



***MANAGEMENT STRATEGY***

***SOUTHERN FORESHORE RESERVE***

***NARRAWALLEE BEACH***

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**Based on a proposed strategy prepared by Southern Regen for Shoalhaven City Council**

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# **Management Strategy**

## **Southern Foreshore Reserve, Narrawallee Beach**

### **INTRODUCTION**

This Management Strategy for the Southern Foreshore Reserve, Narrawallee Beach has been prepared to promote and maintain the long-term protection of the reserve's natural areas, to provide for recreational activities and to minimise the impacts from the increasing demand for recreational use of the area.

The "Southern Foreshore Reserve" for the purpose of this document includes part of Council's Matron Porter Drive Reserve and part of the Narrawallee Beach Crown Reserve R91246 as defined under "Site Details" and the accompanying maps.

The Southern Foreshore Reserve is located at Narrawallee Beach within the City of Shoalhaven. The reserve is situated approximately 230km south of Sydney, 60km south of Nowra and 5km north of Ulladulla.

### **AIM**

The issues and proposed works outlined in this Management Strategy aim to preserve, protect and restore the reserve's natural and parkland areas.

### **SIGNIFICANCE OF THE SITE**

Generally, the reserve's natural bushland areas, good access to Narrawallee Beach and large open grassed areas allow for a variety of recreational activities that appeal to the community as a whole.

Good urban planning foresight in the past has limited the impact of residential development on the reserve and beach itself and this open space is a significant feature of Narrawallee Beach that is enjoyed by many.

In the 1920's, a tramway carried raw silica through the reserve to a loading wharf at nearby Bannister Point. There are still a few remnants of the tramlines located in the southern beachfront area of the reserve.

## **LEGISLATION**

This Plan has been prepared under the following National, State and Local Government Legislation and Policies.

Any actions carried out in the reserve as proposed in the Southern Foreshore Reserve Management Strategy will have to comply with the legislative and statutory requirements of the various Acts and Policies outlined below.

### **These include:**

- NSW Coastal Policy 1997
- Total Catchment Management Act
- Local Government Act 1993 (Shoalhaven City Council)
- Environmental Planning & Assessment Act 1979 (DLWC)
- Local Environmental Plan 1985 (SCC)
- Crown Lands Act 1989 (DLWC)
- Rivers and Foreshores Improvement Act 1948 (DLWC)
- Soil Conservation Act 1938 (DLWC)
- Coastal Protection Act 1979 (DLWC)
- Native Vegetation Conservation Act 1998 (DLWC)
- Protection of the Environment Operations Act 1997 (EPA)
- National Parks and Wildlife Act 1974 (NSW NPWS)
- Threatened Species Conservation Act 1995 (NSW NPWS)

## SITE DETAILS

- Reserve Names:**
- Part Matron Porter Drive Reserve
  - Part Narrawallee Beach Crown Reserve R91246

**Council Reserve Numbers:** SNW797 & SUL947

**Location:** Eastern side of Matron Porter Drive, Narrawallee between private property fronting Victor Avenue in the south and Barclay Street in the north (as shown on accompanying maps).

**Size of Site:** Approximately 7ha

**Size of Bushland area:** Approximately 4.5ha

**Current Zoning:** 6 (a) Public Reserve

**Geology:** Predominantly coastal sands with a small area of shale, clay and siltstone along the cliffline at the southern boundary of reserve.

**Topography:** The reserve is mostly flat terrain with low sand dunes <10m high occurring along the eastern boundary. The small cliffline area at the southern area of the reserve rises steeply up to approximately 10m along the urban/bushland boundary.

**Vegetation Communities:** Vegetation is mostly Bangalay Forest (*Eucalyptus botryoides* – *Banksia integrifolia*) on the flat areas. Coastal complex vegetation (*Banksia integrifolia* – *Acacia sophorae*) dominate the dune areas and Blackbutt Tall Forest (*Eucalyptus pilularis* - *Syncarpia glomulifera* - *Corymbia gummifera*) occur along the cliffline. (see map 2)

\* *Adopted from Kevin Mills & Associates – Illawarra Vegetation Studies, 1995.*

**Threatened Species/Communities:** There are no threatened species or communities listed under the Threatened Species Conservation Act 1995 currently recorded at this reserve. However, Bangalay Sand Forest is provisionally listed as an endangered ecological community, as at 10/10/05.

# **HISTORY**

## **Aboriginal History**

The local Aboriginal people occupied and utilised the estuary known as Narrawallee Inlet to the north and west of the reserve and would have ventured south along the beach and through the reserve on a daily basis for fishing, recreational and other pursuits.

## **Site History**

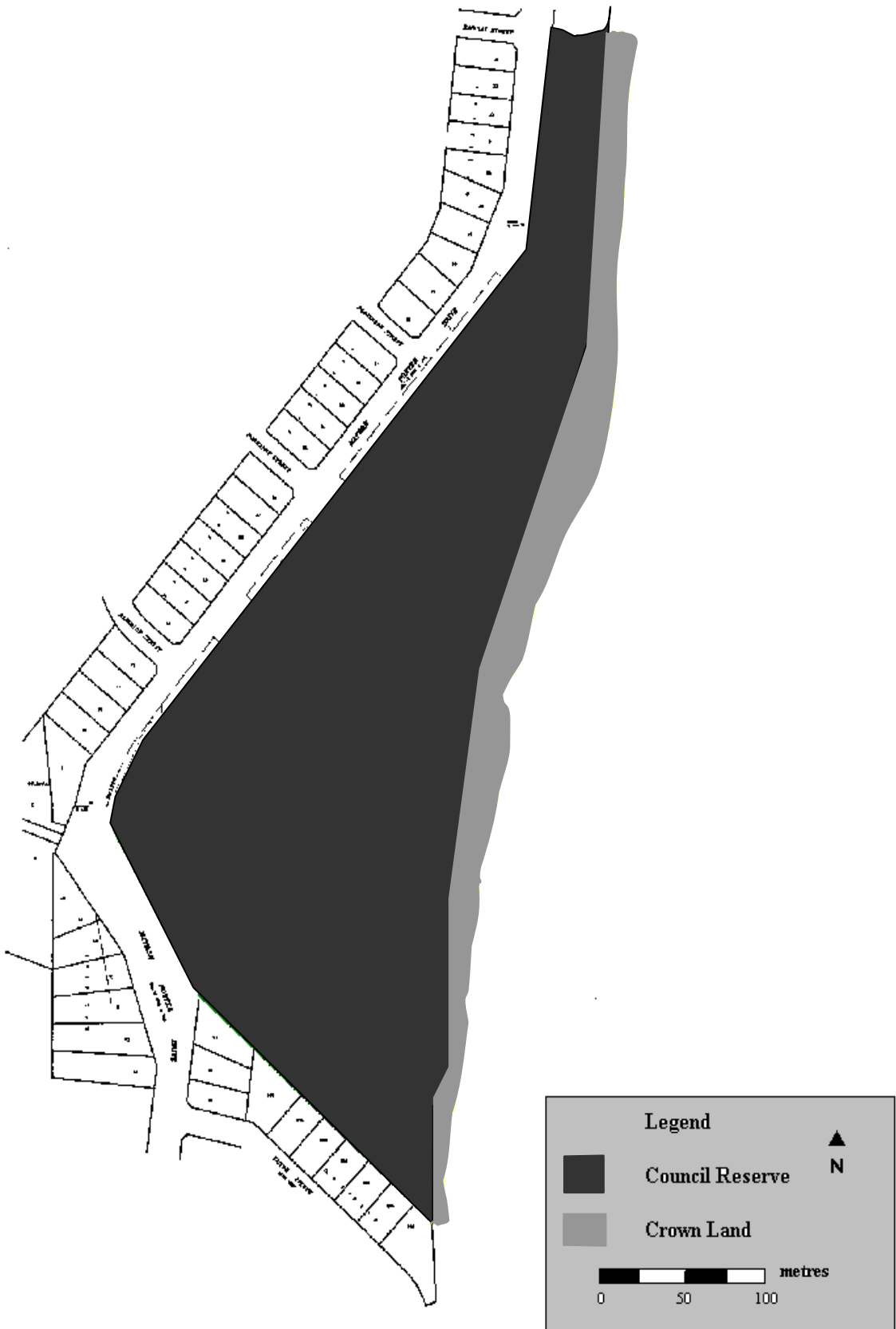
In the past, the Narrawallee Foreshore and Reserve Management Committee was established to manage and care for the public foreshore and recreational areas of Narrawallee with particular emphasis on the long-term preservation of the bushland environments within these reserves.

In the Southern Foreshore Reserve, the Committee and interested individuals carried out rehabilitation and maintenance works to help preserve the natural areas of vegetation and to maintain environmentally sensitive access to the beachfront.

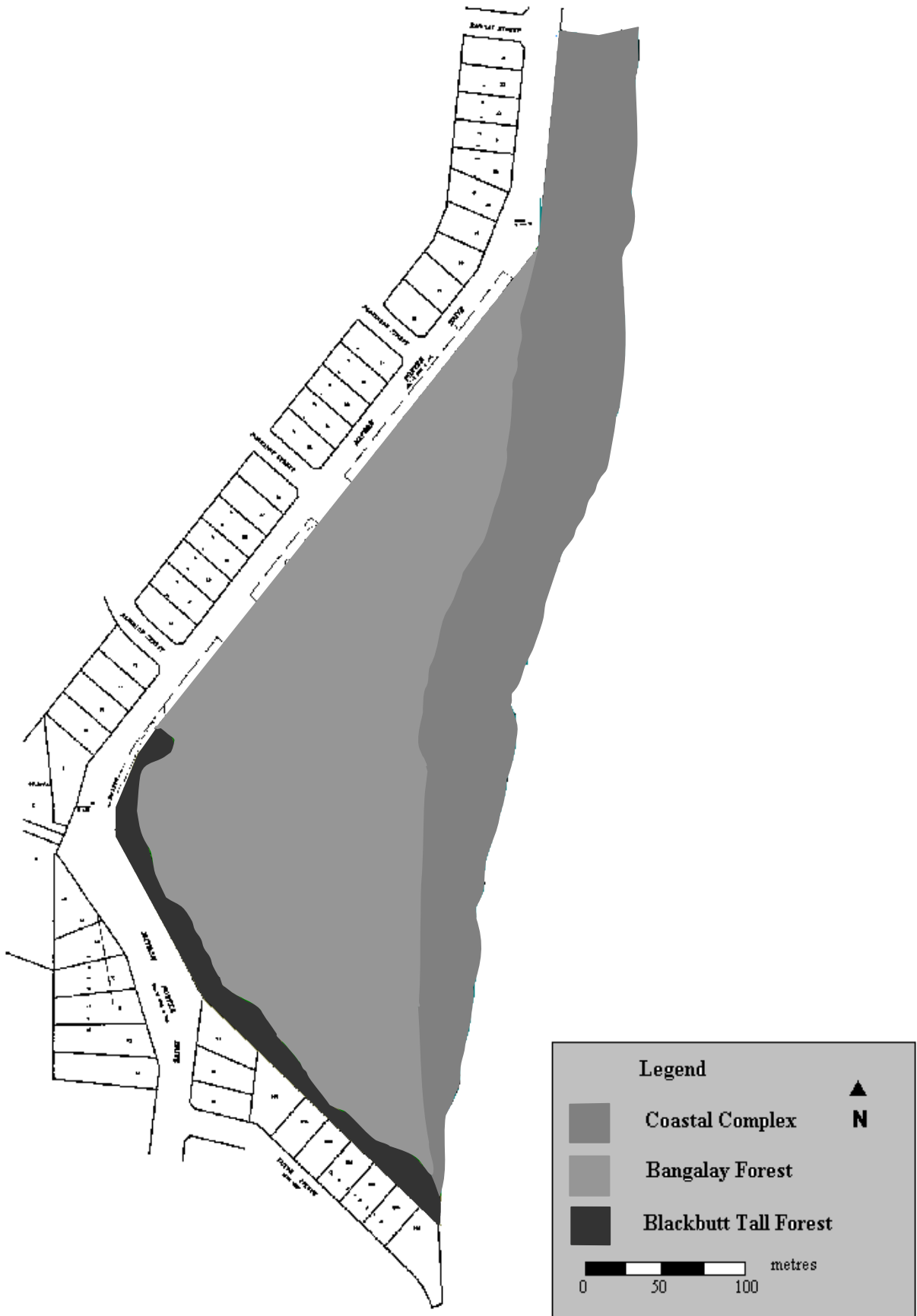
These works included bush regeneration and weed control, particularly Bitou Bush, and the construction and installation of walkways, bollards and fencing. Regular mowing and maintenance by Shoalhaven City Council in the open space has enhanced the parkland areas.

The current Narrawallee Foreshore and Reserves Bushcare Group have been continuing to care for and maintain the reserve with valued assistance from Shoalhaven City Council.

**Map 1: Land Classification, Southern Foreshore Reserve, Narrawallee Beach.**



**Map 2: Vegetation Communities, Southern Foreshore Reserve,  
Narrawallee Beach**





# MANAGEMENT ISSUES

## Bushland Condition

- Overall condition of the bushland is fair to good (Variable from very poor to good, Refer Map 3);
- Foreshore vegetation is in good condition. However, there have been instances of vandalism to the vegetation;
- The tree canopy throughout the bushland is still fairly intact;
- The understorey and groundcover vegetation of the hind dune and flat areas are in fair condition (but varies from very poor to good) due to the emerging dominance of Asparagus Fern, Turkey Rhubarb and vines such as Honeysuckle and Bridal Veil occurring in isolated patches; and
- The Blackbutt Tall Forest along the southern boundary of the reserve varies in condition from good to fair in the western and middle sections to very poor towards the east.

*The bushland condition was assessed using the mapping system devised by the National Trust, NSW Bush Regenerators Handbook (1999).*

## Native and Pest Fauna

- A wide variety of native birds are present due to the range of plant species and habitat types existing in the reserve;
- These habitats also provide shelter and food for animals such as possums, echidnas, bandicoots and a variety of reptiles;
- Pest animals such as rabbits, cats and dogs occur in the reserve;
- Fox presence is also highly possible; and
- The impact of these pest animals on the Native Flora and Fauna of the reserve appears to be minimal but should be monitored.

## Edge Effects

- The main concern occurs along the southern boundary of the reserve between the Bushland/Urban interface where rubbish dumping, encroachment and clearing has occurred;
- The undefined edges between bushland/parkland and areas of mown grass are causing angst amongst the community in determining what is bushland and what is parkland; and
- Community education, defined boundaries and on-going maintenance is required to minimise the edge effects of bushland.

## Community Involvement

- Volunteers are involved with working in the reserve in reducing the impact of weeds and generally looking after the reserve;
- The community has been vigilant in the on-going monitoring of inappropriate use of the reserve, dumping and tree clearing; and
- The community should be encouraged to be involved by joining either the Bushcare Group or the Parkcare Group and given the opportunity to implement appropriate maintenance and management strategies to ensure

the long-term improvement and existence of the bushland and parkland areas of the reserve.

### **Access**

- Access throughout the reserve, beach and open parkland areas is good;
- Access in the southern area of the reserve needs improvement to prevent further degradation and misuse of the current car park;
- The car park needs to be upgraded and the need for a disabled and emergency vehicle access to the beach should be investigated by Shoalhaven City Council;
- Some informal tracks that exist will be needed when primary weed control works take place; and
- The informal track at the southern end of the North-South walking track identified in map 4 should be closed and regenerated only when the primary weed control works are completed and resources allow on-going maintenance and monitoring of the weeds to occur.
- The informal track in Zone 1, from the northern end of Zone 7 to the beach, was shown for closure in previous drafts of this document. Given its current condition this track will initially remain open and its condition monitored. Further action may be required in the future.
- The surface of the North-South track and a number of linking tracks within zones 2, 3 & 4 are currently grass and are mown. To reduce further spread of exotic weeds (such as *Erhrata erecta*), into the bushland areas from these tracks and associated mowing activities, the tracks should be sprayed and the surface replaced. A suitable surface for some of these tracks may be sandstone gravel which has been successfully used in the northern area of Matron Porter Drive reserve but sand or mulch may also be considered. The community should be consulted regarding the type of replacement track surface to be used.
- The maintenance of all beach access tracks will be the responsibility of Shoalhaven Council and not volunteers. However where appropriate and agreed to in writing by both Council and the volunteers, they may assist with certain access/walkway track maintenance and/or construction activities.

### **Rubbish/Clearing**

- Is not a major problem throughout the reserve;
- Small amounts of dumping, clearing and garden waste occurs along the southern boundary on the urban/bushland interface and along the southwest boundary adjoining Matron Porter Drive;
- Clearing has occurred in isolated patches along the urban/bushland interface and along the dunes;
- Left unchecked it can degrade bushland and reduce the aesthetic appeal of the reserve and possibly encourage further dumping or clearing; and
- An on-going community education program should be implemented to educate local residents about the negative effects of dumping garden waste in the reserve and growing potentially invasive exotic plants in their gardens. This should be done in cooperation with the local Bushcare &

Parkcare groups and monitoring would help reduce the occurrence of these impacts.

### **Open Space/Recreation**

- With its large area of open flat parkland and good access to Narrawallee Beach, residents and visitors use the reserve for a wide variety of recreational pursuits such as picnics, fishing and relaxation; and
- Passive recreational activities should be encouraged and existing facilities maintained and improved where necessary.

### **Weeds**

- A large variety of weeds occur throughout the reserve;
- These weeds vary in numbers, distribution, the potential to invade and dominate the native vegetation and degree of difficulty to remove or contain;
- Bitou Bush occurs in isolated patches throughout the fore dune and hind dune areas; and
- Asparagus Fern and Turkey Rhubarb are dominating large areas of the ground layer of vegetation and will be a major long-term management problem in this reserve.
- The native plant *Pittosporum undulatum* occurs within the reserve in high numbers. Although within its natural range this species naturally occurs in moisture micro-climates such as sheltered gullies and rainforest margins. In this reserve, it is dominating some areas and displays weedy type properties due to the increase in available moisture in the reserve and the absence of fire.

### **Maintenance**

Zones 6 and 7 within the southern foreshore reserve will be managed in line with Council's Open Space Maintenance Agreement. This Agreement sets out the standards for maintenance of Council's active and passive reserve network. A function of the Open Space Maintenance Agreement involves categorising reserves into maintenance categories. These categories being;

1. Icon
2. District
3. Local
4. Link/buffer

Zones 6 and 7 in this reserve are maintained to a District Park Level. Each maintenance category has a group of performance standards that are to be achieved by Council's Maintenance Operations. Areas included in the agreement are turf maintenance, landscape area maintenance, infrastructure maintenance, tree maintenance, playground maintenance, carpark maintenance and BBQ cleaning.

A number of islands of vegetation exist within Zones 6 and 7. These form part of the diverse ecological community on the reserve and will be retained and

maintained as part of the Parkland areas. These islands of vegetation should be rehabilitated by undertaking maintenance weeding of environmental and noxious weed species and bush regeneration as required, as part of a documented Parkcare activity.

For Zones 1 to 7:

- Beach access tracks and fencing are maintained by Shoalhaven City Council if and when required, as per the guidelines outlined in the Coastal Dune Management Manual – NSW Department of Land and Water Conservation 2001 or as updated;
- Revegetation works have been carried out in the past with little or no follow up maintenance and monitoring of these areas;
- Large areas of the reserve are composed of natural area bushland adjacent to a maintained open space recreation area. An existing series of widely spaced bollards currently define most of the boundary between Zones 1 and 7, Zones 2 and 7, Zones 3 and 7, Zones 4 and 7 and between Zones 4 and 6. The definition of these boundaries should be strengthened by installing additional timber bollards spaced at approximately 2.5m intervals. An optional treatment may also include a 300mm – 500mm strip of crushed sandstone on the bushland side of the bollards, in order to assist with maintenance and to control the future spread of exotic grasses into the bushland areas. The boundary between Zones 5 and 6 is currently defined by the edge of the solid line of bushland vegetation adjacent to open areas and only a short length at the western end needs to be defined by the installation of additional bollards at approximately 2.5m intervals. This boundary should be monitored and a full line of bollards could be installed in the future if increased definition is required to clarify areas;
- The installation or removal of all boundary definition bollards will be arranged by Council and no bollards are to be removed or installed without Council's written approval; and
- Clear tasks and structured maintenance schedules should be discussed, agreed and adopted that reflect the needs of the community now and for the future.

### **Guidelines for Community Volunteers Activities/Maintenance**

There has been a long history of active community involvement in the management of Narrawallee Reserve. This hands-on involvement by the community has led to many positive outcomes for the long-term health and management of the reserve and its local biodiversity.

This has included the contribution of external grant funds to assist the community with the long term rehabilitation of the reserve remnant dune vegetation, the construction and upgrading of walking tracks and the maintenance of the reserve infrastructure.

Council provides support for this on-going role through its Bushcare and Parkcare programs which are coordinated by Council's Bushcare Coordinator and Council's Parks Officer respectively. Council also assists

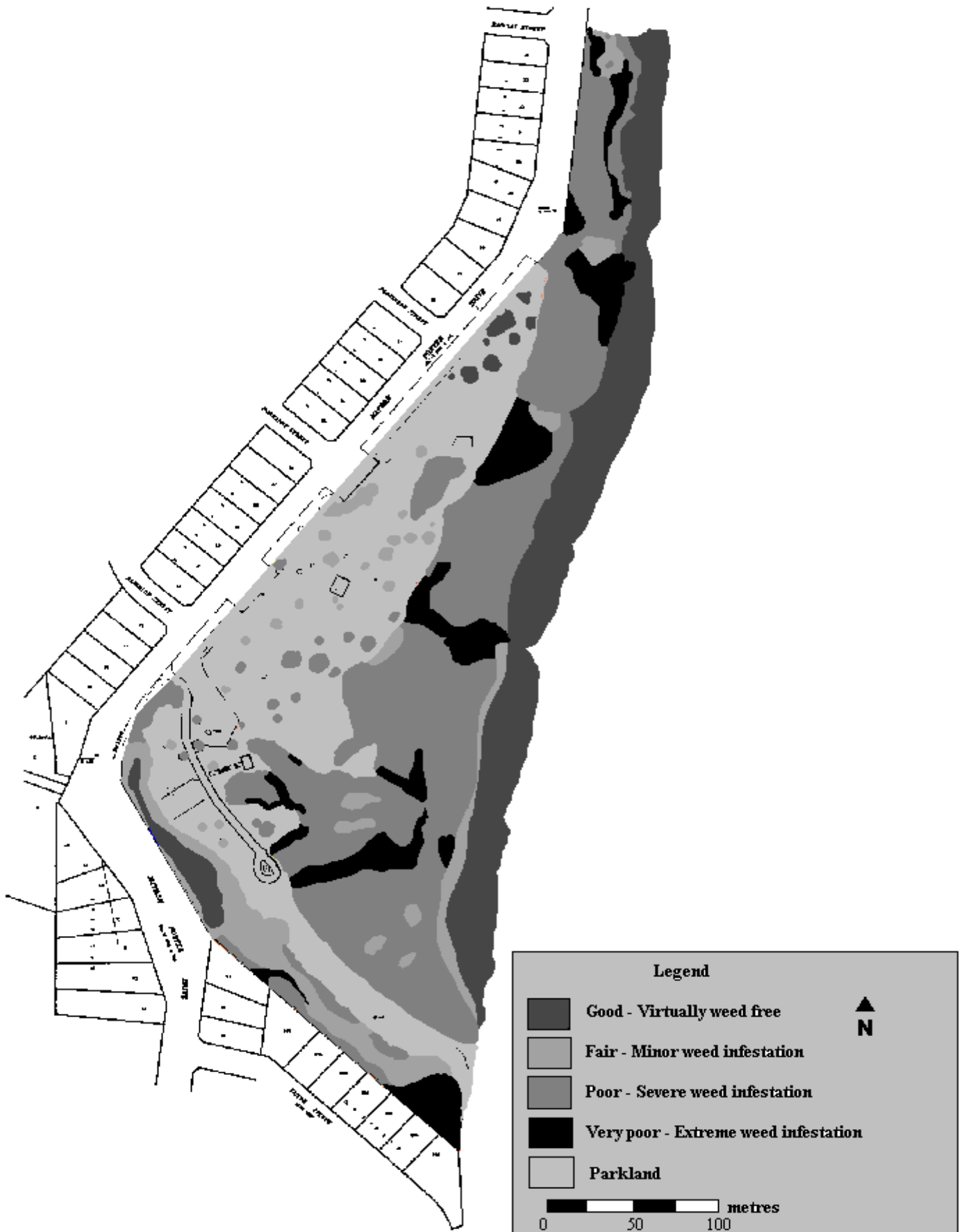
by providing public liability and personal volunteers' accident insurance and by providing materials and equipment within budgetary constraints.

Both the Bushcare group and the Parkcare group should be encouraged with their volunteer activities, under the guidance of Council's Bushcare Coordinator and Parks Officer respectively. Each group will need to work closely with these council staff to clearly identify what volunteer activities they are to undertake and in which areas of the reserve. This will be agreed upon, in writing, between Council and each group. All volunteers will need to comply with Council's Policy & Procedure for the Bushcare and Parkcare programs and will need to be trained in the correct Occupational Health and Safety procedures and the safe use of herbicides in accordance with the Pesticides Act.

Volunteer efforts will be supported by the use of contractors, labour market programs, paid staff where possible. The maintenance of all beach access tracks will be the responsibility of Shoalhaven Council and not volunteers. However where appropriate and agreed to in writing by both Council and the volunteers, they may assist with certain access/walkway track maintenance and/or construction activities.

Bushcare projects and programs will be developed within Zones 1 to 5 inclusive and Parkcare projects and programs will be developed within Zones 6 and 7.

**Map 3: Bushland Condition: Southern Foreshore Reserve, Narrawallee Beach**



## **MANAGEMENT ZONES**

### **NOTES:**

- 1. These management zones have been identified using existing physical boundaries, accessibility and current and future management strategies (see map 4).**
- 2. Bushcare projects and programs will be developed within Zones 1 to 5 inclusive and Parkcare projects and programs will be developed within Zones 6 and 7.**
- 3. All activities undertaken by the Bushcare and Parkcare Groups are to be in accordance with the written agreement between Council and each group.**
- 4. Weed control in all Zones is to be undertaken using best practice control techniques as per the NSW National Trust Bush Regenerators Handbook.**

### **Zone 1: Barclay Street – Parkinson Street**

**Site Description:** Dune Paddock – Coastal complex vegetation.

Small area in generally good condition. The foreshore vegetation is virtually weed free. Although the tree canopy is currently still intact, the hind dune and flat areas have been infested with invasive weed species such as Asparagus Fern and Turkey Rhubarb throughout the lower vegetation layers. Bitou bush and Blackberry occur as isolated bushes throughout the zone.

Southern Regen identified the following environmental and noxious weeds in Zone 1:

- *Senna pendula* – Cassia
- *Agave Americana* – Aloe
- *Ochna serrulate* – Micky Mouse Plant
- *Chrysanthemoides monilifera spp monilifera* – Bitou Bush
- *Rubus fruticosus* – Blackberry
- *Arjaujia sericifera* – Moth Vine
- *Asparagus scandens* – Asparagus Fern
- *Acetosa sagittata* – Turkey Rhubarb

Clearing of native vegetation has occurred (next to the Barclay Street Access Track) presumably for ocean views.

### **Priority Works**

- Zone 1** Continue bush regeneration and weed control for environmental and noxious weed species. Work outward from good areas of bushland (see map 3).  
Strengthen and maintain the definition of the boundary between the bushland and the parkland as outlined under 'Maintenance' on Page 12 of this document.  
Close off unnecessary beach access track and restore vegetation (see map 4).

## Recommendations:

- Maintain and monitor beach access tracks. The informal track in Zone 1, from the northern end of Zone 7 to the beach, was shown for closure in previous drafts of this document. Given its current condition this track will initially remain open and its condition monitored. Further action may be required in the future.
- Close off unnecessary tracks (see map 4);
- Monitor and enforce penalties for clearing of native vegetation;
- Continue bush regeneration/weed control for environmental and noxious weed species;
- Implement long-term strategy to control/contain Asparagus Fern and Turkey Rhubarb infestation;
- Maintain the existing dune fencing along the roadside.
- Strengthen and maintain the definition of the boundary between the bushland and the parkland as outlined under 'Maintenance' on Page 12 of this document; and
- Under close supervision by Council's Bushcare Officer, select culling of the *Pittosporum undulatum* should be undertaken, targeting flowering females and saplings. This should be done in conjunction with a re-vegetation program and monitored closely.



## **Zone 2: Parkinson Street – Normandy Street**

**Site Description** Dune Paddock – Coastal complex vegetation.

Small area with fair to good bushland. Tree canopy and foreshore vegetation intact and virtually free of weeds. Large area of the ground cover vegetation in the hind dune is dominated by Asparagus Fern and Buffalo grass with isolated weeds such as Bitou, Cassia, Bridal Veil and Fishbone Fern occurring throughout the zone. A grass walking track dissects the zone from north to south.

Southern Regen identified the following environmental and noxious weeds in Zone 2:

- *Acetosa sagittata* – Turkey Rhubarb
- *Asparagus asparagoides* – Bridal Creeper
- *Chrysanthemoides monilifera spp monilifera* – Bitou Bush
- *Rubus fruticosus* – Blackberry
- *Nephrolepis cordifolia* – Fishbone Fern
- *Asparagus scandens* – Asparagus Fern

### **Priority Works**

- Zone 2** Continue bush regeneration and weed control for environmental and noxious weed species. Work outward from good areas of bushland (see map 3).  
Strengthen and maintain the definition of the boundary between the bushland and the parkland as outlined under 'Maintenance' on Page 12 of this document.  
Maintain informal North–South walking track (currently grass) – replace track surface as outlined under 'Access' on Page 10 of this document.

### **Recommendations:**

- Continue bush regeneration/maintenance weeding of environmental and noxious weed species;
- Monitor and maintain beach access tracks;
- Retain and maintain North–South walking track – replace track surface as outlined under 'Access' on Page 10 of this document;
- Strengthen and maintain the definition of the boundary between the bushland and the parkland as outlined under 'Maintenance' on Page 12 of this document; and
- Under close supervision by Councils Bushcare Officer, select culling of the *Pittosporum undulatum* should be undertaken, targeting flowering females and saplings. This should be done in conjunction with a re-vegetation program and monitored closely.

### **Zone 3: Normandy Street – Bangalow Street**

**Site Description** Dune Paddock – Coastal complex vegetation.

Area of fair to good bushland. Clearing of trees near beach access track has occurred. Previous revegetation and weed control works have occurred in this zone. No or little on-going maintenance of the revegetated areas occurred in the past.

Southern Regen identified the following environmental and noxious weeds in Zone 3:

- *Acetosa sagittata* – Turkey Rhubarb
- *Asparagus asparagoides* – Bridal Creeper
- *Chrysanthemoides monilifera spp monilifera* – Bitou Bush
- *Rubus fruticosus* – Blackberry
- *Asparagus scandens* – Asparagus Fern
- *Lonicera japonica* – Honeysuckle
- *Ochna serrulata* – Micky Mouse Plant
- *Senna pendula* – Cassia
- *Agave Americana* – Aloe

Also identified, are:

- *Lilium Formosa* - *Formosan Lily*

### **Priority Works**

**Zone 3** Continue bush regeneration/weed control for environmental and noxious weed species. Work outward from good areas of bushland (see map 3).  
Strengthen and maintain the definition of the boundary between the bushland and the parkland as outlined under 'Maintenance' on Page 12 of this document.  
Maintain informal North – South walking track (currently grass) – replace track surface as outlined under 'Access' on Page 10 of this document.

### **Recommendations:**

- Continue bush regeneration/maintenance weeding of environmental and noxious weed species;
- Monitor & maintain beach access tracks – East/West direction;
- Strengthen and maintain the definition of the boundary between the bushland and the parkland as outlined under 'Maintenance' on Page 12 of this document;
- Retain & maintain North–South walking track through to the beach between Zones 3 & 4 – replace track surface as outlined under 'Access' on Page 10 of this document; and
- Under close supervision by Council's Bushcare Officer, select culling of the *Pittosporum undulatum* should be undertaken, targeting flowering females and saplings. This should be done in conjunction with a re-vegetation program and monitored closely.

## **Zone 4: Bangalow Street – Southern Emergency Beach Access Track**

**Site Description** Dune Paddock – Coastal complex vegetation/Bangalay Forest.

Predominantly Coastal Banksia with tree canopy in good condition. The foreshore vegetation is also in good condition.

Asparagus Fern is beginning to dominate in the ground layer of vegetation with heavy infestations around the edge of the zone and along informal walking tracks that dissect this zone. Buffalo grass is also prevalent in patches. Honeysuckle, Bitou, English Ivy and the succulent Stonecrop occur in patches throughout the zone. A large Coral tree has died from previous control works.

Southern Regen identified the following environmental and noxious weeds in Zone 4:

- *Asparagus asparagoides* – Bridal Creeper
- *Asparagus scandens* – Asparagus Fern
- *Lonicera japonica* – Honeysuckle
- *Hedera helix* – English Ivy
- *Crassula spp* – Stonecrop
- *Chrysanthemoides monilifera spp monilifera* – Bitou Bush

Also identified, are:

- *Lilium Formosa* - Formosan Lily

### **Priority Works**

- Zone 4** Continue bush regeneration/weed control for environmental and noxious weed species. Work outward from good areas of bushland (see map 3)  
Close southern end of North–South walking track (see Map 4) – restore vegetation  
Strengthen and maintain the definition of the boundary between the bushland and the parkland as outlined under ‘Maintenance’ on Page 12 of this document  
Maintain small walking track that links Zones 6 & 3

### **Recommendations:**

- Continue bush regeneration/maintenance weeding of environmental and noxious weed species;
- Strengthen and maintain the definition of the boundary between the bushland and the parkland as outlined under ‘Maintenance’ on Page 12 of this document;;
- Monitor & maintain walking tracks as shown on Map 4;
- Close off southern end of North–South walking track (see Map 4) & regenerate;
- Under close supervision by Council’s Bushcare Officer, select culling of the *Pittosporum undulatum* should be undertaken, targeting flowering females and saplings. This should be done in conjunction with a re-vegetation program and monitored closely.

## **Zone 5: Southern Urban/Bushland Interface boundary**

**Site Description:** Blackbutt Tall Forest/Bangalay Forest.

A small area of bushland that occurs along the cliffline adjacent to houses at the southern end of the reserve. The vegetation is mainly Blackbutt Tall Forest due to the different soil types occurring in this zone. Extreme weed infestation occurs near the southeast corner of the zone, with fair to good bushland throughout the remainder. Clearing and dumping of garden escapes has occurred along the top of the cliffline adjacent to the houses. A small track (shortcut) has developed in the southwest corner of the zone.

Southern Regen identified the following environmental and noxious weeds in Zone 5:

- *Chlorophytum comosum* – Spider Plant
- *Erthrina X sykesii* - Coral Tree
- *Asparagus scandens* – Asparagus Fern
- *Delairea odorata* - Cape Ivy

Also identified, are:

- Crassula - Stone Crop
- Crucifix Orchid
- Liliun Formosa - Formosan Lily
- *Chrysanthemoides monilifera spp monilifera* - Bitou Bush
- Raphioloipsis Indica - Hawthorn
- Senna pendula - Cassia

### **Priority Works**

- Zone 5** Continue bush regeneration/weed control for environmental and noxious weed species. Work outward from good areas of bushland (see map 3)  
Strengthen and maintain the definition of the boundary between the bushland and the parkland as outlined under 'Maintenance' on Page 12 of this document

### **Recommendations:**

- Continue bush regeneration/maintenance weeding of environmental and noxious weed species;
- Strengthen and maintain the definition of the boundary between the bushland and the parkland as outlined under 'Maintenance' on Page 12 of this document for boundary between Zones 5 and 6 ;
- Retain and undertake some minor improvements on the small track in the south west corner of Zone 5, linking Matron Porter Drive to Zone 6, to protect erosion;
- Under close supervision by Council's Bushcare Officer, select culling of the *Pittosporum undulatum* should be undertaken, targeting flowering females and saplings. This should be done in conjunction with a re-vegetation program and monitored closely.

## **Zone 6: Main Carpark – Southern Emergency Access**

### **Site Description:** Parkland – Bangalow Forest

This zone consists of the main vehicular access and carpark in the reserve. Picnic facilities such as tables, rubbish bins and toilets are located here. The informal and semi-formal mown grass carpark is often damaged during wet weather and due to vandalism. Large native Eucalypts and Banksia trees occur throughout this zone which maintains the canopy cover and provides shade in the summer.

Zone 6 is maintained to a District Park Level, in accordance with Shoalhaven City Council's Open Space Maintenance Agreement. Each maintenance category has a group of performance standards that are to be achieved by Council's Maintenance Operations. Areas included in the agreement are turf maintenance, landscape area maintenance, infrastructure maintenance, tree maintenance, playground maintenance, car park maintenance and BBQ cleaning.

*This zone also provides emergency vehicular access to Narrawallee Beach and the base of the cliff line if needed.*

### **Priority Works**

#### **Zone 6**

Monitor and control environmental and noxious weed species within zone.

Retain beach access for emergency vehicular use.

Strengthen and maintain the definition of the boundary between the bushland and the parkland as outlined under 'Maintenance' on Page 12 of this document

Assess and treat vegetation around toilet block in accordance with Council's risk management procedures and Tree Management Policy

### **Recommendations:**

- Maintain the Parkland including mowing of grass areas, maintenance of park infrastructure etc in accordance with Shoalhaven City Council's Open Space Maintenance Agreement for a District Level Park;
- Strengthen and maintain the definition of the boundary between the bushland and the parkland as outlined under 'Maintenance' on Page 12 of this document
- Islands of remnant vegetation and trees within Zone 6 are to be retained – monitor, control and remove environmental and noxious weed species within the zone as they may threaten surrounding bushland areas;
- Undertake comprehensive weed control throughout islands of vegetation and create, adopt and implement a formal maintenance regime for vegetation islands;
- A monitoring program be put in place to regularly assess the health of any remnant vegetation or isolated trees in the parkland areas and make recommendations on any further treatment required;
- Areas of shade should be maintained for passive recreation;
- Seating should be provided in accordance with the Councils Park Enhancement Policy;

- Council's Park Officer will work with the volunteer Parkcare group, to develop a group plan which both the group and Council will agree upon;
- The open space grassed areas should be maintained for passive recreational opportunities.
- Retain beach access for emergency vehicular use; and
- Assess and treat vegetation around toilet block in accordance with Council's risk management procedures and Tree Management Policy.

### **Zone 7: Parkinson Street – Bangalow Street**

#### **Site Description: Parkland**

The largest zone in the reserve. It is open parkland with island pockets of native vegetation and isolated large Bangalay and Banksia trees. Council staff currently maintains the mown grassed area. This zone is well used by the community for recreation purposes.

This zone is maintained to a District Park Level, in accordance with Shoalhaven City Council's Open Space Maintenance Agreement. Each maintenance category has a group of performance standards that are to be achieved by Council's Maintenance Operations. Areas included in the agreement are turf maintenance, landscape area maintenance, infrastructure maintenance, tree maintenance, playground maintenance, car park maintenance and BBQ cleaning.

#### **Priority Works**

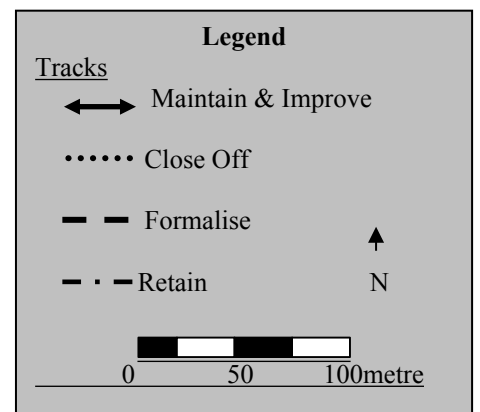
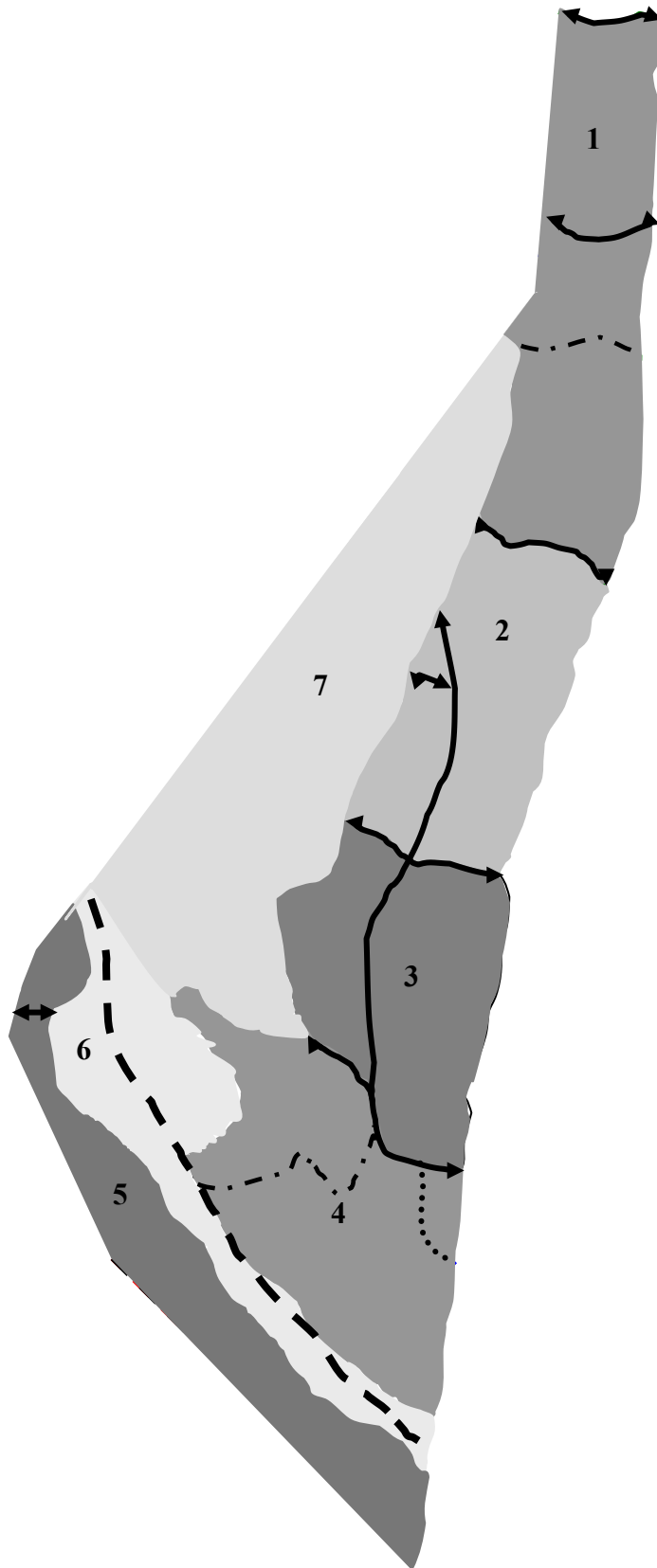
- Zone 7**      Monitor and control environmental and noxious weed species within zone.  
                   Strengthen and maintain the definition of the boundary between the bushland and the parkland as outlined under 'Maintenance' on Page 12 of this document

#### **Recommendations:**

- Maintain the Parkland including mowing of grass areas, maintenance of park infrastructure etc, in accordance with Shoalhaven City Council's Open Space Maintenance Agreement for a District Level Park;
- Strengthen and maintain the definition of the boundary between the bushland and the parkland as outlined under 'Maintenance' on Page 12 of this document
- Islands of remnant vegetation and trees within zone 7 are to be retained – Monitor, control and remove environmental and noxious weed species within the zone as they may threaten surrounding bushland areas;
- Undertake comprehensive weed control throughout islands of vegetation and create, adopt and implement a formal maintenance regime for vegetation islands ;

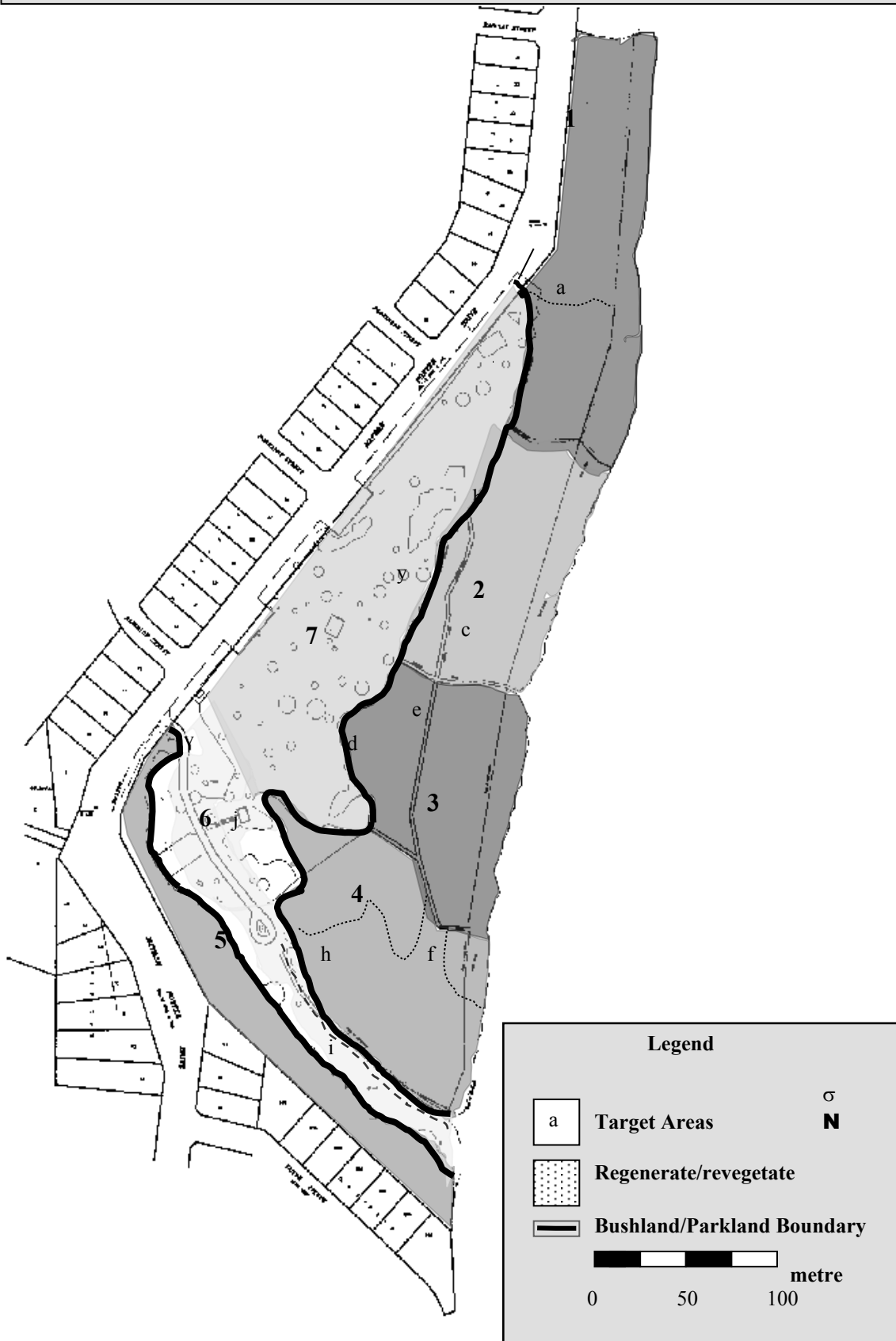
- A monitoring program be put in place to regularly assess the health of any remnant vegetation or isolated trees in the parkland areas and make recommendations on any further treatment required;
- Areas of shade should be maintained for passive recreation;
- Seating should be provided in accordance with the Councils Park Enhancement Policy;
- Council's Park Officer will work with the volunteer Parkcare group, to develop a group plan which both the group and Council will agree upon; and
- The open space grassed areas should be maintained for passive recreational opportunities.

**Map 4: Management Zones and Access Track Works required, Southern Foreshore Reserve, Narrawallee Beach**





**Map 5 : Management Zones and Target Areas, Southern Foreshore Reserve, Narrawallee Beach**



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