



NSW NATIONAL PARKS & WILDLIFE SERVICE

Natural, visitor experience and shared heritage values discussion paper

**Ku-ring-gai Chase National Park, Lion Island
Nature Reserve, Long Island Nature Reserve
and Spectacle Island Nature Reserve**



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Introduction

The NSW *National Parks and Wildlife Act 1974* requires a plan of management to be prepared for each national park and nature reserve. A plan of management is a legal document that sets out how the values of the park, including natural, cultural (Aboriginal and shared heritage) and recreation values, will be managed in the long term.

The current Ku-ring-gai Chase National Park, Lion Island Nature Reserve, Long Island Nature Reserve and Spectacle Island Nature Reserve Plan of Management has been in place since 2002. In this time, visitation to the national park has increased, new management challenges and opportunities have emerged, and community interests and expectations have changed.

In response to these emerging management challenges and opportunities, and changing community interests and expectations, the NSW National Parks and Wildlife Service (NPWS) is preparing a new plan of management for Ku-ring-gai Chase National Park and the island nature reserves.

Five discussion papers have been developed to inform preparation of this new plan of management and provide opportunities for comment and community feedback. The papers describe and explore key management issues focused on the following themes:

Natural, visitor experience and shared heritage values

- Aboriginal cultural values
- Recreational activities
- Visitor destinations
- Leases, licences and consents.

Purpose of this paper

The purpose of this paper is to invite discussion about how NPWS might manage the natural and shared heritage values of Ku-ring-gai Chase National Park and the island nature reserves. Management of Aboriginal cultural values are considered in the Aboriginal cultural values discussion paper.

What are park values?

National parks and nature reserves are special places that are valued by the community for a variety of reasons. Examples of their values include:

- Outstanding natural beauty.
- Native plants, animals and ecosystems of exceptional scientific importance. For many species threatened with extinction, national parks and nature reserves provide the best opportunity for long-term survival and the cornerstone for recovery efforts.
- Cultural and spiritual value. National parks and nature reserves are home to some of the most precious physical examples of Aboriginal heritage, such as rock art, middens and camp sites, together with places and landscapes of cultural importance.
- Places for the community and tourists to undertake a range of recreational activities, connect with nature and have rewarding nature-based visitor experiences. National parks provide opportunities for people to enjoy, visit and appreciate the natural environment. This can include unique experiences not possible elsewhere. From cycling

to horse riding, bushwalking, picnicking, rock climbing, kayaking and fishing, the range of recreational activities in national parks is diverse.

- Buildings, infrastructure and evidence of different periods and activities in more recent Australian history. This can include examples from the early exploration period through to settlement, agricultural expansion and military purposes.

Most national parks and nature reserves contain a mix of some or all of these values. Values are not static and evolve over time as our understanding and knowledge increases and as community views and interests change. For example, public interest in some recreational pursuits is now far greater than a decade ago. Management of national parks and nature reserves must adjust to respond to these changes, but such adjustments must be in accordance with the National Parks and Wildlife Act. NPWS is required to manage national parks and nature reserves in line with the purpose for which they were established:

- The purpose of reserving land as a national park is to identify, protect and conserve areas containing outstanding or representative ecosystems, natural or cultural features or landscapes or phenomena that provide opportunities for public appreciation and inspiration and sustainable visitor or tourist use and enjoyment (section 30E of the National Parks and Wildlife Act).
- The purpose of reserving land as a nature reserve is to identify, protect and conserve areas containing outstanding, unique or representative ecosystems, species, communities or natural phenomena (section 30J of the National Parks and Wildlife Act).

Sustainable visitor or tourist use, and enjoyment is not one of the purposes for establishing a nature reserve.

Natural and visitor experience values

Ecological diversity

Ku-ring-gai Chase National Park and the island nature reserves have an exceptional diversity of native plant and animal species and natural environments. A total of 24 plant communities comprising over 1000 plant species have been identified in the national park. Remarkably, the three small island nature reserves support a similar range of vegetation. More than 28 native mammals, 160 birds and approximately 20 reptiles have been recorded in the national park. The park protects five Endangered Ecological Communities and more than 50 rare and threatened plant and animal species.

The national park and island nature reserves have been listed as a National Heritage Place on the Australian National Heritage List for their outstanding natural heritage value.

Connected natural systems

The national park and island nature reserves have wider significance as part of the conservation network of protected land along Australia's south-east coast. The size of the park and its proximity to, and physical connection with surrounding natural areas plays an invaluable role in allowing the movement of native animals and plants across the landscape. With climate change projected to affect the distribution of plant populations and the availability of habitats, the intactness and connectivity of Australia's reserve system will be increasingly important.

Geodiversity

The national park and island nature reserves sit in the Hawkesbury River estuary, a drowned river valley. Landforms include coastal cliffs such as those on Lion Island and at Barrenjoey Head, beaches such as those on the western Pittwater foreshore, the Barrenjoey tombola and The Basin lagoon. The variety of landforms, bedrock types and soils and the geological and natural processes that shape these features are a key determinant of the area's outstanding ecological diversity and scenic beauty.

Waterways

The waterways in and adjoining the national park and island nature reserves are spectacular in their natural beauty and recreational value and support important fisheries and aquatic habitat. The national park protects tens of kilometres of shoreline, a myriad of creeks, waterfalls, beaches, estuaries and secluded bays and coves. Cowan Creek is part of the national park as are its tributaries Coal and Candle Creek, Smiths Creek, Cockle Creek and Apple Tree Creek. Pittwater, the Hawkesbury River and the Tasman Sea adjoin the national park, while Lion Island and Barrenjoey Head sit at the mouth of Broken Bay. The Hawkesbury River surrounds Spectacle Island and Long Island.

Scientific understanding

The accessibility of the national park and nature reserves to many research institutions, the high diversity of species and habitats and the availability of data collected over many years means they are highly valued by scientists and educators.

Visitor experience

Ku-ring-gai Chase National Park is one of the most popular national parks in New South Wales, attracting 3.32 million visits in 2016. The national park offers a break and place of solitude for city dwellers. It provides opportunities for people to experience and appreciate the natural environment and undertake nature-based recreation activities.

With Sydney's steady population growth and urban consolidation in surrounding suburbs, the number of visits to the national park has been increasing and will continue to do so. Visiting the national park supports nature conservation and people's wellbeing and brings economic benefits to the community.

Scenic beauty

Ku-ring-gai Chase National Park is located on the coastal and estuarine reaches of the Hawkesbury – Nepean catchment where the Hawkesbury River meets the Tasman Sea. The steep sandstone cliffs and rugged sandstone plateau provide a spectacular scenic backdrop to the waterways, winding creeks, sheltered beaches, hidden coves, river and coastal islands and the wide expanses of blue water. Bushland covers the island nature reserves and the national park, creating an overwhelmingly natural vista. The stunning views from West Head, Barrenjoey Head and Kalkari lookout and the picturesque Barrenjoey Lightstation, Bobbin Head and The Basin draw large numbers of local, national and international visitors to the park and surrounds.

Which values are most important to you?

Factors impacting natural and visitor experience values

Changing climate

Human-induced climate change is listed as a key threatening process under the NSW *Biodiversity Conservation Act 2016*, and the associated loss of habitat is listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

Available information suggests that the park will experience increases in temperature and numbers of hot days as well as higher rainfall in the summer and autumn (Metropolitan Sydney Climate Change Snapshot). Increases in temperature and number of hot days is likely to influence the number of severe fire weather days and possibly extend the fire season further into spring increasing the risk of more frequent and intense fires in the park. Higher rainfall could lead to more frequent flooding of low-lying areas as well as increased erosion and subsequently a decline in water quality. Predicted sea level rise is also likely to lead to inundation of low-lying areas and increased shoreline erosion in the park.

Without intervention and over time, these changes will likely impact the natural values of the national park and island nature reserves, by altering the geographical extent and composition of habitats and ecosystems and through loss of suitable habitat. Species most at risk are those unable to migrate or adapt, particularly those with small population sizes or with slow growth and reproduction rates.

The potential impact of climate change on the national park and island nature reserves is difficult to assess in detail since it depends on the compounding effects of other pressures, particularly barriers to migration and pressure from frequent and intense bushfires and introduced plants and animals. Programs to reduce these pressures may help reduce the severity of the effects of climate change.

The most important way that the impacts of climate change can be managed in the park is to identify species or populations that may be at particular risk from a changing climate and develop and implement novel strategies to reduce those risks (Priorities for Biodiversity Adaptation to Climate Change). This will require collaboration with researchers, scientists, other land managers and park neighbours.

NPWS will seek opportunities to reduce carbon emissions and improve sustainability in park management operations and visitor facilities as part of its shared responsibility to address the threat of climate change.

Fire

Fire is an important tool for managing the native plant and animal communities in the park that have evolved in the presence of fire. However, uncontrolled frequent and intense bushfires that burn large areas pose a significant risk to the native plant and animal communities in the park through loss of species and degradation of habitat. The absence of fire in large parts of the landscape can also pose a risk to native plant and animal communities that rely on the habitat variety created by patterns of burnt, recently burnt and unburnt areas.

Most bushfires in the park are the result of arson or other human activities with less than 1% being from lightning strikes or natural forms of ignition.

Most fire management activities in the park focus on bushfire prevention through hazard reduction burning and suppression of bushfires when they occur. Parts of the park may be burnt each year under a prescribed burning or hazard reduction program that aims to reduce

the risk to life and property within the park and on surrounding lands by reducing fuel loads. Prescribed burning is also used to maintain and enhance habitat variety for plant and animal communities that rely on specific fire regimes.

All fire management activities and planning in the park are guided by the park fire management strategy, which has three main aims:

- protect life, property and community assets from the adverse impacts of fire
- maintain and enhance biodiversity
- protect Aboriginal sites and places, historic places and culturally significant features from damage by fire.

Other policies are in place to reduce the risk of fire in the national park. Campfires are permitted in designated wood barbecues or fire pits at The Basin only. Portable gas and spirit stoves may only be used in picnic areas and campgrounds. The use of heat beads is not permitted in the park. As in all national parks, smoking is prohibited, and the national park may be closed during periods of extreme fire risk. For more information see Managing fire.

What do you think are the most important considerations for managing fire in the park?

Pests

Pests are animals, plants and diseases that can have a negative impact on native plants and animals. The proximity of the park to the urban environment and transport corridors and the opportunity this presents for the spread of pests is a significant challenge to pest management.

Many pest animal and plant species have been identified in the park including foxes, dogs, feral and domestic cats, European honey bees, black rats, mice, rabbits and a large number of exotic plant species. The plant diseases caused by *Phytophthora* and myrtle rust, which can lead to the widespread dieback of native plants, have also been detected in the national park and island nature reserves.

Foxes, feral cats, rats and weed species such as bitou bush, privet, ground asparagus fern, lantana, crofton weed and exotic grasses have been identified as posing the most significant threat to native plants and animals in the park.

The eradication of all pests in all parts of the park is not practical, so pest management efforts and resources are prioritised and directed to those areas where they will be of greatest benefit. The priorities for pest management in the park are set out in the regional pest management strategy. Under this strategy priority is given to controlling pests where they are negatively impacting threatened ecological communities and significant native plant and animal species and or are highly invasive or new and emerging species. Priority is also given to pest species that are subject to statewide threat abatement plans or key threatening process plans. An example of this is bitou bush.

The management of plant diseases is tailored to the location and circumstances and may require closing tracks or areas of the national park. These plant diseases are also subject to key threatening processes plans.

Pest species move relatively freely between the park and the surrounding landscape making collaboration with neighbouring land managers an important part of pest management activities in the park.

A volunteer bush regeneration program operating in the national park and island nature reserves plays an important role in helping NPWS protect threatened ecological

communities from weeds. NPWS intends to continue promoting this program and to engage local communities and volunteers in combating the impacts of weeds in the national park and nature reserves.

Do you think that there are places in the park where pests are having an unacceptable impact on park values?

Visitor activities

Promoting sustainable visitor and tourist use is important to protect native plants, native animals and natural environments while maintaining the benefits for the community. If not properly managed, visitor activities can sometimes threaten the natural values of the park. Examples include discharge from boats, rubbish and discarded fishing equipment ending up in the park's waterways and native vegetation and soils being impacted by trampling and erosion from off track use.

It is important that visitor precincts and visitor activities are managed to support rewarding and satisfying visitor experiences while minimising impacts on natural values (see the discussion papers on [recreational activities](#), [visitor destinations](#) and [leases, licences and consents](#)).

Options for managing visitor impacts on natural values while maintaining visitor satisfaction levels include:

- prioritising environmental sustainability in decisions about visitor activity locations
- educating visitors about natural values and how they can help protect these values during their visit
- introducing or refining measures to manage precincts and events sustainably
- working in partnership with recreational groups to implement solutions, including rubbish minimisation and disposal
- repairing, consolidating and upgrading tracks to better protect native plants and animals and natural environments
- upgrading visitor precincts to improve their environmental sustainability, lessen visitor impacts and enhance the visitor experience.

Do you think the balance between visitor use and protection of natural values is right?

Illegal or unauthorised activities

The proximity of the national park to large residential populations, and its extensive perimeter adjoining urban areas, makes it a target for illegal or unauthorised activities. Illegal and unauthorised activities that have the most impact on the natural values of the park include:

- creation of unauthorised mountain bike and walking tracks
- trail bike riding
- arson
- illegal collection and removal of native plants and animals, fallen timber and bush rock
- rubbish dumping.

Of concern are those activities that damage significant plant and animal communities, introduce and promote the spread of pests and increase bushfire risk.

Access to the island nature reserves for recreational purposes is not permitted, but boaters sometimes land on the islands without authorisation. Illegal camping, campfires, littering and domestic activities on the islands can cause damage to native vegetation, erosion to sensitive areas and interference with native animals, such as breeding birds.

NPWS applies a range of techniques to manage illegal and unauthorised activities, including signage, education, regulation, law enforcement and working with the community and other agencies. NPWS focuses on areas of highest risk and where the investment of resources is likely to produce the best outcomes.

Do you have any suggestions of strategies to prevent illegal and unauthorised activities?

NPWS reserve network planning

The national park and island nature reserves are part of a network of protected areas that conserve and protect the biodiversity of New South Wales. NPWS reserve establishment program sets the direction for establishing a comprehensive, adequate and representative network of protected areas by securing lands for parks and reserves and refining boundaries of existing parks and reserves over time.

Opportunities may exist to refine and adjust the boundaries of the park to capture important conservation values and better link the park to surrounding reserves.

Programs for the protection of threatened species and ecological communities

The NSW protected area network plays an important role in the efforts to protect threatened species and ecological communities from the threat of extinction.

The *Saving our Species* program sets out prioritised strategies for the recovery of threatened species, populations and ecological communities across New South Wales. Under the *Saving our Species* program several priority conservation projects have been identified for threatened species in Ku-ring-gai Chase National Park and key management sites have been established in the national park for threatened Southern Brown Bandicoot (*Isodon obesulus obesulus*), Camfield's stringybark (*Eucalyptus camfieldii*) and Caley's grevillea (*Grevillea caleyi*).

Protection of threatened species, populations and ecological communities are also prioritised in the pest management and fire management plans for the park.

Shared heritage values

A record of post-settlement and social history

Established in 1894, Ku-ring-gai Chase National Park is the second oldest national park in New South Wales. It retains an important record of post-settlement and social history, including resource use (fish, collection of salt, soda ash and shell lime), smuggling, coastal

navigation, boating, timber-getting, river transport and trading, military uses, recreation, the depression era and the evolving approach to conservation management.

Built heritage

Heritage buildings in Ku-ring-gai Chase National Park can be found at Bobbin Head, Barrenjoey Head, West Head and The Basin.

The buildings at Bobbin Head relate to the earliest days of the establishment of the park and its recreational use. Bobbin Head continues its tradition as a hub for leisurely boating activities and picnicking. The historic Bobbin Inn provides visitor information and refreshments.

Barrenjoey Head dates from a period where maritime safety was becoming increasingly important with activities such as timber-getting, smuggling, and river and coastal transport and trading expanding in the Hawkesbury River area. Barrenjoey Head (the lightstation and its setting) has been listed on the [NSW State Heritage Register](#) in recognition of its exceptional heritage value. The historic Barrenjoey Head Lightstation buildings have been restored and consideration has been given to their [adaptive re-use](#) for visitor accommodation.

The track and gun emplacements at the base of West Head are associated with the defence of Sydney during WWII.

Originally built in 1882, Beechwood Cottage at The Basin dates to an era when sailors and smugglers lived in the area. Beechwood Cottage has been restored and is available as a function centre.

Which shared heritage values are most important to you?

Factors impacting shared heritage values

Historic buildings and landscapes in the park are subject to a range of threats to their integrity and value including fire or vandalism destroying buildings and relics, erosion and weeds removing or obscuring features, pest species infesting and damaging buildings and rising sea levels inundating historic recreational precincts.

Inappropriate restoration techniques, deterioration from natural weathering processes and time as well as loss of documentation or knowledge about the history of an object or a place is also a threat to shared heritage values of the park.

Heritage legislation and conservation management plans

In New South Wales, shared heritage values are protected and managed under the *Heritage Act 1977*. The National Parks and Wildlife Act sits alongside the Heritage Act with respect to protection and management of shared heritage values in parks. NPWS manages places of heritage significance in parks in accordance with these Acts and the principles detailed in the [Burra Charter](#). Where necessary conservation management plans are prepared to guide restoration works and management of significant shared heritage places. The Barrenjoey Head Lightstation precinct is managed in accordance with a conservation management plan.

NPWS works closely with the Heritage Division in listing and protecting shared heritage values in the park. Protection of these values is also prioritised in the pest and fire management strategies for the park.

What do you think are the most important considerations for protecting shared heritage values in the park?

Proposals for adaptive reuse

Finding new uses for heritage buildings can enhance conservation through refurbishment and restoration works and funding for ongoing maintenance. It is vital that uses for buildings and places are compatible with protecting their significance and enabling their history to be interpreted and shared. It is proposed that NPWS will continue to identify opportunities for new uses of heritage buildings where this supports their ongoing conservation. The following actions are proposed to assist this:

- reviewing the Bobbin Head and Apple Tree Bay Masterplan, including options to deal with future climate change-related scenarios
- reviewing and seeking community feedback on use of buildings at Barrenjoey Head
- investigating the most appropriate use of Beechwood Cottage as part of improvements to The Basin precinct
- investigating options for the use of other buildings in the national park that have heritage significance
- supporting ongoing research, assessment and documentation of historic heritage assets and their values to inform planning and maintenance requirements
- maintaining built heritage.

Which heritage buildings in the park do you think could be adapted and re-used and how?

What do you think?

Your thoughts, ideas and comments on this discussion paper are now invited and can be provided using an [online comment form](#), by emailing ku-ring-gai.plan@environment.nsw.gov.au or by writing to Manager, Planning Evaluation and Assessment, PO Box 95, Parramatta NSW 2124.

The questions scattered throughout the paper are only intended to guide your thoughts. You may choose to comment on other aspects of the management of natural and shared heritage values in the park. All comments and feedback will inform the preparation of a new plan of management for Ku-ring-gai Chase National Park, Lion Island Nature Reserve, Long Island Nature Reserve and Spectacle Island Nature Reserve.

There will be another opportunity to have your say when the draft plan is completed and put on public exhibition. If you would like to be notified when the draft plan is available, please [register your details](#).