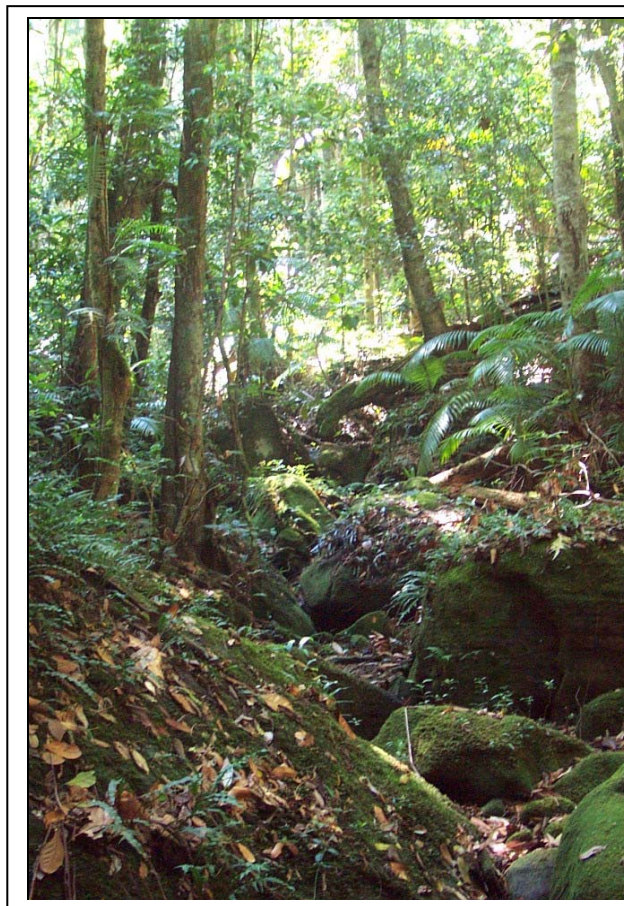




# KINCUMBA MOUNTAIN REGIONAL RESERVE

## PLAN OF MANAGEMENT



December 2007

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## SYNOPSIS

This plan of management applies to Kincumba Mountain Regional Reserve in the Gosford Local Government Area. The reserve is located within the suburbs of Green Point, Kincumber, Picketts Valley, and Erina. The reserve covers approximately 600 hectares and represents one of the largest portions of relatively intact bushland under the management of Gosford City Council. The reserve provides recreational opportunities in a natural area that is easily accessible to local residents and visitors from across the region.

Kincumba Mountain Regional Reserve is comprised of several contiguous land parcels some of which are owned by Gosford City Council while others are Crown land that is under the care, control and management of Gosford City Council.

Kincumba Mountain Regional Reserve is the 'jewel in the crown' of Gosford City Council's Coastal Open Space System (COSS). In 1978 Gosford City Council adopted the concept of a continuous open space system for the coastal area. The COSS has five identified values:

- its scenic value to the City;
- its contribution to protection of flora and fauna;
- the opportunities it provides for recreation, education and scientific endeavours;
- its cultural significance; and
- the enhanced value that the system achieves above that of individual reserves.

This plan of management sets out specific policies and actions for the management of the reserve which are consistent with its values, and the values of the COSS. These policies and actions include implementation of fire management plans and pest species management plans; monitoring of native plants and animals; and the protection and interpretation of Aboriginal and European cultural sites.

The plan also addresses recreational management use of the reserve. The location of the reserve in the City results in high levels of demand for recreational opportunities in a natural setting. The recreational use of the reserve must be managed to ensure that the values of the reserve are not unacceptably impact upon.

Kincumba Mountain Regional Reserve will be promoted as a valuable community asset that provides a variety of visitor experiences that are consistent with the objective of achieving ecological sustainable management. Emphasis will be placed on increased public understanding and awareness of the values of the reserve. Controls on visitor use will be implemented where necessary to protect the resource and to improve visitor experience.

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## 1.0 INTRODUCTION

Kincumba Mountain Regional Reserve is one of a number of reserves managed by Gosford City Council that includes Crown Land under Council's care control and management (see Schedule of Lands in Appendix A). The Local Government Act 1993 requires that a plan of management be prepared for reserves managed by local governments in New South Wales. There is no statutory requirement for Council to prepare a plan of management for the Crown land parcel (unless the Minister has directed that a plan be prepared) (Dept Land & Water Conservation 1996)

The production of a plan of management for community under the *Local Government Act 1993* involves the following steps:

1. A draft of the plan of management is presented to a Council meeting for endorsement.
2. The endorsed draft plan is placed on public exhibition for 28 days. A period of 42 days is provided in which submissions can be made by residents and other interested individuals, groups or organisations.
3. Public submissions are reported to Council if they have the potential to significantly alter the draft plan of management.
4. The plan is reviewed in the light of the written submissions and comments that are received.
5. The final plan, including any changes made, is presented to Council for adoption.

This plan of management sets out the parameters in which the reserve will be managed. The plan also outlines the prioritised actions that are anticipated to be implemented within the life of the plan. This plan will be reviewed after five years. Once a plan of management has been adopted by Council, no operations may be undertaken unless they are in accordance with the Plan of Management.

## **2.0 MANAGEMENT CONTEXT**

### **2.1 KINCUMBA MOUNTAIN REGIONAL RESERVE**

#### **2.1.1 Classification of reserve land under the Local Government Act 1993**

Kincumba Mountain Regional Reserve is classified as 'community' land in accordance with section 25 and 26 of the Local Government Act 1993. It is further classified as a 'natural areas' in accordance with section 36(4) of the Act and also as 'bushland' under section 36(5) of the Act.

#### **2.1.2 Location, history and regional setting.**

Kincumba Mountain Regional Reserve is located approximately 10 kilometres south east of Gosford. It is recognisable as the forested ridgeline situated between the suburbs of Green Point, Kincumber, Picketts Valley and Erina (see map on page 76). 'Kincumba Mountain Avoca Ridge Natural Reserve' was opened in 1986 and the Kincumba Mountain Kiosk was built in 1985-1986 with Community Employment Programme funds (Gosford City Council 2007).

"Kincumber" is an aboriginal word, with several possible meanings. "Towards the rising sun" appears to be the most popular possible meaning, followed by "To tomorrow". The first reference to the placename dates from 1829, when mention was made of "King Coimba Creek". In 1832, Surveyor Felton Mathew noted "Kingcumba Creek". By 1833 the name changed to "Kincumber" (Gosford City Council 2007). The difference in the spelling of the reserve name and the suburb name are a reminder to visitors to the reserve of the evolution the English spelling of this aboriginal name.

Kincumba Mountain Regional Reserve is managed by Gosford City Council. The land that comprises the reserve includes land owned by Gosford City Council and land managed by Council on behalf of the Crown. The reserve covers approximately 600 hectares of land. The land parcels that comprise the reserve have various zonings under the Gosford Local Environment Plan. This inconsistency in zoning reflects that not all land parcels were added to the reserve at the same time. A review of the zoning to make it consistent across the reserve is desirable. The 6(a) (Open Space - Recreation) may be appropriate across the reserve.

Kincumba Mountain Regional Reserve is almost entirely surrounded by residential development up to its boundary. The main exception to this is the semi-rural suburb of Picketts Valley on the eastern side of the reserve. The large number of neighbours and the increasing population of the Gosford City and the Central Coast region has resulted in increased recreational use of Kincumba Mountain Regional Reserve in recent years for activities including bushwalking, picnicking, sight-seeing, cycling, and jogging.

At the regional level, Kincumba Mountain Regional Reserve represents one of the last remaining remnant natural bushland environments within the Sydney-Newcastle coastal strip under the care, control and management of Local Government. The larger tracts of public bushland in this corridor are managed by state government agencies. Ecologically, the reserve protects a natural environment that has been significantly impacted by increasingly urban development and population growth within the Local Government Areas of Gosford, Wyong, Lake Macquarie, Newcastle and the Sydney Metropolitan Area.

### 2.1.3 Significance and values of Kincumba Mountain Regional Reserve

The forested ridgelines of Kincumba Mountain Regional Reserve, along with other Council natural reserves such as Katandra and Rumbalara, are key elements of the natural beauty and scenic quality of Gosford City. The visual quality generated by the attractive and diverse scenery was considered so worthy for protection from development that it formed the basis of the original concept of the Coastal Open Space System (COSS) (Manidis Roberts 1992). Kincumba Mountain Regional Reserve represents a 'jewel' in the COSS crown (GCC, 2001).

The scenic quality of the COSS provides values on both a local and a regional scale. Locally, the COSS contains a variety of high quality ecological settings, including rainforest gullies and rocky outcrops. Accessibility to the settings contributes to the quality of the recreational experiences (Manidis Roberts 1992). The five identified values of COSS are:

- *Scenic quality*: the COSS provides a vegetated backdrop to the City thereby contributing to Gosford's sense of place.
- *Natural setting*: the substantially unaltered natural ecosystems provide a range of wildlife habitats and include a diversity of vegetation species and associations.
- *Human interaction*: the proximity of COSS to urban areas provides opportunities for recreation, environmental education and scientific endeavours.
- *Cultural significance*: the known Aboriginal and European cultural significance is considerable.
- *The system*: the size, proximity and linkages of the COSS enhance the overall value of the individual reserves and other parcels of land within the system (Manidis Roberts 1992).

Regionally, the COSS is part of the visual resource of the Central Coast. The area has a distinctive visual character of rugged forested hills, with undulating coastal valleys. The valleys have become increasingly developed. The steep forested ridges of the COSS, including Kincumba Mountain Regional Reserve, form a backdrop to views of the coastal part of the Gosford City Local Government Area. The forested lands of the COSS contribute to the aesthetic and environmental values that make the Central Coast a popular tourist destination (Manidis Roberts 1992).

Kincumba Mountain Regional Reserve supports vegetation communities that are themselves of state and regional significance, as well as containing plant species of ecological importance. The vegetation communities in the Reserve also provide habitat for ecologically important fauna species.

Vegetation communities of significance in the reserve include Swamp Mahogany-Paperbark Forest, Coastal Warm Temperate Rainforest, and Katandra Hawkesbury Woodland. Native animal species that have been recorded from the reserve include: Yellow-bellied Glider, *Petaurus australis*; Powerful Owl, *Ninox strenua*; Masked Owl, *Tyto novaehollandiae*; Sooty Owl, *Tyto tenebricosa*; Red-crowned Toadlet, *Pseudophryne australis*; Little Bentwing-bat, *Miniopterus australis*; and Squirrel Glider, *Petaurus norfolcensis*.

Kincumba Mountain Regional Reserve is part of an important wildlife corridor that connects the coast, via Avoca Lagoon, to Brisbane Water and the Kincumber Broadwater. Much of this corridor is reserved in the COSS, however important components of the corridor are in private ownership.

Kincumba Mountain Regional Reserve provides habitat for migratory species, and remains an important area for the conservation of flora and fauna in an increasing urbanised environment. Urban development has the potential to isolate reserves, such as Kincumba

Mountain Regional Reserve, from other natural areas. Maintaining links to other natural areas that provide habitat is essential for the long-term survival of many species.

Kincumba Mountain Regional Reserve contains a range of Aboriginal sites including middens, rock engravings and axe grinding grooves. These sites offer valuable insights into the Aboriginal occupation of the area and provide links to other areas of occupation throughout the region. Kincumba Mountain Regional Reserve also contains evidence of past non-Aboriginal occupation including fence posts, and stone steps. There are a range of opportunities for environmental education and scientific research in the reserve.

The significance and values of Kincumba Mountain Regional Reserve can be summarised as:

**(i) Nature conservation:**

The reserve:

- is an important unit in the local system of bushland reserves that protect the ecological values of the Gosford Local Government Area;
- protects a range of vegetation communities, native plant species, and native animal species;
- protects habitats that support a diverse range of wildlife communities for native plants and animals, including those of conservation and ecological significance; and
- is an important component of the corridor network across Gosford City.

**(ii) Scenic:**

The reserve:

- is part of the vegetated backdrop to Gosford City that is provided by a combination of Gosford's Coastal Open Space System and other vegetated lands.

**(iii) Cultural:**

The reserve:

- contains places that demonstrate Aboriginal occupation and use of the area which preceded European settlement of Australia; and
- contains places that demonstrate non-Aboriginal occupation and use of the area after European settlement of Australia.

**(iv) Educational and Scientific:**

The reserve:

- provides opportunities for environmental education and field studies; and
- provides opportunities for scientific investigation into the geology, archaeology, and ecology of the Central Coast.

**(v) Recreation and Tourism:**

- The reserve:
- provides a limited range of opportunities for low-impact, nature-based tourism and recreation activities such as picnicking, bushwalking, jogging and cycling; and
- provides a limited range of opportunities for low key functions in the mud-brick building (Kincumba Kiosk).

### 3.0 MANAGEMENT OBJECTIVES

#### 3.1 CORE MANAGEMENT OBJECTIVES

Section 36(J) of the *Local Government Act 1993* identifies the following core objectives for the management of community land with a bushland category:

- a. To ensure the ongoing ecological viability of the land by protecting the ecological, biodiversity and habitat values of the land, the flora and fauna (including invertebrates, fungi and micro-organisms) of the land and other ecological values of the land;
- b. To protect the aesthetic, heritage, recreational, educational and scientific values of the land;
- c. To promote the management of the land in a manner that protects and enhances the values and quality of the land and facilitates public enjoyment of the land, and to implement measures directed to minimising or mitigating any disturbance caused by human intrusion;
- d. To restore degraded bushland;
- e. To protect existing landforms such as natural drainage lines and watercourses;
- f. To retain bushland in parcels of a size and configuration that will enable the existing plant and animal communities to survive in the long term; and
- g. To protect bushland as a natural stabiliser of the soil surface.

The principles of crown land management are identified in s.11 of the *Crown Lands Act 1989* as:

- a. Environmental protection principles are observed in relation to the management and administration of Crown Land.
- b. The natural resources of Crown Land (including water, soil, flora, fauna and scenic quality) are conserved wherever possible.
- c. Public use and enjoyment of appropriate Crown Land be encouraged.
- d. Where appropriate, multiple use of Crown land be encouraged.
- e. Where appropriate, Crown Land should be used and managed in such a way that both the land and its resources are sustained in perpetuity.
- f. Crown Land be occupied, leased, licensed or otherwise dealt with in the best interests of the State and consistent with the above principles.



### **3.2 SPECIFIC MANAGEMENT OBJECTIVES FOR KINCUMBA MOUNTAIN REGIONAL RESERVE**

In addition to the core objectives stipulated in the Local Government Act, the following specific objectives relate to the management of Kincumba Mountain Regional Reserve:

- a. To protect the scenic value of the reserve and the contribution that it makes to the aesthetic value of the Gosford Coastal Open Space System (COSS);
- b. To protect the Aboriginal sites within the reserve with the involvement of the local Aboriginal community;
- c. To protect the historic non-Aboriginal sites in the reserves;
- d. To promote public awareness and understanding of Kincumba Mountain Regional Reserve as part of a system of land protected for its natural values;
- e. To promote the use of the reserve for environmental education purposes;
- f. To promote the use of the reserve for minimum impact recreation in a natural setting, and for appropriate cultural tourism that is consistent with its values and significance; and
- g. To protect the natural attributes of the reserve to ensure that flora, fauna and ecological systems are sustained.

### **3.3. OVERALL STRATEGY**

The protection and maintenance of the natural and cultural heritage values of Kincumba Mountain Regional Reserve is the primary aim of management. This will be achieved by:

- a. Managing the threats to the native biodiversity of Kincumba Mountain Regional Reserve through the use of techniques including best practice pest plant and animal control;
- b. Educating the community about the significance and values of Kincumba Mountain Regional Reserve and the impacts that encroachment and misuse of the reserve, and domestic pets can have on the values of the reserve;
- c. Providing opportunities for the local community to participate in Council's Bushcare Program in Kincumba Mountain Regional Reserve.
- d. Maintaining public access and opportunities for recreational activities that are consistent with the protection of the values and significance of Kincumba Mountain Regional Reserve;
- e. Managing natural hazards, including bushfire, that may impact on the values of Kincumba Mountain Regional Reserve or neighbouring properties;
- f. Managing the aesthetic values of Kincumba Mountain Regional Reserve by minimising the impact of management activities and natural events, including wildfire and hazard reduction burning, on the native vegetation of the reserve;

- g. Managing the infrastructure and vegetation in Kincumba Mountain Regional Reserve to minimise the potential for erosion and sedimentation to occur;
- h. Providing opportunities for educational and scientific organisations to undertake research and environmental education in Kincumba Mountain Regional Reserve, as well as providing opportunities for guided and self-guided learning in the reserve;
- i. Installing and upgrading directional, locational, advisory and interpretive signage in Kincumba Mountain Regional Reserve that facilitate and add value to the recreational, cultural and natural experiences of visitors;
- j. Ensuring that the administrative structures and financial resources enable effective and efficient management of Kincumba Mountain Regional Reserve to be undertaken; and
- k. Managing the cultural sites and items in the reserve to ensure that they are protected from degradation.

#### **4. POLICIES AND FRAMEWORK FOR MANAGEMENT**

This section contains the policies and framework for the management of Kincumba Mountain Regional Reserve together with the relevant background information. Policies are summarised under the following headings:

- Core objectives - Management Framework
- Natural and Cultural Landscapes; and
- Use of the Reserve.

The actions identified are those to which a priority can be given in the foreseeable future. Other management actions may be developed over the life span of this plan of management that are consistent with the objectives and policies set out in the plan.

Where not specifically provided for in this plan of management, the management of Kincumba Mountain Regional Reserve will be in accordance with the Local Government Act 1993 and with relevant Council's policies.

#### 4.1 CORE MANAGEMENT OBJECTIVES - MEANS OF ACHIEVEMENT

Significance	Core objectives for bushland Local Govt Act	Principles of management - Crown Land Act	Specific management objectives.	Overall strategy
<b>Nature conservation</b>	<p><b>a.</b> To ensure the ongoing ecological viability of the land by protecting the ecological biodiversity and habitat values of the land, the flora and fauna (including invertebrates, fungi and micro-organisms) of the land and other ecological values</p> <p><b>c.</b> To promote management of the land in a manner that protects and enhances the values and quality of the land and facilitates public enjoyment of the land, and to implement measures directed to minimising or mitigating disturbance caused by human intrusion.</p> <p><b>d.</b> To restore degraded bushland</p> <p><b>e.</b> To protect existing landforms such as natural drainage lines, watercourses and foreshores.</p> <p><b>f.</b> To retain bushland in parcels of a size and configuration that will enable the existing plant and animal communities to survive in the long term.</p> <p><b>g.</b> To protect bushland as a natural stabiliser of the soil surface.</p>	<p><b>a.</b> Environmental protection principles are observed in relation to the management and administration of Crown Land.</p> <p><b>b.</b> The natural resources of Crown Land (including water, soil, flora, fauna and scenic quality) are conserved wherever possible.</p> <p><b>e.</b> Where appropriate, Crown land should be used and managed in such a way that both the land and its resources are sustained in perpetuity.</p>	<p><b>g.</b> to protect the natural attributes of the reserve to ensure that flora, fauna and ecological systems are sustained.</p>	<p><b>a.</b> Managing the threats to the native biodiversity of Kincumba Mountain Regional Reserve through the use of best practice pest plant and animal control techniques.</p> <p><b>c.</b> Providing opportunities for the local community to participate in Council's Bushcare Program in KMRR.</p> <p><b>e.</b> Managing natural hazards, including bushfire, that may impact on the values of Kincumba Mountain Regional Reserve or neighbouring properties.</p> <p><b>g.</b> Managing the infrastructure and vegetation in Kincumba Mountain Regional Reserve to minimise the potential for erosion and sedimentation to occur.</p> <p><b>j.</b> Ensuring that the administrative structures and financial resources enable effective and efficient management of KMRR to be undertaken.</p>
<b>Scenic</b>	<p><b>b.</b> To protect the aesthetic, heritage, recreational, educational and scientific values of the land.</p>	<p><b>b.</b> The natural resources of Crown Land (including water, soil, flora, fauna and scenic quality) are conserved wherever possible.</p>	<p><b>a.</b> To protect the scenic value of the reserve and the contribution that it makes to the aesthetic value of the Gosford COSS.</p>	<p><b>f.</b> Managing the aesthetic values of KMRR by minimising the impact of management activities, including hazard reduction burning, on the native vegetation of the reserve.</p> <p><b>j.</b> Ensuring that the administrative structures and financial resources enable effective and efficient management of KMRR to be undertaken.</p>

Significance	Core objectives for bushland Local Govt Act	Principles of management - Crown Land Act	Specific management objectives.	Overall strategy
<b>Cultural</b>	<p>c. To promote management of the land in a manner that protects and enhances the values and quality of the land and facilitates public enjoyment of the land, and to implement measures directed to minimising or mitigating disturbance caused by human intrusion.</p>	<p>e. Where appropriate, Crown land should be used and managed in such a way that both the land and its resources are sustained in perpetuity.</p>	<p>b. to protect the Aboriginal sites within the reserve with the involvement of the local Aboriginal community.</p> <p>c. to protect the historic non-aboriginal sites in the reserve.</p>	<p>i. Installing and upgrading directional, locational, advisory and interpretive signage in KMRR that facilitate and add value to the recreational, cultural and natural experiences of visitors.</p> <p>j. Ensuring that the administrative structures and financial resources enable effective and efficient management of KMRR to be undertaken.</p> <p>e. Managing natural hazards, including bushfire, that may impact on the values of KMRR or neighbouring properties.</p> <p>k. Managing the cultural sites and items in the reserve to ensure that they are protected from damage, destruction or other degradation.</p>
<b>Education and science</b>	<p>b. To protect the aesthetic, heritage, recreational, educational and scientific values of the land.</p>	<p>e. Where appropriate, Crown land should be used and managed in such a way that both the land and its resources are sustained in perpetuity.</p>	<p>d. to promote public awareness and understanding of Kincumba Mountain Regional Reserve as part of a system of land protected for its natural values.</p> <p>e. To promote the use of the reserve for environmental education purposes.</p>	<p>b. Educating the community about the significance and values of KMRR and the impacts that encroachment, misuse of the reserve and domestic pets can have on the values of the reserve.</p> <p>c. Providing opportunities for the local community to participate in Council's Bushcare Program in KMRR.</p> <p>h. Providing opportunities for educational and scientific organisations to undertake research and environmental education in KMRR, as well as providing opportunities for guided and self-guided learning in the reserve.</p> <p>j. Ensuring that the administrative structures and financial resources enable effective and efficient management of KMRR to be undertaken.</p>

Significance	Core objectives for bushland Local Govt Act	Principles of management - Crown Land Act	Specific management objectives.	Overall strategy
<b>Recreation and tourism</b>	b. To protect the aesthetic, heritage, recreational, educational and scientific values of the land	c. Public use and enjoyment of appropriate Crown Land be encouraged.	f. to promote the use of the reserve for minimum impact recreation in a natural setting and for appropriate cultural tourism use consistent with its regional setting.	<p>d. Maintaining public access and opportunities for recreational activities that are consistent with the protection of the natural and cultural heritage values of Kincumba Mountain Regional Reserve.</p> <p>i. Installing and upgrading directional, locational, advisory and interpretive signage in Kincumba Mountain Regional Reserve that facilitate and add value to the recreational, cultural and natural experiences of visitors.</p> <p>j. Ensuring that the administrative structures and financial resources enable effective and efficient management of Kincumba Mountain Regional Reserve to be undertaken.</p>

## **4.2 NATURAL AND CULTURAL LANDSCAPES**

### **4.2.1 Geology, Soils, Topography and Hydrology**

The character and composition of the local geology have determined the soils, topography and hydrology of Kincumba Mountain Regional Reserve. Hawkesbury sandstone and the Narrabeen group are the two main geological formations of the reserve. Hawkesbury sandstone forms a cap on the top of the ridgelines, and the Narrabeen group forms the smoother, undulating slopes below.

The soils of the area have been formed by the weathering of the geological strata and associated environmental influences. The ridge-tops are overlain with sandy soils derived from Hawkesbury sandstone, while soils on the slopes, that are deeper and more fertile, are derived from Narrabeen sediments. The sandy soils on the ridgelines are typically yellow podsolics, with depths ranging from 30 cm to 300 cm. Topsoil ranges from a loose brownish-black sandy loam to a bleached yellow-orange sandy loam.

These soils are considered to have low nutrient status and low moisture holding potential. Subsoils range from a yellowish-brown fine sandy clay to a yellowish-brown sandy clay loam, that are higher in nutrient content and water holding capacity than the topsoils. In the gullies, the drainage lines are colluvial soils formed from the movement and deposition of soil material from higher slopes. Colluvial soil consists of mixed deposits of rock fragments and soil materials accumulated at the bases of steep slopes through the influence of gravity. These soils have moderate nutrient and organic matter contents, making them richer and capable of supporting tall forest communities and rainforest (Manidis Roberts 1992).

The topography of Kincumba Mountain Regional Reserve is characterised by undulating ridgelines, deeply incised gullies and steep slopes. The highest point within the reserve is 208 metres above sea level. Slopes are on average 1 in 10. The topography surrounding the reserve is generally characterised by gently undulating valley areas that have been developed for agricultural and residential purposes (Manidis Roberts 1992).

There are no major watercourses within the reserve, however the ridgelines represent the upper reaches of several catchment areas. Many minor watercourses have been formed within the gullies of the ridges. The watercourses drain west into Brisbane Water, north into Erina Creek, south into Kincumber Creek or east into Avoca Lagoon.

#### **Policy**

- a. The catchments that lie within the boundaries of the reserve will be protected from disturbance.
- b. All management operations undertaken within the reserve will be in accordance with Council's Erosion and Sedimentation Control Policy.

## Actions

1. Regularly maintain tracks, trails and other recreation areas in the reserve in order to minimise soil erosion and sedimentation.
2. Upgrade fire trails and walking tracks to a standard that minimises erosion and sedimentation.
3. Close all unauthorised tracks that contribute to soil erosion and sedimentation in the reserve.
4. Include information about the geology, topography and soil erosion and sedimentation in interpretive signs and material that relate to Kincumba Mountain Regional Reserve.

### 4.2.2 Flora

The vegetation within Kincumba Mountain Regional Reserve is predominantly dry open forest, with moist open forest on the sheltered slopes and rainforest in the protected gullies. Gosford City Council's vegetation mapping (Bell 2004) indicates that seven distinct vegetation communities are present in the reserve (see Table 1).

Two of the vegetation communities in Kincumba Mountain Regional Reserve are listed on the Threatened Species Conservation Act 1995 as Endangered Ecological Communities. Three vegetation communities are identified as Regionally Significant Vegetation. The remaining two vegetation communities have not been identified as having a state or regional status. Kincumba Mountain Regional Reserve is however the largest area in which these two vegetation communities are protected in the local area.

The seven vegetation communities in Kincumba Mountain Regional Reserve as identified by Bell (2004) are:

**Coastal Warm Temperate Rainforest** occurs in protected gullies in the eastern part of the Gosford City including Kincumba Mountain Regional Reserve. The rainforest is classified as warm temperate but has some subtropical influences, usually in the form of epiphytes. The dominant species may include Lillypilly, *Acmena smithii*; Sassafras; *Doryphora sassafras*; Brown Beech; *Cryptocarya glaucescens*; Coachwood, *Ceratopetalum apetalum*; Sydney Blue Gum, *Eucalyptus saligna*; Red Ash, *Alphitonia excelsa*; Turpentine, *Syncarpia glomulifera* subsp. *glomulifera*. Understorey species include Prickly Tree-fern, *Cyathea leichardiana*; Rough Tree-fern, *Cyathea australis*; Scaly Tree-fern, *Cyathea cooperi*; Bangalow Palm, *Archontophoenix cunninghamiana*; and Cabbage Tree Palm, *Livistona australis*.

**Coastal Narrabeen Moist Forest** principally occurs within the Erina Hills area to the east of the Gosford city centre including Kincumba Mountain Regional Reserve. The vegetation community is characterised by a tall moist forest dominated by Sydney Blue Gum, *Eucalyptus saligna*; Forest Oak, *Allocasuarina torulosa*; and Turpentine, *Syncarpia glomulifera*; and to a lesser extent White Mahogany, *Eucalyptus acmenoides*; and Blackbutt, *Eucalyptus pilularis*. Small trees such as Brush Turpentine, *Rhodamnia rubescens*; and Fern-leaf Wattle, *Acacia filicifolia*; may occur over a dense shrub layer of Scentless Rosewood, *Synoum glandulosum*; Brown Myrtle, *Choricarpia leptopetala*; Cheese Tree, *Glochidion ferdinandi*; Native Holly, *Podolobium*

*ilicifolium*; and Muttonwood, *Rapanea variabilis*; with a well developed herb layer of species such as *Pseuderanthemum variabile*, *Pratia purpurascens*; Weeping Grass, *Microlaena stipoides* var *stipoides*; *Oplismenus imbecillis*; Slender Tick-trefoil, *Desmodium varians*; and Ivy-leaved Violet, *Viola hederacea*.

**Coastal Narrabeen Ironbark Forest** occurs on the drier and more exposed ridge tops of the Erina Hills - northern Bouddi Peninsula area. Canopy species are Grey Ironbark, *Eucalyptus paniculata* subsp *paniculata*; Turpentine, *Syncarpia glomulifera* subsp. *glomulifera*; and White Mahogany, *Eucalyptus acmenoides*. Understorey species include Scentless Rosewood, *Synoum glandulosum*; Narrow-leaf Geebung, *Persoonia linearis*; Burrawang, *Macrozamia communis*; *Maytenus silvestris*; Breynia, *Breynia oblongifolia*; *Entolasia stricta*; *Poa affinis*; and Wedge Guinea Flower, *Hibbertia dentata*.

**Narrabeen Coastal Blackbutt Forest** occurs on the Erina soil landscape on the hills and slopes around Gosford City and eastward down to the Bouddi Peninsula. This vegetation community is dominated by Blackbutt, *Eucalyptus pilularis*; Turpentine, *Syncarpia glomulifera* subsp. *glomulifera*; and Forest Oak, *Allocasuarina torulosa*. A shrubby understorey includes Saw Edge Grass Tree, *Acacia longifolia*; Corkwood, *Duboisia myoporoides*; Drab Beard-Heath, *Leucopogon margarodes*; Broad-leaf Wedge-Pea, *Gompholobium latifolium*; Spiny Bossiaea, *Bossiaea obcordata*; Rough Guinea Flower, *Hibbertia aspera*; Twisted Mat-rush, *Lomandra obliqua*; Saw-edge Grass Tree, *Xanthorrhoea macronema*; and Bracken, *Pteridium eculentum*.

**Narrabeen Coastal Peppermint Forest** principally occurs on the lower relief Narrabeen sandstone foot slopes in the north of Kincumba Mountain Regional Reserve. It would have previously extended further north into land that is now under urban development. The vegetation is dominated by *Eucalyptus piperita*; *Corymbia gummifera*; and *Angophora costata*. It supports a well-developed shrub layer including *Banksia spinulosa*; *Lomatia silaifolia*; as wells as various species of *Acacias* peas.

**Katandra Hawkesbury Woodland** occurs on the upper ridges at Katandra Reserve and Kincumba Mountain Regional Reserve. The canopy of this vegetation community includes Red Bloodwood, *Corymbia gummifera*; Blackbutt, *Eucalyptus pilularis*; Sydney Red Gum, *Angophora costata*; Sydney Peppermint, *Eucalyptus piperita*; and Forest Oak, *Allocasuarina torulosa*. At Kincumba Mountain Regional Reserve the canopy of this community also includes Scribbly Gum, *Eucalyptus haemostoma*. A tall shrub layer is comprised of Saw Banksia, *Banksia serrata*; and *Leptospermum tinervium*. Understorey species include Hairpin Banksia, *Banksia spinulosa*; *Lomatia silaifolia*; *Trachymene incisa* subsp. *incisa*; *Leptospermum polygalifolium*; *Grevillea linearifolia*; *Bossiaea obcordata*; *Hakea sericea*; *Gompholobium latifolium*; and *Correa reflexa* var. *reflexa*.

**Swamp Mahogany-Paperbark Forest** is common around coastal estuaries and flats where drainage is impeded, and is also present as back swamps along major tributaries of the Hawkesbury River. The vegetation community is dominated by Swamp mahogany, *Eucalyptus robusta*; with a range of associates including *Melaleuca linariifolia*; *Melaleuca sieberi*; *Melaleuca stypheloides*; *Eucalyptus resinifera*; *Eucalyptus tereticornis*; and *Angophora floribunda*.



**Table 1: Vegetation communities of Kincumba Mountain Regional Reserve**

Vegetation community	Typical canopy species	Typical understorey species	Conservation status
Coastal Warm Temperate Rainforest	<i>Acmena smithii</i> , <i>Doryphora sassafras</i> , <i>Cryptocarya glaucescens</i> , <i>Ceratopetalum apetalum</i> , <i>Alphitonia excelsa</i> .	<i>Cyathea leichhardtiana</i> , <i>Cyathea australis</i> , <i>Archontophoenix cunninghamiana</i> , <i>Livistona australis</i> .	Endangered Ecological Community
Coastal Narrabeen Moist Forest	<i>Eucalyptus saligna</i> , <i>Allocasuarina torulosa</i> , <i>Syncarpia glomulifera</i> .	<i>Rhodamnia rubescens</i> , <i>Acacia filicifolia</i> , <i>Synoum glandulosum</i> , <i>Glochidion ferdinandi</i> .	
Coastal Narrabeen Ironbark Forest	<i>Eucalyptus paniculata</i> , <i>Eucalyptus punctata</i> , <i>Syncarpia glomulifera</i> , <i>Eucalyptus acmenioides</i> .	<i>Synoum glandulosum</i> , <i>Persoonia linearis</i> , <i>Macrozamia communis</i> , <i>Maytenus silvestris</i> .	Regionally Significant Vegetation
Narrabeen Coastal Blackbutt Forest	<i>Eucalyptus pilularis</i> , <i>Syncarpia glomulifera</i> , <i>Allocasuarina torulosa</i> .	<i>Acacia longifolia</i> <i>Duboisia myoporoides</i> <i>Leucopogon margarodes</i> <i>Gompholobium latifolium</i>	
Narrabeen Coastal Peppermint Forest	<i>Eucalyptus piperita</i> <i>Corymbia gummifera</i> <i>Angophora costata</i>	<i>Banksia spinulosa</i> <i>Lomatia silaifolia</i>	Regionally Significant Vegetation
Katandra Hawkesbury Woodland	<i>Eucalyptus pilularis</i> , <i>Corymbia gummifera</i> , <i>Angophora costata</i> , <i>Eucalyptus piperita</i> , <i>Eucalyptus haemastoma</i> .	<i>Banksia serrata</i> , <i>Leptospermum trinervium</i> , <i>Banksia spinulosa</i> , <i>Lomatia silaifolia</i> .	Regionally Significant Vegetation
Swamp Mahogany-Paperbark Forest	<i>Eucalyptus robusta</i> , <i>Melaleuca linariifolia</i> , <i>Melaleuca sieberi</i> .	<i>Acacia longifolia</i> , <i>Omalanthus nutans</i> , <i>Pultenaea villosa</i> , <i>Gahnia clarkei</i>	Endangered Ecological Community

Kincumba Mountain Regional Reserve has been subject to a diverse range of land uses since non-Aboriginal settlement of the area. Some of the land that now makes up the reserve has been selectively logged in the past, and farming of some areas has been undertaken. Remnants of logging tracks and fencing are evident in the reserve. Past and current land use in adjacent areas has resulted in various degrees of disturbance to the native vegetation. Native vegetation in the reserve is now protected from clearing and other destruction.

Degradation of the native vegetation communities is the main threat to the ecological integrity of Kincumba Mountain Regional Reserve. Weed invasion is the major cause of degradation of the native vegetation in the reserve. Weed invasion typically occurs on the edges of native vegetation or along creek-lines where conditions are favourable to weed growth. Weed invasion also commonly occurs within areas of native vegetation along roads, fire trails, cycle tracks and walking tracks. Some weeds may however become established in native vegetation where there has been no physical disturbance.

Other factors that impact on the native vegetation include:

- die-back of vegetation caused by soil pathogens and insect attack,
- erosion and sedimentation resulting from exposed soils,
- destruction of vegetation by uncontrolled recreational activities,
- clearing for infrastructure development and maintenance including telecommunications, and
- inappropriate fire regimes and intensities.

A group of Coral Trees (*Erythrina x sykesii*) are located at Honeman's Rock picnic area. This species is considered to be an environmental weed because it can reproduce from any piece of vegetative material and possibly from seed. In addition, Coral Trees are known for their structural instability which may result in limbs being dropped without warning. Despite the fact that the trees are associated with former land use of the location, it is not considered desirable to maintain the coral trees in a high use picnic area.

## Policy

a. The management of native vegetation communities will focus on the maintenance of the diversity of vegetation classifications within the reserve, and the protection of species, populations and communities listed on the *NSW Threatened Species Conservation Act 1995* or the Commonwealth *Environmental Protection and Biodiversity Protection Act 1999*.

b. Management actions identified in recovery plans for endangered ecological communities, threatened species and other listings on the *Threatened Species Conservation Act 1995* and the *Environmental Protection and Biodiversity Conservation Act 1999* will be implemented according to their priority and availability of resources.

c. The presence and distribution of weeds in the reserve will be mapped, monitored and, where practicable, controlled. Where possible standard bush regeneration techniques will be used, however in some instances spraying by qualified technicians may be undertaken. The use of fire to control weeds may also be used when and where appropriate.

d. Threatening processes identified under the *Threatened Species Conservation Act 1995* and Commonwealth *Environmental Protection and Biodiversity Protection Act 1999* will be managed according to their priority and the availability of resources.

e. The control of introduced and native weed species within the reserve will be prioritised according to the following criteria:

- Noxious weeds declared under the *Noxious Weeds Act 1993* which will be controlled according to the category of their listing;
- Declaration of the weed as a key threatening process under the *Threatened Species Conservation Act 1995* or Commonwealth *Environmental Protection and Biodiversity Protection Act 1999*;
- Identification of the need to control the weed species in a threat recovery plan that is relevant to Kincumba Mountain Regional Reserve;
- The weed is a threat to identified Regionally Significant Vegetation;
- The weed is a threat to biodiversity, including animal habitat, in the reserve;
- The weed is a threat to sites with aboriginal and non-aboriginal cultural significance;
- The weed is or has the potential to significantly affect neighbouring land;
- The weed is fire hazard;
- The weed is likely to spread along trails and waterways; and
- The weed has a high capacity for dispersal especially along trails and waterways.

f. The impact to species and vegetation communities listed on the *Threatened Species Conservation Act 1995*, *Environmental Protection and Biodiversity Conservation Act 1999* or identified as regionally significant, will be mitigated through the maintenance of natural processes, the management of human influence, and through bush regeneration and other conservation programs where necessary.

- g. All organisers of activities within the reserve will be required to ensure that disturbances to native vegetation does not occur, and will be required to fund the rehabilitation of any damage sustained by the reserve as a result of the activity.
- h. Only species indigenous to the reserve will be used in any planting or bush regeneration programs. Locally collected seed will be used to grow plants for bush regeneration and landscaping projects. In high use areas at Honemans Rock Picnic Area non-native grasses may however be used where native options do not exist.
- i. The impact to native vegetation will be mitigated through the maintenance of natural processes, the management of human impacts, through bush regeneration programs and other conservation and community programs.
- j. Unauthorised use of the reserve that impacts on, or has the potential to impact on the reserve, will be controlled by methods including education programs, enforcement of the Local Government Act and other legislation relating to the use of the reserve and on-ground management activities.
- k. Seed collection in the reserve can only be undertaken with written approval of Council.
- l. Harming or destroying native animals or their habitats is not permitted in the reserve.
- m. The cutting, destroying or picking of native plant species is not permitted in the reserve unless specifically approved by Council.

## **Actions**

- 5. Identify the threatening processes identified in the *Threatened Species Conservation Act 1995* and *Environmental Protection and Biodiversity Conservation Act 1999* that are relevant to Kincumba Mountain Regional Reserve, and develop an action planning for mitigating the threats on the native vegetation.
- 6. Develop and implement a weed management strategy for the Kincumba Mountain Regional Reserve that includes identification and mapping of the extent of weed invasion, priorities for control, methods for control and the costs of undertaking control actions.
- 7. The Council officers responsible for noxious weed control will undertake control of noxious weeds as per the requirements of the *Noxious Weeds Act 1993*.
- 8. Opportunities for the local community to become involved in bush regeneration and habitat management activities in Kincumba Mountain Regional Reserve will be provided through Council's Bushcare Program.
- 9. Bush regeneration will be undertaken by professional bush regeneration personnel in high priority locations as funds become available.
- 10. Remove the coral trees from Honeman's Rock Picnic Area over a period of time and plant additional shade trees that are indigenous to the reserve.
- 11. Take appropriate action to prevent the impact of sedimentation on native vegetation in drainage lines as a result of the erosion of management tracks, fire management activities, and other areas where vegetation has been removed.

12. Information about the native vegetation in the reserve and the impact that weed invasion can have on biodiversity will be included in interpretive information prepared about the reserve.
13. Ordinance signage that includes a prohibition on the damaging of flora in the reserve will be installed in appropriate locations.
14. The conditions of approval for activities in Kincumba Mountain Regional Reserve will specifically refer to the penalties for damaging flora and fauna in the reserve.

#### 4.2.3 Fauna

Kincumba Mountain Regional Reserve provides habitat for wildlife in an area where native vegetation and habitat have been impacted by urban development. The native fauna of the Central Coast is comprised of a range of species with many different habitat requirements, and many different modes of moving around the landscape to access feeding, shelter and breeding habitats. The ecological factors that determine which fauna species are able to be sustained at a particular site are complex. However in general terms, the types of fauna species that a given area of native vegetation is able to sustain is affected by characteristics of the site including:

- The availability of year-round feeding habitat;
- The availability of other habitat requirements e.g. nesting and shelter sites; and
- The ability of the species to find a mate and breed successfully at the site.

The limited size and geographic isolation of Kincumba Mountain Regional Reserve from other large areas of native vegetation limit the type of species and the number of individuals that are able to be sustained in the reserve. This highlights that importance of proactive management of the threats to habitat degradation and the direct threats to fauna, particularly by introduced predators.

Currently, nine (9) native mammal species, thirty-two (32) birds, four (4) amphibians and eight (8) reptile species have been recorded within Kincumba Mountain Regional Reserve. There are likely to be more native species within the reserve, however this will only be verified by further systematic surveys and recording of fauna species.

Native mammals recorded in the reserve include:

- Little Forest Bat, *Vespadelus vulturnus*;
- Eastern Forest Bat, *Vespadelus pumilis*;
- Yellow-bellied Glider, *Petaurus australis*;
- Sugar Glider, *Petaurus breviceps*;
- Long-nosed Bandicoot, *Perameles nasuta*;
- Brown Antechinus, *Antechinus stuartii*;
- Great Glider, *Petauroides volans*;
- Swamp wallaby, *Wallabia bicolor*;
- Ringtail Possum, *Pseudocheirus peregrinus*;
- Brushtail Possum, *Trichosurus vulpecular*; and
- Eastern Horseshoe Bat, *Rhinolophus megaphyllus*.

Common birds in Kincumba Mountain Regional Reserve include:

- Brown Cuckoo-dove, *Macropygia amboinensis*;
- Laughing Kookaburra, *Dacelo novaeguineae*;
- Brown Thornbill, *Acanthiza pusilla*;
- Brown Gerygone, *Gerygone mouki*;

- Yellow-throated Scrubwren, *Sericornis citreolularis*;
- Lewin's Honeyeater, *Meliphaga lewinii*;
- Grey Fantail, *Rhipidura fuliginosa*;
- Rufous Fantail, *Rhipidura rufifrons* (summer migrant)
- Superb Fairy Wren, *Malurus cyaneus*,
- Spotted Pardalote, *Pardalotus punctatus*;
- Bell Miner, *Manorina malanophrys*;
- Green Catbird, *Ailuroedus crassirostris*; and
- Yellow-tailed Black Cockatoo, *Calyptorhynchus funereus*.

Reptiles recorded in Kincumba Mountain Regional Reserve include:

- Eastern Water Dragon, *Physignathus lesueurii*;
- Garden Skink, *Lampropholis* sp.;
- Three-toed Skink, *Saiphos equalis*;
- Jacky Lizard, *Amphibolorus muricatus*;
- Dwarf Crowned-snake, *Cacophis kreftii*;
- Copper-tailed Skink, *Ctenotus taeniolatus*;
- Weasel Skink, *Saproscincus mustelina*;
- Diamond Python, *Morelia spilota spilota*; and
- Lace Monitor, *Varanus varia*

Amphibians in Kincumba Mountain Regional Reserve include:

- Verreaux's Tree Frog, *Litoria verreauxii*;
- Striped Marsh Frog, *Limodynastes peronii*;
- Green Leaf Tree Frog, *Litoria phyllochroa*, and
- Common Eastern Froglet, *Crinia signifera*.

More detailed and specific surveys are required for Kincumba Mountain Regional Reserve to ensure the development of a species composition list that more realistically reflects the role the reserve plays in the conservation of native fauna in the Gosford City.

#### 4.2.3.1 Threatened Species

Two species listed on the *Threatened Species Conservation Act 1995* have been recorded in the reserve by the Australian Museum Business Services (AMBS). These species are Glossy Black Cockatoo, *Calyptorhynchus lathami*; and Yellow-bellied Glider, *Petaurus australis*. The Powerful Owl, *Ninox strenua*; has been recorded adjacent to the reserve, and almost certainly utilises Kincumba Mountain Regional Reserve to some degree.

Recovery plans are required to be prepared by the Department of Environment and Conservation for species, populations and ecological communities listed on the *Threatened Species Conservation Act 1995*. A recovery plan is designed to return the species, population or ecological community to a point where their survival is viable in nature. Among other things, recovery plans outline the actions that government departments and other organisations have agreed upon to help the recovery of the species (Department of Environment and Climate Change 2007).

- **Glossy Black Cockatoo**

The Glossy Black Cockatoo, *Calptorhynchus lathami*, occurs from eastern Victoria to the central coast of Queensland and westward in NSW to Griffith and the Pilliga Scrub (AMBS 2000). The Glossy Black Cockatoo frequents open-forest communities on slopes in the reserve.

Glossy Black Cockatoos feed almost exclusively on seeds of *Allocasuarina* species. In the Central Coast Region the two species most commonly utilised are Forest Oak, *Allocasuarina torulosa*, and Black She-oak, *Allocasuarina littoralis* (AMBS 2000). These two plant species are both widespread in the reserve, as well as in the Gosford area more generally. Fire is an important management consideration for *Allocasuarina* species. Both species can be killed by high intensity fire, however seedlings grow readily from seed released from the hard fruit after fire (AMBS 2000). To date there has not been a recovery plan prepared for the Glossy Black Cockatoo.

- **Yellow-bellied Glider**

The Yellow-bellied Glider, *Petaurus australis*, occurs along the coast and ranges of eastern Australia from southern Victoria to south-eastern Queensland. A separate or disjunct population occurs in north Queensland. It usually occurs in vegetation types growing on comparatively rich soils (AMBS 2000).

Characteristically, the Yellow-bellied Glider prefers tall open forest especially communities with a significant element of Grey Gum, *Eucalyptus punctata* (Mitchell McCotter 1994). Other tree species used by this glider include Red Bloodwood, *Corymbia gummifera*; Blackbutt, *Eucalyptus pilularis*; Turpentine, *Syncarpia glomulifera*; and Swamp Mahogany, *Eucalyptus robusta* (AMBS 2000). The Yellow-bellied Glider also inhabits low-lying areas including rainforests and wet sclerophyll forests.

A recovery plan was approved for the Yellow-bellied Glider in February 2003 (DEC 2003). The current major threats to the Yellow-bellied Glider are identified as being:

- habitat alteration and reduction due to heavy logging of forests;
- clearing of forests for agriculture; and
- urban development and wildfire.

The management of fire in Kincumba Mountain Regional Reserve is therefore important for the management of the Yellow-bellied Glider. While there are no prescriptive fire requirements for the species (DEC 2003), the management of fire for the species needs to consider the effects of hazard reduction burning as well as the implication of wildfire. Strategic hazard reduction burning may assist in minimising the loss of important glider habitat as a result of wildfire. The recovery plan also identifies gaps in glider habitat of over fifty (50) metres that may result from roads, firebreaks and management trails as an issue for the species. Breaks in the vegetation wider than fifty metres can be avoided at Kincumba Mountain Regional Reserve when roads, trails and firebreaks are established.

Maintaining or re-establishing vegetated corridors that provide for the movement of Yellowed-bellied Gliders between Kincumba Mountain Regional Reserve and other larger areas of native vegetation is important given the species large home range. Identifying corridors beyond the boundaries of Kincumba Mountain Regional Reserve are beyond the scope of this plan of management.

- **Powerful Owl**

The Powerful Owl, *Ninox strenua*, occurs throughout coastal and sub-coastal eastern Australia from southwestern Victoria to central Queensland. This is the largest of the Australian owl species, and it typically occupies a home range in the order of several hundred hectares (Garnet 1992 in AMBS 2000). The diet of the Powerful Owl includes arboreal mammals such as the Greater Glider, *Petauroides volans*; the Yellow-bellied Glider, *Petaurus australis*; the Common Ringtail Possum, *Pseudocheirus peregrinus*;

and the Sugar Glider, *Petaurus breviceps*. The preferred vegetation types used by the Powerful Owl are open forests and woodland that support populations of the favoured prey species. The Powerful Owl requires nesting hollows in very large, mature eucalypts (AMBS 2000).

A recovery plan was approved for the large forest owls in October 2006 (DEC 2006). The three species covered by the recovery plan are the Sooty Owl, Masked Owl and Powerful Owl. The threats to the three species of large forest owls are identified as:

- Habitat clearing and fragmentation;
- Logging;
- Fire;
- Grazing in state forests;
- Predation;
- Human hazards e.g. road kill;
- Pest control i.e. secondary poisoning due by rodent baits;
- Disease;
- Drought; and
- Population viability

Management of fire in Kincumba Mountain Regional Reserve is important for the management of the Powerful Owl in the reserve. The Powerful and Sooty Owls appear to display a strong association with long-unburnt forest, particularly in their choice of nesting and roosting locations (Kavanagh 1997 in DEC 2006). Foraging habitat for the Powerful Owl and Sooty Owl may be greatly enhanced in some environments by infrequent wildfires that re-set patterns of understorey succession, thus providing good habitat for several important prey species in the medium term (10 - 40 years post-wildfire) (Kavanagh pers. obs. in DEC 2006). Hazard reduction burning (frequent, low-intensity fire), however has the potential to simplify forest structure if most areas are burnt (DEC 2005). The foliage roosts of the Powerful Owl (e.g. *Allocasuarina* spp.) are also vulnerable to regular hazard reduction burning (DEC 2006).

Maintaining vegetated corridors between Kincumba Mountain Regional Reserve and other large areas of native vegetation may be important for the ongoing use of the reserve by the Powerful Owl. Small (less than 200 hectare) forest fragments that are more than 1 kilometre from large areas of forest are not used by Powerful Owls (or Sooty Owls) (DEC 2006). Again, however, identifying corridors beyond the boundaries of Kincumba Mountain Regional Reserve are beyond the scope of this plan of management.

#### **4.2.3.2 Key Threatening Processes (KTPs)**

A key threatening process is defined in the *Threatened Species Conservation Act 1995* as 'a process that threatens, or could threaten, the survival or evolutionary development of species, populations or ecological communities'.

Something can be a threatening process if it:

- adversely affects two or more threatened species, populations or ecological communities; or
- could cause species, populations or ecological communities that are not currently threatened to become threatened.

Key threatening processes that are relevant to the management of Kincumba Mountain Regional Reserve include:

- Loss of hollow-bearing trees (proposed KTP);
- Removal of dead wood and dead trees;
- Invasion, establishment and spread of Lantana (*Lantana camara*);
- Invasion and establishment of exotic vines and scramblers;
- Invasion of native plant communities by Bitou Bush and boneseed;
- Invasion of native plant communities by exotic perennial grasses;
- Competition and habitat degradation by feral goats;
- Competition from feral honeybees;
- Herbivory and environmental degradation caused by feral deer;
- Predation by feral cats;
- Predation by the European red fox;
- Bushrock removal; and
- Ecological consequences of high frequency fires.

As well as benefiting identified threatened species, the management of key threatening processes also has benefits for the management of other species not identified on the *Threatened Species Conservation Act 1995*.

#### 4.2.3.3 Introduced Species

A number of introduced animals have been sighted in Kincumba Mountain Regional Reserve including:

- European Red Fox, *Vulpes vulpes*;
- Domestic cat, *Felis catus*;
- Domestic dog, *Canis domesticus*;
- European Rabbit, *Oryctolagus caniculus*;
- House Mouse, *Mus musculus*;
- Black Rat, *Rattus rattus*;
- Indian Myna, *Acridotheres tristis*; and
- European Starling, *Sturnus vulgaris*.

All introduced fauna pose a threat to biodiversity by either preying on or competing directly with native populations (NPWS 1999). The proximity of the reserve to high-density urban residential development means that the impact of unrestrained domestic cats and dogs entering the reserve is becoming an increasing management issue. The roaming of domestic cats and dogs in the reserve is not only a direct threat to small animals but also their smell can disturb animals and inhibit feeding and breeding. Neighbours leaving dog and cat food in gardens can also artificially support young feral cats, dogs and foxes until they have developed their hunting abilities (NPWS 1999).

European honeybees compete with native bees (Pyke 1982 in NPWS 1999) and other native insectivorous species, particularly birds and small animals, and have a damaging effect on native plants (Paton 1996 in NPWS). There are no licensed apiary sites within Kincumba Mountain Regional Reserve, and no new licences will be issued.

#### Policy

- a. Kincumba Mountain Regional Reserve will be managed for the sustainability of native animals and plants species and their habitats. Threats to the biodiversity values of the reserve will be managed according to priority and resource availability.



- b. Key Threatening Processes identified under the *Threatened Species Conservation Act 1995*, and other identified threatening processes, will be managed according to priority and resource availability.
- c. Management actions identified in recovery plans for endangered ecological communities, threatened species and other listings on the *Threatened Species Conservation Act 1995* will be implemented according to their priority and the availability of resources.
- d. The existing annual fox management program will continue to be undertaken in the reserve, and control programs for other introduced animal will be developed according to priority and resource availability.
- e. Priority for the control of introduced animals will be given to those that:
- are identified as Key Threatening Processes under the Threatened Species Conservation Act;
  - are identified as a threat to the biodiversity values of the reserve and surrounding areas;
  - negatively impact on, or have the potential to negatively impact on, neighbouring lands;
  - have a high capacity for dispersal from the reserve; and
  - are likely to cause disease.
- f. Fire management activities in Kincumba Mountain Regional Reserve will be developed to ensure that the habitats of species, populations and ecological communities, particularly those listed on the *Threatened Species Conservation Act 1995* and other legislation, are not impacted upon by hazard reduction activities and wildfire.
- g. One of the primary objectives of Hazard Reduction activities in Kincumba Mountain Regional Reserve will be the protection of species, populations and communities listed on *Threatened Species Conservation Act 1995* and other legislation.
- h. No apiary licences will be issued for the reserve.
- i. Cats, dogs and other companion animals are not permitted in the reserve, with the exception of officially registered Guide Dogs. Evidence of Guide Dog registration is required to be produced when requested by authorised personnel.
- j. Livestock including horses are not permitted in Kincumba Mountain Regional Reserve.
- k. Tertiary institutions will be encouraged to undertake ecological research on the fauna of Kincumba Mountain Regional Reserve.

## Actions

- 15 A comprehensive survey of the fauna in Kincumba Mountain Regional Reserve will be undertaken.
- 16 The specific fire responses and requirements of species, populations and ecological communities in Kincumba Mountain Regional Reserve that are listed on the *Threatened Species Conservation Act 1995* will be researched, and the results of the research will be addressed when planning fire management activities for the reserve.
- 17 The habitat requirements for species listed on the *Threatened Species Conservation Act 1995* will be identified and an assessment of habitat restoration or augmentation works that may be required will be undertaken. The recommendations of the habitat assessment will be undertaken on a priority basis as resources become available.
- 18 The fox management program in the Kincumba Mountain Regional Reserve will continue to be undertaken on an annual basis. The fox program may be expanded subject to the results of the on going monitoring of the program.
- 19 Monitoring of the impacts of other non-native animals on the biodiversity values of the Kincumba Mountain Regional Reserve will be undertaken, and where required the current fox management program may be expanded to include additional pest species.
- 20 Information about the native fauna and ecological communities in Kincumba Mountain Regional Reserve will be included in interpretive information prepared about the reserve.
- 21 Ordinance signage that includes a prohibition on the damaging of fauna in the reserve will be installed in appropriate locations.
- 22 The conditions of approval for activities in Kincumba Mountain Regional Reserve will specifically refer to the penalties for damaging flora and fauna in the reserve.

### 4.2.4 Aboriginal Heritage

The Kincumber District was home to Darkinjung, whose area is bounded by the Hawkesbury River to the south, Lake Macquarie to the north and the ranges west of Wollombi. The Darkinjung are believed to have lived in this area of over 25,000 years. The clan groups of the Darkinjung are the Narara, Erina, Woy Woy, Patonga, Wyong, Kulnura, Tuggerah and Wollombi (Duncan, 2007).

The Darkinjung's lives were dictated by the seasons and seasonal travels throughout the land, from the mountains in Winter to the lakes, wetlands and beaches in Summer. Evidence of shell middens along the dunes and bays of Brisbane Water and other inlets can still be seen today (Duncan, 2007).

Darkinjung customs and beliefs are etched into the local sandstone, with over 7,000 rock carvings and 200 cave art sites, which are among the most extensive rock art sites in the world. (Duncan 2007). Signs of habitation in the Kincumber area include axe-grinding grooves and rock engravings on Kincumba Mountain (Gosford City Council 2007).

The Darkinjung believe in the Creator Baiyami (god). There is totemship with the land and all its creatures, including the Sky work and the Sea. One of the most sacred sites to the Darkinjung, Mt Yengo at Wollombi, is where the Great Spirit Baiyami descended from the sky world at the time of creation (Duncan 2007). Darkinjung tribal neighbours include the Garrigal of the North Shore, the Durruk of Sydney, the Awabakal of Newcastle, the Wiradjuri to the southwest and the Gomilaroi to the northwest. All met at Yengo for ceremonies and trade (Duncan 2007).

The National Parks and Wildlife Service (NPWS) is responsible for the protection and management of all Aboriginal sites in New South Wales under the *National Parks and Wildlife Act 1974*. The NPWS register lists a number of Aboriginal sites in Kincumba Mountain Regional Reserve. The location of the sites is generally not disclosed due to their sensitivity to high levels of visitation and significance to Aboriginal people. The majority of sites are rock shelters, axe grinding grooves, rock carvings and middens.

Aboriginal sites provide a valuable insight into Aboriginal people's traditional lifestyles, and interactions with the environment. The Aboriginal heritage within the reserve remains important to present-day Aboriginal culture. Such sites are a non-renewable resource and are subject to deterioration from natural and human induced processes (NPWS, 1999).

Vandalism of art sites has occurred in the area, and in other reserve lands including those managed by NPWS. Unavoidably, the most effective manner to protect sensitive Aboriginal sites from vandalism is not to publicise their location (NPWS 1999). Council will not actively promote the location of the sites within the Reserve. However, the locations of some sites are already well known, and the impacts associated with visitation will need to be monitored and managed. Advice will be sought from the NPWS and the Darkinjung Land Council on management of Aboriginal cultural sites.

## **Policy**

- a. Aboriginal sites and places will be recorded, conserved and managed in consultation with the local Aboriginal community and NSW National Parks and Wildlife Service.
- b. Information relating to known Aboriginal sites will be managed in accordance with the *National Parks and Wildlife Act 1974* in consultation with the NPWS and the local Aboriginal community.

## **Actions**

- 23 The Department of Environment and Climate Change will be informed of the discovery of new Aboriginal sites in Kincumba Mountain Regional Reserve.
- 24 Any management actions taken to minimise the impact of visitation on Aboriginal sites will be undertaken in consultation with the Darkinjung Land Council.
- 25 The Darkinjung Land Council and the NPWS will be consulted prior to undertaking any active management that may impact on known Aboriginal sites.
- 26 A general understanding and appreciation of Aboriginal culture, and occupation of the local area will be promoted in interpretive information for Kincumba Mountain Regional Reserve rather than specific cultural sites.

27 The information contained on the register of Aboriginal sites will be used in undertaking Part 5 assessments for works in Kincumba Mountain Regional Reserve, including fire management activities.

#### **4.2.5 Historic Features**

Development of the Kincumba Mountain Regional Reserve area by non-Aboriginal people was relatively limited. Early land use was confined to small-scale framing on 'the tops' and some logging in the gullies. Most of the eastern section of the reserve remained in the possession of the Crown, while the western and northern sections are largely the undeveloped remnants of two early land grants.

The original road from Gosford to Kincumber passed over Kincumba Mountain Regional Reserve from the end of today's Sun Valley Road. It was well used by early settlers in the Kincumber and coastal areas. The road was simply a bridle track, and most of its route is retained in the walking track and fire trail system of the reserve.

The two names commonly associated with the occupation of Kincumba Mountain before it became a reserve are Glasson and Honeman (or Honeyman). These names have been given to Glasson Trail that runs from the entrance of the reserve on Island View Drive to the main picnic area. The picnic area itself is known as Honeman's Rock Picnic Area.

In 1932, A A Glasson received a Special Lease from the Crown over Portion 248, where the kiosk is currently located, and portion 164 which remains Crown land. Glasson is said to have lived in a large rock overhang, which is quite feasible as occupation of caves on Crown land during the Great Depression was not uncommon. Members of the Glasson family are believed to have carved initials and dates into a sandstone outcrop near the cave, along with steps that provided access up and down the rock face. One of the dates is 9-12-30, which suggests the Glassons may have been living on Kincumba Mountain before the Special Lease was issued in 1932.

In 1962 the leaseholder of Portion 248 was Cecil Lyle Honeman. Aerial photography from 1964 shows two buildings on the land, presumably built by Honeman who was then farming the land. It is known that the Honeman family was still living on Kincumba Mountain in 1972, but the house had to be removed by 1984 according to the Avoca Ridge Management Plan of that date.

Another person whose name is associated with Kincumba Mountain is J M Conroy, a licensed surveyor, who once lived on the northern side of the mountain at 'Erina Vale' in the vicinity of Sun Valley Road. In the 1984 Avoca Ridge Management Plan, it was suggested that the name 'Conroy Mountain' be given to the highest point on the ridge but the idea was rejected by Council. The Colin Watters Lookout is close to the high point and overlooks Picketts Valley. Mr Watters served as Senior Parks Supervisor with Gosford City Council from 1969-1985.

#### **Policy**

- a. Records of non-Aboriginal cultural sites and items of significance will be recorded by Gosford City Council.
- b. The non-Aboriginal cultural sites and items will be protected from damage as a result of management actions or visitor use of the reserve.

- c. Information about the non-Aboriginal cultural sites and items in the reserve will be made available to local historical and community groups where appropriate.
- d. Where appropriate interpretive information will include reference to particular non-Aboriginal cultural sites and items in the reserve.
- e. Non-Aboriginal sites and items will be managed to prevent degradation by visitors or management activities.

### **Actions**

- 28 The non-Aboriginal cultural sites and items in Kincumba Mountain Regional Reserve will be recorded on Gosford Council's Geographical Information System.
- 29 Recorded information about the non-Aboriginal cultural sites and items in Kincumba Mountain Regional Reserve will be used when undertaking Part 5 assessments for management actions, including fire management activities, in the reserve.
- 30 Information about the non-aboriginal use of Kincumba Mountain Regional Reserve and the local area will be included in the interpretive information prepared for the reserve.

### **4.2.6 Fire Management**

Fire has had a major influence in shaping the biodiversity of Australia. Fire has a great capacity to directly affect the long-term conservation of species and habitats as well maintaining biodiversity in some environments. Appropriate fire regimes are therefore necessary to conserve habitats and populations of species. Conversely, fire has the potential to damage habitats and cause local depletion or extinction of species.

Bushfire has the potential to significantly impact on life and property in and adjacent to land that supports native vegetation. Reducing the fire risk that areas of publicly managed native vegetation potentially pose to neighbouring property is perhaps the primary fire management issue.

The long and short term effects of fire are influenced by four key elements;

- seasonality,
- the spatial distribution of burnt areas,
- fire intensity and
- frequency.

The isolation of Kincumba Mountain Regional Reserve from other large areas of native vegetation results in populations of plants and animals that depend on migration for recruitment being particularly susceptible to the adverse impacts of fires.

The primary aims of fire management for Gosford City Council natural and COSS reserves are consistent with those of NSW National Parks and Wildlife Service, and are:

- To reduce the risk of bushfire damage to life and property from Council managed natural reserves;
- The protection and conservation of natural, cultural, scenic and recreational features of Council managed natural reserves; and
- To co-operate with other organisations in fire management and planning.

The Gosford Natural Areas Bushfire Risk Analysis has been prepared for the COSS and natural reserves in the Gosford LGA (Conacher Travers 2006). The risk analysis indicates that the residential and other assets surrounding Kincumba Mountain Regional Reserve are primarily at low risk towards the lower extent of the of vegetated slopes. However some isolated high to extreme risk situations occur on the reserve boundary where development has taken place on lower ridgelines where side or down-slope vegetation exists (Conacher Travers 2006).

The recommendations for Kincumba Mountain Regional Reserve include the establishment of asset protection zones in a number of locations on the periphery of the reserve and around assets within the reserve; education of neighbouring residences; fuel load monitoring and maintenance of fire trails. The locations where the recommendations are to be undertaken are described in the Volume 3 of the report Fire Management Manual (Concher Travers 2006).

## **Policy**

- a. Liaison will be maintained and co-operative strategies developed with the Rural Fire Service, NSW Fire Brigades, National Parks and Wildlife Service and neighbours to ensure co-ordination of fire management activities in Kincumba Mountain Regional Reserve.
- b. Fire management within Kincumba Mountain Regional Reserve will aim to:
  - Protect human life and property;
  - Maintain species diversity, ecological community diversity and habitat diversity within the reserve;
  - Protect scenic landscape and catchment values; and
  - Protect structures, objects and cultural heritage significance.
- c. Wherever practical, wildfires in Kincumba Mountain Regional Reserve will be suppressed as soon as possible.
- d. Assets within Kincumba Mountain Regional Reserve will be protected by reserve infrastructure including fire trails and asset protection zones, and by strategic hazard reduction activities.
- e. Wherever possible, fire trails and other management tracks and trails will be maintained by slashing or trittering (branch trimming) and will be relocated or realigned where necessary for improved fire management and erosion control purposes.
- f. Temporary tracks may be constructed to enable wildfire suppression of prescribed burning to occur where the existing fire trails and management tracks are inadequate. All temporary tracks will be closed and rehabilitated as soon as possible after their use is no longer required.
- g. Kincumba Mountain Regional Reserve will be closed to vehicular and pedestrian access on days when a Total Fire Ban as declared by the Rural Fire Service or on other days of high fire danger as advised by the Rural Fire Service.
- h. The environmental assessments and reviews of environmental factors for hazard reduction works will consider:
  - the potential impacts on all of the identified values of the reserve,

- the recreational assets and use of the reserve,
  - the neighbouring properties and urban areas; and
  - the Aboriginal and non-Aboriginal assets within the reserve.
- i. Fire awareness activities will involve reserve neighbours and reserve visitors.
  - j. The lighting of fires, except for fire management activities and in the designated fire place in the Kiosk, is prohibited in Kincumba Mountain Regional Reserve.
  - k. Hazard reduction burning will be undertaken so as to avoid negative impacts on the values of Kincumba Mountain Regional Reserve.

### **Actions**

- 31 The fire management actions recommended for Kincumba Mountain Regional Reserve in the Gosford Natural Areas Bushfire Risk Analysis will be assessed and undertake where appropriate to the on-ground conditions.
- 32 Council will prepare and implement improved internal and external fire reporting mechanisms as they relate to hazard reduction burns and wildfire incidents.
- 33 A fire history of Kincumba Mountain Regional Reserve, which includes historical fires recorded by the Rural Fire Service, will be developed and maintained.
- 34 An annual hazard reduction program will be prepared and implemented with appropriate strategies in Kincumba Mountain Regional Reserve where approved by the Gosford Bushfire Management Committee.
- 35 Tracks and trails used for the management of fire in Kincumba Mountain Regional Reserve will be upgraded and maintained to the standard identified in the Gosford Natural Areas Bushfire Risk Analysis.
- 36 Interpretive material relating to the reserve will include information on the ecological role of fire; safety in and adjacent to the reserve; and fire preparedness in adjacent urban areas.
- 37 A regular maintenance program that includes the maintenance of fire trails and asset protection zones is to be prepared and implemented for Kincumba Mountain Regional Reserve.

### **4.3 USE OF KINCUMBA MOUNTAIN REGIONAL RESERVE**

Kincumba Mountain Regional Reserve will be managed to ensure that its use, whether by the general public, special interest groups, Council employees or other authorities is appropriate and conforms to the management objectives and strategies of this plan of management.

The categories of use that are appropriate in the reserve are:

- Research, educational and interpretive activities relating to the natural and cultural heritage values of the reserve, including the management of the values;
- Passive recreation in a natural setting, and low key events in the kiosk and picnic area; and
- Management operations by Council and other authorities.

The extent to which these categories of use are appropriate to Kincumba Mountain Regional Reserve are indicated below.

#### **4.3.1. Interpretive and Educational Activities**

Kincumba Mountain Regional Reserve remains in a relatively natural state. It contains a variety of habitats that are sensitive to disturbance. The isolated nature of the reserve makes the ecological integrity of these habitats particularly vulnerable to disturbance from inappropriate or excessive use.

A management objective of this Plan of Management is to promote public awareness and understanding of the values of Kincumba Mountain Regional Reserve. This has relevance to the reserve in its own right, and the reserve as part of the COSS within the City of Gosford. Public awareness with emphasise:

- The importance of isolated remnant vegetation to local and regional ecological conservation and the pressure placed it by human impacts;
- Aboriginal and non-Aboriginal heritage; and
- The roles that the community can play in managing the values and significance of the reserve.

Some limited information about the reserve is currently available in the form of a brochure that briefly explains the natural values, history and recreational opportunities within the reserve. The brochure is available through various Council outlets. The brochure is however currently outdated and requires updating.

Interpretation shelters and signs are provided at key entry and activity locations within the reserve. The current information and information shelters are generally of poor quality and there is much capacity for improvement.

Council staff are available to assist local educational groups such as schools and universities by providing information and advice to students on a range of topics that can be observed within the reserve. Staff may be available to provide assistance in the form of presentations at schools or other gatherings, particularly in relation to Council's Bushcare Program.



## **Policy**

- a. Kincumba Mountain Regional Reserve will be promoted as a reserve of ecological and cultural value where designated recreational opportunities that do not impact on these values may be undertaken.
- b. Promotion, education and interpretation actions will be undertaken to increase the quality of visitor experience while minimising the negative impacts of visitation.
- c. Promotion of the reserve will aim to foster public understanding and appreciation of the natural and cultural heritage values of the reserve.
- d. A range of methods will be used to improve environmental and cultural interpretation in the reserve including:
  - Information sheets and brochures;
  - Interpretive displays and signs; and
  - Information talks and demonstrations.

## **Actions**

- 38 Existing interpretation and signage within Kincumba Mountain Regional Reserve will be upgraded and additional signage installed where appropriate.
- 39 Council's Bushcare Program will be promoted in the local community, and will provide opportunities for the community to become involved in hands on bush regeneration and environmental education activities.
- 40 The reserve brochure will be revised and be made available to residents in the neighbouring suburbs of Green Point, Kincumber, Erina and Terrigal, as well as being made available through Council, tourist and community outlets.

### **4.3.2 Recreation Opportunities**

Kincumba Mountain Regional Reserve is part of the Central Coast Tourism Region. A number of opportunities for recreational activities have been provided in the reserve including:

- Walking on designated tracks and fire trails;
- Picnicking in designated picnic areas;
- Cycling on designated fire trails and the access road; and
- Jogging, running on walking tracks, fire trails and the access road

Organised activities that incorporate the above recreational activities, for example orienteering, organised bike rides, walks and runs are permitted in the reserve, however the holding of organised events in the reserve is subject to Council approval.

There has been little data gathered regarding patterns of visitation to the reserve over time. Information relating to patterns of visitation to a reserve is essential in planning for recreational infrastructure as well as for providing more targeted management of existing infrastructure.

Recreational use of the reserve is limited to activities that have low potential to impact on the values of the reserve. Available resources will be used to manage the existing recreational facilities and no further areas will be developed for recreation within Kincumba Mountain Regional Reserve unless specifically resolved by Council. Recreational use of the reserve for authorised activities will be managed to minimise degradation to the reserve. Unauthorised use of the reserve by motorcyclists and others has the potential to degrade the cultural and ecological values of the reserve. In some cases this may mean the closing of walking tracks and other facilities either permanently or until resources are available to undertake repair and upgrade works.

## **Policy**

- a. Only recreation activities that have the potential to have minimal impact on the natural and cultural significance and values of Kincumba Mountain Regional Reserve will be permitted in the reserve.
- b. Camping or staying overnight in the reserve or kiosk is not permitted.
- c. Maintenance and improvements to walking tracks and other facilities will be carried out according to a priority based on the following criteria:
  - To address actual or potential safety issues;
  - To address actual or potential impacts on the environmental or cultural values of the reserve;
  - To address the repair/refurbishment of a facility;
  - To improve access to the reserve by special needs groups.
- d. Informal walking tracks will be closed where there is an unacceptable environmental impact or a potential risk to public safety.
- e. Activities that involve an unacceptable risk to the safety of the person undertaking the activity or to others in the reserve are not permitted in the reserve. Advice will be sought from Council's risk management staff on the level of risk associated with an activity.
- f. Wood burning fires will not be permitted in the reserve.
- g. Car parking is only permitted within designate parking areas.
- h. Only recreation activities that do not degrade the natural or cultural values of the reserve; those that do not make undue noise; and those that do not impact on the bushland experience of other users of the reserve are permitted.
- i. The impacts of recreational activities on the reserve and other users will be monitored and, where necessary, activities will be controlled so as to:
  - minimise conflict between users;
  - protect visitor safety and welfare;
  - minimise nuisance to neighbours and other visitors; and to
  - protect the natural and cultural heritage values of the reserve.
- j. The reserve will be closed on days of Total Fire Ban as declared by the Rural Fire Service. Declaration of Total Fire Bans can occur at short notice and potential users of the reserve are advised to check media for declarations of Total Fire Ban as they apply to the Gosford Local Government Area.

k. Controls may be placed on people entering sections of the reserve when they are overcrowded, during periods of high fire danger, for management works, where degradation has occurred, or for fire or other emergency operations.

## **Actions**

- 41 Signage at entrances to Kincumba Mountain Regional Reserve, at Honeman's Rock Picnic Area and entrances to the track system will be installed to indicate permissible and non-permissible recreation activities (as per Appendix B).
- 42 Interpretive signage will be installed at key locations in Kincumba Mountain Regional Reserve that aim at improving users' understanding of the values of the reserve and how their activities may impact on these values.
- 43 Signage indicating that the reserve will be closed on days of Total Fire Ban will be upgraded at the entrances to the reserve and at Honeman's Rock Picnic Area.

### **4.3.2.1 Public access to Kincumba Mountain Regional Reserve**

Public vehicular access to the reserve is only available via Island View Drive, which can be accessed from Kincumber Street, Kincumber. There are a number of pedestrian access points in the surrounding urban areas. The western section of the reserve has no formal access due to the difficult terrain. Several of the pedestrian access points are also used for management and emergency vehicle access. In these instances locked fire gates or slip-rails have been installed to prevent unauthorised vehicular access.

There are no entry stations in the reserve and no entry fees are collected. Charging entry to the reserve is not permitted. Where a contribution, by way of charge or donation, is required for events held in the kiosk, this may best be organised prior to the event being held. The use of temporary pay stations on the road into the reserve is not permitted.

Kincumba Mountain Regional Reserve is closed to vehicular access between sunset and sunrise. Functions in the kiosk that are planned to run beyond sunset must lock the main reserve gate at the completion of their function (see section 4.3.4). Pedestrian and bicycle access to the reserve is available 24 hours per day subject to complete closure of the reserve due to Total Fire Ban or for other management reasons. The closure of the reserve at night to vehicular access has resulted in a marked decrease in vandalism.

Island View Drive is a narrow road and must be driven according to the road and climatic conditions. The road was sealed in 2006 and advisory speed signs were installed. A section of the road near the kiosk and main picnic area was signed as being one-way to avoid congestion at that location.

The main reserve entrance gate at Island View Drive is currently located above a small car park at the base of Glasson's Trail. This car park is therefore accessible 24 hours per day. Vandalism and rubbish are issues at this location. The completion of the developments at the western end of Kincumber Street has provided an opportunity to move the main access gate to the end of Kincumber Street.

The car parks adjacent to Honeman's Rock Picnic Area were sealed in 2006. A disabled car park was constructed near the kiosk at that time. Parking restriction signs were also installed. The marking of parking bays is yet to be undertaken. There are parking spaces for approximately 70 cars in the car parks adjacent to the picnic area. Roadside parking is

currently not restricted below the lower car park at Honeman's Rock Picnic Area. However in the future limiting parking to one side of the road may be required.

### **Policy**

- a. Public vehicle (including 4WDs motorbikes and other vehicles) access to Kincumba Mountain Regional Reserve is limited to Island View Drive and the car parks adjacent to Honemans Rock Picnic Area.
- b. Island View Drive is to be maintained as a sealed road to allow easy access by 2WD vehicles, and to minimise sediment movement into the creeks in the reserve and local waterways.
- c. Car parking at Honeman's Rock Picnic Area is only permitted within designated parking areas.
- d. The opportunities for vandalism and damage to occur in the reserve will be limited by measures including closure of the gate between sunset and sunrise and moving of the entrance gate to the end of Kincumber Street, Kincumber.
- e. A bus parking bay and disabled parking bays will be provided and maintained adjacent to Honemans Rock Picnic Area.

### **Actions**

- 44 The main entrance gate will be relocated to the end of Kincumber Street, Kincumber.
- 45 Parking bays will be marked, and wheel stops installed in the car parks adjacent to Honeman's Rock Picnic Area.
- 46 Barrier fencing will be installed and upgraded to prevent unauthorised vehicular access, including trail bikes, to the picnic area, fire trails and walking tracks in the reserve.
- 47 A bus parking bay will be developed adjacent to Honemans Rock Picnic Area.

#### **4.3.2.2 Management Access**

In addition to the public road in Kincumba Mountain Regional Reserve (Island View Drive), there are approximately twenty (20) kilometres of trails within the reserve. The primary purpose of the trails is for fire management activities include fire suppression in bushfire situations. The trails also provide access for management activities including weed control, pest animal control, and erosion control.

There is no formal helicopter pad within Kincumba Mountain Regional Reserve, however there are cleared areas on the lower section of Honeman's Rock Picnic Area and near Colin Watters Lookout that may be suitable for emergency use. These areas will be managed to be free of tree and shrub growth to allow for emergency helicopter landing.

The development of service infrastructure that impacts on the natural and cultural values of the reserve is not compatible with the management of the reserve. The installation of new powerlines or the replacement of existing powerlines must be done underground and must follow existing lines or management trails. Any excavation in the reserve for power line installation must be rehabilitated by the organisation paying for the work

The current lock system in the reserve lacks a high level of security and there is evidence that keys to the reserve locks are in circulation within the community. Upgrading the lock system is essential. The preference is for a lock system whereby identifiable keys can be issued to individuals in organisations that regularly access particular locked gates. The keys issued would enable access to be gained to particular gates by designated personnel. The cost of replacement keys and/or locks would be charged to the organisation that was responsible for the key loss.

## **Policy**

- a. The management trail system and existing reserve management facilities will be maintained for essential management and emergency access purposes.
- b. Use of the management trails will be restricted to Council vehicles, emergency vehicles and vehicles assessing the telecommunications tower.
- c. All management trails and facilities will be kept under review in terms of their function, maintenance requirements and impact. Trails and other facilities which are no longer essential, or whose impact exceeds their management value, will be closed and/or removed and the site rehabilitated.
- d. Emergency and management vehicles may access the fire trail network via the locked fire gates. Management vehicles that require access to the communications tower adjacent to Col Watters Lookout must use the Island View Fire Trail. Access to the communications tower via any other route must be approved by Council.
- e. A new lock system will be developed for the reserve, and across Council's COSS and natural open space reserves, that enables Council to limit access to personnel that have specifically been issued keys to particular gates. The cost of replacement keys and/or locks will be charged to the individuals that the key has been issued to.

## **Actions**

- 48 The lock system on the fire gates and slip rails into the reserve will be reviewed and replaced with a system that provides greater security while enabling emergency access to be gained by authorised organisations.
- 49 A locked fire gate will be installed on the fire trail to Nyari Point to ensure access to the telecommunications is done via Island View Drive and Yanina Walk / Island View Fire Trail.
- 50 Signage will be installed on Yanina Walk/ Island View Fire Trail to identify the track as being multi-use, and to indicate an advisory speed for management vehicles.

### 4.3.2.3 Picnicking and sightseeing

Honeman's Rock Picnic Area provides a large grassed area in which picnicking, barbecuing, informal games and relaxation can be enjoyed. The picnic area was developed in 1985 and the picnic tables, barbecues and access are being progressively upgraded.

The toilets at the site are compost toilets that provide for the users of the picnic area and for functions in the kiosk. Mains water is not available on-site, and at the time of installation composting toilets were the best option for providing the facilities given the constraints of the site. There are some inherent issues with compost toilets including odour after periods of high usage, and the uncommon occurrence of these systems in urban areas. Compost toilets are however a common feature of more remote public natural areas, including national parks, where water is not available.

Rubbish bins are located only at Honeman's Rock Picnic Area. In the remainder of the reserve visitors are expected to take their rubbish out with them or deposit it in one of the bins provided at the picnic area. A small skip is located adjacent to the disabled car park for use of rubbish generated by functions in the kiosk. The bins in the picnic area are not to be used by functions held in the kiosk as the bins are not emptied on weekends. Bins that are full or overfull may result in the rubbish being blown or carried by animals around the picnic area. This situation is undesirable particularly if it persists over weekends, which is when the picnic area receives its highest level of use.

There are a number of points in the reserve that provide view to various parts of the Gosford City. These include:

- Colin Watters Lookout provides a view across Picketts Valley towards Avoca Beach, Terrigal and Copacabana;
- Nyari Point provides a view through vegetation to the north across Erina towards Rumbalara and Katandra Reserve;
- Warri Warri Point provides a view through vegetation across Green Point towards Brisbane Water;
- Illawong Point provides a view through vegetation across Kincumber towards the Kincumber Broadwater; and
- Other views are possible on sections of the various walking tracks, however these are locations are not developed as viewing points.

### Policy

- a. Council will undertake an ongoing program of improvements with regard to picnic areas and lookout points in Kincumba Mountain Regional Reserve.
- b. Honeman's Rock will be developed and maintained as the main picnic area in the reserve. Additional picnic table will be maintained at Col Watters Lookout, adjacent to the lower carpark at Honeman's Rock and adjacent to the car park at the base of Glasson's Trail.
- c. There are currently two (2) double electric barbecues (a total of four [4] king sized plates) provided in Kincumba Mountain Regional Reserve for all reserve users. These barbecues

are turned on with a push button only and do not require coins. Some reserve visitors may wish to use their own portable barbecues at Honeman's Rock Picnic Area. This is permissible subject to the barbecues being operated according to the manufacturer's operating instructions, and the barbecues being located to avoid potential conflict with other reserve visitors.

d. Views at the main lookouts will be maintained to provide filtered views where the environmental and aesthetic values of the reserve are not compromised. Views from informal lookouts will not be maintained.

## **Actions**

- 51 Council will develop and maintain a detailed asset register of recreation infrastructure within the reserve to facilitate its maintenance and replacement.
- 52 A comprehensive maintenance program for facilities in the reserve will be developed to enable field staff to plan, implement and record the regular maintenance activities undertaken.
- 53 The fencing, seating and directional, warning and interpretive signage will be upgraded at the designated lookout points where required.
- 54 The effectiveness of the compost toilets on the site will be monitored, and regularly maintained. The toilets will be included in the asset register for the reserve and will be upgraded or replaced when assessed to be no longer operating effectively.
- 55 Additional shade indigenous trees will be planted at Honeman's Rock Picnic Area, however an open area below the rock shelf will be maintained free of shade trees.
- 56 The use of the picnic area will be monitored and additional or replacement picnic tables, toilets, shade structures and barbecues may be installed if required.

### **4.3.2.4 Walking**

There are currently approximately 20 kilometres of walking tracks within Kincumba Mountain Regional Reserve. In addition, the reserve fire and management trail system is available for walking. Walking tracks provide access to many parts of the reserve, and provide opportunities to appreciate the animals, plants and natural features of the reserve.

There has been little quantitative information gathered relating to visitor use of the walking trails and other facilities in the reserve. Information about the usage patterns within the reserve that does exist is based on casual observations made by Council staff over a number of years.

There are currently no tracks in Kincumba Mountain Regional Reserve for visitors who are unable to negotiate steps and unformed surfaces. The terrain in the reserve makes it difficult to provide a satisfactory 'bush experience' for these visitors. Further investigations are required to assist in identifying the need for such a track and its location.

In the past there has been a policy of maintaining all walking tracks within the reserve to the same standard, however the time and cost of implementing such a policy has meant that many tracks were not maintained to an appropriate standard. In addition not all walks do, or should, provide the same type of experience. To provide a range of bushwalking

experiences, some tracks will be maintained and promoted as high standard walks suitable for all levels of walkers, while others will be maintained as lower standard constructed tracks. Generally, the higher standard tracks will be those close to picnic areas or major car parking areas. For management purposes some tracks will be maintained at a standard suitable for emergency vehicular access. The specifications for track construction and maintenance are outlined in Council's 'Bushland Maintenance Specifications' document dated November 1999 (GCC 1999).

## Policy

a. A network of walking tracks will continue to be maintained in the reserve to cater for a range of abilities and desired experiences.

b. All walking tracks in the reserve must meet a standard that provides a solid walking surface, minimises erosion and sedimentation, and is signed to indicate name, destination and permitted uses of the track.

c. The priority ranking of the walking tracks is:

- High priority tracks:
  - The upper section of Glasson's Trail from the lower carpark to the kiosk;
  - Kanning Walk including the cave loop and extension to the Sid Pulsford Track; and
  - The Ridge Trail to Illawong Point.
- Medium priority tracks:
  - Glasson's Trail below the lower carpark at Honemans Rock Picnic Area including extensions to Kincumber Street and Island View Drive south;
  - The Ridge Trail to Arakoon and Ballorok Streets, Kincumber; and
  - The Sandringham Track from Col Watters Lookout to Sandringham Close, Terrigal
- Low priority tracks:
  - Warri Warri Track to Warri Warri Point including an extension to Bembooka Road, Green Point;
  - Sid Pulsford Track where the walking track and fire trail are separate; and
  - Aires Track from the Blue Hills East Fire Trail to Aires Close, Erina.

d. Tracks and parts of tracks will be classified and maintained in accordance with Council's 'Bushland Maintenance Specifications'.

e. Each designated walking track in Kincumba Mountain Regional Reserve will be maintained to the standard appropriate to its priority subject to the availability of funds.

f. Tracks that do not form part of the walking track or management trail system will be closed and revegetated.

g. Minimum impact bushwalking practices will be promoted, including visitors taking their own rubbish out of the reserve and keeping to designated tracks.

h. Information, interpretive and directional signage will be provided at key points on each walking track.



i. Infrastructure for visitors unable to negotiate the existing track system in the reserve will be provided where appropriate and possible.

### **Actions**

- 57 The walking track system in Kincumba Mountain Regional Reserve will be maintained to a standard that is consistent with the designated priority for each track.
- 58 Barriers that deter access to walking tracks by trail bikes, while providing pedestrian access, will be installed where appropriate.
- 59 A regular maintenance program will be developed and implemented to maintain the drainage, vegetation growth, signage, and surface of the walking tracks including bridges and metal stairs.
- 60 Investigations into the provision of a track providing a 'bush experience' for visitors unable to use the existing tracks will be undertaken.
- 61 Directional, information and interpretive signage will be installed at appropriate locations in the walking track system.

#### **4.3.2.5 Camping and staying overnight**

Staying overnight or camping in the reserve or kiosk is not permitted, with the exception of the residents and visitors to the cottage. This position is consistent with the ordinance for reserves and parks managed by Gosford City Council. Camping is available at Patonga Camping Area, Bouddi National Park and a number of commercial camping areas on the Central Coast.

### **Policy**

- Staying overnight or camping in the reserve or kiosk at Kincumba Mountain Regional Reserve is not permitted.

### **Actions**

- 62 Ordinance signs and other signs will be installed and maintained to indicate that camping and staying overnight is not permitted in Kincumba Mountain Regional Reserve.

#### **4.3.2.6 Horse Riding**

Horse riding in Kincumba Mountain Regional Reserve is not permitted in the reserve. Horse riding has in the past been permitted, however the surrounding area has become largely urbanised and the number of rural holdings has decreased. Picketts Valley may be the exception to this, however there are no formal access points to the reserve from that area. The use of the reserve by local residents, who are the most regular users of the reserve, is largely for walking, cycling and running. The bringing of horses to the reserve from outside the local area is not considered to be desirable as commercial and club facilities provide more appropriate horse riding opportunities.

## **Policy**

- a. Horse riding is not permitted in Kincumba Mountain Regional Reserve. Horse riding circuted is permitted on designated trails in Katandra Reserve.

## **Actions**

- 63 Ordinance and information signs will be installed and maintained to inform users that horse riding is not permitted in Kincumba Mountain Regional Reserve.

### **4.3.2.7 Cycling**

Cycling is an increasingly popular activity within Kincumba Mountain Regional Reserve. The road into the reserve, and the fire and management trails provide opportunities to cycle in the reserve. Walkers and joggers also use the fire and management trails within the reserve. Consequently care needs to be taken by all users to prevent accidents and discomfort from occurring. A code of practice for users of the reserve would assist in providing guidance on the use of shared tracks and trails.

The road into the reserve and the fire and management trails are narrow thus making the use of the reserve unsuitable for large cycling events. Council may consider approving proposals for cycling events that neither interfere with the use of the reserve by other visitors, nor result in damage to the reserve. Preference would be given to leisurely club and group rides.

Cycling can contribute to the erosion of fire and management trails, especially on steep slopes. Strengthening the surface of such sections of the fire and management trails may be required, as well as the closure of informal cycling tracks.

There is a desire by some mountain bike riders for downhill circuits on which they can develop their skills and experience a fast descent. The development of a range of challenging mountain bike experiences in Vancouver, Canada has further expanded a desire for similar experiences domestically. The potential for liability on such tracks is high, and the potential environmental damage is not consistent with the ecological and cultural values of Kincumba Mountain Regional Reserve. Some unauthorised mountain bike tracks have been developed in the reserve, however these will be closed.

## **Policy**

- a. Cycling will only be permitted on Island View Drive and on the following fire and management trails:
  - Kanning Walk / Island View Fire Trail between the picnic car parks and Col Watters Lookout / Nyari Point;
  - Blue Hills West Fire Trail between Col Watters Lookout / Nyari Point and Bronzewing Avenue, Erina;
  - Blue Hills East Fire Trail from Blue Hills West Fire Trail to the top of the stairs off Sandringham Close (cyclists are to carry their bikes down/up the stairs);
  - Sid Pulsford Fire Trail between Honemans Rock Picnic Area and Beatties Road, Green Point;

- Koolang Road Fire Trail between the Sid Pulsford Fire Trail and Koolang Road.
- Woorora Fire Trail between Sid Pulsford Fire Trail and Woorara Pde, Green Point.
- Warri Warri Fire Trail between Sid Pulsford Fire Trail and Warri Warri Point (this is a dead end route);
- Ridge Fire Trail between Island View Drive and Illawong Point (this is a dead end route);
- Williams Fire Trail between Sid Pulsford Fire Trail and end (this is a dead end route); and
- Bembooka Fire Trail between Bembooka Road and end (this is a dead end route).

b. Cycling must remain on designated fire and management trails, and are not permitted on tracks that are designated walking tracks only.

c. The development of tracks by cyclists and other reserve visitors is not permitted in Kincumba Mountain Regional Reserve and any that are developed will be closed.

d. The construction of jumps or deviations from the designated fire and management trails is not permitted in Kincumba Mountain Regional Reserve, and any that are developed will be dismantled.

e. There is a preference for organised bicycle rides in the reserve to be held at times when the reserve use would be expected to be low. Periods of high use in the reserve typically occur on weekends during school holiday periods and during the warmer months of the year.

## **Actions**

64 Install signage indicating cycling routes through the reserve, as well as those areas where cycling is not permitted.

65 Close unauthorised tracks in the reserve.

66 Develop users code of practice for all users of the reserve, and publicise the code in interpretive and promotion material for the reserve.

67 Install signage at key locations in Kincumba Mountain Regional Reserve that identifies permitted and prohibited usage.

### **4.3.2.8 Other Recreational Activities**

A number of other recreational activities are typically associated with natural areas. These including orienteering, rogaining, rock climbing and abseiling.

Orienteering and rogaining are not activities often undertaken in Kincumba Mountain Regional Reserve. This is presumably because the size of the reserve is not large enough to represent a challenge to organised groups. However, orienteering activities have taken place in the reserve in the past to a small degree, and this has not been discouraged by Council. The NSW National Parks and Wildlife Service has had management issues associated with excessive orienteering demand and the expansion of discrete orienteering

tracks by other visitors. Consequently, some national parks have placed regulations on orienteering activities in particular areas (NPWS, 1992).

The trialling of an orienteering course for Rumbalara Reserve is currently being discussed. If the trial proves to be successful from a recreational perspective; does not result in degradation to the reserve; and proves to be compatible with other recreational uses of the reserve, a similar trial may be considered for Kincumba Mountain Regional Reserve. Organised orienteering and rogaining events in natural reserves need to be approved through Council's event approval process.

Climbing and abseiling activities are becoming increasingly popular in and around the Sydney metropolitan areas (NPWS, 1992). This trend is likely to be reflected within the Central Coast. Impact from these activities including damage to rare plants; damage to rock faces by bolts and pitons and frequent use of one site; the creation of a series of tracks to the top and bottoms of cliffs; damage to trees used for belays and disturbance of birds nesting on cliffs. Abseiling and rock climbing are not permitted in Kincumba Mountain Regional Reserve.

## **Policy**

- a. Persons wishing to undertake any activities in Kincumba Mountain Regional Reserve that presents a potential risk to the safety of the person involved or to others are required to make written application and receive written approval from Council.
- b. Rock climbing, abseiling, hang gliding, motorbike or quad-bike riding or similar activities are not permitted in the reserve.
- c. Interpretive, ordinance and information signs will identify activities that are permitted and those that are prohibited in Kincumba Mountain Regional Reserve.
- d. Orienteering and rogaining will be allowed in the reserve subject to the conditions of approvals for events undertaken in natural reserves. The establishment of a trial orienteering route on existing tracks may be considered for the reserve.
- e. Applications for recreation activities in the reserve will be assessed in accordance to the standard procedure for such applications along with an assessment of the proposed activity's impact on the environment of the reserve, the impact on other reserve users, and the safety of participants, spectators and others.
- f. Activities that cause unacceptable impact on the reserve and its users will be regulated according to the Local Government Act and Council policies. This may involve an order to cease the activity and the incurring of fines.

## **Actions**

- 68 Interpretive, ordinance and information signs will be erected in Kincumba Mountain Regional Reserve that indicated the permitted and prohibited uses of the reserve.

### 4.3.3 Commercial and Organised Activities

Commercial recreation activities and guided nature tours are not generally undertaken in Kincumba Mountain Regional Reserve. However, commercial and organised activities that have the potential to be undertaken in the reserve include guided walks, wildlife and wildflower tours, commercial filming, photographic instruction, and viewing of Aboriginal sites. In addition to this, commercial recreational activities, such as endurance or adventure events have been run in the reserve.

Tours and organised activities may have the benefit of increasing the opportunities for public participation in nature-based activities, and provide opportunities for professional instruction in the safety and minimal impact aspects of nature based recreation. Guided activities also have the potential to interpret and promote the natural and cultural values of the reserve.

The positive role of guided tours and other commercial operations needs to be balanced against the protection of the reserve's natural and cultural resources, and the overall demand for recreational use of the reserve. Commercial and organised activities can contribute to an unacceptable level of impact at certain sites and has the potential to be a direct cause of conflicts between visitors. Large groups can make it difficult for other visitors to use the reserve facilities, generate loud noise levels, and spoil the recreational experience for those wanting to experience the quiet and restful atmosphere. Organised activities need to be managed as a component of all recreation in the reserve to ensure that all impacts are within the acceptable limits.

Commercial activities in the reserve are required by legislation to have a lease or licence, while organised groups are required to have consent from Council. Leases, licences and consents provide the mechanism for ensuring that activities, levels of use and behaviour are appropriate for the reserve. Locations for operation can also be specified. Industries and operators who utilise the reserves public resources for commercial purposes should be expected to make a financial contribution to reserve management, as well as displaying the highest standards of behaviour towards the reserve. All commercial leases and licences need to be regularly reviewed to ensure that:

- the operators are complying with their lease or licence;
- the operations are appropriate in terms of the objectives of the reserve;
- the operators, are providing a valuable service to the reserve visitors;
- information being provided improves public understanding and appreciation of the reserve; and
- operations are not having an unacceptable impact on the reserve or other visitors.

#### **Policy**

a. All commercial activities conducted in Kincumba Mountain Regional Reserve that are not one-off events are required to have a licence or lease from Council. Commercial licences or leases for the reserve will be limited to activities that are recreational, environmentally or culturally based that do not impact on the significance and values of the reserve.

b. Leases and licences will prescribe the approved activities, location and frequency of activities, maximum group sizes and minimum guide rations for each activity, guide standards, fees, appropriate behaviour and other special provisions to ensure the long term protection of the reserve, reserve visitors and recreation opportunities.

- c. Prior approval will be required for organised activities by all groups that have a duration of over one hour or attract an audience or participation of 50 people or more. This applies to all reserve users including kiosk hirers who use any part of the reserve for their function.
- d. Preference will be given to commercial and organised activities that increase knowledge and appreciation of the natural and/or cultural values of the reserve.
- e. Recreation and other activities that pose a danger to other users, create a significant noise or other nuisance, or have a major impact on the natural or cultural heritage of the reserve will not be permitted.
- f. Organised and commercial activities will not be granted any rights of access which exclude the public, or which exceed normal public rights of use or access.
- g. Commercial operators or organised events will not be permitted to key locations in the Kincumba Mountain Regional Reserve such as picnic areas, car parks or lookouts.
- h. Commercial operators whose activities may encroach on or utilise any Aboriginal site or place, must consult with appropriate Aboriginal community groups and Land Councils.
- i. All commercial operators and activities will be monitored with respect to impacts, safety requirements and compliance with licence agreements.
- j. At the end of their term of operation leases and licences will be reviewed and their renewal is not automatic.

## **Actions**

- 69 Council will assess applications for leases and licences and commercial events using the existing procedures and policies.

### **4.3.4 Events in the reserve including in the Kincumba Mountain Kiosk and Honemans Rock Picnic Area.**

Kincumba Mountain Regional Reserve is a passive recreation area site that is managed for its values including biodiversity protection and nature based recreation. All activities undertaken in the reserve must be consistent with the significance and values of the reserve.

Kincumba Mountain Kiosk was established at Honeman's Rock Picnic Area in 1985. The kiosk is a unique mud brick building that is currently used to hold low-key functions. The public is able to book the kiosk for social functions that fit within the guidelines for management. The kiosk is currently managed by the Gosford City Lions Club through Council's Property Section. Bookings of the kiosk are made directly to the Lions Club. Hire of the kiosk applies to the building itself, which includes the verandas, but which does not include any part of the reserve. Hiring of the reserve for organised events is managed through Council's Open Space and Leisure Section.

The kiosk is comprised of a one main room where functions are typically held, a basic kitchen, and a storage room. In addition a veranda extends approximately three-quarters of the way around the building. The compost toilets located in the reserve serve the kiosk as well as the reserve. The reserve car parks are shared by people using the picnic area and tracks, as well as those attending functions in the kiosk.

The capacity of the kiosk is limited by the size of the building as well as the toilet facilities and number of car parks. During the normal reserve opening hours it is likely that reserve visitors will wish to use the picnic area while events are being undertaken in the reserve or kiosk. This will result in demand for car parking spaces and toilets additional to that by the kiosk users alone. Allowances must be made for this casual use of the reserve when booking events for the kiosk and reserve.

Access to Kincumba Mountain Regional Reserve by emergency vehicles is often required. Overcrowding of the roadway and car parks with parked cars is not desirable as it has the potential to impede access to emergency vehicles or make evacuation of the reserve difficult should hazardous situations such as bushfire occur.

## **Policy**

- a. The arrangements under which the Kiosk is managed are to be reviewed and formalised by Council's Property Section. The options for management include formalising a lease arrangement under which hiring of the kiosk operates; direct management by Council either by the Open Space and Leisure Section or the Property Section; or the rejuvenation of the Section 355 Committee. A report to Council is to be prepared by Property Section and the management structure adopted by the Councillors be implemented.
- b. The requirements for Place of Public Entertainment (POPE) approval under Section 68 of the Local Government Act for functions in the kiosk are to be assessed by Council's Property Section.
- c. Based on the area of the kiosk building, the capacity for events in the kiosk is one-hundred (100) people unless otherwise determined by a Place of Public Entertainment (POPE) approval. This is based on the Building Code of Australia (BCA). The number of people for which an event can be approved in the picnic area is to be determined by an independent assessment of the site that considers all relevant issues.
- d. The booking officers for the kiosk and the reserve will co-ordinate booking information to avoid two events being booked on Kincumba Mountain at the same time. The reserve booking officer will inform potential reserve hirers that the kiosk is available for hire.
- e. The hiring of the kiosk is for the building itself and not for any part of the reserve. If a function in the kiosk proposes to use part of the picnic area, then approval must be gained via Council's Open Space and Leisure Section reserve booking process.
- f. No structures are to be erected in the reserve.
- g. It is not permitted to charge admission to the reserve. Anyone wishing to make a donation to the organisers of an event in the reserve must do so off site. It is not permitted for events that are open to the public to make the contribution of a donation a condition of entry to the reserve.
- h. Parking is limited to the designated parking areas. Parking is not permitted on grass areas, in the bush, or in designated 'No Parking' areas on the sides of Island View Drive.
- i. No signage relating to the event being held is to be attached to trees, power poles or on existing management signage.
- j. No camping, or staying overnight, is permitted in the reserve, car parks or kiosk.

- k. During days of Total Fire Ban the reserve will be closed to all non-emergency and management access. This includes hirers of the kiosk. During the traditional fire season kiosk hirers are advised to have a contingency plan for their function should a Total Fire Ban be declared, and access to the reserve become unavailable.
- l. Management vehicles entering Kincumba Mountain Regional Reserve on days of Total Fire Ban must inform the Rural Fire Service Headquarters at Kariong of their presence in the Reserve.
- m. No fires are to be lit in the reserve at any time, including in the picnic area. The fireplace in the kiosk may however be lit.
- n. Bushfire may occur outside days of Total Fire Ban. Should bushfire occur in the reserve while the kiosk is in use, the emergency number 000 is to be dialled, and visitors are advised to remain in the kiosk until directed to evacuate the reserve by emergency personnel.
- o. No fireworks are permitted within the reserve at any time.
- p. The reserve is closed to vehicular access from sunset to sunrise. Functions that will extend beyond sunset need to arrange to be issued a key from the booking officer. It is the hirer's responsibility to control access to the reserve after sunset. The hirer must also ensure that the reserve gate is properly locked when they depart.
- q. Evening functions in the kiosk or reserve are to be finished by 12.00 midnight. An additional half hour (i.e. until 12.30 am) is allocated for cleaning up of the kiosk and reserve. Extension of the time for cleaning may be permitted, however this must be approved at the time of booking. Cleaning up of litter in the reserve must be undertaken on the night of the function, however arrangements for cleaning of the kiosk on the following morning may be permitted. This must also be arranged at the time of booking.
- r. Failure to adequately clean the reserve or kiosk may result in the loss of a hirer's security deposit. Reserve bins are provided for small amounts of litter, typically that which is generated by picnickers or reserve users. Kiosk hirers must deposit the rubbish generated from their function in the skip located adjacent to the disabled car park.
- s. Food is not to be prepared in the kiosk kitchen. The facilities in the kitchen do not meet food preparation standards; therefore any food provided for a function in the kiosk must be prepared off site. The transportation, storage and preparation of food is to comply with the *Food Act 2003*.
- t. The sale of items in the reserve is not permitted.
- u. No companion animals are permitted in the reserve. Assistance animals as referred to in the *Companion Animals Act 1998*, for example guide dogs, are however permitted in Kincumba Mountain Regional Reserve if performing the function of an assistance animal.
- v. The collection of wood from the reserve is not permitted. Wood must be brought into the reserve for use in the wood heater in the kiosk.
- w. Portable toilets may be hired for functions or events in the reserve or kiosk. These are to be located adjacent to the existing toilets and must be installed by qualified personnel.

### **Actions**

70 The arrangements under which the Kiosk is managed are to be reviewed and formalised by Council's Property Section. A report to Council is to be prepared by



Property Section and the management structure adopted by the Councillors be implemented.

71 The requirements for Place of Public Entertainment (POPE) approval under Section 68 of the Local Government Act for functions in the kiosk are to be assessed by Council's Property Section.

72 Potential hirers of the kiosk and reserve are to be made aware of the conditions of use by the appropriate bookings officer. Hirers of the kiosk and reserve are to sign that they agree to comply with the conditions of hire. Failure to comply with the conditions of hire may result in the loss of part or all of the hirer's security deposit.

#### **4.3.5 Kincumba Mountain Cottage**

A caretaker's cottage is located in Kincumba Mountain Regional Reserve to the north of the picnic area. Like the kiosk, the cottage is constructed of mud-brick. A fenced yard, a small shed, an underground tank and carport are located adjacent to the cottage. The leasing of the cottage is managed through Council's Property Services Section, which rents it at market rate to Council employees. The lessee may be required to undertake duties associated with the management of the reserve.

##### **Policy**

- a. No fires are to be lit in the reserve at any time.
- b. No domestic animals or livestock are permitted to be kept by the resident of the cottage or be brought into the reserve by visitors to the cottage.
- c. Visitors vehicles may access the cottage beyond the fire-gate; however vehicular access to fire trails in the reserve is not permitted.
- d. An asset protection zone is to be maintained around the cottage to reduce the bushfire risk.
- e. An emergency plan for bushfire impacting on the cottage is to be developed by Council's Open Space and Leisure Section, and the plan is to be provided to lessees when occupying the cottage.
- f. Council's Property Section is to manage the leasing of the cottage.
- g. Council's Open Space and Leisure Section is to manage the maintenance of the cottage.

##### **Actions**

73 Council's Property Services Section to inform prospective tenants of the cottage of the requirements regarding animals, fires and reserve access, and the evacuation plan in event of bushfire.

74 An asset protection zone to be maintained around the Kincumba Mountain cottage as part of the regular maintenance of fire trails and asset protection zones in Kincumba Mountain Regional Reserve.

### **4.3.6 Telecommunications Tower near Colin Watters Lookout**

A telecommunications tower is located in the vicinity of Colin Watters Lookout in the east of the Kincumba Mountain Regional Reserve. The tower is located Lot 374 DP 755234 which is owned by the Crown. Crown Castle currently owns and manages the telecommunications tower on which a number of companies and organisations have communication equipment. The Yanina Walk (also called the Island View Fire Trail) leads from the end of the sealed section of Island View Drive to the tower.

Access to the telecommunications tower is via the locked gate to the east of Honemans Rock Picnic Area. Each of the telecommunications companies potentially uses contractors who require access to the gate. Currently each of the companies and organisations with facilities on the telecommunications tower having installed padlocks on the access gate. The level of control over the issuing of keys to the gate by the companies and organisations external to Council is unknown. A potential security risk therefore exists. Installation of a secure lock system in the reserve, including on this gate, is required to reduce the potential security risk. The risks of uncontrolled access include damage to infrastructure; damage to the natural values of the reserve; injury to reserve users; and arson.

The fire trail to the telecommunications tower is maintained at Council's cost. However the majority of vehicles that use the fire trail are non-Council vehicles accessing the telecommunications tower. It is therefore appropriate to seek a contribution from the telecommunications companies towards the cost of maintaining the fire trail.

#### **Policy**

- a. Access to the parts of Kincumba Mountain Regional Reserve that are behind lock gates is limited to emergency and management vehicles only.
- b. Where appropriate, Council will seek to recover part of the cost of developing and maintaining infrastructure in the reserve, such as fire trails, used by telecommunications companies and organisations.
- c. The fire trail is to be maintained in a condition that provides for safe multiple-use including management and emergency vehicles, walking, jogging and cycling.
- d. The fuel level in the vicinity of the telecommunications tower will be managed to minimise the risk of bushfire impacting on the telecommunications infrastructure.
- e. The lock system in the reserve is to be reviewed to ensure Council maintains control over access to Kincumba Mountain Regional Reserve.

#### **Actions**

- 75 A secure lock system is to be installed in the reserve that provides increased security, while allowing access to emergency and management vehicles.
- 76 The telecommunications companies will be approached regarding the development and cost of installing an upgraded lock system.

- 77 The telecommunications companies will be approached regarding contributions to the cost of maintaining the fire trail to the tower.
- 78 An asset protection zone will be maintained around the telecommunications tower.
- 79 Yanina Walk will be regularly maintained to a standard that provides for the use of walkers, joggers, cyclists and emergency and management vehicles.

#### **4.3.7 Green Point Community Centre at Koolang Road, Green Point**

The Green Point Community Centre is located on Lot 28 DP 1029061, which is one of the land parcels that makes up Kincumba Mountain Regional Reserve. The Community Development Section of Council manages the Green Point Community Centre. It is not unique to have Council buildings occupying part of a reserve or land managed by Council for other purposes. The Kincumba Kiosk is a local example where the management of the building is undertaken by a section of Council other than the reserve asset managers.

##### **Policy**

- a. The management of the Green Point Community Centre and existing lawn and garden areas is the responsibility of Council's Community Development Section.
- b. The lawn and garden area of the Community Centre is not to be extended farther into the adjacent reserve than it currently does.
- c. Lawn clippings and other garden refuse generated in the Community Centre garden are not to be deposited in the reserve.

#### **4.3.8 Research**

Research into the natural and cultural resources of Kincumba Mountain Regional Reserve; the management of these resources; the activities and perceptions of reserve users, and the impact of reserve users is essential to the development of appropriate and effective management practices.

Council resources that are made available for research in the Reserve must be directed towards areas that provide greatest understanding of reserve management issues. Research by other organisations and students may provide valuable information for understanding and managing the reserve's resources as well as assisting by trialling new management techniques or methods.

There are many reserve management issues that present opportunities for appropriate research by organisations external to Council. Council's ecological research grants provide funding for research on ecological issues in the Gosford City. Universities and other organisations may however undertake research in the Council managed natural reserves. The results of any research undertaken on Council land are to be provided to Council for potential inclusion in the management of the land. Council is to be acknowledged when reporting on research undertaken on Council land.

Examples of research areas that would be expected to provide improved information upon which management decisions could be made include:

- The distribution and management of threatened species and endangered ecological communities;
- Pest plant and animal control strategies and techniques;
- The effects of different fire regimes on native plants and animals;
- Recreational use patterns and the impact of different activities on natural and cultural resources;
- The distribution, significance and conservation requirements of Aboriginal sites and historic places; and
- Organisational structure and the role of strategic documents from corporate plans to service levels agreements in achieving on-ground best practice natural resource management.

### **Policy**

- a. Research that assists in improving the management of Kincumba Mountain Regional Reserve and other natural areas under Council's management will be encouraged.
- b. Research undertaken in Council natural reserves is to be undertaken in accordance with Council policies, as well as state and Commonwealth legislation.
- c. Research structures and markers will be placed in locations that will minimise their visual impact and be removed upon completion of the project.

### **Actions**

- 80 Areas for research in Kincumba Mountain Regional Reserve and other natural reserves will be included in the information sent to prospective research organisations about Council's ecological grants scheme. The areas for research will include issues that affect the on-ground management of the values of the COSS and natural reserves including Kincumba Mountain Regional Reserve.

#### **4.3.9 Encroachment into Kincumba Mountain Regional Reserve**

Encroachments are identified as a threat in the COSS Management Strategy (Manidis Roberts 1992). Encroachment is seen to occur from the properties surrounding Kincumba Mountain Regional Reserve. Examples of encroachment include the building or placement of temporary or permanent structures such as cubby huts or garden sheds on reserve land; fencing part of the reserve land by neighbours; and the clearing of native vegetation from reserve land. Encroachments result in the progressive loss of the values of the reserve and alienation of public land from the community.

In some instances it is desirable to establish a buffer zone between the neighbouring properties and the vegetation in the reserve. However, any clearing and maintenance of a buffer zone is Council's responsibility and residents who undertake such work without written approval may be subject to fines under Council by-laws or under state or Commonwealth legislation.

## **Policy**

- a. No encroachments will be permitted into the reserve and encroachments will be removed from the reserve. Encroachments include, but are not limited to, fencing off of reserve land, erection of garden sheds, gardens, mowing, play equipment, and clotheslines.
- b. Residents will be requested to remove encroachments from reserve land. If the residents do not comply with the request Council will remove the offending items from the reserve. Where possible the cost of removing encroachments from the reserve will be recouped from residents found to be responsible for the encroachment.
- c. Clearing or mowing of either native and non-native vegetation from the reserve is not permitted to be undertaken by, or on behalf of, neighbours unless approved in writing by Council. Any approval given by Council to clear native or non-native vegetation will be issued in writing and will be in accordance with Council policies and state and Commonwealth legislation.
- d. Vehicles, machinery and materials are not permitted to be parked or stored on Kincumba Mountain Regional Reserve. Any vehicles, machinery or materials parked or stored on the reserve will be required to be removed by the owners or may be removed by Council at the owner's cost.

## **Actions**

- 81 A strategy will be developed and implemented to manage encroachments, and the rehabilitation of degradation resulting from encroachments, on the perimeters Kincumba Mountain Regional Reserve.
- 82 The location, types and dimensions of buffer zones between neighbouring properties and the native vegetation in the reserve will be identified in accordance with the current bushfire plan that covers Kincumba Mountain Regional Reserve.
- 83 An education program will be developed for the community about the influences that neighbouring residents can have of on the values of Kincumba Mountain Regional Reserve, and seek co-operation from neighbouring residents in reducing the impacts that their activities have on the values of Kincumba Mountain Regional Reserve.
- 84 Information will be prepared for neighbours outlining the impact of domestic animals on the reserve, and the actions neighbours can undertake to reduce the impact of predation by domestic cats and dogs.

### **4.3.10 Management Operations**

The administrative framework under which COSS reserves, including Kincumba Mountain Regional Reserve, are managed and the financial and staff resources available are identified threats to the long-term protection of the COSS (Manidis Roberts 1992). A clear administrative framework that meets the organisational, financial and community needs for the long-term protection of the COSS is considered to be the desirable outcome to this issue (Manidis Roberts 1992).

The Natural Open Space Unit within Council's Open Space and Leisure Section currently manages Kincumba Mountain Regional Reserve. The Natural Open Space Unit is

responsible for the funding of, the style of, design of, and the timing of implementation of the following activities:

- strategic management documents;
- new infrastructure and activities in the Reserve including:
  - reserve furniture such as picnic tables, and barbecues;
  - signage including locational, directional, ordinance and interpretive signage;
  - fire and management trails to meet required standards;
  - walking tracks that meet required standards;
  - bush regeneration works;
  - preparation of hazard reduction programs
- the upgrading or refurbishment of infrastructure in the reserve including:
  - picnic tables;
  - signage; and
  - fire trails, management trails and walking tracks.

The day-to-day maintenance of Kincumba Mountain Regional Reserve is currently undertaken by the Recreation Operations section of Council. A budget is allocated to Recreation Operations for the management of the following issues:

- mowing/slashing of the picnic area and Asset Protection Zones within the reserve;
- clearing of defined strips of vegetation on the edges of the reserve adjacent to private properties;
- maintenance or roll-overs, drainage and surfaces of fire and management trails in the reserve to the specified standard;
- maintenance of the surface, drainage and vegetation growth associated with walking tracks in the reserve to the specified standard;
- maintenance of signage in the reserve to the specified standard;
- closing the reserve on days of Total Fire Ban and re-opening them after the lifting of the Ban;
- maintenance of the drainage on public roads and car parks in the Reserve;
- maintenance of fencing and parking barriers in the reserve;
- cleaning of barbecues and emptying of bins to the specified standard;
- weeding and re-mulching of developed garden beds in the reserve;
- maintenance of fire gates, including locks;
- removal of fallen trees and branches from roadways, car parks, tracks and trails, picnic areas other high use areas in the reserve;
- implementation of the fox management strategy;
- the repair of vandalised infrastructure; and
- other maintenance works required.

Separate budgets exist for maintenance activities as well as for the improvements to the reserve. These budgets exist in two different units within the City Services Directorate. Ensuring that the budget expenditure results in the best management outcomes for the management of the reserve is essential. The expenditure of funds on the installation of new infrastructure must be accompanied by an effective maintenance program in order to maximise the lifespan of the infrastructure. Administrative arrangements may require reviewing to ensure that the best outcomes for management of the reserve are achieved.

## **Policy**

a. The roles and responsibilities for the management of issues across Kincumba Mountain Regional Reserve need to be defined and agreed to by internal stakeholders.

- b. Requests for maintenance actions in the reserve be managed in a way that provides an effective and efficient way of tracking works requests by internal and external customers, and for reporting on the completion and costing details of the requested actions.
- c. A system to enable regular reporting on maintenance and embellishment activities undertaken in Kincumba Mountain Regional Reserve, including costing, is required to ensure effective management.
- d. Council's 'Bushland Maintenance Specifications' document will be used to guide the standard of maintenance activities in Kincumba Mountain Regional Reserve.

### **Actions**

- 85 A Service Level Agreement or similar agreement for maintenance activities in the reserve is to be developed between the asset manager of Kincumba Mountain Regional Reserve (currently Open Space and Leisure Section) and the maintenance service provider (currently Council's Recreation Operations section).
- 86 The selected maintenance activities in Appendix D and the selected maintenance works descriptions in Appendix E of this plan of management are to be completed and incorporated into the Maintenance Service Level Agreement. Until such time that the Maintenance Service Level Agreement is developed Appendices C, D & E will give direction to the maintenance work to be undertaken in Kincumba Mountain Regional Reserve.
- 87 The maintenance program for the reserve will be reviewed quarterly to ensure that the objectives for management are being met as best as possible within resource constraints. Where resource shortfalls are impacting on maintenance of the reserve, they will be identified and the appropriate steps will be taken to address the resource shortfalls.
- 88 The quarterly reporting of maintenance activities to the asset manager will be undertaken by the supervisor of the maintenance service providers.
- 89 An electronic process will be developed to improve the management of the works request system that enables the tracking of works requests; the identification of the costs of individual works requests; the costs of work requests over given time periods; and the costs and nature of works requests at given locations.

#### **4.3.11 Enforcement of reserve ordinance and Council policy.**

Section 632 of the Local Government Act enables Councils in NSW to identify permitted and prohibited uses in public reserves. Most of the restrictions on use in Kincumba Mountain Regional Reserve relate to activities that cause nuisance to other reserve visitors, or those that cause environmental damage. Reserve ordinance and information signs alert reserve visitors and neighbours to the activities that are not permitted in a reserve. These signs are essential for Council rangers to enforce the ordinances.

#### **Policy**

- a. Section 632 ordinance signs will be located at all entrance to the reserve and at Honeman's Rock Picnic Area.

b. Ranger services will be assisted where possible to enable enforcement of ordinances to be undertaken in Kincumba Mountain Regional Reserve.

c. Ordinance information will be included on interpretive signage and brochures for Kincumba Mountain Regional Reserve.

### **Actions**

90 Install and maintain ordinance signs at the entrances to Kincumba Mountain Regional Reserve and at Honeman's Rock Picnic Area.

91 Upgraded interpretive signage and brochures will include information about the permitted uses and prohibited uses of Kincumba Mountain Regional Reserve.

## **5.0 PLAN IMPLEMENTATION**

The implementation of regular maintenance in this plan will be undertaken by the reserve maintenance service providers according to the developed action plan (Appendix C) for the reserve. The action plan will be reviewed periodically in conjunction with the maintenance service provider to ensure that the reserve maintenance schedule still reflects that maintenance work required to be undertaken in achieving reserve management objectives.

The installation of new infrastructure and the upgrading of existing infrastructure will be done according to the following list as funds are available. Council staff and contractors may be employed to undertake these works.

The environmental impact of all development proposals will be assessed in accordance with Commonwealth and NSW legislation and Council procedures and policies.

The management proposals identified in the plan have been placed into one of three management priority categories:

**High (1)** Imperative to achieve the plan's stated objective;

**Medium (2)** Very important to achieve the plan's objectives or part of a sequence of operations but subject to the availability of resources;

**Low (3)** Desirable, but will be undertaken only if the necessary resources or other conditions stated in the policies are fulfilled.

It is unlikely to be able to achieve all of the actions identified in the plan of management due to the constraints presented by finance and human resource limitations. Some of the actions in the plan of management may be able to be funded through the recurrent budget for the management of the natural open space reserves and Coastal Open Space System. Grants, sponsorships and other sources of funds will also need to be pursued to fund many of the actions identified in the plan of management. Actions that are not able to be implemented during the lifespan of this document (five years) will be assessed, and if still relevant, carried over to the replacement plan of management that is due to be prepared in 2012.



## 6.0 REFERENCES

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## **7.0 APPENDICES**

**APPENDIX A- KINCUMBA MOUNTAIN REGIONAL RESERVE - SCHEDULE OF LANDS**

**APPENDIX B- KINCUMBA MOUNTAIN REGIONAL RESERVE - TRACKS AND TRAILS**

**APPENDIX C - KINCUMBA MOUNTAIN REGIONAL RESERVE - ACTION SUMMARY**

**APPENDIX D - KINCUMBA MOUNTAIN REGIONAL RESERVE – SELECTED MAINTENANCE ACTIVITIES**

**APPENDIX E - KINCUMBA MOUNTAIN REGIONAL RESERVE – SELECTED MAINTENANCE WORKS DESCRIPTION**

## APPENDIX A- KINCUMBA MOUNTAIN REGIONAL RESERVE - SCHEDULE OF LANDS

The following land parcels form Kincumba Mountain Regional Reserve.

Parcel no	Lot & DP	Owner	Status	Crown no.	Area (ha)
6816	Lot 1 DP 159041	GCC	community	N/A	8.3
12755	Lot 5 DP 217960	GCC	community	N/A	1.6
25886	Lot 31 DP 245328	GCC	community	N/A	0.8
29080	Lot 12 DP 255797	GCC	community	N/A	27.4
29488	Lot 7 DP 259809	GCC	community	N/A	66.0
29494	Lot 6 DP 259824	GCC	community	N/A	11.7
39534	Lot A DP 527987	GCC	community	N/A	1.2
40416	Lot 1 DP 542339	GCC	community	N/A	4.6
41578	Lot 66 DP 570978	GCC	community	N/A	12.3
42808	Lot 7 DP 609541	GCC	community	N/A	4.3
42841	Lot 53 DP 939907	GCC	community	N/A	13.0
43556	Lot 1 DP 623419	GCC	community	N/A	7.1
43557	Lot 2 DP 623419	GCC	community	N/A	3.0
44728	Lot 1 DP 701861	Crown (Dept Planning)	ccm	N/A	15.3
44729	Lot 2 DP 701861	GCC	community	N/A	27.6
46477	Lot 8 DP712976	GCC	community	N/A	1.2
46618	Lot 3 DP 713902	GCC	community	N/A	0.7
47938	Lot 171 DP 734334	GCC	community	N/A	6.3
47972	Lot 9 DP 735124	GCC	community	N/A	13.4
48677	Lot 8 DP 747616	GCC	community	N/A	1.3
48698	Lot 3 DP 748259	GCC	community	N/A	0.5
48836	Lot 1 DP 749376	GCC	community	N/A	0.3
49383	Lot 79 DP 755234	GCC	community	N/A	12.9
49417	Lot 248 DP 755234	GCC	community	N/A	6.9
49458	Lot 344 DP 755234	GCC	community	N/A	2.6
51141	Lot 3 DP 774389	GCC	community	N/A	5.4
51483	Lot 12 DP 777601	GCC	community	N/A	3.3
52501	Lot 13 DP 786206	GCC	community	N/A	1.1
53243	Lot 1 DP 790771	GCC	community	N/A	3.7
53411	Lot 38 DP 792131	GCC	community	N/A	0.4
54475	Lot 1 Part 3 DP 803833	GCC	community	N/A	0.7
54476	Lot 1 Part 1 DP 803833	GCC	community	N/A	1.4
54477	Lot 1 Part 2 DP 803833	GCC	community	N/A	1.8
54549	Lot 232 DP 805224	GCC	community	N/A	4.0
54863	Lot 29 DP 807428	GCC	community	N/A	0.4
58193	Lot 57 DP 939907	GCC	community	N/A	13.0
58195	Lot 59 DP 939907	GCC	community	N/A	13.2
58196	Lot 61 DP 939907	GCC	community	N/A	13.0
58197	Lot 63 DP 939907	GCC	community	N/A	13.0
58198	Lot 64 DP 939907	GCC	community	N/A	10.3
58199	Lot 65 DP 939907	GCC	community	N/A	13.0
58200	Lot 67 DP 939907	GCC	community	N/A	13.0
67987	Lot 10 DP 735124	Crown (Dept Planning)	ccm	N/A	6.7
67991	Lot 78 DP 755234	GCC	community	N/A	19.7
68014	Lot 159 DP 755234	Crown	ccm	R55455	1.1
68019	Lot 187 DP 755234	Crown	ccm	R87796	16.3
68021	Lot 222 DP 755234	Crown	trustee	R95521	1.4
68023	Lot 234 DP 755234	Crown	ccm	R74480	3.8
68025	Lot 326 DP 755234	Crown	ccm	R74480	36.7
68026	Lot 284 DP 755234	Crown	ccm	R84893	35.1
68027	Lot 325 DP 755234	Crown	ccm	R89832	24.9
68028	Lot 164 DP 755234	Crown	ccm	R90010	11.5
68029	Lot 330 DP 755234	Crown	ccm	R54163	1.0
68030	Lot 353 DP 755234	Crown	ccm	R87796	20.8
68033	Lot 451 DP 755234	Crown	ccm	R87796	0.1
71320	Lot 279 DP 835392	GCC	community	N/A	6.0
71321	Lot 280 DP 835392	GCC	community	N/A	0.02
72727	Lot 6 DP 842071	GCC	community	N/A	0.07
74310	Lot 3 DP 856822	GCC	community	N/A	3.8
75943	Lot 6 DP 867972	GCC	community	N/A	2.5
77958	Lot 374 Part 2 DP 755234	Crown	trustee	R62378	1.8
78983	Lot 42 DP 243415	GCC	community	N/A	2.8
86085	Lot 7039 DP 1020215	Crown	ccm	R55455	10.4
86087	Lot 7031 DP 1020213	Crown	ccm	R87796	0.02
87093	Lot 28 DP 1029061	GCC	community	N/A	24.3
			<b>TOTAL</b>		<b>591.81</b>

## APPENDIX B- KINCUMBA MOUNTAIN REGIONAL RESERVE - TRACKS AND TRAILS

Track / trail name	Section	Description	Approx length	Permitted uses
Island View Drive	Kincumber Street to top car park	- Sealed road. - High volume multiuse roadway - Some sections one vehicle width. - Steep sections. - Low speed use only.	1.5 km	- Public vehicular access. - Registered motor bikes. - Management vehicles - Emergency vehicles - Bicycles. - Walkers / runners
Yanina Walk / Island View Fire Trail	Top car park to Col Watters Lookout	- Unsealed road. - Sandy in places. - Relatively level. - One vehicle width.	1.5 km	- Management vehicles - Emergency vehicles - Walkers / runners - Bicycles.
Sid Pulsford Fire Trail	Honeman's Rock Picnic Area to Beatties Road, Green Point	- fire trail. - steep in some sections. - blue metal surface in some steep sections. - one vehicle width.	3.5 km	- Management vehicles - Emergency vehicles - Bicycles. - Walkers / runners
Sid Pulsford Walking Track.	Various sections of walking track adjacent to fire trail from Honeman's Rock to Beatties Road, Green Point.	- walking track - some timber steps in various locations	1.0 km	- Walkers / runners
Warri Warri Fire Trail	Sid Pulsford Track to turn around at Warri Warri Point	- fire trail. - relatively level. - one vehicle width.	250 m	- Management vehicles - Emergency vehicles - Bicycles. - Walkers / runners
Warri Warri Walking Track	Turn around Warri Warri Point to Bembooka Road.	- undeveloped track - no constructed steps - erosion in some parts of the track	1.3 km	- walkers
Ridge Fire Trail	Island View Drive to turn around near Illawong Point	- fire trail - steep sections - one vehicle width - dead end with turn around bay	400 m	- Management vehicles - Emergency vehicles - Bicycles. - Walkers / runners
Ridge Walking Track	Island View Drive to Ballorok & Arakoon, Kincumber	- walking track with numerous timber steps.	1.0 km	- Walkers / runners
Glassons Trail	Honeman's Rock Picnic Area to entrance car park.	- walking track for most of its length. - one section of fire trail from water tower to crossing of track with	2.0 km	- Walkers / runners
Woorara Fire Trail	Sid Pulsford Fire Trail to Woorara Pde, Green Point	- fire trail - steep - gravel surface	500 m	- Management vehicles - Emergency vehicles - Bicycles. - Walkers / runners

Track / trail name	Section	Description		Permitted uses
Blue Hills West Fire Trail	Yanina Walk to Bronzewing Drive, Erina	- fire trail - steep sections - one vehicle width	1.5 km	- Management vehicles - Emergency vehicles - Bicycles. - Walkers / runners
Blue Hills East Fire Trail	Blue Hills West Fire Trail to steps above Sandringham Close, Terrigal.	- fire trail - one vehicle width - relatively level terrain - dead end trail	0.6 km	Management vehicles Emergency vehicles Bicycles. - Walkers / runners
Sandringham Walking Track	Blue Hills West Fire Trail to Blue Hills East Fire Trail	- walking track with numerous timber steps.	1.2 km	- Walkers / runners
Bronzewing Fire Trail	Bronzewing Avenue to end.	- short fire trail - sealed surface - one vehicle width - relatively flat terrain - dead end trail	250 m	- Management vehicles - Emergency vehicles - Bicycles. - Walkers / runners
Bembooka Fire Trail	Bembooka Avenue to end.	-short fire trail - one vehicle width - relatively flat terrain - dead end trail	500 m	- Management vehicles - Emergency vehicles - Bicycles. - Walkers / runners
Koolang Road Fire Trail	Sid Pulsford Fire Trail to Koolang Road, Green Point.	-short fire trail - one vehicle width - steep section	500 m	- Management vehicles - Emergency vehicles - Bicycles. - Walkers / runners
Joalah Rd Fire Trail	Joalah Road, Kincumber to the Ridge Walking Track.	- short fire trail - one vehicle width - steep section - dead end trail	250 m	- Management vehicles - Emergency vehicles - Bicycles. - Walkers / runners
Williams Fire Trail	Sid Pulsford Fire Trail to end.	- fire trail - one vehicle width. - relatively flat terrain	1.0 km	- Management vehicles - Emergency vehicles - Bicycles. - Walkers / runners

## APPENDIX C - KINCUMBA MOUNTAIN REGIONAL RESERVE - ACTION SUMMARY

### Priorities for the Implementation of Actions in the KMRR Plan Of Management

Action no	Section in PoM	Action	Strategy	Location	Primary responsibility	Status	Priority	Estimated cost p.a. \$	Total cost for 5 years
1	4.2.1	Maintain tracks, trails and other recreation areas in the reserve to minimise soil erosion and sedimentation.	g. erosion control a. Manage threats to biodiversity	various	Recreation Operations	As required	1	\$10,000	\$50,000
2	4.2.1	Upgrade fire trails and walking tracks to a standard that minimises erosion and sedimentation.	g. erosion control	various	Natural Open Space	As required	1	200,000	\$1,000,000
3	4.2.1	Close unauthorised tracks that contribute to soil erosion in the reserve	g. erosion control	various	Natural Open Space	As required	1	\$5,000	\$25,000
4	4.2.1;	Include information about the geology, topography and soil erosion and sedimentation in interpretive signs and material that relate to KMRR.	h. education and research g. erosion control a. Manage threats to biodiversity	various	Natural Open Space	Not commenced	2		\$60,000
5.	4.2.2	Identify the threatening processes identified in the TSC Act 1995 and EPBC Act 1999 that are relevant to KMRR, and develop an action planning for mitigating these threats on the native vegetation of the reserve.	a. Manage threats to biodiversity	Off site	Natural Open Space	Not commenced	2		\$10,000
6.	4.2.2	Develop and implement a weed management strategy for the KMRR that includes identification and mapping of weed invasion, priorities for control, methods for control and cost of undertaking control.	a. Manage threats to biodiversity	Off site / across KMRR	Natural Open Space	Not commenced	1	\$60,000	\$300,000
7.	4.2.2	The Council officers responsible for noxious weed control will undertake control of noxious weeds as per the requirements of the Noxious Weeds Act 1993.	a. Manage threats to biodiversity	Across KMRR	Recreation Operations	Not commenced	1	\$20,000	\$100,000
8	4.2.2	Provide opportunities for the local community to become involved in bush regeneration and habitat management activities in KMRR through Council's Bushcare Program.	a. Manage threats to biodiversity  c. Bushcare	Across KMRR	Natural Open Space	commenced	2	\$10,000	\$50,000

Action no	Section in PoM	Action	Strategy	Location	Primary responsibility	Status	Priority	Estimated cost p.a. \$	Total cost for 5 years
9	4.2.2	Bush regeneration will be undertaken by professional bush regeneration personnel in high priority locations when funds are available.	a. Manage threats to biodiversity	Across KMRR	Natural Open Space	Commenced	1	\$60,000	\$300,000
10.	4.2.2	Remove the coral trees from Honeman's Rock Picnic Area over a period of time and replace with shade trees that are indigenous to the reserve.	a. Manage threats to biodiversity	Honemans Rock Picnic Area	Natural Open Space	Commenced	3	\$2,000	\$10,000
11	4.2.2	Take appropriate action to prevent the impact of sedimentation on native vegetation in drainage lines as a result of the erosion of management tracks, fire management activities, and other areas where vegetation has been removed.	a. Manage threats to biodiversity g. erosion control	Across KMRR	Natural Open Space / Recreation Operations	commenced	1	\$10,000	\$50,000
12	4.2.2	Information about the native vegetation in the reserve and the impact that weed invasion can have on biodiversity will be included in interpretive information prepared about the reserve.	h. education and research i. visitor experience	Off site and information boards	Natural Open Space	Not commenced	2		\$15,000
13	4.2.2	Ordinance signage that include a prohibition on the damaging of flora in the reserve will be installed in appropriate locations.	h. education and research a. Manage threats to biodiversity	various	Natural Open Space	commenced	1		\$10,000
14	4.2.2	The conditions of approval for activities in KMRR will specifically refer to the penalties for damaging flora and fauna in the reserve.	h. education and research a. Manage threats to biodiversity	Off site	Natural Open Space	Not commenced	1		\$0
15	4.2.3	Undertake comprehensive fauna survey	a. Manage threats to biodiversity	Across KMRR	Natural Open Space		2		\$40,000
16	4.2.3	The specific fire responses and requirements of species, populations and ecological communities in KMRR that are listed on the TSC Act 1995 will be researched, and the results of the research will be addressed when planning fire management activities for the reserve.	a. Manage threats to biodiversity e. natural hazard management	Off site	Natural Open Space	Not commenced	2		\$0

Action no	Section in PoM	Action	Strategy	Location	Primary responsibility	Status	Priority	Estimated cost p.a. \$	Total cost for 5 years
17	4.2.3	The habitat requirements for species listed on the TSC Act 1995 will be identified and an assessment of habitat restoration or augmentation works that may be required will be undertaken. The recommendations of the habitat assessment will be undertaken on a priority basis as resources become available.	a. Manage threats to biodiversity	Across KMRR	Natural Open Space	Not commenced	2		\$60,000
18	4.2.3	The fox management program in the Kincumba Mountain Regional Reserve will continue to be undertaken on an annual basis. The fox program may be expanded subject to the results of the on-going monitoring of the program.	a. Manage threats to biodiversity	various	Natural Open Space	commenced		\$20,000	\$100,000
19	4.2.3	Monitoring of the impacts of other non-native animals on the biodiversity values of KMRR will be undertaken, and where required the current fox management program may be expanded to include additional pest species.	a. Manage threats to biodiversity	Across KMRR	Natural Open Space	Not commenced	1	\$5,000	\$25,000
20	4.2.3	Information about the native fauna and ecological communities in KMRR will be included in interpretive information prepared about the reserve.	a. Manage threats to biodiversity h. education and research i. visitor experience	various	Natural Open Space	Not commenced	1		\$15,000
21	4.2.3	Ordinance signage that includes a prohibition on the damaging of fauna in the reserve will be installed in appropriate locations.	a. Manage threats to biodiversity h. education and research i. visitor experience	various	Natural Open Space	Not commenced			\$10,000
22	4.2.3	The conditions of approval for activities in Kincumba Mountain Regional Reserve will specifically refer to the penalties for damaging flora and fauna in the reserve.	a. Manage threats to biodiversity	Off site	Natural Open Space	Not commenced			\$0
23	4.2.4	DECC will be informed of the discovery of new Aboriginal sites in KMRR.	k. manage cultural values	various	Natural Open Space	On-going	1		\$0
24	4.2.4	Any management actions taken to minimise the impact of visitation on Aboriginal sites will be undertaken in consultation with the Darkinjung Land Council.	k. manage cultural values	various	Natural Open Space	On-going	1	\$10,000	\$50,000



Action no	Section in PoM	Action	Strategy	Location	Primary responsibility	Status	Priority	Estimated cost p.a. \$	Total cost for 5 years
25	4.2.4	The Darkinjung Land Council and the NPWS will be consulted prior to undertaking any active management that may impact on known Aboriginal sites.	k. manage cultural values	various	Natural Open Space	On-going	1		\$0
26	4.2.4	A general understanding and appreciation of Aboriginal culture and occupation of the local area will be promoted in interpretive information for KMRR rather than specific cultural sites.	k. manage cultural values i. visitor experience	various	Natural Open Space	On-going	1	\$5,000	\$25,000
27	4.2.4	The information contained on the register of Aboriginal sites will be used in undertaken Part 5 assessments for works undertaken in KMRR.	k. manage cultural values	Across KMRR	Natural Open Space / Recreation Operations	commenced	1		\$0
28	4.2.5	The non-Aboriginal cultural sites and items in KMRR will be recorded on Council's GIS.	k. manage cultural values	Off site	Natural Open Space	Not commenced	3		\$0
29	4.2.5	Recorded information about the non-Aboriginal cultural sites and items in KMRR will be used when undertaking Part 5 assessments for management actions, including fire management activities, in the reserve.	k. manage cultural values	Off-site	Natural Open Space / Recreation Operations	Not commenced	1		\$0
30	4.2.5	Information about the non-aboriginal use of Kincumba Mountain Regional Reserve and the local area will be included in the interpretive information prepared for the reserve.	k. manage cultural values h. education and research i. visitor experience	various	Natural Open Space	Not commenced	1		\$15,000
31	4.2.6	The fire management actions recommended for KMRR in the Gosford Natural Areas Bushfire Risk Analysis will be assessed and undertake where appropriate to the on-ground conditions.	e. natural hazard management f. manage aesthetic values.	various	Natural Open Space	Not commenced	1	\$10,000	\$50,000
32	4.2.6	Council will prepare and implement improved internal and external fire reporting mechanisms as they relate to hazard reduction burns and wildfire incidents.	e. natural hazard management	Off site	Natural Open Space	Not commenced	1		\$5,000
33	4.2.6	A fire history of Kincumba Mountain Regional Reserve, which includes historical fires recorded by the Rural Fire Service, will be developed and maintained.	e. natural hazard management	Off site	Natural Open Space	Not commenced	2		\$5,000

Action no	Section in PoM	Action	Strategy	Location	Primary responsibility	Status	Priority	Estimated cost p.a. \$	Total cost for 5 years
34	4.2.6	An annual hazard reduction program will be prepared and implemented with appropriate strategies in KMRR where assessed to be warranted.	e. natural hazard management. f. manage aesthetic values.	Across KMRR	Natural Open Space	commenced	1	\$3,000	\$15,000
35	4.2.6	Tracks and trails used for the management of fire in KMRR will be upgraded and maintained to the standard identified in the Gosford Natural Areas Bushfire Risk Analysis.	e. natural hazard management	various	Natural Open Space	commenced	1	\$80,000	\$400,000
36	4.2.6	Interpretive material relating to the reserve will include information on the ecological role of fire; safety in and adjacent to the reserve; and fire preparedness in adjacent urban areas.	e. natural hazard management h. education and research i. visitor experience areas.	various	Natural Open Space	Not commenced	1		\$10,000
37	4.2.6	A regular maintenance program that includes the maintenance of fire trails and asset protection zones is to be prepared and implemented for KMRR.	e. natural hazard management	various	Natural Open Space / Recreation Operations	commenced	1		\$5,000
38	4.3.1	Existing interpretation and signage within KMRR will be upgraded and additional signage installed where appropriate.	h. education and research i. visitor experience	various	Natural Open Space	commenced	1		\$40,000
39	4.3.1	Council's Bushcare Program will be promoted in the local community and will provide opportunities for the local community to become involved in hands on bush regeneration and environmental education activities.	h. education and research c. Bushcare	various / off site	Natural Open Space	commenced	2		\$30,000
40	4.3.1	The reserve brochure will be revised and be made available to residents in the neighbouring suburbs of Green Point, Kincumber, Erina and Terrigal, as well as being made available through Council, tourist and community outlets.	h. education and research i. visitor experience	Off-site	Natural Open Space	Not commenced	2		\$30,000
41	4.3.2	Signage at entrances to KMRR, at Honeman's Rock Picnic Area and entrances to the track system will be installed to indicate permissible and non-permissible recreation activities. (as per Appendix B).	d. access and recreation h. education and research	various	Natural Open Space	Not commenced	2	\$15,000	\$75,000

Action no	Section in PoM	Action	Strategy	Location	Primary responsibility	Status	Priority	Estimated cost p.a. \$	Total cost for 5 years
42	4.3.2	Interpretive signage will be installed at key locations in KMRR that aim at improving users' understanding of the values of the reserve and how their activities may impact on these values	d. access and recreation h. education and research	various	Natural Open Space	Not commenced	2		\$40,000
43	4.3.2	Signage indicating that the reserve will be closed on days of Total Fire Ban will be upgraded at the entrances to the reserve and at Honeman's Rock Picnic Area.	d. access and recreation e. natural hazard management	various	Natural Open Space	Not commenced	3		\$10,000
44	4.3.2.1	The main entrance gate will be relocated to the end of Kincumber Street, Kincumber.	d. access and recreation i. visitor experience	Kincumber St	Natural Open Space	Not commenced	2		\$20,000
45	4.3.2.1	Parking bays will be marked, and wheel stops installed in the car parks adjacent to Honeman's Rock Picnic Area.	d. access and recreation i. visitor experience	Honemans Rock Picnic Area	Natural Open Space	Not commenced	2		\$15,000
46	4.3.2.1	Barrier fencing will be installed and upgraded to prevent unauthorised vehicular access, including trail bikes, to the picnic area, fire trails and walking tracks in the reserve.	d. access and recreation i. visitor experience	various	Natural Open Space	Not commenced	2	\$10,000	\$50,000
47	4.3.2.1	A bus parking bay will be developed adjacent to Honemans Rock Picnic Area.	d. access and recreation i. visitor experience	Honemans Rock Picnic Area	Natural Open Space	Not commenced	2		\$5,000
48	4.3.2.2	The lock system on the fire gates and slip rails into the reserve will be reviewed and replaced with a system that provides greater security while enabling emergency access to be gained by authorised organisations.	d. access and recreation	Across KMRR	Natural Open Space	Not commenced	1		\$20,000
49	4.3.2.2	A locked fire gate will be installed on the fire trail to Nyari Point to ensure access to the telecommunications is done via Island View Drive and Yanina Walk/ Island View Fire Trail.	d. access and recreation	Nyari Point	Natural Open Space	Not commenced	3		\$3,000
50	4.3.2.2	Signage will be installed on Yanina Walk/ Island View Fire Trail to identify the track as multi-use and to indicate an advisory speed for management vehicles	d. access and recreation	Island View Dve Fire Trail	Natural Open Space	Not commenced	2		\$1,000
51	4.3.2.3	Council will develop and maintain a detailed asset register of recreation infrastructure within the reserve to facilitate its maintenance and replacement.	d. access and recreation i. visitor experience	Off site	Natural Open Space	commenced	1		\$5,000

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Action no	Section in PoM	Action	Strategy	Location	Primary responsibility	Status	Priority	Estimated cost p.a. \$	Total cost for 5 years
52	4.3.2.3	A comprehensive maintenance program for facilities in the reserve will be developed to enable field staff to plan, implement and record the regular maintenance activities undertaken.	d. access and recreation	Off site	Natural Open Space / Recreation Operations	Not commenced	1		\$10,000
53	4.3.2.3	Where required the fencing, seating and directional, warning and interpretive signage will be upgraded at the designated lookout points.	d. access and recreation i. visitor experience	various	Natural Open Space	Not commenced	2		\$15,000
54	4.3.2.3	The effectiveness of the compost toilets on the site will be monitored, and regularly maintained. The toilets will be included in the asset register for the reserve and will be upgraded or replaced when assessed to be no longer operating effectively.	d. access and recreation i. visitor experience	Honemans Rock Picnic Area	Natural Open Space / Building Services	commenced	1	\$2,000	\$10,000
55	4.3.2.3	Additional shade indigenous trees will be planted at Honeman's Rock Picnic Area, however an open area below the rock shelf will be maintained free of shade trees	d. access and recreation i. visitor experience	Honemans Rock Picnic Area	Natural Open Space	commenced	3		\$2,000
56	4.3.2.3	The use of the picnic area will be monitored and additional or replacement picnic tables, shade structures and barbecues may be installed if required.	d. access and recreation i. visitor experience	Honemans Rock Picnic Area	Natural Open Space	commenced	2		\$20,000
57	4.3.2.4	The walking track system in KMRR will be maintained to a standard that is consistent with the designated priority for each track.	d. access and recreation i. visitor experience	various	Recreation Operations	commenced	1	\$50,000	\$250,000
58	4.3.2.4	Barriers that deter access to walking tracks by trail bikes while providing pedestrian access will be installed where appropriate.	d. access and recreation i. visitor experience	various	Natural Open Space / Recreation Operations	commenced	1	\$15,000	\$75,000
59	4.3.2.4	A regular maintenance program will be developed and implemented to maintain the drainage, vegetation growth, signage, and surface of the walking tracks including bridges and metal stairs.	d. access and recreation i. visitor experience	Off site / various	Natural Open Space / Recreation Operations	commenced	1	\$20,000	\$100,000
60	4.3.2.4	Investigations into the provision of a track providing a 'bush experience' for visitors unable to use the existing tracks will be undertaken.	d. access and recreation i. visitor experience	Honemans Rock Picnic Area	Natural Open Space	Not commenced	3		\$5,000

Action no	Section in PoM	Action	Strategy	Location	Primary responsibility	Status	Priority	Estimated cost p.a. \$	Total cost for 5 years
61	4.3.2.4	Install and maintain directional, information and interpretive signage at appropriate locations in the walking track system.	d. access and recreation i. visitor experience	Various	Natural Open Space / Recreation Operations	commenced	2	\$10,000	\$50,000
62 & 63	4.3.2.5 4.3.2.6	Install ordinance signs indicating that camping, staying overnight, and horse riding is not permitted in KMRR	j. administration & finance d. access and recreation	various	Natural Open Space	commenced	1		\$3,000
64	4.3.2.7	Install signage indicating cycling routes through the reserve, as well as those areas where cycling is not permitted.	d. access and recreation	various	Natural Open Space	Not commenced	1		\$25,000
65	4.3.2.7	Close unauthorised tracks in KMRR	d. access and recreation	various	Natural Open Space	Not commenced	2	\$5,000	\$25,000
66	4.3.2.7	Develop and publicise code of practice for reserve users	d. access and recreation	various	Natural Open Space	Not commenced	2		\$15,000
67 & 68	4.3.2.7 4.3.2.8	Install signage at key locations in KMRR that identifies permitted and prohibited usage.	d. access and recreation	various	Natural Open Space	Not commenced	1	\$5,000	\$25,000
69	4.3.3	Council will assess applications for leases and licences and commercial events using the existing procedures and policies.	d. access and recreation	Off site	Natural Open Space	commenced	1		\$0
70	4.3.4	The arrangements under which the Kiosk is managed are to be reviewed and formalised by Council's Property Section. A report to Council is to be prepared by Property Section and the management structure adopted by the Councillors be implemented.	d. access and recreation	Off site	Property Services	Not commenced	1		\$2,000
71	4.3.4	The requirements for Place of Public Entertainment (POPE) approval under Section 68 of the Local Government Act for functions in the kiosk are to be assessed by Council's Property Section.	d. access and recreation	Off site	Property Services	Not commenced	1		\$0
72	4.3.4	Potential hirers of the kiosk and reserve are to be made aware of the conditions of use. Hirers of the kiosk and reserve are to sign that they agree to comply with the conditions of hire. Failure to comply with the conditions of hire may result in the loss of part or all of the hirer's security deposit.	d. access and recreation	Off site	Property Services	Not commenced	1		\$0

Action no	Section in PoM	Action	Strategy	Location	Primary responsibility	Status	Priority	Estimated cost p.a. \$	Total cost for 5 years
73	4.3.5	Council's Property Services Section to inform prospective tenants of the cottage of the requirements regarding animals, fires and reserve access, and the evacuation plan in event of bushfire.	d. access and recreation	Off site	Property Services	Not commenced	1		\$0
74	4.3.5	An asset protection zone to be maintained around the Kincumba Mountain cottage as part of the regular maintenance of fire trails and asset protection zones in Kincumba Mountain Regional Reserve.	d. access and recreation e. natural hazard management	Kincumba Cottage	Natural Open Space	commenced	1	\$1,000	\$5,000
75	4.3.6	A secure lock system is to be installed in the reserve that provides increased security, while allowing access to emergency and management vehicles.	d. access and recreation	Across KMRR	Natural Open Space	Not commenced	1		\$30,000
76	4.3.6	The telecommunications companies will be approach regarding the development and cost of installing an upgraded lock system.	d. access and recreation	Off site	Natural Open Space	Not commenced	3		\$0
77	4.3.6	The telecommunications companies will be approach regarding contributions to the cost of maintaining the fire trail to the tower.	d. access and recreation	Off site	Natural Open Space	Not commenced	3		\$0
78	4.3.6	An asset protection zone will be maintained around the telecommunications tower.	d. access and recreation e. natural hazard management	Telecommunications tower	Natural Open Space	Not commenced	1		\$6,000
79	4.3.6	Yanina Walk will be regularly maintained to a standard that provides for the use of walkers, cyclists and emergency and management vehicles.	d. access and recreation	Yanina Walk	Natural Open Space	commenced	2	\$5,000	\$25,000
80	4.3.8	Areas for research in KMRR and other natural reserves will be included in the information sent to prospective research organisations about Council's ecological grants scheme. The areas for research will include issues that affect the on-ground management of the values of the natural reserves including KMRR.	h. education and research	Off site	Natural Open Space	Not commenced	3		\$0

Action no	Section in PoM	Action	Strategy	Location	Primary responsibility	Status	Priority	Estimated cost p.a. \$	Total cost for 5 years
81	4.3.9	A strategy will be developed and implemented to manage encroachments, and the rehabilitation of degradation resulting from encroachments, on the perimeters KMRR.	a. Manage threats to biodiversity	At reserve boundaries	Natural Open Space	Not commenced	3	\$15,000	\$75,000
82	4.3.9	The location, types and dimensions of buffer zones between neighbouring properties and the native vegetation in the reserve will be identified in accordance with the current bushfire plan that covers KMRR.	a. Manage threats to biodiversity e. natural hazard management	At reserve boundaries	Natural Open Space	Not commenced	1	\$25,000	\$125,000
83	4.3.9	An education program will be developed for the community about the influences that neighbouring residents can have of on the values of KMRR, and seek co-operation from neighbouring residents in reducing the impacts that their activities have on the values of KMRR	a. Manage threats to biodiversity h. education and research	Across KMRR	Natural Open Space	Not commenced	2		\$10,000
84	4.3.9	Information will be prepared for neighbours outlining the impact of domestic animals on the reserve and the actions neighbours can undertake to reduce the impact of predation by domestic cats and dogs.	a. Manage threats to biodiversity h. education and research	Across KMRR	Natural Open Space	Not commenced	2		\$10,000
85	4.3.10	A Service Level Agreement or similar agreement for maintenance activities in the reserve is to be developed between the asset manager of KMRR (currently Open Space and Leisure Section) and the maintenance service provider (currently Council's Recreation Operations section).	j. administration & finance	Off-site	Natural Open Space / Recreation Operations	Not commenced	1		\$5,000
86	4.3.10	The selected maintenance activities in App D and the selected maintenance works descriptions in App E of this plan of management are to be completed and incorporated into the MSLA. Until such time that the MSLA is developed Append C, D & E will give direction to the maintenance work to be undertaken in KMRR.	j. administration & finance	various	Recreation Operations	Not commenced	1		\$5,000

Action no	Section in PoM	Action	Strategy	Location	Primary responsibility	Status	Priority	Estimated cost p.a. \$	Total cost for 5 years
87	4.3.10	The maintenance program for the reserve will be reviewed quarterly to ensure that the objectives for management are being met as best as possible within resource constraints. Where resource shortfalls are impacting on maintenance of the reserve, they will be identified and the appropriate steps will be taken to address the resource shortfalls.	j. administration & finance	Off-site	Recreation Operations	Not commenced	1		\$5,000
88	4.3.10	The quarterly reporting of maintenance activities to the asset manager will be undertaken by the supervisor of the maintenance service providers.	j. administration & finance	Off-site	Natural Open Space	Not commenced	1		\$5,000
89	4.3.10	An electronic process will be developed to improve the management of the works request system that enables the tracking of works requests; the identification of the costs of individual works requests; the costs of work requests over given time periods; and the costs and nature of works requests at given locations.	j. administration & finance	Off-site	Natural Open Space	Not commenced	1		\$5,000
90	4.3.11	Install and maintain ordinance signs at the entrances to KMRR and at Honeman's Rock Picnic Area.	h. education and research	various	Natural Open Space	commenced	1	\$5,000	\$25,000
91	4.3.11	Upgraded interpretive signage and brochures will include information about the permitted uses and prohibited uses of KMRR.	h. education and research	various	Natural Open Space	Commenced	1		\$20,000
								<b>TOTAL</b>	<b>\$4,142,000.00</b>



## APPENDIX D - KINCUMBA MOUNTAIN REGIONAL RESERVE – SELECTED MAINTENANCE ACTIVITIES

### FULL LIST OF MAINTENANCE ACTIVITIES TO BE COMPLETED IN MAINTENANCE SERVICE LEVEL AGREEMENT

Strategy	Action	Location	Section of PoM	Primary responsibility	Status	Priority
h. education and research i. visitor experience	Information board maintenance	Kincumber Street entrance	4.3.1	Recreation Operations	Currently maintained	2
h. education and research i. visitor experience	Information board maintenance	Upper carpark	4.3.1	Recreation Operations	Currently maintained	2
h. education and research i. visitor experience	Information board maintenance	Kincumba Kiosk	4.3.1	Recreation Operations	Currently maintained	2
h. education and research i. visitor experience	Information board maintenance	Honemans Rock Picnic Area	4.3.1	Recreation Operations	Currently maintained	2
h. education and research i. visitor experience	Information board maintenance	Other locations as installed	4.3.1	Recreation Operations	Yet to be installed	2
d. access and recreation	Walking Track maintenance	Kanning Walk	4.3.2.2 4.3.2.4	Recreation Operations	Currently maintained	1
d. access and recreation	Walking Track maintenance	Yanina Walk	4.3.2.2 4.3.2.4	Recreation Operations	Currently maintained	1
d. access and recreation	Walking Track maintenance	Ridge Trail	4.3.2.2 4.3.2.4	Recreation Operations	Currently maintained	1
d. access and recreation	Walking Track maintenance	Sid Pulsford Track	4.3.2.2 4.3.2.4	Recreation Operations	Currently maintained	1
d. access and recreation	Walking Track maintenance	Sandringham Track	4.3.2.2 4.3.2.4	Recreation Operations	Currently maintained	1
d. access and recreation	Walking Track maintenance	Glasson's Trail	4.3.2.2 4.3.2.4	Recreation Operations	Currently maintained	1
d. access and recreation	Picnic Area maintenance	Honemans Rock Picnic Area	4.3.2.3	Recreation Operations	Currently maintained	1
d. access and recreation	Picnic Area maintenance	Kincumber Street Entrance	4.3.2.3	Recreation Operations	Currently maintained	1
d. access and recreation	Park furniture maintenance	Colin Watters Lookout	4.3.2.3	Recreation Operations	Currently maintained	2
d. access and recreation	Park furniture maintenance	Warri Warri Point	4.3.2.3	Recreation Operations	Currently maintained	3
d. access and recreation	Park furniture maintenance	Nyari Point	4.3.2.3	Recreation Operations	Currently maintained	3
d. access and recreation	Park furniture maintenance	Sid Pulsford Track	4.3.2.3	Recreation Operations	Currently maintained	3
d. access and recreation	Lookout maintenance	Colin Watters Lookout	4.3.2.3	Recreation Operations	Currently maintained	1
e. natural hazard management	Fire Trail maintenance	Glasson's Fire Trail Water Reservoir on Island View Drive uphill to Island View Drive.	4.2.6	Recreation Operations	Currently maintained	1

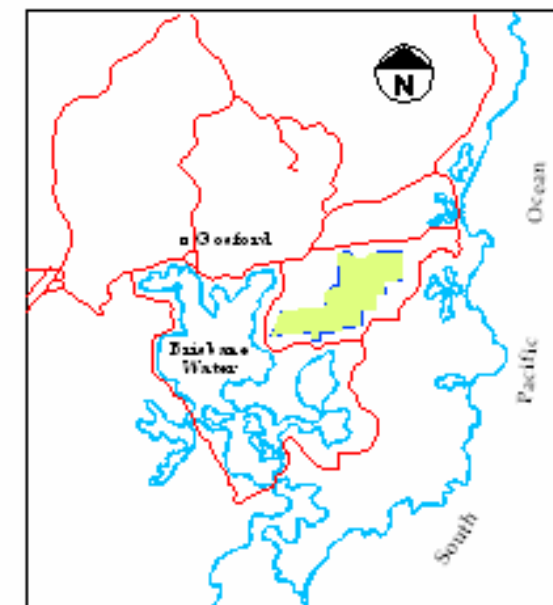
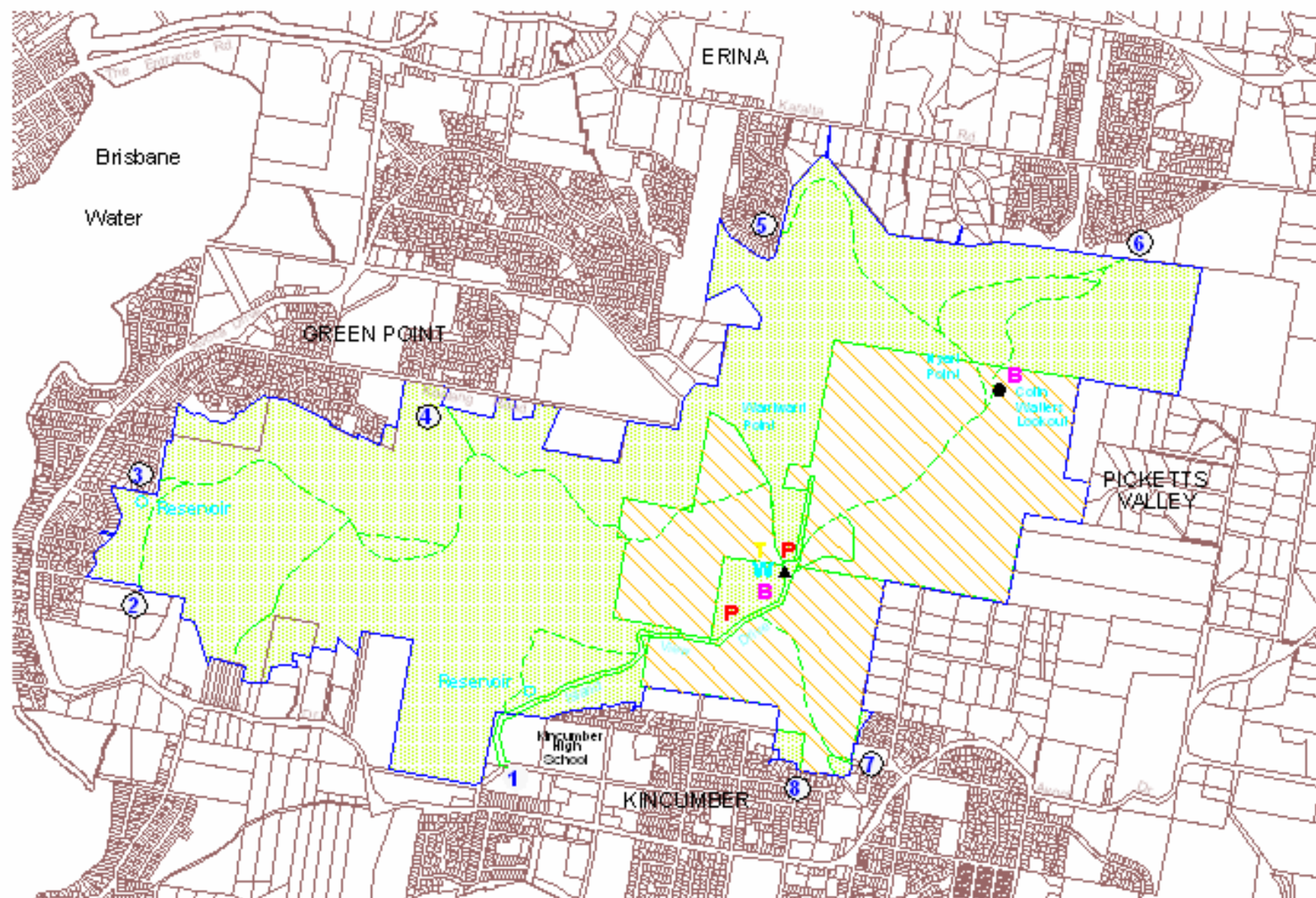
Strategy	Action	Location	Section of PoM	Primary responsibility	Status	Priority
e. natural hazard management	Fire Trail maintenance	Ridge Fire Trail Island View Dve to end.	4.2.6	Recreation Operations	Currently maintained	1
e. natural hazard management	Fire Trail maintenance	Yanina (Island View) Fire Trail - Upper car park to Colin Watters Lookout	4.2.6	Recreation Operations	Currently maintained	1
e. natural hazard management	Fire Trail maintenance	Blue Hills West Fire Trail - Yanina Fire Trail to Bronzewing Dve	4.2.6	Recreation Operations	Currently maintained	1
e. natural hazard management	Fire Trail maintenance	Blue Hills East Fire Trail Yanina Fire Trail to Bronzewing Dve	4.2.6	Recreation Operations	Currently maintained	1
e. natural hazard management	Fire Trail maintenance	Bronzewing Firetrail Behind properties 42-70 Bronzewing Dve	4.2.6	Recreation Operations	Currently maintained	1
e. natural hazard management	Fire Trail maintenance	Warri Warri Firetrail From Sid Pulsford Fire Trail to Warri Warri Point	4.2.6	Recreation Operations	Currently maintained	1
e. natural hazard management	Fire Trail maintenance	Sid Pulsford Firetrail From Honemans Rock Picnic Areas to Beatties Road entrance to reserve	4.2.6	Recreation Operations	Currently maintained	1
e. natural hazard management	Fire Trail maintenance	Woorara Firetrail From Sid Pulsford Fire Trail to Woorara entrance to reserve	4.2.6	Recreation Operations	Currently maintained	1
e. natural hazard management	Fire Trail maintenance	Koolang Firetrail From Sid Pulsford Fire Trail to Koolang entrance to reserve	4.2.6	Recreation Operations	Currently maintained	1
e. natural hazard management	Fire Trail maintenance	Williams Firetrail From Sid Pulsford Fire Trail to end	4.2.6	Recreation Operations	Currently maintained	1
e. natural hazard management	Fire Trail maintenance	Joalah Street Fire Trail.	4.2.6	Recreation Operations	Currently maintained	1
e. natural hazard management	Asset Protection Zone Management	Adjacent to Pine Needles Estate, Erina.	4.2.6	Recreation Operations	Currently maintained	1
e. natural hazard management	Asset Protection Zone Management	Adjacent to Moro Close, Kincumber.	4.2.6	Recreation Operations	Currently maintained	1
e. natural hazard management	Asset Protection Zone Management	In the vicinity of Katherine Crescent and Beveridge Close, Green Point.	4.2.6	Recreation Operations	Currently maintained	1
e. natural hazard management	Asset Protection Zone Management	Adjacent to Bronzewing Dve , Erina.	4.2.6	Recreation Operations	Currently maintained	1
e. natural hazard management	Asset Protection Zone Management	In the vicinity of Koolong Road, Green Point.	4.2.6	Recreation Operations	Currently maintained	1
e. natural hazard management	Asset Protection Zone Management	In the vicinity of Kookaburra St, Kingfisher Cl, and Arakoon St, Kincumber.	4.2.6	Recreation Operations	Currently maintained	1
i. visitor experience	Garden bed maintenance.	Honeman's Rock Picnic Area and adjacent parking areas.	4.3.2.3	Recreation Operations	Currently maintained	3
i. visitor experience d. access and recreation	Road and car park maintenance	Island View Drive	4.3.2.1	Recreation Operations	Currently maintained	1

**APPENDIX E - KINCUMBA MOUNTAIN REGIONAL RESERVE – SELECTED MAINTENANCE WORKS DESCRIPTION**  
**FULL LIST OF MAINTENANCE ACTIVITIES TO BE COMPLETED IN MAINTENANCE SERVICE LEVEL AGREEMENT**

Activity	Objectives	Action detail
Walking track maintenance	<ul style="list-style-type: none"> <li>- maintain a corridor of between 1.2 and 1.5 m wide along walking tracks that is free from encroaching vegetation between 0.2 and 2.5 metres from ground level.</li> <li>- maintain bridges and steps in a safe and serviceable condition.</li> <li>- maintain a full paint cover on directional and locational signage in designated colours and paint type.</li> <li>- maintain directional and locational signage in a clean and legible condition.</li> <li>- maintain drains so that water freely runs off walking tracks without causing erosion.</li> <li>- maintain the surface of walking tracks in a safe, accessible and erosion free condition.</li> <li>- maintain railing and barriers along walking tracks in a safe and serviceable condition.</li> <li>- maintain walking tracks free of litter and rubbish.</li> </ul>	<ul style="list-style-type: none"> <li>- cut back for the length of the walking track.</li> <li>- repair any damaged steps and bridges.</li> <li>- clean and/or paint directional and locational signs.</li> <li>- clean out and repair drains.</li> <li>- inspect stabilise/repair surface of walking track.</li> <li>- inspect repair/paint barriers and railing beside walking tracks.</li> <li>- remove litter and dumped rubbish from walking tracks and adjacent parts of the reserve.</li> </ul>
Fire trail maintenance	<ul style="list-style-type: none"> <li>- maintain a corridor of between 3.0 and 5.0 metres wide along fire trails that is free from encroaching vegetation between 0.2 and 4.5 metres from ground level.</li> <li>- maintain rollovers so that water freely runs off fire trails without causing erosion.</li> <li>- maintain drains so that water freely runs off fire trails without causing erosion.</li> <li>- maintain the surface of fire trails in a safe, accessible and erosion free condition.</li> <li>- maintain directional and locational signage in a clean and legible condition.</li> <li>- maintain fire gates in functional that allows ease of access to emergency and management vehicles and that excludes other vehicles.</li> <li>- collect litter and dumped rubbish from fire trails and adjacent parts of the reserve.</li> </ul>	<ul style="list-style-type: none"> <li>- cut vegetation back from the edge of fire trail along its entire length.</li> <li>- clean out and repair rollovers.</li> <li>- clean out and repair drains.</li> <li>- maintain stable surface of fire trail.</li> <li>- clean and/or paint directional or location signs.</li> <li>- inspect and where necessary repair fire gates.</li> <li>- remove litter and rubbish from fire trails and adjacent areas of reserve.</li> </ul>
Asset Protection maintenance	<ul style="list-style-type: none"> <li>- maintain a strip of specified width free of woody and other combustible vegetation.</li> <li>- maintain options for emergency and management vehicular access where possible while controlling other vehicle access.</li> <li>- minimise the potential for erosion to occur at the sites where vegetation has been controlled.</li> </ul>	<ul style="list-style-type: none"> <li>- slash vegetation using tractor and slasher where possible.</li> <li>- use mechanical methods such as brush cutting and other small plant to control vegetation where tractor access is not possible.</li> <li>- install fire gates / slip rails as necessary.</li> </ul>
Picnic area maintenance	<ul style="list-style-type: none"> <li>- collect litter and dumped rubbish from picnic areas and adjacent parts of the reserve.</li> <li>- maintain height of grass in Honeman's Rock Picnic Areas at less than 150 mm.</li> <li>- maintain picnic tables free of feed debris, dirt and other material.</li> <li>- maintain picnic tables in a clean, painted and serviceable condition.</li> <li>- maintain level of rubbish in the bins so that there is capacity in the bins for three days of high picnic area use.</li> <li>- maintain bins free from offensive odours.</li> <li>- maintain supply of drinking water in the picnic area.</li> <li>- maintain drains so that water freely runs off picnic areas without causing erosion.</li> </ul>	<ul style="list-style-type: none"> <li>- remove litter and rubbish from picnic areas and adjacent parts of the reserve.</li> <li>- mow grass in Honeman's Rock Picnic Area.</li> <li>- clean barbecues and surrounds.</li> <li>- clean and paint/stain picnic tables..</li> <li>- empty rubbish bins.</li> <li>- clean emptied rubbish bins and repair/replace as required.</li> <li>- inspect and prune any potentially dangerous trees in or adjacent to picnic area.</li> <li>- provide constant supply of drinking water to bubbler.</li> <li>- clean out and repair drains.</li> </ul>
Parking area maintenance.	<ul style="list-style-type: none"> <li>- collect litter and dumped rubbish from parking areas and adjacent parts of the reserve.</li> <li>- maintain wheel stops in position and undamaged condition.</li> <li>- maintain parking signs in clean and legible condition.</li> <li>- maintain barrier fencing in safe and serviceable condition.</li> <li>- maintain the surface of car parks in a safe, accessible and erosion free condition.</li> <li>- maintain drains so that water freely runs off car parks without causing erosion.</li> <li>- inspect and maintain trees adjacent to car parks in stable condition.</li> <li>- maintain drains so that water freely runs off parking areas without causing erosion.</li> </ul>	<ul style="list-style-type: none"> <li>- collect litter and rubbish from parking areas and adjacent parts of the reserve.</li> <li>- inspect wheel stops on parking bays and repair/replace as required.</li> <li>- inspect parking restriction signs and clean/repair/replace as required.</li> <li>- inspect car barrier fencing and paint/repair/replace as required.</li> <li>- inspect stabilise/repair surface of parking areas.</li> <li>- inspect and remove silt and vegetation from drains as required.</li> <li>- inspect and prune any potentially dangerous trees in or adjacent to parking area. .</li> </ul>

Activity	Objectives	Action detail
Toilet facility maintenance.	<ul style="list-style-type: none"> <li>- maintain minimal odour generation from composting toilet.</li> <li>- maintain toilet, cubicles and hand basins in clean and serviceable condition.</li> <li>- maintain toilet building in safe and serviceable condition.</li> <li>- maintain constant water supply to wash basins in toilets.</li> </ul>	<ul style="list-style-type: none"> <li>- clean toilets, cubicles, hand basins and floor area.</li> <li>- inspect and ensure that toilet building and cubicles is in a safe and serviceable condition.</li> <li>- supply toilet paper in toilets.</li> <li>- provide constant supply of water for hand washing.</li> <li>- inspect and manage toilets to ensure that the odour remains at an acceptable minimal level.</li> </ul>
Garden bed maintenance.	<ul style="list-style-type: none"> <li>- maintain less than 5% weed cover in garden beds.</li> <li>- maintain 50 mm cover on garden beds.</li> <li>- maintain garden beds without any dead plants.</li> <li>- maintain 80% vegetation cover in garden beds using indigenous plants only.</li> </ul>	<ul style="list-style-type: none"> <li>- control weeds in garden beds.</li> <li>- mulch garden beds with native mulch.</li> <li>- inspect and remove any dead or dying plants from garden beds.</li> <li>- inspect and where necessary plant additional indigenous plants in garden beds.</li> </ul>
Road maintenance	<ul style="list-style-type: none"> <li>- maintain surface road.</li> <li>- maintain road signage.</li> <li>- maintain marker posts and barriers beside road.</li> <li>- maintain drains so that water freely runs off roads without causing erosion.</li> </ul>	<ul style="list-style-type: none"> <li>- inspect stabilise/repair surface of Island View Drive.</li> <li>- inspect and clean/repair/replace signage along Island View Drive.</li> <li>- inspect and clean/repair/replace guide posts and barriers along Island View Drive.</li> <li>- clean out and repair drains.</li> </ul>
Kiosk maintenance	<ul style="list-style-type: none"> <li>- maintain building including the veranda in a safe and serviceable condition.</li> <li>- maintain tank in serviceable condition and water supplied to kiosk in potable condition.</li> </ul>	<ul style="list-style-type: none"> <li>- inspect and repair kiosk as required.</li> <li>- inspect and maintain water supply to kiosk.</li> </ul>
Cottage maintenance	<ul style="list-style-type: none"> <li>- maintain building in a safe and serviceable condition.</li> <li>- maintain fence in a safe and serviceable condition.</li> <li>- maintain carport in a safe and serviceable condition.</li> <li>- maintain tank in serviceable condition and water supplied to cottage in potable condition.</li> </ul>	<ul style="list-style-type: none"> <li>- inspect and repair cottage, fencing and carport as required.</li> <li>- inspect and maintain water supply to kiosk.</li> </ul>

# KINCUMBA MOUNTAIN REGIONAL RESERVE



KEY

- P** Picnic Facilities
- W** Water
- T** Toilets
- Lookout
- B** Picnic Facilities
- Track



RESERVE ENTRANCE:

- |                       |                         |
|-----------------------|-------------------------|
| <b>1</b> Kincumber St | <b>5</b> Bronzwing Dr   |
| <b>2</b> Beaties Rd   | <b>6</b> Sandringham Cl |
| <b>3</b> Woorara P de | <b>7</b> Ballorok Rd    |
| <b>4</b> Koolang      | <b>8</b> Joalah Rd      |

Community Land

Crown Land