The below-ground section is likely to remain in situ. The Yena pipeline remains operational.
- An industrial pipeline and a Sydney Water pipe which extend to Potter Point. The vent pipes for the Sydney Water ocean outfall at Potter Point are excluded from the park.

### 6.1 Other interests

- The road to Potter Point was formalised by Sydney Water, including sealing, to ensure adequate access to Sydney Water infrastructure. There is currently no formal arrangement in place regarding ongoing maintenance and upkeep of the road.
- The Cape Baily Lighthouse and immediate area around it were initially excluded from the park. They are now part of the park under a leaseback arrangement with the Australian Maritime Safety Authority. The Cape Baily lease agreement makes provision for buildings, structures and other improvements (including a helipad) that maintain, operate or support marine navigation. Any proposed new or replacement buildings, structures or other improvements would be subject to appropriate environmental impact assessments and approvals.
- The walking track around Cape Banks crosses land that is outside of the park and under the management of the NSW Golf Club. By agreement with the Golf Club, the walking track in this location is open to the public at all times with care, except when formal golf competitions are underway.
- The NSW Golf Club leases a small part of the park at Cape Banks.
- The Sydney Pistol Club operates a firing range in an area of the La Perouse section of the park that was transferred from the Department of Defence in 1981. Under the transfer arrangements, the Pistol Club was permitted to 'continue in occupation under arrangements with the State'. The pistol firing range includes a fallout area (danger template) to the coast and beyond, which is not open to public access for safety reasons.
- The La Perouse Local Aboriginal Land Council is currently leasing the Officers' Mess building on Cape Banks. This arrangement is under review and is not expected to be a long-term use for this building.

### 6.2 Easements

There is a Crown road easement to provide access to the Cape Baily Lighthouse but there is no constructed track aligned with the easement (it is only a 'paper' easement). Access to the lighthouse for management purposes occurs via Potter Point Road and the coastal walking track.

Commercial filming activities occur throughout the park. These are assessed and regulated through consents.

The Sydney Life Saver Westpac Helicopter Base is situated outside of the park at Cape Banks.

### 6.3 Management issues and opportunities

An area of land on the seaward side of the Sydney Pistol Club is designated as a safety template. To ensure public safety, public use of this area is restricted. The presence of the Pistol Club presents ongoing challenges to providing public access to and through this part of the park. There are also issues associated with the physical appearance of the area, which detracts from local amenity and the visitor experience.

NPWS will continue to work with the Pistol Club on initiatives to ensure visitor safety and improve the appearance and presentation of the surrounding area. In the long-term, the operation of a pistol range in this location is not considered compatible with the objectives of the National Parks and Wildlife Act, especially with respect to encouraging public use and enjoyment of the park and building linkages to the cross-tenure Eastern Beaches Coastal Walk. While the Pistol Club remains, it should be managed and regulated under an appropriate park consent, licence or lease. If the range ceases, operation planning will be required to guide restoration of the landscape and improvements to public access.



**Sydney Pistol Club and adjoining carpark within the park at Cape Banks (left) and Potter Point Road (right) (Photo: Georgina Eldershaw/DPIE)**

Sydney Water's use of the Potter Point Road is not subject to a formal arrangement. There is an opportunity to improve management of access to Potter Point to improve security and limit vehicle access for authorised uses only. This would reduce road maintenance costs and enable rehabilitation of the surrounding area. NPWS will work with Sydney Water and Australian Maritime Safety Authority regarding opportunities to limit access to essential purposes only, or to limit public vehicle access to certain times, and to rehabilitate the edges of Potter Point Road and the precinct.

There are also several general boundary issues and inconsistencies along the common boundary of the park and the golf clubs, including the Crown road easement to Cape Baily Lighthouse. There may be opportunities to rationalise these boundaries for the benefit of both park visitor use and safety and the protection of additional remnant bushland areas.



**Rubbish dumping at Potter Point (left), and graffiti on park entry sign at Potter Point Road  
(Photos: Georgina Eldershaw/DPIE)**

# Appendices

## Appendix A: Legislation and policy

The following laws and policies apply to how we manage our parks (this is not a complete list):

### NSW legislation

- *National Parks and Wildlife Act 1974 and NPW Regulation*
- *Environmental Planning and Assessment Act 1979*, including:
  - State Environmental Planning Policy (Infrastructure) 2007
  - State Environmental Planning Policy (Kurnell Peninsula) 1989
- *Heritage Act 1977*
- *Biodiversity Conservation Act 2016*
- *Biosecurity Act 2015*

Other NSW laws may also apply to park management:

- *Work Health and Safety Act 2011*

### Commonwealth legislation and policy

- *Environment Protection and Biodiversity Conservation Act 1999*
- *Disability Discrimination Act 1992*
- Building Code of Australia

### NPWS policies and strategies

A range of NPWS policies and strategies may also apply to park management:

Park management policies – [www.environment.nsw.gov.au/topics/parks-reserves-and-protected-areas/park-policies](http://www.environment.nsw.gov.au/topics/parks-reserves-and-protected-areas/park-policies)

Regional pest management strategies – [www.environment.nsw.gov.au/topics/animals-and-plants/pest-animals-and-weeds/regional-pest-management-strategies](http://www.environment.nsw.gov.au/topics/animals-and-plants/pest-animals-and-weeds/regional-pest-management-strategies)

Fire management strategies – [www.environment.nsw.gov.au/topics/parks-reserves-and-protected-areas/fire/fire-management-strategies](http://www.environment.nsw.gov.au/topics/parks-reserves-and-protected-areas/fire/fire-management-strategies)

Other laws, policies and strategies may also apply. Please contact NPWS for advice.

## Appendix B: Scientific plant and animal names

The following table shows the scientific name for common plant and animal names used in this plan.

Common name	Scientific name
<b>Plants</b>	
Bangalay	<i>Eucalyptus botryoides</i>
Botany Bay bearded greenhood orchid	<i>Pterostylis</i> sp. Botany Bay
Broad-leaved paperbark	<i>Melaleuca quinquenervia</i>
Cabbage tree palm	<i>Livistona australis</i>
Club rush	<i>Scirpus littoralis</i>
Coast banksia	<i>Banksia integrifolia</i>
Coast groundsel	<i>Senecio spathulatus</i>
Coastal tea-tree	<i>Leptospermum laevigatum</i>
Fine-leaved paperbark	<i>Melaleuca armillaris</i>
Grass tree	<i>Xanthorrhoea resinosa</i>
Heath banksia	<i>Banksia ericifolia</i>
Lemon-scented bottlebrush	<i>Callistemon citrinus</i>
Old man banksia	<i>Banksia serrata</i>
Prickly tea-tree	<i>Leptospermum juniperinum</i>
Prickly-leaved paperbark	<i>Melaleuca nodosa</i>
Red-fruited saw-sedge	<i>Gahnia sieberiana</i>
Scrub she-oak	<i>Allocasuarina distyla</i>
Sunshine wattle	<i>Acacia terminalis</i> subsp. <i>terminalis</i>
Seagrass strapweed	<i>Posidonia australis</i>
Smooth-barked apple	<i>Angophora costata</i>
Swamp banksia	<i>Banksia robur</i>
Swamp oak	<i>Casuarina glauca</i>
Tallowwood	<i>Eucalyptus microcorys</i>
Tick bush	<i>Kunzea ambigua</i>
Wallum banksia	<i>Banksia aemula</i>
<b>Birds</b>	
Lesser sand-plover	<i>Charadrius mongolus</i>
Little tern	<i>Sternula albifrons</i>
Pied oystercatcher	<i>Haematopus longirostris</i>
Sooty oystercatcher	<i>Haematopus fuliginosus</i>
<b>Frogs</b>	
Green and golden bell frog	<i>Litoria aurea</i>
<b>Other</b>	

Common name	Scientific name
Bitou leaf-rolling moth	<i>Tortrix</i> spp.
Bitou seed fly	<i>Mesoclanis polana</i>
Bitou tip moth	<i>Comostolopsis germana</i>
Bitou tortoise beetle	<i>Cassida</i> spp.

Common plant names from PlantNET (The NSW Plant Information Network System). Royal Botanic Gardens and Domain Trust, Sydney. <http://plantnet.rbgsyd.nsw.gov.au> [05/08/16].

## Appendix C: Summary of Aboriginal archaeological heritage in the park

The Aboriginal archaeological heritage in the park comprises a variety of Aboriginal sites. Although disturbed by occupation and visitor use, they nevertheless have high community and research value. The archaeological remains are significant to the Aboriginal community.

Most known sites are located along the immediate coastal strip, or Botany Bay shoreline, where there has been less intrusive development and less destruction of original land surfaces and sub-surfaces, or buried deposits that might contain Aboriginal archaeological evidence.

There are a variety of Aboriginal sites found in the broader Sydney metropolitan area. Site types in Kamay Botany Bay National Park include:

- **Shell middens.** The remains of campsites either within sandstone rock shelters or in open locations. There is an extensive midden near Captains Cooks Landing Place and middens behind Congwong and Little Congwong Bays. Shellfish were gathered and eaten at these sites, as well as a range of other animals, birds and fish. Midden sites retain much of their organic content, which means that a much greater range of evidence of Aboriginal occupation often survives, including human remains, shell and bone tools, food remains and stone artefacts. Middens may accumulate over thousands of years.
- **Human burials.** Often found in association with sandy soil or middens. Burials have been documented within the Meeting Place Precinct at a few locations as either single graves or multiple graves. Human remains previously removed from the Kurnell section of the park (and subsequently held by museums) have been reburied in a resting place at Towra Point at the request of the Aboriginal community.
- **Stone artefacts.** Artefacts can occur anywhere in the landscape because of use and discard by Aboriginal people. If artefacts are found within middens they are described as part of the midden and not labelled separately as they are elsewhere as 'open campsites' or 'artefact scatters' or 'isolated finds'.
- **Rock engravings.** Common throughout the Sydney region. There are a few documented sites on the La Perouse Headland and one from the Meeting Place Precinct. They contain images/motifs of animals, inanimate objects and footprints or tracks known as mundoes. They occur on sandstone on both even and upright surfaces.

In addition, other Aboriginal cultural remains have been recorded in historical accounts and recent Aboriginal oral histories as occurring in the park. These include:

- a campsite described in the records of the *Endeavour* and the First Fleet as a group of huts near Freshwater Stream, possibly part of the occupation site that has been recorded as a midden
- Cundlemong's (a Kurnell elder) burial place of circa 1844 is recorded as located near the Alpha House site
- a bora ring or ceremonial ground
- scarred trees, marked through cutting of steps into the bark to climb the tree to gather food.

A range of Aboriginal artefacts have been collected and removed from the park since 1770. A significant collection from Cook's visit to Botany Bay in 1770 is held at Cambridge University and the British Museum.

Based on the information provided through assembling of past studies and data on documented Aboriginal cultural evidence, it is apparent that much of the Meeting Place Precinct is of high Aboriginal archaeological potential. Any ground disturbance or other



activity with the potential to damage heritage in the park should be treated with caution (Context 2008; Jill Sheppard Consultants 2009; Irish 2007).

## Appendix D: Historical sequence and statements of significance

### La Perouse – Historical Sequence

Before the First Fleet left Botany Bay for Port Jackson, a French expedition under the command of Jean-Francois de Galaup, comte de La Perouse, arrived in Botany Bay. The French stayed for six weeks and built a stockade, observatory and a garden for fresh produce on the La Perouse peninsula. No evidence of these has been found but there may be buried evidence. During their stay, Father Receveur, a Franciscan chaplain and naturalist, died and was buried nearby. La Perouse continued his voyage on March 1788 and was not sighted again. In 1825 another French explorer, Bougainville, visited the site and left funds for the establishment of a monument to La Perouse and the marking of Receveur's grave with a more substantial memorial. The French Government continues to contribute to the upkeep of these memorials.

Around 1822 a watchtower was constructed on the highest point of the La Perouse Headland with views of the entrance to Botany Bay. The watchtower was typical of the style of building constructed under Governor Macquarie. Troops were stationed in the watchtower to control the activities of potential smugglers. In 1833 the watchtower took on the functions of a customs house. It retained this role until around 1903, although by the late 1860s it was also being used as a schoolhouse for the area. In 1957 a fire destroyed much of the building and when the tower was reconstructed in the 1960s, the windows were sealed and a castellated parapet was added. The watchtower is the oldest structure still standing on the shores of Botany Bay and the oldest surviving customs house in New South Wales.

In 1869 a road was constructed from the city to La Perouse and in 1871 a battery of guns was installed in temporary fortifications on the headland. In 1881 construction began on fortification of Bare Island. It was one of the first major structures to be built of mass concrete in Australia and designed to be self-contained with barracks and materials stores to withstand a siege. However, the construction of the fort was poorly supervised and the contractor used too much aggregate in his concrete mix, which reduced the strength of the concrete. The building of the fort led to the first Royal Commission to be held in Australia, into the Colonial Architect's Office. Despite being virtually useless as a defensive structure, Bare Island was not decommissioned until 1911. In 1912 part of the fort was converted into a home for war veterans. The war veterans continued to occupy the fort until 1963, following which it became a local and natural history museum operated by the Randwick Historical Society until 1976 when the museum was closed and the artefacts removed.

Additional fortifications were constructed at Henry Head from 1892-95 and operated until 1910. In the 1930s extensive fortifications, plotting rooms, barracks and a hospital were constructed just north of Cape Banks on land resumed by the military. The brick cottages and administration building still standing were probably built around 1938 to house staff responsible for the upkeep of the guns and related equipment. During World War II, both the Henry Head and Cape Banks batteries were brought back into military service and additional buildings and gun emplacements constructed. Bare Island was also re-used briefly as a fort during World War II. Most of the structures at Cape Banks were removed by the military between 1953 and 1962, however, a number of houses, an underground bunker and the Officers Mess remain on land that has recently been added to the park.

In 1876 the underwater telegraph cable between Sydney and New Zealand began operation at La Perouse, and in 1882 a two-storey brick building was constructed on the La Perouse Headland to replace the tents and timber buildings previously in use. The Cable Station was decommissioned in 1903 and used as an extension of the Coast Hospital during the 1918-20 Spanish influenza epidemic, then as accommodation for nurses from 1920 to 1933, before

becoming a Salvation Army refuge for women and children until 1987. In 1988 part of the building was converted into La Perouse Museum to commemorate the French navigator La Perouse and French expeditions in the Pacific, and part leased as an Aboriginal cultural centre. In 1994 the Instrument Room in the centre of the building was restored to its original form.

During the 1930s depression, a camp known as 'Happy Valley' was established by squatters behind Congwong Bay and they also constructed cliff dwellings north of Cape Banks. Over 300 squatters lived in these shanty settlements but only a few foundations remain.

In 1937 a coal hauler called the 'Minmi' was wrecked on Cape Banks. The wrecked iron hull of the Minmi can still be seen on the rocks to the west of the cape.

In the northern area of the park is the Coast Hospital Cemetery, which was the main burial ground in Sydney for those who died of infectious diseases such as the bubonic plague during the first 20 years of the 20th century. This land was added to the park in 1997. Research into the cemetery and the correct locations of gravestones is encouraged (NPWS 2002).

## **Kurnell – Historical Sequence**

In 1815, 283 hectares around Cook's landing place was granted to Captain James Birnie who called it Alpha Farm. The remains of Birnie's cellar, built in 1819, are beneath the present house, which was built in 1902. In 1870, the centenary of Cook's landing, the then owner of the farm (Thomas Holt) erected an obelisk to Cook on the site. This was the second monument; a plaque having been erected by the newly formed Philosophical Society of Australasia at Inscription Point in 1822.

Following the Australian centenary in 1888, Captain Cook's Landing Place became the ceremonial area for commemoration of Cook's birthday and the place to take visiting royalty and other distinguished visitors. Over 300 trees were planted by these visitors over the years, some of which are marked by plaques and most of which remain today.

In 1899, 25 hectares of land around the landing place was resumed and, together with another 75 hectares of resumed and Crown land, was dedicated as 'Captain Cook's Landing Place' under the control and management of trustees. The area was formally proclaimed a Public Park in 1902. Over the next 50 years, the trustees established walking tracks, shelter sheds, a cricket pitch, staff residences and a guest house to accommodate visitors to the area. The trustees also planted approximately 9000 trees, including a row of Norfolk Island pines along the foreshore to the west of the Alpha Farmhouse, which became a major landscape feature of the site. Additional plantings were made in 1954 to the east of Alpha Farmhouse.

A number of monuments were also erected in the park in the first half of this century. In 1918 the Swedish community erected the Solander Monument, in memory of the Swede who was assistant botanist to Banks. In 1933 the Royal Australian Historical Society erected a monument to Forby Sutherland who died while Cook was anchored at Botany Bay and was the first European recorded as buried in eastern Australia. In 1947 Sir Edward Hallstrom erected a granite monument in honour of Sir Joseph Banks. More recent monuments include a raised tablet marking 'The Landing Rock' where the first European (Midshipman Isaac Smith) stepped ashore, and plaques identifying 'The Watering Place' and 'Cook's Well' as the location where water was first collected for the HMS Endeavour.

In the mid-nineteenth century, the government reserved a large area at Endeavour Heights for military purposes. During World War II concrete bunkers were built here. Following the war, the bunkers were removed and the area included in the park.

The cliffs along the coast of the Kurnell section have been popular fishing spots for many years. In 1919 a small number of rough dwellings were constructed at Tabbigai utilising

caves in the cliffs, and during the 1930s Depression many more dwellings were constructed. In 1969 the Department of Lands instructed the few remaining squatters to vacate the area, and today only the foundations, water channels and hearths of a couple of dwellings remain (NPWS 2002).

## Statements of Significance

In 2004 the Kurnell section of the park and Sydney Water land at Potter Point was listed on the National Heritage List under the Environment Protection and Biodiversity Conservation Act<sup>4</sup>.

### National Heritage List – Kurnell Peninsula Headland – summary statement of significance

Kurnell Headland is of outstanding heritage value to the nation as the site of first recorded contact between Indigenous people and Britain in eastern Australia. The place symbolically represents the birthplace of a nation, and the dispossession of Indigenous people. The first landing at Kurnell Peninsula in April 1770 by Lt James Cook has been commemorated since 1822. The Meeting Place Precinct, including Captain Cook's Landing Place, features memorials and landscape plantings celebrating the events. Attributes specifically associated with its Indigenous values include the watering point and immediate surrounds, and the physical evidence of Indigenous occupation in the area broadly encompassed by the watering place and the landing stage. The story of Cook's first landing on the east coast of Australia is nationally important and an integral part of Australian recorded history and folklore.

Cook's running-survey of the east coast of Australia in 1770 and his survey of Botany Bay as a safe harbour, was an outstanding technical achievement, enabling the continental characteristics of Terra Australis to be defined for the first time, with the exception of Bass Strait, building on the work of earlier maritime explorers. Cook's first landfall in Australia at Botany Bay in 1770 informed the subsequent British declaration of terra nullius and began the process which led to British possession of the Australian continent by 1830. The headland area of Kurnell Peninsula, comprising most of Botany Bay National Park, and described by Cook in his journal as a significant coastal landmark at the entrance to Botany Bay, is significant to the nation as the destination of the First Fleet under Captain Arthur Phillip in 1787.

On this, Cook's first of three voyages to the Pacific, Joseph Banks was botanist, assisted by Daniel Solander and the artists Sydney Parkinson, Alexander Buchan and Herman Sporing, were to produce botanical, zoological and ethnographic drawings. Banks and Solander collected 83 specimens while at Botany Bay, many of which are now the type-specimens of species and genera, including *Banksia*, named after Joseph Banks. Kurnell Headland, was the first site on the eastern coast of the Australian continent to be explored by scientist from Britain, with many of the first type-specimens of flora collected at the Kurnell Peninsula landing site by both Banks and Solander. Cape Banks and Point Solander have defined the entrance to Botany Bay since 1770. Cook's naming of 'Botany Bay' in 1770 would result in its adoption as an emotive term

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<sup>4</sup> the listing was amended in 2005 to alter the boundary and the description of heritage values

for a distant destination, which came to be associated with convictism for much of the nineteenth century. (source: [Australian Heritage Database](#))

In 2013 the entire park was listed on the State Heritage Register under the Heritage Act.

## **State Heritage Register – Kamay Botany Bay National Park (North and South) and Towra Point Nature Reserve – statement of significance**

Kamay Botany Bay National Park and Towra Point Nature Reserve are of outstanding state heritage significance as a rare place demonstrating the continuous history of occupation of the east coast of Australia. The place holds clear and valuable evidence of Indigenous occupation prior to European settlement and the natural history of the state. It is also the place where the shared history of Indigenous and non-Indigenous Australia began. It was the place where Lieutenant James Cook first stepped ashore to claim the country for Britain and plays a central role in the European history of arrival, the history of Indigenous resistance, dispossession and devastation through illness, land grants, cultivation and development.

Traditional Aboriginal custodians of the land and the current Aboriginal community have strong historical association with Kamay Botany Bay National Park and Towra Point Nature Reserve. Gweagal warriors resisted the arrival of Cook and continue to be important symbols of Aboriginal resilience. There are two important burial repatriation sites within the curtilage which are designated Aboriginal Places and have high social significance for the Aboriginal community.

The place is also significant for its historical association with important European explorers and scientists and their life's work. These include James Cook, Joseph Banks, Daniel Solander, comte de La Perouse, Pere Receveur and Joseph Lepaute Dagelet. It is also associated with the First Fleet and the first Governor of NSW, Arthur Phillip.

The place is of state significance for the technical achievement of Banks and Solander who during their visit in 1770 made the first important collection of fauna and flora from Australia which included some items that had never before been described and classified. Previous archaeological excavations indicate that Kamay Botany Bay National Park and Towra Point Nature Reserve have significance for their high level of archaeological potential.

Kamay Botany Bay National Park and Towra Point Nature Reserve have aesthetic value as landmark headlands and natural areas with a collection of historic monuments that, combined, have important symbolism to the State of New South Wales. Both northern and southern parts of the national park, together with the nature reserve, contain a valuable research resource relating to Indigenous occupation, the natural history of the State and the early settlement of the colony.

Kamay Botany Bay National Park and Towra Point Nature Reserve are of state heritage significance as they contain rare remnant vegetation and flora communities and is a critical link in the network of parks and reserves that conserve the biodiversity of NSW.

The La Perouse part the national park provides evidence of the history of French exploration in the Pacific in the late 19th century and continues to have ongoing cultural associations with the French community today. (State Heritage Inventory 2016)

In 2017 a place broadly comprising the Kurnell and La Perouse sections of the park and Towra Point Nature Reserve was listed on the National Heritage List under the Environment Protection and Biodiversity Conservation Act.

### **National Heritage List – Kamay Botany Bay: botanical collection sites – summary statement of significance**

Kamay Botany Bay has outstanding heritage value to the nation as the place where botanist Sir Joseph Banks and naturalist Dr Daniel Solander collected plant specimens in 1770 as part of the first landing of the Endeavour in Australia. Banks and Solander collected a large number of iconic Australian plant species, including some that later became type-specimens which have important scientific and research value. The plant collection sites at Kamay Botany Bay, together with the collected plant material, represent the symbolic and actual integration of Australian flora into western science. The Botany Bay plant collections revolutionised the international systematic biology discipline, shaped European perceptions of Australia and provided a benchmark for the Australian environment as well as catalysing and informing subsequent botanical studies of Australia. (source: [Australian Heritage Database](#))

## Appendix E: Vegetation classes and communities in the park

Class name (in order of formation dominance, Figure 4)	Vegetation community
Coastal Headland Heaths	Coast banksia ( <i>Banksia integrifolia</i> ) – coast tea-tree ( <i>Leptospermum laevigatum</i> ) low moist forest on coastal sands and headlands. Coast rosemary ( <i>Westringia fruticosa</i> ) – heath myrtle ( <i>Baeckea imbricata</i> ) – coast wattle ( <i>Acacia longifolia</i> subsp. <i>sophorae</i> ) on coastal cliff line seepages.
Sydney Coastal Heaths	Coast banksia ( <i>Banksia integrifolia</i> ) – coast wattle ( <i>Acacia longifolia</i> subsp. <i>sophorae</i> ) – tree broom-heath ( <i>Monotoca elliptica</i> ) dune scrub. Scrub she-oak ( <i>Allocasuarina distyla</i> ) – hairpin banksia ( <i>Banksia ericifolia</i> ) on sandstone headlands. Bracelet honey-myrtle ( <i>Melaleuca armillaris</i> ) – heath-leaved banksia ( <i>Banksia ericifolia</i> subsp. <i>ericifolia</i> ) – scrub she-oak ( <i>Allocasuarina distyla</i> ) coastal cliff line scrub.
Wallum Sand Heaths	Banksia ( <i>Banksia aemula</i> ) heath on aeolian sands. Old man banksia ( <i>Banksia serrata</i> ) – scrub she-oak ( <i>Allocasuarina distyla</i> ) – red bloodwood ( <i>Corymbia gummifera</i> ) heathland on coastal sands.
Coastal Dune Dry Sclerophyll Forest	Red bloodwood ( <i>Corymbia gummifera</i> ) – smooth-barked apple ( <i>Angophora costata</i> ) heathy woodland on coastal sands.
Sydney Coastal Dry Sclerophyll Forests	Smooth-barked apple ( <i>Angophora costata</i> ) – red bloodwood ( <i>Corymbia gummifera</i> ) – coast banksia ( <i>Banksia integrifolia</i> ) – scribbly gum ( <i>Eucalyptus haemastoma</i> ) open forest on sandstone slopes on the foreshores of the drowned river valleys.
Coastal Freshwater Lagoons	Crimson bottlebrush ( <i>Callistemon citrinus</i> ) – banksia ( <i>Banksia ericifolia</i> ) – <i>Gleichenia dicarpa</i> sedgeland in dune swales. Shrubby sedgeland ( <i>Gahnia sieberiana</i> ) on the margins of freshwater coastal lagoons.
Coastal Heath Swamps	Banksia ( <i>Banksia ericifolia</i> subsp. <i>ericifolia</i> ) – needlebrush ( <i>Hakea teretifolia</i> ) damp heath swamps on coastal sandstone plateaus.
Coastal Swamp Forests	Swamp mahogany ( <i>Eucalyptus robusta</i> ) – <i>Eucalyptus botryoides</i> swamp sclerophyll forest on coastal lowlands. Swamp oak ( <i>Casuarina glauca</i> ) floodplain swamp forest.
Coastal Floodplain Wetlands	Swamp oak ( <i>Casuarina glauca</i> ) swamp forest fringing estuaries.
Maritime Grasslands	Kangaroo grass ( <i>Themeda australis</i> ) – sod tussock grassland of coastal areas. Spinifex ( <i>Spinifex sericeus</i> ) beach strand grassland.
Saltmarshes	Occurs in two small locations above the tidal zone. Species include creeping brookweed ( <i>Samolus repens</i> ), beaded glasswort ( <i>Salicornia quinqueflora</i> ), seablite ( <i>Suaeda australis</i> ) and salt marsh rush ( <i>Juncus krausii</i> ).

Source: adapted from OEH 2013 and the Plant Community Type Identification Tool (PCT Id Tool)

Common names from PlantNET (The NSW Plant Information Network System). Royal Botanic Gardens and Domain Trust, Sydney. <http://plantnet.rbgsyd.nsw.gov.au> [05/08/16].

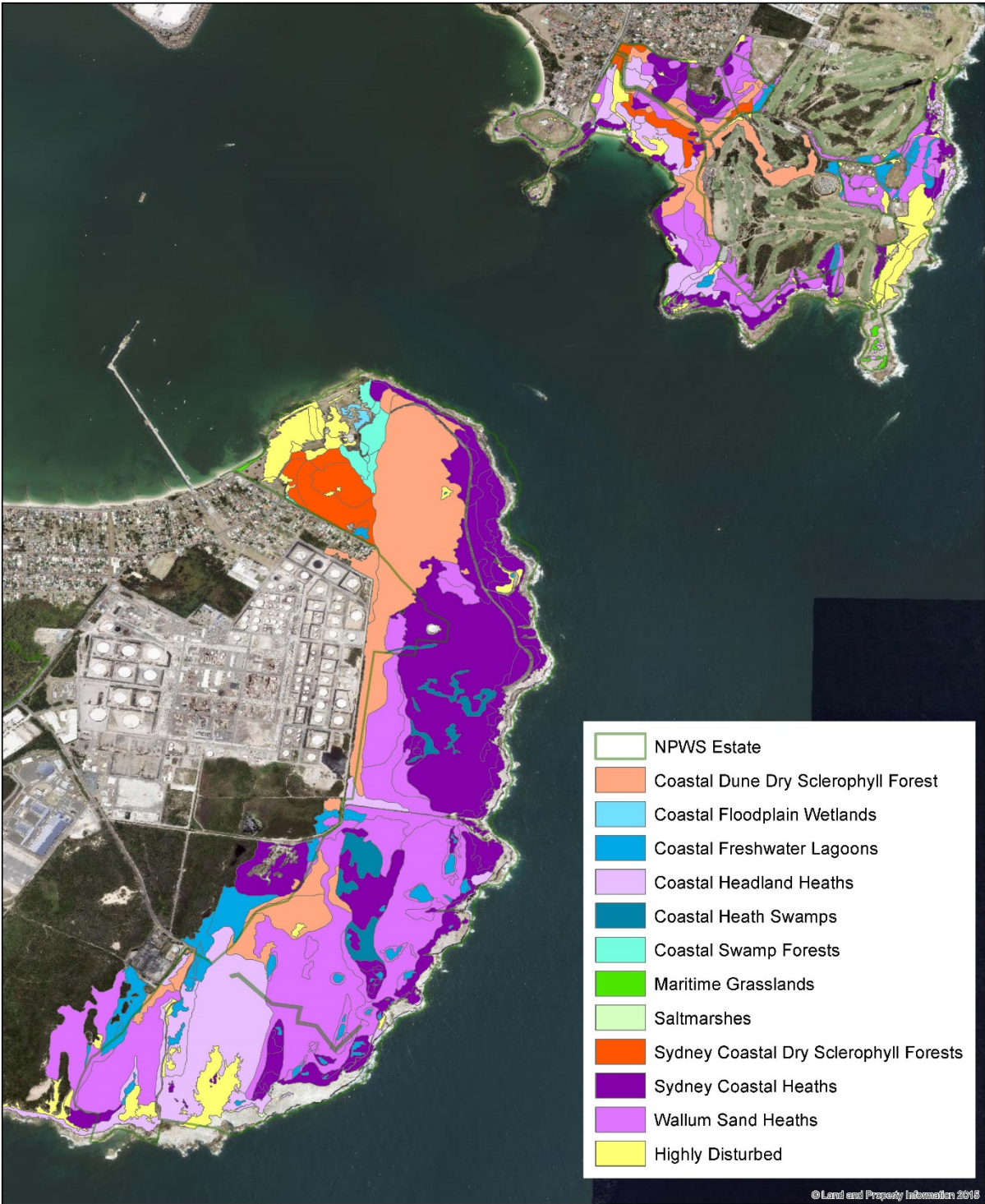


Figure 6 Native vegetation classes in the park



## Appendix F: Description of threatened ecological communities in the park

The following are listed as threatened ecological communities under the Biodiversity Conservation Act.

Refer to Figures 5 and 6, and Appendix E for further information.

This information is based on The Native Vegetation of the Sydney Metropolitan Area (OEH 2013).

### Eastern Suburbs Banksia Scrub in the Sydney Basin Bioregion

Eastern Suburbs Banksia Scrub (ESBS) is listed as a critically endangered ecological community under the Biodiversity Conservation Act. ESBS is predominantly a sclerophyllous heath or scrub community but may also include areas of woodland or forest. Common species include *Banksia*, *Leptospermum* and *Xanthorrhoea* species. ESBS occurs on disjunct patches of nutrient-poor aeolian (wind-blown) dune sand. In the park, it is associated with the Wallum Sand Heath vegetation class.

The community once occupied more than 5000 hectares of land between North Head and Botany Bay. Surviving stands are now a fraction of that amount.

In Sydney, plant species that occur only in ESBS communities include *Astroloma pinifolium*, *Banksia aemula*, *Hibbertia fasciculata*, *Monotoca scoparia*, *Persoonia lanceolata* and *Xanthorrhoea resinifera*.

Threats to this community include invasion by weed species, particularly bitou bush and lantana, and altered fire regimes.

ESBS of the Sydney Region is also listed as endangered under the Environment Protection and Biodiversity Conservation Act.

### Sydney Freshwater Wetlands in the Sydney Basin Bioregion

Sydney Freshwater Wetlands is listed as an endangered ecological community under the Biodiversity Conservation Act. This community was formerly extensive in the Sydney eastern suburbs and Kurnell area.

The community is a complex of vegetation types largely restricted to freshwater swamps in coastal areas. It is in swales and depressions on the sand dunes of the park. Characteristic species are sedges and aquatic plants, such as *Baumea* species, *Eleocharis sphacelata*, *Gahnia* species and *Persicaria* species. Areas of open water may occur where drainage conditions have been altered and there may also be patches of emergent trees and shrubs.

Often found in these wetlands are the vulnerable wallum froglet (*Crinia tinnula*) and the endangered green and golden bell frog (*Litoria aurea*).

Threats to this community include habitat degradation resulting from altered hydrology/nutrient levels, weed invasion, off-road vehicles and illegal waste dumping.

### Themeda Grassland on sea cliffs and coastal headlands in the NSW North Coast, Sydney Basin and South East Corner Bioregions

This community is listed as an endangered ecological community under the Biodiversity Conservation Act. In the park this community is found on old sand dunes above cliffs at Cape Banks and Henry Head in the La Perouse section.

Kangaroo grass (*Themeda australis*) is the dominant species. Kangaroo grass is an extremely widespread species, but in this community it may have a distinctive appearance, being prostrate and having glaucous leaves. These features are retained in cultivation and the form is believed to be genetically distinct.

Threats to this community include weeds and invasion by native shrubs. Although native shrubs are a feature of the community, invasion and conversion to dense shrubland may threaten the persistence of grassland elements in the community.

### **Coastal Upland Swamp in the Sydney Basin Bioregion**

The Coastal Upland Swamp is listed as an endangered ecological community under the Biodiversity Conservation Act. This community is endemic to New South Wales and confined to the Sydney Basin Bioregion. The community includes open graminoid heath, sedgeland and tall scrub associated with periodically waterlogged soils.

The community occurs primarily on impermeable sandstone plateaux with shallow groundwater aquifers in the headwaters and impeded drainage lines of streams, and on sandstone benches with abundant seepage moisture.

Threats to this community include altered fire regimes (frequent burning).

Coastal Upland Swamps of the Sydney Basin Bioregion is also listed as endangered under the Environment Protection and Biodiversity Conservation Act.

### **Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner Bioregions**

This community is listed as an endangered ecological community under the Biodiversity Conservation Act. It is found on the coastal floodplains of New South Wales and has a dense to sparse tree layer in which swamp oak (*Casuarina glauca*) is the dominant species. The structure of the community may vary from open forests to low woodlands, scrubs or reedlands with scattered trees.

It is found where the groundwater is saline or sub-saline, on waterlogged or periodically inundated flats, drainage lines, lake margins and estuarine fringes associated with coastal floodplains.

Threats to this community include weed invasion, such as lantana, and altered fire regimes (frequent burning).

Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland is also listed as endangered under the Environment Protection and Biodiversity Conservation Act.

## Appendix G: Pests and weeds in the park

The following table summarises key information on pests in the park at the time of publication of this plan. Current information on the status of pests and whether they have a threat abatement plan can be found on the Department of Planning, Industry and Environment website. Further pest information on the park is also available in the relevant NPWS Pest Management Strategy and the Local Land Services website.

### Pest animals

Common name	Scientific name	KTP	NSW TAP	Priority pest
Red fox	<i>Vulpes</i>	Y	Y	Y
Wild dog	<i>Canis lupus familiaris</i>	Y	N	Y
Wild rabbit	<i>Oryctolagus cuniculus</i>	Y	N	Y
Cat	<i>Felis catus</i>	Y	N	Y
Wild deer	<i>Cervus</i> spp.	Y	N	Y

### Priority weeds

Common name	Scientific name	KTP	NSW TAP	WONS
Alligator weed <sup>s</sup>	<i>Alternanthera philoxeroides</i>	N	N	Y
Asparagus fern <sup>s</sup>	<i>Asparagus aethiopicus</i>	N	N	Y
Bitou bush <sup>s</sup>	<i>Chrysanthemoides monilifera</i> subsp. <i>rotundata</i>	Y	Y	Y
Blackberry <sup>s</sup>	<i>Rubus fruticosus aggregate</i>	N	N	Y
Buffalo grass	<i>Stenotaphrum secundatum</i>	N	N	N
Kikuyu <sup>RC</sup>	<i>Pennisetum clandestinum</i>	N	N	N
Lantana <sup>s</sup>	<i>Lantana camara</i>	Y	N	Y
Mother-of-millions <sup>RC</sup>	<i>Bryophyllum</i> sp.	N	N	N

KTP = key threatening process listed under the Biodiversity Conservation Act and Environment Protection and Biodiversity Conservation Act.

TAP = threat abatement plan prepared under the Biodiversity Conservation Act.

Priority pest - Greater Sydney Regional Strategic Pest Animal Management Plan 2018

WONS = Weed of National Significance.

<sup>s</sup> = state-level priority weed under Greater Sydney Regional Strategic Weed Management Plan 2017

<sup>RC</sup> = weed of regional concern under Greater Sydney Regional Strategic Weed Management Plan 2017

## Appendix H: Abbreviations

BC Act	<i>Biodiversity Conservation Act 2016</i>
EEC	Endangered ecological community
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
NPWS	National Parks and Wildlife Service
NSW	New South Wales

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