



Bushland Rehabilitation Plans

Wonga Road Bushland

Middle Harbour Catchment

2001

SECTION 2

REHABILITATION PLAN

Wonga Road Bushland

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INTRODUCTION

Wonga Road bushland is a narrow 25m wide strip of remnant vegetation bordered by Wonga Road, Willoughby Bay and the open lawn area of Primrose Park. The entire area of the bushland parcel is 9 800m². The dominant vegetation association is *Angophora costata* (Smooth-barked Apple) and *Eucalyptus piperita* (Sydney Peppermint) Open Forest community. The bushland at Wonga Road is typical foreshore vegetation on Hawkesbury sandstone.

Weeds species are predominantly found at the most northern end of the bushland area. The remainder of the bushland area has been successfully regenerated and requires only minimal maintenance.

Recreational opportunities are extremely limited. There are no walking tracks, formal or informal. Therefore there is minimal impact on the bushland area from visitor usage. This may be one of the reasons the site has responded so well to regeneration.

The bushland acts as a wildlife corridor and vegetative buffer along the foreshore of Willoughby Bay.

Site History

Aboriginals frequented the coastal foreshore of Willoughby Bay for thousands of years. Signs of Aboriginal occupation have not been found and perhaps will remain undiscovered. The successive generations of Aboriginal people had a deep respect for the area, living in harmony with the environment for many thousands of years.

The name Wonga Road is derived from 'Wonga' which is an Aboriginal word meaning pigeon. There are no known European artifacts present within the bushland area.

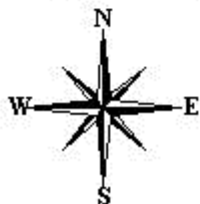
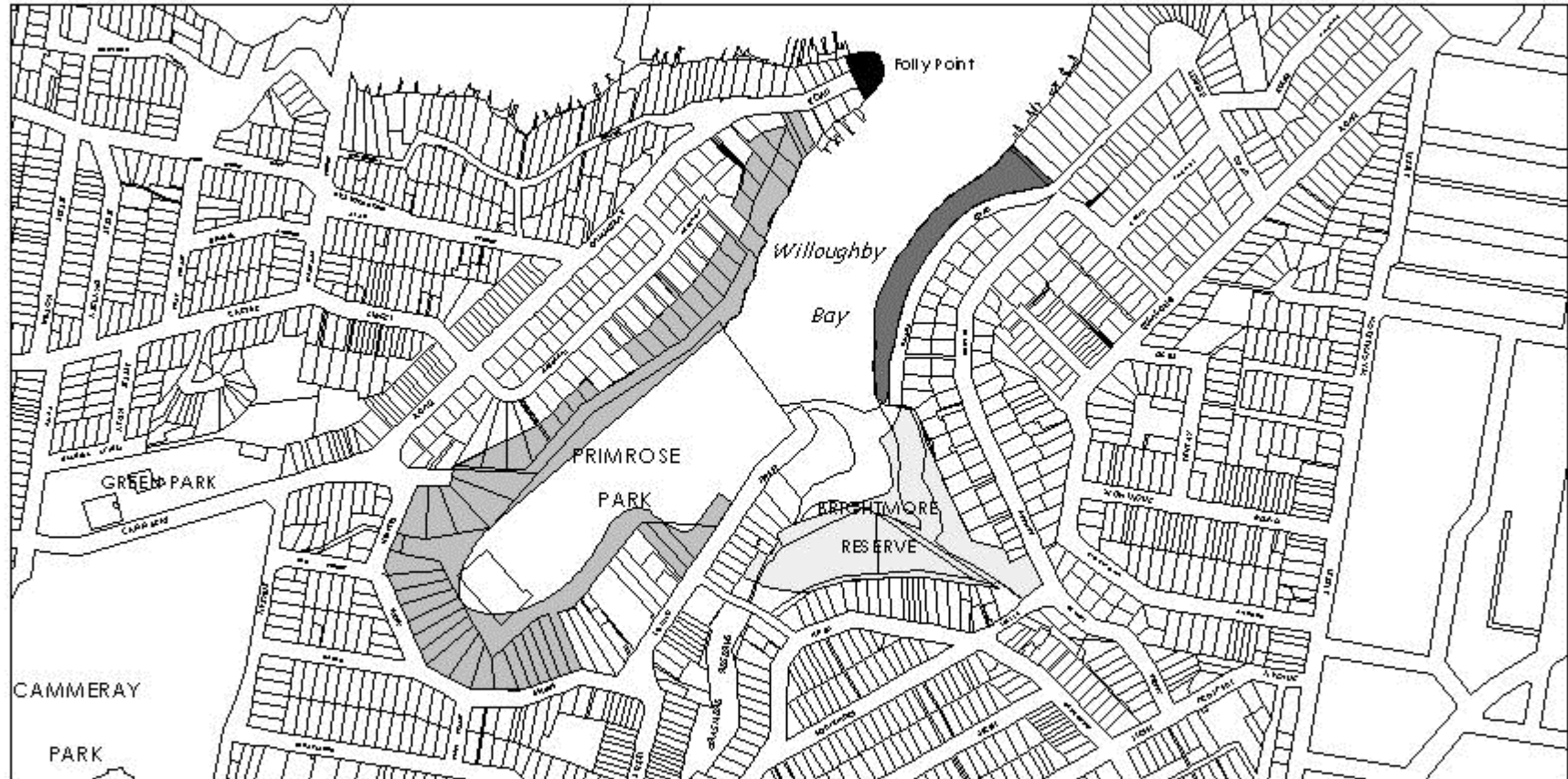
Contractors have been responsible for the regeneration of the site since 1994. The contract bush regeneration team spent approx. 225 hrs regenerating the site during 2000.

BACKGROUND

Reserve Summary

Council Zoning	Bushland
Area of Reserve	9804m ²
Level of Degradation:	
<10%	6434m ²
10-30%	-

Bushland Areas of Cremorne







Scale 1:7500



Legend

BUSHLAND REHABILITATION AREAS

-  Brightmore Reserve
-  Primrose Park
-  Wonga Road
-  Folly Point

31-60%	-
>60%	3370m ²
Length of Boundaries	927.05m
No. of Properties Adjoining Bushland	1
Length of walking track	N/A

1.0 FLORA

Refer to **Map 1 -Vegetation Communities** for location details.

Wonga Road bushland consists of a remnant vegetation community which is part of the Sydney Sandstone Complex – Sydney Sandstone Gully Forest (10ag) as indicated by Benson and Howell, 1994. The vegetation is symbolic of the North Shore and consists of:

1. *Angophora costata* (Smooth-barked Apple) and *Eucalyptus piperita* (Sydney Peppermint) Open Forest community with a midstorey dominated by *Allocasuarina littoralis* (Black She-oak), *Banksia serrata* (Old Man Banksia), *Glochidion ferdinandi* (Cheese Tree) and *Pittosporum undulatum* (Sweet Pittosporum) and an understorey of *Pteridium esculentum* (Bracken Fern) and *Omalanthus populifolius* (Bleeding Heart Tree).

For further information see:

Appendix 3 – Table 1: Classification of vegetation communities.

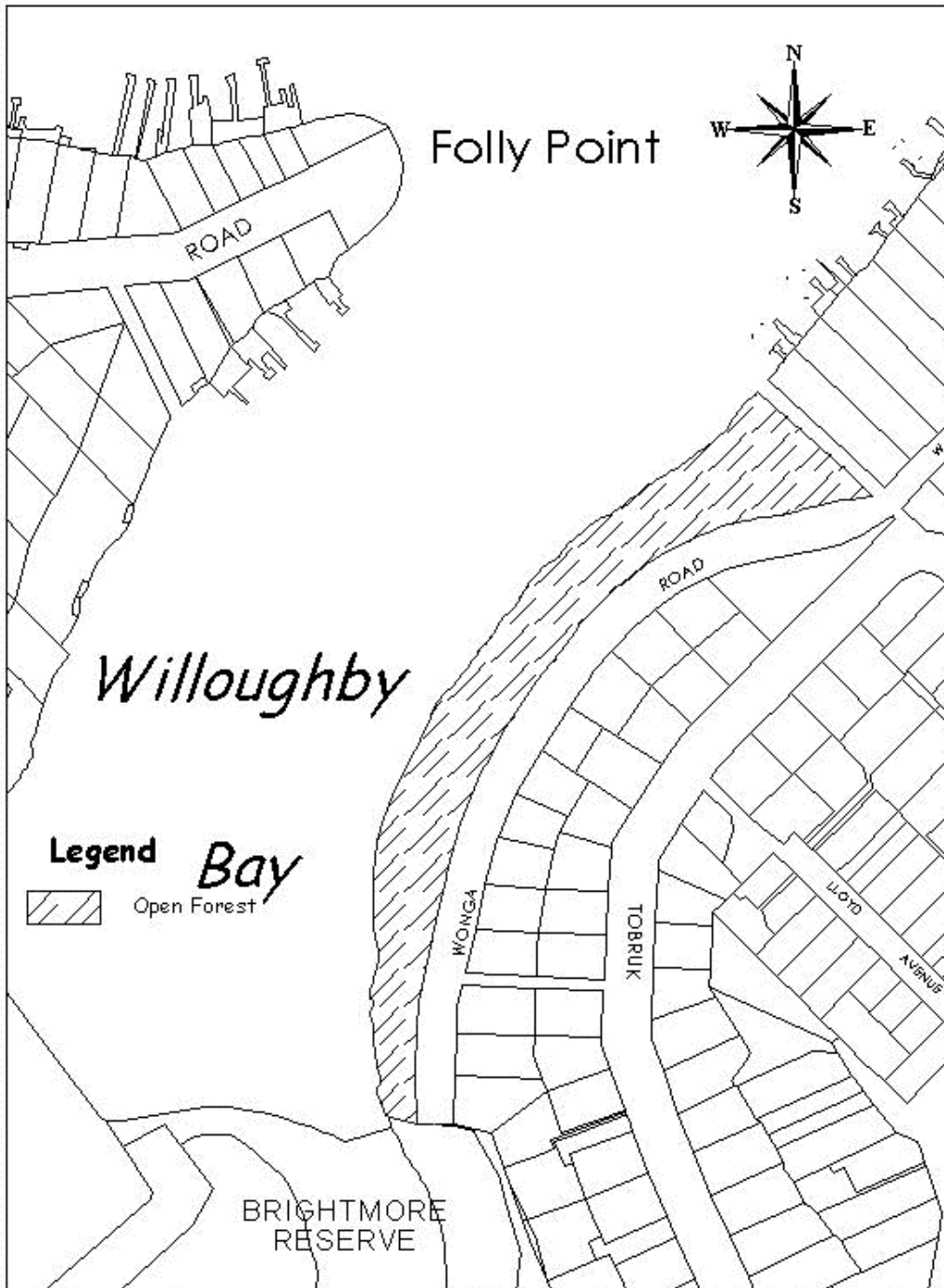
Section 3 – Native plant species list for Wonga Road.

1.2 Weed Assessment

Weed species are present in the various locations due to many factors. Large Leaf Privet (*Ligustrum lucidum*), Camphor laurel (*Cinnamomum camphora*), Fishbone Fern, Crofton Weed (*Ageratina adenophora*), Blackberry Nightshade (*Solanum nigrum*) and Lantana (*Lantana camara*) are present along the stormwater channels. Bamboo (*Phyllostachys spp.*), Cotoneaster (*Cotoneaster sp.*), Asparagus Fern (*Protoasparagus aethiopicus*), African Olive (*Olea europaea spp. africana*), Ochna (*Ochna serrulata*) and Honeysuckle (*Lonicera japonica*) are present along the residential boundary to the north. Milk Thistle, Ehrharta (*Ehrharta erecta*), Cobblers pegs (*Bidens pilosa*) and Fleabane (*Conyza sp.*) are commonly found along the edge of the roadway.

Weed species adjacent to roadways and residential areas are present due to many factors which contribute increased moisture and nutrients to the bushland edge. These include:

- 'Hard surface' runoff from impervious surfaces e.g. roads;
- Stormwater entering the bushland;



Map 1 - Vegetation Zones

- Imported fill soil and major disturbance to the original soil structure when the road was formed;
- Dumping of garden clippings into the bush has also enabled many ornamental species to spread throughout the bushland in the past.

Along the perimeter of the bushland adjacent to the road the original soil profile has been disturbed and the native seed bank (found in the topsoil) has been buried or lost. The native seed bank takes many years to develop and mature. Major soil disturbance makes unassisted native plant regeneration almost impossible. Due to this factor, to assist regeneration, sections of the bushland may have to be planted with local indigenous species. The placement of these plants will reflect their natural occurrence in the existing bushland ecosystem.

For further information see:

Appendix 3 – Table 2: Weed assessment details.

Section 4 – Weed species list for North Sydney.

Refer to **Map 2 - Land Management Issues** for the location of Weed Zones.

1.3 Vulnerable and Threatened Species

There are no vulnerable or threatened flora species found in the bushland of Wonga Road as listed in the *Threatened Species Conservation Act, 1995*.

1.4 Locally Rare Species

There are no Locally Rare species found within the bushland of Wonga Road.

Five species low in population numbers include *Persoonia levis* (Broad-leaved Geebung), *Banksia spinulosa* (Hair-pin Banksia), *Lambertia formosa* (Mountain Devil), *Clerodendrum tomentosum* (Hairy Clerodendrum) and *Pultanaea daphnoides*.

For further information see:

Appendix 3 - Table 3: Regional significance of Locally Rare Species.

2.0 FAUNA

2.1 Terrestrial Vertebrates

There are few species found within the bushland area. There is evidence of Ring-tailed Possums (*Pseudocheirus peregrinus*) who reside in the canopy. Many possum dreys can be seen on close inspection. Eastern Water Dragons (*Physignathus lesueurii*) can be found along the rocky foreshore edge. Common bird species such as the Noisy Miner (*Manorina melanocephala*) the Pied Currawong (*Strepera graculina*) and the Rainbow Lorikeet (*Trichoglossus haematodus*) can be witnessed along Wonga Road. The

Laughing Kookaburra (*Dacelo novaeguineae*) is also occasionally witnessed in the bushland area.

Seabirds also utilize this bushland area for roosting and nesting sites. This bushland parcel acts as a wildlife refuge with minimal human disturbance. White-faced Herons (*Ardea novaehollandiae*), Mangrove Heron (*Ardeola striatus*), Masked Plover (*Vanellus miles*), Pacific Duck (*Anas superciliosa*) and occasional visits by the Little Egret (*Ardea garzetta*).

There is a lack of nesting hollows in Wonga Road bushland. Native birds, arboreal mammals and bat species suffer from the lack of safe nesting and roosting sites. These creatures play an important role in the ecology of the existing vegetation communities. They act as pollinators, natural seed dispersal units and aid in the germination of some native plant species.

For further information see:

Section 5 – Fauna in North Sydney

Section 8 – Law and Policy: *National Parks and Wildlife Act, 1974*.

2.2 Other native Fauna Groups

- Terrestrial Invertebrates
- Aquatic Vertebrates, and
- Aquatic Invertebrates.

A formal survey of the diversity and abundance of the above group of organisms has never been undertaken by North Sydney Council. It is recommended that more detailed studies be undertaken in the future.

2.3 Introduced and Feral Animals

No evidence of feral animals has been recorded within this bushland area.

For further information see:

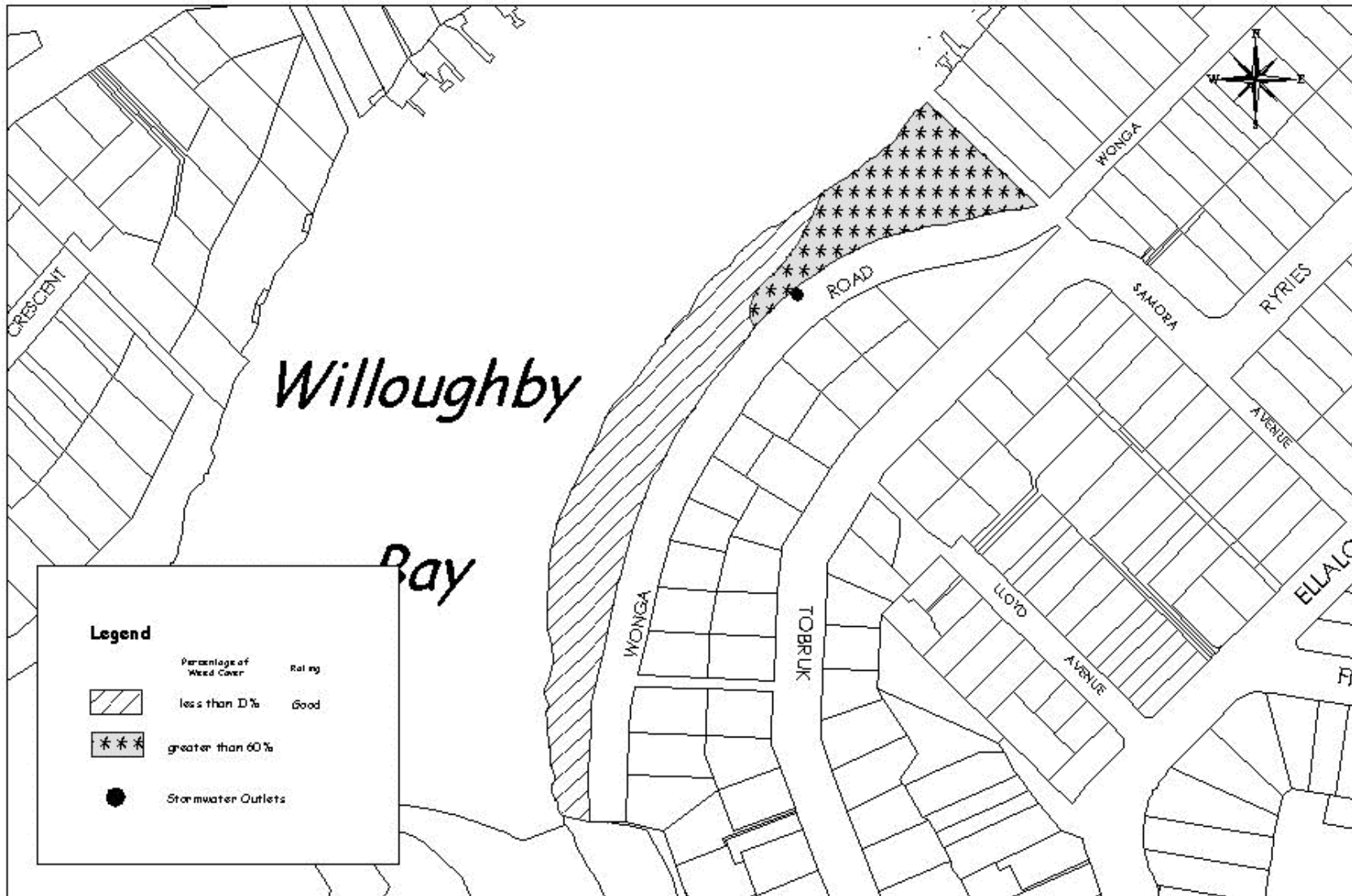
Section 5 – Fauna of North Sydney: Introduced Species.

2.4 Vulnerable and Threatened Species

There are no vulnerable or threatened fauna species within the bushland of Wonga Road as listed in the *Threatened Species Conservation Act, 1995*.

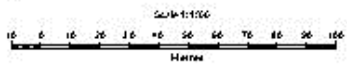
2.5 Locally Rare Species

A formal survey of the diversity and population size of all existing fauna species in North Sydney has never been undertaken, therefore, it is impossible to ascertain whether a species is rare or not. The precautionary principle is utilized in bush regeneration



Legend

	Percentage of Weed Cover	Rating
	less than 10%	Good
	greater than 60%	
	Stormwater Outlets	



Map 2 - Land Management Issues

activities to accommodate this lack of knowledge. Current and ongoing data collection of fauna species exists as a result of the community based Wildlife Watch Program and sightings made by Council staff and Contractors. All fauna is protected in North Sydney and it is essential to know what exists to assist in better management practices.

3.0 BUSHLAND FRAGMENTATION

There are no formal or informal tracks throughout the bushland probably due to its steep terrain making access difficult.

The bushland of Wonga Road lies adjacent to the bushland of Brightmore Reserve and Primrose Park. Brightmore Reserve bushland is separated by Wonga Rd and Young St. Large tracts of lawn separate this bushland remnant from Primrose Park.

3.1 Habitat Corridors

During 1996 Shore School students extended this finger of bushland, reclaiming a large area of lawn that was difficult to mow due to the steep terrain. Native indigenous tubestock was planted into this reclaimed area at the southern end of the bushland parcel. This planted area is now being maintained by bush regeneration contractors.

Maintaining this site is important for recreating habitat and the attempt to close the gap between two parcels of bushland. With regular maintenance of this reclaimed lawn area and underplanting of existing mature trees within the parkland of Primrose Park, a functional habitat corridor will be fostered and encouraged.

4.0 FIRE

Refer to **Map 2 - Land Management Issues** for details of fire history.

No pile burns or strip burns have been undertaken within this bushland area to date. Several pile burns are however planned for 2001/02. The piles are located close to the waters edge of Willoughby Bay.

Fire is an ecological tool required to sustain the plant communities of Wonga Road. There are several areas within Wonga Road that require burning for the purposes of maintaining diversity and stimulating the germination of native seeds which lay dormant in the soil. Some species can be eliminated from a bushland area due to the absence of fire.

As addressed in the Bushland Fire Management Policy, 1997: Section 4 – ‘several areas that contain high fuel levels require burning not only for ecological purposes but also to manage the fuel levels on some sites’.

For further information see:

Appendix 3 – Table 4: Fire history of Wonga Road bushland.

Section 9 – Bushland Fire Management Policy for North Sydney Council.

5.0 URBAN RUNOFF

Refer to **Map 2 - Land Management Issues** for the location of stormwater channels.

Urban runoff originates from residential properties and direct runoff from Wonga Road. Runoff enters the bushland from two locations. Stormwater pipes carry runoff water from hard surface areas including the roadway, adjacent driveways, roofs, cemented areas and other impervious surfaces. The runoff enters the bushland creating moist soil conditions unfavorable to the existing native species in the area.

For further information see

Appendix 3 – Table 5: Stormwater characteristics of Wonga Road bushland.

Middle Harbour Catchment Management Plan, 1999: Stanton Library.

6.0 ABORIGINAL CULTURAL SITES

There are no known Aboriginal sites located within the bushland of Wonga Road. However, all Aboriginal sites are significant and protected in the North Sydney area. All sites require specialist management and there are certain procedures which need to be undertaken in relation to bush regeneration practices, monitoring and maintenance processes.

For further information see:

Section 8 – Law and Policy: Aboriginal Heritage Management.

Development Control Plan: Heritage and Cultural Resources, 1999.

7.0 EUROPEAN HERITAGE SITES

There are no known European Heritage Sites within the bushland of Wonga Rd.

For further information see:

North Sydney Heritage Study Review, 1993: Stanton Library.

North Sydney Council Heritage Inventory Database: Stanton Library.

8.0 RESERVE USERS

The community may utilize the bushland areas of Wonga Road for:

- Nature appreciation
- Aesthetics - Green Buffer zone

Wonga Road bushland can be accessed by public transport (bus only) or by private vehicle. A small car park is located at the end of Young St which accommodates around 20 cars.

8.1 Vandalism and Misuse

The presence of graffiti and structural damage is minimal within the bushland area.

9.0 EXISTING PROPERTIES ADJOINING BUSHLAND

9.1 Noxious Weeds

Noxious weeds found within Wonga Rd bushland include:

Cotoneaster (*Cotoneaster sp.*), Large Leaf Privet (*Ligustrum lucidum*), Bamboo (*Phyllostachys spp.*), Lantana (*Lantana camara*), Asparagus fern (*Protoasparagus aethiopicus*), Ochna (*Ochna serrulata*) and Turkey Rhubarb (*Acetosa sagittata*).

Residential properties on the eastern side and on the northern end of Wonga Rd bushland have noxious weeds growing in their gardens. Noxious Weed Notices will be sent to offending residences so that the health and vitality of the adjacent bushland along Wonga Road can and will be maintained in the long-term future.

For further information see:

Section 4 – Noxious Weeds/Environmental Weeds list for the North Sydney Council area.

Section 8 – Law and policy: *Noxious Weeds Act, 1993*.

9.2 Encroachment

One encroachment exists from the property bordering the bushland area to the north. Stray and encroaching garden plants are spreading into the bushland. Bamboo, *Cotoneaster* and many other ornamentals can be seen growing in the bushland along this edge.

As Contractors begin to regenerate the northern end of the bushland area, the neighbouring resident will be contacted by North Sydney Council and the issues concerned will be discussed.

9.3 Dumping

There is recent evidence of garden refuse dumping along the roadside edge of Wonga Rd bushland. There is also past evidence of dumped building materials and household rubbish.

Piles of garden refuse are generally made up of lawn clippings, tree branches, discarded household pot plants and weed species. Dumping garden refuse into the bushland has many negative affects on the surrounding environment including:

- Increased soil nutrients from the decomposition of vegetative matter,
- The spread of weed species into the bushland by seed or cuttings,
- The spread of lawn grass into the understorey, and
- The spread of exotic household plants, some of which spread rapidly throughout the bushland.

Thousands of dollars are spent each year to combat weed species from spreading throughout the bushland. To educate the local residents on these issues will help to reduce this major threat to the bushland of Wonga Road.

Residents are encouraged to take advantage of North Sydney Council's Green Waste Pick-up Service. Collections can be organized at any time of the year by calling 9936 8326 and leaving your details.

For further information see:

Section 8 – Law and Policy: *Local Government Act, 1919*.

9.4 Pets

Dogs and cats are rarely seen throughout the bushland of Wonga Road. Cats should be kept in at night for the benefit of our local nocturnal native fauna who reside in this local bushland area.

For further information see:

Section 8 – Law and policy: *Companion Animals Act, 1999* and Councils Policy on Dog Control in North Sydney.

10.0 ACTION PLAN

10.1 Rehabilitation Works

Detailed information and the location of rehabilitation works to be carried out over the lifespan of this document in each bushland area. Each bushland reserve is divided into smaller Zones to provide a more detailed vision for each different location. The rehabilitation works are then given a priority rating.

10.2 Management Strategies and other Programs

These additional documents are required to assist a successful rehabilitation process.

10.0 ACTION PLAN

10.1 Rehabilitation Works

Priority

The priority ratings given to each action in the matrix are subject to the availability of staff, funding and existing ideologies at the time of creation. For these reasons modification of priorities may occur as special circumstances arise.

ST	(Short Term)	Action completed within 2 years.
MT	(Medium Term)	Action completed within 2-4 years.
LT	(Long Term)	Action commenced after 4 years.
O	(Ongoing)	Action is carried out on a regular basis for the life of this action plan.
C	(Commenced)	Action has commenced.
CP	(Completed)	Action has been carried out.

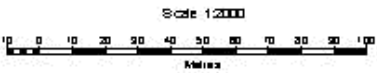
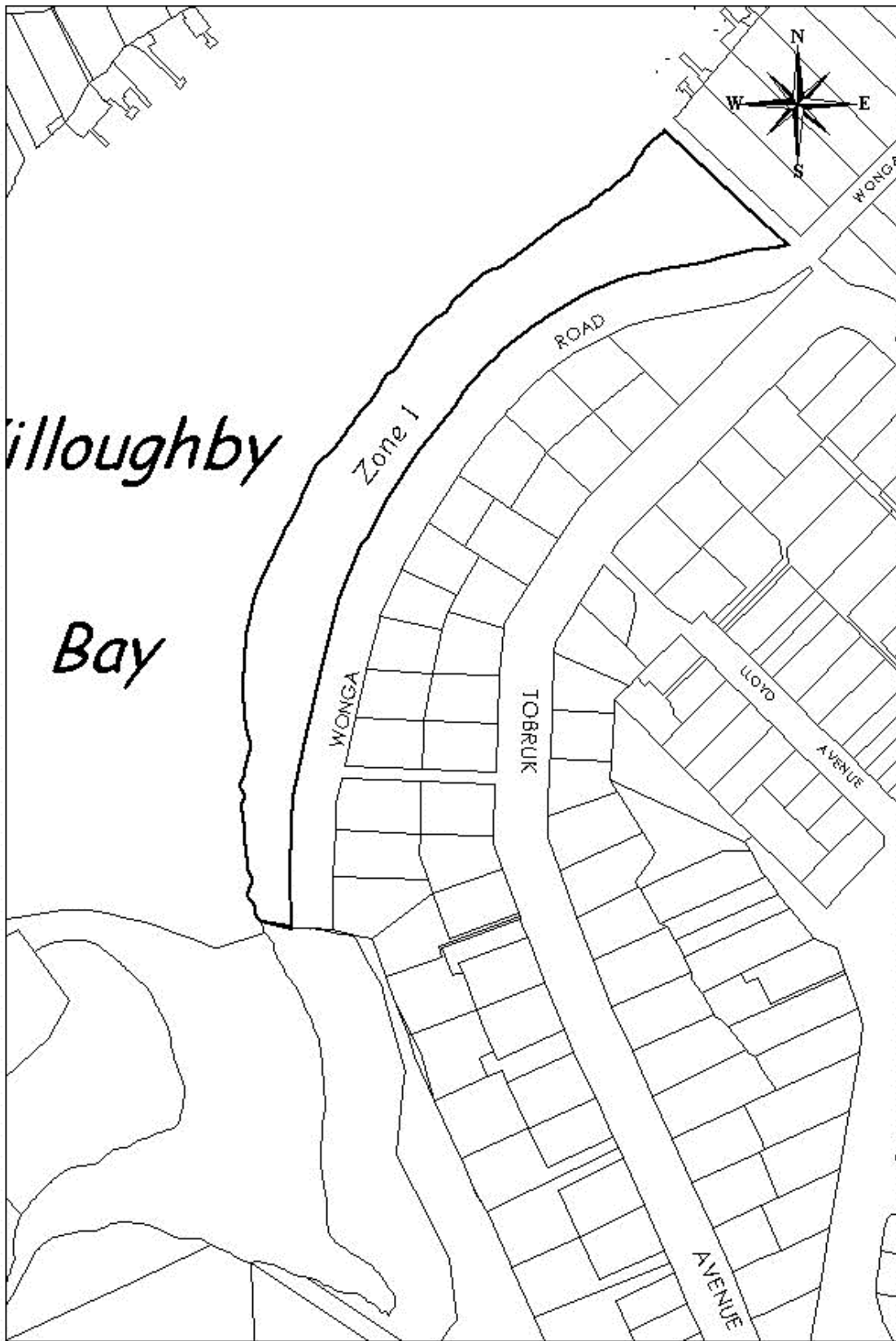
Identification numbers e.g. 1A, 1B etc. shown in the **Issues** column of the Action Plan relate to the corresponding Map for that zone and the action required.

NOTE: The Rehabilitation Plan is designed to be relevant for a five year period and to be extensively reviewed and updated at the end of this time.

OBJECTIVES

Wonga Road Bushland

- To conserve and restore the remnant indigenous plant communities of the area,
- To rehabilitate disturbed bushland edges to reflect the floristic and structural diversity of former vegetation communities,
- To conserve locally rare flora and promote biodiversity,
- To control and reduce the spread of weeds throughout the bushland,
- To provide native habitat for the local indigenous fauna and encourage the creation of corridors to other bushland parcels,
- To protect and conserve areas of Aboriginal Heritage,
- To minimize the effects of stormwater pollution on creeklines and urban runoff in the surrounding bushland,
- To minimize the spread of weed species from adjacent land, and
- To facilitate residents wishing to regenerate remnant bushland in their backyards or recreate the bushland which once existed there.



Map 3 - Rehabilitation Zones

ZONE 1

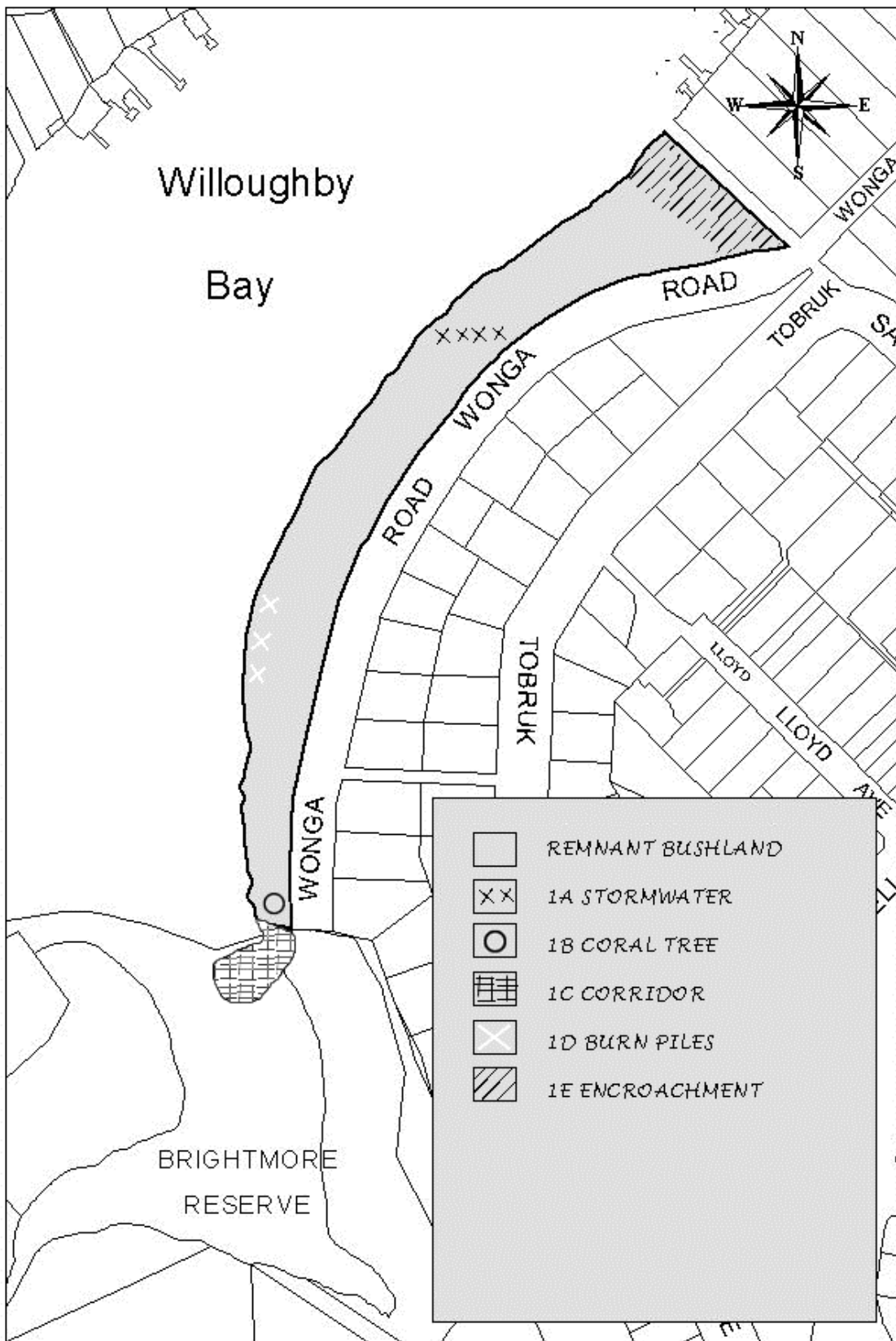
Refer to **Map 3 – Rehabilitation Zones** for the location of this zone.

Open Forest community *Angophora costata* (Smooth-barked Apple) and *Eucalyptus piperita* (Sydney Peppermint) with a midstorey dominated by *Allocasuarina littoralis* (Black She-oak), *Banksia serrata* (Old Man Banksia), *Glochidion ferdinandi* (Cheese Tree) and *Pittosporum undulatum* (Sweet Pittosporum) and an understorey dominated *Pteridium esculentum* (Bracken Fern) and *Omalanthus populifolius* (Bleeding Heart Tree).

Refer to **Map 4 – Rehabilitation Actions** for the location of Proposed Actions in each individual zone.

Issue	Current Condition	Proposed Action	Priority	Performance Measure
Vegetation Management	Weed species emerging in good/fair bushland due to natural dispersal processes.	Sweep through the area six times per year removing new weed growth – working from the good bush out into the degraded edges.	C/O	New weed growth removed on a regular basis and maintained.
		Remove and/or control the spread of seasonal weed species along edge of roadway. Maintain.	C/O	Seasonal weed species controlled on edge of roadway and maintained.
1A	Remnant vegetation adjacent to stormwater outlet in bushland off Wonga Road is under threat from the spread of weed species including Lantana (<i>Lantana camara</i>), Morning Glory (<i>Ipomoea indica</i>), Balloon Vine (<i>Cardiospermum grandiflorum</i>) and Large Leaf Privet (<i>Ligustrum lucidum</i>).	Gradually regenerate the edges of the stormwater channel, working from within the core of good bush and moving across towards the more degraded edges of the stormwater channel. Plant native indigenous species where appropriate. Maintain.	C/O	Stormwater channel is in the process of being regenerated and the area is being appropriately maintained.
	A number of exotic tree species have been injected along the edges of the roadway over the past 3 years.	Unstable and unsafe trees adjacent to the roadway will be removed as required.	C/O	Trees along roadway are monitored and removed where appropriate.
1B	A large Coral Tree (<i>Erythrina x skyssi</i>) found	Removal of this Coral Tree and replace with	LT	Coral Tree has been removed and

Issue	Current Condition	Proposed Action	Priority	Performance Measure
	within the bushland area.	native tubestock. Do not inject.		the area is rehabilitated and appropriately maintained.
Native Vegetation Corridor 1C	A native garden bed was created along the edge of Wonga Rd during 1996. This garden bed was planted with native indigenous species. This area replaces lawn on a steep slope that was once difficult to mow. The native garden bed will also contribute to the functional attributes of the Brightmore Reserve to Primrose Park vegetation corridor.	Maintain the rehabilitated area and replace any lost plants with new tubestock.	ST/O	The rehabilitation area is appropriately maintained.
Fire 1D	Burn piles have been created on the site during secondary weeding activities in 1998/99. The piles are located on the lower slope of the bushland area, adjacent to Willoughby Bay.	Piles will be burnt in cooler months assisted by the local Fire Brigade to further stimulate native plant germination in the Zone. Maintain the post-burn areas.	MT	
Noxious Weeds	Noxious weeds present on private property adjacent to the bushland area.	Noxious Weeds notices will be sent to offending adjacent property owners.	ST/O	Noxious Weeds Notices have been sent to offending residents where appropriate.
Encroachment 1E	Garden plants invading the bushland from adjacent residential garden.	Bush regeneration contractors to begin work in the bushland to the north. Adjoining property owners will be contacted by Council and the issues discussed prior to the commencement of works in the area.	MT	Commencement of bush regeneration works in the area and the area is appropriately maintained.
Garden Refuse Dumping	Residential properties of Wonga Rd show evidence of dumping garden refuse into the adjacent bushland area.	Send adjacent property owners of Wonga Rd, Cremorne a Council Dumping Notice outlining the law and the fines which may be imposed. Refer them to the Council Green Waste pick-up Service which may be used whenever required. Follow-up with a locally targeted community education program.	ST MT	Letters have been sent to property owners. Community Education Program has been initiated in the area.



Map 4 - Rehabilitation Actions - Zone 1

10.2 Management Strategies and other Programs required for a successful rehabilitation process.

Management Strategy/Program	Priority	Responsibility
Fire Management Strategy	MT	Bushland Management Team
Fauna Study	LT	Bushland Management Team
Feral Animal Control Program	MT	Bushland Management Team
Wildlife Corridor Strategy	ST	Bushland Management Team
Community Education Program	C/O	Bushland Management Team
Community Education Program – Noxious Weeds, Domestic Animals, Garden Refuse Dumping, Local urban Flora and Fauna (on a reserve by reserve basis).	ST/O	Department of Open Space and Environmental Services; Bushland Management Team
Issuing Notices (where required) – Noxious Weeds Notices, Garden Refuse Dumping Notices.	ST/O	Bushland Management Team
Promotion of Council’s existing Programs: Backyard Bushcare Program, Wildlife Habitat Gardens, Wildlife Watch Program.	C/O	Bushland Management Team
Biodiversity Management Plan (Taking into account an ‘All of Council’ approach i.e. planning and assessment, field staff procedures and practices, responsibilities of local industry and businesses)	LT	Environmental Services