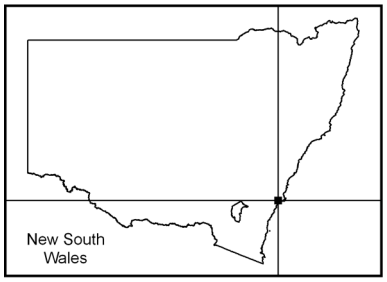
Office of Environment & Heritage
NSW National Parks & Wildlife Service

Plan of Management

Corramy Regional Park



CORRAMY REGIONAL PARK

PLAN OF MANAGEMENT

NSW National Parks and Wildlife Service

February 2012

This plan of management was adopted by the Minister for the Environment on 10 February 2012.

Acknowledgments

This plan of management is based on a draft plan for the former Corramy State Conservation Area prepared by officers of the South Coast Region of the National Parks and Wildlife Service (NPWS), part of the Office of Environment and Heritage, Department of Premier and Cabinet. It has been amended following public exhibition of the draft plan and re-categorisation of the former state conservation area as national park and regional park (see section 2.1).

The NPWS acknowledges that this park lies within the traditional country of the South Coast (Dharawal) Aboriginal people.

Valuable information and ideas were contributed to the planning process by the South Coast Region Advisory Committee and by members of the local community through meetings and individual submissions.

Cover photo: Looking eastwards along the Wandandian Creek foreshore, © NPWS.

For additional information or enquiries about any aspect of this park or this plan, contact the NPWS South Coast Region Office at 55 Graham Street Nowra (PO Box 707 Nowra 2541) or by phone on (02) 4423 2170.

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FOREWORD

Corramy Regional Park is located on the south coast of New South Wales, 24 kilometres south of Nowra. It was gazetted as a regional park in 2010 and has an area of 292 hectares. The park was formerly part of Corramy State Conservation Area, which was established in 2001.

Corramy Regional Park contains diverse forests and estuarine areas. It contains two endangered ecological communities (River-flat Eucalypt Forest on Coastal Floodplains and Swamp Oak Floodplain Forest), stands of the threatened plant *Melaleuca biconvexa*, and populations of the threatened yellow-bellied glider and glossy black-cockatoo.

The New South Wales *National Parks and Wildlife Act 1974* requires that a plan of management be prepared for each regional park. A draft plan of management for the former Corramy State Conservation Area was placed on public exhibition from 25 July to 27 October 2008. The submissions received were carefully considered in amending the plan to apply to the regional park.

This plan contains a number of actions to achieve the NSW 2021 goal to protect our natural environment, including rehabilitation of disturbed areas and conservation of the endangered ecological communities and threatened species. The plan also provides for enhanced recreation opportunities by providing for development of a picnic area at Wandandian Creek and a network of loop walking tracks, as well as providing for cycling, horse riding and leashed dog walking within the park.

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

Robyn Parker
Minister for the Environment

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1. MANAGEMENT CONTEXT

1.1 LEGISLATIVE AND POLICY FRAMEWORK

The management of regional parks in NSW is in the context of a legislative and policy framework, primarily the *National Parks and Wildlife Act 1974* (NPW Act), the NPW Regulation, the *Threatened Species Conservation Act 1995* (TSC Act) and the policies of the National Parks and Wildlife Service (NPWS). The matters to be considered in the preparation of a plan of management are listed in Section 72AA of the NPW Act. NPWS policies arise from this legislative background and internationally accepted principles of park management. They relate to nature conservation, cultural heritage conservation, recreation, fire management, commercial use, research and information provision.

Other legislation, international agreements and charters may also apply to management of the area. In particular, the *Environmental Planning and Assessment Act 1979* (EPA Act) requires the assessment and mitigation of the environmental impacts of any works proposed in this plan.

The plan of management is a statutory document under the NPW Act. Once the Minister has adopted a plan, the plan must be carried out and no operations may be undertaken within the area covered by the plan except in accordance with the plan. The plan will also apply to any future additions to Corramy Regional Park. Should management strategies or works be proposed in the future that are not consistent with the plan, an amendment to the plan will be required.

1.2 MANAGEMENT PURPOSES AND PRINCIPLES

Under the NPW Act, regional parks are managed to:

- Provide opportunities, in an outdoor setting, for recreation and enjoyment in natural or modified landscapes;
- Identify, interpret, manage and conserve the park so as to maintain and enhance significant landscape values;
- Conserve natural and cultural values;
- Promote public appreciation and understanding of the regional park's natural and cultural values;
- Provide for sustainable visitor use and enjoyment that is compatible with the conservation of the natural and cultural values; and
- Provide for the sustainable use (including adaptive reuse) of any buildings or structures or modified natural areas having regard to the conservation of natural and cultural values.

2. THE PLANNING AREA

2.1 LOCATION, GAZETTAL AND REGIONAL SETTING

Corramy Regional Park is located on the south coast of New South Wales, 24 kilometres south of Nowra, and has an area of 292 hectares. It will be referred to as 'the park' in this plan of management. Corramy is the Aboriginal name for the local area.

The regional park was previously Crown land and was gazetted in January 2001 as part of the former Corramy State Conservation Area. In 2010 the south western section of the state conservation area was added to Conjola National Park and the north eastern section was gazetted as Corramy Regional Park.

The park lies within the Shoalhaven City Local Government Area, adjacent to the village of Basin View. It also adjoins rural holdings, Wandandian Creek, St Georges Basin and the Princes Highway.

Corramy Regional Park is one of several conservation reserves sampling the coastal and estuarine environments around Nowra. Conjola National Park is nearby to the south west and the regional park also lies close to Jervis Bay and Jerrawangala National Parks and Parma Creek and Woollamia Nature Reserves.

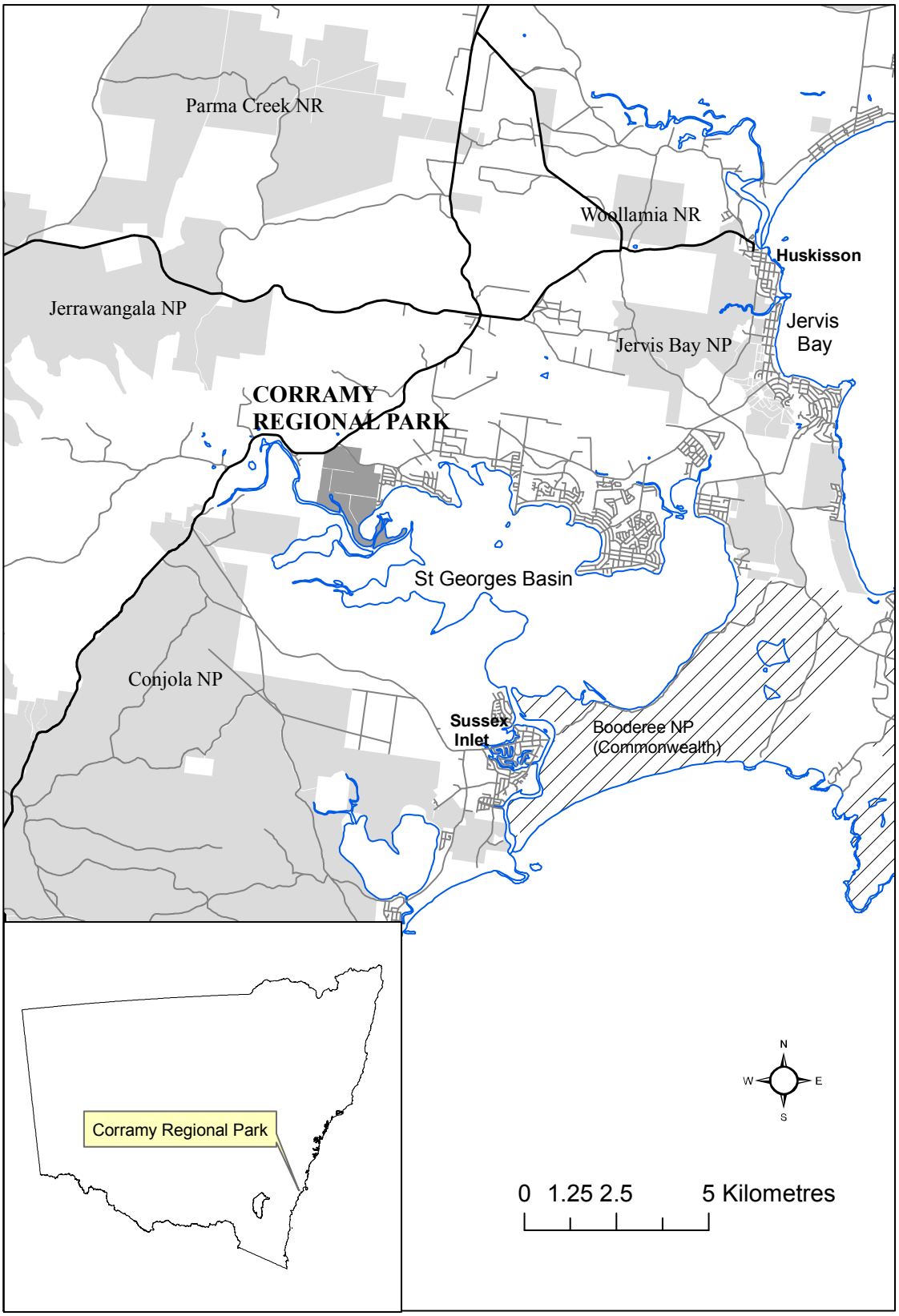
2.2 LANDSCAPE CONTEXT

The landscape of Corramy Regional Park consists of undulating terrain supporting open forest, woodland and estuarine vegetation communities. The park features scenic foreshore areas along Wandandian Creek and St Georges Basin. It includes two lengths of Wandandian Creek and an unnamed island located within the Wandandian Creek delta.

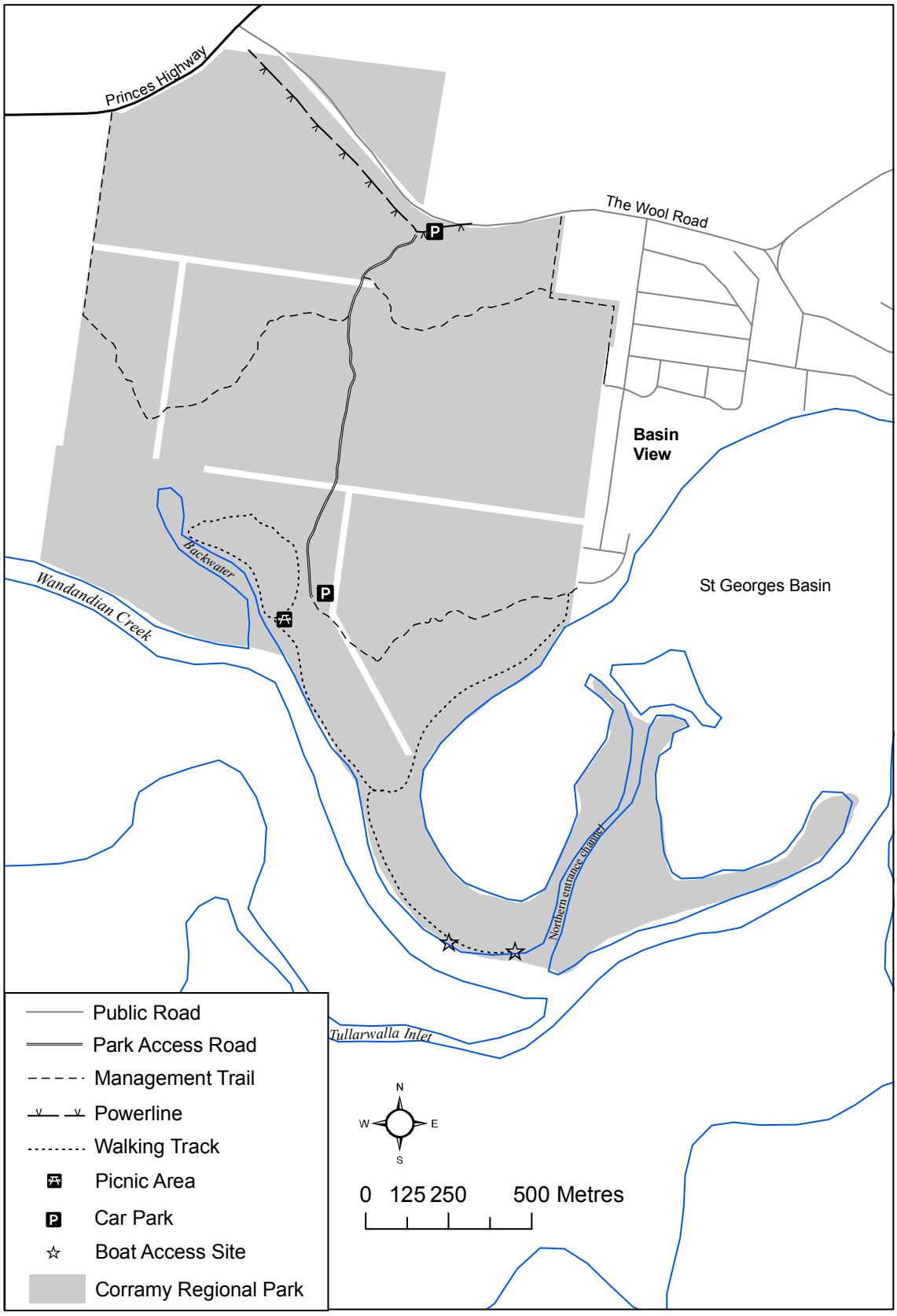
The present day landscape has been influenced by past and on-going human use. Because of the diverse environments, including estuarine areas, it is likely that the area provided a variety of resources for Aboriginal people. Use of the area since European settlement has included grazing, sand dredging, informal small-scale timber getting and gravel extraction, and recreational activities such as bush walking, horse riding, trail bike riding and camping.

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

Location Map



Park Map


Princes Highway
The Wool Road
Basin View
St Georges Basin
Backwater
Wandandian Creek
Northern entrance channel
Tullarwalla Inlet
Public Road
Park Access Road
Management Trail
Powerline
Walking Track
Picnic Area
Car Park
Boat Access Site
Corramy Regional Park
N
W
E
S
0 125 250 500 Metres

3. VALUES AND MANAGEMENT DIRECTIONS

3.1 VALUES OF THE AREA

The park is of regional significance for its biodiversity and local significance for its recreational opportunities.

Landscape/Catchment values

The park protects part of the catchments and foreshores of St Georges Basin and Wandandian Creek. The foreshores and the tall forests are very scenic and provide a natural backdrop to the waterways.

Biological values

The park contains areas of two endangered ecological communities listed under the TSC Act: Swamp Oak Floodplain Forest and River-flat Eucalypt Forest on Coastal Floodplains.

Several stands of the threatened plant biconvex paperbark (*Melaleuca biconvexa*) occur within the park. This species is listed as vulnerable under both the TSC Act and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Populations of the threatened yellow-bellied glider (*Petaurus australis*) and glossy black-cockatoo (*Calyptorhynchus lathami*) have been recorded in the park.

Cultural heritage values

Several Aboriginal artefact scatters have been recorded within the park and it is highly likely that other sites occur.

The historic Wool Road divides the park but no original fabric is known to remain from its construction in 1841.

Recreation values

The park is located within easy reach of population centres between Nowra and Ulladulla and provides a range of recreation opportunities including walking, cycling and horse riding in attractive forested environments, and picnicking, fishing and boating on the foreshores and waterways.

3.2 MANAGEMENT DIRECTIONS

There are no visitor facilities in the park and it has previously had little active management. The natural, recreational and scenic values have been significantly disturbed in some areas by past extractive activities, power line construction and on-going recreational vehicle use, particularly along the foreshores of Wandandian Creek. The two major management objectives for the park are therefore rehabilitation of disturbed areas and establishment of sustainable recreation use.

Programs to achieve these objectives will include closure of unnecessary vehicle trails and informal visitor sites, implementation of erosion and sediment control measures, and rehabilitation of the Wandandian Creek foreshore and the former gravel extraction area. Walking, boating, cycling and horse riding opportunities will be formalised, and a picnic area and walking tracks will be established along Wandandian Creek.

4. CONSERVATION OF NATURAL AND CULTURAL HERITAGE

4.1 LANDSCAPE AND GEOLOGY

The park lies in an area of relatively flat or gently sloping terrain. The only steep slopes occur immediately behind the low lying foreshore areas of Wandandian Creek and St Georges Basin. The foreshores are subject to inundation during wet weather.

A low ridge runs north-south along the centre of the park reaching a maximum elevation of 30 metres at the northern end. Most of the land to the west of the ridge drains to a backwater of Wandandian Creek or to poorly drained areas and wetlands in the north-west and south-west. The land to the east of the ridge drains to St Georges Basin or Wandandian Creek. Wandandian Creek branches to form a small delta with two islands at the western end of St Georges Basin, one of which is within the park.

The landscape of the park has formed on Permian and Quaternary sediments of the southern Sydney Basin. Coarse grained boulder and pebble conglomerates and pebbly sandstones of the Snapper Point formation, and fine grained quartz lithic silty sandstones and siltstones of the Wandrawandian Siltstone formation, underlie much of the park. The remainder is on undifferentiated alluvium.

Soils were mapped as part of the Southern Comprehensive Regional Assessment process as high quartz sedimentary soils overlying the Snapper Point formation, low quartz sedimentary soils overlying the Wandrawandian Siltstone and unconsolidated alluvial sediments overlying the undifferentiated alluviums.

The park has high scenic values, particularly along the water frontages, where views are of largely undisturbed waterways and fringing vegetation. Similarly, the park is very attractive when viewed from the water. Any clearing or development along the southern Wandandian Creek foreshore would affect views from the park.

Extensive trail braiding, power lines and a former gravel extraction area being used as an informal “motor-cross” site detract from the scenic values of parts of the park. Household and other rubbish continues to be dumped despite regular clean-ups and is highly visible in places. Rehabilitation of the former gravel extraction area, closure of most of the trails to public vehicle use (section 5.1), possible overnight closure (section 6) and efforts to raise community appreciation of the park’s values are expected to reduce these problems.

Desired Outcomes

- The high scenic values of the park are protected.
- Wetland areas are protected.

Strategies

- *Ensure that all works maintain natural drainage patterns, particularly near poorly drained and wetland areas.*

- *Locate and design management and visitor facilities to minimise their visual impact when viewed from the water, public access roads and walking tracks.*

- *Liaise with neighbours and authorities as required to minimise the impact of adjacent land use on views from the Wandandian Creek foreshores.*

4.2 NATIVE PLANTS AND ANIMALS

The vegetation communities and fauna habitats of the park are relatively diverse and generally in good condition as described below.

Vegetation

The Comprehensive Regional Assessment conducted for the Southern Regional Forest Agreement and subsequent more detailed work (EcoGIS 2002) identified six forest ecosystems occurring within the park. These forest ecosystems are described in more detail in Appendix 1 and comprise:

- Lower Shoalhaven Spotted Gum Herb/Grass/Shrub Forest dominates the drier central ridge and western aspects and occurs along sections of the foreshore;

- Lowland Red Bloodwood and Turpentine Dry Shrub Forest occurs on shallow sandy soils on low ridges and moderately dry slopes;

- South Coast Swamp Oak Forest complex occurs along much of the foreshore of Wandandian Creek and St Georges Basin, and across the island;

- Coastal Woollybutt - *Melaleuca decora* Sedge Shrub Swamp Forest occurs in small pockets in low lying and poorly drained areas and sometimes as a fringe behind the swamp oak forest, where there are stands of forest red gum *Eucalyptus tereticornis*;

- Coastal Swamp Oak – Swamp Melaleuca Wet Heath Swamp Forest occupies a small area of approximately 4 hectares in the south-west of the park, within and around the SEPP 14 wetland; and

- Mangroves fringe part of the Wandandian Creek delta.

Endangered Ecological Communities

Two endangered ecological communities listed under the TSC Act have been identified in the park:

- Swamp Oak Floodplain Forest. South Coast Swamp Oak Forest complex forms part of the endangered ecological community Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner bioregions. Almost 78% of this endangered ecological community has been cleared across the Southern Forest Agreement area (Thomas *et. al.* 2000).

- River-flat Eucalypt Forest on Coastal Floodplains. Coastal Woollybutt – *Melaleuca decora* Sedge Shrub Swamp Forest forms part of the endangered ecological community River-flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions. Forest red gum in this community is significant as it occurs in very few reserves on the South Coast.

The endangered ecological communities are in good condition except for areas of South Coast Swamp Oak Forest along Wandandian Creek, which have been significantly affected by unregulated vehicle access and camping. While continuation of this damage is unacceptable, it is recognised that the creek foreshore has significant recreation value. Section 5.1 provides for closure of most roads, trails and informal visitor sites while section 6 provides for controlled foreshore boat access, picnicking and walking opportunities.

Buffalo grass, an exotic perennial, is present within disturbed parts of the South Coast Swamp Oak Forest and may be limiting the emergence of young swamp oak trees. This will require monitoring and where necessary weed control and bush regeneration work (see section 5.2).

Rare or threatened plants

The vulnerable biconvex paperbark (*Melaleuca biconvexa*) is found in several stands in low lying areas in the western part of the park, in association with the Coastal Woollybutt - *Melaleuca decora* Sedge Shrub Swamp Forest (River-flat Eucalypt Forest on Coastal Floodplains). Jervis Bay National Park is the only other conservation reserve where the species is known to occur. Consequently, stands of biconvex paperbark within the regional park have very high conservation value. The stands are not currently at risk but could be affected by inappropriate fire regimes (see section 5.3) or changes in drainage. A vehicle track runs close to the main stand.

Melaleuca decora, which also occurs in the endangered River-flat Eucalypt Forest on Coastal Floodplains, is very close to its southern limit in the park (pers. comm., Mills 2007).

Several significant plant species have been recorded close to the park and may occur within it. These are the vulnerable magenta lillypilly (*Syzgium paniculatum)* and leafless tongue orchid (*Cryptostylis hunteriana)* and the rare *Leptospermum epacridoideum*, *Grevillea macleayana* and *Typhonium eliosurum*. Further research is

needed to check for the presence of these and other significant species within the park.

Fauna

As a result of the diverse vegetation within the park the fauna of the area is also expected to be diverse, however no comprehensive fauna surveys have been undertaken and the data is limited.

Two fauna species listed as vulnerable under the TSC Act, the yellow-bellied glider (*Petaurus australis*) and the glossy black-cockatoo (*Calyptorhynchus lathami*), have been recorded within the park. They occur principally in the Lowland Red Bloodwood and Turpentine Dry Shrub Forest. Several additional vulnerable species have been recorded close to the park and could occur within it. These are the masked owl (*Tyto novaehollandiae*), powerful owl (*Ninox strenua*), eastern bent wing bat (*Miniopterus schreibersii oceanensis*), grey-headed flying fox (*Pteropus poliocephalus*) and long-nosed potoroo (*Potorous tridactylus*).

Habitat modelling conducted for the Southern Comprehensive Regional Assessment indicates that the park may provide significant suitable habitat for several other threatened species including the endangered regent honeyeater (*Xanthomyza phrygia)*, swift parrot (*Lathamus discolor)* and smoky mouse (*Pseudomys fumeus)* and the vulnerable sooty owl (*Tyto tenebricosa)* and greater broad-nosed bat (*Scoteanax rueppellii*), as well as the regionally significant little red flying-fox (*Pteropus scapulatus*).

Threatened species priorities action statement

Under the TSC Act, strategies for promoting the recovery of threatened species, populations and ecological communities and for managing key threatening processes have been set out in the Threatened Species Priorities Action Statement (PAS). The purpose of the PAS is to identify those actions required to promote the recovery of threatened species, populations or ecological communities to a position of viability in nature. Recovery plans may also be prepared for individual species to consider management needs in more detail.

PAS actions for the endangered ecological communities found in the park include conducting targeted field surveys and checking the condition of remnant areas. Relevant actions for biconvex paperbark are focussed on maintaining suitable drainage conditions and establishing processes to avoid impacts during trail maintenance. Actions for the glossy black-cockatoo and yellow-bellied glider include monitoring populations, identifying and assessing key breeding and foraging habitat and liaising with other land managers with respect to habitat maintenance.

Connections with adjacent natural bushland

Approximately 600 metres of mostly uncleared private land and a narrow strip of Crown land adjacent to Wandandian Creek, connect the regional park to Conjola National Park. There are also areas of privately owned bushland adjacent to other parts of the park, including stands of biconvex paperbark. It would be desirable for these stands and connections to be retained.

The park forms part of a corridor of land that is recognised under clause 15 of the Jervis Bay Regional Environmental Plan 1996 (REP) as having the potential to provide important regional connections for wildlife. This corridor provides a vegetative link between the regional park and Jervis Bay National Park to the east, and to a larger area of uncleared land west of the Princes Highway, including Jerrawangala National Park. The Jervis Bay REP requires that development proposals for clause 15 lands must be designed to maximise the retention of native vegetation cover.

A largely undisturbed island of South Coast Swamp Oak Forest occurs within the Wandandian Creek delta adjacent to the park. The island is a 'Crown Reserve for the purpose of Future Public Requirements' and it would be desirable for it to be incorporated into the park.

Desired Outcomes

- Stands of threatened plant species and endangered ecological communities are conserved and where necessary rehabilitated.
- Vegetation structural diversity and habitat values are conserved.
- The habitat and populations of all threatened fauna species and regionally significant species are protected and maintained.
- Habitat linkages are maintained and neighbours support conservation of remaining nearby areas of privately owned native vegetation.

Strategies

- *Implement relevant priority actions from the threatened species Priorities Action Statement and any recovery plans prepared for the endangered ecological communities and threatened plant and animal species occurring in the park.*

- *Ensure that fire regimes are appropriate for conservation of biconvex paperbark and that stands are not affected by road work, drainage changes or other adverse impacts.*

- *Undertake targeted surveys in the park for biconvex paperbark, other threatened plant and animal species and significant species known to occur nearby.*

- *Liaise with neighbours, Landcare, the Southern Rivers Catchment Management Authority and Shoalhaven City Council to encourage retention of areas of native vegetation close to the park, especially those areas that provide vegetative linkages between sites with biconvex paperbark. Promote voluntary conservation agreements with neighbours over suitable land.*

- *Seek to incorporate the Crown land island in the Wandandian Creek delta into the park.*

4.3 ABORIGINAL AND HISTORIC HERITAGE

South Coast Aboriginal people of the Dharawal language group occupied the area incorporating Corramy Regional Park. They would have had a diverse economy, with trade and cultural links with neighbouring groups. The landscape and the plants, animals and physical features within the landscape are all an integral part of Aboriginal cultural heritage, as well as sites with physical evidence of past use or occupation.

As stated in section 2.1, Corramy is the Aboriginal name for the local area. It was recorded by Kinghorne (1840 in Wesson 2000) for an Aboriginal group camping in the area. The group was included in an 1840 census during a blanket distribution.

A sample survey undertaken in 2009 along some of the roads and foreshores in the park found several stone artefact scatters. The scatters are located on ridgelines and the foreshores of Wandandian Creek. They contain a large number of artefacts made from both local and traded stone and indicate that the area was well used by Aboriginal people. It is highly likely that there are other artefact scatters in the park and it will be important to undertake a check for sites before carrying out any ground disturbance. The artefact scatters are vulnerable to damage by recreational use of the foreshores and adjacent slopes, and visitor facilities will need to be designed to protect them as far as possible.

Axe grinding grooves and a possible scarred tree have been recorded close to the park and could occur within it. There may also be other places that are significant to Aboriginal people, including resource sites, mythological sites and ceremonial sites that do not contain any physical evidence of past use or occupation.

While the NSW Government has legal responsibility for the protection of Aboriginal sites and places, it acknowledges the right of Aboriginal people to make decisions about their own heritage. It is NPWS policy that Aboriginal communities be consulted and involved in the management of Aboriginal sites, places and related issues and the promotion and presentation of Aboriginal culture and history.

No historically significant places or features have been identified within the park, although the historic Wool Road runs through it. The road was built by convict labour in 1841 to link the port at Jervis Bay (Vincentia) with wool producing areas on the southern tablelands. It is unlikely that any evidence of the original construction of The Wool Road lies within the park as the road has been extensively widened and upgraded.

Small settlements developed in the areas around Wandandian, Tomerong and Basin View as early as 1850 (Windley 1986). During the first half of the 20th century the growth in tourism led to construction of holiday accommodation in Jervis Bay, Sussex Inlet and St Georges Basin. Residential development following World War II resulted in increasing recreational pressure on foreshore areas. The park has been used for a variety of recreational pursuits, primarily for foreshore camping, boating and walking.

The park has also been utilised for quarrying for road formation, logging, firewood collection, grazing and rubbish dumping. Leases for sand dredging in Wandandian Creek, including a section now incorporated into the park, were held between 1964 and 1988. Sand was stockpiled on the isthmus at the southern end of the park and trucked out along the main north south road.

Desired Outcomes

- Aboriginal sites and places are protected from damage and Aboriginal people are involved in management of Aboriginal cultural values in the park.
- Any significant historic features found are appropriately conserved and managed, in consultation with relevant community members.

Strategies

- *Manage Aboriginal heritage in consultation with relevant Aboriginal community organisations and individuals including traditional custodial families.*

- *Manage cultural heritage sites according to their significance and the potential impacts on the site.*

- *Undertake an archaeological survey and cultural assessment prior to all works with the potential to impact on Aboriginal or historic sites and places.*

- *Do not publicise the location of Aboriginal sites and places except where the agreement of relevant Aboriginal community organisations has been obtained. Prior to any promotion of a site or place, prepare a conservation study and undertake any management work necessary to protect the site or place.*

- *Manage any historic places and features in accordance with the Burra Charter.*

5. PARK PROTECTION

5.1 SOIL EROSION, WATER QUALITY AND CATCHMENT MANAGEMENT

The park is located within the Basin View and Lower Wandandian Creek sub-catchments, which form part of the larger St Georges Basin catchment (Shoalhaven City Council, 1998).

Most drainage systems flowing through the park arise within it. Exceptions are two small drainage lines in the north-west of the park. Water quality in the park is expected to be reasonably high but sediment loads from unsealed roads are potentially of concern.

The sandstones, siltstones and undifferentiated alluviums that occur within the park produce soils that are highly erodible when disturbed. Unregulated vehicle access throughout the park has resulted in development of a network of trails showing extensive signs of degradation and braiding. Sediment and nutrients from the trails, especially those located on the steep slopes immediately behind the Wandandian Creek foreshore, could potentially have significant adverse impacts on adjacent creek habitat and local water quality. Closing non-essential trails and employing erosion and sediment control measures on trails that remain open will assist in limiting further vegetation loss and erosion.

Some erosion, vegetation loss and scenic impacts are evident along waterways within the park, particularly along the Wandandian Creek foreshore from the backwater to the junction with Tullarwalla Inlet. This damage is caused primarily by unregulated vehicle access, camping and associated boat launching. Limiting vehicle access, formalising a small number of visitor use areas and closure and rehabilitation of other areas will assist in minimising further damage (see section 6).

Wash from motorised vessels is contributing to foreshore erosion and vegetation loss. NSW Roads and Maritime Services is the main agency responsible for ensuring the safe and environmentally sustainable use of NSW waterways and is responsible for regulating boat speeds and boating activities. Use of waterways within the park is also subject to this plan of management (see section 6).

A former gravel extraction site, located adjacent to the power line in the northern part of the park, is being used for rubbish dumping and “motorcross” type activities. These activities are preventing revegetation and causing further erosion.

A high probability of acid sulfate soils exists across much of the low lying foreshore areas adjacent to Wandandian Creek and St Georges Basin (DLWC 1997). If exposed or drained potential acid sulfate soils oxidise, forming sulfuric acid and mobilising potentially harmful levels of aluminium and iron. Aquatic life including fish, oysters and crustaceans are very sensitive to this pollution and the associated decline in water quality. The NSW Coastal Policy includes as a key action that all efforts will be made to avoid disturbance of potential acid sulfate soils.

Desired Outcomes

- Human induced soil erosion in the park is minimised and disturbed areas are rehabilitated.
- Water quality and stream habitat values are maintained or restored.
- The potential for disturbance to acid sulfate soils is avoided.

Strategies

- *Close and rehabilitate trails and informal visitor sites that do not serve a significant management or visitor purpose. Retain only those trails and visitor sites shown on the Map.*

- *Conduct regular road maintenance and undertake erosion control works on eroded trails where needed. Ensure sediment contribution to waterways is minimised during any upgrading or maintenance work on roads and trails.*

- *Monitor vegetation loss, bank stability and foreshore erosion along Wandandian Creek. Address any significant human induced erosion as required.*

- *Liaise with Maritime Services in relation to management of motorised vessels on the sections of Wandandian Creek adjacent to the park with the aim of minimising bank erosion.*

- *Rehabilitate the former gravel extraction site through such measures as track closure, rubbish removal, reshaping, revegetation and weed control as appropriate.*

- *Avoid subsoil exposure or drainage in areas of high acid sulfate soil potential.*

5.2 INTRODUCED SPECIES

An introduced species is defined in this plan as any plant or animal species not indigenous to the park. Introduced species are of concern because they have the potential to have detrimental effects on ecological values. They can also spread to and from neighbouring land.

Although no systematic surveys for introduced species have been conducted in the park, their occurrence is thought to be generally low. Easter senna (*Senna pendula* var. *glabrata*) is present adjacent to the village of Basin View and in nearby foreshore areas, and Formosan lily (*Lilium formosanum*) occurs near the Princes Highway.

Buffalo grass (*Stenotaphrum secundatum*) occurs widely within the South Coast Swamp Oak Forest which, as stated in 4.2, is an endangered ecological community. Invasion of native plant communities by exotic perennial grasses, including buffalo grass, is listed as a key threatening process under the TSC Act. The other endangered community, River-flat Eucalypt Forest on Coastal Floodplains, is currently thought to be weed free but any weed introduction would be of concern.

Dumping of rubbish in the park, especially garden waste, is potentially a major source of weed invasion. Lawn clippings and other garden waste are a rich source of weed seeds and cuttings. Weed species can quickly establish and invade the surrounding bushland. They have potential to out-compete native plant species, reduce biodiversity and reduce habitat values.

Predators including foxes and cats occur in the park and may have a significant impact on native fauna. Cats found in the park are likely to come principally from neighbouring residences. Dogs wandering from residences could also adversely affect native animal populations. Other introduced animals known or likely to occur in the park include rabbits and common myna (*Acridotheres tristis*) birds. Predation by feral cats, predation by European foxes and competition and grazing by rabbits are all listed as key threatening processes under the TSC Act.

The Priorities Action Statement prepared under the TSC Act aims to promote the abatement of key threatening processes. The Priorities Action Statement outlines the broad strategies and detailed priority actions to manage key threatening processes. Threat abatement plans may also be prepared for key threatening processes.

The park neighbours include rural properties. Incursion of domestic stock into the park is not currently a problem, however it will be important to liaise with neighbours as needed regarding boundary fencing.

The marine weed *Caulerpa taxifolia* (caulerpa) is found adjacent to the park within St Georges Basin. Caulerpa is an invasive species that is easily spread by boating and fishing activities as well as natural wind and wave action. It has the potential to grow rapidly and compete with native sea grasses, which may degrade marine ecosystems and threaten biodiversity. The Department of Primary Industries has responsibility for the management of this noxious marine vegetation. A recreational fishing closure is in place in the bay adjacent to the park, which prohibits the use of all nets other than a landing net. Silt nets were previously installed across the bay entrance but have been removed as they were not found to be effective in limiting the spread of caulerpa (details on fishing closures may be found on the NSW Fisheries website).

Desired Outcomes

- The impact of introduced species on native plants and animals is minimised.

Strategies

- *Monitor the presence, extent and abundance of introduced plant and animal species, with priority to the threatened ecological communities and areas of biconvex paperbark. If necessary, develop programs for control of introduced species in cooperation with relevant authorities and park neighbours.*

- *Undertake targeted weed control within the South Coast Swamp Oak Forest where required.*

- *As far as possible, close waste dumping access points and control associated weeds. Continue to remove rubbish and coordinate clean up programs as required.*

- *Develop an education strategy to increase community awareness of potential adverse impacts on park values of roaming dogs and cats and dumping of garden waste and lawn clippings.*

- *Liaise with neighbours as needed regarding boundary fencing to prevent domestic stock from entering the park.*

- *Cooperate as required with the Department of Primary Industries in relation to managing the Caulerpa taxifolia infestation in St Georges Basin.*

5.3 FIRE MANAGEMENT

Fire is a natural feature of the environment and is essential to the survival of some plant and animal communities. Inappropriate fire, however, can damage natural and cultural heritage and endanger park visitors and neighbours. Management of bushfire in the park is a complex issue. Management must aim to achieve both long-term conservation of native plant and animal communities and ongoing fire management obligations that contribute to the protection of life, property and community assets within and adjacent to the park.

Fire history

Records indicate that most of the park, approximately 230 hectares, was burnt by a large wildfire in 2001. Significant fires also occurred in 1980/81 and 1988.

Prescription burning was undertaken by the Rural Fire Service on the eastern and northern boundaries in the mid 1990s.

Ecological requirements

Bushfire regimes are a major determinant of the distribution and abundance of plants and animals. They also affect nutrient cycles, erosion patterns and hydrological regimes. Ecological research suggests that a variable fire frequency of between 7 and 30 years is generally appropriate for the park's vegetation communities. Species decline is predicted if successive fires occur less than 7 years apart or there are no fires for more than 30 years. The majority of wildfires within the park have been within these biodiversity thresholds.

The threatened plant species biconvex paperbark may need special fire management consideration. Little is known about its needs and fire sensitivity but it has been observed to regrow from seed after being killed by fire. Current guidelines indicate that fire should not be applied to this species more than once every 10 years.

Strategies and cooperative arrangements

The rural, rural residential and residential lots adjacent to the park, including a retirement village, are subject to the potential impact of bushfire. Under the *Rural Fires Act 1997* NPWS is a fire authority and is responsible for controlling fires on the park. An important part of NPWS fire management is participation in local co-operative fire management arrangements, including implementation of Bush Fire Risk Management Plans developed by District Bush Fire Management Committees. NPWS is a member of the Shoalhaven Bush Fire Management Committee.

The regional park is included in the fire management strategy for Jervis Bay National Park. This strategy has two primary objectives - protection of life and property and maintenance of biodiversity. The strategy identifies bushfire threats and provides guidelines for the conservation of significant plants, animals and cultural features. It outlines NPWS commitments in meeting its obligations to limit the spread of fire from the park, including maintenance of a slashed asset protection zone and a strategic fire advantage zone adjacent to the village of Basin View. Successful implementation of the fire management strategy will contribute to mutually cooperative arrangements that enhance the protection of life, property and assets on adjoining lands and within the park.

Desired Outcomes

- Fire regimes are appropriate for long-term maintenance of the park's plant and animal communities and the impact of fire suppression activities on natural values is minimised.
- The occurrence and effects of unplanned bushfires caused by human activity are minimised.
- Bushfire mitigation measures that contribute to the cooperative protection of life, property and community assets are maintained.
- Any Aboriginal sites, historic places and culturally significant features found are afforded protection from damage by bushfires and fire suppression activities.

Strategies

- *Implement relevant sections of the fire management strategy covering the park, including maintenance of management trails, slashed breaks and asset protection zones.*

- *Continue to liaise with the Department of Primary Industries and Shoalhaven City Council regarding appropriate maintenance of the asset protection and strategic fire advantage zones located adjacent to the park.*

- *Use prescribed burns and other means to achieve fuel management in accordance with the fire management strategies and as conditions permit. Where appropriate, carry out fuel management in cooperation with neighbours for mutual protection.*

- *Limit the use of heavy machinery for fire suppression, especially in areas of Swamp Oak Forest, in areas where there is high risk of acid sulfate soils or in areas where significant plant species or cultural features occur. Rehabilitate areas disturbed by fire suppression operations as soon as practical after fire.*

- *Monitor the fire response of threatened plant species and ecological communities in the park.*

- *Continue to actively participate in the Shoalhaven Bush Fire Management Committee. Maintain close contact and cooperation with neighbours, the Rural Fire Service, volunteer bush fire brigades and the Department of Primary Industries.*

- *As far as possible, manage visitor activities to limit unplanned human caused bushfires within the park. This may include closing the park to public use during periods of extreme fire danger.*

- *Promote fire safety and fire management issues to park neighbours and visitors.*

6. VISITOR OPPORTUNITIES AND COMMUNITY INVOLVEMENT

Visitor Opportunities

Corramy Regional Park currently has no formal visitor facilities. It is used by both locals and visitors for bushwalking, picnicking, camping, cycling, motorbike riding and horse riding, and for access to water based activities including water skiing, swimming and fishing. The park is particularly important for local residents, providing opportunities for exercise and enjoyment.

The majority of use is centred on the Wandandian Creek foreshore. Picnicking and boating previously occurred on the St Georges Basin foreshore but stopped following the discovery of caulerpa in the adjacent bay and imposition of a recreational fishing closure in that area (see section 5.2).

Provision for visitor use of the park has been considered in a regional context. Public land managed by NPWS and other authorities in the region provides opportunities for a range of recreation activities. Picnicking and walking facilities are available in Jervis Bay National Park, Conjola National Park, Narrawallee Creek Nature Reserve, Commonwealth-managed Booderee National Park and Shoalhaven City Council lands on the shore of St Georges Basin. Morton National Park to the west is a well-known bushwalking and bush camping destination and has a range of visitor facilities. Vehicle based camping opportunities are provided nearby in the towns of Sussex Inlet and Cudmirrah and there is bush camping in Booderee National Park.

Visitor opportunities in regional parks should be sustainable and focused on their natural features and character. Corramy Regional Park is best suited to providing managed opportunities for walking, cycling and horse riding on a trail network and picnicking and water-based activities at Wandandian Creek.

Vehicle access

The trails in the park are used primarily for vehicular access to the fringing waterways but also for walking, recreational motorbike riding and some horse riding and bicycling.

Trails have the potential to cause habitat fragmentation, vegetation loss, erosion and sedimentation of waterways and need to be kept to a minimum in conservation areas. As discussed in sections 4.2 and 5.1, significant damage is occurring from vehicle use and associated camping along the Wandandian Creek foreshore. The foreshore vegetation consists of two endangered ecological communities and is vital for bank stability, habitat and amenity. Section 5.1 provides for closure and rehabilitation of all non-essential trails in the park. Trails that will be retained comprise the main route to Wandandian Creek (a public access road) and trails required for management purposes (management trails).

The public access road to Wandandian Creek has been upgraded to 2WD all weather standard since the creek foreshore is a popular visitor destination and it is

proposed to provide picnic and walking facilities (see below). The park has clayey soils and use during wet weather had led to the road becoming boggy and braided.

Trail bike riding occurs within the park on formed trails and off-road. Off-road riding has the potential to cause considerable erosion and habitat fragmentation and is not an appropriate activity in a conservation reserve. Motorbike riding on management trails is also not appropriate given potential conflicts with walkers, cyclists and horse riders. Use of the park by trail bike riders is creating a noise nuisance for nearby residents, particularly at night. This should reduce following rationalisation of the trail system but overnight closure may need to be considered to limit noise nuisance and illegal activities such as rubbish dumping.

Picnicking and camping

A series of informal visitor sites has developed along the shores of Wandandian Creek. The current use is not sustainable and closure of most of the cleared areas is needed, along with restriction of vehicle access as discussed above. Vehicle-based camping is not appropriate given the sensitivity of the foreshore vegetation and the small size of the park but provision of low key day use facilities would provide opportunities to enjoy the foreshore settings and recreation opportunities while protecting most of the significant vegetation.

One of the main clearings, near the confluence of the backwater and Wandandian Creek, is a picturesque site with reasonable access to the water. It has greater safety and lower boat noise than the other main clearing. The site provides an excellent opportunity to develop a low key picnic area with walking tracks and basic interpretive information. The associated car park and toilet would need to be located at the top of the slope a short distance away (approximately 50m), to maximise the area available for picnicking on the foreshore and avoid potential water pollution during periods of inundation.

Wood fires will need to be prohibited within the park in order to avoid environmental damage by wood cutting and gathering, and bushfire ignition.

Bushwalking

The extensive vehicle trail network offers an opportunity to formalise and develop a network of walking tracks to provide walking access for local residents and other visitors. Construction of new track sections will be required in order to link vehicle trails and provide loop walks but they will be low key single file tracks that follow existing footpads wherever possible. Walks to be provided are shown on the Map and are as follows:

- A 2.5 kilometre loop walk linking Basin View with the picnic area and other walks. Most of this walk will follow existing trails but the section along St Georges Basin will require construction;

- A return walk from the above loop walk to a location opposite the confluence of Wandandian Creek and Tullarwalla Inlet (less than 1 kilometre each way) along an existing vehicle trail; and

- A short loop walk of less than 1 kilometre to the west of the picnic area. This walk will follow Wandandian creek and return to the picnic area through spotted gum forest, in part along an existing vehicle trail.

Boating, fishing and creek access

Wandandian Creek is popular with water skiers because of its sheltered waterway. This is however a concern because of noise nuisance and bank erosion. Ski boats use several small beaches on the banks of the creek to pick up and drop off skiers and passengers. As previously discussed, these areas are suffering from vegetation loss and current use is not sustainable. Closure and rehabilitation of most sites is needed but two will be designated to remain open for boat access.

Vehicle based boat launching facilities are available at Basin View and Sussex Inlet and will not be provided in the park in order to minimise impacts and infrastructure. Small boats and canoes that can be carried or wheeled from the car park will, however, be able to be launched at the Wandandian Creek picnic area.

The Wandandian Creek backwater (a short dead-end waterway off the creek) and the northern entrance channel of Wandandian Creek are suitable for canoeing. They receive little use by power boats and are reserved as part of the park. It would be desirable to limit boat speeds in order to provide safe and quiet areas for paddling and improve amenity for visitors using the picnic area and upstream walking track. Speed limits would also assist protection of waterbird habitat values. Such limits would not affect ongoing power boating access along the main channel of Wandandian Creek.

St Georges Basin and its tidal tributaries have been designated as a recreational fishing haven closed to commercial fishing. Shore and boat-based recreational fishing will continue to be permitted in the park.

Cycling, horse riding and dog walking

Cycling and horse riding occur at fairly low levels on trails throughout the park. Current levels are acceptable and will be able to continue on appropriate trails.

Under NPWS policy leashed dog walking can be allowed in regional parks and it is intended to allow leashed dog walking on trails in Corramy Regional Park. It would not be appropriate to allow dogs within the picnic area for health reasons, in accordance with Shoalhaven City Council policy, but they could be walked through the picnic area to reach the foreshore walking tracks.

Community Involvement and Appreciation

There is strong local community interest in the park and surrounding environments. It will be important to keep neighbours informed about management activities such as fire hazard reduction, and involvement in cooperative clean-ups and other activities may be appropriate.

Continuing to foster local and wider community appreciation of park values and management needs can significantly assist resource protection and minimise damaging activities. Provision of interpretive information at the picnic area will promote greater awareness of the values of the park.

Desired Outcomes

- Low key visitor opportunities are available that encourage appreciation of the natural environment.
- Visitor use is ecologically sustainable and compatible with the values of the park.
- The community is informed about the park and involved in management activities where appropriate.

Strategies

- *Formalise a small low key picnic area on the banks of the Wandandian Creek backwater, near the junction with the main creek. Establish a small car park for up to approximately 10 cars and a toilet, on the top of the slope behind the foreshore area. Link the car park and picnic area with a short management trail.*

- *Provide visitor information at the picnic area including information on:*
  - *significant plant and animal species and vegetation communities;*
  - *recreational opportunities within the park; and*
  - *the importance of responsible pet ownership.*

- *Establish a short loop walk upstream from the picnic area that samples the swamp oak forest of the low lying foreshore area and the spotted gum forest of the nearby slopes.*

- *Formalise a longer loop walk linking Basin View with the picnic area, utilising existing trails plus a new section along the slope above the St Georges Basin foreshore.*

- *Formalise the existing return walk linking the longer loop walk and the confluence of Wandandian Creek and Tullarwalla Inlet.*

- *Ensure that where construction of new sections of walking track is required they are low key, single file tracks that meander around existing trees and where possible follow existing foot pads.*

- *Permit public vehicle use only on the public access road marked on the Map. The road standard from The Wool Road to Wandandian Creek will be at least 2WD dry weather.*

- *Install a small structure on the creek bank at the Wandandian Creek picnic area to facilitate access for canoeists and to protect the bank.*

- *Explore ways to reduce off-road motorcycle activity in the park, including possible construction of fencing.*

- *If necessary and practical close the park to wet weather and night-time vehicle use in order to reduce road damage, vandalism, rubbish dumping and noise nuisance.*

- *Establish a small car park at the intersection of the road to Wandandian Creek with The Wool Road to cater for walkers and cyclists and to facilitate visitor parking when the area is closed to vehicles, such as during wet weather, emergencies and possibly overnight.*

- *Seek the introduction of a 4 knot speed limit on the Wandandian Creek backwater and the northern entrance channel within the park, in conjunction with Maritime Services.*

- *Permit cycling and horse riding on public access roads, management trails, and on the powerline trail west of the public access road. Do not permit cycling and horse riding in the picnic area or on walking tracks. Monitor impacts and take measures such as introduction of group size limits or temporary or permanent closure to cycling and or horse riding if needed.*

- *Permit dogs on leashes on the public access road, management trails and walking tracks. Do not permit dogs in the picnic area, except where being walked through. Dogs must be leashed and under control at all times. Restrict or exclude dog walking if there are unacceptable impacts on native animals, conflicts with other visitors or if dog walking is not undertaken responsibly.*

- *Do not permit camping in the park.*

- *Subject to seasonal fire restrictions, allow portable fuel stoves and gas barbecues. Ban wood and other solid fuel (heat bead) fires.*

- *Allow commercial and community group tours and activities subject to the following:*
  - *environment impacts being acceptable;*
  - *limits on group sizes, locations and frequency of use to minimise impacts and conflicts with other users; and*
  - *where appropriate, a licence for commercial use.*

- *Consult and involve neighbours in management through activities such as field days and joint projects. Keep neighbours informed about fuel management burns, pest control programs and other activities as appropriate.*

7. MANAGEMENT OPERATIONS AND OTHER USES

NPWS management facilities in the park are limited to the network of vehicle trails. Section 6 provides for one of these trails to remain open for public vehicle use (public access road). Several other trails will be maintained for management purposes such as fire suppression and pest control (management trails). As provided for in 5.1, trails not required for public access or for management purposes will be closed and where necessary rehabilitated. Roads and trails, including those to be closed, are shown on the Map.

A water main runs along the north-western boundary of the park. Access for maintenance is via a trail running parallel to the Princes Highway, partly within the park.

A power line runs through the park adjacent to The Wool Road. The power line route forms a barrier to wildlife movement, has a high visual impact and facilitates unauthorised vehicle access. Impacts can be minimised through maintenance agreements that provide for protection of threatened plants and habitats, retention of some vegetation cover for animal movement and actions to limit unauthorised access.

An apiarist with a pre-existing licence maintains honey bee hives seasonally in the park and will be allowed to continue in accordance with NPWS policy. There is an approved set-down site in the northern part of the park and licence conditions set limits on the numbers of hives. As European bees affect native plant pollination and compete with native animals it will be important to keep operations under review and seek to minimise their impacts.

Several Crown road reserves are located within the boundary of the park. These road reserves do not have constructed roads and it would be desirable for them to be included within the reserved area of the park.

A small number of encroachments intrude into the park from adjoining residences. These are progressively being removed. There may be a need to fence certain boundaries to curb illegal activities such as rubbish/vehicle dumping, firewood collection, illegal vehicle access and encroachments.

Desired Outcomes

- Management facilities adequately serve management needs and have acceptable environmental impact.
- Commercial and other non-park uses have minimal environmental impact.

Strategies

- *Maintain management trails.*

- *Signpost management trails and gate as required.*

- *Arrange licences for the water main and power line and monitor the implementation of maintenance agreements to maintain an adequate vegetation cover, minimise erosion potential and limit unauthorised access.*

- *Continue to allow the existing commercial beekeeping operation in accordance with NPWS policy and licence conditions. Monitor the operation and, where necessary, seek to relocate the site or vary the operation in conjunction with the licensee in order to minimise environmental impacts.*

- *Seek inclusion of the Crown road reserves within the park.*

- *Work with neighbours to remove private structures that encroach on the park and to stop activities such as storage of materials, garden waste dumping and planting of exotics in the park. Take action to remove structures and materials as necessary.*

8. MONITORING AND RESEARCH

The purpose of scientific study in the park is to improve understanding of its natural and cultural heritage and the processes that affect them. Research helps to identify the management requirements for particular species, communities or features and provides information to underpin effective decision-making and to evaluate the effectiveness of management initiatives.

Under the Southern Regional Forest Agreement all forest managers including the Department of Primary Industries and NPWS must demonstrate ecologically sustainable forest management (ESFM). ESFM aims to maintain or increase the full suite of forest values for present and future generations across the NSW native forest estate, including:

- ecosystem biodiversity, health, vitality, productive capacity and functional processes;
- soil and water productive capacity and functional processes;
- long term social and economic benefit; and
- natural and cultural heritage values.

ESFM will be applied to all ecosystem types. It will be implemented primarily through monitoring and reporting regimes to provide feedback on management programs and directions for on-going adaptive management. Criteria and indicators of ecologically sustainable forest management have been identified and monitoring programs are being introduced to demonstrate the impact of management actions on ecological values and processes. Remedial management actions will then be undertaken as required.

Research and monitoring will be undertaken as part of Regional ESFM programs and also for specific purposes identified in this plan. NPWS monitoring and research efforts must be directed towards the areas of greatest need and will concentrate on:

- threatened species, populations and communities for which the park provides significant habitat;
- feral and exotic species monitoring;
- the fire management needs of the park's vegetation communities; and
- the impacts of recreation activities in the park.

Additional research programs will be considered where they complement ESFM criteria and indicators. The results of research and monitoring will be used to guide management programs.

NPWS has begun a program of assessing and reporting on the condition and management adequacy of reserves through the State of Parks Program. This utilises a number of indicators related to the condition of natural and cultural heritage and visitor facilities, information availability and the management of threats such as fire and pests. Assessment of Corramy Regional Park indicates that overall it is in good condition but with localised highly degraded areas.

Desired Outcomes

- Research is undertaken that enhances the information base and assists management of the park.
- Research causes minimal environmental damage.
- Monitoring programs are in place to detect any changes in the status of park values.

Strategies

- *Use ESFM principles to guide management operations and develop ESFM monitoring programs where warranted.*

- *Undertake research as needed to provide information about the park's natural and cultural heritage and human use in order to facilitate management. Give priority to research needs identified within this plan of management.*

- *Permit appropriate research by other organisations and individuals and promote research that is directly useful for management purposes, particularly on the topics mentioned above.*

- *Encourage contributions from park visitors and neighbours to the natural and cultural heritage information base.*

9. PLAN IMPLEMENTATION

This plan of management establishes a scheme of operations for Corramy Regional Park. It will remain in force until amended or replaced in accordance with section 73B of the NPW Act. The plan is part of a system of management that includes the NPW Act, management policies, established conservation and recreation philosophies, and strategic planning at corporate, branch and regional levels. The latter may include development of related plans such as regional recreation plans, species recovery plans, fire management plans and conservation plans.

Relative priorities for activities identified in this plan are set out in the table below. High priority activities are those considered imperative to achievement of the objectives and desired outcomes. They must be undertaken in the near future to avoid significant deterioration in natural, cultural or management resources. Medium priority activities are those that are necessary to achieve the objectives and desired outcomes but are not urgent. Low priority activities are desirable to achieve management objectives and desired outcomes but can wait until resources become available.

The environmental impact of proposed activities will be assessed at all stages in accordance with established environmental assessment procedures. If the impacts of any activity proposed in this plan are found to be unacceptable, the activity will not be undertaken or will be modified so as to comply with the environmental assessment outcomes.

Implementation Table

Priority	Activity	Plan ref.
High	Implement relevant priority actions from the threatened species Priorities Action Statement and any recovery plans prepared for endangered ecological communities and threatened plant and animal species occurring in the park.	4.2
	Close and rehabilitate trails and informal visitor sites that do not serve a significant management or visitor purpose. Retain only those trails and visitor sites shown on the Map.	5.1
	Monitor vegetation loss, bank stability and foreshore erosion along Wandandian Creek. Address any significant human induced erosion as required.	5.1
	Rehabilitate the former gravel extraction site through such measures as track closure, rubbish removal, reshaping, revegetation and weed control as appropriate.	5.1
	Undertake targeted weed control within the South Coast Swamp Oak Forest where required.	5.2
	As far as possible, close waste dumping access points and control associated weeds. Continue to remove rubbish and coordinate clean up programs as required.	5.2

High (cont'd)	Implement relevant sections of the fire management strategy covering the park, including maintenance of management trails, slashed breaks and asset protection zones.	5.3
	Continue to liaise with the Department of Primary Industries and Shoalhaven City Council regarding appropriate maintenance of the asset protection and strategic fire advantage zones located adjacent to the park.	5.3
	Use prescribed burns and other means to achieve fuel management in accordance with the fire management strategies and as conditions permit. Where appropriate, carry out fuel management in cooperation with neighbours for mutual protection.	5.3
	Continue to actively participate in the Shoalhaven Bush Fire Management Committee. Maintain close contact and cooperation with neighbours, the Rural Fire Service, volunteer bush fire brigades and the Department of Primary Industries.	5.3
	Formalise a low key picnic area on the banks of the Wandandian Creek backwater, near the junction with the main creek. Install up to four picnic tables. Establish a car park for up to approximately 10 cars and a toilet on the top of the slope behind the foreshore area. Link the car park and picnic area with a short management trail.	6
	Maintain management trails.	7
Medium	Undertake targeted surveys in the park for biconvex paperbark, other threatened plant and animal species and significant species known to occur nearby.	4.2
	Liaise with neighbours, Landcare, Southern Rivers Catchment Management Authority and Shoalhaven City Council to encourage retention of areas of native vegetation close to the park, especially those areas that provide vegetative linkages between sites with biconvex paperbark. Promote voluntary conservation agreements with neighbours over suitable land.	4.2
	Seek to incorporate the Crown land island in the Wandandian Creek delta into the park.	4.2
	Liaise with Maritime Services in relation to management of motorised vessels on the sections of Wandandian Creek adjacent to the park with the aim of minimising bank erosion.	5.1
	Monitor the presence, extent and abundance of introduced plant and animal species, with priority to the threatened ecological communities and areas of biconvex paperbark. If necessary develop programs for control of introduced species in cooperation with relevant authorities and park neighbours.	5.2
	Develop an education strategy to increase community awareness of potential adverse impacts on park values of unleashed dogs, roaming cats and dumping of garden waste and lawn clippings.	5.2
	Monitor the fire response of threatened plant species and ecological communities in the park.	5.3
	Promote fire safety and fire management issues to park neighbours and visitors.	5.3
	Establish a short loop walk upstream from the picnic area that samples the swamp oak forest of the low lying foreshore area and the spotted gum forest of the nearby slopes.	6
	Explore ways to reduce off-road motorcycle activity in the park, including possible construction of fencing.	6

Medium (cont'd)	If necessary and practical close the park to wet weather and night-time vehicle use in order to reduce road damage, vandalism, rubbish dumping and noise nuisance.	6
	Establish a small car park at the intersection of the road to Wandandian Creek with The Wool Road to cater for walkers and cyclists and to facilitate visitor parking when the area is closed to vehicles, such as during wet weather, emergencies and possibly overnight.	6
	Provide visitor information at the picnic area including information on: - significant plant and animal species and communities; - recreational opportunities within the park; and - the importance of responsible pet ownership.	6
	Seek the introduction of a 4 knot speed limit on the Wandandian Creek backwater and the northern entrance channel within the park, in conjunction with the Maritime Services.	6
	Monitor use and impacts from cycling and horse riding. Take measures such as introduction of group size limits or temporary or permanent closure if needed.	6
	Signpost management trails and gate as required.	7
	Arrange licences for the water main and power line and monitor the implementation of maintenance agreements to maintain an adequate vegetation cover, minimise erosion potential and limit unauthorised access.	7
	Work with neighbours to remove private structures that encroach onto the park and to stop activities such as storage of materials, garden waste dumping and planting of exotics. Take action to remove structures and materials as necessary.	7
Low	Formalise a longer loop walk linking Basin View with the picnic area, utilising existing trails plus a new section along the slope above the St Georges Basin foreshore.	6
	Formalise the existing return walk linking the longer loop walk and the confluence of Wandandian Creek and Tullarwalla Inlet.	6
	Install a small structure on the creek bank at the Wandandian Creek picnic area to facilitate access for canoeists and to protect the bank.	6
	Monitor the beekeeping operation and, where necessary, seek to relocate the site or vary the operation in conjunction with the licensee in order to minimise environmental impacts.	7
	Seek inclusion of the Crown road reserves within the park.	7

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Appendix 1 – Flora (from Thomas et. al. 2000)

Lower Shoalhaven Spotted Gum herb/grass/shrub forest
This is a widespread vegetation community in the park, dominating the drier central ridge, western aspects and higher areas. Spotted gum (*Corymbia maculata*) dominates this community. It sometimes includes thin-leaved stringybark (*Eucalyptus eugenioides*) or white stringybark (*E. globoidea*), blackbutt (*E. pilularis*) and Sydney peppermint (*E. piperita*). It has a sparse to mid-dense shrub understorey including bracken (*Pteridium esculentum*), *Pultenaea villosa* and hairpin banksia (*Banksia spinulosa*). Sedges including saw sedge (*Gahnia radula*) and variable sword-sedge (*Lepidosperma laterale*) are common while there is a fairly dense ground cover of small shrubs, herbs and grasses including *Goodenia heterophylla,* wiry panic (*Entolasia stricta*), Paroo lily (*Dianella caerulea*), and weeping grass (*Microlaena stipoides*).

Lowland Red Bloodwood and Turpentine dry shrub forest
This vegetation community occurs on the eastern and western sides of the park, where it occurs on shallow sandy soils on low lying ridges and moderately dry slopes. It is dominated by red bloodwood (*Corymbia gummifera*), sometimes with white stringybark (*Eucalyptus globoidea*), yertchuck (*E. consideniana*), turpentine (*Syncarpia glomulifera*) and Sydney peppermint (*E. piperita*). It has a diverse dry shrub understorey, including narrow-leaf geebung (*Persoonia linearis*), hairpin banksia (*Banksia spinulosa*), blunt-leaf wattle (*Acacia obtusifolia*), black-eyed susan (*Tetratheca thymifolia*), lance-leaf beard-heath (*Leucopogon lanceolatus*), holly-leaved lomatia (*Lomatia ilicifolia*), sunshine wattle (*Acacia terminalis*), lance-leaf platysace (*Platysace lanceolata*), spiny bossiaea (*Bossiaea obcordata*) and broad-leaf wedge-pea (*Gompholobium latifolium*). The ground cover contains wiry panic (*Entolasia stricta*) and herbs such as leafy purple-flag (*Patersonia glabrata*), Paroo lily (*Dianella caerulea*) and raspwort (*Gonocarpus teucriodes*).

Coastal Woollybutt - *Melaleuca decora* sedge shrub swamp forest (River-flat Eucalypt Forest on Coastal Floodplains)
This vegetation community occurs in relatively small pockets in low-lying and poorly drained areas in the park and as narrow fringes behind parts of the foreshores. The dominant canopy trees are woollybutt (*Eucalyptus longifola*) and rough-barked apple (*Angophora floribunda*). Forest red gum *(E. tereticornis)* also occurs in at least some locations. There is a small tree layer comprising *Melaleuca decora* and *Melaleuca linearifolia.* The ground cover is made up of dense patches of sedges and grasses.

South Coast Swamp Oak forest complex (Swamp Oak Floodplain Forest)
This vegetation community occurs along much of the foreshore of Wandandian Creek and St Georges basin. It is a medium dense forest up to 15 metres tall, dominated by swamp oak (*Casuarina glauca*), with coast wattle (*Acacia longifolia*) and grey mangrove (*Avicennia marina* var. *australasica*). The ground cover is sparse with forbs and graminoids including *Commelina cyanea*, white root (*Pratia purpurescens*) and coastal saltbush (*Rhagodia candolleana ssp. candolleana*).

Coastal Swamp Oak – Swamp Melaleuca wet heath swamp forest
A small section of this vegetation community has been mapped in the south west of the park, overlapping in part the SEPP 14 wetland there. It is a low-medium forest up

to 10m tall, dominated by swamp oak (*Casuarina glauca*). In the intermediate shrub layer common species include swamp paperbark (*Melaleuca ericifolia*), northern boobialla (*Myoporum acuminatum*), Sydney golden wattle (*Acacia longifolia* var. *longifolia*) and common silkpod (*Parsonsia straminea*). Ground cover includes tall saw-sedge (*Gahnia clarkei*) and bare twig-rush (*Baumea juncea*) and ivy-leaved violet (*Viola hederacea*).