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FLORA AND FAUNA SURVEY

Volume 2 – Bushland Reserves

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MOSMAN MUNICIPAL COUNCIL

Executive summary

All surveys to date of the 25 bushland reserves identified a total of 706 flora species, of which 497 are indigenous species, 16 are non-indigenous native species and 192 are introduced species. The current 2021-2022 survey recorded a total of 428 flora species within the 25 bushland reserves. Details are provided in Table 1.

Table 1 Flora results within bushland reserves

Bushland reserves (2001-2021)		Bushland reserves (2021-2022)	
Indigenous	497	Indigenous	295
Non-indigenous native	16	Non-indigenous native	10
Introduced	192	Introduced	123
Total flora	705	Total flora	428

The current survey identified 48 flora species that have not previously been recorded within the 25 bushland reserves. Those species are provided in Table 2.

Table 2 Flora species newly recorded within bushland reserves in Mosman local government area

Scientific name	Common name	Status
<i>Calotis dentex</i>		
<i>Crowea exalata</i> subsp.. <i>exalata</i>		
<i>Howea forsteriana</i>	kentia palm	*
<i>Livistona chinensis</i>	Chinese fan palm	*
<i>Lycopodiella cernua</i>	scrambling clubmoss	
<i>Microsorium scandens</i>	fragrant fern	
<i>Molineria capitulata</i>	palm grass	*
<i>Notogrammitis billardiera</i>	finger fern	
<i>Opuntia</i> sp.	pear cactus	WoNS
<i>Pelargonium</i> sp.	geranium	*
<i>Phyllota phylicoides</i>	heath phyllota	
<i>Prostanthera linearis</i>	narrow-leaved mint bush	
<i>Pterostylis</i> sp.		
<i>Schefflera actinophylla</i>	umbrella palm	*
<i>Senecio madagascariensis</i>	fireweed	WoNS
<i>Tecoma stans</i>	yellow binonia	*
<i>Tetradlea thymifolia</i>	thyme pink-bells	
<i>Ulmus parvifolia</i>	Chinese elm	*

* denotes introduced species; WoNS denotes Weed of National Significance

Fauna surveys of the 25 bushland reserves identified 64 native species of fauna including three species of amphibians, 43 species of birds, nine species of mammals, nine species of reptiles. The fauna survey identified two new species of native mammal including large-eared pied bat (*Chalinolobus dwyeri*) and yellow-bellied sheath-tail-bat (*Saccolaimus flaviventris*), and one new species of native reptile, elegant snake-eyed skink (*Cryptoblepharus pulcher*). Nine introduced fauna species were also recorded.

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1 Introduction

Ecosure was engaged in November 2021 to carry out a flora and fauna survey of 25 bushland reserves and 11 unmade road reserves within the Mosman Local Government Area (LGA).

This project is reported in three volumes:

- Volume 1 – Flora and fauna survey and assessment summary
- **Volume 2 – Project Area A (Bushland Reserves)**
- Volume 3 – Project Area B (Road Reserves).

This is Volume 2 which provides a detailed summary of the flora and fauna attributes for each bushland reserve (25 in total) within the Mosman LGA. A detailed introduction, glossary, methods, overall summary of results and references for all three volumes are provided in Volume 1.

Individual flora species lists are included in the section for each bushland reserve with the overall terms and abbreviations included in Table 3.

Table 3 Flora terms and abbreviations

General status	
*	Exotic (not native to Australia)
WoNS	Weeds of National Significance as listed on the <i>NSW Biosecurity Act 2015</i> (BA Act)
ni	Non – indigenous native species (does not naturally occur at this locality)
Conservation status	
CE	Critically Endangered – listed under Schedule 1A of the Biodiversity Conservation Act (BC Act)
E	Endangered – listed under Schedule 1 of the BC Act
V	Vulnerable – listed under Schedule 2 of the BC Act
ROTAP	Rare or Threatened Australian Plants (Briggs and Leigh 1996)
Other	
BR (number)	Bushland Reserve number
a	Recorded in previous surveys but not Ecosure 2021
b	Recorded in previous surveys and Ecosure 2021
c	Recorded by Ecosure 2021

Individual fauna species lists are included in the section for each bushland reserve with the overall terms and abbreviations included in Table 4.

Table 4 Fauna terms and abbreviations

General status	
*	Exotic (not native to Australia)
P	Protected native species

Conservation status

CE	Critically Endangered – listed under Schedule 1A of the BC Act
E	Endangered – listed under Schedule 1 of the BC Act
V	Vulnerable – listed under Schedule 2 of the BC Act

Other

BR (number)	Bushland Reserve number
a	Recorded in previous surveys but not Ecosure 2022
b	Recorded in previous surveys and Ecosure 2022
c	Recorded by Ecosure 2022

2 Bushland Reserves

2.1 Balmoral Park

2.1.1 General description

Balmoral Park reserve is located south-west of Balmoral Beach in the east of Mosman LGA. The reserve is adjacent to Lawry Plunkett Reserve, and is situated on the north-facing, moderate to steep slopes south of Balmoral Park oval. A public walking track is located through the south-east section of the reserve, where a low intensity fire has also recently occurred.

2.1.2 Vegetation communities

Three vegetation communities are recognised at Balmoral Park including Sydney Sandstone Gully Forest, Regrowth Sydney Sandstone Gully Forest, and Disturbed Sydney Sandstone Gully Forest (Figure 1).

Sydney Sandstone Gully Forest occurs as a large patch to the south and consists of remnant and regrowth vegetation, with an intact canopy and low weed occurrence. Regrowth Sydney Sandstone Gully Forest occurs along the eastern and western boundaries, following a creek line in the east, and along a steep slope in the west. Disturbed Sydney Sandstone Gully Forest occurs in the south-west corner of the site, where dieback of canopy species has occurred and weed density is considerably higher. Table 5 provides an updated list from previous surveys of species frequently recorded in each community.

Table 5 Vegetation community description – Balmoral Park

Sydney Sandstone Gully Forest

Canopy	<i>Angophora costata</i> (Sydney red gum), <i>Corymbia gummifera</i> (red bloodwood), <i>Eucalyptus botryoides</i> (bangalay)
Midstorey	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Cyathea cooperi</i> (straw tree fern), <i>Allocasuarina littoralis</i> (black she-oak), <i>Acacia longifolia</i> subsp. <i>Longifolia</i> (Sydney golden wattle), and <i>Banksia integrifolia</i> subsp. <i>Integrifolia</i> (coast banksia)
Understorey	<i>Dodonaea triquetra</i> (large-leaf hop-bush), <i>Calochlaena dubia</i> (soft bracken), <i>Pteridium esculentum</i> (common bracken)
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Imperata cylindrica</i> (blady grass), <i>Commelina cyanea</i> (scurvy weed), <i>Stephania japonica</i> var. <i>discolor</i> (snake vine), <i>Entolasia marginata</i> (bordered panic)

Regrowth Sydney Sandstone Gully Forest

Canopy	<i>Ficus macrophylla</i> (Moreton Bay fig), <i>Ficus rubiginosa</i> (Port Jackson fig), <i>Angophora costata</i> (Sydney red gum) and <i>Eucalyptus botryoides</i> (bangalay)
Midstorey	<i>Pittosporum undulatum</i> (sweet pittosporum), <i>Clerodendrum tomentosum</i> (hairy clerodendrum), <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), and <i>Banksia integrifolia</i> subsp. <i>Integrifolia</i> (coast banksia)
Understorey	<i>Pteridium esculentum</i> (common bracken), <i>Breynia oblongifolia</i> (coffee bush), <i>Homalanthus populifolius</i> (bleeding heart) and <i>Anredera cordifolia</i> (Madeira vine)

Groundcover	<i>Commelina cyanea</i> (scurvy weed), <i>Oplismenus aemulus</i> (oplismenus), <i>Lomandra longifolia</i> (spiny-headed mat-rush) and <i>Tradescantia fluminensis</i> (trad)
-------------	--

Disturbed Sydney Sandstone Gully Forest

Canopy	<i>Angophora costata</i> (Sydney red gum), <i>Corymbia gummifera</i> (red bloodwood), <i>Eucalyptus botryoides</i> (bangalay)
Midstorey / understorey	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Banksia integrifolia</i> subsp. <i>Integrifolia</i> (coast banksia), <i>Pteridium esculentum</i> (common bracken), <i>Pittosporum undulatum</i> (sweet pittosporum), <i>Ipomoea purpurea</i> (morning glory) and <i>Setaria palmifolia</i> (palm grass)
Groundcover	<i>Oplismenus aemulus</i> (oplismenus), <i>Imperata cylindrica</i> (blady grass), <i>Commelina cyanea</i> (scurvy weed), <i>Lomandra longifolia</i> (spiny-headed mat-rush) and <i>Tradescantia fluminensis</i> (trad)

2.1.3 Threatened flora

A single *Acacia terminalis* subsp. *eastern Sydney* previously recorded near the cricket nets at Balmoral Park, was unable to be detected during the 2021-2022 surveys. However, a single *Acacia terminalis* subsp. *eastern Sydney* was recorded within Sydney Sandstone Gully Forest in the current surveys (Figure 1).

2.1.4 Threatened Ecological Communities

The Threatened Ecological Communities Greater Sydney (DPIE 2021) did not identify any threatened ecological communities (TECs) within Balmoral Park. The current survey did not detect any vegetation that corresponds to a TEC.

2.1.5 Native vegetation and weed cover

Native vegetation directly south of Balmoral Park oval is in excellent condition and is regenerating naturally with native plant species following a low-intensity fire. Across the site, water run-off and subsequent increases in nutrient levels are likely contributing to higher weed densities in particular areas such as the creek line along the eastern boundary, and the south-west corner of the site. The property located east of the creek was also observed to have a high density of weeds and is a likely source for the local area. Figures 2 and 3 show native vegetation cover and weed density at the site. The top five weed species and total weed cover for each class is provided in Table 6.

Table 6 Top five weed species and total weed cover at Balmoral Park

Weed Class	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Ipomoea cairica</i>	coastal morning glory	Middle	1
	<i>Acetosa sagittata</i>	turkey rhubarb	Lower	1
	<i>Conyza</i> sp.	fleabane	Lower	1
	<i>Bidens pilosa</i>	cobbler's pegs	Lower	1
	<i>Verbeena bonariensis</i>	purple top	Lower	1
				Total
10-29	<i>Ipomoea purpurea</i>	morning glory	Middle	2
	<i>Anredera cordifolia</i>	Madeira vine	Middle	2

Weed Class	Scientific name	Common name	Dominant stratum	% Cover
	<i>Cardiospermum grandiflorum</i>	balloon vine	Middle	1
	<i>Conyza</i> sp.	fleabane	Lower	1
	<i>Acetosa sagittata</i>	turkey rhubarb	Lower	1
	Other weed species			4
			Total	11
30-69	<i>Ipomoea purpurea</i>	morning glory	Middle	10
	<i>Anredera cordifolia</i>	Madeira vine	Middle	10
	<i>Cardiospermum grandiflorum</i>	balloon vine	Middle	5
	<i>Nephrolepis cordifolia</i>	fishbone fern	Lower	4
	<i>Conyza</i> sp.	fleabane	Lower	1
			Total	30

2.1.6 Fauna habitat

Fauna habitat attributes recorded for Balmoral Park are listed in Table 7.

Table 7 Fauna habitat summary of Balmoral Park

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Relatively large reserve with excellent connectivity to Sydney Harbour National Park (SHNP) and other Council reserves; large old-growth, hollow-bearing trees; good understorey vegetation; extensive sandstone outcrops.
Connectivity	Excellent local connectivity, SHNP to the east and one large bushland reserve (Lawry Plunkett bushland reserve) to the west are in close proximity.
Large hollows (>20 cm)	Common
Small hollows (<20 cm)	Common
Hollow status	Mixture
Large logs (>50 cm)	Common
Small logs (10-50 cm)	Abundant
Cliffs/outcrops	Common
Large rocks (>30 cm)	Common
Small rocks (10-30 cm)	Common
Leaf litter	Abundant
Dense shrubs/grass shelter	Abundant
Termite mounds	Scattered
Water bodies	Drainage creek
Threatened fauna habitat	Hollows and foraging habitat for threatened microbats, parrots and owls. Foraging habitat for grey-headed flying-fox (<i>Pteropus poliocephalus</i>).

2.1.7 Threats to flora and fauna

Current threats to the flora and fauna within Balmoral Park include:

- dispersal of weeds from higher weed density vegetation including surrounding cleared and disturbed areas as well as regrowth Sydney Sandstone Gully Forest
- tree dieback and disease (*Phytophthora cinnamomi*). This has been documented in the adjacent reserve (Lawry Plunkett Reserve)
- informal walking tracks through the reserve
- garden escapes from surrounding private properties
- introduced predators of native ground-dwelling fauna including cat (*Felis catus*), dog (*Canis lupus familiaris*) and European fox (*Vulpes vulpes*).

2.1.8 Conservation significance

2.1.8.1 Vegetation

The vegetation conservation significance in this reserve is high. Weed abundance in this bushland reserve is low and has decreased since previous surveys were conducted by Ecosure 2019. The restoration and revegetation works have reduced weed presence and aided in the regeneration of native species.

2.1.8.2 Fauna

Thirty species (17 birds, six mammals, five reptiles and two amphibians) were detected at this reserve during surveys in December 2021 and January 2022. Three of these species are threatened; powerful owl (*Ninox strenua*) is listed as Vulnerable under the BC Act; yellow-bellied sheath-tail-bat (*Saccolaimus flaviventris*) is listed as Vulnerable under the BC Act; and grey-headed flying-fox (*Pteropus poliocephalus*) is threatened under both the EPBC Act and BC Act.

2.1.8.3 Priority

This site has a high priority for conservation. Although weed levels have been reduced, ongoing bushland restoration works are still required to maintain low weed abundance in Sydney Sandstone Gully Forest and reduce weed abundance in cleared and disturbed areas and regenerating communities of Sydney Sandstone Gully Forest. The individual *Acacia terminalis* subsp. *Eastern Sydney* should be monitored and protected if necessary.

2.1.9 Current management practices

Balmoral Park is currently managed as a bush regeneration and restoration site under Mosman Council's Bushland Restoration Contracts 2012 – 2022. A summary of the works to date (2012 – current) is shown in Table 8.

Table 8 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary

Weeding	• Primary weeding targeting noxious, woody and vine weeds
---------	---

Bush regeneration and restoration works summary

	· Secondary and maintenance weeding of noxious, woody and vine weed regrowth and annual and perennial herbs and grasses by hand weeding and spot spraying.
Planting	Recent and established plantings along bushland edges, walking tracks, rehabilitated drainage lines, cleared and disturbed area as well as open space
Ecological/Hazard reduction burns	Pile burns occurred in 2005
Other	Rehabilitated drainage lines Weed tree removal

2.1.10 Recommendations

Current bushland management practices for Balmoral Park should be continued. Prioritised recommendations are shown in Table 9.

Table 9 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve.
2	Additional targeting of weeds in the cleared and disturbed area in the south-western part of the reserve.
3	Continue planting of native tree, shrub and groundcover species in the regenerating Sydney Sandstone Gully Forest to supplement regeneration.
4	Ecological/hazard reduction/pile burns to be considered to stimulate regeneration of native plants including threatened species such as <i>Acacia terminalis</i> subsp.. <i>Eastern Sydney</i> that may be present in the seed bank.
5	Treat juvenile weed trees surrounding previously removed individuals.
6	Implement hygiene protocol for working in bushland affected by <i>P. cinnamomi</i> (Suddaby & Liew 2008) if evidence of disease is observed.

2.1.11 Flora and fauna species list

Flora species recorded during current and previous surveys of Balmoral Park are listed in Table 10 and fauna species in Table 11.

Table 10 Flora species list for Balmoral Park

Family	Scientific name	Common Name	Status	BR5 3
Fabaceae – Mimosoideae	<i>Acacia implexa</i>	hickory wattle		a
Fabaceae – Mimosoideae	<i>Acacia linifolia</i>	white wattle		b
Fabaceae – Mimosoideae	<i>Acacia longifolia</i> subsp.. <i>longifolia</i>	Sydney golden wattle		b
Fabaceae – Mimosoideae	<i>Acacia longissima</i>	long-leaf wattle		a
Fabaceae – Mimosoideae	<i>Acacia maidenii</i>	maiden's wattle		a
Fabaceae – Mimosoideae	<i>Acacia suaveolens</i>	sweet wattle		a
Fabaceae – Mimosoideae	<i>Acacia terminalis</i> subsp.. <i>eastern</i>	sunshine wattle	E	b

Family	Scientific name	Common Name	Status	BR5 3
	<i>Sydney</i>			
Fabaceae – Mimosoideae	<i>Acacia ulicifolia</i>	prickly moses		b
Sapindaceae	<i>Acer</i> sp.	maple	*	a
Polygonaceae	<i>Acetosa sagittata</i>	Turkey rhubarb	*	b
Myrtaceae	<i>Acmena smithii</i>	lilly pilly		a
Adiantaceae	<i>Adiantum aethiopicum</i>	common maidenhair		a
Adiantaceae	<i>Adiantum formosum</i>	black stem		a
Adiantaceae	<i>Adiantum hispidulum</i>	rough maidenhair fern		a
Asteraceae	<i>Ageratina riparia</i>	mistflower	*	a
Casuarinaceae	<i>Allocasuarina littoralis</i>	black she-oak		b
Amaranthaceae	<i>Alternanthera denticulata</i>	lesser joyweed		a
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		b
Myrtaceae	<i>Angophora floribunda</i>	apple		b
Basellaceae	<i>Anredera cordifolia</i>	Madeira vine	WoNS	b
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	b
Aspleniaceae	<i>Asplenium australasicum</i>	birds nest fern		b
Araliaceae	<i>Astrotricha floccosa</i>			a
Poaceae	<i>Austrostipa pubescens</i>	spear grass		b
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Proteaceae	<i>Banksia serrata</i>	old-man banksia		b
Proteaceae	<i>Banksia spinulosa</i>	hairpin banksia		a
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*	b
Pittosporaceae	<i>Billardiera scandens</i>	hairy apple berry		a
Blechnaceae	<i>Blechnum cartilagineum</i>	gristle fern		b
Sterculiaceae	<i>Brachychiton acerifolius</i>	flame tree		a
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush		b
Poaceae	<i>Bromus catharticus</i>	prairie grass	*	a
Portulacaceae	<i>Calandrinia pickeringii</i>			a
Cunoniaceae	<i>Callicoma serratifolia</i>	black wattle		b
Myrtaceae	<i>Callistemon linearis</i>	narrow-leaved bottlebrush		c
Myrtaceae	<i>Callistemon salignus</i>	willow bottlebrush		a
Cupressaceae	<i>Callitris rhomboidea</i>	Port Jackson pine		a
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken		b
Cannaceae	<i>Canna indica</i>	tous-les-mois arrowroot	*	a
Brassicaceae	<i>Cardamine hirsuta</i>	common bittercress	*	a
Sapindaceae	<i>Cardiospermum grandiflorum</i>	balloon vine	*	b
Lauraceae	<i>Cassytha pubescens</i>			a
Casuarinaceae	<i>Casuarina glauca</i>	swamp oak		a
Apiaceae	<i>Centella asiatica</i>	Indian pennywort		b
Cunoniaceae	<i>Ceratopetalum apetalum</i>	coachwood		a

Family	Scientific name	Common Name	Status	BR5 3
Cunoniaceae	<i>Ceratopetalum gummifera</i>	Christmas bush		c
Adiantaceae	<i>Cheilanthes distans</i>	bristly cloak fern		a
Thelypteridaceae	<i>Christella dentata</i>	binung		b
Vitaceae	<i>Cissus antarctica</i>	kangaroo vine		b
Vitaceae	<i>Cissus hypoglauca</i>	water vine		b
Verbenaceae	<i>Clerodendrum tomentosum</i>	hairy clerodendrum		a
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp.	fleabane	*	b
Myrtaceae	<i>Corymbia gummifera</i>	red bloodwood		a
Myrtaceae	<i>Corymbia maculata</i>	spotted gum		a
Asteraceae	<i>Cotula australis</i>	common cotula		a
Iridaceae	<i>Crocospia x crocosmiiflora</i>	montbretia	*	b
Rutaceae	<i>Crowea exalata</i> subsp. <i>exalata</i>			c
Rutaceae	<i>Crowea saligna</i>			b
Lauraceae	<i>Cryptocarya glaucescens</i>	jackwood		b
Orchidaceae	<i>Cryptostylis erecta</i>	bonnet orchid		a
Sapindaceae	<i>Cupaniopsis anacardioides</i>	tuckeroo		a
Cyatheaceae	<i>Cyathea cooperi</i>	straw treefern		b
Thelypteridaceae	<i>Cyclosorus interruptus</i>			b
Poaceae	<i>Cymbopogon refractus</i>	barbed wire grass		a
Cyperaceae	<i>Cyperus eragrostis</i>		*	b
Cyperaceae	<i>Cyperus mirus</i>			b
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Poaceae	<i>Dichelachne crinita</i>	long-hair plume grass		c
Convolvulaceae	<i>Dichondra repens</i>	kidney weed		b
Poaceae	<i>Digitaria parviflora</i>	small-flowered finger grass		b
Fabaceae – Faboideae	<i>Dillwynia retorta</i>			a
Sapindaceae	<i>Dodonaea triquetra</i>	large-leaf hop-bush		a
Poaceae	<i>Echinopogon caespitosus</i> var. <i>caespitosus</i>	tufted hedgehog-grass		b
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	b
Chenopodiaceae	<i>Einadia trigonos</i> subsp. <i>trigonos</i>	fishweed		a
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	blueberry ash		b
Poaceae	<i>Elensine indica</i>	crowsfoot grass	*	c
Poaceae	<i>Entolasia marginata</i>	bordered panic		b
Poaceae	<i>Entolasia stricta</i>	wiry panic		b
Ericaceae	<i>Epacris pulchella</i>	wallum heath		a
Fabaceae – Faboideae	<i>Erythrina crista-galli</i>	cockspur coral tree	*	a
Myrtaceae	<i>Eucalyptus botryoides</i>	bangalay		b
Myrtaceae	<i>Eucalyptus piperita</i>	Sydney peppermint		a

Family	Scientific name	Common Name	Status	BR5 3
Myrtaceae	<i>Eucalyptus robusta</i>	swamp mahogany		a
Myrtaceae	<i>Eucalyptus umbra</i>	broad-leaved white mahogany		a
Luzuriagaceae	<i>Eustrephus latifolius</i>	wombat berry		b
Moraceae	<i>Ficus coronata</i>	sandpaper fig		b
Moraceae	<i>Ficus macrophylla</i>	Moreton Bay fig		b
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Cyperaceae	<i>Gahnia sieberiana</i>	red-fruit saw-sedge		b
Luzuriagaceae	<i>Geitonoplesium cymosum</i>	scrambling lily		b
Geraniaceae	<i>Geranium homeanum</i>	native geranium		b
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	cheese tree		b
Haloragaceae	<i>Gonocarpus teucroides</i>	raspwort		b
Proteaceae	<i>Grevillea buxifolia</i> subsp. <i>buxifolia</i>	grey spider flower		a
Proteaceae	<i>Grevillea linearifolia</i>	linear-leaf grevillea		b
Proteaceae	<i>Grevillea sericea</i> subsp. <i>sericea</i>	pink spider flower		a
Proteaceae	<i>Hakea salicifolia</i>	willow-leaved hakea		a
Proteaceae	<i>Hakea sericea</i>	needlebush		a
Proteaceae	<i>Hakea teretifolia</i>	needlebush		a
Fabaceae – Faboideae	<i>Hardenbergia violacea</i>	purple coral pea		a
Zingiberaceae	<i>Hedychium gardnerianum</i>	ginger lily	*	a
Dilleniaceae	<i>Hibbertia dentata</i>	trailing guinea flower		a
Dilleniaceae	<i>Hibbertia empetrifolia</i> subsp. <i>empetrifolia</i>			a
Dilleniaceae	<i>Hibbertia scandens</i>	climbing guinea flower		b
Dennstaedtiaceae	<i>Histiopteris incisa</i>	bat's wing fern		a
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b
Arecaceae	<i>Howea forsteriana</i>	Kentia palm	*	c
Apiaceae	<i>Hydrocotyle laxiflora</i>	stinking pennywort		a
Poaceae	<i>Imperata cylindrica</i>	blady grass		b
Convolvulaceae	<i>Ipomoea cairica</i>	coastal morning glory	*	b
Convolvulaceae	<i>Ipomoea indica</i>	morning glory	*	b
Cyperaceae	<i>Isolepis nodosa</i>	knobby club-rush		b
Juncaceae	<i>Juncus continuus</i>			a
Juncaceae	<i>Juncus planifolius</i>			a
Juncaceae	<i>Juncus usitatus</i>	common rush		b
Fabaceae – Faboideae	<i>Kennedia rubicunda</i>	dusky coral pea		a
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		b
Poaceae	<i>Lachnagrostis filiformis</i>			a
Verbenaceae	<i>Lantana camara</i>	lantana	WoNS	a
Sterculiaceae	<i>Lasiopetalum ferrugineum</i> var			a

Family	Scientific name	Common Name	Status	BR5 3
	<i>ferrugineum</i>			
Cyperaceae	<i>Lepidosperma gunnii</i>			a
Cyperaceae	<i>Lepidosperma laterale</i>			b
Myrtaceae	<i>Leptospermum continentale</i>	tea-tree		a
Myrtaceae	<i>Leptospermum laevigatum</i>	coast teatree		b
Myrtaceae	<i>Leptospermum polygalifolium</i>	yellow tea-tree		a
Myrtaceae	<i>Leptospermum trinervium</i>	slender tea-tree		a
Arecaceae	<i>Livistona australis</i>	cabbage fan-palm		a
Lomandraceae	<i>Lomandra cylindrica</i>	needle mat-rush		c
Lomandraceae	<i>Lomandra filiformis</i> subsp. <i>filiformis</i>	wattle mat-rush		a
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Lomandraceae	<i>Lomandra multiflora</i>	many-flowered mat-rush		a
Lomandraceae	<i>Lomandra obliqua</i>			a
Myrtaceae	<i>Lophostemon confertus</i>	brush box	ni	a
Myrtaceae	<i>Melaleuca armillaris</i>	bracelet honey-myrtle		a
Myrtaceae	<i>Melaleuca styphelioides</i>	prickly-leaved tea tree		a
Meliaceae	<i>Melia azedarach</i>	white cedar		a
Poaceae	<i>Microlaena stipoides</i> var <i>stipoides</i>	weeping grass		b
Myrsinaceae	<i>Myrsine variabilis</i>			a
Davalliaceae	<i>Nephrolepis cordifolia</i>	fishbone fern	ni	b
Oleaceae	<i>Notelaea longifolia</i>	large mock-olive		b
Poaceae	<i>Notodanthonia longifolia</i>	long-leaved wallaby grass		b
Ochnaceae	<i>Ochna serrulata</i>	ochna	*	a
Oleaceae	<i>Olea europaea</i> subsp. <i>cuspidata</i>	olive	*	a
Rubiaceae	<i>Opercularia aspera</i>	coarse stinkweed		a
Poaceae	<i>Oplismenus aemulus</i>	oplismenus		a
Poaceae	<i>Oplismenus imbecillis</i>			a
Asteraceae	<i>Ozothamnus diosmifolius</i>	rice flower		a
Bignoniaceae	<i>Pandorea pandorana</i>	Wonga Wonga vine		b
Poaceae	<i>Panicum simile</i>	two-colour panic		a
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*	a
Poaceae	<i>Paspalidium distans</i>			b
Poaceae	<i>Paspalum dilatatum</i>	paspalum	*	c
Iridaceae	<i>Patersonia glabrata</i>	leafy purple-flag		c
Iridaceae	<i>Patersonia sericea</i>	silky purple-flag		b
Geraniaceae	<i>Pelargonium australe</i>	native storksbill		a
Polygonaceae	<i>Persicaria decipiens</i>	slender knotweed		b
Proteaceae	<i>Persoonia levis</i>	broad-leaved geebung		a
Poaceae	<i>Phragmites australis</i>	common reed		b
Euphorbiaceae	<i>Phyllanthus gunnii</i>	scrubby spurge		a

Family	Scientific name	Common Name	Status	BR5 3
Euphorbiaceae	<i>Phyllanthus hirtellus</i>			a
Fabaceae	<i>Phyllota phyllicoides</i>	common phyllota		c
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Polypodiaceae	<i>Platynerium bifurcatum</i>	elkhorn		a
Fabaceae – Faboideae	<i>Platylobium formosum</i> subsp. <i>formosum</i>			a
Apiaceae	<i>Platysace lanceolata</i>	shrubby platysace		b
Lamiaceae	<i>Plectranthus parviflorus</i>	cockspur flower		b
Poaceae	<i>Poa affinis</i>	poa		a
Araliaceae	<i>Polyscias sambucifolia</i>	elderberry panax		b
Rhamnaceae	<i>Pomaderris lanigera</i>			a
Rubiaceae	<i>Pomax umbellata</i>	pomax		a
Euphorbiaceae	<i>Poranthera microphylla</i>			a
Lobeliaceae	<i>Pratia purpurascens</i>	whiteroot		b
Acanthaceae	<i>Pseuderanthemum variabile</i>	pastel flower		a
Psilotaceae	<i>Psilotum nudum</i>	skeleton fork-fern		a
Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken		b
Pteridaceae	<i>Pteris tremula</i>	tender brake		b
Polypodiaceae	<i>Pyrrosia rupestris</i>	rock felt fern		a
Rosaceae	<i>Rubus ellipticus</i>	yellow raspberry	*	a
Menispermaceae	<i>Sarcopetalum harveyanum</i>	pearl vine		a
Uvulariaceae	<i>Schelhammera undulata</i>			a
Cyperaceae	<i>Schoenus melanostachys</i>			a
Asteraceae	<i>Senecio madagascariensis</i>	fireweed	WoNS	c
Asteraceae	<i>Senecio minimus</i>			a
Fabaceae – Caesalpinioideae	<i>Senna pendula</i> var. <i>glabrata</i>	cassia	*	a
Poaceae	<i>Setaria palmifolia</i>	palm grass	*	b
Malvaceae	<i>Sida rhombifolia</i>	paddy's lucerne	*	b
Smilacaceae	<i>Smilax glycyphylla</i>	sweet sarsaparilla		b
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	b
Menispermaceae	<i>Stephania japonica</i> var. <i>discolor</i>	snake vine		b
Strelitziaceae	<i>Strelitzia nicolai</i>	giant bird of paradise	*	a
Ericaceae	<i>Styphelia longifolia</i>			a
Meliaceae	<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	scentless rosewood		a
Myrtaceae	<i>Syzygium luehmannii</i>	small-leaved lily pilly	ni	a
Asteraceae	<i>Taraxacum officinale</i>	dandelion	*	b
Poaceae	<i>Themeda triandra</i>	kangaroo grass		b
Acanthaceae	<i>Thunbergia alata</i>	black-eyed susan	*	a

Family	Scientific name	Common Name	Status	BR5 3
Commelinaceae	<i>Tradescantia fluminensis</i>	trad	*	b
Myrtaceae	<i>Tristaniopsis laurina</i>	water gum		a
Osmundaceae	<i>Todea barbara</i>	king fern		c
Tropaeolaceae	<i>Tropaeolum majus</i>	nasturtium	*	a
Verbenaceae	<i>Verbena bonariensis</i>	purple top	*	b
Scrophulariaceae	<i>Veronica plebeia</i>	trailing speedwell		a
Violaceae	<i>Viola hederacea</i>	native violet		b
Campanulaceae	<i>Wahlenbergia</i> sp			a
Lamiaceae	<i>Westringia fruticosa</i>	coastal rosemary		a
Xanthorrhoeaceae	<i>Xanthorrhoea arborea</i>			a
Apiaceae	<i>Xanthosia pilosa</i>	woolly xanthosia		a
Apiaceae	<i>Xanthosia tridentata</i>	rock xanthosia		a
Rutaceae	<i>Zieria pilosa</i>	pilose-leafed zieria		a

Table 11 Fauna species list for Balmoral Park

Class	Family	Scientific Name	Common Name	Status	BR 53
Amphibians	Myobatrachidae	<i>Crinia signifera</i>	common eastern froglet		b
Amphibians	Myobatrachidae	<i>Limnodynastes peronii</i>	brown-striped frog		b
Birds	Sturnidae	<i>Acridotheres tristis</i>	common myna	*	a
Birds	Megapodiidae	<i>Alectura lathamii</i>	Australian brushturkey		b
Birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		b
Birds	Cacatuidae	<i>Cacatua sanguinea</i>	little corella		a
Birds	Anatidae	<i>Chenonetta jubata</i>	maned duck		a
Birds	Columbidae	<i>Columba livia</i>	rock dove	*	a
Birds	Corvidae	<i>Corvus coronoides</i>	Australian raven		b
Birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		b
Birds	Alcedinidae	<i>Dacelo novaeguinea</i>	laughing kookaburra		b
Birds	Cuculidae	<i>Eudynamis scolopacea</i>	common koel		a
Birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		b
Birds	Hirundinidae	<i>Hirundo neoxena</i>	welcome swallow		b
Birds	Laridae	<i>Larus crassirostris</i>	black-tailed gull		a
Birds	Laridae	<i>Larus novaehollandiae</i>	silver gull		a
Birds	Maluridae	<i>Malurus cyaneus</i>	superb fairy-wren		c
Birds	Maluridae	<i>Malurus lamberti</i>	variegated fairy-wren		b
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		b
Birds	Estrildidae	<i>Neochmia temporalis</i>	red-browed finch		a
Birds	Strigidae	<i>Ninox strenua</i>	powerful owl	V	b
Birds	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon		a
Birds	Podargidae	<i>Podargus strigoides</i>	tawny frogmouth		c

Class	Family	Scientific Name	Common Name	Status	BR 53
Birds	Psophodidae	<i>Psophodes olivaceus</i>	eastern whipbird		c
Birds	Cuculidae	<i>Scythrops novaehollandiae</i>	channel-billed cuckoo		a
Birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		b
Birds	Artamidae	<i>Strepera graculina</i>	pieb currawong		b
Birds	Columbidae	<i>Streptopelia chinensis</i>	spotted turtle-dove	*	a
Birds	Threskiornidaea	<i>Threskiornis moluccus</i>	Australian white ibis		c
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		b
Birds	Charadriidae	<i>Vanellus miles</i>	masked lapwing		a
Mammals	Canidae	<i>Canis familiaris</i>	dog	*	a
Mammals	Vespertilionidae	<i>Chalinolobus gouldii</i>	Gould's wattled bat		c
Mammals	Leporidae	<i>Oryctolagus cuniculus</i>	rabbit	*	a
Mammals	Peramelidae	<i>Perameles nasuta</i>	long-nosed bandicoot		c
Mammals	Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	common ringtail possum		a
Mammals	Pteropodidae	<i>Pteropus poliocephalus</i>	grey-headed flying-fox	V	b
Mammals	Phalangeridae	<i>Trichosurus vulpecula</i>	common brushtail possum		c
Mammals	Muridae	<i>Rattus fuscipes</i>	bush rat		a
Mammals	Muridae	<i>Rattus rattus</i>	black rat	*	b
Mammals	Emballonuridae	<i>Saccolaimus flaviventris</i>	yellow-bellied sheath-tail bat	V	c
Mammals	Phalangeridae	<i>Trichosurus vulpecula</i>	common brushtail possum		a
Reptiles	Scincidae	<i>Cryptoblepharus pulcher</i>	elegant snake-eyed skink		c
Reptiles	Scincidae	<i>Ctenotus taeniolatus</i>	copper-tailed skink		a
Reptiles	Agamidae	<i>Intellagama lesueurii lesueurii</i>	eastern water dragon		c
Reptiles	Scincidae	<i>Lampropholis delicata</i>	dark-flecked garden sunskink		b
Reptiles	Scincidae	<i>Lampropholis guichenoti</i>	pale-flecked garden sunskink		b
Reptiles	Gekkonidae	<i>Phyllurus platurus</i>	southern leaf-tailed gecko		a
Reptiles	Scincidae	<i>Soprosincus mustelinus</i>	weasel skink		a
Reptiles	Scincidae	<i>Tiliqua scincoides</i>	common bluetongue		a

2.1.12 Maps for Balmoral Park



Vegetation communities

- Regrowth Sydney Sandstone Gully Forest
- Disturbed Sydney Sandstone Gully Forest
- Sydney Sandstone Gully Forest

Figure 1: Vegetation Communities and threatened flora locations - Balmoral Park

Site boundary

Acacia terminalis ssp Eastern Sydney

Mosman Council
 Mosman Flora and Fauna Survey 2021

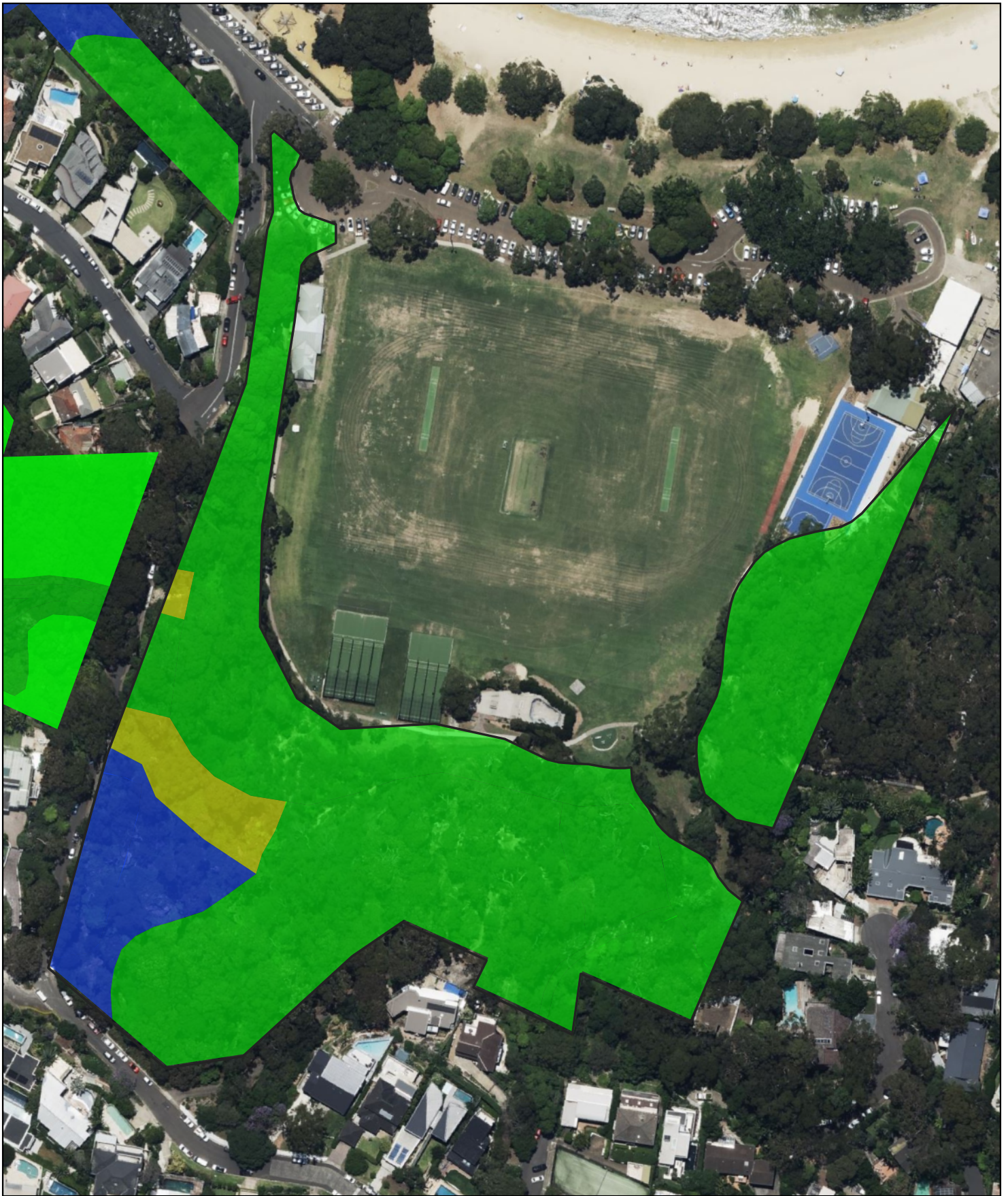


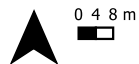
Figure 2: Native vegetation cover percent - Balmoral Park

Mosman Council

Mosman Flora and Fauna Survey 2021



Job number: PR6939
Date: 30/01/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

Data Sources: © State of New South Wales (Department of Planning, Industry and Environment), 2022; © Ecosure 2022
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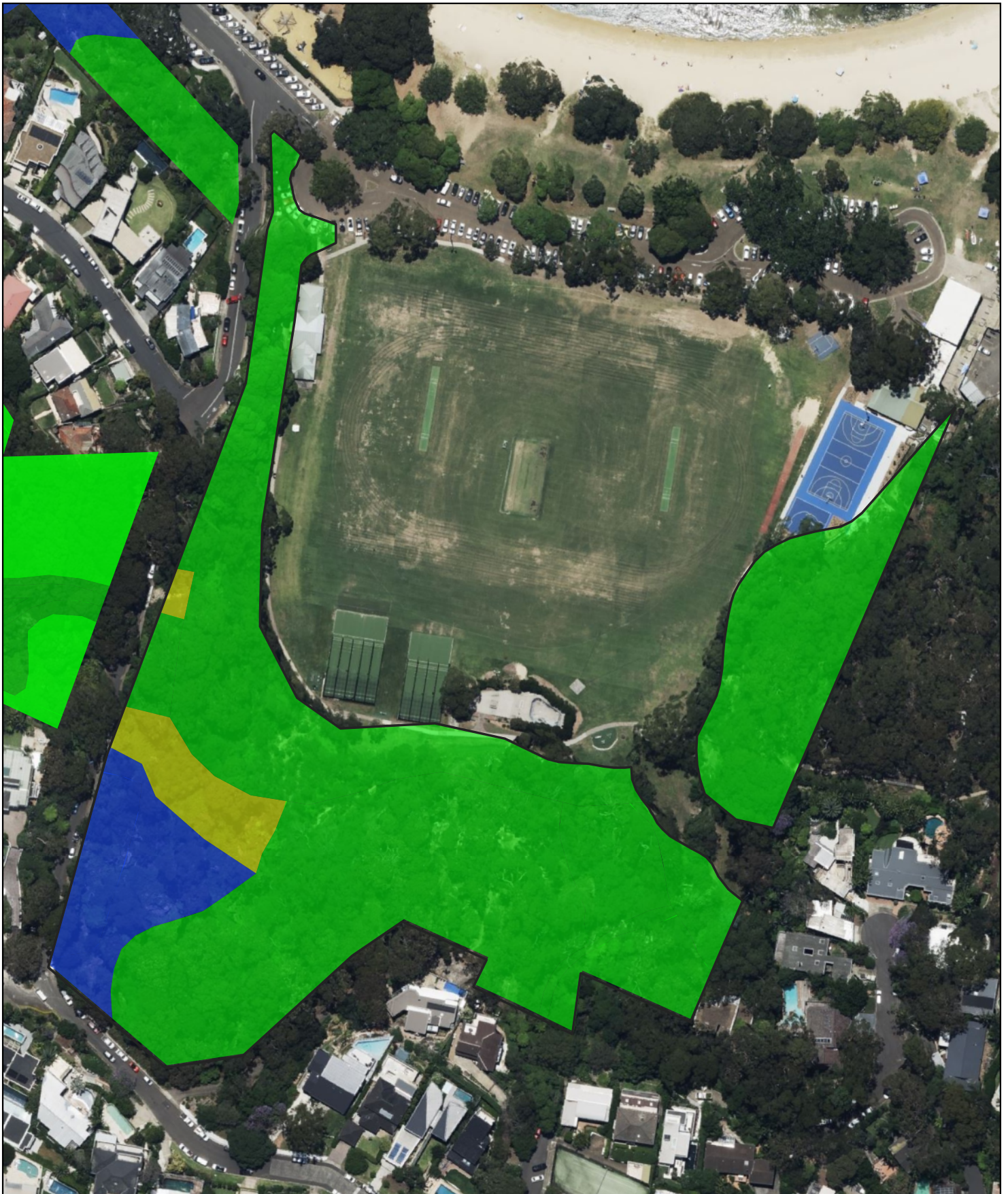
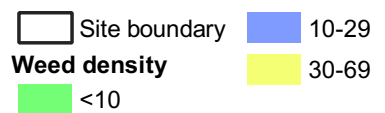


Figure 3: Weed density - Balmoral Park

Mosman Council

Mosman Flora and Fauna Survey 2021



2.2 Bradley's Bushland Reserve

2.2.1 General description

Bradley's Bushland Reserve is located north of Rawson Park in the east of Mosman LGA. The reserve occurs on a north-facing, broad sandstone outcrop with a shallow gully in the west. A public walking track runs through the reserve linking Rawson Park to Middle Head Road. Bradley's Bushland Reserve is currently not being maintained under the bushland restoration contracts and is excluded from the comparison study in this report.

2.2.2 Vegetation communities

Two vegetation communities occur within Bradley's Bushland Reserve (Figure 4). Coastal Sandstone Heath is the dominant vegetation community, with Regrowth Sydney Sandstone Gully Forest occurring in the north-west and south-west corners of the site. Both communities consist of remnant and regrowth vegetation with a low density of weeds. Table 12 provides an updated list of species frequently recorded in each community.

There were no threatened plant species recorded during the 2021-2022 surveys, however previous records exist for *Acacia terminalis* subsp. *eastern Sydney* (sunshine wattle).

Table 12 Vegetation community description – Bradley's Bushland Reserve

Coastal Sandstone Heath	
Canopy	<i>Allocasuarina littoralis</i> (black she-oak), <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> (coast banksia), <i>Polyscias sambucifolia</i> (elderberry panax), <i>Glochidion ferdinandi</i> var <i>ferdinandi</i> (cheese tree)
Midstorey	<i>Banksia ericifolia</i> (heath-leaved banksia), <i>Kunzea ambigua</i> (tick bush), <i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney Golden wattle) and <i>Pittosporum undulatum</i> (sweet pittosporum)
Understorey	<i>Epacris longiflora</i> (Fuschia heath), <i>Banksia ericifolia</i> (heath-leaved banksia), <i>Breynia oblongifolia</i> (coffee bush), <i>Parsonia straminea</i> (common silkpod), <i>Platysace lanceolata</i> (shrubby platysace)
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Dianella caerulea</i> (blue flax-lily), <i>Microlaena stipoides</i> var <i>stipoides</i> (weeping grass), <i>Pomax umbellate</i> (pomax), <i>Imperata cylindrica</i> (blady grass)
Regrowth Sydney Sandstone Gully Forest	
Canopy	<i>Allocasuarina littoralis</i> (black she-oak), <i>Glochidion ferdinandi</i> var <i>ferdinandi</i> (cheese tree), <i>Lophostemon confertus</i> (brush box)
Midstorey	<i>Pittosporum undulatum</i> (sweet pittosporum), <i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle) and <i>Kunzea ambigua</i> (tick bush)
Understorey	<i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle), <i>Breynia oblongifolia</i> (coffee bush) and <i>Dodonaea triquetra</i> (large-leaf hop-bush)
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Stephania japonica</i> var. <i>discolor</i> (snake vine), <i>Microlaena stipoides</i> var <i>stipoides</i> (weeping grass) and <i>Commelina cyanea</i> (scurvy weed)

2.2.3 Threatened Flora

Previous surveys recorded one individual *Acacia terminalis* subsp. *eastern Sydney* (sunshine

wattle) in the Coastal Sandstone Heath community within the reserve (Total Earth Care 2007).

Ecosure did not record sunshine wattle during the current field surveys but does not rule out the presence of this species in the reserve.

2.2.4 Threatened Ecological Communities

The Threatened Ecological Communities Greater Sydney (DPIE 2021) did not identify any TECs within Bradley’s Bushland Reserve. The current survey did not detect any vegetation that corresponds to a TEC.

2.2.5 Native vegetation and weed cover

Native vegetation at Bradley’s Bushland Reserve is in excellent condition. Very little disturbance was noted, however increased weed occurrence was recorded in the south-west and north-west corners where regrowth Sydney Sandstone Gully Forest is occurring. Further, there are some weeds along the south-east boundary with private properties. Figures 5 and 6 show native vegetation cover and weed density at the site. The top five weed species and total weed cover is provided in Table 13.

Table 13 Top five weed species and total weed cover at Bradley’s Bushland Reserve

Weed Class	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Nephrolepis cordifolia</i>	fishbone fern	Lower	1
	<i>Bidens pilosa</i>	cobblers pegs	Lower	1
	<i>Lantana camara</i>	lantana	Lower	1
	<i>Solanum nigrum</i>	black-berry nightshade	Lower	1
	Other weed species		Lower	1
			Total	5

2.2.6 Fauna habitat

Fauna habitat attributes recorded for Bradley’s Bushland Reserve are listed in Table 14.

Table 14 Fauna habitat summary of Bradley’s Bushland Reserve

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)	
Overview	Small reserve with excellent connectivity to SHNP and other Council reserves; rare heathland vegetation with diverse floristics but limited structure.
Connectivity	Good local connectivity, bounded by SHNP
Large hollows (>20 cm)	Absent
Small hollows (<20 cm)	Absent
Hollow status	Absent
Large logs (>50 cm)	Absent
Small logs (10-50 cm)	Abundant
Cliffs/outcrops	Common

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Large rocks (>30 cm)	Absent
Small rocks (10-30 cm)	Scattered
Leaf litter	Abundant
Dense shrubs/grass shelter	Abundant
Termite mounds	Absent
Water bodies	Absent
Threatened fauna habitat	Foraging habitat for threatened microbats and birds. Foraging habitat for grey-headed flying-fox (<i>Pteropus poliocephalus</i>).

2.2.7 Threats to flora and fauna

Current threats to the flora and fauna within Bradley's Bushland Reserve include:

- low frequency fire
- garden escapes from surrounding private properties
- introduced predators of native ground-dwelling fauna including cat (*Felis catus*), dog (*Canis lupus familiaris*) and European fox (*Vulpes vulpes*).

2.2.8 Conservation significance

2.2.8.1 Vegetation

The vegetation conservation significance in this reserve is high. Bradley's Bushland Reserve is the largest remaining area of Coastal Sandstone Heath within Mosman LGA. The vegetation is mostly native and contains a low abundance of weeds.

2.2.8.2 Fauna

Twenty-seven fauna species (25 bird and two mammal) were detected at this reserve during surveys in December 2021 and January 2022. One of these species, the grey-headed flying-fox (*Pteropus poliocephalus*), is threatened under both the EPBC Act and BC Act.

2.2.8.3 Priority

This site has a high priority for conservation. Continued bush regeneration works will maintain and improve the condition of the native vegetation within the bushland reserve.

2.2.9 Current management practices

Bradley Bushland Reserve is currently not being maintained under the bushland restoration contracts

2.2.10 Recommendations

Bradley's Bushland Reserve has maintained excellent bushland condition and is currently not being maintained under the bushland restoration contracts. However the reserve should be monitored and proposed future recommendations for bushland maintenance be considered. Prioritised recommendations are shown in Table 15.

Table 15 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve.
2	Thinning of <i>Pittosporum undulatum</i> (sweet pittosporum) in the canopy of the Coastal Sandstone Heath vegetation community where density of this species is likely to cause a mesic shift, particularly around the regenerating Sydney Sandstone Gully Forest.
3	Additional targeting of weeds in the cleared and disturbed area in the south-western part of the reserve.
4	Ecological/hazard reduction/pile burns to be considered to stimulate regeneration of native plants including potential threatened species such as <i>Acacia terminalis</i> subsp. <i>eastern Sydney</i> that may be present in the seed bank.

2.2.11 Flora and fauna species list

Flora species recorded during current and previous surveys of Bradley's Bushland Reserve are listed in Table 16 and fauna species in Table 17.

Table 16 Flora species list for Bradley's Bushland Reserve

Family	Scientific name	Common name	Status	BR5 4
Fabaceae - Mimosoideae	<i>Acacia implexa</i>	hickory wattle		b
Fabaceae - Mimosoideae	<i>Acacia linifolia</i>	white wattle		a
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		b
Fabaceae - Mimosoideae	<i>Acacia obtusifolia</i>			b
Fabaceae - Mimosoideae	<i>Acacia suaveolens</i>	sweet wattle		b
Fabaceae - Mimosoideae	<i>Acacia terminalis</i> subsp. <i>eastern Sydney</i>	sunshine wattle	E	a
Fabaceae - Mimosoideae	<i>Acacia ulicifolia</i>	prickly moses		b
Polygonaceae	<i>Acetosa sagittata</i>	turkey rhubarb	*	a
Orchidaceae	<i>Acianthus fornicatus</i>	pixie caps		a
Apiaceae	<i>Actinotus helianthi</i>	flannel flower		a
Apiaceae	<i>Actinotus minor</i>	lesser flannel flower		b
Adiantaceae	<i>Adiantum aethiopicum</i>	common maidenhair		a
Casuarinaceae	<i>Allocasuarina distyla</i>			b
Casuarinaceae	<i>Allocasuarina littoralis</i>	black she-oak		b
Amaranthaceae	<i>Alternanthera denticulata</i>	lesser joyweed		b
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		a

Family	Scientific name	Common name	Status	BR5 4
Myrtaceae	<i>Angophora hispida</i>	dwarf apple		a
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	b
Poaceae	<i>Austrodanthonia</i> sp	wallaby grass		a
Poaceae	<i>Avena fatua</i>	wild oats	*	a
Myrtaceae	<i>Baeckea imbricata</i>			b
Proteaceae	<i>Banksia ericifolia</i> subsp. <i>ericifolia</i>	heath-leaved banksia		b
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Proteaceae	<i>Banksia oblongifolia</i>	fern-leaved banksia		b
Proteaceae	<i>Banksia serrata</i>	old-man banksia		b
Proteaceae	<i>Banksia spinulosa</i>	hairpin banksia		b
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*	b
Pittosporaceae	<i>Billardiera scandens</i>	hairy apple berry		a
Fabaceae - Faboideae	<i>Bossiaea ensata</i>	sword bossiaea		a
Fabaceae - Faboideae	<i>Bossiaea heterophylla</i>	variable bossiaea		b
Sterculiaceae	<i>Brachychiton acerifolius</i>	flame tree		a
Ericaceae	<i>Brachyloma daphnoides</i>	daphne heath		a
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush		b
Poaceae	<i>Briza minor</i>	shivery grass	*	b
Poaceae	<i>Bromus catharticus</i>	praire grass	*	a
Pittosporaceae	<i>Bursaria spinosa</i>	blackthorn		b
Cunoniaceae	<i>Callicoma serratifolia</i>	black wattle		b
Myrtaceae	<i>Callistemon linearis</i>	narrow-leaved bottlebrush		b
Myrtaceae	<i>Callistemon rigidus</i>	stiff bottlebrush		b
Cupressaceae	<i>Callitris rhomboidea</i>	Port Jackson pine		b
Orchidaceae	<i>Calochilus paludosus</i>	red beard orchid		a
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken		b
Lauraceae	<i>Cassytha pubescens</i>			b
Casuarinaceae	<i>Casuarina glauca</i>	swamp oak		a
Ulmaceae	<i>Celtis sinensis</i>	Chinese celtis	*	a
Centrolepidaceae	<i>Centrolepis</i> sp			a
Adiantaceae	<i>Cheilanthes sieberi</i>			b
Lamiaceae	<i>Chloanthes stoechadis</i>			a
Lauraceae	<i>Cinnamomum camphora</i>	camphor laurel	*	a
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp	fleabane	*	b
Myrtaceae	<i>Corymbia gummifera</i>	red bloodwood		a
Malaceae	<i>Cotoneaster</i> sp	cotoneaster	*	a
Asteraceae	<i>Crassocephalum crepidioides</i>	thickhead	*	a
Orchidaceae	<i>Cryptostylis subulata</i>	large tongue orchid		a

Family	Scientific name	Common name	Status	BR5 4
Cyatheaceae	<i>Cyathea australis</i>	black tree-fern		a
Cyatheaceae	<i>Cyathea cooperi</i>	straw treefern		a
Apiaceae	<i>Cyclosporum leptophyllum</i>	slender celery	*	b
Orchidaceae	<i>Cymbidium suave</i>	snake orchid		a
Poaceae	<i>Cymbopogon refractus</i>	barbed wire grass		b
Poaceae	<i>Cynodon dactylon</i>	couch		b
Cyperaceae	<i>Cyperus gracilis</i>	slender flat-sedge		a
Cyperaceae	<i>Cyperus polystachyos</i>			b
Goodeniaceae	<i>Dampiera stricta</i>			a
Myrtaceae	<i>Darwinia fascicularis</i>			a
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Phormiaceae	<i>Dianella revoluta</i>	paroo lily		a
Poaceae	<i>Dichelachne crinita</i>	longhair plumegrass		a
Poaceae	<i>Dichelachne micrantha</i>	shorthair plumegrass		a
Poaceae	<i>Digitaria didactyla</i>	Queensland blue couch		a
Poaceae	<i>Digitaria parviflora</i>	small-flowered finger grass		b
Poaceae	<i>Digitaria sanguinalis</i>	summer grass	*	a
Fabaceae - Faboideae	<i>Dillwynia floribunda</i>			a
Fabaceae - Faboideae	<i>Dillwynia retorta</i>			a
Sapindaceae	<i>Dodonaea triquetra</i>	large-leaf hop-bush		b
Poaceae	<i>Echinopogon caespitosus</i> var. <i>caespitosus</i>	tufted hedgehog-grass		b
Poaceae	<i>Echinopogon ovatus</i>	forest hedgehog grass		b
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	b
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	blueberry ash		b
Poaceae	<i>Entolasia marginata</i>	bordered panic		b
Poaceae	<i>Entolasia stricta</i>	wiry panic		b
Ericaceae	<i>Epacris longiflora</i>	fuchsia heath		b
Ericaceae	<i>Epacris pulchella</i>	wallum heath		a
Onagraceae	<i>Epilobium</i> sp			a
Poaceae	<i>Eragrostis brownii</i>	brown's lovegrass		a
Poaceae	<i>Eragrostis elongata</i>	clustered lovegrass		a
Myrtaceae	<i>Eucalyptus botryoides</i>	bangalay		b
Myrtaceae	<i>Eucalyptus globoidea</i>	white stringybark		a
Myrtaceae	<i>Eucalyptus oblonga</i>	stringybark		a
Myrtaceae	<i>Eucalyptus piperita</i>	Sydney peppermint		a
Asteraceae	<i>Euchiton gymnocephalus</i>			b
Asteraceae	<i>Euchiton involucratus</i>	star cudweed		a
Luzuriagaceae	<i>Eustrephus latifolius</i>	wombat berry		b
Moraceae	<i>Ficus obliqua</i>	small-leaved fig		a

Family	Scientific name	Common name	Status	BR5 4
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Cyperaceae	<i>Gahnia</i> sp	saw-sedge		a
Luzuriagaceae	<i>Geitonoplesium cymosum</i>	scrambling lily		a
Geraniaceae	<i>Geranium homeanum</i>	native geranium		a
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	cheese tree		b
Fabaceae - Faboideae	<i>Glycine clandestina</i>			a
Haloragaceae	<i>Gonocarpus micranthus</i>	creeping raspwort		a
Haloragaceae	<i>Gonocarpus teucroides</i>	raspwort		a
Goodeniaceae	<i>Goodenia bellidifolia</i>			a
Proteaceae	<i>Grevillea buxifolia</i> subsp. <i>buxifolia</i>	grey spider flower		a
Proteaceae	<i>Grevillea linearifolia</i>	linear-leaf grevillea		b
Proteaceae	<i>Grevillea robusta</i>	silky oak	*	b
Proteaceae	<i>Grevillea sericea</i> subsp. <i>sericea</i>	pink spider flower		a
Proteaceae	<i>Grevillea speciosa</i>	red spider flower		a
Haemodoraceae	<i>Haemodorum planifolium</i>			a
Proteaceae	<i>Hakea gibbosa</i>	needlebush		b
Proteaceae	<i>Hakea sericea</i>	needlebush		b
Proteaceae	<i>Hakea teretifolia</i>	needlebush		b
Fabaceae - Faboideae	<i>Hardenbergia violacea</i>	purple coral pea		a
Lamiaceae	<i>Hemigenia purpurea</i>			a
Dilleniaceae	<i>Hibbertia linearis</i>			a
Dilleniaceae	<i>Hibbertia scandens</i>	climbing guinea flower		a
Dennstaedtiaceae	<i>Histiopteris incisa</i>	bat's wing fern		a
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b
Fabaceae - Faboideae	<i>Hovea linearis</i>			a
Apiaceae	<i>Hydrocotyle peduncularis</i>			a
Apiaceae	<i>Hydrocotyle</i> sp.			A
Clusiaceae	<i>Hypericum gramineum</i>	small st. john's wort		a
Clusiaceae	<i>Hypericum japonicum</i>			a
Poaceae	<i>Imperata cylindrica</i>	blady grass		b
Juncaceae	<i>Juncus cognatus</i>		*	a
Juncaceae	<i>Juncus continuus</i>			b
Juncaceae	<i>Juncus planifolius</i>			a
Juncaceae	<i>Juncus prismatocarpus</i>			a
Juncaceae	<i>Juncus subsecundus</i>			a
Juncaceae	<i>Juncus usitatus</i>	common rush		b
Fabaceae – Faboideae	<i>Kennedia rubicunda</i>	dusky coral pea		a
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		b
Poaceae	<i>Lachnagrostis aemula</i>	blowngrass		a

Family	Scientific name	Common name	Status	BR5 4
Poaceae	<i>Lachnagrostis filiformis</i>			a
Verbenaceae	<i>Lantana camara</i>	lantana	WoNS	b
Sterculiaceae	<i>Lasiopetalum ferrugineum</i> var. <i>Ferrugineum</i>			a
Cyperaceae	<i>Lepidosperma laterale</i>			a
Cyperaceae	<i>Lepidosperma limicola</i>			a
Cyperaceae	<i>Lepidosperma neesii</i>			a
Myrtaceae	<i>Leptospermum squarrosum</i>			a
Myrtaceae	<i>Leptospermum trinervium</i>	slender tea-tree		b
Restionaceae	<i>Lepyrodia scariosa</i>			a
Ericaceae	<i>Leucopogon microphyllus</i>			a
Oleaceae	<i>Ligustrum sinense</i>	small leaved privet	*	a
Ericaceae	<i>Lissanthe strigosa</i>	peach heath		a
Lomandraceae	<i>Lomandra cylindrica</i>			c
Lomandraceae	<i>Lomandra glauca</i>	pale mat-rush		a
Lomandraceae	<i>Lomandra gracilis</i>			b
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Lomandraceae	<i>Lomandra obliqua</i>			a
Myrtaceae	<i>Lophostemon confertus</i>	brush box	ni	a
Lythraceae	<i>Lythrum hyssopifolia</i>	hyssop loosestrife		a
Myrtaceae	<i>Melaleuca armillaris</i>	bracelet honey-myrtle		a
Euphorbiaceae	<i>Micrantheum ericoides</i>			a
Poaceae	<i>Microlaena stipoides</i> var. <i>Stipoides</i>	weeping grass		b
Loganiaceae	<i>Mitrasacme polymorpha</i>			a
Ericaceae	<i>Monotoca elliptica</i>	tree broom-heath		b
Davalliaceae	<i>Nephrolepis cordifolia</i>	fishbone fern	*	c
Oleaceae	<i>Notelaea longifolia</i>	large mock-olive		a
Alliaceae	<i>Nothoscordum borbonicum</i>	onion weed	*	a
Poaceae	<i>Notodanthonia longifolia</i>	long-leaved wallaby grass		a
Ochnaceae	<i>Ochna serrulata</i>	ochna	*	a
Rubiaceae	<i>Opercularia aspera</i>	coarse stinkweed		a
Poaceae	<i>Oplismenus aemulus</i>	oplismenus		b
Poaceae	<i>Oplismenus 25astigiata</i>			b
Oxalidaceae	<i>Oxalis corniculata</i>		*	b
Asteraceae	<i>Ozothamnus diosmifolius</i>	rice flower		b
Bignoniaceae	<i>Pandorea pandorana</i>	Wonga Wonga vine		b
Poaceae	<i>Panicum simile</i>	two-colour panic		a
Apocynaceae	<i>Parsonsia straminea</i>	common silkpod		b
Poaceae	<i>Paspalidium distans</i>			a
Passifloraceae	<i>Passiflora edulis</i>	common passionfruit	*	a

Family	Scientific name	Common name	Status	BR5 4
Proteaceae	<i>Persoonia lanceolata</i>	lance leaf geebung		a
Proteaceae	<i>Petrophile pulchella</i>	conesticks		a
Euphorbiaceae	<i>Phyllanthus hirtellus</i>			b
Pittosporaceae	<i>Pittosporum revolutum</i>	wild yellow jasmine		b
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Apiaceae	<i>Platysace lanceolata</i>	shrubby platysace		b
Apiaceae	<i>Platysace linearifolia</i>			b
Convolvulaceae	<i>Polymeria calycina</i>			a
Araliaceae	<i>Polyscias sambucifolia</i>	elderberry panax		b
Rhamnaceae	<i>Pomaderris ferruginea</i>			a
Rubiaceae	<i>Pomax umbellata</i>	pomax		b
Euphorbiaceae	<i>Poranthera microphylla</i>			a
Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken		b
Pteridaceae	<i>Pteris tremula</i>	tender brake		a
Pteridaceae	<i>Pteris vittata</i>	Chinese brake		b
Fabaceae – Faboideae	<i>Pultenaea stipularis</i>			a
Fabaceae – Faboideae	<i>Pultenaea 26astigiata</i>			a
Sterculiaceae	<i>Rulingia hermannifolia</i>			a
Restionaceae	<i>Saropsis 26astigiata</i>			a
Cyperaceae	<i>Schoenus imberbis</i>			b
Fabaceae – Caesalpiniaceae	<i>Senna pendula</i> var. <i>Glabrata</i>	cassia	*	a
Poaceae	<i>Setaria parviflora</i>	slender pigeon grass	*	a
Malvaceae	<i>Sida rhombifolia</i>	paddy's lucerne	*	b
Smilacaceae	<i>Smilax glycyphylla</i>	sweet sarsaparilla		b
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	b
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	*	b
Poaceae	<i>Sporobolus africanus</i>	parramatta grass	*	b
Poaceae	<i>Sporobolus creber</i>	western rat-tail grass		a
Menispermaceae	<i>Stephania japonica</i> var. <i>Discolor</i>	snake vine		b
Ericaceae	<i>Styphelia tubiflora</i>	red five-corner		a
Myrtaceae	<i>Syzygium oleosum</i>	blue lilly pilly		a
Aizoaceae	<i>Tetragonia tetragonioides</i>	New Zealand spinach		a
Poaceae	<i>Themeda triandra</i>	kangaroo grass		b
Verbenaceae	<i>Verbena bonariensis</i>	purple top	*	b
Scrophulariaceae	<i>Veronica plebeia</i>	trailing speedwell		a
Violaceae	<i>Viola hederacea</i>	native violet		b
Campanulaceae	<i>Wahlenbergia gracilis</i>	sprawling bluebell		a
Ericaceae	<i>Woolfsia pungens</i>			a
Xanthorrhoeaceae	<i>Xanthorrhoea resinosa</i>	grass tree		b

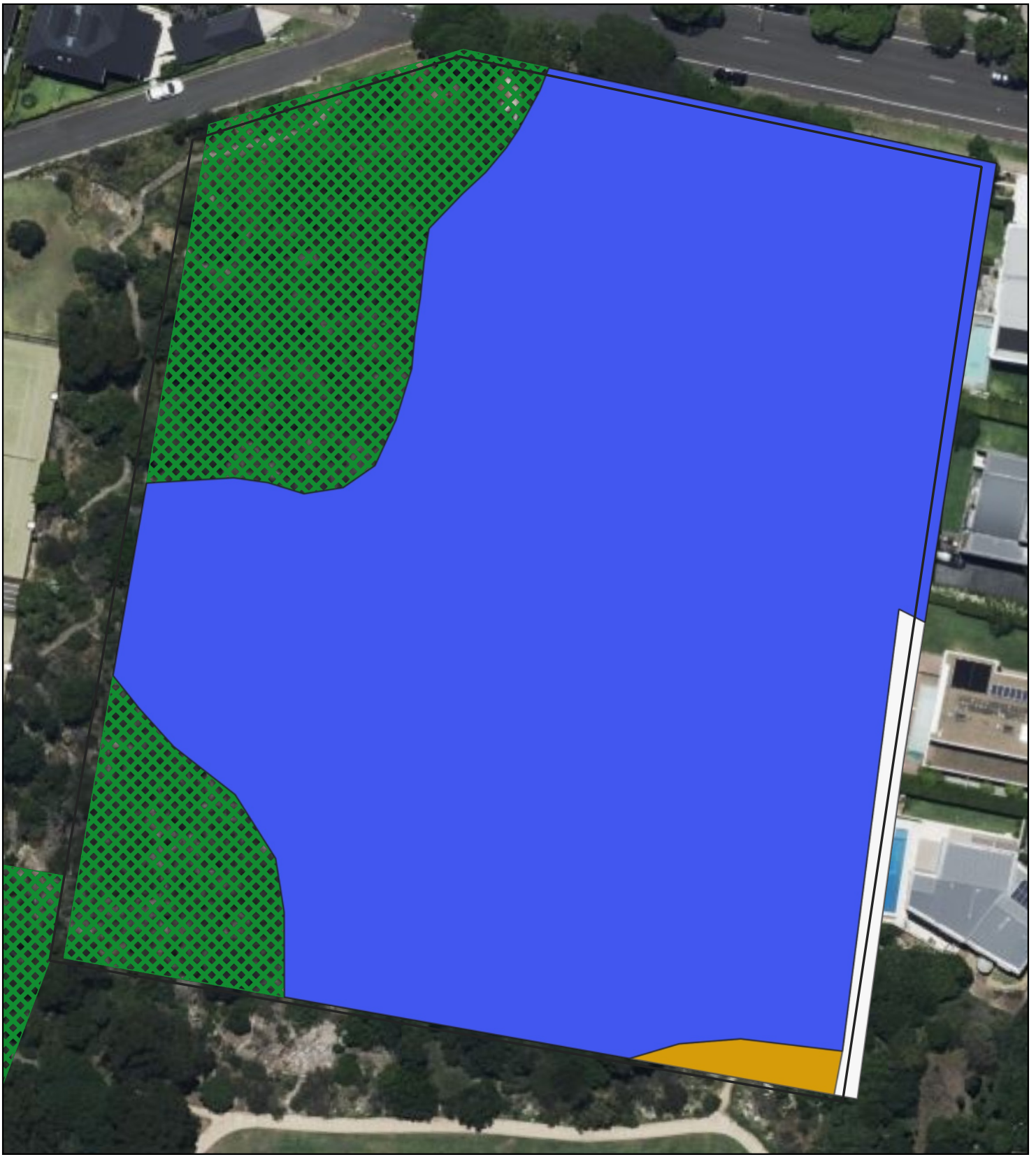
Family	Scientific name	Common name	Status	BR5 4
Apiaceae	<i>Xanthosia pilosa</i>	woolly xanthosia		a
Apiaceae	<i>Xanthosia tridentata</i>	rock xanthosia		a
Rutaceae	<i>Zieria laevigata</i>	smooth zieria		b

Table 17 Fauna species list for Bradley's Bushland Reserve

Class	Family	Scientific name	Common name	Status	BR54
Birds	Acanthizidae	<i>Acanthiza nana</i>	yellow thornbill		a
Birds	Acanthizidae	<i>Acanthiza pusilla</i>	brown thornbill		b
Birds	Meliphagidae	<i>Acanthorhynchus tenuirostris</i>	Eastern spinebill		b
Birds	Sturnidae	<i>Acridotheres tristis</i>	common myna	*	b
Birds	Megapodiidae	<i>Alectura lathami</i>	Australian brushturkey		b
Birds	Psittacidae	<i>Alisterus scapularis</i>	Australian king-parrot		a
Birds	Meliphagidae	<i>Anthochaera carunculata</i>	red wattlebird		a
Birds	Meliphagidae	<i>Anthochaera chrysoptera</i>	little wattlebird		b
Birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		a
Birds	Corvidae	<i>Corvus coronoides</i>	Australian raven		b
Birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		b
Birds	Alcedinidae	<i>Dacelo novaeguinea</i>	laughing kookaburra		b
Birds	Cuculidae	<i>Eudynamys scolopacea</i>	common koel		a
Birds	Dicruridae	<i>Grallina cyanoleuca</i>	magpie-lark		a
Birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		b
Birds	Hirundinidae	<i>Hirundo neoxena</i>	welcome swallow		b
Birds	Laridae	<i>Larus crassirostris</i>	black-tailed gull		a
Birds	Laridae	<i>Larus novaehollandiae</i>	silver gull		a
Birds	Meliphagidae	<i>Lichenostomus chrysops</i>	yellow-faced honeyeater		a
Birds	Maluridae	<i>Malurus cyaneus</i>	superb fairy-wren		b
Birds	Maluridae	<i>Malurus lamberti</i>	variegated fairy-wren		a
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		b
Birds	Meliphagidae	<i>Meliphaga lewinii</i>	Lewin's honeyeater		a
Birds	Strigidae	<i>Ninox boobook</i>	southern boobook		a
Birds	Phalacrocoracidae	<i>Phalacrocorax carbo</i>	great cormorant		a
Birds	Meliphagidae	<i>Phylidonyris nigra</i>	white-cheeked honeyeater		a
Birds	Meliphagidae	<i>Phylidonyris novaehollandiae</i>	new holland honeyeater		b
Birds	Podargidae	<i>Podargus strigoides</i>	tawny frogmouth		a
Birds	Psophodidae	<i>Psophodes olivaceus</i>	eastern whipbird		a
Birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		b
Birds	Artamidae	<i>Strepera graculina</i>	pieb currawong		b
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		b
Birds	Zosteropidae	<i>Zosterops lateralis</i>	silveryeye		b

Class	Family	Scientific name	Common name	Status	BR54
Mammals	Vespertilionidae	<i>Chalinolobus gouldii</i>	Gould's wattled bat		c
Mammals	Leporidae	<i>Oryctolagus cuniculus</i>	rabbit	*	a
Mammals	Molossidae	<i>Ozimops ridei</i>	Ride's free-tailed bat		c
Mammals	Peramelidae	<i>Perameles nasuta</i>	long-nosed bandicoot		c
Mammals	Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	common ringtail possum		a
Mammals	Pteropodidae	<i>Pteropus poliocephalus</i>	grey-headed flying-fox	V	a
Mammals	Muridae	<i>Rattus fuscipes</i>	bush rat		c
Mammals	Muridae	<i>Rattus rattus</i>	black rat	*	b
Mammals	Emballonuridae	<i>Saccolaimus flaviventris</i>	yellow-bellied sheath-tail-bat	V	c
Reptiles	Scincidae	<i>Ctenotus taeniolatus</i>	copper-tailed skink		a
Reptiles	Scincidae	<i>Eulamprus quoyii</i>	eastern water-skink		b
Reptiles	Scincidae	<i>Lampropholis guichenoti</i>	pale-flecked garden sunskink		a

2.2.12 Maps for Bradley Bushland Reserve



Vegetation communities

Private Property
 Coastal Sandstone Heath
 Open Space
 Regrowth Sydney Sandstone Gully Forest

Site boundary

Figure 4: Vegetation Communities and threatened flora locations - Bradley Bushland Reserve

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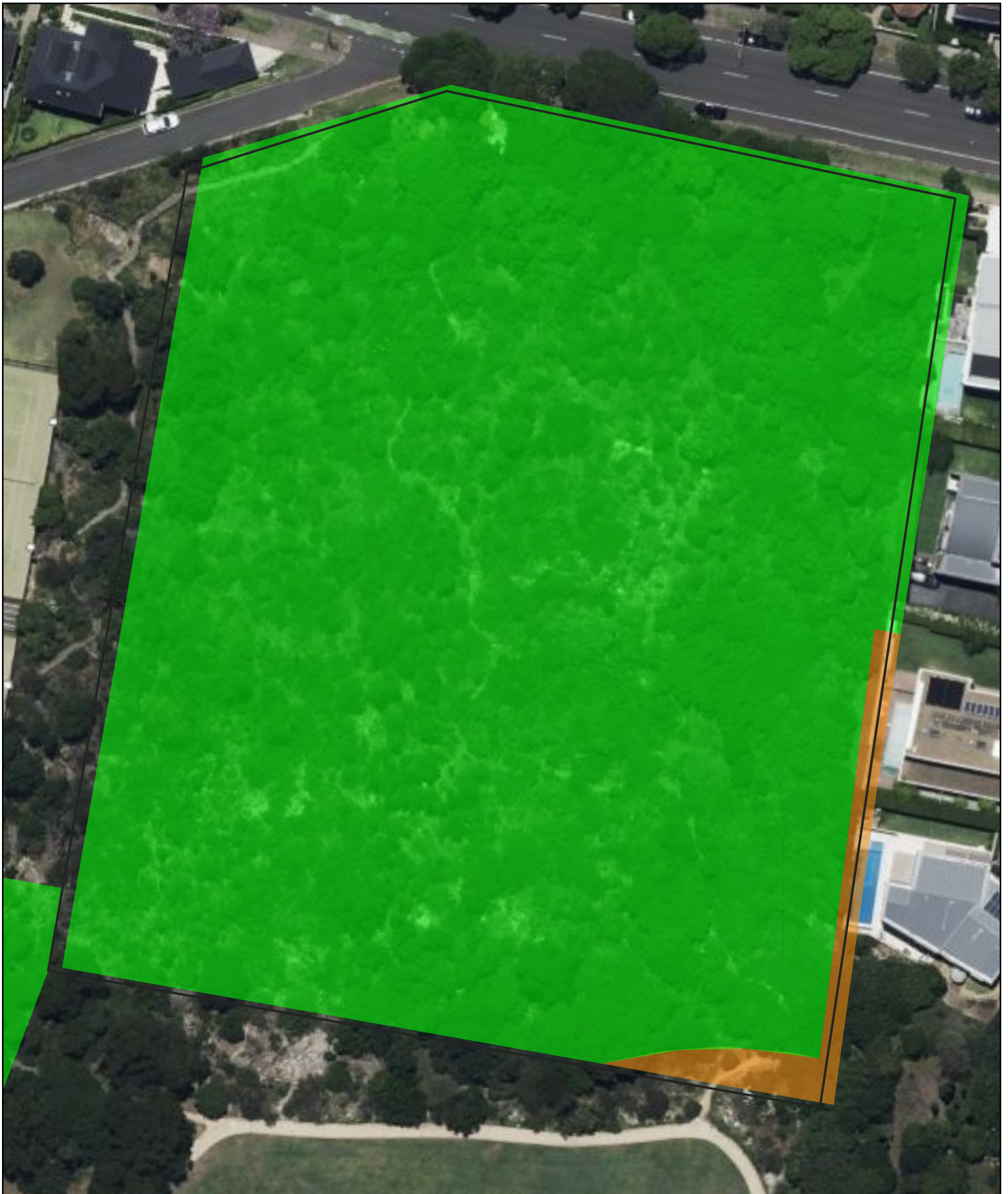
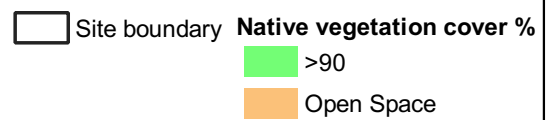


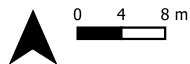
Figure 5: Native vegetation cover percent - Bradley Bushland Reserve

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Job number: PR6939
Date: 30/01/2022



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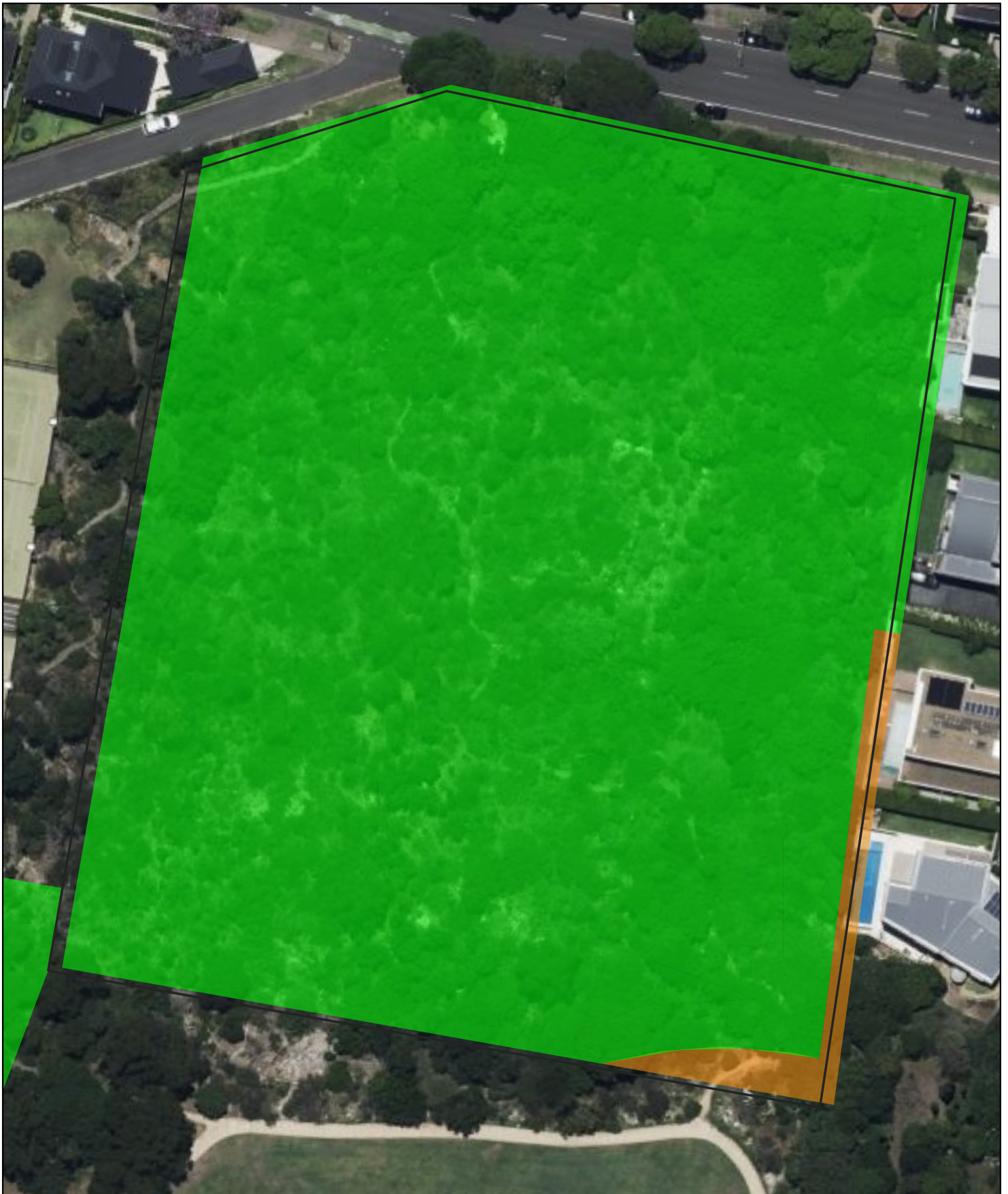
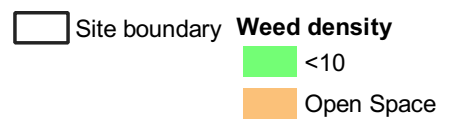


Figure 6: Weed density - Bradley Bushland Reserve

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2.3 Chinamans Beach Dunes

2.3.1 General description

Chinamans Beach Dunes bushland reserve is located on sand dunes behind Chinamans Beach to the east of Rosherville Reserve in the north-east of Mosman LGA.

2.3.2 Vegetation communities

There is one vegetation community recognised at Chinamans Beach Dunes reserve, Coastal Foredune Wattle Scrub. This community was mapped by the Office of Environment and Heritage (2013) along frontal dune systems throughout the Sydney area. The site consists of remnant and regrowth vegetation with very low weed cover (Figure 7). Table 18 provides an updated list of species frequently recorded in each community.

Table 18 Vegetation community description - Chinaman's Beach Dunes

Coastal Foredune Wattle Scrub

Canopy	<i>Acacia longifolia</i> subsp. <i>sophorae</i> (coastal wattle), <i>Leptospermum laevigatum</i> (coast teatree), <i>Casuarina glauca</i> (swamp oak)
Midstorey	<i>Myoporum boninense</i> (boobiella), <i>Allocasuarina littoralis</i> (black she-oak), and <i>Casuarina equisetifolia</i> (coastal she-oak)
Understorey	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i> (coastal banksia), <i>Correa alba</i> var. <i>alba</i> (white correa) and <i>Westringia fruticosa</i> (coastal rosemary)
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Carpobrotus glaucescens</i> (pigface), <i>Zoysia macrantha</i> (prickly couch), <i>Sporobolus virginicus</i> (sand couch) and <i>Stephania japonica</i> var. <i>discolor</i> (snake vine)

2.3.3 Threatened flora

There were no threatened flora species identified at Chinamans Beach Dunes during the 2021-2022 surveys.

2.3.4 Threatened ecological communities

The Threatened Ecological Communities Greater Sydney (DPIE 2021) did not identify any TECs within Chinamans Beach Dunes bushland reserve. The current survey did not detect any vegetation that corresponds to a TEC.

2.3.5 Native vegetation and weed cover

Native vegetation cover is high at Chinamans Beach Dunes with very few weed species recorded at the site (Table 19). Figure 8 and Figure 9 display vegetation cover and weed density at the reserve respectively.

Table 19 Top five weed species and total weed cover at Chinamans Beach Dunes

Weed Class	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Solanum nigrum</i>	blackberry nightshade	Lower	1
	<i>Pelargonium</i> sp	geranium	Lower	
	<i>Ambrosia artemisiifolia</i>	annual ragweed	Lower	1
				Total

2.3.6 Fauna habitat

Fauna habitat attributes recorded for Chinamans Beach Dunes are listed in Table 20.

Table 20 Fauna habitat summary of Chinamans Beach Dunes

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Small reserve with limited connectivity beyond Rosherville Reserve (sites 15 and 16); rare dune scrub vegetation with limited floristics and structure.
Connectivity	Moderate local connectivity, bounded by the harbour but two other bushland reserves (Unnamed Reserve [Rosherville]] and Rosherville Reserve) are in close proximity.
Large hollows (>20 cm)	Absent
Small hollows (<20 cm)	Absent
Hollow status	n/a
Large logs (>50 cm)	Absent
Small logs (10-50 cm)	Common
Cliffs/outcrops	Absent
Large rocks (>30 cm)	Absent
Small rocks (10-30 cm)	Absent
Leaf litter	Scattered
Dense shrubs/grass shelter	Scattered
Termite mounds	Absent
Water bodies	Foreshore
Threatened species habitat	Threatened shorebirds may use the dune vegetation for shelter and refuge

2.3.7 Threats to flora and fauna

Current threats to the flora and fauna within Chinamans Beach Dunes bushland reserve include:

- littering from beach visitors
- garden escapes from surrounding private properties
- introduced predators of native ground-dwelling fauna including cat (*Felis catus*), dog (*Canis lupus familiaris*) and European fox (*Vulpes vulpes*).

2.3.8 Conservation significance

2.3.8.1 Vegetation

The vegetation conservation significance in this reserve is medium. The native vegetation in this bushland reserve contains minimal weeds.

2.3.8.2 Fauna

Eight species (six birds, one mammal and one reptile) were detected at this reserve during surveys in December 2021 and January 2022. One of these species, the grey-headed flying-fox (*Pteropus poliocephalus*), is threatened under both the EPBC Act and BC Act.

2.3.8.3 Priority

This site has a high priority for conservation. Unique vegetation community for the LGA. Continued bush regeneration works will maintain and improve the condition of the native vegetation within the bushland reserve.

2.3.9 Current management practices

Chinamans Beach Dunes bushland reserve is not currently managed as a bush regeneration and restoration site under Mosman Council's Bushland Restoration Contracts 2012 - 2022. Bushland restoration and revegetation works have been undertaken in the reserve by Bushcare volunteer groups. Based on the low weed density in this reserve, the summary of the works to date is shown in Table 21.

Table 21 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary

Weeding	Primary weeding targeting noxious, woody and vine weeds
Planting	n/a
Ecological/Hazard reduction burns	n/a
Other	n/a

2.3.10 Recommendations

Current bushland management practices for Chinamans Beach Dunes bushland reserve should be continued. Prioritised recommendations are shown in Table 22.

Table 22 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve
2	Monitor the bushland reserve for erosion from wind and ocean

2.3.11 Flora and fauna species list

Flora species recorded during current and previous surveys of Chinamans Beach Dunes bushland reserve are listed in Table 23 and fauna species in Table 24.

Table 23 Flora species list for Chinamans Beach Dunes bushland reserve

Family	Scientific name	Common name	Status	BR55
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		b
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>sophorae</i>	coastal wattle		b
Asteraceae	<i>Ambrosia artemisiifolia</i>	annual ragweed	*	c
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	b
Proteaceae	<i>Banksia ericifolia</i> subsp. <i>ericifolia</i>	heath-leaved banksia		b
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Proteaceae	<i>Banksia serrata</i>	old-man banksia		c
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*	b
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush		c
Brassicaceae	<i>Cakile maritima</i>	sea rocket	*	b
Aizoaceae	<i>Carpobrotus glaucescens</i>	pigface		b
Casuarinaceae	<i>Casuarina equisetifolia</i>	coastal she-oak	ni	b
Casuarinaceae	<i>Casuarina glauca</i>	swamp oak		b
Asteraceae	<i>Conyza</i> sp.	fleabane	*	b
Rutaceae	<i>Correa alba</i> var. <i>alba</i>	white correa		b
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	b
Euphorbiaceae	<i>Euphorbia peplus</i>	petty spurge	*	b
Dilleniaceae	<i>Hibbertia scandens</i>	climbing guinea flower		b
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b
Apiaceae	<i>Hydrocotyle bonariensis</i>		*	b
Cyperaceae	<i>Isolepis nodosa</i>	knobby club-rush		b
Myrtaceae	<i>Leptospermum laevigatum</i>	coast teatree		b
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Myrtaceae	<i>Melaleuca hypericifolia</i>	hillock bush		b
Scrophulariaceae	<i>Myoporum boninense</i>	boobialla		b
Ochnaceae	<i>Ochna serrulata</i>	ochna	*	a
Oxalidaceae	<i>Oxalis</i> sp		*	b
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*	a
Geraniaceae	<i>Pelargonium</i> sp	geranium	*	c
Arecaceae	<i>Phoenix canariensis</i>	Canary Island date palm	*	a
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Fabaceae - Caesalpinioideae	<i>Senna pendula</i> var. <i>glabrata</i>	cassia	*	a
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	b
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	*	a

Family	Scientific name	Common name	Status	BR55
Poaceae	<i>Spinifex sericeus</i>			a
Poaceae	<i>Sporobolus virginicus</i>	sand couch		b
Menispermaceae	<i>Stephania japonica</i> var. <i>discolor</i>	snake vine		b
Aizoaceae	<i>Tetragonia tetragonioides</i>	New Zealand spinach		b
Lamiaceae	<i>Westringia fruticosa</i>	coastal rosemary		b
Poaceae	<i>Zoysia macrantha</i>	prickly couch		b

Table 24 Fauna species list for Chinamans Beach Dunes bushland reserve

Class	Family	Scientific Name	Common Name	Status	BR55
Birds	Anatidae	<i>Chenonetta jubata</i>	maned duck		a
Birds	Corvidae	<i>Corvus coronoides</i>	Australian raven		a
Birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		a
Birds	Alcedinidae	<i>Dacelo novaeguinea</i>	laughing kookaburra		a
Birds	Ardeidae	<i>Egretta novaehollandiae</i>	white-faced heron		b
Birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		b
Birds	Hirundinidae	<i>Hirundo neoxena</i>	welcome swallow		b
Birds	Laridae	<i>Larus novaehollandiae</i>	silver gull		b
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		c
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		a
Birds	Charadriidae	<i>Vanellus miles</i>	masked lapwing		c
Mammals	Pteropodidae	<i>Pteropus poliocephalus</i>	grey-headed flying-fox	V	c
Reptiles	Scincidae	<i>Eulamprus quoyii</i>	eastern water-skink		d

2.3.12 Maps for Chinamans Beach Dunes



Vegetation communities

Coastal Foredune Wattle Scrub

Disturbed Sydney Sandstone Gully Forest

Open Space

Regrowth Sydney Sandstone Gully Forest

Site boundary

Figure 7: Vegetation Communities and threatened flora locations - Chinamans Beach Dunes

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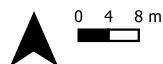
Figure 8: Native vegetation cover percent - Chinamans Beach Dunes

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Job number: PR6939
Date: 30/01/2022



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Projection: Transverse Mercator
Datum: GDA 1994
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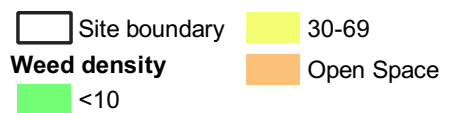
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Figure 9: Weed density - Chinamans Beach Dunes

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2.4 Clifton Gardens Reserve

2.4.1 General description

Clifton Gardens Reserve is located to the rear of Clifton Gardens public open space in the south-east of Mosman LGA. The reserve joins Morella Road bushland reserve and SHNP – Bradley Head. Clifton Gardens Reserve is dissected by an access road that winds down from Morella Road to a public carpark, through north-facing slopes with sandstone outcrops and boulders scattered throughout.

2.4.2 Vegetation communities

Three vegetation communities are recognised within Clifton Gardens Reserve including Regrowth Sydney Sandstone Gully Forest, Established Planted Area, and Cleared and Disturbed (Figure 10). Regrowth Sydney Sandstone Gully Forest occurs across the majority of the reserve and consists of remnant and regrowth vegetation, together with scattered plantings. The Established Planted Area and Cleared and Disturbed communities both occur within a small section in the southern boundary of the reserve. Table 25 provides an updated list of species frequently recorded in each community.

There were no threatened flora species recorded at Clifton Gardens Reserve during the 2021-2022 surveys.

Table 25 Vegetation community description - Clifton Gardens Reserve

Regrowth Sydney Sandstone Gully Forest	
Canopy	<i>Angophora costata</i> (Sydney red gum), <i>Ficus rubiginosa</i> (Port Jackson fig), <i>Eucalyptus botryoides</i> (bangalay), <i>Eucalyptus piperita</i> (Sydney peppermint), <i>Brachychiton acerifolius</i>
Midstorey	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Pittosporum undulatum</i> (sweet pittosporum), <i>Allocasuarina littoralis</i> (black she-oak), <i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle), <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> (coast banksia)
Understorey	<i>Homalanthus populifolius</i> (bleeding heart), <i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle), <i>Dodonaea triquetra</i> (large-leaf hop-bush), <i>Pittosporum undulatum</i> (sweet pittosporum)
Groundcover	<i>Dianella caerulea</i> (blue flax-lily), <i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Imperata cylindrica</i> (blady grass), <i>Oplismenus aemulus</i> (oplismenus) and <i>Commelina cyanea</i> (scurvy weed)
Established Planted Area	
Canopy	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i> (coast banksia) and <i>Acacia floribunda</i> (white sally wattle)
Midstorey / understorey	<i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle), <i>Leptospermum laevigatum</i> (coast tea tree) and <i>Westringia fruticosa</i> (coastal rosemary)
Groundcover	<i>Commelina cyanea</i> (scurvy weed), <i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Oplismenus aemulus</i> (Oplismenus) and <i>Microlaena stipoides</i> var. <i>stipoides</i> (weeping grass)
Cleared and Disturbed	
Canopy	<i>Phoenix canariensis</i> (Canary Island date palm) and <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree)

Midstorey / understorey	<i>Lantana camara</i> (lantana) <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> (coast banksia), <i>Homalanthus populifolius</i> (bleeding heart), <i>Homalanthus populifolius</i> (bleeding heart) <i>Pittosporum undulatum</i> (sweet pittosporum)
Groundcover	<i>Nephrolepis cordifolia</i> (fishbone fern), <i>Asparagus aethiopicus</i> (asparagus fern) <i>Lomandra longifolia</i> (spiny-headed mat-rush) and <i>Commelina cyanea</i> (scurvy weed)

2.4.3 Threatened flora

No threatened flora has been recorded in this bushland reserve.

2.4.4 Threatened ecological communities

The Threatened Ecological Communities Greater Sydney (DPIE 2021) did not identify any TECs within Clifton Gardens Reserve. The current survey did not detect any vegetation that corresponds to a TEC.

2.4.5 Native vegetation and weed cover

Clifton Gardens Reserve has a relatively high cover of native vegetation in good condition with the exception of the south-east corner where restoration works have been ongoing in a small area of high density weeds. Two areas, one in the north where Clifton Gardens adjoins Morella Road Reserve and another in the south, were recorded with an overabundance of native vines (primarily *Cissus antarctica* – water vine) dominating the canopy stratum. Figures 11 and 12 show native vegetation cover and weed density at the site. The top five weed species and total weed cover for each class is provided in Table 26.

Table 26 Top five weed species and total weed cover at Clifton Gardens Reserve

Weed Class	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Ipomoea purpurea</i>	morning glory	Lower	1
	<i>Bidens pilosa</i>	cobblers pegs	Lower	1
	<i>Asparagus aethiopicus</i>	ground asparagus	Lower	1
	<i>Parietaria judaica</i>	pellitory	Lower	1
	<i>Araujia sericifera</i>	moth vine	Lower	1
	Other weed species		Lower	2
	Total			7
10-29	<i>Ipomoea purpurea</i>	morning glory	Middle	1
	<i>Solanum mauritianum</i>	wild tobacco plant	Middle	1
	<i>Hedychium gardnerianum</i>	ginger lily	Lower	4
	<i>Nephrolepis cordifolia</i>	fishbone fern	Lower	3
	<i>Bidens pilosa</i>	cobblers pegs	Lower	1
	Other weed species		Lower	1
	Total			11

2.4.6 Fauna habitat

Fauna habitat attributes recorded for Clifton Gardens Reserve are listed in Table 27.

Table 27 Fauna habitat summary of Clifton Gardens Reserve

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Moderately sized reserve with excellent connectivity to SHNP and other Council reserves; predominantly parkland; large fruiting figs; moderate understorey vegetation; extensive sandstone outcrops
Connectivity	Good local connectivity, bounded by Morella Road bushland reserve and SHNP.
Large hollows (>20 cm)	Absent
Small hollows (<20 cm)	Scattered
Hollow status	Mostly alive
Large logs (>50 cm)	Scattered
Small logs (10-50 cm)	Common
Cliffs/outcrops	Abundant
Large rocks (>30 cm)	Common
Small rocks (10-30 cm)	Common
Leaf litter	Common
Dense shrubs/grass shelter	Common
Termite mounds	Scattered
Water bodies	Absent
Threatened species habitat	Hollows and foraging habitat for threatened microbats and parrots. Small caves and overhangs for threatened microbats.

2.4.7 Threats to flora and fauna

Current threats to the flora and fauna within Clifton Gardens Reserve include:

- dispersal of weeds from higher weed density vegetation including Cleared and Disturbed community
- garden escapes from surrounding private properties
- introduced predators of native ground-dwelling fauna including cat (*Felis catus*), dog (*Canis lupus familiaris*) and European fox (*Vulpes vulpes*).

2.4.8 Conservation significance

2.4.8.1 Vegetation

The vegetation conservation significance in this reserve is medium to high. This reserve adjoins other native vegetation including Morella Road bushland reserve and SHNP – Bradley Head. Weed abundance is low in the central part of the reserve but is moderate in the southern part of the reserve.

2.4.8.2 Fauna

Seventeen species (11 birds, three mammals and three amphibian) were detected at this reserve during surveys in December 2021 and January 2022. None of these species are threatened.

2.4.8.3 Priority

This site has a high priority for conservation. Clifton Gardens Reserve has a high priority for continued and expanded bush regeneration works due to its proximity to surrounding resilient reserves. Although weed levels have been reduced, ongoing bushland restoration works are still required to maintain low weed abundance in Regrowth Sydney Sandstone Gully Forest and reduce weed abundance in disturbed and regenerating communities of Sydney Sandstone Gully Forest.

2.4.9 Current management practices

Clifton Gardens Reserve is currently managed as a bush regeneration and restoration site under Mosman Council's Bushland Restoration Contracts 2012 - 2022. A summary of the works to date is shown in Table 28.

Table 28 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary

Weeding	<ul style="list-style-type: none"> Primary weeding targeting noxious, woody and vine weeds in some sections within the reserve Secondary and maintenance weeding of noxious, woody and vine weed regrowth and annual and perennial herbs and grasses by hand weeding and spot spraying.
Planting	Recent and established scattered plantings in the Regrowth Sydney Sandstone Gully Forest and Established Planted Area.
Ecological/Hazard reduction burns	Pile burns occurred in 2003 and 2004.
Other	n/a

2.4.10 Recommendations

Current bushland management practices for Clifton Gardens Reserve should be continued and expanded. Prioritised recommendations are shown in Table 29.

Table 29 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve.
2	Continue planting of native tree, shrub and groundcover species in the regenerating and disturbed Sydney Sandstone Gully Forest to supplement regeneration.
3	Targeted bushland regeneration works in the southern part of Clifton Gardens Reserve.

2.4.11 Flora and fauna species list

Flora species recorded during current and previous surveys of Clifton Gardens Reserve are listed in Table 30 and fauna species in Table 31.

Table 30 Flora species list for Clifton Gardens Reserve

Family	Scientific name	Common name	Status	BR27
Fabaceae - Mimosoideae	<i>Acacia binervia</i>	coast myall		a
Fabaceae - Mimosoideae	<i>Acacia buxifolia</i> subsp. <i>buxifolia</i>	box-leaf wattle		a
Fabaceae - Mimosoideae	<i>Acacia floribunda</i>	white sally wattle		a
Fabaceae - Mimosoideae	<i>Acacia implexa</i>	hickory wattle		a
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		b
Fabaceae - Mimosoideae	<i>Acacia mearnsii</i>	black wattle		a
Fabaceae - Mimosoideae	<i>Acacia parramattensis</i>	Sydney green wattle		b
Fabaceae - Mimosoideae	<i>Acacia suaveolens</i>	sweet wattle		a
Fabaceae - Mimosoideae	<i>Acacia terminalis</i> subsp. <i>longiaxialis</i>	sunshine wattle		a
Adiantaceae	<i>Adiantum formosum</i>	black stem		b
Casuarinaceae	<i>Allocasuarina littoralis</i>	black she-oak		b
Casuarinaceae	<i>Allocasuarina torulosa</i>	forest oak		b
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		b
Myrtaceae	<i>Angophora hispida</i>	dwarf apple		a
Apocynaceae	<i>Araujia sericifera</i>	moth vine	*	a
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	b
Proteaceae	<i>Banksia ericifolia</i> subsp. <i>ericifolia</i>	heath-leaved banksia		a
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Proteaceae	<i>Banksia serrata</i>	old-man banksia		b
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*	a
Sterculiaceae	<i>Brachychiton acerifolius</i>	flame tree		b
Myrtaceae	<i>Callistemon salignus</i>	willow bottlebrush		b
Myrtaceae	<i>Callistemon viminalis</i>	weeping bottlebrush		b
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken		b
Sapindaceae	<i>Cardiospermum grandiflorum</i>	balloon vine	*	a
Cyperaceae	<i>Carex appressa</i>	tall sedge		a
Casuarinaceae	<i>Casuarina glauca</i>	swamp oak		a
Anthericaceae	<i>Chlorophytum comosum</i>	spider plant	*	b
Cyperaceae	<i>Chorizandra sphaerocephala</i>	roundhead bristle-sedge		a
Vitaceae	<i>Cissus antarctica</i>	kangaroo vine		b
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp	fleabane	*	a
Myrtaceae	<i>Corymbia gummifera</i>	red bloodwood		a

Family	Scientific name	Common name	Status	BR27
Myrtaceae	<i>Corymbia maculata</i>	spotted gum		b
Asteraceae	<i>Crassocephalum crepidioides</i>	thickhead	*	b
Cyatheaceae	<i>Cyathea cooperi</i>	straw treefern		b
Poaceae	<i>Cymbopogon refractus</i>	barbed wire grass		b
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		a
Convolvulaceae	<i>Dichondra repens</i>	kidney weed		b
Poaceae	<i>Digitaria sanguinalis</i>			b
Fabaceae - Faboideae	<i>Dillwynia retorta</i>			a
Sapindaceae	<i>Dodonaea triquetra</i>	large-leaf hop-bush		b
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	b
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	blueberry ash		b
Rhamnaceae	<i>Emmenosperma alphitonioides</i>	bonewood		b
Myrtaceae	<i>Eucalyptus botryoides</i>	bangalay		b
Myrtaceae	<i>Eucalyptus piperita</i>	Sydney peppermint		b
Luzuriagaceae	<i>Eustrephus latifolius</i>	wombat berry		b
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Geraniaceae	<i>Geranium homeanum</i>	native geranium		b
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	cheese tree		a
Proteaceae	<i>Hakea gibbosa</i>	needlebush		a
Proteaceae	<i>Hakea salicifolia</i>	willow-leaved hakea		b
Araliaceae	<i>Hedera helix</i>	English ivy	*	b
Zingiberaceae	<i>Hedychium gardnerianum</i>	ginger lily	*	b
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b
Apiaceae	<i>Hydrocotyle bonariensis</i>		*	b
Poaceae	<i>Imperata cylindrica</i>	blady grass		b
Convolvulaceae	<i>Ipomoea indica</i>	morning glory	*	b
Fabaceae - Faboideae	<i>Kennedia rubicunda</i>	dusky coral pea		a
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		a
Verbenaceae	<i>Lantana camara</i>	lantana	WoNS	a
Myrtaceae	<i>Leptospermum laevigatum</i>	coast teatree		b
Myrtaceae	<i>Leptospermum petersonii</i>	lemon-scented teatree	ni	b
Myrtaceae	<i>Leptospermum polygalifolium</i>	yellow tea-tree		b
Myrtaceae	<i>Leptospermum squarrosus</i>			a
Oleaceae	<i>Ligustrum sinense</i>	small leaved privet	*	a
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Caprifoliaceae	<i>Lonicera japonica</i>	japanese honeysuckle	*	a
Myrtaceae	<i>Melaleuca armillaris</i>	bracelet honey-myrtle		a
Myrtaceae	<i>Melaleuca hypericifolia</i>	hillock bush		b
Myrtaceae	<i>Melaleuca quinquenervia</i>	broad-leaved paperbark		a

Family	Scientific name	Common name	Status	BR27
Myrtaceae	<i>Melaleuca styphelioides</i>	prickly-leaved tea tree		a
Poaceae	<i>Microlaena stipoides</i> var. <i>stipoides</i>	weeping grass		b
Ericaceae	<i>Monotoca elliptica</i>	tree broom-heath		a
Araceae	<i>Monstera deliciosa</i>	fruit salad plant	*	b
Davalliaceae	<i>Nephrolepis cordifolia</i>	fishbone fern	ni	b
Oleaceae	<i>Notelaea longifolia</i>	large mock-olive		a
Alliaceae	<i>Nothoscordum borbonicum</i>	onion weed	*	a
Poaceae	<i>Notodanthonia longifolia</i>	long-leaved wallaby grass		a
Ochnaceae	<i>Ochna serrulata</i>	ochna	*	b
Oleaceae	<i>Olea europaea</i> subsp. <i>cuspidata</i>	olive	*	a
Poaceae	<i>Oplismenus aemulus</i>	oplismenus		b
Asteraceae	<i>Ozothamnus diosmifolius</i>	rice flower		b
Bignoniaceae	<i>Pandorea pandorana</i>	wonga wonga vine		a
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*	b
Arecaceae	<i>Phoenix canariensis</i>	canary island date palm	*	b
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Lamiaceae	<i>Plectranthus parviflorus</i>	cockspur flower		a
Poaceae	<i>Poa affinis</i>	poa		a
Podocarpaceae	<i>Podocarpus elatus</i>	plum pine		b
Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken		a
Euphorbiaceae	<i>Ricinus communis</i>	castor oil plant	*	a
Polygonaceae	<i>Rumex brownii</i>	swamp dock		b
Fabaceae - Caesalpinioideae	<i>Senna pendula</i> var. <i>glabrata</i>	cassia	*	a
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	b
Solanaceae	<i>Solanum mauritanium</i>	Wild tobacco plant	*	b
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	*	b
Poaceae	<i>Sporobolus africanus</i>	parramatta grass	*	a
Menispermaceae	<i>Stephania japonica</i> var. <i>discolor</i>	snake vine		b
Meliaceae	<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	scentless rosewood		a
Myrtaceae	<i>Syzygium australe</i>	brush cherry		b
Myrtaceae	<i>Syzygium paniculatum</i>	magenta lilly pilly	E	a
Aizoaceae	<i>Tetragonia tetragonioides</i>	new zealand spinach		b
Commelinaceae	<i>Tradescantia fluminensis</i>	trad	*	b
Tropaeolaceae	<i>Tropaeolum majus</i>	nasturtium	*	a
Lamiaceae	<i>Westringia fruticosa</i>	coastal rosemary		b

Table 31 Fauna species list for Clifton Gardens Reserve

Class	Family	Scientific name	Common name	Status	BR27
Amphibians	Myobatrachidae	<i>Crinia signifera</i>	common eastern froglet		a
Birds	Sturnidae	<i>Acridotheres tristis</i>	common myna	*	a
Birds	Megapodiidae	<i>Alectura lathamii</i>	Australian brush turkey		c
Birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		b
Birds	Campephagidae	<i>Coracina novaehollandiae</i>	black-faced cuckoo-shrike		a
Birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		c
]Birds	Alcedinidae	<i>Dacelo novaeguinea</i>	laughing kookaburra		b
Birds	Eopsaltriidae	<i>Eopsaltria australis</i>	eastern yellow robin		a
Birds	Columbidae	<i>Geopelia humeralis</i>	bar-shouldered dove		a
Birds	Acanthizidae	<i>Gerygone olivacea</i>	white-throated gerygone		a
Birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		b
Birds	Maluridae	<i>Malurus cyaneus</i>	superb fairy-wren		b
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		b
Birds	Meliphagidae	<i>Meliphaga lewinii</i>	Lewin's honeyeater		a
Birds	Estrildidae	<i>Neochmia temporalis</i>	red-browed finch		a
Birds	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon		a
Birds	Passeridae	<i>Passer domesticus</i>	house sparrow	*	a
Birds	Columbidae	<i>Phaps chalcoptera</i>	common bronzewing		a
Birds	Psophodidae	<i>Psophodes olivaceus</i>	eastern whipbird		c
Birds	Dicruridae	<i>Rhipidura leucophrys</i>	willie wagtail		a
Birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		a
Birds	Artamidae	<i>Strepera graculina</i>	pieb currawong		b
Birds	Threskiornidaea	<i>Threskiornis moluccus</i>	Australian white ibis		c
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		b
Birds	Zosteropidae	<i>Zosterops lateralis</i>	silveryeye		a
Mammals	Vespertilionidae	<i>Chalinolobus gouldii</i>	Gould's wattled bat		c
Mammals	Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	common ringtail possum		c
Mammals	Muridae	<i>Rattus rattus</i>	black rat	*	c
Mammals	Phalangeridae	<i>Trichosurus vulpecula</i>	common brushtail possum		a
Reptiles	Scincidae	<i>Ctenotus taeniolatus</i>	copper-tailed skink		a
Reptiles	Scincidae	<i>Lampropholis delicata</i>	dark-flecked garden sunskink		b
Reptiles	Scincidae	<i>Lampropholis guichenoti</i>	pale-flecked garden sunskink		b
Reptiles	Agamidae	<i>Intellagama lesueurii lesueurii</i>	eastern water dragon		b

2.4.12 Maps for Clifton Gardens Reserve



Vegetation communities





	Established Planted Area
	Cleared and Disturbed
	Regrowth Sydney Sandstone Gully Forest

Figure 10: Vegetation Communities and threatened flora locations - Clifton Gardens Reserve

 Site boundary

Mosman Council

Mosman Flora and Fauna Survey 2021



Figure 11: Native vegetation cover percent - Clifton Gardens Reserve

Mosman Council

Mosman Flora and Fauna Survey 2021

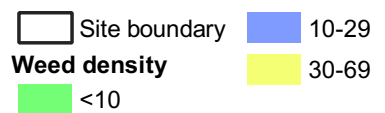




Figure 12: Weed density - Clifton Gardens Reserve

Mosman Council

Mosman Flora and Fauna Survey 2021



2.5 Curraghbeena Park

2.5.1 General description

Curraghbeena Park is located in the south-west of Mosman LGA. It occurs on a steep to moderate east-facing slope above the western foreshore of Little Sirius Cove with sandstone outcrops scattered throughout. Curraghbeena Park is divided by Curraghbeena Road with a playground and open area adjacent to the western portion.

2.5.2 Vegetation communities

Two vegetation communities are recognised in Curraghbeena Park (Figure 13). Sydney Sandstone Gully Forest occurs across the majority of the reserve and consists of remnant and regrowth vegetation. An area of Coastal Sandstone Heath is situated in the central area of the eastern portion which has regenerated following burns in 2003 and 2013 (Ecosure 2016). Table 32 provides an updated list of species frequently recorded in each community.

Table 32 Vegetation community description - Curraghbeena Park

Sydney Sandstone Gully Forest

Canopy	<i>Allocasuarina littoralis</i> (black she-oak), <i>Ficus rubiginosa</i> (Port Jackson fig), <i>Lophostemon confertus</i> (brush box), <i>Tristaniopsis laurina</i> (water gum) and <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree)
Midstorey	<i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle), <i>Banksia ericifolia</i> (heath-leaved banksia), <i>Grevillea linearifolia</i> (linear-leaf grevillea) and <i>Lantana camara</i> (lantana)
Understorey	<i>Breynia oblongifolia</i> (coffee bush), <i>Kunzea ambigua</i> (tick bush), <i>Dodonaea triquetra</i> (large-leaf hop-bush), <i>Hakea dactyloides</i> (finger hakea), <i>Ochna serrulata</i> (Mickey Mouse plant)
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Stephania japonica</i> var. <i>discolor</i> (snake vine), <i>Calochlaena dubia</i> (soft bracken) and <i>Ehrharta erecta</i> (panic veldtgrass)

Coastal Sandstone Heath

Canopy	<i>Allocasuarina littoralis</i> (black she-oak), <i>Elaeocarpus reticulatus</i> (blueberry ash), <i>Dodonaea triquetra</i> (large-leaf hop-bush) and <i>Polyscias sambucifolia</i> (elderberry panax)
Midstorey / understorey	<i>Hakea dactyloides</i> (finger hakea), <i>Pittosporum undulatum</i> (sweet pittosporum), <i>Grevillea linearifolia</i> (linear-leaf grevillea) and <i>Pomaderris lanigera</i>
Groundcover	Sparse groundcover including <i>Pteridium esculentum</i> (common bracken), <i>Oplismenus aemulus</i> (oplismenus), <i>Ochna serrulata</i> (Mickey Mouse plant) and <i>Asparagus aethiopicus</i> (asparagus fern)

2.5.3 Threatened flora

The 2021-2022 surveys recorded *Acacia terminalis* subsp. *eastern Sydney* in the southern area of the reserve. This individual was likely planted. Previous surveys have detected both *A. terminalis* and the threatened *A. terminalis* subsp. *eastern Sydney*. They are both likely to occur intermittently at the site.

2.5.4 Threatened ecological communities

The Threatened Ecological Communities Greater Sydney (DPIE 2021) did not identify any

TECs within Curraghbeena Park. The current survey did not detect any vegetation that corresponds to a TEC.

2.5.5 Native vegetation cover and weed density

Native vegetation cover is high and in good condition across the majority of the site. Increased weed density occurs in the north-east corner of the reserve, and along the southern boundary where a significant weed species seed/material source occurs on the adjacent private property. Garden waste dumping was also recorded along the northern boundary of the eastern section of the reserve. Figures 14 and 15 show native vegetation cover and weed density at the site. The top five weed species and total weed cover for each class is provided in Table 33.

Table 33 Top five weed species and total weed cover at Curraghbeena Park

Weed Class	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Asparagus aethiopicus</i>	ground asparagus	Lower	1
	<i>Chlorophytum comosum</i>	spider plant	Lower	1
	<i>Ochna serrulata</i>	Mickey mouse plant	Lower	1
	<i>Celtis sinensis</i>	Japanese hackberry	Lower	1
	<i>Ligustrum lucidum</i>	large leaf privet	Lower	1
	Other weed species		Lower	1
			Total	6
10-29	<i>Acetosa saggitata</i>	turkey rhubarb	Middle	2
	<i>Parietaria judaica</i>	asthma weed	Lower	2
	<i>Celtis sinensis</i>	Japanese hackberry	Lower	1
	<i>Ochna serrulata</i>	ochna	Lower	1
	<i>Lantana camara</i>	lantana	Lower	1
	Other weed species		Lower	5
			Total	12
30-69	<i>Lantana camara</i>	lantana	Middle	15
	<i>Ipomoea purpurea</i>	morning glory	Upper	5
	<i>Ligustrum sinense</i>	small leaf privet	Middle	5
	<i>Conyza</i> sp	fleabane	Lower	1
	<i>Asparagus aethiopicus</i>	ground asparagus	Lower	1
	Other weed species		Lower	5
			Total	32

2.5.6 Fauna habitat

Fauna habitat attributes recorded for Curraghbeena Park are listed in Table 34.

Table 34 Fauna habitat summary of Curraghbeena Park

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Small reserve with limited connectivity to Sirius Cove Park (17, 19) and Taronga Zoo, some remnant vegetation and dense understorey; extensive sandstone outcrops.
Connectivity	Moderate local connectivity, bounded by the harbour but one other bushland reserve (Sirius Park West) is in close proximity.
Large hollows (>20 cm)	Absent
Small hollows (<20 cm)	Scattered
Hollow status	Mixture
Large logs (>50 cm)	Absent
Small logs (10-50 cm)	Scattered
Cliffs/outcrops	Abundant
Large rocks (>30 cm)	Common
Small rocks (10-30 cm)	Common
Leaf litter	Common
Dense shrubs/grass shelter	Abundant
Termite mounds	Absent
Water bodies	Absent
Threatened species habitat	Foraging habitat for threatened parrots, microbats and grey-headed flying-fox (<i>Pteropus poliocephalus</i>)

2.5.7 Threats to flora and fauna

Current threats to flora and fauna within Curraghbeena Park include:

- expansion of weed thicket in the north-eastern part of the reserve
- garden escapes from private properties on the northern and southern boundaries
- introduced predators of native ground-dwelling fauna including cat (*Felis catus*) and European fox (*Vulpes vulpes*).

2.5.8 Current management practices

Curraghbeena Park is currently managed as a bush regeneration and restoration site under Mosman Council's Bushland Restoration Contracts 2012 - 2022. A summary of the works to date is shown in Table 35.

Table 35 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary

Weeding	<ul style="list-style-type: none"> • Primary weeding targeting noxious, woody and vine weeds • Secondary and maintenance weeding of noxious, woody and vine weed regrowth and annual and perennial herbs and grasses by hand weeding and spot spraying.
Planting	Established plantings along road verge and northern area.
Ecological/Hazard	Broad acre burns in 2003 and 2013.

Bush regeneration and restoration works summary

reduction burns	
Other	n/a

2.5.9 Conservation significance

2.5.9.1 Vegetation

The vegetation conservation significance in this reserve is high. The vegetation within this reserve is mostly native and contains low abundance of weeds throughout the core vegetation type, however lantana requires removal and monitoring. The old and new records of *Acacia terminalis* subsp. *eastern Sydney* (sunshine wattle) also suggest that the species persists in the seedbank throughout the reserve.

2.5.9.2 Fauna

Twenty-two species (15 bird, two mammal and five reptiles) were detected at this reserve during surveys in December 2021 and January 2022. One of these species, the grey-headed flying-fox (*Pteropus poliocephalus*), is threatened under both the EPBC Act and BC Act.

2.5.9.3 Priority

This site has a high priority for conservation. Continued and expanded bush regeneration works will maintain and improve the condition of the native vegetation within the bushland reserve.

2.5.10 Recommendations

Current bushland management practices for Curraghbeena Park should be continued. Prioritised recommendations are shown in Table 36.

Table 36 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve
2	Monitoring the status of <i>Acacia terminalis</i> subsp. <i>eastern Sydney</i> (sunshine wattle)
3	Additional targeting of weeds in the north and middle parts of the reserve. The north-eastern corner is particularly steep and may need specialised management measures.
4	Ecological/hazard reduction/pile burns to be considered to stimulate regeneration of native plants including threatened species such as <i>Acacia terminalis</i> subsp. <i>eastern Sydney</i> that may be present in the seed bank.
5	Continue planting, monitoring and weeding around native species.

2.5.11 Flora and fauna species list

Flora species recorded during current and previous surveys of Curraghbeena Park are listed

in Table 37 and fauna species in Table 38Table 38.

Table 37 Flora species list for Curraghbeena Park

Family	Scientific name	Common name	Status	BR57
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		b
Fabaceae - Mimosoideae	<i>Acacia suaveolens</i>	sweet wattle		b
Fabaceae - Mimosoideae	<i>Acacia terminalis</i> subsp. <i>eastern Sydney</i>	sunshine wattle	E	b
Fabaceae - Mimosoideae	<i>Acacia ulicifolia</i>	prickly moses		a
Polygonaceae	<i>Acetosa sagittata</i>	turkey rhubarb	*	b
Alliaceae	<i>Agapanthus praecox</i> subsp. <i>orientalis</i>	African lily	*	c
Asteraceae	<i>Ageratina adenophora</i>	crofton weed	*	b
Casuarinaceae	<i>Allocasuarina distyla</i>			a
Casuarinaceae	<i>Allocasuarina littoralis</i>	black she-oak		b
Araceae	<i>Alocasia brisbanensis</i>			b
Myrtaceae	<i>Angophora bakeri</i>	narrow-leaved apple		b
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		b
Basellaceae	<i>Anredera cordifolia</i>	Madeira vine	WoNS	a
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	b
Aspleniaceae	<i>Asplenium australasicum</i>	birds nest fern		a
Aspleniaceae	<i>Asplenium flabellifolium</i>	necklace fern		a
Poaceae	<i>Austrodanthonia</i> sp	wallaby grass		b
Proteaceae	<i>Banksia ericifolia</i> subsp. <i>ericifolia</i>	heath-leaved banksia		b
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Proteaceae	<i>Banksia serrata</i>	old-man banksia		b
Cunoniaceae	<i>Bauera rubioides</i>	river rose		b
Cyperaceae	<i>Baumea</i> sp			a
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*	b
Pittosporaceae	<i>Billardiera scandens</i>	hairy apple berry		a
Fabaceae - Faboideae	<i>Bossiaea scolopendria</i>			a
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush		b
Cunoniaceae	<i>Callicoma serratifolia</i>	black wattle		b
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken		b
Sapindaceae	<i>Cardiospermum grandiflorum</i>	balloon vine	*	a
Asteraceae	<i>Cassinia denticulata</i>	stiff cassinia		a
Lauraceae	<i>Cassytha pubescens</i>			b
Cyperaceae	<i>Caustis flexuosa</i>	curly wig		a
Cyperaceae	<i>Caustis pentandra</i>	thick twist rush		a
Vitaceae	<i>Cayratia clematidea</i>	native grape		b
Cannabaceae	<i>Celtis sinensis</i>	Japanese hackberry	*	b
Cunoniaceae	<i>Ceratopetalum gummiferum</i>	Christmas bush		a

Family	Scientific name	Common name	Status	BR57
Anthericaceae	<i>Chlorophytum comosum</i>	spider plant	*	b
Asteraceae	<i>Cirsium vulgare</i>	spear thistle	*	b
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp.	fleabane	*	b
Rutaceae	<i>Crowea saligna</i>			a
Cyatheaceae	<i>Cyathea cooperi</i>	straw treefern		b
Apiaceae	<i>Cyclosporum leptophyllum</i>	slender celery	*	a
Plantaginaceae	<i>Cymbalaria muralis</i>	ivy-leaved toadflax	*	a
Cyperaceae	<i>Cyperus eragrostis</i>		*	b
Cyperaceae	<i>Cyperus polystachyos</i>			a
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Poaceae	<i>Dichelachne crinita</i>	longhair plumegrass		a
Poaceae	<i>Dichelachne micrantha</i>	shorthair plumegrass		a
Poaceae	<i>Digitaria didactyla</i>	Queensland blue couch		a
Poaceae	<i>Digitaria sanguinalis</i>	summer grass	*	a
Fabaceae - Faboideae	<i>Dillwynia retorta</i>			a
Fabaceae - Faboideae	<i>Dipogon lignosus</i>	dipogon	*	a
Sapindaceae	<i>Dodonaea triquetra</i>	large-leaf hop-bush		b
Poaceae	<i>Echinopogon caespitosus</i> var. <i>caespitosus</i>	tufted hedgehog-grass		b
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	b
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	blueberry ash		b
Restionaceae	<i>Empodisma minus</i>			a
Poaceae	<i>Entolasia marginata</i>	bordered panic		a
Poaceae	<i>Entolasia stricta</i>	wiry panic		b
Ericaceae	<i>Epacris longiflora</i>	fuchsia heath		b
Ericaceae	<i>Epacris pulchella</i>	wallum heath		a
Euphorbiaceae	<i>Euphorbia peplus</i>	petty spurge	*	a
Luzuriagaceae	<i>Eustrephus latifolius</i>	wombat berry		b
Moraceae	<i>Ficus coronata</i>	sandpaper fig		b
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Cyperaceae	<i>Gahnia</i> sp.	saw-sedge		a
Asteraceae	<i>Galinsoga parviflora</i>	potato weed	*	a
Gleicheniaceae	<i>Gleichenia dicarpa</i>	pouched coral fern		a
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	cheese tree		b
Haloragaceae	<i>Gonocarpus teucroides</i>	raspwort		a
Proteaceae	<i>Grevillea buxifolia</i> subsp. <i>buxifolia</i>	grey spider flower		a
Proteaceae	<i>Grevillea linearifolia</i>	linear-leaf grevillea		b
Proteaceae	<i>Hakea dactyloides</i>	finger hakea		a
Proteaceae	<i>Hakea sericea</i>	needlebush		b

Family	Scientific name	Common name	Status	BR57
Proteaceae	<i>Hakea teretifolia</i>	needlebush		b
Dilleniaceae	<i>Hibbertia scandens</i>	climbing guinea flower		b
Dennstaedtiaceae	<i>Histiopteris incisa</i>	bat's wing fern		a
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b
Dennstaedtiaceae	<i>Hypolepis muelleri</i>	harsh ground fern		a
Poaceae	<i>Imperata cylindrica</i>	blady grass		b
Convolvulaceae	<i>Ipomoea indica</i>	morning glory	*	b
Cyperaceae	<i>Isolepis nodosa</i>	knobby club-rush		a
Juncaceae	<i>Juncus usitatus</i>	common rush		a
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		b
Proteaceae	<i>Lambertia formosa</i>	mountain devil		b
Verbenaceae	<i>Lantana camara</i>	lantana	WoNS	b
Sterculiaceae	<i>Lasiopetalum ferrugineum</i> var. <i>ferrugineum</i>			b
Cyperaceae	<i>Lepidosperma concavum</i>			a
Cyperaceae	<i>Lepidosperma laterale</i>			b
Restionaceae	<i>Lepyrodia scariosa</i>			a
Ericaceae	<i>Leucopogon amplexicaulis</i>	beard-heath		a
Oleaceae	<i>Ligustrum lucidum</i>	large leaved privet	*	b
Oleaceae	<i>Ligustrum sinense</i>	small leaved privet	*	a
Lindsaeaceae	<i>Lindsaea linearis</i>	screw fern		a
Lomandraceae	<i>Lomandra filiformis</i> subsp. <i>filiformis</i>	wattle mat-rush		b
Lomandraceae	<i>Lomandra glauca</i>	pale mat-rush		a
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Lomandraceae	<i>Lomandra multiflora</i>	many-flowered mat-rush		a
Lomandraceae	<i>Lomandra obliqua</i>			a
Proteaceae	<i>Lomatia silaifolia</i>	crinkle bush		a
Myrtaceae	<i>Lophostemon confertus</i>	brush box	ni	b
Myrtaceae	<i>Melaleuca armillaris</i>	bracelet honey-myrtle		b
Euphorbiaceae	<i>Micrantheum ericoides</i>			a
Poaceae	<i>Microlaena stipoides</i> var. <i>stipoides</i>	weeping grass		b
Moraceae	<i>Morus alba</i>	white mulberry	*	a
Davalliaceae	<i>Nephrolepis cordifolia</i>	fishbone fern	ni	b
Oleaceae	<i>Notelaea longifolia</i>	large mock-olive		a
Poaceae	<i>Notodanthonia longifolia</i>	long-leaved wallaby grass		b
Ochnaceae	<i>Ochna serrulata</i>	ochna	*	b
Rubiaceae	<i>Opercularia aspera</i>	coarse stinkweed		a
Poaceae	<i>Oplismenus aemulus</i>	oplismenus		b
Poaceae	<i>Oplismenus imbecillis</i>			b
Oxalidaceae	<i>Oxalis</i> sp.		*	a

Family	Scientific name	Common name	Status	BR57
Asteraceae	<i>Ozothamnus diosmifolius</i>	rice flower		c
Bignoniaceae	<i>Pandorea pandorana</i>	Wonga Wonga vine		b
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*	b
Poaceae	<i>Paspalidium distans</i>			b
Iridaceae	<i>Patersonia glabrata</i>	leafy purple-flag		a
Polygonaceae	<i>Persicaria decipiens</i>	slender knotweed		a
Proteaceae	<i>Persoonia levis</i>	broad-leaved geebung		b
Phytolacceae	<i>Phytolacca octandra</i>	inkweed	*	a
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Apiaceae	<i>Platysace linearifolia</i>			a
Lamiaceae	<i>Plectranthus parviflorus</i>	cockspur flower		a
Poaceae	<i>Poa affinis</i>	poa		a
Podocarpaceae	<i>Podocarpus spinulosus</i>	spiny-leaf podocarp		a
Araliaceae	<i>Polyscias sambucifolia</i>	elderberry panax		b
Rhamnaceae	<i>Pomaderris lanigera</i>			a
Rhamnaceae	<i>Pomaderris</i> sp			a
Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken		b
Fabaceae - Faboideae	<i>Pultenaea hispidula</i>			a
Fabaceae - Faboideae	<i>Pultenaea stipularis</i>			a
Cyperaceae	<i>Schoenus melanostachys</i>			b
Asteraceae	<i>Senecio lautus</i> subsp. <i>maritimus</i>	variable groundsel		a
Fabaceae - Caesalpinioideae	<i>Senna pendula</i> var. <i>glabrata</i>	cassia	*	b
Smilacaceae	<i>Smilax glycyphylla</i>	sweet sarsaparilla		b
Solanaceae	<i>Solanum mauritianum</i>	wild tobacco bush	*	a
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	b
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	*	b
Poaceae	<i>Sporobolus africanus</i>	parramatta grass	*	a
Menispermaceae	<i>Stephania japonica</i> var. <i>discolor</i>	snake vine		a
Strelitziaceae	<i>Strelitzia nicolai</i>	giant bird of paradise	*	a
Ericaceae	<i>Styphelia tubiflora</i>	red five-corner		a
Arecaceae	<i>Syagrus romanzoffiana</i>	cocos palm	*	a
Asteraceae	<i>Taraxacum officinale</i>	dandelion	*	c
Commelinaceae	<i>Tradescantia fluminensis</i>	trad	*	b
Ulmaceae	<i>Trema tomentosa</i>	native peach		a
Myrtaceae	<i>Tristaniopsis laurina</i>	water gum		b
Scrophulariaceae	<i>Veronica plebeia</i>	trailing speedwell		a
Campanulaceae	<i>Wahlenbergia gracilis</i>	sprawling bluebell		b
Iridaceae	<i>Watsonia meriana</i>	wild watsonia	*	a
Lamiaceae	<i>Westringia fruticosa</i>	coastal rosemary		a

Family	Scientific name	Common name	Status	BR57
Ericaceae	<i>Woolfsia pungens</i>			a
Xanthorrhoeaceae	<i>Xanthorrhoea arborea</i>			a
Apiaceae	<i>Xanthosia pilosa</i>	woolly xanthosia		a
Rutaceae	<i>Zieria pilosa</i>	pilose-leafed zieria		a

Table 38 Fauna species list for Curraghbeena Park

Class	Family	Scientific Name	Common Name	Status	BR57
Amphibian	Hylidae	<i>Litoria peronii</i>	Peron's tree frog		c
Birds	Acanthizidae	<i>Acanthiza pusilla</i>	brown thornbill		a
Birds	Sturnidae	<i>Acridotheres tristis</i>	common myna	*	a
Birds	Megapodiidae	<i>Alectura lathami</i>	Australian brushturkey		c
Birds	Meliphagidae	<i>Anthochaera chrysoptera</i>	little wattlebird		a
Birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		c
Birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		c
Birds	Alcedinidae	<i>Dacelo novaeguinea</i>	laughing kookaburra		a
Birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		a
Birds	Hirundinidae	<i>Hirundo neoxena</i>	welcome swallow		c
Birds	Maluridae	<i>Malurus cyaneus</i>	superb fairy-wren		c
Birds	Maluridae	<i>Malurus lamberti</i>	variegated fairy-wren		a
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		b
Birds	Meliphagidae	<i>Meliphaga lewinii</i>	Lewin's honeyeater		a
Birds	Meliphagidae	<i>Phylidonyris novaehollandiae</i>	new holland honeyeater		a
Birds	Dicruridae	<i>Rhipidura leucophrys</i>	willie wagtail		b
Birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		b
Birds	Artamidae	<i>Strepera graculina</i>	ped currawong		b
Birds	Threskiornidaea	<i>Threskiornis moluccus</i>	Australian white ibis		c
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		b
Mammals	Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	common ringtail possum		b
Reptiles	Scincidae	<i>Ctenotus taeniolatus</i>	copper-tailed skink		a
Reptiles	Scincidae	<i>Lampropholis delicata</i>	dark-flecked garden sunskink		c
Reptiles	Scincidae	<i>Lampropholis guichenoti</i>	pale-flecked garden sunskink		b
Reptiles	Agamidae	<i>Intelligama lesueurii lesueurii</i>	eastern water dragon		b

2.5.12 Maps for Curraghbeena Park



Vegetation communities

- Sydney Sandstone Gully Forest
- Coastal Sandstone Heath

Figure 13: Vegetation Communities and threatened flora locations - Curraghbeena Park

Mosman Council

Mosman Flora and Fauna Survey 2021

Site boundary

Acacia terminalis ssp Eastern Sydney





Figure 14: Native vegetation cover percent - Curraghbeena Park

Mosman Council

Mosman Flora and Fauna Survey 2021

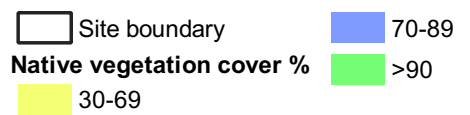
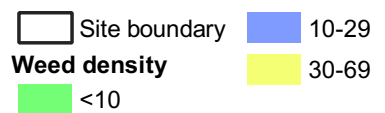




Figure 15: Weed density - Curraghbeena Park

Mosman Council

Mosman Flora and Fauna Survey 2021



2.6 Harnett Park

2.6.1 General description

Harnett Park is located on the slopes above the south and western foreshores of Mosman Bay in the south-west of Mosman LGA. It occurs along moderate south and east facing slopes, and connects to Reid Park at its northern boundary. A public pathway runs from the western to the northern part of the reserve and other tracks are scattered throughout.

2.6.2 Vegetation communities

Three vegetation communities are recognised within Harnett Park including Regrowth Sydney Sandstone Gully Forest, Disturbed Sydney Sandstone Gully Forest and Cosmopolitan (Figure 16). Remnant and regrowth vegetation, together with scattered plantings are found in both communities. Table 39 provides an updated list of species frequently recorded in each community.

Table 39 Vegetation community description - Harnett Park

Regrowth Sydney Sandstone Gully Forest

Canopy	<i>Angophora costata</i> (Sydney red gum)
Midstorey	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Banksia ericifolia</i> subsp. <i>ericifolia</i> (heathleaved banksia), <i>Ficus rubiginosa</i> (Port Jackson fig)
Understorey	<i>Breynia oblongifolia</i> (coffee bush), <i>Cyathea cooperi</i> (straw treefern), <i>Homalanthus populifolius</i> (bleeding heart) and <i>Pittosporum undulatum</i> (sweet pittosporum)
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Dianella caerulea</i> (blue flax-lily) and <i>Microlaena stipoides</i> var. <i>stipoides</i> (weeping grass)

Disturbed Sydney Sandstone Gully Forest

Canopy	<i>Erythrina crista-galli</i> (Cockspur coral tree)
Midstorey	<i>Banksia serrata</i> (old-man banksia), <i>Ficus obliqua</i> (small-leaved fig), <i>Callitris rhomboidea</i> (Port Jackson pine) and <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree)
Understorey	<i>Pittosporum undulatum</i> (sweet pittosporum), <i>Pteridium esculentum</i> (common bracken) and <i>Homalanthus populifolius</i> (bleeding heart)
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Dianella caerulea</i> (blue flax-lily) and <i>Commelina cyanea</i> (scurvy weed)

Cosmopolitan

Canopy	<i>Erythrina crista-galli</i> (cockspur coral tree)
Midstorey / understorey	<i>Cyathea cooperi</i> (straw treefern), <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), and <i>Pteridium esculentum</i> (common bracken)
Groundcover	<i>Ehrharta erecta</i> (panic veldtgrass), <i>Tradescantia fluminensis</i> (trad), <i>Dianella caerulea</i> (blue flax-lily), <i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Anredera cordifolia</i> (Madeira vine)

2.6.3 Threatened flora

Previous surveys recorded one individual *Acacia terminalis* subsp. *eastern Sydney* (sunshine wattle) in the Regrowth Sydney Sandstone Gully Forest community (Total Earth Care 2007).

Ecosure did not record sunshine wattle during field surveys but does not rule out the presence of this species in the reserve.

2.6.4 Threatened ecological communities

The Threatened Ecological Communities Greater Sydney (DPIE 2021) identified one TEC, Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner bioregions (Endangered under both the BC Act and EPBC Act) within Harnett Park. The current survey confirmed vegetation that corresponds to this TEC occurs in a small area in the north-east corner of the reserve (Figure 16).

2.6.5 Native vegetation and weed cover

Native vegetation cover is in good condition in the eastern portion of Harnett Park. Diversity is limited in the understorey and groundcover stratum in the northern section of the reserve. Regeneration is on-going in the south-western area, particularly below the public pathway and in the central region where large specimens of *Erythrina crista-galli* (cockspur coral tree) have been treated. Figures 17 and 18 show native vegetation cover and weed density at the site. The top five weed species and total weed cover for each class is provided in Table 40.

Table 40 Top five weed species and total weed cover at Harnett Park

Weed Class	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Asparagus aethiopicus</i>	ground asparagus	Lower	1
	<i>Ipomoea purpurea</i>	morning glory	Lower	1
	<i>Acetosa sagittata</i>	turkey rhubarb	Lower	1
	<i>Nephrolepis cordifolia</i>	fishbone fern	Lower	
	<i>Solanum nigrum</i>	blackberry nightshade	Lower	1
	Other weed species		Lower	1
				Total
10-29	<i>Erythrina crista-galli</i>	cockspur coral tree	Middle	10
	<i>Nephrolepis cordifolia</i>	fishbone fern	Lower	1
	<i>Ipomoea purpurea</i>	morning glory	Lower	1
	<i>Celtis sinensis</i>	Japanese hackberry	Middle	1
	<i>Acetosa sagittata</i>	turkey rhubarb	Lower	1
	Other weed species		Lower	5
				Total
30-69	<i>Erythrina crista-galli</i>	cockspur coral tree	Middle	15
	<i>Ipomoea purpurea</i>	morning glory	Middle	5
	<i>Cardiospermum grandiflorum</i>	balloon vine	Middle	5
	<i>Tradescantia fluminensis</i>	trad	Lower	10
	<i>Setaria palmifolia</i>	palm grass	Lower	2
	Other weed species		Lower	5
				Total

2.6.6 Fauna habitat

Fauna habitat attributes recorded for Harnett Park are listed in Table 41

Table 41 Fauna habitat summary of Harrett Park

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Relatively large but narrow reserve with local connectivity only to Reid Park (18) and Reid Park East (18); extensive disturbance history, but some remnant bushland features; good sandstone outcropping.
Connectivity	Moderate local connectivity, bounded by the harbour but one other bushland reserve (Reid Park) are in close proximity.
Large hollows (>20 cm)	Absent
Small hollows (<20 cm)	Scattered
Hollow status	Mostly in alive trees
Large logs (>50 cm)	Absent
Small logs (10-50 cm)	Scattered
Cliffs/outcrops	Common
Large rocks (>30 cm)	Abundant
Small rocks (10-30 cm)	Common
Leaf litter	Scattered
Dense shrubs/grass shelter	Common
Termite mounds	Absent
Water bodies	Drainage lines and shoreline
Threatened species habitat	Hollows and foraging habitat for threatened parrots and microbats. Foraging habitat for grey-headed flying-fox (<i>Pteropus poliocephalus</i>). Foraging habitat for threatened owls.

2.6.7 Threats to flora and fauna

Current threats to the flora and fauna within Harnett Park include:

- dispersal of weeds from higher weed density vegetation including Disturbed Sydney Sandstone Gully Forest and Cosmopolitan/urban areas
- persistence of exotic weed trees in the canopy as it inhibits natural regeneration
- garden escapes from surrounding private properties
- introduced predators of native ground-dwelling fauna including cat (*Felis catus*), dog (*Canis lupus familiaris*) and European fox (*Vulpes vulpes*).

2.6.8 Current management practices

Harnett Park is currently managed as a bush regeneration and restoration site under Mosman Council's Bushland Restoration Contracts 2012 - 2022. A summary of the works to date is shown in Table 42.

Table 42 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary

Weeding	<ul style="list-style-type: none"> Primary weeding targeting noxious, woody and vine weeds Secondary and maintenance weeding of noxious, woody and vine weed regrowth and annual and perennial herbs and grasses by hand weeding and spot spraying.
Planting	Established plantings of native tree, shrub and groundcover species .
Ecological/Hazard reduction burns	None on record.
Other	Weed tree removals.

2.6.9 Conservation significance

2.6.9.1 Vegetation

The vegetation conservation significance in this reserve is medium to high. The Regrowth Sydney Sandstone Gully Forest is regenerating well and will continue with ongoing bushland management. The majority of this bushland reserve contains low to moderate abundance of weeds and has reduced slightly since previous surveys by Ecosure in 2019.

2.6.9.2 Fauna

Eighteen species (13 birds, three mammals and two reptiles) were detected at this reserve during surveys in December 2021 and January 2022. None of these species are threatened.

2.6.9.3 Priority

This site has a high priority for conservation. Although weed levels have been reduced, ongoing bushland restoration works are still required to maintain low weed abundance in the native vegetation patches and reduce remaining weed trees in the canopy. One TEC also occurs within this reserve.

2.6.10 Recommendations

Current bushland management practices for Harnett Park should be continued. Prioritised recommendations are shown in Table 43.

Table 43 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve.
2	Targeted clearing of weed trees in the canopy of the Disturbed Sydney Sandstone Gully Forest and Cosmopolitan/urban areas.
3	Continue planting of native tree, shrub and groundcover species throughout the reserve to supplement regeneration.

2.6.11 Flora and fauna species list

Flora species recorded during current and previous surveys of Harnett Park are listed in Table 44 and fauna species in Table 45.

Table 44 Flora species list for Harnett Park

Family	Scientific name	Common name	Status	BR18 3
Fabaceae - Mimosoideae	<i>Acacia binervia</i>	coast myall		a
Fabaceae - Mimosoideae	<i>Acacia elata</i>	mountain cedar wattle	ni	a
Fabaceae - Mimosoideae	<i>Acacia floribunda</i>	white sally wattle		a
Fabaceae - Mimosoideae	<i>Acacia linifolia</i>	white wattle		b
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		b
Fabaceae - Mimosoideae	<i>Acacia parramattensis</i>	Sydney green wattle		a
Fabaceae - Mimosoideae	<i>Acacia parvipinnula</i>	silver-stemmed wattle		a
Fabaceae - Mimosoideae	<i>Acacia suaveolens</i>	sweet wattle		a
Fabaceae - Mimosoideae	<i>Acacia terminalis</i> subsp. <i>longiaxialis</i>	sunshine wattle		a
Fabaceae - Mimosoideae	<i>Acacia terminalis</i> subsp. <i>eastern Sydney</i>	sunshine wattle	E	a
Fabaceae - Mimosoideae	<i>Acacia ulicifolia</i>	prickly moses		b
Polygonaceae	<i>Acetosa sagittata</i>	turkey rhubarb	*	b
Myrtaceae	<i>Acmena smithii</i>	lilly pilly		b
Adiantaceae	<i>Adiantum aethiopicum</i>	common maidenhair		b
Alliaceae	<i>Agapanthus praecox</i> subsp. <i>orientalis</i>	African lily	*	b
Casuarinaceae	<i>Allocasuarina distyla</i>			a
Casuarinaceae	<i>Allocasuarina littoralis</i>	black she-oak		b
Araceae	<i>Alocasia brisbanensis</i>			b
Primulaceae	<i>Anagallis arvensis</i>	scarlet pimpernel	*	a
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		b
Basellaceae	<i>Anredera cordifolia</i>	Madeira vine	WoNS	b
Arecaceae	<i>Archontophoenix cunninghamiana</i>	Bangalow palm		b
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	b
Aspleniaceae	<i>Asplenium australasicum</i>	birds nest fern		b
Proteaceae	<i>Banksia ericifolia</i> subsp. <i>ericifolia</i>	heath-leaved banksia		b
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Proteaceae	<i>Banksia serrata</i>	old-man banksia		b
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*	b
Sterculiaceae	<i>Brachychiton acerifolius</i>	flame tree		a
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush		b
Cunoniaceae	<i>Callicoma serratifolia</i>	black wattle		b
Myrtaceae	<i>Callistemon viminalis</i>	weeping bottlebrush		b
Cupressaceae	<i>Callitris rhomboidea</i>	Port Jackson pine		b

Family	Scientific name	Common name	Status	BR18 3
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken		a
Cannaceae	<i>Canna indica</i>	tous-les-mois arrowroot	*	b
Sapindaceae	<i>Cardiospermum grandiflorum</i>	balloon vine	*	b
Lauraceae	<i>Cassytha glabella</i>			b
Fabaceae - Faboideae	<i>Castanospermum australe</i>	black bean	ni	a
Casuarinaceae	<i>Casuarina glauca</i>	swamp oak		b
Ulmaceae	<i>Celtis sinensis</i>	Chinese celtis	*	b
Apiaceae	<i>Centella asiatica</i>	indian pennywort		b
Cunoniaceae	<i>Ceratopetalum gummiferum</i>	Christmas bush		b
Anthericaceae	<i>Chlorophytum comosum</i>	spider plant	*	b
Thelypteridaceae	<i>Christella dentata</i>	binung		b
Lauraceae	<i>Cinnamomum camphora</i>	camphor laurel	*	a
Vitaceae	<i>Cissus antarctica</i>	kangaroo vine		b
Amaryllidaceae	<i>Clivia minata</i>	clivia	*	a
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp.	fleabane	*	b
Asteliaceae	<i>Cordyline</i> sp.			a
Myrtaceae	<i>Corymbia gummifera</i>	red bloodwood		b
Myrtaceae	<i>Corymbia maculata</i>	spotted gum		b
Asteraceae	<i>Crassocephalum crepidioides</i>	thickhead	*	b
Cyatheaceae	<i>Cyathea cooperi</i>	straw treefern		b
Apiaceae	<i>Cyclosporum leptophyllum</i>	slender celery	*	a
Plantaginaceae	<i>Cymbalaria muralis</i>	ivy-leaved toadflax	*	b
Poaceae	<i>Cynodon dactylon</i>	couch		a
Cyperaceae	<i>Cyperus gracilis</i>	slender flat-sedge		b
Cyperaceae	<i>Cyperus involucratus</i>	umbrella sedge	*	b
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Phormiaceae	<i>Dianella revoluta</i>	paroo lily		a
Poaceae	<i>Dichelachne crinita</i>	longhair plumegrass		a
Poaceae	<i>Digitaria sanguinalis</i>	summer grass	*	b
Sapindaceae	<i>Dodonaea triquetra</i>	large-leaf hop-bush		a
Blechnaceae	<i>Doodia aspera</i>	prickly rasp fern		a
Blechnaceae	<i>Doodia caudata</i>	small rasp fern		a
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	b
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	blueberry ash		b
Poaceae	<i>Eleusine indica</i>	crowsfoot grass	*	a
Poaceae	<i>Entolasia marginata</i>	bordered panic		b
Poaceae	<i>Entolasia stricta</i>	wiry panic		a
Onagraceae	<i>Epilobium billardierianum</i> subsp. <i>cinereum</i>			a

Family	Scientific name	Common name	Status	BR18 3
Fabaceae - Faboideae	<i>Erythrina crista-galli</i>	cockspur coral tree	*	b
Myrtaceae	<i>Eucalyptus sieberi</i>	silvertop ash		b
Euphorbiaceae	<i>Euphorbia peplus</i>	petty spurge	*	b
Luzuriagaceae	<i>Eustrephus latifolius</i>	wombat berry		b
Moraceae	<i>Ficus macrophylla</i>	moreton bay fig		
Moraceae	<i>Ficus obliqua</i>	small-leaved fig		b
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Fumariaceae	<i>Fumaria officinalis</i>		*	b
Cyperaceae	<i>Gahnia melanocarpa</i>	black fruit saw-sedge		a
Cyperaceae	<i>Gahnia</i> sp	saw-sedge		a
Geraniaceae	<i>Geranium homeanum</i>	native geranium		b
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	cheese tree		b
Haloragaceae	<i>Gonocarpus teucrioides</i>	raspwort		a
Proteaceae	<i>Grevillea buxifolia</i> subsp. <i>buxifolia</i>	grey spider flower		a
Proteaceae	<i>Grevillea linearifolia</i>	linear-leaf grevillea		b
Proteaceae	<i>Grevillea robusta</i>	silky oak	*	a
Proteaceae	<i>Grevillea</i> sp. hort		ni	a
Proteaceae	<i>Hakea dactyloides</i>	finger hakea		a
Proteaceae	<i>Hakea salicifolia</i>	willow-leaved hakea		b
Proteaceae	<i>Hakea sericea</i>	needlebush		b
Proteaceae	<i>Hakea teretifolia</i>	needlebush		b
Araliaceae	<i>Hedera helix</i>	English ivy	*	a
Zingiberaceae	<i>Hedychium gardnerianum</i>	ginger lily	*	b
Malvaceae	<i>Hibiscus mutabilis</i>	hibiscus	*	a
Dennstaedtiaceae	<i>Histiopteris incisa</i>	bat's wing fern		a
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b
Fabaceae - Faboideae	<i>Hovea acutifolia</i>			b
Apiaceae	<i>Hydrocotyle laxiflora</i>	stinking pennywort		a
Dennstaedtiaceae	<i>Hypolepis muelleri</i>	harsh ground fern		a
Balsaminaceae	<i>Impatiens walleriana</i>		*	a
Poaceae	<i>Imperata cylindrica</i>	blady grass		b
Fabaceae - Faboideae	<i>Indigofera australis</i>	australian indigo		a
Convolvulaceae	<i>Ipomoea indica</i>	morning glory	*	b
Cyperaceae	<i>Isolepis nodosa</i>	knobby club-rush		a
Juncaceae	<i>Juncus usitatus</i>	common rush		b
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		b
Verbenaceae	<i>Lantana camara</i>	lantana	WoNS	b
Cyperaceae	<i>Lepidosperma laterale</i>			a
Myrtaceae	<i>Leptospermum laevigatum</i>	coast teatree		a

Family	Scientific name	Common name	Status	BR18 3
Arecaceae	<i>Livistona australis</i>	cabbage fan-palm		b
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Proteaceae	<i>Lomatia silaifolia</i>	crinkle bush		a
Myrtaceae	<i>Melaleuca armillaris</i>	bracelet honey-myrtle		a
Myrtaceae	<i>Melaleuca hypericifolia</i>	hillock bush		a
Myrtaceae	<i>Melaleuca linariifolia</i>	flax-leaved paperbark		b
Myrtaceae	<i>Melaleuca styphelioides</i>	prickly-leaved tea tree		b
Meliaceae	<i>Melia azedarach</i>	white cedar		b
Poaceae	<i>Microlaena stipoides</i> var. <i>stipoides</i>	weeping grass		b
Malvaceae	<i>Modiola caroliniana</i>	red-flowered mallow	*	a
Araceae	<i>Monstera deliciosa</i>	fruit salad plant	*	b
Myrsinaceae	<i>Myrsine variabilis</i>			a
Davalliaceae	<i>Nephrolepis cordifolia</i>	fishbone fern	ni	b
Apocynaceae	<i>Nerium oleander</i>	oleander	*	a
Poaceae	<i>Notodanthonia longifolia</i>	long-leaved wallaby grass		a
Ochnaceae	<i>Ochna serrulata</i>	ochna	*	a
Poaceae	<i>Oplismenus aemulus</i>	oplismenus		a
Oxalidaceae	<i>Oxalis corniculata</i>		*	a
Bignoniaceae	<i>Pandorea pandorana</i>	Wonga Wonga vine		b
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*	b
Poaceae	<i>Paspalum dilatatum</i>	paspalum	*	b
Polygonaceae	<i>Persicaria decipiens</i>	slender knotweed		a
Arecaceae	<i>Phoenix canariensis</i>	canary island date palm	*	a
Euphorbiaceae	<i>Phyllanthus gunnii</i>	scrubby spurge		b
Pittosporaceae	<i>Pittosporum revolutum</i>	wild yellow jasmine		a
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Lamiaceae	<i>Plectranthus parviflorus</i>	cockspur flower		b
Poaceae	<i>Poa affinis</i>	poa		b
Poaceae	<i>Poa labillardierei</i>	tussock grass		a
Podocarpaceae	<i>Podocarpus elatus</i>	plum pine		b
Podocarpaceae	<i>Podocarpus</i> subsp. <i>inulosus</i>	spiny-leaf podocarp		a
Araliaceae	<i>Polyscias sambucifolia</i>	elderberry panax		b
Rhamnaceae	<i>Pomaderris ferruginea</i>			a
Rhamnaceae	<i>Pomaderris lanigera</i>			a
Rhamnaceae	<i>Pomaderris</i> sp.			a
Lamiaceae	<i>Prostanthera ovalifolia</i>	mint bush		a
Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken		b
Pteridaceae	<i>Pteris tremula</i>	tender brake		b
Pteridaceae	<i>Pteris vittata</i>	chinese brake		b

Family	Scientific name	Common name	Status	BR183
Fabaceae - Faboideae	<i>Pultenaea</i> sp.			a
Fagaceae	<i>Quercus</i> sp.	oak	*	b
Ericaceae	<i>Rhododendron</i> sp.	azalea	*	a
Asteraceae	<i>Senecio hispidulus</i>	hill fireweed		a
Fabaceae - Caesalpinioideae	<i>Senna pendula</i> var. <i>glabrata</i>	cassia	*	a
Poaceae	<i>Setaria palmifolia</i>	palm grass	*	b
Asteraceae	<i>Sigesbeckia orientalis</i> subsp. <i>orientalis</i>			b
Smilacaceae	<i>Smilax glycyphylla</i>	sweet sarsaparilla		a
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	b
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	*	b
Poaceae	<i>Sporobolus africanus</i>	parramatta grass	*	a
Phormiaceae	<i>Stypantra glauca</i>	nodding blue lily		a
Myrtaceae	<i>Syncarpia glomulifera</i> subsp. <i>glomulifera</i>	turpentine		a
Meliaceae	<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	scentless rosewood		a
Myrtaceae	<i>Syzygium australe</i>	brush cherry		b
Myrtaceae	<i>Syzygium luehmannii</i>	small-leaved lilly pilly	ni	a
Asteraceae	<i>Taraxacum officinale</i>	dandelion	*	a
Commelinaceae	<i>Tradescantia fluminensis</i>	trad	*	a
Myrtaceae	<i>Tristaniopsis laurina</i>	water gum		b
Tropaeolaceae	<i>Tropaeolum majus</i>	nasturtium	*	a
Violaceae	<i>Viola hederacea</i>	native violet		b
Lamiaceae	<i>Westringia fruticosa</i>	coastal rosemary		b
Apiaceae	<i>Xanthosia tridentata</i>	rock xanthosia		b

Table 45 Fauna species list for Harnett Park

Class	Family	Scientific Name	Common Name	Status	BR183
Birds	Sturnidae	<i>Acridotheres tristis</i>	common myna	*	a
Birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		b
Birds	Anatidae	<i>Chenonetta jubata</i>	maned duck		b
Birds	Corvidae	<i>Corvus coronoides</i>	Australian raven		b
Birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		b
Birds	Alcedinidae	<i>Dacelo novaeguinea</i>	laughing kookaburra		b
Birds	Columbidae	<i>Geopelia humeralis</i>	bar-shouldered dove		a
Birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		b
Birds	Hirundinidae	<i>Hirundo neoxena</i>	welcome swallow		b
Birds	Laridae	<i>Larus novaehollandiae</i>	silver gull		b
Birds	Maluridae	<i>Malurus lamberti</i>	variegated fairy-wren		b

Class	Family	Scientific Name	Common Name	Status	BR183
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		b
Birds	Meliphagidae	<i>Meliphaga lewinii</i>	Lewin's honeyeater		a
Birds	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon		a
Birds	Pachycephalidae	<i>Pachycephala pectoralis</i>	golden whistler		a
Birds	Passeridae	<i>Passer domesticus</i>	house sparrow	*	a
Birds	Meliphagidae	<i>Phylidonyris nigra</i>	white-cheeked honeyeater		a
Birds	Meliphagidae	<i>Phylidonyris novaehollandiae</i>	new holland honeyeater		a
Birds	Psophodidae	<i>Psophodes olivaceus</i>	eastern whipbird		b
Birds	Dicruridae	<i>Rhipidura leucophrys</i>	willie wagtail		a
Birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		b
Birds	Artamidae	<i>Strepera graculina</i>	pied currawong		b
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		b
Mammals	Leporidae	<i>Oryctolagus cuniculus</i>	rabbit	*	a
Mammals	Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	common ringtail possum		b
Mammals	Pteropodidae	<i>Pteropus poliocephalus</i>	grey-headed flying-fox	V	b
Reptiles	Scincidae	<i>Ctenotus taeniolatus</i>	copper-tailed skink		a
Reptiles	Scincidae	<i>Eulamprus quoyii</i>	eastern water skink		c
Reptiles	Scincidae	<i>Lampropholis delicata</i>	dark-flecked garden sunskink		c
Reptiles	Scincidae	<i>Lampropholis guichenoti</i>	pale-flecked garden sunskink		b
Reptiles	Gekkonidae	<i>Phyllurus platurus</i>	southern leaf-tailed gecko		a
Reptiles	Agamidae	<i>Physignathus lesueurii</i>	eastern water dragon		b
Reptiles	Scincidae	<i>Saproscincus mustelinus</i>	weasel skink		c

2.6.12 Maps for Harnett Park



Vegetation communities

- Open Space
- Cosmopolitan
- Disturbed Sydney Sandstone Gully Forest
- Established Planted Area
- Regrowth Sydney Sandstone Gully Forest
- Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner bioregions – Endangered

Figure 16: Vegetation Communities, Threatened Ecological Communities and threatened flora locations - Harnett Park

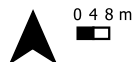
Site boundary

Mosman Council

Mosman Flora and Fauna Survey 2021



Job number: PR6939
Date: 21/02/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

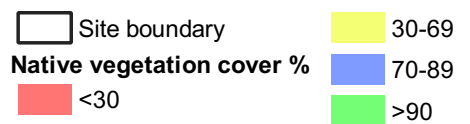
Data Sources: © State of New South Wales (Department of Planning, Industry and Environment), 2022; © Ecosure 2022
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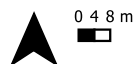
Figure 17: Native vegetation cover percent - Harnett Park

Mosman Council

Mosman Flora and Fauna Survey 2021



Job number: PR6939
Date: 30/01/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

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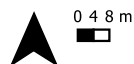
Figure 18: Weed density - Harnett Park

Mosman Council

Mosman Flora and Fauna Survey 2021



Job number: PR6939
Date: 30/01/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

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2.7 Joel's Reserve

2.7.1 General description

Joel's Reserve is located in the north-west of Mosman LGA. The bushland reserve occurs in a gully adjoining private properties, with sandstone outcrops and boulders scattered throughout the reserve. A drain runs through the centre of the reserve and a track in the north of the reserve is used by locals to access surrounding private properties.

2.7.2 Vegetation communities

Two vegetation communities are recognised within Joel's Reserve including Regrowth Sydney Sandstone Gully Forest and Established Planted Area (Figure 19). The site consists mostly of regrowth vegetation, with fire potentially used to trigger dense regeneration occurring in the northern portion. Table 46 provides an updated list of species frequently recorded in each community.

Table 46 Vegetation community description - Joel's Reserve

Regrowth Sydney Sandstone Gully Forest

Canopy	<i>Allocasuarina littoralis</i> (black she-oak), <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> (coast banksia)
Midstorey	<i>Melaleuca armilaris</i> (bracelet honey-myrtle), <i>Homalanthus populifolius</i> (bleeding heart), <i>Callistemon viminalis</i> (weeping bottlebrush)
Understorey	<i>Leptospermum polygalifolium</i> (yellow tea-tree), <i>Ficus coronata</i> (sandpaper fig), <i>Cyathea australis</i> (black treefern), <i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle), <i>Acacia linifolia</i> (white wattle), <i>Kunzea ambigua</i> (tick bush)
Groundcover	<i>Commelina cyanea</i> (scurvy weed), <i>Oplismenus aemulus</i> (oplismenus), <i>Imperata cylindrica</i> (blady grass) and <i>Lomandra longifolia</i> (spiny-headed mat-rush)

Established Planted Area

Canopy	<i>Angophora costata</i> (Sydney red gum), <i>Allocasuarina littoralis</i> (black she-oak), <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> (coast banksia)
Midstorey	<i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle), <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> (coast banksia), <i>Allocasuarina distyla</i> , <i>Hakea sericea</i> (needlebush) and <i>Callistemon linearis</i> (narrow-leaved bottlebrush)
Understorey	<i>Correa alba</i> var. <i>alba</i> (white correa), <i>Kunzea ambigua</i> (tick bush)
Groundcover	<i>Imperata cylindrica</i> (blady grass), <i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Dianella caerulea</i> (blue flax-lily), <i>Commelina cyanea</i> (scurvy weed) and <i>Cymbopogon refractus</i> (barbed wire grass)

2.7.3 Threatened flora

The current survey did not record any threatened flora but does not rule out the presence of threatened flora in this bushland reserve.

2.7.4 Threatened ecological communities

The Threatened Ecological Communities Greater Sydney (DPIE 2021) did not identify any TECs within Joel's Reserve. The current survey did not detect any vegetation that corresponds

to a TEC.

2.7.5 Native vegetation and weed cover

Native vegetation cover is in good condition, particularly within the southern half of Joel's Reserve. Obvious regeneration has occurred recently in the northern half. Weed density is still moderate in the eastern area of the reserve. Figures 20 and 21 show native vegetation cover and weed density at the site. The top five weed species and total weed cover for each class is provided in Table 47.

Table 47 Top five weed species and total weed cover at Joel's Reserve

Weed Class	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Cynodon dactylon</i>	couch	Lower	3
	<i>Ipomoea purpurea</i>	morning glory	Lower	1
	<i>Ageratina adenophora</i>	crofton weed	Lower	1
	<i>Araujia sericifera</i>	moth vine	Lower	
	<i>Ulmus parvifolia</i>	Chinese elm	Lower	1
	Other weed species		Lower	2
	Total			8
10-29	<i>Celtis sinensis</i>	Japanese hackberry	Middle	2
	<i>Cyperus involucratus</i>	umbrella sedge	Lower	2
	<i>Ageratina adenophora</i>	crofton weed	Lower	1
	<i>Liquidamber styraciflua</i>	sweet gum	Upper	2
	<i>Syagrus romanzoffiana</i>	cocos palm	Lower	1
	Other weed species		Lower	5
	Total			13

2.7.6 Fauna habitat

Fauna habitat attributes recorded for Joel's Reserve are listed in Table 48.

Table 48 Fauna habitat summary of Joel's Reserve

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Small reserve with very limited connectivity; long history of disturbance including water infrastructure and shipbuilding.
Connectivity	Poor local connectivity, bounded by the harbour and no other bushland reserve is in close proximity.
Large hollows (>20 cm)	Absent
Small hollows (<20 cm)	Absent
Hollow status	n/a
Large logs (>50 cm)	Absent
Small logs (10-50 cm)	Scattered
Cliffs/outcrops	Common
Large rocks (>30 cm)	Common

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Small rocks (10-30 cm)	Common
Leaf litter	Scattered
Dense shrubs/grass shelter	Scattered
Termite mounds	Absent
Water bodies	Shoreline and drainage line
Threatened fauna habitat	Threatened shorebirds may use foreshore for refuge and foraging.

2.7.7 Threats to flora and fauna

Current threats to the flora and fauna within Joel's Reserve include:

- erosion of soil impacting the vegetation surrounding the drain
- garden escapes from surrounding private properties
- regrowth of treated weeds.

2.7.8 Conservation significance

2.7.8.1 Vegetation

The vegetation conservation significance in this reserve is moderate. The native vegetation in this bushland reserve contains low to moderate abundance of weeds.

2.7.8.2 Fauna

Seven species (three birds, one mammal and three reptiles) were detected at this reserve during surveys in December 2021 and January 2022. None of these species are threatened.

2.7.8.3 Priority

This site has a medium priority for conservation. Continued and expanded bush regeneration works will maintain the low weed abundance in the Recently Planted Area vegetation community and reduce weed levels in the regrowth and cleared and disturbed areas, while improving the condition of the native vegetation within the bushland reserve.

2.7.9 Current management practices

Joel's Reserve is currently managed as a bush regeneration and restoration site under Mosman Council's Bushland Restoration Contracts 2012 - 2022. A summary of the works to date is shown in Table 49.

Table 49 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary

Weeding	• Primary weeding targeting noxious, woody and vine weeds
---------	---

Bush regeneration and restoration works summary

	· Secondary and maintenance weeding of noxious, woody and vine weed regrowth and annual and perennial herbs and grasses by hand weeding and spot spraying.
Planting	n/a
Ecological/Hazard reduction burns	Pile burns occurred in 2009.
Other	n/a

2.7.10 Recommendations

Current bushland management practices for Joel's Reserve should be continued. Prioritised recommendations are shown in Table 50.

Table 50 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the Regrowth Sydney Sandstone Gully Forest and Recently Planted Area vegetation communities.
2	Hand weeding and spot spraying for all noxious and environmental weeds in the cleared and disturbed vegetation communities to prevent weed regrowth.
3	Ecological or hazard reduction burns to be carried out for management of weeds and potential presence of <i>Acacia terminalis</i> subsp. <i>eastern Sydney</i> (sunshine wattle) in the seedbank.

2.7.11 Flora and fauna species list

Flora species recorded during current and previous surveys of Joel's Reserve are listed in Table 51 and fauna species in Table 52.

Table 51 Flora species list for Joel's Reserve

Family	Scientific name	Common name	Status	BR34
Fabaceae - Mimosoideae	<i>Acacia linifolia</i>	white wattle		b
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		b
Polygonaceae	<i>Acetosa sagittata</i>	turkey rhubarb	*	c
Myrtaceae	<i>Acmena smithii</i>	lilly pilly		b
Adiantaceae	<i>Adiantum formosum</i>	black stem		b
Asteraceae	<i>Ageratina adenophora</i>	crofton weed	*	b
Casuarinaceae	<i>Allocasuarina distyla</i>			b
Casuarinaceae	<i>Allocasuarina littoralis</i>	black she-oak		b
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		b
Basellaceae	<i>Anredera cordifolia</i>	madeira vine	WoNS	a
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	b
Proteaceae	<i>Banksia ericifolia</i> subsp. <i>ericifolia</i>	heath-leaved banksia		b
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*	b

Family	Scientific name	Common name	Status	BR34
Sterculiaceae	<i>Brachychiton acerifolius</i>	flame tree		b
Poaceae	<i>Bromus catharticus</i>	praire grass	*	b
Proteaceae	<i>Buckinghamia celsissima</i>		ni	b
Myrtaceae	<i>Callistemon linearis</i>	narrow-leaved bottlebrush		b
Myrtaceae	<i>Callistemon viminalis</i>	weeping bottlebrush		b
Sapindaceae	<i>Cardiospermum grandiflorum</i>	balloon vine	*	a
Aizoaceae	<i>Carpobrotus glaucescens</i>	pigface		a
Cunoniaceae	<i>Ceratopetalum gummiferum</i>	Christmas bush		c
Thelypteridaceae	<i>Christella dentata</i>	binung		b
Asteraceae	<i>Cirsium vulgare</i>	spear thistle	*	b
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp.	fleabane	*	b
Rutaceae	<i>Correa alba</i> var. <i>alba</i>	white correa		b
Cyatheaceae	<i>Cyathea australis</i>	black tree-fern		b
Poaceae	<i>Cymbopogon refractus</i>	barbed wire grass		b
Poaceae	<i>Cynodon dactylon</i>	couch		b
Cyperaceae	<i>Cyperus eragrostis</i>		*	b
Cyperaceae	<i>Cyperus involucratus</i>	umbrella sedge	*	b
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Poaceae	<i>Digitaria sanguinalis</i>	summer grass	*	b
Sapindaceae	<i>Dodonaea triquetra</i>	large-leaf hop-bush		b
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	b
Moraceae	<i>Ficus coronata</i>	sandpaper fig		b
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Cyperaceae	<i>Gahnia clarkei</i>	tall saw-sedge		b
Ginkgoaceae	<i>Ginkgo biloba</i>	ginkgo	*	a
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	cheese tree		b
Proteaceae	<i>Grevillea linearifolia</i>	linear-leaf grevillea		b
Proteaceae	<i>Hakea sericea</i>	needlebush		b
Fabaceae - Faboideae	<i>Hardenbergia violacea</i>	purple coral pea		b
Dilleniaceae	<i>Hibbertia scandens</i>	climbing guinea flower		b
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		c
Asteraceae	<i>Hypochaeris radicata</i>	catsear	*	b
Poaceae	<i>Imperata cylindrica</i>	blady grass		b
Convolvulaceae	<i>Ipomoea indica</i>	morning glory	*	b
Bignoniaceae	<i>Jacaranda mimosifolia</i>	jacaranda	*	c
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		b
Myrtaceae	<i>Leptospermum polygalifolium</i>	yellow tea-tree		b
Oleaceae	<i>Ligustrum lucidum</i>	large leaved privet	*	b
Oleaceae	<i>Ligustrum sinense</i>	small leaved privet	*	b
Altingiaceae	<i>Liquidamber styraciflua</i>	sweet gum	*	c




Family	Scientific name	Common name	Status	BR34
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Myrtaceae	<i>Melaleuca armillaris</i>	bracelet honey-myrtle		b
Ericaceae	<i>Monotoca elliptica</i>	tree broom-heath		b
Araceae	<i>Monstera deliciosa</i>	fruit salad plant	*	b
Rutaceae	<i>Murraya paniculata</i>	mock orange	*	b
Poaceae	<i>Oplismenus aemulus</i>	oplismenus		b
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*	b
Poaceae	<i>Paspalum dilatatum</i>	paspalum	*	b
Poaceae	<i>Pennisetum clandestinum</i>	kikuyu grass	*	b
Polygonaceae	<i>Persicaria decipiens</i>	slender knotweed		b
Arecaceae	<i>Phoenix canariensis</i>	Canary Island date palm	*	b
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Polypodiaceae	<i>Platynerium bifurcatum</i>	elkhorn		b
Portulacaceae	<i>Portulaca oleracea</i>	pigweed		b
Pteridaceae	<i>Pteris vittata</i>	chinese brake		b
Euphorbiaceae	<i>Ricinus communis</i>	castor oil plant	*	b
Poaceae	<i>Setaria parviflora</i>	slender pigeon grass	*	b
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	b
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	*	b
Poaceae	<i>Themeda triandra</i>	kangaroo grass		b
Ulmaceae	<i>Ulma parviflorus</i>	Chinese elm	*	c
Verbenaceae	<i>Verbena bonariensis</i>	purple top	*	b
Verbenaceae	<i>Verbena officinalis</i>	common verbena	*	b
Lamiaceae	<i>Westringia fruticosa</i>	coastal rosemary		b

Table 52 Fauna species list for Joel's Reserve

Class	Family	Scientific name	Common name	Status	BR34
Birds	Megapodiidae	<i>Alectura lathamii</i>	Australian brushturkey		a
Birds	Anhingidae	<i>Anhinga novaehollandiae</i>	Australasian darter		a
Birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		a
Birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		a
Birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		b
Birds	Laridae	<i>Larus novaehollandiae</i>	silver gull		a
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		b
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		b
Mammals	Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	common ringtail possum		c
Reptiles	Scincidae	<i>Eulamprus quoii</i>	eastern water skink		c
Reptiles	Scincidae	<i>Lampropholis guichenoti</i>	pale-flecked garden sunskink		b
Reptiles	Agamidae	<i>Intellagama lesueurii lesueurii</i>	eastern water dragon		b

2.7.12 Maps for Joel's Reserve



Vegetation communities  Open Space
 Established Planted Area  Regrowth Sydney Sandstone Gully Forest


 Site boundary

Figure 19: Vegetation Communities and threatened flora locations - Joel's Reserve

Mosman Council

Mosman Flora and Fauna Survey 2021

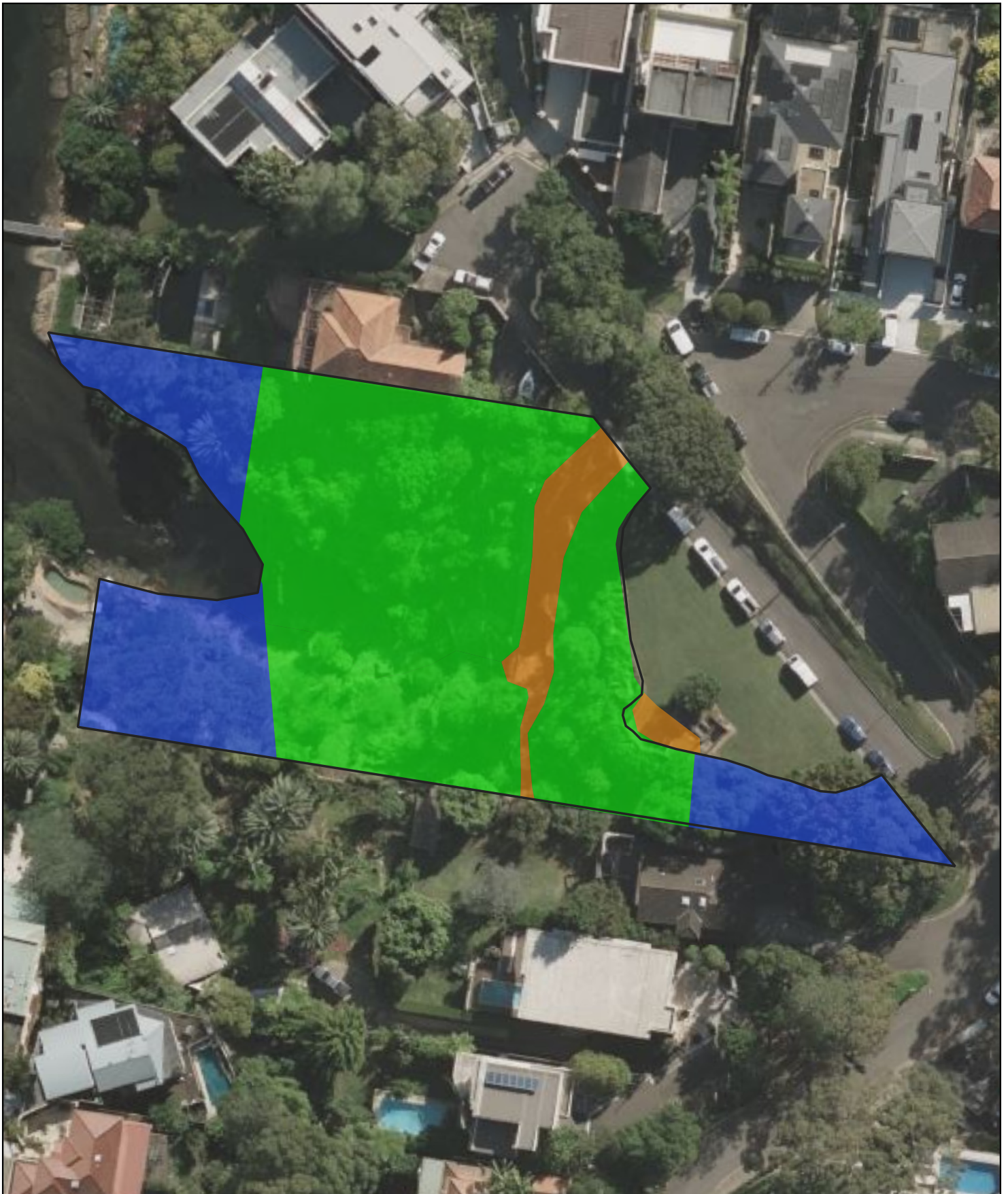


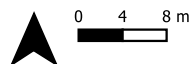
Figure 20: Native vegetation cover percent - Joel's Reserve

Mosman Council

Mosman Flora and Fauna Survey 2021



Job number: PR6939
Date: 30/01/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

Data Sources: © State of New South Wales (Department of Planning, Industry and Environment), 2022; © Ecosure 2022
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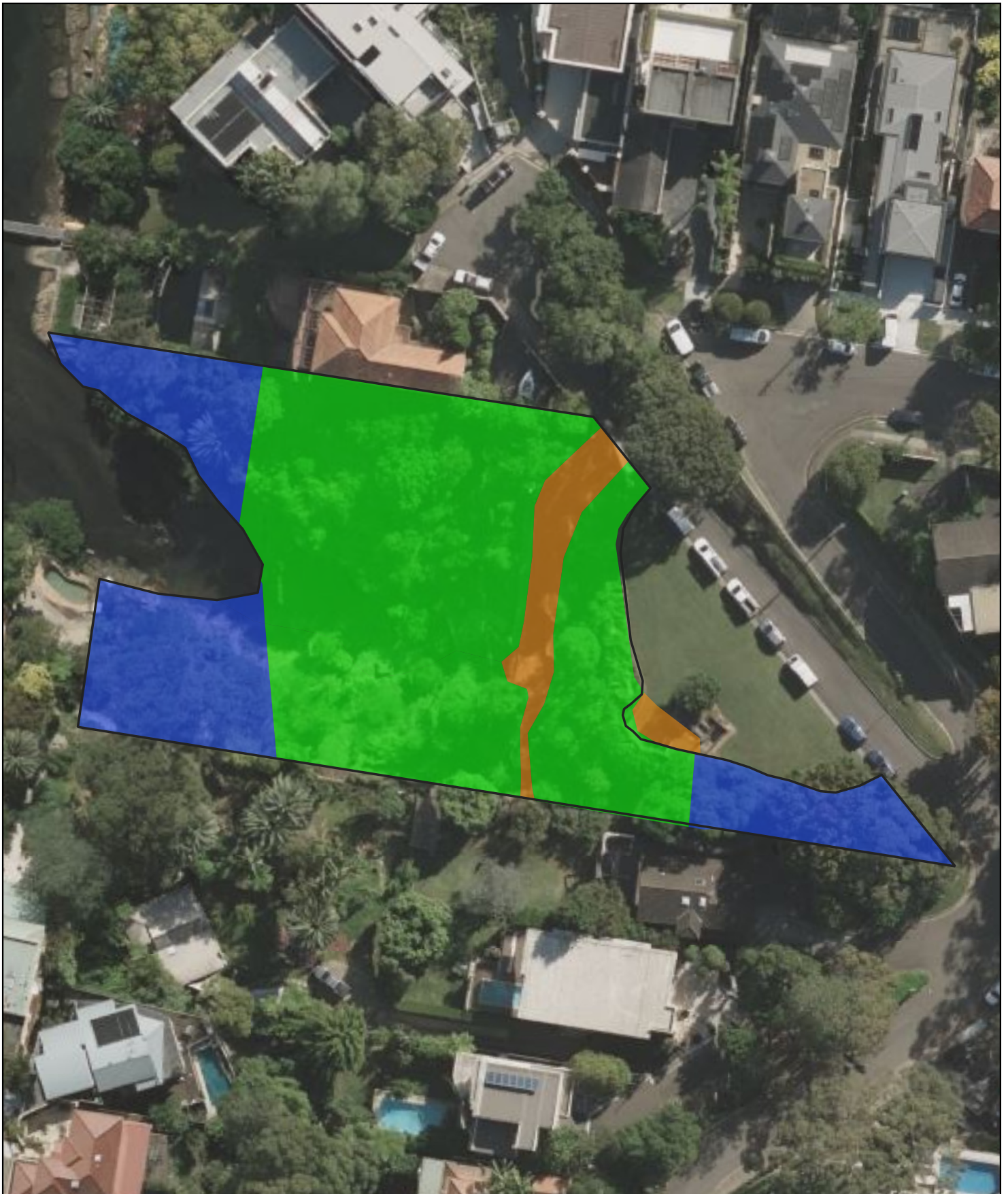
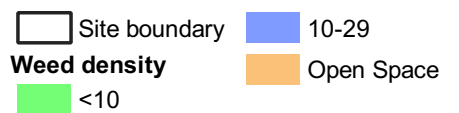


Figure 21: Weed density - Joel's Reserve

Mosman Council

Mosman Flora and Fauna Survey 2021



2.8 Lawry Plunkett Reserve

2.8.1 General description

Lawry Plunkett Reserve is comprised of two zones divided by Plunkett Road in the east of Mosman LGA. The majority of the reserve is located to the north-east of Plunkett Road with a linear section curving around towards Balmoral Beach, and a smaller patch located to the south-east adjacent to Balmoral Park. The reserve is situated on the upper east-facing slopes of a narrow spur that descends from Mosman. The old tram line sandstone cutting remains in the northern section of the reserve, and various sandstone outcrops and boulders are scattered throughout.

2.8.2 Vegetation communities

There are two vegetation communities recognised within Lawry Plunkett Reserve (Figure 22). Sydney Sandstone Gully Forest occurs in the south-east of the site, and Regrowth Sydney Sandstone Gully Forest occurs across the northern and western sections of the reserve. Both communities contain remnant and regrowth vegetation with a low density of weed species scattered throughout. Table 53 provides an updated list of species frequently recorded in each community.

Table 53 Vegetation community description - Lawry Plunkett Reserve

Sydney Sandstone Gully Forest

Canopy	<i>Angophora costata</i> (Sydney red gum), <i>Corymbia gummifera</i> (red bloodwood), <i>Eucalyptus botryoides</i> (bangalay), <i>Ficus rubiginosa</i> (Port Jackson Fig)
Midstorey	<i>Pittosporum undulatum</i> (sweet pittosporum), <i>Elaeocarpus reticularis</i> (blueberry ash), and <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree)
Understorey	<i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle), <i>Homalanthus populifolius</i> (bleeding heart) and <i>Kunzea ambigua</i> (tick bush)
Groundcover	<i>Calochlaena dubia</i> (soft bracken), <i>Lomandra longifolia</i> (spiny-headed mat rush), <i>Pteridium esculentum</i> (common bracken) and <i>Oplismenus aemulus</i> (oplismenus)

Regrowth Sydney Sandstone Gully Forest

Canopy	<i>Angophora costata</i> (Sydney red gum), <i>Eucalyptus botryoides</i> (bangalay), <i>Ficus rubiginosa</i> (Port Jackson Fig)
Midstorey	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Pittosporum undulatum</i> (sweet pittosporum), <i>Cyathea cooperi</i> (straw tree fern), and <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> (coast banksia)
Understorey	<i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle), <i>Breynia oblongifolia</i> (coffee bush), and <i>Dodonaea triquetra</i> (large-leaf hop-bush)
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Commelina cyanea</i> (scurvy weed) and <i>Oplismenus aemulus</i> (oplismenus)

Disturbed Sydney Sandstone Gully Forest

Canopy	<i>Eucalyptus tereticornis</i> (forest red gum), <i>Angophora costata</i> (Sydney red gum) and <i>Ficus rubiginosa</i> (Port Jackson fig)
Midstorey / understorey	<i>Pittosporum undulatum</i> (sweet pittosporum), <i>Elaeocarpus reticulatus</i> (blueberry ash), <i>Ligustrum lucidum</i> (large leaved privet), <i>Ochna serrulata</i> (Mickey Mouse plant), <i>Ipomoea cairica</i> (coastal morning glory) and <i>Lantana camara</i> (lantana)
Groundcover	<i>Asparagus aethiopicus</i> (asparagus fern), <i>Anredera cordifolia</i> (Madeira vine) and <i>Lomandra longifolia</i> (spiny-headed mat-rush)

2.8.3 Threatened flora

Previous surveys recorded one individual *Syzygium paniculatum* (magenta lilly pilly) in the reserve (Total Earth Care 2007, Ecosure 2016 and 2019). Ecosure also recorded this individual during the current field surveys (Figure 22). This species is listed as Endangered under the BC Act and Vulnerable under the EPBC Act.

2.8.4 Threatened ecological communities

No threatened ecological communities (TECs) are mapped within Lawry Plunkett Reserve bushland reserve (OEH 2016c). The current survey did not detect any vegetation that corresponds to a TEC.

2.8.5 Native vegetation and weed cover

Overall native vegetation is in good condition at Lawry Plunkett Reserve. Weed density was generally low, however there are occurrences of weeds along water courses, and also adjacent to property and road boundaries. Climbing weeds such as *Ipomoea purpurea* (morning glory), *Anredera cordifolia* (Madeira vine), and *Acetosa sagittata* (turkey rhubarb) were recorded in the lower and midstorey layers, and woody weeds such as *Ligustrum lucidum* (large-leaf privet) continue to be present. However, *L. sinensis* (small-leaf privet), and *Lantana camara* (lantana) were not observed during the current surveys. These species require specific management and monitoring to ensure the wider reserve is not impacted. An increase in annual weeds near roadsides was also observed. Figures 23 and 24 show native vegetation cover and weed density at the site. The top five weed species and total weed cover for each class is provided in Table 54.

Table 54 Top five weed species and total weed cover at Lawry Plunkett Reserve

Weed Class	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Anredera cordifolia</i>	Madeira vine	Middle	1
	<i>Ligustrum lucidum</i>	large leaf privet	Middle	1
	<i>Nephrolepis cordifolia</i>	fishbone fern	Lower	1
	<i>Bidens pilosa</i>	cobblers pegs	Lower	1
	<i>Acetosa sagittata</i>	turkey rhubarb	Lower	1
	Other weed species		Lower	3
	Total			8
10-29	<i>Nephrolepis cordifolia</i>	fishbone fern	Lower	3
	<i>Anredera cordifolia</i>	Madeira vine	Middle	2
	<i>Senna pendula</i> var. <i>glabrata</i>	cassia	Middle	1
	<i>Setaria palmifolia</i>	palm grass	Lower	1
	<i>Ageratina adenophora</i>	crofton weed	Lower	1
	Other weed species		Lower	4
	Total			12

2.8.6 Fauna habitat

Fauna habitat attributes recorded for Lawry Plunkett Reserve are listed in Table 55.

Table 55 Fauna habitat summary of Lawry Plunkett Reserve

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Relatively large reserve with excellent connectivity to SHNP and other Council reserves; some old-growth, hollow-bearing trees; good understorey vegetation; good sandstone outcrops.
Connectivity	Moderate local connectivity, one large bushland reserve (Balmoral Park) is in close proximity.
Large hollows (>20 cm)	Absent
Small hollows (<20 cm)	Scattered
Hollow status	Mixture
Large logs (>50 cm)	Absent
Small logs (10-50 cm)	Common
Cliffs/outcrops	Common
Large rocks (>30 cm)	Scattered
Small rocks (10-30 cm)	Scattered
Leaf litter	Abundant
Dense shrubs/grass shelter	Abundant
Termite mounds	Absent
Water bodies	Drainage lines
Threatened fauna habitat	Hollow and foraging habitat for threatened parrots and microbats. Foraging habitat for grey-headed flying-fox (<i>Pteropus poliocephalus</i>). Foraging habitat for threatened owls. Suitable habitat occurs for red-crowned toadlet (<i>Pseudophryne australis</i>), however this species has not been previously recorded in this reserve.

2.8.7 Threats to flora and fauna

Current threats to the flora and fauna within Lawry Plunkett Reserve bushland reserve include:

- dispersal of weeds from higher weed density vegetation including surrounding cleared and disturbed areas as well as regrowth Sydney Sandstone Gully Forest
- tree dieback and disease (*Phytophthora cinnamomi*). This has been documented in the reserve
- garden escapes from surrounding private properties
- introduced predators of native ground-dwelling fauna including cat (*Felis catus*), dog (*Canis lupus familiaris*) and European fox (*Vulpes vulpes*).

2.8.8 Conservation significance

2.8.8.1 Vegetation

The vegetation conservation significance in this reserve is high. Weed abundance in this bushland reserve is low and has decreased since previous surveys by Ecosure 2019 and planting of native species has consolidated the revegetation process. The restoration and revegetation works have reduced weed presence and aided in the regeneration of native species.

2.8.8.2 Fauna

Twenty-two species (14 bird, four mammals and four reptiles) were detected at this reserve during surveys in December 2021 and January 2022. One of these species, the grey-headed flying-fox (*Pteropus poliocephalus*), is threatened under both the EPBC Act and BC Act.

2.8.8.3 Priority

This site has a high priority for conservation. Although weed levels have been reduced, ongoing bushland restoration works are still required to maintain low weed abundance in Sydney Sandstone Gully Forest and reduce weed abundance in cleared and disturbed areas, private property boundaries and regenerating communities of Sydney Sandstone Gully Forest.

2.8.9 Current management practices

Lawry Plunkett Reserve bushland reserve is currently managed as a bush regeneration and restoration site under Mosman Council’s Bushland Restoration Contracts 2012 - 2022. A summary of the works to date is shown in Table 56.

Table 56 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary

Weeding	<ul style="list-style-type: none"> Primary weeding targeting noxious, woody and vine weeds Secondary and maintenance weeding of noxious, woody and vine weed regrowth and annual and perennial herbs and grasses by hand weeding and spot spraying.
Planting	Recent and established plantings along bushland edges, walking tracks, private property boundaries as well as Regrowth Sydney Sandstone Gully Forest.
Ecological/Hazard reduction burns	Pile burns in 2003 and 2005 Broad acre burns in 2004 and 2007
Other	Weed tree removal

2.8.10 Recommendations

Current bushland management practices for Lawry Plunkett Reserve bushland reserve should be continued. Prioritised recommendations are shown in Table 57.

Table 57 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve.

Recommended bush regeneration and restoration works

Priority	Description
2	Additional targeting of weeds in the cleared and disturbed area in the southern part of the reserve.
3	Continue planting of native tree, shrub and groundcover species in the regenerating Sydney Sandstone Gully Forest to supplement regeneration.
4	Ecological/hazard reduction/pile burns to be considered to stimulate regeneration of native plants such including potential threatened species such as <i>Acacia terminalis</i> subsp. <i>eastern Sydney</i> that may be present in the seed bank.
5	Implement hygiene protocol for the management of <i>P. cinnamomi</i> within the affected areas (Suddaby & Liew 2008).

2.8.11 Flora and fauna species list

Flora species recorded during current and previous surveys of Lawry Plunkett bushland reserve are listed in Table 58 and fauna species are listed in Table 59.

Table 58 Flora species list for Lawry Plunkett Reserve bushland reserve

Family	Scientific name	Common name	Status	BR35
Fabaceae - Mimosoideae	<i>Acacia binervia</i>	coast myall		b
Fabaceae - Mimosoideae	<i>Acacia buxifolia</i> subsp. <i>buxifolia</i>	box-leaf wattle		b
Fabaceae - Mimosoideae	<i>Acacia elata</i>	mountain cedar wattle	ni	b
Fabaceae - Mimosoideae	<i>Acacia implexa</i>	hickory wattle		b
Fabaceae - Mimosoideae	<i>Acacia linifolia</i>	white wattle		b
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		b
Fabaceae - Mimosoideae	<i>Acacia maidenii</i>	maiden's wattle		a
Fabaceae - Mimosoideae	<i>Acacia parramattensis</i>	Sydney green wattle		b
Fabaceae - Mimosoideae	<i>Acacia suaveolens</i>	sweet wattle		a
Fabaceae - Mimosoideae	<i>Acacia terminalis</i> subsp. <i>longiaxialis</i>	sunshine wattle		a
Fabaceae - Mimosoideae	<i>Acacia ulicifolia</i>	prickly moses		a
Polygonaceae	<i>Acetosa sagittata</i>	turkey rhubarb	*	b
Myrtaceae	<i>Acmena smithii</i>	lilly pilly		a
Adiantaceae	<i>Adiantum aethiopicum</i>	common maidenhair		a
Asteraceae	<i>Ageratina adenophora</i>	crofton weed	*	b
Sapindaceae	<i>Alectryon tomentosus</i>	hairy bird's eye		a
Casuarinaceae	<i>Allocasuarina littoralis</i>	black she-oak		b
Betulaceae	<i>Alnus jorullensis</i>	evergreen alder	*	a
Amaranthaceae	<i>Alternanthera denticulata</i>	lesser joyweed		a
Primulaceae	<i>Anagallis arvensis</i>	scarlet pimpernel	*	a
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		b
Basellaceae	<i>Anredera cordifolia</i>	Madeira vine	WoNS	a
Arecaceae	<i>Archontophoenix cunninghamiana</i>	bangalow palm		b
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	b
Aspleniaceae	<i>Asplenium australasicum</i>	birds nest fern		b

Family	Scientific name	Common name	Status	BR35
Araliaceae	<i>Astrotricha floccosa</i>			a
Poaceae	<i>Austrodanthonia</i> sp.	wallaby grass		a
Proteaceae	<i>Banksia ericifolia</i> subsp. <i>ericifolia</i>	heath-leaved banksia		b
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Proteaceae	<i>Banksia serrata</i>	old-man banksia		b
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*	b
Pittosporaceae	<i>Billardiera scandens</i>	hairy apple berry		a
Blechnaceae	<i>Blechnum cartilagineum</i>	gristle fern		a
Sterculiaceae	<i>Brachychiton acerifolius</i>	flame tree		a
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush		b
Cunoniaceae	<i>Callicoma serratifolia</i>	black wattle		b
Myrtaceae	<i>Callistemon salignus</i>	willow bottlebrush		b
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken		b
Lauraceae	<i>Cassytha pubescens</i>			b
Ulmaceae	<i>Celtis sinensis</i>	Chinese celtis	*	b
Gentianaceae	<i>Centaurium erythraea</i>	common centaury	*	a
Apiaceae	<i>Centella asiatica</i>	Indian pennywort		a
Cunoniaceae	<i>Ceratopetalum gummiferum</i>	Christmas bush		a
Orchidaceae	<i>Chiloglottis truncata</i>			a
Thelypteridaceae	<i>Christella dentata</i>	binung		a
Lauraceae	<i>Cinnamomum camphora</i>	camphor laurel	*	a
Vitaceae	<i>Cissus antarctica</i>	kangaroo vine		b
Vitaceae	<i>Cissus hypoglauca</i>	water vine		b
Verbenaceae	<i>Clerodendrum tomentosum</i>	hairy clerodendrum		a
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp.	fleabane	*	b
Asteliaceae	<i>Cordyline</i> sp.			a
Asteraceae	<i>Coreopsis lanceolata</i>	coreopsis	*	a
Myrtaceae	<i>Corymbia gummifera</i>	red bloodwood		b
Asteraceae	<i>Crassocephalum crepidioides</i>	thickhead	*	a
Iridaceae	<i>Crocasmia x crocosmiiflora</i>	montbretia	*	a
Orchidaceae	<i>Cryptostylis erecta</i>	bonnet orchid		a
Sapindaceae	<i>Cupaniopsis anacardioides</i>	tuckeroo		b
Cyatheaceae	<i>Cyathea cooperi</i>	straw treefern		b
Apiaceae	<i>Cyclosporum leptophyllum</i>	slender celery	*	a
Poaceae	<i>Cymbopogon refractus</i>	barbed wire grass		b
Cyperaceae	<i>Cyperus brevifolius</i>		*	a
Cyperaceae	<i>Cyperus eragrostis</i>		*	b
Cyperaceae	<i>Cyperus gracilis</i>	slender flat-sedge		a
Cyperaceae	<i>Cyperus involucratus</i>	umbrella sedge	*	b

Family	Scientific name	Common name	Status	BR35
Cyperaceae	<i>Cyperus papyrus</i>	papyrus	*	a
Cyperaceae	<i>Cyperus polystachyos</i>			b
Davalliaceae	<i>Davallia solida</i> var. <i>pyxidata</i>	hare's foot fern		a
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Poaceae	<i>Dichelachne crinita</i>	longhair plumegrass		a
Convolvulaceae	<i>Dichondra repens</i>	kidney weed		b
Poaceae	<i>Digitaria didactyla</i>	Queensland blue couch		b
Poaceae	<i>Digitaria sanguinalis</i>	summer grass	*	a
Sapindaceae	<i>Dodonaea triquetra</i>	large-leaf hop-bush		b
Blechnaceae	<i>Doodia aspera</i>	prickly rasp fern		a
Poaceae	<i>Echinochloa crusgalli</i>	barnyard grass	*	a
Poaceae	<i>Echinopogon caespitosus</i> var. <i>caespitosus</i>	tufted hedgehog-grass		b
Poaceae	<i>Echinopogon ovatus</i>	forest hedgehog grass		a
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	a
Chenopodiaceae	<i>Einadia trigonos</i> subsp. <i>trigonos</i>	fishweed		a
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	blueberry ash		b
Poaceae	<i>Entolasia marginata</i>	bordered panic		b
Poaceae	<i>Entolasia stricta</i>	wiry panic		a
Asteraceae	<i>Erigeron karvinskianus</i>	bony-tip fleabane	*	a
Myrtaceae	<i>Eucalyptus botryoides</i>	bangalay		b
Myrtaceae	<i>Eucalyptus piperita</i>	Sydney peppermint		b
Myrtaceae	<i>Eucalyptus punctata</i>	grey gum		b
Myrtaceae	<i>Eucalyptus robusta</i>	swamp mahogany		a
Myrtaceae	<i>Eucalyptus umbra</i>	broad-leaved white mahogany		a
Euphorbiaceae	<i>Euphorbia peplus</i>	petty spurge	*	a
Luzuriagaceae	<i>Eustrephus latifolius</i>	wombat berry		b
Moraceae	<i>Ficus pumila</i>	creeping fig	*	a
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Fumariaceae	<i>Fumaria officinalis</i>		*	a
Cyperaceae	<i>Gahnia clarkei</i>	tall saw-sedge		a
Luzuriagaceae	<i>Geitonoplesium cymosum</i>	scrambling lily		b
Geraniaceae	<i>Geranium homeanum</i>	native geranium		b
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	cheese tree		b
Fabaceae - Faboideae	<i>Glycine clandestina</i>			a
Haloragaceae	<i>Gonocarpus teucroides</i>	raspwort		a
Proteaceae	<i>Grevillea linearifolia</i>	linear-leaf grevillea		b
Proteaceae	<i>Hakea gibbosa</i>	needlebush		a
Proteaceae	<i>Hakea sericea</i>	needlebush		b
Fabaceae - Faboideae	<i>Hardenbergia violacea</i>	purple coral pea		a

Family	Scientific name	Common name	Status	BR35
Zingiberaceae	<i>Hedychium gardnerianum</i>	ginger lily	*	b
Dilleniaceae	<i>Hibbertia dentata</i>	trailing guinea flower		a
Dilleniaceae	<i>Hibbertia empetrifolia</i> subsp. <i>empetrifolia</i>			a
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b
Apiaceae	<i>Hydrocotyle laxiflora</i>	stinking pennywort		a
Apiaceae	<i>Hydrocotyle peduncularis</i>			a
Pittosporaceae	<i>Hymenosporum flavum</i>	native frangipani		a
Poaceae	<i>Imperata cylindrica</i>	blady grass		b
Convolvulaceae	<i>Ipomoea cairica</i>	coastal morning glory	*	a
Convolvulaceae	<i>Ipomoea indica</i>	morning glory	*	b
Cyperaceae	<i>Isolepis nodosa</i>	knobby club-rush		a
Juncaceae	<i>Juncus usitatus</i>	common rush		b
Fabaceae - Faboideae	<i>Kennedia rubicunda</i>	dusky coral pea		a
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		b
Poaceae	<i>Lachnagrostis filiformis</i>			a
Verbenaceae	<i>Lantana camara</i>	lantana	WoNS	a
Sterculiaceae	<i>Lasiopetalum ferrugineum</i> var. <i>ferrugineum</i>			a
Cyperaceae	<i>Lepidosperma laterale</i>			b
Ericaceae	<i>Leucopogon parviflorus</i>	coastal beard-heath		a
Oleaceae	<i>Ligustrum lucidum</i>	large leaved privet	*	b
Oleaceae	<i>Ligustrum sinense</i>	small leaved privet	*	a
Areaceae	<i>Livistona australis</i>	cabbage fan-palm		b
Lomandraceae	<i>Lomandra filiformis</i> subsp. <i>filiformis</i>	wattle mat-rush		a
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Proteaceae	<i>Macadamia integrifolia</i>	Queensland nut		a
Myrtaceae	<i>Melaleuca armillaris</i>	bracelet honey-myrtle		a
Myrtaceae	<i>Melaleuca quinquenervia</i>	broad-leaved paperbark		a
Myrtaceae	<i>Melaleuca styphelioides</i>	prickly-leaved tea tree		b
Meliaceae	<i>Melia azedarach</i>	white cedar		b
Poaceae	<i>Microlaena stipoides</i> var. <i>stipoides</i>	weeping grass		b
Araceae	<i>Monstera deliciosa</i>	fruit salad plant	*	a
Musaceae	<i>Musa</i> sp.	banana	*	b
Myrsinaceae	<i>Myrsine variabilis</i>			a
Davalliaceae	<i>Nephrolepis cordifolia</i>	fishbone fern	ni	b
Oleaceae	<i>Notelaea longifolia</i>	large mock-olive		a
Poaceae	<i>Notodanthonia longifolia</i>	long-leaved wallaby grass		a
Ochnaceae	<i>Ochna serrulata</i>	ochna	*	b
Poaceae	<i>Oplismenus aemulus</i>	oplismenus		a

Family	Scientific name	Common name	Status	BR35
Poaceae	<i>Oplismenus imbecillis</i>			a
Oxalidaceae	<i>Oxalis corniculata</i>		*	b
Bignoniaceae	<i>Pandorea pandorana</i>	Wonga Wonga vine		b
Poaceae	<i>Paspalidium distans</i>			b
Poaceae	<i>Paspalum dilatatum</i>	paspalum	*	a
Passifloraceae	<i>Passiflora subpeltata</i>	white passionflower	*	a
Malvaceae	<i>Pavonia hastata</i>		*	a
Adiantaceae	<i>Pellaea falcata</i>	sickle fern		a
Polygonaceae	<i>Persicaria capitata</i>		*	a
Polygonaceae	<i>Persicaria decipiens</i>	slender knotweed		a
Proteaceae	<i>Persoonia levis</i>	broad-leaved geebung		a
Proteaceae	<i>Persoonia linearis</i>	narrow-leaved geebung		a
Arecaceae	<i>Phoenix canariensis</i>	Canary Island date palm	*	a
Euphorbiaceae	<i>Phyllanthus tenellus</i>	hen and chicken	*	b
Pittosporaceae	<i>Pittosporum revolutum</i>	wild yellow jasmine		b
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Fabaceae - Faboideae	<i>Platylobium formosum</i> subsp. <i>formosum</i>			a
Poaceae	<i>Poa affinis</i>	poa		a
Araliaceae	<i>Polyscias sambucifolia</i>	elderberry panax		b
Rhamnaceae	<i>Pomaderris ferruginea</i>			a
Rubiaceae	<i>Pomax umbellata</i>	pomax		a
Lobeliaceae	<i>Pratia purpurascens</i>	whiteroot		a
Acanthaceae	<i>Pseuderanthemum variabile</i>	pastel flower		a
Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken		b
Pteridaceae	<i>Pteris tremula</i>	tender brake		a
Fabaceae - Faboideae	<i>Pultenaea daphnoides</i>			a
Polypodiaceae	<i>Pyrrosia rupestris</i>	rock felt fern		a
Davalliaceae	<i>Rumohra adiantiformis</i>			a
Selaginellaceae	<i>Selaginella uliginosa</i>	swamp selaginella		a
Fabaceae - Caesalpinioideae	<i>Senna pendula</i> var. <i>glabrata</i>	cassia	*	b
Poaceae	<i>Setaria parviflora</i>	slender pigeon grass	*	b
Poaceae	<i>Setaria palmifolia</i>	palm grass	*	b
Malvaceae	<i>Sida rhombifolia</i>	paddy's lucerne	*	b
Asteraceae	<i>Sigesbeckia orientalis</i> subsp. <i>Orientalis</i>			a
Smilacaceae	<i>Smilax glycyphylla</i>	sweet sarsaparilla		b
Solanaceae	<i>Solanum aviculare</i>	kangaroo apple		a
Solanaceae	<i>Solanum mauritianum</i>	wild tobacco bush	*	a

Family	Scientific name	Common name	Status	BR35
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	b
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	*	b
Menispermaceae	<i>Stephania japonica</i> var. <i>discolor</i>	snake vine		b
Strelitziaceae	<i>Strelitzia nicolai</i>	giant bird of paradise	*	a
Myrtaceae	<i>Syncarpia glomulifera</i> subsp. <i>glomulifera</i>	turpentine		a
Meliaceae	<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	scentless rosewood		b
Myrtaceae	<i>Syzygium luehmannii</i>	small-leaved lilly pilly	ni	a
Myrtaceae	<i>Syzygium oleosum</i>	blue lilly pilly		a
Myrtaceae	<i>Syzygium paniculatum</i>	magenta lilly pilly	E	b
Poaceae	<i>Themeda triandra</i>	kangaroo grass		b
Anacardiaceae	<i>Toxicodendron succedaneum</i>	rhus tree	*	a
Commelinaceae	<i>Tradescantia fluminensis</i>	trad	*	a
Ulmaceae	<i>Trema tomentosa</i>	native peach		a
Verbenaceae	<i>Verbena bonariensis</i>	purple top	*	b
Violaceae	<i>Viola hederacea</i>	native violet		b
Campanulaceae	<i>Wahlenbergia gracilis</i>	sprawling bluebell		a
Lamiaceae	<i>Westringia fruticosa</i>	coastal rosemary		b
Xanthorrhoeaceae	<i>Xanthorrhoea arborea</i>			a

Table 59 Fauna species list for Lawry Plunkett Reserve bushland reserve



Class	Family	Scientific Name	Common Name	Status	BR35
Amphibians	Myobatrachidae	<i>Crinia signifera</i>	common eastern froglet		b
Amphibians	Myobatrachidae	<i>Limnodynastes peronii</i>	brown-striped frog		b
Birds	Sturnidae	<i>Acridotheres tristis</i>	common myna	*	a
Birds	Megapodiidae	<i>Alectura lathami</i>	Australian brushturkey		c
Birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		b
Birds	Cacatuidae	<i>Cacatua sanguinea</i>	little corella		a
Birds	Columbidae	<i>Columba livia</i>	rock dove	*	a
Birds	Campephagidae	<i>Coracina novaehollandiae</i>	black-faced cuckoo-shrike		a
Birds	Corvidae	<i>Corvus coronoides</i>	Australian raven		b
Birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		b
Birds	Alcedinidae	<i>Dacelo novaeguinea</i>	laughing kookaburra		b
Birds	Ardeidae	<i>Egretta novaehollandiae</i>	white-faced heron		a
Birds	Cuculidae	<i>Eudynamys scolopacea</i>	common koel		a
Birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		b
Birds	Hirundinidae	<i>Hirundo neoxena</i>	welcome swallow		b
Birds	Laridae	<i>Larus crassirostris</i>	black-tailed gull		a
Birds	Maluridae	<i>Malurus cyaneus</i>	superb fairy-wren		c
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		b


Class	Family	Scientific Name	Common Name	Status	BR35
Birds	Estrildidae	<i>Neochmia temporalis</i>	red-browed finch		a
Birds	Strigidae	<i>Ninox strenua</i>	powerful owl	V	a
Birds	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon		a
Birds	Passeridae	<i>Passer domesticus</i>	house sparrow	*	a
Birds	Meliphagidae	<i>Phylidonyris nigra</i>	white-cheeked honeyeater		a
Birds	Meliphagidae	<i>Phylidonyris novaehollandiae</i>	new holland honeyeater		a
Birds	Psittacidae	<i>Platycercus adscitus eximius</i>	eastern rosella		a
Birds	Podargidae	<i>Podargus strigoides</i>	tawny frogmouth		a
Birds	Psophodidae	<i>Psophodes olivaceus</i>	eastern whipbird		c
Birds	Pycnonotidae	<i>Pycnonotus jocosus</i>	red-whiskered bulbul	*	a
Birds	Cuculidae	<i>Scythrops novaehollandiae</i>	channel-billed cuckoo		a
Birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		b
Birds	Artamidae	<i>Strepera graculina</i>	pied currawong		b
Birds	Columbidae	<i>Streptopelia chinensis</i>	spotted turtle-dove	*	a
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		b
Birds	Charadriidae	<i>Vanellus miles</i>	masked lapwing		a
Birds	Zosteropidae	<i>Zosterops lateralis</i>	silveryeye		a
Mammals	Vespertilionidae	<i>Chalinobus gouldii</i>	Gould's wattled bat		c
Mammals	Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	common ringtail possum		a
Mammals	Pteropodidae	<i>Pteropus poliocephalus</i>	grey-headed flying-fox	V	c
Mammals	Muridae	<i>Rattus fuscipes</i> subsp. <i>assimilis</i>	bush rat		a
Mammals	Muridae	<i>Rattus rattus</i>	black rat	*	b
Mammals	Phalangeridae	<i>Trichosurus vulpecula</i>	common brushtail possum		a
Mammals	Canidae	<i>Vulpes vulpes</i>	European fox	*	c
Reptiles	Scincidae	<i>Cryptoblepharus virgatus</i>	wall lizard		a
Reptiles	Scincidae	<i>Ctenotus taeniolatus</i>	copper-tailed skink		b
Reptiles	Scincidae	<i>Eulamprus quoyii</i>	eastern water-skink		b
Reptiles	Scincidae	<i>Lampropholis delicata</i>	dark-flecked garden sunskink		b
Reptiles	Scincidae	<i>Lampropholis guichenoti</i>	pale-flecked garden sunskink		b
Reptiles	Agamidae	<i>Physignathus lesueurii</i>	eastern water dragon		a
Reptiles	Pygopodidae	<i>Pygopus lepidopodus</i>	common scaly-foot		a
Reptiles	Scincidae	<i>Soproskincus mustelinus</i>	weasel skink		a
Reptiles	Scincidae	<i>Tiliqua scincoides</i>	common bluetongue		a

2.8.12 Maps for Lawry Plunkett Reserve



Vegetation communities

-  Disturbed Sydney Sandstone Gully Forest
-  Open Space

 Regrowth Sydney Sandstone Gully Forest



 Sydney Sandstone Gully Forest

Figure 22: Vegetation Communities and threatened flora locations - Lawry Plunkett Reserve

Mosman Council

Mosman Flora and Fauna Survey 2021

 Site boundary


 *Syzygium paniculatum*



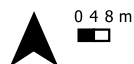
Figure 23: Native vegetation cover percent - Lawry Plunkett Reserve

Mosman Council

Mosman Flora and Fauna Survey 2021



Job number: PR6939
Date: 30/01/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

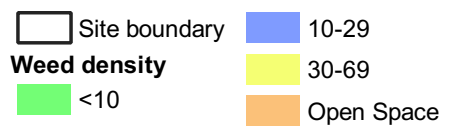
Data Sources: © State of New South Wales (Department of Planning, Industry and Environment), 2022; © Ecosure 2022
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Figure 24: Weed density - Lawry Plunkett Reserve

Mosman Council

Mosman Flora and Fauna Survey 2021



2.9 Little Ashton Park

2.9.1 General description

Little Ashton Park reserve is located on west facing slopes and on fill batters of Taronga Zoo infrastructure in the south of Mosman LGA. Revegetation has been undertaken at various locations across the site, particularly in the east near the carpark entrance and in the western portion below buildings and infrastructure along Whiting Beach Road.

2.9.2 Vegetation communities

There are three vegetation communities at Little Ashton Park including a small area of Regrowth Sydney Sandstone Gully Forest, Disturbed Sydney Sandstone Gully Forest and Established Planted Areas (Figure 25). Table 60 provides an updated list of species frequently recorded in each community.

Table 60 Vegetation community description - Little Ashton Park

Regrowth Sydney Sandstone Gully Forest	
Canopy	<i>Eucalyptus robusta</i> (swamp mahogany), <i>Eucalyptus punctata</i> (grey gum) and <i>Cupaniopsis anacardioides</i> (tuckeroo)
Midstorey and understorey	<i>Pittosporum undulatum</i> (sweet pittosporum), <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree) and <i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle)
Groundcover	<i>Commelina cyanea</i> (scurvy weed), <i>Lomandra longifolia</i> (spiny-headed mat-rush) and <i>Dianella caerulea</i> (blue flax-lily)
Disturbed Sydney Sandstone Gully Forest	
Canopy	<i>Eucalyptus tereticornis</i> (forest red gum), <i>Angophora costata</i> (Sydney red gum) and <i>Ficus rubiginosa</i> (Port Jackson fig)
Midstorey / understorey	<i>Pittosporum undulatum</i> (sweet pittosporum), <i>Elaeocarpus reticulatus</i> (blueberry ash), <i>Ligustrum lucidum</i> (large leaved privet), <i>Ochna serrulata</i> (Mickey Mouse plant), <i>Ipomoea cairica</i> (coastal morning glory) and <i>Lantana camara</i> (lantana)
Groundcover	<i>Asparagus aethiopicus</i> (asparagus fern), <i>Anredera cordifolia</i> (Madeira vine) and <i>Lomandra longifolia</i> (spiny-headed mat-rush)
Established Planted Areas	
Midstorey / understorey	<i>Banksia ericifolia</i> (heath-leaved banksia), <i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle), <i>Pittosporum undulatum</i> (sweet pittosporum), <i>Kunzea ambigua</i> (tick bush)
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Hardenbergia violaceae</i> (happy wanderer), <i>Dianella caerulea</i> (blue flax-lily)

2.9.3 Threatened flora

No threatened flora has been recorded in this bushland reserve.

2.9.4 Threatened ecological communities

The Threatened Ecological Communities Greater Sydney (DPIE 2021) did not identify any TECs within Little Ashton Park. The current survey did not detect any vegetation that corresponds to a TEC.

2.9.5 Native vegetation cover and weed density

Weed density varies from medium to high across the majority of the site. Recent revegetation in the eastern portion is frequently interspersed with weed species, and the central portion has a high density of woody weeds. However, planted natives are establishing. A planted area in the western portion also has a high occurrence of weeds. Native vegetation with canopy species remains in the central area, together with a small area adjacent to the western revegetation. Figures 26 and 27 show native vegetation cover and weed density at the site. The top five weed species and total weed cover for each class is provided in Table 61.

Table 61 Top five weed species and total weed cover at Little Ashton Park

Weed Class	Scientific name	Common name	Dominant stratum	% Cover
10-29	<i>Anredera cordifolia</i>	Madeira vine	Lower	5
	<i>Ipomoea cairica</i>	coastal morning glory	Middle	5
	<i>Ricinus communis</i>	castor oil point	Middle	5
	<i>Ageratina adenophora</i>	crofton weed	Lower	1
	<i>Tecoma stans</i>	yellow bignonia	Lower	1
	Other weed species		Lower	2
			Total	19
30-69	<i>Anredera cordifolia</i>	Madeira vine	Lower	10
	<i>Asparagus aethiopicus</i>	ground asparagus	Lower	5
	<i>Cestrum parqui</i>	green cestrum	Lower	5
	<i>Ochna serrulata</i>	Mickey Mouse plant	Lower	5
	<i>Datura stramonium</i>	common thornapple	Lower	2
	Other weed species		Lower	10
			Total	37
>70	<i>Ipomoea carica</i>	coastal morning glory	Middle	20
	<i>Lantana camara</i>	lantana	Lower	15
	<i>Anredera cordifolia</i>	Madeira vine	Lower	10
	<i>Olea europaea</i> subsp.. <i>cuspidata</i>	African olive	Middle	10
	<i>Ochna serrulata</i>	Mickey Mouse plant	Lower	10
	Other weed species		Lower	15
			Total	80

2.9.6 Fauna habitat

Fauna habitat attributes recorded for Little Ashton Park are listed in Table 62.

Table 62 Fauna habitat summary of Little Ashton Park

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Small reserve with limited connectivity to Sirius Cove Park and Taronga Zoo; some remnant vegetation including large old-growth trees; very weedy understorey
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Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Connectivity	Poor local connectivity
Large hollows (>20 cm)	Absent
Small hollows (<20 cm)	Scattered
Hollow status	Mostly in alive trees
Large logs (>50 cm)	Common
Small logs (10-50 cm)	Scattered
Cliffs/outcrops	Absent
Large rocks (>30 cm)	Common
Small rocks (10-30 cm)	Scattered
Leaf litter	Abundant
Dense shrubs/grass shelter	Common
Termite mounds	Absent
Water bodies	Absent
Threatened species habitat	Absent

2.9.7 Threats to flora and fauna

Current threats to the flora and fauna within Little Ashton Park bushland reserve include:

- dispersal of weeds from higher weed density vegetation including surrounding Cleared and Disturbed areas
- garden escapes from surrounding private properties.

2.9.8 Conservation significance

2.9.8.1 Vegetation

The vegetation conservation significance in this reserve is low. There are only two native patches of vegetation consisting of regenerating and disturbed communities of Sydney Sandstone Gully Forest. Most of this bushland reserve contains between low to moderate abundance of weeds. The reserve is partially maintained for visual aesthetic purposes.

2.9.8.2 Fauna

Twelve species (eight bird, two mammal, two reptiles) were detected at this reserve during surveys in December 2021 and January 2022. One species, the grey-headed flying-fox (*Pteropus poliocephalus*) is threatened under both the EPBC Act and BC Act.

2.9.8.3 Priority

This site has a medium priority for conservation. Weed levels remain high in some areas and ongoing bushland restoration works are still required to maintain low weed abundance in the

native vegetation patches and reduce weed abundance in Cleared and Disturbed vegetation, particularly in the south-eastern section of the reserve.

2.9.9 Current management practices

Little Ashton Park bushland reserve is not currently managed as a bush regeneration and restoration site under Mosman Council’s Bushland Restoration Contracts 2012 - 2022. However significant restoration and revegetation works have been undertaken in the reserve by bushcare volunteer groups. A summary of the works to date is shown in Table 63.

Table 63 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary	
Weeding	<ul style="list-style-type: none"> · Primary weeding targeting noxious, woody and vine weeds · Secondary and maintenance weeding of noxious, woody and vine weed regrowth and annual and perennial herbs and grasses by hand weeding and spot spraying.
Planting	Recent plantings in the disturbed and regenerating communities of Sydney Sandstone Gully Forest, open space and Established Planted Area communities.
Ecological/Hazard reduction burns	None on record
Other	n/a

2.9.10 Recommendations

Current bushland management practices for Little Ashton Park bushland reserve should be continued. Prioritised recommendations are shown in Table 64.

Table 64 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works	
Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve.
2	Targeted clearing of woody weeds in the south-eastern part of the reserve.
3	Continue planting of native tree, shrub and groundcover species in the regenerating and disturbed Sydney Sandstone Gully Forest to supplement regeneration.

2.9.11 Flora and fauna species list

Flora species recorded during current and previous surveys of Little Ashton Park bushland reserve are listed in Table 65 and fauna species in Table 66.

Table 65 Flora species list for Little Ashton Park bushland reserve

Family	Scientific name	Common name	Status	BR37
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		a
Fabaceae - Mimosoideae	<i>Acacia parramattensis</i>	Sydney green wattle		b

Family	Scientific name	Common name	Status	BR3 7
Fabaceae - Mimosoideae	<i>Acacia saligna</i>	golden wreath wattle	ni	a
Fabaceae - Mimosoideae	<i>Acacia ulicifolia</i>	prickly moses		a
Asteraceae	<i>Ageratina adenophora</i>	crofton weed	*	b
Casuarinaceae	<i>Allocasuarina distyla</i>			a
Casuarinaceae	<i>Allocasuarina littoralis</i>	black she-oak		b
Asteraceae	<i>Ambrosia artemisiifolia</i>	annual ragweed	*	b
Asteraceae	<i>Ambrosia</i> sp.		*	a
Primulaceae	<i>Anagallis arvensis</i>	scarlet pimpernel	*	b
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		b
Myrtaceae	<i>Angophora hispida</i>	dwarf apple		a
Basellaceae	<i>Anredera cordifolia</i>	madeira vine	WoNS	b
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	b
Proteaceae	<i>Banksia ericifolia</i> subsp. <i>ericifolia</i>	heath-leaved banksia		a
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Sterculiaceae	<i>Brachychiton acerifolius</i>	flame tree		b
Brassicaceae	<i>Brassica fruticulosa</i>	twiggy turnip	*	a
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush		b
Myrtaceae	<i>Callistemon rigidus</i>	stiff bottlebrush		b
Myrtaceae	<i>Callistemon salignus</i>	willow bottlebrush		b
Cupressaceae	<i>Callitris rhomboidea</i>	Port Jackson pine		b
Sapindaceae	<i>Cardiospermum grandiflorum</i>	balloon vine	*	b
Vitaceae	<i>Cayratia clematidea</i>	native grape		a
Solanaceae	<i>Cestrum parqui</i>	green poisonberry	N3	b
Anthericaceae	<i>Chlorophytum comosum</i>	spider plant	*	b
Asteraceae	<i>Cirsium vulgare</i>	spear thistle	*	b
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp.	fleabane	*	b
Myrtaceae	<i>Corymbia gummifera</i>	red bloodwood		a
Sapindaceae	<i>Cupaniopsis anacardioides</i>	tuckeroo		b
Poaceae	<i>Cymbopogon refractus</i>	barbed wire grass		b
Cyperaceae	<i>Cyperus polystachyos</i>			b
Solanaceae	<i>Datura stramonium</i>	common thornapple	*	b
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Sapindaceae	<i>Dodonaea triquetra</i>	large-leaf hop-bush		b
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	a
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	blueberry ash		b
Fabaceae - Faboideae	<i>Erythrina crista-galli</i>	cockspur coral tree	*	b
Myrtaceae	<i>Eucalyptus punctata</i>	grey gum		b
Myrtaceae	<i>Eucalyptus robusta</i>	swamp mahogany		b

Family	Scientific name	Common name	Status	BR3 7
Myrtaceae	<i>Eucalyptus</i> sp.			a
Myrtaceae	<i>Eucalyptus tereticornis</i>	forest red gum		b
Moraceae	<i>Ficus coronata</i>	sandpaper fig		b
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		a
Moraceae	<i>Ficus</i> sp.	fig	*	a
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	cheese tree		b
Haloragaceae	<i>Gonocarpus teucroides</i>	raspwort		a
Proteaceae	<i>Hakea dactyloides</i>	finger hakea		a
Proteaceae	<i>Hakea gibbosa</i>	needlebush		a
Proteaceae	<i>Hakea salicifolia</i>	willow-leaved hakea		a
Proteaceae	<i>Hakea sericea</i>	needlebush		b
Proteaceae	<i>Hakea teretifolia</i>	needlebush		b
Fabaceae - Faboideae	<i>Hardenbergia violacea</i>	purple coral pea		a
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b
Apiaceae	<i>Hydrocotyle peduncularis</i>			a
Poaceae	<i>Imperata cylindrica</i>	blady grass		b
Convolvulaceae	<i>Ipomoea cairica</i>	coastal morning glory	*	b
Cyperaceae	<i>Isolepis nodosa</i>	knobby club-rush		b
Juncaceae	<i>Juncus</i> sp.			a
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		b
Poaceae	<i>Lachnagrostis filiformis</i>			a
Proteaceae	<i>Lambertia formosa</i>	mountain devil		a
Verbenaceae	<i>Lantana camara</i>	lantana	WoNS	b
Myrtaceae	<i>Leptospermum polygalifolium</i>	yellow tea-tree		b
Oleaceae	<i>Ligustrum lucidum</i>	large leaved privet	*	b
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Fabaceae - Faboideae	<i>Lotus corniculatus</i>	birds-foot trefoil	*	a
Myrtaceae	<i>Melaleuca linariifolia</i>	flax-leaved paperbark		a
Davalliaceae	<i>Nephrolepis cordifolia</i>	fishbone fern	ni	b
Ochnaceae	<i>Ochna serrulata</i>	ochna	*	b
Oleaceae	<i>Olea europaea</i> subsp. <i>cuspidata</i>	olive	*	b
Rubiaceae	<i>Opercularia aspera</i>	coarse stinkweed		a
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*	b
Polygonaceae	<i>Persicaria decipiens</i>	slender knotweed		b
Arecaceae	<i>Phoenix canariensis</i>	Canary Island date palm	*	a
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Rhamnaceae	<i>Pomaderris elliptica</i> subsp. <i>elliptica</i>			b
Rhamnaceae	<i>Pomaderris ferruginea</i>			a
Euphorbiaceae	<i>Ricinus communis</i>	castor oil plant	*	b

Family	Scientific name	Common name	Status	BR37
Fabaceae - Caesalpinioideae	<i>Senna pendula</i> var. <i>glabrata</i>	cassia	*	a
Asteraceae	<i>Sigesbeckia orientalis</i> subsp. <i>orientalis</i>			b
Solanaceae	<i>Solanum aviculare</i>	kangaroo apple		b
Solanaceae	<i>Solanum laxum</i>	jasmine nightshade	*	a
Solanaceae	<i>Solanum mauritianum</i>	wild tobacco bush	*	a
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	b
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	*	b
Myrtaceae	<i>Syzygium paniculatum</i>	magenta lilly pilly	E	a
Asteraceae	<i>Taraxacum officinale</i>	dandelion	*	c
Bignoniaceae	<i>Tecoma stans</i>	yellow bignonia	*	b
Verbenaceae	<i>Verbena bonariensis</i>	purple top	*	a
Lamiaceae	<i>Westringia fruticosa</i>	coastal rosemary		a

Table 66 Fauna species list for Little Ashton Park bushland reserve

Class	Family	Scientific Name	Common Name	Status	BR37
Birds	Sturnidae	<i>Acridotheres tristis</i>	common myna	*	a
Birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		c
Birds	Alcedinidae	<i>Dacelo novaeguinea</i>	laughing kookaburra		c
Birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		b
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		c
Birds	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon		c
Birds	Cuculidae	<i>Scythrops novaehollandiae</i>	channel-billed cuckoo		c
Birds	Artamidae	<i>Strepera graculina</i>	pied currawong		b
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		c
Mammals	Peramelidae	<i>Perameles nasuta</i>	long-nosed bandicoot		a
Mammals	Pteropodidae	<i>Pteropus poliocephalus</i>	grey-headed flying-fox	V	c
Mammals	Muridae	<i>Rattus rattus</i>	black rat	*	c
Mammals	Phalangeridae	<i>Trichosurus vulpecula</i>	common brushtail possum		a
Reptiles	Scincidae	<i>Ctenotus taeniolatus</i>	copper-tailed skink		a
Reptiles	Agamidae	<i>Intellagama lesueurii lesueurii</i>	eastern water dragon		c
Reptiles	Scincidae	<i>Lampropholis guichenoti</i>	pale-flecked garden sunskink		b

2.9.12 Maps for Little Ashton Park



- | | |
|---|--|
| Vegetation communities | Established Planted Area |
| Cleared and Disturbed | Open Space |
| Disturbed Sydney Sandstone Gully Forest | Regrowth Sydney Sandstone Gully Forest |

Figure 25: Vegetation Communities and threatened flora locations - Little Ashton Park

Site boundary

Mosman Council

Mosman Flora and Fauna Survey 2021



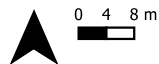
Figure 26: Native vegetation cover percent - Little Ashton Park

Mosman Council

Mosman Flora and Fauna Survey 2021



Job number: PR6939
Date: 30/01/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

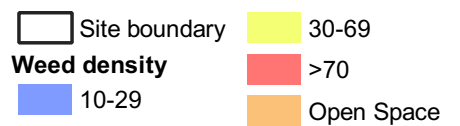
Data Sources: © State of New South Wales (Department of Planning, Industry and Environment), 2022; © Ecosure 2022
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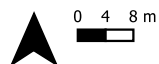
Figure 27: Weed density - Little Ashton Park

Mosman Council

Mosman Flora and Fauna Survey 2021



Job number: PR6939
Date: 30/01/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

Data Sources: © State of New South Wales (Department of Planning, Industry and Environment), 2022; © Ecosure 2022
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2.10 Morella Road Reserve

2.10.1 General description

Morella Road Reserve is located in the south-east of Mosman LGA. The reserve is a long, linear and sloping site that extends along a gully below the western end of Morella Road to the northern end of Clifton Gardens public carpark. The site is adjacent to a larger patch of native vegetation within SHNP located to the north.

2.10.2 Vegetation communities

There are two vegetation communities recognised at Morella Road Reserve (Figure 28). Sydney Sandstone Gully Forest occurs in the central part of the reserve and is flanked by two areas of Regrowth Sydney Sandstone Gully Forest at the eastern and western ends. Table 67 provides an updated list of species frequently recorded in each community.

Table 67 Vegetation community description - Morella Road Reserve

Sydney Sandstone Gully Forest	
Canopy	<i>Eucalyptus saligna</i> (Sydney blue gum), <i>Angophora costata</i> (Sydney red gum), <i>Eucalyptus botryoides</i> (bangalay)
Midstorey	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Pittosporum undulatum</i> (sweet pittosporum) and <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> (coast banksia)
Understorey	<i>Homalanthus populifolius</i> (bleeding heart), <i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle), <i>Polyscias sambucifolia</i> (elderberry panax) and <i>Smilax glycyphylla</i> (sweet sarsaparilla)
Groundcover	<i>Calochlaena dubia</i> (soft bracken), <i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Pteridium esculentum</i> (common bracken), <i>Microlaena stipoides</i> var. <i>stipoides</i> (weeping grass) and <i>Hibbertia dentata</i> (trailing guinea flower)
Regrowth Sydney Sandstone Gully Forest	
Canopy	<i>Eucalyptus saligna</i> (Sydney blue gum), <i>Angophora costata</i> (Sydney red gum), <i>Eucalyptus microcorys</i> (tallowwood), <i>Ficus rubiginosa</i> (Port Jackson Fig), and <i>Cissus antarctica</i> (kangaroo vine)
Midstorey	<i>Archontophoenix cunninghamiana</i> (bangalow), <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Synoum glandulosum</i> subsp. <i>glandulosum</i> (scentless rosewood), <i>Pandorea pandorana</i> (wonga wonga vine), and <i>Cissus hypoglauca</i> (water vine)
Understorey	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Pteridium esculentum</i> (common bracken), and <i>Breynia oblongifolia</i> (coffee bush)
Groundcover	<i>Oplismenus aemulus</i> (oplismenus), <i>Commelina cyanea</i> (scurvy weed), <i>Dianella caerulea</i> (blue flax-lily) and <i>Microlaena stipoides</i> var. <i>stipoides</i> (weeping grass)

2.10.3 Threatened flora

No threatened flora has been recorded in this bushland reserve.

2.10.4 Threatened ecological communities

The Threatened Ecological Communities Greater Sydney (DPIE 2021) identified one TEC, Littoral Rainforest in the New South Wales North Coast, Sydney Basin and Southeast Corner

Bioregions (Endangered under the BC Act and Critically Endangered under the EPBC Act) within Morella Road Reserve. The current survey confirmed vegetation that corresponds to this TEC occurs in the east of the reserve (Figure 28).

2.10.5 Native vegetation and weed cover

Native vegetation cover is high and weed density is very low across the majority of Morella Road. The site retains good vegetation structure and diversity in the western and central portions, with some large examples of canopy species. The site connects along its northern boundary to SHNP increasing the extent of the patch and limiting edge effects.

A large infestation of *Hedychium gardnerianum* (ginger lily) is present outside the north-eastern boundary of the site, and is the source of scattered occurrences along the creek line within the site. The eastern portion has a higher occurrence of climbing native species such as *Cissus antarctica* (water vine) and *Pandorea pandorana* (wonga wonga vine), which are dominating the canopy in some instances. Figures 29 and 30 show native vegetation cover and weed density at the site. The top five weed species and total weed cover for each class is provided in Table 68.

Table 68 Top five weed species and total weed cover at Morella Road

Weed Class	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Hedychium gardnerianum</i>	ginger lily	Lower	3
	<i>Ipomoea purpurea</i>	morning glory	Lower	1
	<i>Arujia sericifera</i>	moth vine	Lower	1
	<i>Anredera cordifolia</i>	Madeira vine	Lower	
	<i>Ligustrum lucidum</i>	large leaf privet	Lower	
	Other weed species		Lower	2
				Total
30-69	<i>Ipomoea purpurea</i>	morning glory	Middle	5
	<i>Anredera cordifolia</i>	Madeira vine	Lower	5
	<i>Setaria palmifolia</i>	palm grass	Lower	1
	<i>Hedychium gardnerianum</i>	ginger lily	Lower	15
	<i>Asparagus aethiopicus</i>	ground asparagus	Lower	1
	Other weed species		Lower	4
				Total

2.10.6 Fauna habitat

Fauna habitat attributes recorded for Morella Road are listed in Table 69.

Table 69 Fauna habitat summary of Morella Road

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Relatively large reserve with excellent connectivity to SHNP and other Council reserves; large old-growth, hollow-bearing trees; dense understorey vegetation.
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Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Connectivity	Good local connectivity, bounded by the Clifton Gardens Reserve and SHNP.
Large hollows (>20 cm)	Absent
Small hollows (<20 cm)	Common
Hollow status	Mixture
Large logs (>50 cm)	Scattered
Small logs (10-50 cm)	Common
Cliffs/outcrops	Scattered
Large rocks (>30 cm)	Scattered
Small rocks (10-30 cm)	Common
Leaf litter	Abundant
Dense shrubs/grass shelter	Abundant
Termite mounds	Absent
Water bodies	Creek
Threatened fauna habitat	Hollow and foraging habitat for threatened parrots and microbats. Foraging habitat for grey-headed flying-fox (<i>Pteropus poliocephalus</i>) and threatened owls.

2.10.7 Threats to flora and fauna

Current threats to the flora and fauna within Morella Road bushland reserve include:

- dispersal of weeds from higher weed density vegetation including surrounding disturbed Sydney Sandstone Gully Forest
- garden escapes from surrounding private properties
- introduced predators of native ground-dwelling fauna including cat (*Felis catus*), dog (*Canis lupus familiaris*) and European fox (*Vulpes vulpes*).

2.10.8 Conservation significance

2.10.8.1 Vegetation

The vegetation conservation significance in this reserve is high. The native vegetation in this bushland reserve contains low to moderate abundance of weeds, however weed abundance has increased in the north-eastern section of the reserve since previous surveys by Ecosure 2019. The restoration and revegetation works have reduced weed presence and aided in the regeneration of native species in the remainder of the reserve.

2.10.8.2 Fauna

Twenty-six fauna species (one amphibian, 18 birds, three mammals, four reptiles) were detected at this reserve during surveys in December 2021 and January 2022. One of these species is threatened, the grey-headed flying-fox (*Pteropus poliocephalus*), under both the EPBC Act and BC Act.

2.10.8.3 Priority

This site has a high priority for conservation. Although weed levels have been reduced in general, ongoing bushland restoration works are still required to maintain low weed abundance in Sydney Sandstone Gully Forest and reduce weed abundance in disturbed and regenerating communities of Sydney Sandstone Gully Forest, particularly in the eastern section of the reserve.

2.10.9 Current management practices

Morella Road bushland reserve is currently managed as a bush regeneration and restoration site under Mosman Council's Bushland Restoration Contracts 2012 - 2022. A summary of the works to date is shown in Table 70.

Table 70 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary	
Weeding	<ul style="list-style-type: none"> · Primary weeding targeting noxious, woody and vine weeds · Secondary and maintenance weeding of noxious, woody and vine weed regrowth and annual and perennial herbs and grasses by hand weeding and spot spraying.
Planting	Established scattered plantings in the disturbed and regenerating communities of Sydney Sandstone Gully Forest.
Ecological/Hazard reduction burns	Pile burns occurred in 2004.
Other	n/a

2.10.10 Recommendations

Current bushland management practices for Morella Road bushland reserve should be continued. Prioritised recommendations are shown in Table 71.

Table 71 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works	
Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve
2	Targeted clearing of woody weeds in the north-eastern part of the reserve. However, this area is very steep and would require special weed management measures.
3	Continue planting of native tree, shrub and groundcover species in the regenerating and disturbed Sydney Sandstone Gully Forest to supplement regeneration.
4	Ecological/hazard reduction/pile burns to be considered to stimulate regeneration of native plants including potential threatened species such as <i>Acacia terminalis</i> subsp. <i>eastern Sydney</i> that may be present in the seed bank.

2.10.11 Flora and fauna species list

Flora species recorded during current and previous surveys of Morella Road bushland reserve are listed in Table 72 and fauna species in Table 73.

Table 72 Flora species list for Morella Road bushland reserve

Family	Scientific name	Common name	Status	BR39
Malvaceae	<i>Abutilon grandifolium</i>		*	b
Fabaceae - Mimosoideae	<i>Acacia floribunda</i>	white sally wattle		a
Fabaceae - Mimosoideae	<i>Acacia implexa</i>	hickory wattle		a
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		b
Fabaceae - Mimosoideae	<i>Acacia maidenii</i>	maiden's wattle		a
Fabaceae - Mimosoideae	<i>Acacia parvipinnula</i>	silver-stemmed wattle		a
Fabaceae - Mimosoideae	<i>Acacia suaveolens</i>	sweet wattle		a
Fabaceae - Mimosoideae	<i>Acacia terminalis</i> subsp. <i>longiaxialis</i>	sunshine wattle		a
Myrtaceae	<i>Acmena smithii</i>	lilly pilly		b
Adiantaceae	<i>Adiantum aethiopicum</i>	common maidenhair		a
Asteraceae	<i>Ageratina adenophora</i>	crofton weed	*	a
Asteraceae	<i>Ageratina riparia</i>	mistflower	*	a
Casuarinaceae	<i>Allocasuarina littoralis</i>	black she-oak		b
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		b
	<i>Anredera cordifolia</i>	Madeira vine		b
Apocynaceae	<i>Araujia sericifera</i>	moth vine	*	b
Arecaceae	<i>Archontophoenix cunninghamiana</i>	bangalow palm		b
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	b
Aspleniaceae	<i>Asplenium australasicum</i>	birds nest fern		b
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*	b
Pittosporaceae	<i>Billardiera scandens</i>	hairy apple berry		a
Blechnaceae	<i>Blechnum cartilagineum</i>	gristle fern		b
Sterculiaceae	<i>Brachychiton acerifolius</i>	flame tree		a
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush		b
Cunoniaceae	<i>Callicoma serratifolia</i>	black wattle		a
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken		b
Lauraceae	<i>Cassytha pubescens</i>			a
Casuarinaceae	<i>Casuarina glauca</i>	swamp oak		a
Vitaceae	<i>Cayratia clematidea</i>	native grape		a
Cunoniaceae	<i>Ceratopetalum apetalum</i>	coachwood		a
Cunoniaceae	<i>Ceratopetalum gummiferum</i>	Christmas bush		a
Thelypteridaceae	<i>Christella dentata</i>	binung		a
Vitaceae	<i>Cissus antarctica</i>	kangaroo vine		a
Vitaceae	<i>Cissus hypoglauca</i>	water vine		b
Verbenaceae	<i>Clerodendrum tomentosum</i>	hairy clerodendrum		a
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp.	fleabane	*	b

Family	Scientific name	Common name	Status	BR3 9
Myrtaceae	<i>Corymbia gummifera</i>	red bloodwood		a
Myrtaceae	<i>Corymbia maculata</i>	spotted gum		b
Asteraceae	<i>Crassocephalum crepidioides</i>	thickhead	*	b
Cyatheaceae	<i>Cyathea australis</i>	black tree-fern		b
Cyatheaceae	<i>Cyathea cooperi</i>	straw treefern		b
Cyperaceae	<i>Cyperus involucratus</i>	umbrella sedge	*	b
Cyperaceae	<i>Cyperus polystachyos</i>			a
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Poaceae	<i>Dichelachne crinita</i>	longhair plumegrass		a
Sapindaceae	<i>Dodonaea triquetra</i>	large-leaf hop-bush		a
Monimiaceae	<i>Doryphora sassafras</i>	sassafras		a
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	b
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	blueberry ash		b
Poaceae	<i>Entolasia marginata</i>	bordered panic		a
Poaceae	<i>Entolasia stricta</i>	wiry panic		a
Asteraceae	<i>Erigeron karvinskianus</i>	bony-tip fleabane	*	a
Myrtaceae	<i>Eucalyptus botryoides</i>	bangalay		a
Myrtaceae	<i>Eucalyptus microcorys</i>	tallowwood	ni	b
Myrtaceae	<i>Eucalyptus piperita</i>	Sydney peppermint		a
Myrtaceae	<i>Eucalyptus saligna</i>	Sydney blue gum		b
Euphorbiaceae	<i>Euphorbia pepus</i>	petty spurge	*	a
Luzuriagaceae	<i>Eustrephus latifolius</i>	wombat berry		b
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Asteraceae	<i>Galinsoga parviflora</i>	potato weed	*	a
Asteraceae	<i>Gamochaeta americana</i>	cudweed	*	a
Luzuriagaceae	<i>Geitonoplesium cymosum</i>	scrambling lily		a
Geraniaceae	<i>Geranium homeanum</i>	native geranium		b
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>Ferdinandi</i>	cheese tree		b
Fabaceae – Faboideae	<i>Glycine clandestina</i>			a
Proteaceae	<i>Grevillea robusta</i>	silky oak	*	a
Proteaceae	<i>Hakea sericea</i>	needlebush		a
Proteaceae	<i>Hakea teretifolia</i>	needlebush		a
Zingiberaceae	<i>Hedychium gardnerianum</i>	ginger lily	*	b
Dilleniaceae	<i>Hibbertia dentata</i>	trailing guinea flower		a
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		a
Apiaceae	<i>Hydrocotyle peduncularis</i>			a
Dennstaedtiaceae	<i>Hypolepis glandulifera</i>	downy ground fern		a
Poaceae	<i>Imperata cylindrica</i>	blady grass		b
Convolvulaceae	<i>Ipomoea purpurea</i>	morning glory	*	b

Family	Scientific name	Common name	Status	BR3 9
Fabaceae – Faboideae	<i>Kennedia rubicunda</i>	dusky coral pea		a
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		b
Verbenaceae	<i>Lantana camara</i>	lantana	WoNS	b
Cyperaceae	<i>Lepidosperma laterale</i>			a
Myrtaceae	<i>Leptospermum polygalifolium</i>	yellow tea-tree		b
Oleaceae	<i>Ligustrum lucidum</i>	large leaved privet	*	b
Oleaceae	<i>Ligustrum sinense</i>	small leaved privet	*	b
Arecaceae	<i>Livistona australis</i>	cabbage fan-palm		b
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Caprifoliaceae	<i>Lonicera japonica</i>	Japanese honeysuckle	*	b
Apocynaceae	<i>Marsdenia rostrata</i>	milk vine		a
Poaceae	<i>Microlaena stipoides</i> var. <i>Stipoides</i>	weeping grass		b
Malvaceae	<i>Modiola caroliniana</i>	red-flowered mallow	*	a
Ericaceae	<i>Monotoca elliptica</i>	tree broom-heath		a
Rubiaceae	<i>Morinda jasminoides</i>	sweet morinda		a
Myrsinaceae	<i>Myrsine variabilis</i>			a
Davalliaceae	<i>Nephrolepis cordifolia</i>	fishbone fern	ni	a
Oleaceae	<i>Notelaea longifolia</i>	large mock-olive		a
Ochnaceae	<i>Ochna serrulata</i>	ochna	*	b
Rubiaceae	<i>Opercularia aspera</i>	coarse stinkweed		a
Poaceae	<i>Oplismenus aemulus</i>	oplismenus		b
Poaceae	<i>Oplismenus 115mbeccilis</i>			b
Oxalidaceae	<i>Oxalis perennans</i>			a
Asteraceae	<i>Ozothamnus diosmifolius</i>	rice flower		a
Bignoniaceae	<i>Pandorea pandorana</i>	Wonga Wonga vine		b
Pittosporaceae	<i>Pittosporum revolutum</i>	wild yellow jasmine		a
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Polypodiaceae	<i>Platynerium bifurcatum</i>	elkhorn		a
Poaceae	<i>Poa affinis</i>	poa		a
Araliaceae	<i>Polyscias sambucifolia</i>	elderberry panax		a
Rhamnaceae	<i>Pomaderris elliptica</i> subsp. <i>Elliptica</i>			a
Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken		b
Fabaceae – Caesalpinioideae	<i>Senna pendula</i> var. <i>Glabrata</i>	cassia	*	b
Poaceae	<i>Setaria parviflora</i>	slender pigeon grass	*	b
Smilacaceae	<i>Smilax glycyphylla</i>	sweet sarsaparilla		a
Solanaceae	<i>Solanum mauritanium</i>	wild tobacco bush	*	b
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	b

Family	Scientific name	Common name	Status	BR3 9
Menispermaceae	<i>Stephania japonica</i> var. <i>Discolor</i>	snake vine		b
Gleicheniaceae	<i>Sticherus flabellatus</i> var. <i>Flabellatus</i>	shiny fan fern		a
Strelitziaceae	<i>Strelitzia nicolai</i>	giant bird of paradise	*	a
Meliaceae	<i>Synoum glandulosum</i> subsp. <i>Glandulosum</i>	scentless rosewood		b
Poaceae	<i>Themeda triandra</i>	kangaroo grass		a
Osmundaceae	<i>Todea barbara</i>	king fern		a
Meliaceae	<i>Toona ciliata</i>	red cedar		b
Commelinaceae	<i>Tradescantia fluminensis</i>	trad	*	b
Lamiaceae	<i>Westringia fruticosa</i>	coastal rosemary		b
Rutaceae	<i>Zieria pilosa</i>	pilose-leafed zieria		a

Table 73 Fauna species list for Morella Road bushland reserve

Class	Family	Scientific name	Common name	Status	BR 11
Amphibians	Myobatrachidae	<i>Crinia signifera</i>	common eastern froglet		b
Birds	Sturnidae	<i>Acridotheres tristis</i>	common myna	*	b
Birds	Megapodiidae	<i>Alectura lathami</i>	Australian brushturkey		c
Birds	Meliphagidae	<i>Anthochaera chrysoptera</i>	little wattlebird		c
Birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		b
Birds	Corvidae	<i>Corvus coronoides</i>	Australian raven		b
Birds	Artamidae	<i>Cracticus nigrogularis</i>	pied butcherbird		a
Birds	Alcedinidae	<i>Dacelo novaeguinea</i>	laughing kookaburra		b
Birds	Eopsaltriidae	<i>Eopsaltria australis</i>	eastern yellow robin		b
Birds	Columbidae	<i>Geopelia humeralis</i>	bar-shouldered dove		a
Birds	Acanthizidae	<i>Gerygone mouki</i>	brown gerygone		b
Birds	Acanthizidae	<i>Gerygone olivacea</i>	white-throated gerygone		a
Birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		a
Birds	Maluridae	<i>Malurus cyaneus</i>	superb fairy-wren		b
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		b
Birds	Meliphagidae	<i>Meliphaga lewinii</i>	Lewin's honeyeater		a
Birds	Estrildidae	<i>Neochmia temporalis</i>	red-browed finch		a
Birds	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon		a
Birds	Passeridae	<i>Passer domesticus</i>	house sparrow	*	a
Birds	Columbidae	<i>Phaps chalcoptera</i>	common bronzewing		a
Birds	Podargidae	<i>Podargus strigoides</i>	tawny frogmouth		c
Birds	Psophodidae	<i>Psophodes olivaceus</i>	eastern whipbird		c
Birds	Pycnonotidae	<i>Pycnonotus jocosus</i>	red-whiskered bulbul	*	b
Birds	Dicruridae	<i>Rhipidura leucophrys</i>	willie wagtail		a
Birds	Cuculidae	<i>Scythrops novaehollandiae</i>	channel-billed cuckoo		c

Class	Family	Scientific name	Common name	Status	BR 11
Birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		b
Birds	Artamidae	<i>Strepera graculina</i>	pied currawong		b
Birds	Sturnidae	<i>Sturnus vulgaris</i>	common starling		a
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		b
Birds	Zosteropidae	<i>Zosterops lateralis</i>	silveryeye		c
Mammals	Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	common ringtail possum		b
Mammals	Pteropodidae	<i>Pteropus poliocephalus</i>	grey-headed flying-fox	V	b
Mammals	Phalangeridae	<i>Trichosurus vulpecula</i>	common brushtail possum		a
Mammals	Muridae	<i>Rattus rattus</i>	black rat	*	b
Reptiles	Scincidae	<i>Ctenotus taeniolatus</i>	copper-tailed skink		a
Reptiles	Scincidae	<i>Eulamprus quoyii</i>	eastern water-skink		b
Reptiles	Agamidae	<i>Intellagama lesueurii lesueurii</i>	eastern water dragon		b
Reptiles	Scincidae	<i>Lampropholis delicata</i>	dark-flecked garden sunskink		b
Reptiles	Scincidae	<i>Lampropholis guichenoti</i>	pale-flecked garden sunskink		b
Reptiles	Elapidae	<i>Pseudonaja textilis</i>	eastern brown snake		a
Reptiles	Scincidae	<i>Tiliqua scincoides</i>	common bluetongue		a

2.10.12 Maps for Morella Road Reserve



Vegetation communities





-  Sydney Sandstone Gully Forest
-  Regrowth Sydney Sandstone Gully Forest
-  Littoral Rainforest in the NSW North Coast, Sydney Basin and South East Corner bioregions – Endangered

Figure 28: Vegetation Communities, Threatened Ecological Communities and threatened flora locations - Morella Road Reserve

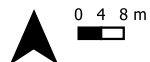
 Site boundary

Mosman Council

Mosman Flora and Fauna Survey 2021



Job number: PR6939
Date: 21/02/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

Data Sources: © State of New South Wales (Department of Planning, Industry and Environment), 2022; © Ecosure 2022
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Figure 29: Native vegetation cover percent - Morella Road Reserve

Mosman Council

Mosman Flora and Fauna Survey 2021

Site boundary

Native vegetation cover %

30-69

70-89

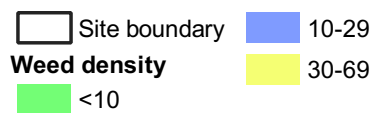
>90



Figure 30: Weed density - Morella Road Reserve

Mosman Council

Mosman Flora and Fauna Survey 2021



2.11 Mosman Bay Creek

2.11.1 General description

Mosman Bay Creek bushland reserve is located in close proximity to Reid Park in the south-west of Mosman LGA. The reserve occurs in a steep gully that adjoins private properties, with sandstone outcrops scattered throughout the reserve. A sandstone overhang is present in the north of the reserve with a small waterfall and a creek line through the centre of the reserve.

2.11.2 Vegetation communities

Sydney Sandstone Gully Forest is the recognised vegetation community within Mosman Bay Creek (Figure 31). Indigenous species diversity is relatively low with non-indigenous native species i.e. *Grevillea robusta* (silky oak) making up a proportion of canopy species. A number of tree falls have occurred opening up the canopy area. Table 74 provides an updated list of species frequently recorded in each community.

Table 74 Vegetation community description - Mosman Bay Creek

Sydney Sandstone Gully Forest

Canopy	<i>Ficus rubiginosa</i> (Port Jackson fig), <i>Grevillea robusta</i> (silky oak), <i>Eucalyptus</i> sp, <i>Erythrina crista-galli</i> (cockspur coral tree) and <i>Castanospermum australe</i> (black bean)
Midstorey	<i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle), <i>Ficus coronata</i> (sandpaper fig), <i>Syzygium australe</i> (brush cherry), <i>Pittosporum undulatum</i> (sweet pittosporum), and <i>Ipomoea purpurea</i> (morning glory)
Understorey	<i>Cyathea cooperi</i> (straw treefern), <i>Banksia serrata</i> (old-man banksia), <i>Acacia floribunda</i> (white sally wattle) and <i>Westringia fruticosa</i> (coastal rosemary)
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Oxalis</i> sp., <i>Commelina cyanea</i> (scurvy weed), <i>Oplismenus aemulus</i> (oplismenus) and <i>Dianella caerulea</i> (blue flax-lily)

2.11.3 Threatened flora

The current survey did not record any threatened flora but does not rule out the presence of threatened flora in this bushland reserve.

2.11.4 Threatened ecological communities

The Threatened Ecological Communities Greater Sydney (DPIE 2021) did not identify any TECs within Mosman Bay Creek bushland reserve. The current survey did not detect any vegetation that corresponds to a TEC.

2.11.5 Native vegetation and weed cover

Reduced diversity within native vegetation occurs at Mosman Bay Creek. There are a number of native canopy species that are non-indigenous such as *Castanospermum australe* (black bean) and *Grevillea robusta* (silky oak), as well as introduced species such as *Platanus x hispanica* (London Plane). Weed density is low to medium due to introduced canopy species and climbing weeds invading the site from construction activities on the south-western

boundary. Figures 87 and 88 show native vegetation cover and weed density at the site. The top five weed species and total weed cover is provided in Table 75.

Table 75 Top five weed species and total weed cover at Mosman Bay Creek

Weed Class	Scientific name	Common name	Dominant stratum	% Cover
10-29	<i>Erythrina crista-galli</i>	cockspur coral tree	Upper	10
	<i>Cinnamomum camphora</i>	camphor laurel	Upper	5
	<i>Celtis sinensis</i>	Japanese hackberry	Middle	3
	<i>Ipomoea purpurea</i>	morning glory	Lower	1
	<i>Anredera cordifolia</i>	Madeira vine	Lower	1
	Other weed species		Lower	2
			Total	22

2.11.6 Fauna habitat

Fauna habitat attributes recorded for Mosman Bay Creek are listed in Table 76.

Table 76 Fauna habitat summary of Mosman Bay Creek

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Small reserve with very limited connectivity; tightly enclosed by housing, moderate sandstone outcropping.
Connectivity	Moderate local connectivity, two other bushland reserves (Reid Park and Harnett Park) are in close proximity.
Large hollows (>20 cm)	Absent
Small hollows (<20 cm)	Absent
Hollow status	n/a
Large logs (>50 cm)	Absent
Small logs (10-50 cm)	Scattered
Cliffs/outcrops	Common
Large rocks (>30 cm)	Abundant
Small rocks (10-30 cm)	Common
Leaf litter	Scattered
Dense shrubs/grass shelter	Common
Termite mounds	Absent
Water bodies	Creek
Threatened fauna habitat	Potential habitat for red-crowned toadlet (<i>Pseudophryne australis</i>) however this species not previously been recorded at this site.

2.11.7 Threats to flora and fauna

Current threats to the flora and fauna within Mosman Bay Creek include:

- erosion of soil impacting the vegetation surrounding the creek

- garden escapes from surrounding private properties.

2.11.8 Conservation significance

2.11.8.1 Vegetation

The vegetation conservation significance in this reserve is medium to high. The native vegetation in this bushland reserve contains minimal weeds.

2.11.8.2 Fauna

Eleven fauna species (five bird, two mammal, four reptile) were detected at this reserve during surveys in December 2021 and January 2022. None of these species are threatened.

2.11.8.3 Priority

This site has a medium priority for conservation. Continued bush regeneration works will maintain and improve the condition of the native vegetation within the bushland reserve.

2.11.9 Current management practices

Mosman Bay Creek bushland reserve is not currently managed as a bush regeneration and restoration site under Mosman Council's Bushland Restoration Contracts 2012 - 2022. Bushland restoration and revegetation works have been undertaken in the reserve by bushcare volunteer groups..

Table 77 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary

Weeding	Primary weeding targeting noxious, woody and vine weeds
Planting	n/a
Ecological/Hazard reduction burns	n/a
Other	n/a

2.11.10 Recommendations

Current bushland management practices for Mosman Bay Creek bushland reserve should be continued. Prioritised recommendations are shown in Table 78.

Table 78 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve.
2	Monitor erosion from the creek running through the reserve.

2.11.11 Flora and fauna species list

Flora species recorded during current and previous surveys of Mosman Bay Creek bushland reserve are listed in Table 79 and fauna species in Table 80.

Table 79 Flora species list for Mosman Bay Creek

Family	Scientific name	Common name	Status	BR165
Fabaceae - Mimosoideae	<i>Acacia floribunda</i>	white sally wattle		b
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		b
Myrtaceae	<i>Acmena smithii</i>	lilly pilly		b
Adiantaceae	<i>Adiantum aethiopicum</i>	common maidenhair		b
Apocynaceae	<i>Araujia sericifera</i>	moth vine	*	a
Aspleniaceae	<i>Asplenium australasicum</i>	birds nest fern		b
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Proteaceae	<i>Banksia serrata</i>	old-man banksia		b
Begoniaceae	<i>Begonia</i> sp.		*	a
Blechnaceae	<i>Blechnum cartilagineum</i>	gristle fern		b
Cunoniaceae	<i>Callicoma serratifolia</i>	black wattle		b
Myrtaceae	<i>Callistemon viminalis</i>	weeping bottlebrush		b
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken		b
Fabaceae - Faboideae	<i>Castanospermum australe</i>	black bean	ni	b
Ulmaceae	<i>Celtis sinensis</i>	Chinese celtis	*	b
Adiantaceae	<i>Cheilanthes distans</i>	bristly cloak fern		c
Thelypteridaceae	<i>Christella dentata</i>	binung		b
Lauraceae	<i>Cinnamomum camphora</i>	camphor laurel	*	b
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp.	fleabane	*	b
Cyatheaceae	<i>Cyathea cooperi</i>	straw treefern		b
Plantaginaceae	<i>Cymbalaria muralis</i>	ivy-leaved toadflax	*	b
Cyperaceae	<i>Cyperus imbecillis</i>			b
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	b
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	blueberry ash		b
Asteraceae	<i>Erigeron karvinskianus</i>	bony-tip fleabane	*	a
Fabaceae - Faboideae	<i>Erythrina crista-galli</i>	cockspur coral tree	*	b
Myrtaceae	<i>Eucalyptus microcorys</i>	tallowwood	ni	b
Myrtaceae	<i>Eucalyptus</i> sp.			a
Luzuriagaceae	<i>Eustrephus latifolius</i>	wombat berry		b
Moraceae	<i>Ficus coronata</i>	sandpaper fig		b

Family	Scientific name	Common name	Status	BR165
Moraceae	<i>Ficus obliqua</i>	small-leaved fig		b
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Cyperaceae	<i>Gahnia</i> sp.	saw-sedge		b
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	cheese tree		c
Proteaceae	<i>Grevillea robusta</i>	silky oak	*	b
Araliaceae	<i>Hedera helix</i>	English ivy	*	a
Zingiberaceae	<i>Hedychium gardnerianum</i>	ginger lily	*	a
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b
Poaceae	<i>Imperata cylindrica</i>	blady grass		b
Myrtaceae	<i>Leptospermum polygalifolium</i>	yellow tea-tree		b
Arecaceae	<i>Livistona chinensis</i>	Chinese fan palm	*	c
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Lycopodiaceae	<i>Lycopodiella cernua</i>	scrambling clubmoss		c
Zamiaceae	<i>Macrozamia communis</i>	burrawang		b
Polyipodiaceae	<i>Microsorium scandens</i>	fragrant fern		c
Malvaceae	<i>Modiola caroliniana</i>	red-flowered mallow	*	a
Araceae	<i>Monstera deliciosa</i>	fruit salad plant	*	c
Moraceae	<i>Morus alba</i>		*	a
Davalliaceae	<i>Nephrolepis cordifolia</i>	fishbone fern	ni	b
Apocynaceae	<i>Nerium oleander</i>	oleander	*	b
Polypodiaceae	<i>Notogrammitis billardierei</i>	finger fern		c
Ochnaceae	<i>Ochna serrulata</i>	ochna	*	a
Poaceae	<i>Oplismenus aemulus</i>	oplismenus		a
Poaceae	<i>Oplismenus imbecillis</i>			b
Oxalidaceae	<i>Oxalis</i> sp.		*	b
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*	b
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Lamiaceae	<i>Plectranthus parviflorus</i>	cockspur flower		a
Podocarpaceae	<i>Podocarpus elatus</i>	plum pine		b
Pteridaceae	<i>Pteris tremula</i>	tender brake		b
Pteridaceae	<i>Pteris vittata</i>	Chinese brake		b
Myrtaceae	<i>Syzygium australe</i>	brush cherry		b
Commelinaceae	<i>Tradescantia fluminensis</i>	trad	*	b
Lamiaceae	<i>Westringia fruticosa</i>	coastal rosemary		b

Table 80 Fauna species list for Mosman Bay Creek

Class	Family	Scientific Name	Common Name	Status	BR165
Amphibians	Myobatrachidae	<i>Limnodynastes peronii</i>	brown-striped frog		c

Class	Family	Scientific Name	Common Name	Status	BR165
Birds	Megapodiidae	<i>Alectura lathami</i>	Australian brushturkey		c
Birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		a
Birds	Corvidae	<i>Corvus coronoides</i>	Australian raven		b
Birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		a
Birds	Alcedinidae	<i>Dacelo novaeguinea</i>	laughing kookaburra		b
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		a
Birds	Artamidae	<i>Strepera graculina</i>	pieb currawong		b
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		a
Mammals	Felidae	<i>Felis catus</i>	domestic cat	*	c
Mammals	Muridae	<i>Rattus rattus</i>	black rat	*	b
Reptiles	Scincidae	<i>Eulamprus quoyii</i>	eastern water-skink		c
Reptiles	Scincidae	<i>Lampropholis delicata</i>	dark-flecked garden sunskink		c
Reptiles	Gekkonidae	<i>Phyllurus platurus</i>	southern leaf-tailed gecko		c
Reptiles	Agamidae	<i>Physignathus lesueurii</i>	eastern water dragon		c

2.11.12 Maps for Mosman Bay Creek



Vegetation communities



 Sydney Sandstone Gully Forest

Figure 31: Vegetation Communities and threatened floralocations - Mosman Bay Creek

 Site boundary

Mosman Council

Mosman Flora and Fauna Survey 2021



Figure 32: Native vegetation cover percent - Mosman Bay Creek

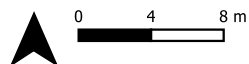
Site boundary
 Native vegetation cover %
 70-89

Mosman Council

Mosman Flora and Fauna Survey 2021



Job number: PR6939
Date: 30/01/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

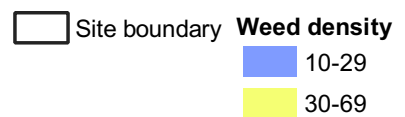
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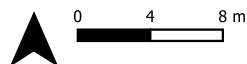
Figure 33: Weed density - Mosman Bay Creek

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Mosman Flora and Fauna Survey 2021



Job number: PR6939
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GDA 1994 MGA Zone 56
Projection: Transverse Mercator
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2.12 Parriwi Lighthouse Reserve

2.12.1 General description

Parriwi Lighthouse Reserve is located on a steep east facing slope in the northern portion of Mosman LGA. The lighthouse is situated on a sandstone outcrop towards the road at the western end of the reserve. Below this is an area of open space which is maintained as a landscaped garden.

2.12.2 Vegetation communities

A single vegetation community of Regrowth Sydney Sandstone Gully Forest is recognised within Parriwi Lighthouse Reserve which occurs in the eastern and western sections (Figure 34). The vegetation consists of a mix of remnant, regrowth and planted vegetation. Weed density is very low with species recorded only in the groundcover layer. Table 81 provides an updated list of species frequently recorded in the community.

Table 81 Vegetation community description - Parriwi Lighthouse Reserve

Regrowth Sydney Sandstone Gully Forest

Canopy	<i>Angophora costata</i> (Sydney red gum), <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> (coast banksia)
Midstorey	<i>Pittosporum undulatum</i> (sweet pittosporum), <i>Homalanthus populifolius</i> (bleeding heart) and <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> (coast banksia)
Understorey	<i>Westringia fruticosa</i> (coastal rosemary), <i>Callistemon viminalis</i> (weeping bottlebrush), <i>Pandorea pandorana</i> (wonga wonga vine), <i>Calochlaena dubia</i> (soft bracken) and <i>Plectranthus parviflorus</i> (cockspur flower)
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Dianella caerulea</i> (blue flax-lily), <i>Commelina cyanea</i> (scurvy weed), <i>Stephania japonica</i> var. <i>discolor</i> (snake vine), <i>Oplismenus aemulus</i> (oplismenus), <i>Imperata cylindrica</i> (blady grass)

2.12.3 Threatened flora

A single *Acacia terminalis* subsp. *eastern Sydney* (sunshine wattle) was recorded near the lighthouse in the vicinity as previously noted by Ecosure (2016, 2019) and Total Earth Care (2007). One individual of *Syzygium paniculatum* (magenta lilly pilli) was also recorded as previously noted by Ecosure (2016, 2019) below the lighthouse in the area of open space. One individual of *Wollemia nobilis* (Wollemi pine) was also recorded in the reserve. This species is not endemic to Sydney and would have been planted. However, this species is listed as Critically Endangered under both the BC Act and the EPBC Act.

2.12.4 Threatened ecological communities

The Threatened Ecological Communities Greater Sydney (DPIE 2021) did not identify any TECs within Parriwi Lighthouse reserve. The current survey did not detect any vegetation that corresponds to a TEC.

2.12.5 Native vegetation and weed cover

Native vegetation is in good condition with a very low density of weeds occurring at Parriwi Lighthouse Reserve. Weed species recorded included *Crocasmia x crocosmiiflora* (montbretia) and *Conyza* sp. (fleabane). More serious previously recorded weeds including *Anredera cordifolia* (Madeira vine) were not recorded. Figures 35 and 36 show native vegetation cover and weed density at the site. The top five weed species and total weed cover at the site is provided in Table 82.

Table 82 Top five weed species and total weed cover at Parriwi Lighthouse Reserve

Weed Class	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Conyza</i> sp	fleabane	Lower	1
	<i>Crocasmia x crocosmiiflora</i>	montbretia	Lower	
	<i>Canna indica</i>	arrowroot	Lower	1
	<i>Solanum nigrum</i>	black-berry nightshade	Lower	
	<i>Ehrharta erecta</i>	panic veldtgrass	Lower	1
	Other weed species		Lower	1
				Total

2.12.6 Fauna habitat

Fauna habitat attributes recorded for Parriwi Lighthouse are listed in Table 83.

Table 83 Fauna habitat summary of Parriwi Lighthouse

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Small reserve with very limited connectivity to Parriwi Point Reserve; tightly enclosed by housing; steep terrain.
Connectivity	Poor local connectivity
Large hollows (>20 cm)	Scattered
Small hollows (<20 cm)	Scattered
Hollow status	Mostly alive
Large logs (>50 cm)	Absent
Small logs (10-50 cm)	Scattered
Cliffs/outcrops	Abundant
Large rocks (>30 cm)	Scattered
Small rocks (10-30 cm)	Scattered
Leaf litter	Scattered
Dense shrubs/grass shelter	Common
Termite mounds	Absent
Water bodies	Shoreline
Threatened fauna habitat	Hollows and foraging for threatened parrots and microbats. Foraging habitat for grey-headed flying-fox.

2.12.7 Threats to flora and fauna

Current threats to the flora and fauna within Parriwi Lighthouse Reserve include:

- dispersal of weeds from higher weed density vegetation including surrounding disturbed Sydney Sandstone Gully Forest
- removal of native vegetation in the open area and surrounds to enhance private property views
- garden escapes from surrounding private properties
- introduced predators of native ground-dwelling fauna and shorebirds including cat (*Felis catus*), dog (*Canis lupus familiaris*) and European fox (*Vulpes vulpes*).

2.12.8 Conservation significance

2.12.8.1 Vegetation

The vegetation conservation significance in this reserve is low to moderate. The reserve supports a regenerating community of Sydney Sandstone Gully Forest and contains a lighthouse with cultural heritage value. The two individuals of threatened species, *Acacia terminalis* subsp. *eastern Sydney* (sunshine wattle) and *Syzygium paniculatum* (magenta lilly pilli), are likely to be planted but have the potential to generate and disperse seed through the reserve.

2.12.8.2 Fauna

Nine fauna species (one amphibian, six bird, one mammal and one reptile) were detected at this reserve during surveys in December 2021 and January 2022. None of these species are threatened.

2.12.8.3 Priority

This site has a medium priority for conservation. Continued bush regeneration works will maintain and improve the condition of the native vegetation within the bushland reserve.

2.12.9 Current management practices

Parriwi Lighthouse Reserve is currently managed as a bush regeneration and restoration site under Mosman Council's Bushland Restoration Contracts 2012 - 2022. A summary of the works to date is shown in Table 84.

Table 84 Bush regeneration and restoration works

Bush regeneration and restoration works summary

Weeding	<ul style="list-style-type: none"> • Primary weeding targeting noxious, woody and vine weeds • Secondary and maintenance weeding of noxious, woody and vine weed regrowth and annual and perennial herbs and grasses by hand weeding and spot spraying.
---------	---

Bush regeneration and restoration works summary

Planting	Scattered plantings to supplement native vegetation and regeneration on the lower slopes of the reserve.
Ecological/Hazard reduction burns	Pile burn occurred in 2007.
Other	n/a

Current bushland management practices for Parriwi Lighthouse Reserve should be continued. Prioritised recommendations are shown in Table 85.

Table 85 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve.
2	Monitoring the status of <i>Acacia terminalis</i> subsp. <i>eastern Sydney</i> (sunshine wattle) and <i>Syzygium paniculatum</i> (magenta lilly pilly).
3	Continued planting of native tree, shrub and groundcover species, particularly on the lower slopes.

2.12.10 Flora and fauna species list

Flora species recorded during current and previous surveys of Parriwi Lighthouse Reserve bushland reserve are listed in Table 86 and fauna species are listed in Table 87.

Table 86 Flora species for Parriwi Lighthouse Reserve

Family	Scientific name	common name	Status	BR60
Fabaceae - Mimosoideae	<i>Acacia linifolia</i>	white wattle		a
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		b
Fabaceae - Mimosoideae	<i>Acacia terminalis</i> subsp. <i>eastern Sydney</i>	sunshine wattle	E	b
Adiantaceae	<i>Adiantum formosum</i>	black stem		a
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		b
Basellaceae	<i>Anredera cordifolia</i>	Madeira vine	WoNS	a
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	a
Aspleniaceae	<i>Asplenium australasicum</i>	birds nest fern		a
Proteaceae	<i>Banksia ericifolia</i> subsp. <i>ericifolia</i>	heath-leaved banksia		b
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*	b
Blechnaceae	<i>Blechnum ambiguum</i>			c
Nyctaginaceae	<i>Bougainvillea</i> sp	bougainvillea	*	a
Myrtaceae	<i>Callistemon viminalis</i>	weeping bottlebrush		b
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken		b
Aizoaceae	<i>Carpobrotus glaucescens</i>	pigface		b

Family	Scientific name	common name	Status	BR60
Casuarinaceae	<i>Casuarina glauca</i>	swamp oak		b
Apiaceae	<i>Centella asiatica</i>	Indian pennywort		b
Rutaceae	<i>Citrus</i> sp.	citrus	*	a
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp.	fleabane	*	a
Iridicaceae	<i>Crocasmia x crocosmiiflora</i>	montbretia	*	c
Cyatheaceae	<i>Cyathea cooperi</i>	straw treefern		b
Cyperaceae	<i>Cyperus sanguinolentus</i>			c
Fabaceae - Caesalpinioideae	<i>Delonix regia</i>	royal poinciana	*	a
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		a
Poaceae	<i>Dichelachne</i> sp			b
Sapindaceae	<i>Dodonaea triquetra</i>	large-leaf hop-bush		a
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	b
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	blueberry ash		a
Fabaceae - Faboideae	<i>Erythrina sykesii</i>	coral tree	*	a
Euphorbiaceae	<i>Euphorbia peplus</i>	petty spurge	*	b
Moraceae	<i>Ficus carica</i>	fig	*	b
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Moraceae	<i>Ficus</i> sp.	fig	*	a
Asteraceae	<i>Galinsoga parviflora</i>	potato weed	*	a
Geraniaceae	<i>Geranium homeanum</i>	native geranium		b
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	cheese tree		b
Proteaceae	<i>Grevillea linearifolia</i>	linear-leaf grevillea		a
Proteaceae	<i>Grevillea</i> sp hort		ni	a
Proteaceae	<i>Hakea sericea</i>	needlebush		b
Dilleniaceae	<i>Hibbertia scandens</i>	climbing guinea flower		b
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b
Poaceae	<i>Imperata cylindrica</i>	blady grass		b
Juncaceae	<i>Juncus usitatus</i>	common rush		c
Fabaceae - Faboideae	<i>Kennedia rubicunda</i>	dusky coral pea		a
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		b
Myrtaceae	<i>Leptospermum laevigatum</i>	coast teatree		b
Myrtaceae	<i>Leptospermum polygalifolium</i>	yellow tea-tree		a
Lobeliaceae	<i>Lobelia anceps</i>			a
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Poaceae	<i>Microlaena stipoides</i> var. <i>stipoides</i>	weeping grass		b
Malvaceae	<i>Modiola caroliniana</i>	red-flowered mallow	*	b
Davalliaceae	<i>Nephrolepis cordifolia</i>	fishbone fern	ni	a
Alliaceae	<i>Nothoscordum borbonicum</i>	onion weed	*	b

Family	Scientific name	common name	Status	BR60
Poaceae	<i>Notodanthonia longifolia</i>	long-leaved wallaby grass		a
Poaceae	<i>Oplismenus aemulus</i>	oplismenus		b
Bignoniaceae	<i>Pandorea pandorana</i>	Wonga Wonga vine		a
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*	b
Geraniaceae	<i>Pelargonium australe</i>	native storksbill		b
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Lamiaceae	<i>Plectranthus parviflorus</i>	cockspur flower		a
Goodeniaceae	<i>Scaevola</i> sp.			b
Smilacaceae	<i>Smilax glycyphylla</i>	sweet sarsaparilla		a
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	*	a
Caryophyllaceae	<i>Stellaria media</i>	common chickweed	*	a
Menispermaceae	<i>Stephania japonica</i> var. <i>discolor</i>	snake vine		b
Myrtaceae	<i>Syzygium paniculatum</i>	magenta lilly pilly	E	b
Aizoaceae	<i>Tetragonia tetragonioides</i>	New Zealand spinach		b
Poaceae	<i>Themeda triandra</i>	kangaroo grass		a
Violaceae	<i>Viola hederacea</i>	native violet		c
Lamiaceae	<i>Westringia fruticosa</i>	coastal rosemary		b
Araucariaceae	<i>Wollemia nobilis</i>	wollemi pine	CE ni	b

Table 87 Fauna species list for Parriwi Lighthouse Reserve

Class	Family	Scientific Name	Common Name	Status	BR60
Amphibia	Lymnodynastidae	<i>Lymnodynastes peronii</i>	striped marsh frog		c
Birds	Corvidae	<i>Corvus coronoides</i>	Australian raven		b
Birds	Ardeidae	<i>Egretta novaehollandiae</i>	white-faced heron		a
Birds	Laridae	<i>Larus novaehollandiae</i>	silver gull		b
Birds	Maluridae	<i>Malurus lamberti</i>	variegated fairy-wren		a
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		b
Birds	Artamidae	<i>Strepera graculina</i>	pied currawong		b
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		b
Mammals	Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	common ringtail possum		c
Reptiles	Scincidae	<i>Eulamprus quoyi</i>	eastern water skink		c

2.12.11 Maps for Parriwi Lighthouse



Vegetation communities Regrowth Sydney Sandstone Gully Forest

Open Space

Figure 34: Vegetation Communities and threatened floral locations - Parriwi Lighthouse

Mosman Council

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Site boundary

Acacia terminalis ssp Eastern Sydney

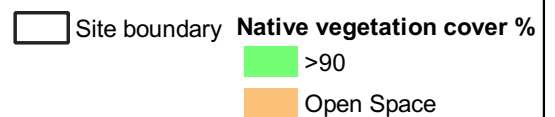
Syzygium paniculatum



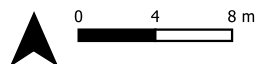
Figure 35: Native vegetation cover percent - Parriwi Lighthouse

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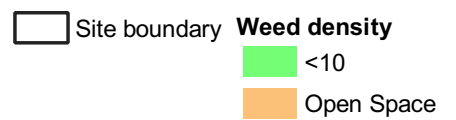
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Figure 36: Weed density - Parriwi Lighthouse

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2.13 Parriwi Park

2.13.1 General description

Parriwi Park bushland reserve is located above Parriwi Head just south of The Spit in the north of Mosman LGA. The reserve occurs on a sandstone ridge with sandstone outcrops scattered throughout the reserve. Several public tracks occur in the reserve, with two club houses for Mosman Girl Guides and Mosman Scouts located in the southern part of the reserve.

2.13.2 Vegetation communities

A single vegetation community of Sydney Sandstone Gully Forest occurs across the entire reserve with the exception of open space surrounding the club houses and pathways (Figure 37). The reserve hosts remnant and regrowth vegetation, with some evidence of fire occurring in the central portion of the reserve in the last 5 to 10 years. Table 88 provides an updated list of species frequently recorded in the community.

Table 88 Vegetation community description - Parriwi Park

Sydney Sandstone Gully Forest

Canopy	<i>Angophora costata</i> (Sydney red gum), <i>Eucalyptus botryoides</i> (bangalay), <i>Corymbia gummifera</i> (red bloodwood)
Midstorey	<i>Elaeocarpus reticulatus</i> (blueberry ash), <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree) and <i>Allocasuarina littoralis</i> (black she-oak)
Understorey	<i>Grevillea linearifolia</i> (linear-leaf grevillea), <i>Dodonaea triquetra</i> (large-leaf hop-bush), <i>Smilax glycyphylla</i> (sweet sarsaparilla) and <i>Kunzea ambigua</i> (tick bush), <i>Acacia linifolia</i> (white wattle), <i>Astrotricha floccosa</i>
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Dianella caerulea</i> (blue flax-lily), <i>Gonocarpus teucroides</i> (raspwort), <i>Crowea saligna</i> , <i>Oplismenus aemulus</i> (oplismenus) and <i>Lepidosperma concavum</i>

2.13.3 Threatened flora

Acacia terminalis subsp. *eastern Sydney* (sunshine wattle) was previously recorded by Ecosure (2016, 2019). The current surveys recorded fourteen *A. terminalis* subsp. *eastern Sydney* individuals in the vicinity of previous records. In addition, two new individuals were recorded further north in the reserve (Figure 37).

2.13.4 Threatened ecological communities

The Threatened Ecological Communities Greater Sydney (DPIE 2021) did not identify any TECs within Parriwi Park bushland reserve. The current survey did not detect any vegetation that corresponds to a TEC.

2.13.5 Native vegetation and weed cover

The native vegetation at Parriwi Park is in excellent condition with weed species at an extremely low density. Only a small number of weed species were identified in nearby high

use areas such as the reserve entrance from Upper Spit Road, walking track to Parriwi Road, and surrounding the club houses. *Cissus hypoglauca* (water vine) a native climbing plant was noted as smothering an area south-west of the Mosman Scouts building. Figures 38 and 39 show native vegetation cover and weed density at the site. The top five weed species and total weed cover is provided in Table 89.

Table 89 Top five weed species and total weed cover at Parriwi Park.

Weed Density Class	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Ligustrum lucidum</i>	large-leaved privet	Lower	1
	<i>Asparagus aethiopicus</i>	ground asparagus	Lower	
	<i>Ehrharta erecta</i>	panic veldtgrass	Lower	
	<i>Cyclospermum leptophyllum</i>	slender celery	Lower	
	<i>Bidens pilosa</i>	cobblers pegs	Lower	
			Total	1

2.13.6 Fauna habitat

Fauna habitat attributes recorded for Parriwi Park are listed in Table 90.

Table 90 Fauna habitat summary of Parriwi Park

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Relatively large reserve with good connectivity to The Spit Reserve (14) and Parriwi Point Reserve (5); excellent remnant trees and diverse understory; extensive sandstone outcropping.
Connectivity	Good local connectivity. The reserve is bounded by Spit Road and Parriwi Road and is near two other bushland reserves (The Spit Reserve and Parriwi Point Reserve). Steep surrounding cliffs would likely inhibit ground-dwelling fauna migration in and out of the reserve.
Large hollows (>20 cm)	Scattered
Small hollows (<20 cm)	Common
Hollow status	Mostly alive
Large logs (>50 cm)	Absent
Small logs (10-50 cm)	Common
Cliffs/outcrops	Abundant
Large rocks (>30 cm)	Scattered
Small rocks (10-30 cm)	Common
Leaf litter	Abundant
Dense shrubs/grass shelter	Abundant
Termite mounds	Scattered
Water bodies	Absent
Threatened fauna habitat	Hollows and foraging habitat for threatened parrots, microbats and owls. Sandstone cliffs caves may be suitable for roosting microbats.

2.13.7 Threats to flora and fauna

Current threats to the flora and fauna within Parriwi Park include:

- garden escapes from surrounding private properties
- dispersal of weeds from higher weed density vegetation from surrounding vegetation and road reserves
- introduced predators of native ground-dwelling fauna including cat (*Felis catus*), dog (*Canis lupus familiaris*) and European fox (*Vulpes vulpes*).

2.13.8 Conservation significance

2.13.8.1 Vegetation

The vegetation conservation significance in this reserve is medium to high. The native vegetation in this bushland reserve contains minimal weeds and has been maintained at this level since 2016 (Ecosure 2016). Parriwi Park also supports a population of *Acacia terminalis* subsp. *eastern Sydney* (sunshine wattle) which is regenerating in response to management practices.

2.13.8.2 Fauna

Twenty-two fauna species (16 bird, three mammal, three reptiles) were detected at this reserve during surveys in December 2021 and January 2022.. One species, the yellow-bellied sheath-tail-bat (*Saccolaimus flaviventris*) is threatened under the BC Act.

2.13.8.3 Priority

This site has a medium to high priority for conservation. Continued bush regeneration works will maintain and improve the condition of the native vegetation within the bushland reserve.

2.13.9 Current management practices

Parriwi Park bushland reserve is currently managed as a bush regeneration and restoration site under Mosman Council's Bushland Restoration Contracts 2012 - 2022. A summary of the works to date is shown in Table 91.

Table 91 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary	
Weeding	<ul style="list-style-type: none"> • Primary weeding targeting noxious, woody and vine weeds • Secondary and maintenance weeding of noxious, woody and vine weed regrowth and annual and perennial herbs and grasses by hand weeding and spot spraying.
Planting	Scattered plantings on edges of the reserve to supplement native vegetation.
Ecological/Hazard reduction burns	Broad acre burns occurred in 2007 and 2009.

Bush regeneration and restoration works summary

Other	n/a
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2.13.10 Recommendations

Current bushland management practices for Parriwi Park bushland reserve should be continued. Prioritised recommendations are shown in Table 92.

Table 92 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve.
2	Monitoring the status of <i>Acacia terminalis</i> subsp. <i>eastern Sydney</i> (sunshine wattle).
3	Ecological or hazard reduction burns to be carried out for management of <i>Acacia terminalis</i> subsp. <i>eastern Sydney</i> (sunshine wattle).

2.13.11 Flora and fauna species list

Flora species recorded during current and previous surveys of Parriwi Park bushland reserve are listed in Table 93 and fauna species are listed in Table 94.

Table 93 Flora species list for Parriwi Park bushland reserve

Family	Scientific name	Common Name	Status	BR61
Fabaceae - Mimosoideae	<i>Acacia binervata</i>	two-veined hickory		a
Fabaceae - Mimosoideae	<i>Acacia implexa</i>	hickory wattle		a
Fabaceae - Mimosoideae	<i>Acacia linifolia</i>	white wattle		b
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		b
Fabaceae - Mimosoideae	<i>Acacia parramattensis</i>	Sydney green wattle		a
Fabaceae - Mimosoideae	<i>Acacia suaveolens</i>	sweet wattle		b
Fabaceae - Mimosoideae	<i>Acacia terminalis</i> subsp. <i>eastern Sydney</i>	sunshine wattle	E	b
Fabaceae - Mimosoideae	<i>Acacia ulicifolia</i>	prickly moses		b
Polygonaceae	<i>Acetosa sagittata</i>	turkey rhubarb	*	a
Orchidaceae	<i>Acianthus fornicatus</i>	pixie caps		a
Myrtaceae	<i>Acmena smithii</i>	lilly pilly		a
Alliaceae	<i>Agapanthus praecox</i> subsp. <i>orientalis</i>	african lily	*	a
Casuarinaceae	<i>Allocasuarina distyla</i>			b
Casuarinaceae	<i>Allocasuarina littoralis</i>	black she-oak		b
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		a
Poaceae	<i>Anisopogon avenaceus</i>	oat speargrass		a
Poaceae	<i>Aristida vagans</i>	threeawn speargrass		a
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	b

Family	Scientific name	Common Name	Status	BR61
Araliaceae	<i>Astrotricha floccosa</i>			b
Poaceae	<i>Austrostipa pubescens</i>	spear grass		b
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Proteaceae	<i>Banksia serrata</i>	old-man banksia		a
Proteaceae	<i>Banksia spinulosa</i>	hairpin banksia		b
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*	b
Pittosporaceae	<i>Billardiera scandens</i>	hairy apple berry		b
Sterculiaceae	<i>Brachychiton acerifolius</i>	flame tree		b
Ericaceae	<i>Brachyloma daphnoides</i>	daphne heath		a
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush		b
Poaceae	<i>Bromus catharticus</i>	praire grass	*	a
Myrtaceae	<i>Callistemon citrinus</i>	crimson bottlebrush		b
Myrtaceae	<i>Callistemon linearis</i>	narrow-leaved bottlebrush		b
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken		b
Asteraceae	<i>Calotis dentex</i>			c
Asteraceae	<i>Cassinia denticulata</i>	stiff cassinia		b
Lauraceae	<i>Cassytha glabella</i>			b
Lauraceae	<i>Cassytha pubescens</i>			a
Casuarinaceae	<i>Casuarina glauca</i>	swamp oak		a
Adiantaceae	<i>Cheilanthes sieberi</i>			a
Anthericaceae	<i>Chlorophytum comosum</i>	spider plant	*	a
Vitaceae	<i>Cissus antarctica</i>	kangaroo vine		b
Vitaceae	<i>Cissus hypoglauca</i>	water vine		b
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp	fleabane	*	a
Myrtaceae	<i>Corymbia gummifera</i>	red bloodwood		a
Rutaceae	<i>Crowea saligna</i>			b
Orchidaceae	<i>Cryptostylis erecta</i>	bonnet orchid		a
Orchidaceae	<i>Cryptostylis</i> sp.			a
Apiaceae	<i>Cyclosporum leptophyllum</i>	slender celery	*	b
Poaceae	<i>Cymbopogon refractus</i>	barbed wire grass		a
Orchidaceae	<i>Dendrobium speciosum</i>	rock lily		a
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Phormiaceae	<i>Dianella revoluta</i>	paroo lily		a
Poaceae	<i>Dichelachne crinita</i>	longhair plumegrass		a
Poaceae	<i>Dichelachne micrantha</i>	shorthair plumegrass		a
Convolvulaceae	<i>Dichondra repens</i>	kidney weed		b
Fabaceae - Faboideae	<i>Dillwynia floribunda</i>			b
Fabaceae - Faboideae	<i>Dillwynia retorta</i>			b

Family	Scientific name	Common Name	Status	BR61
Orchidaceae	<i>Dipodium variegatum</i>			b
Sapindaceae	<i>Dodonaea triquetra</i>	large-leaf hop-bush		b
Poaceae	<i>Echinopogon caespitosus</i> var. <i>caespitosus</i>	tufted hedgehog-grass		b
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	b
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	blueberry ash		b
Poaceae	<i>Entolasia marginata</i>	bordered panic		a
Poaceae	<i>Entolasia stricta</i>	wiry panic		b
Ericaceae	<i>Epacris longiflora</i>	fuchsia heath		b
Myrtaceae	<i>Eucalyptus botryoides</i>	bangalay		b
Myrtaceae	<i>Eucalyptus piperita</i>	Sydney peppermint		a
Myrtaceae	<i>Eucalyptus resinifera</i>	red mahogany		a
Myrtaceae	<i>Eucalyptus umbra</i>	broad-leaved white mahogany		a
Euphorbiaceae	<i>Euphorbia peplus</i>	petty spurge	*	a
Luzuriagaceae	<i>Eustrephus latifolius</i>	wombat berry		b
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Cyperaceae	<i>Gahnia</i> sp.	saw-sedge		a
Asteraceae	<i>Galinsoga parviflora</i>	potato weed	*	a
Luzuriagaceae	<i>Geitonoplesium cymosum</i>	scrambling lily		b
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	cheese tree		b
Fabaceae - Faboideae	<i>Glycine clandestina</i>			b
Haloragaceae	<i>Gonocarpus teucrioides</i>	raspwort		b
Proteaceae	<i>Grevillea buxifolia</i> subsp. <i>buxifolia</i>	grey spider flower		b
Proteaceae	<i>Grevillea linearifolia</i>	linear-leaf grevillea		b
Proteaceae	<i>Hakea dactyloides</i>	finger hakea		b
Proteaceae	<i>Hakea sericea</i>	needlebush		b
Fabaceae - Faboideae	<i>Hardenbergia violacea</i>	purple coral pea		b
Dilleniaceae	<i>Hibbertia aspera</i>	rough guinea flower		a
Dilleniaceae	<i>Hibbertia diffusa</i>	wedge guinea flower		b
Dilleniaceae	<i>Hibbertia obtusifolia</i>	hoary guinea flower		a
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b
Fabaceae - Faboideae	<i>Hovea linearis</i>			b
Poaceae	<i>Imperata cylindrica</i>	blady grass		b
Juncaceae	<i>Juncus usitatus</i>	common rush		b
Fabaceae - Faboideae	<i>Kennedia rubicunda</i>	dusky coral pea		a
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		b
Proteaceae	<i>Lambertia formosa</i>	mountain devil		b
Verbenaceae	<i>Lantana camara</i>	lantana	WoNS	a
Sterculiaceae	<i>Lasiopetalum ferrugineum</i> var. <i>ferrugineum</i>			b

Family	Scientific name	Common Name	Status	BR61
Cyperaceae	<i>Lepidosperma concavum</i>			b
Cyperaceae	<i>Lepidosperma laterale</i>			b
Cyperaceae	<i>Lepidosperma viscidum</i>			a
Myrtaceae	<i>Leptospermum polygalifolium</i>	yellow tea-tree		a
Myrtaceae	<i>Leptospermum trinervium</i>	slender tea-tree		a
Oleaceae	<i>Ligustrum lucidum</i>	large leaved privet	*	b
Oleaceae	<i>Ligustrum sinense</i>	small leaved privet	*	a
Liliaceae	<i>Lilium formosanum</i>	formosan lily	*	b
Lindsaeaceae	<i>Lindsaea linearis</i>	screw fern		a
Lomandraceae	<i>Lomandra confertifolia</i> subsp. <i>pallida</i>	mat-rush		a
Lomandraceae	<i>Lomandra cylindrica</i>			a
Lomandraceae	<i>Lomandra filiformis</i> subsp. <i>filiformis</i>	wattle mat-rush		a
Lomandraceae	<i>Lomandra glauca</i>	pale mat-rush		a
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		a
Lomandraceae	<i>Lomandra obliqua</i>			b
Proteaceae	<i>Lomatia silaifolia</i>	crinkle bush		a
Myrtaceae	<i>Melaleuca ericifolia</i>	swamp paperbark		b
Euphorbiaceae	<i>Micrantheum ericoides</i>			b
Poaceae	<i>Microlaena stipoides</i> var. <i>stipoides</i>	weeping grass		b
Myrsinaceae	<i>Myrsine variabilis</i>			a
Oleaceae	<i>Notelaea longifolia</i>	large mock-olive		a
Poaceae	<i>Notodanthonia longifolia</i>	long-leaved wallaby grass		b
Ochnaceae	<i>Ochna serrulata</i>	ochna	*	a
Oleaceae	<i>Olea europaea</i> subsp. <i>cuspidata</i>	olive	*	a
Rubiaceae	<i>Opercularia aspera</i>	coarse stinkweed		b
Poaceae	<i>Oplismenus aemulus</i>	oplismenus		a
Poaceae	<i>Oplismenus imbecillis</i>			a
Oxalidaceae	<i>Oxalis</i> sp.		*	b
Bignoniaceae	<i>Pandorea pandorana</i>	Wonga Wonga vine		b
Poaceae	<i>Paspalidium distans</i>			a
Iridaceae	<i>Patersonia glabrata</i>	leafy purple-flag		a
Iridaceae	<i>Patersonia</i> sp			a
Proteaceae	<i>Persoonia levis</i>	broad-leaved geebung		a
Proteaceae	<i>Persoonia linearis</i>	narrow-leaved geebung		a
Rutaceae	<i>Phebalium squamulosum</i>	scaly phebalium		a
Pittosporaceae	<i>Pittosporum revolutum</i>	wild yellow jasmine		a
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Plantaginaceae	<i>Plantago lanceolata</i>	lamb's tongues	*	a
Fabaceae - Faboideae	<i>Platylobium formosum</i> subsp. <i>formosum</i>			b

Family	Scientific name	Common Name	Status	BR61
Apiaceae	<i>Platysace linearifolia</i>			b
Poaceae	<i>Poa affinis</i>	poa		a
Podocarpaceae	<i>Podocarpus spinulosus</i>	spiny-leaf podocarp		b
Araliaceae	<i>Polyscias elegans</i>	celery wood		a
Araliaceae	<i>Polyscias sambucifolia</i>	elderberry panax		b
Rhamnaceae	<i>Pomaderris discolor</i>			a
Rhamnaceae	<i>Pomaderris ferruginea</i>			b
Rubiaceae	<i>Pomax umbellata</i>	pomax		b
Euphorbiaceae	<i>Poranthera microphylla</i>			a
Lobeliaceae	<i>Pratia purpurascens</i>	whiteroot		a
Lamiaceae	<i>Prostanthera linearis</i>	narrow-leaved mint bish		c
Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken		b
Pteridaceae	<i>Pteris tremula</i>	tender brake		a
Orchidaceae	<i>Pterostylis</i> sp.			a
Fabaceae - Faboideae	<i>Pultenaea blakelyi</i>			a
Fabaceae - Faboideae	<i>Pultenaea daphnoides</i>			b
Fabaceae - Faboideae	<i>Pultenaea stipularis</i>			b
Uvulariaceae	<i>Schelhammera undulata</i>			a
Poaceae	<i>Setaria parviflora</i>	slender pigeon grass	*	b
Malvaceae	<i>Sida rhombifolia</i>	paddy's lucerne	*	a
Smilacaceae	<i>Smilax glyciophylla</i>	sweet sarsaparilla		b
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	a
Caryophyllaceae	<i>Stellaria media</i>	common chickweed	*	a
Menispermaceae	<i>Stephania japonica</i> var. <i>discolor</i>	snake vine		b
Ericaceae	<i>Styphelia longifolia</i>			a
Ericaceae	<i>Styphelia tubiflora</i>	red five-corner		a
Myrtaceae	<i>Syzygium paniculatum</i>	magenta lilly pilly	E	a
Cyperaceae	<i>Tetraria capillaris</i>			a
Eleocarpaceae	<i>Tetradlea thymifolia</i>	Thyme pink-bells		c
Poaceae	<i>Themeda triandra</i>	kangaroo grass		a
Commelinaceae	<i>Tradescantia fluminensis</i>	trad	*	a
Fabaceae - Faboideae	<i>Trifolium repens</i>	white clover	*	b
Scrophulariaceae	<i>Veronica plebeia</i>	trailing speedwell		a
Campanulaceae	<i>Wahlenbergia</i> sp.			a
Lamiaceae	<i>Westringia fruticosa</i>	coastal rosemary		a
Xanthorrhoeaceae	<i>Xanthorrhoea arborea</i>			b
Xanthorrhoeaceae	<i>Xanthorrhoea</i> sp.	blackboy		a
Apiaceae	<i>Xanthosia pilosa</i>	woolly xanthosia		a
Apiaceae	<i>Xanthosia tridentata</i>	rock xanthosia		a
Rutaceae	<i>Zieria pilosa</i>	pilose-leafed zieria		a

Table 94 Fauna species list for Parriwi Park bushland reserve



Class	Family	Scientific Name	Common Name	Status	BR61
Birds	Megapodiidae	<i>Alectura lathamii</i>	Australian brushturkey		a
Birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		b
Birds	Cacatuidae	<i>Cacatua sanguinea</i>	little corella		a
Birds	Campephagidae	<i>Coracina novaehollandiae</i>	black-faced cuckoo-shrike		a
Birds	Corvidae	<i>Corvus coronoides</i>	Australian raven		b
Birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		b
Birds	Alcedinidae	<i>Dacelo novaeguinea</i>	laughing kookaburra		b
Birds	Eopsaltriidae	<i>Eopsaltria australis</i>	eastern yellow robin		a
Birds	Cuculidae	<i>Eudynamys scolopacea</i>	common koel		a
Birds	Acanthizidae	<i>Gerygone mouki</i>	brown gerygone		a
Birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		b
Birds	Laridae	<i>Larus crassirostris</i>	black-tailed gull		a
Birds	Maluridae	<i>Malurus cyaneus</i>	superb fairy-wren		c
Birds	Maluridae	<i>Malurus lamberti</i>	variegated fairy-wren		b
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		b
Birds	Meliphagidae	<i>Meliphaga lewinii</i>	Lewin's honeyeater		a
Birds	Estrildidae	<i>Neochmia temporalis</i>	red-browed finch		a
Birds	Pardalotidae	<i>Pardalotus punctatus</i>	spotted pardalote		a
Birds	Pelecanidae	<i>Pelecanus conspicillatus</i>	Australian pelican		c
Birds	Columbidae	<i>Phaps chalcoptera</i>	common bronzewing		a
Birds	Psittacidae	<i>Platycercus elegans</i>	crimson rosella		a
Birds	Podargidae	<i>Podargus strigoides</i>	tawny frogmouth		b
Birds	Pycnonotidae	<i>Pycnonotus jocosus</i>	red-whiskered bulbul	*	a
Birds	Monarchidae	<i>Rhipidura fuliginosa</i>	grey fantail		a
Birds	Cuculidae	<i>Scythrops novaehollandiae</i>	channel-billed cuckoo		b
Birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		b
Birds	Artamidae	<i>Strepera graculina</i>	pied currawong		b
Birds	Columbidae	<i>Streptopelia chinensis</i>	spotted turtle-dove	*	b
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		b
Birds	Tytonidae	<i>Tyto alba</i>	barn owl		a
Birds	Zosteropidae	<i>Zosterops lateralis</i>	silveryeye		c
Mammals	Vespertilionidae	<i>Chalinolobus gouldii</i>	Gould's wattled bat		c
Mammals	Peramelidae	<i>Perameles nasuta</i>	long-nosed bandicoot		a
Mammals	Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	common ringtail possum		a
Mammals	Pteropodidae	<i>Pteropus poliocephalus</i>	grey-headed flying-fox	V	a
Mammals	Muridae	<i>Rattus rattus</i>	black rat	*	b
Mammals	Emballonuridae	<i>Saccolaimus flaviventris</i>	yellow-bellied sheath-tail bat	V	c
Mammals	Phalangeridae	<i>Trichosurus vulpecula</i>	common brushtail possum		a
Reptiles	Scincidae	<i>Ctenotus taeniolatus</i>	copper-tailed skink		a

Class	Family	Scientific Name	Common Name	Status	BR61
Reptiles	Scincidae	<i>Eulamprus quoyii</i>	eastern water-skink		b
Reptiles	Scincidae	<i>Lampropholis delicata</i>	dark-flecked garden sunskink		b
Reptiles	Scincidae	<i>Lampropholis guichenoti</i>	pale-flecked garden sunskink		b
Reptiles	Gekkonidae	<i>Phyllurus platurus</i>	southern leaf-tailed gecko		a
Reptiles	Agamidae	<i>Physignathus lesueurii</i>	eastern water dragon		a
Reptiles	Scincidae	<i>Tiliqua scincoides</i>	common bluetongue		a

2.13.12 Maps for Parriwi Park



Vegetation communities




-  Disturbed Sydney Sandstone Gully Forest
-  Open Space

-  Regrowth Sydney Sandstone Gully Forest
-  Sydney Sandstone Gully Forest

Figure 37: Vegetation Communities and threatened flora locations - Parriwi Park

Mosman Council

Mosman Flora and Fauna Survey 2021

-  Site boundary
-  *Acacia terminalis* ssp Eastern Sydney
-  *Acacia terminalis* ssp Eastern Sydney

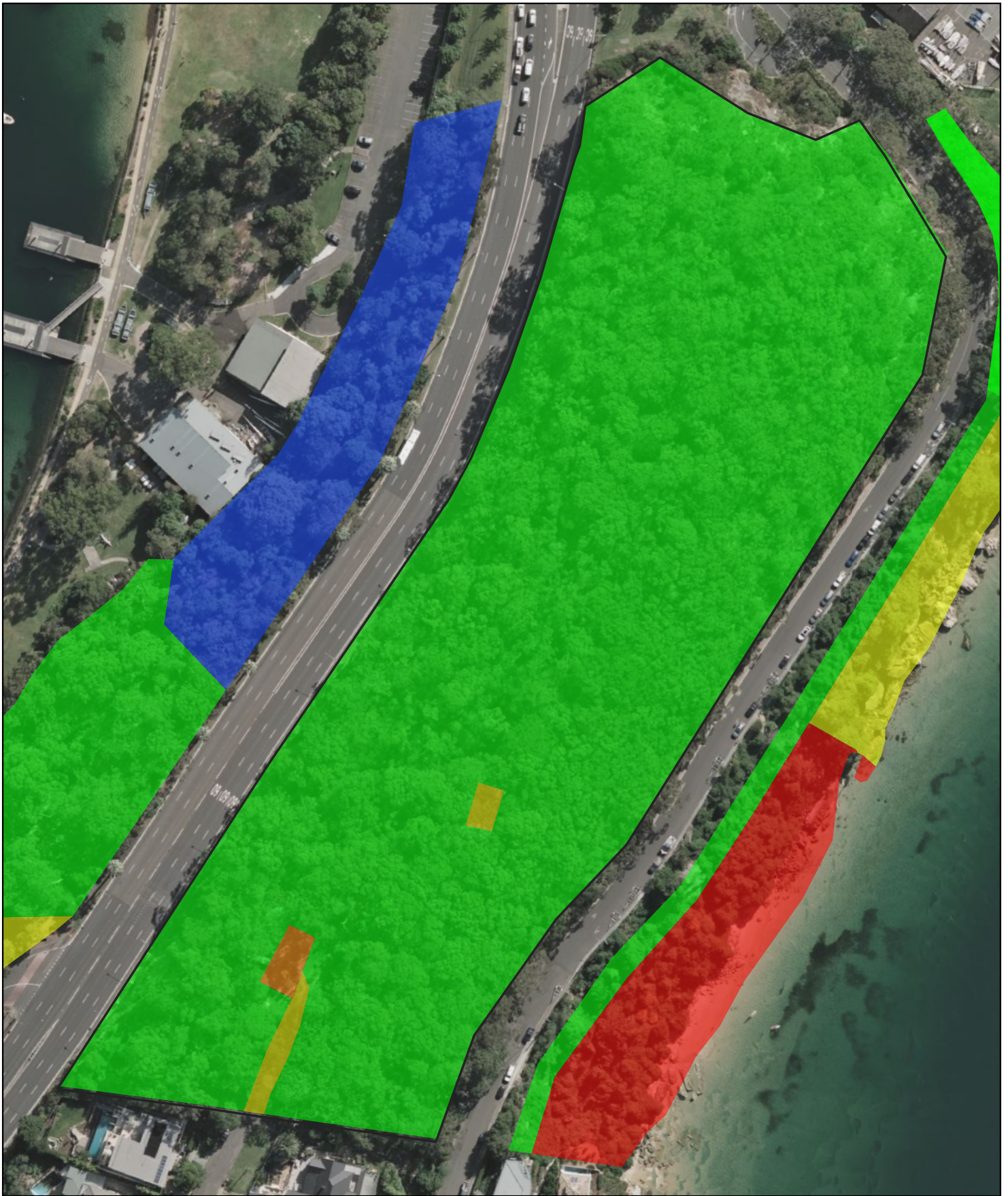
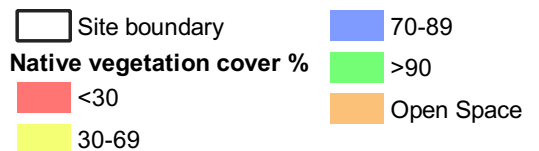


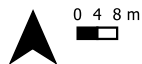
Figure 38: Native vegetation cover percent - Parriwi Park

Mosman Council

Mosman Flora and Fauna Survey 2021



Job number: PR6939
Date: 30/01/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

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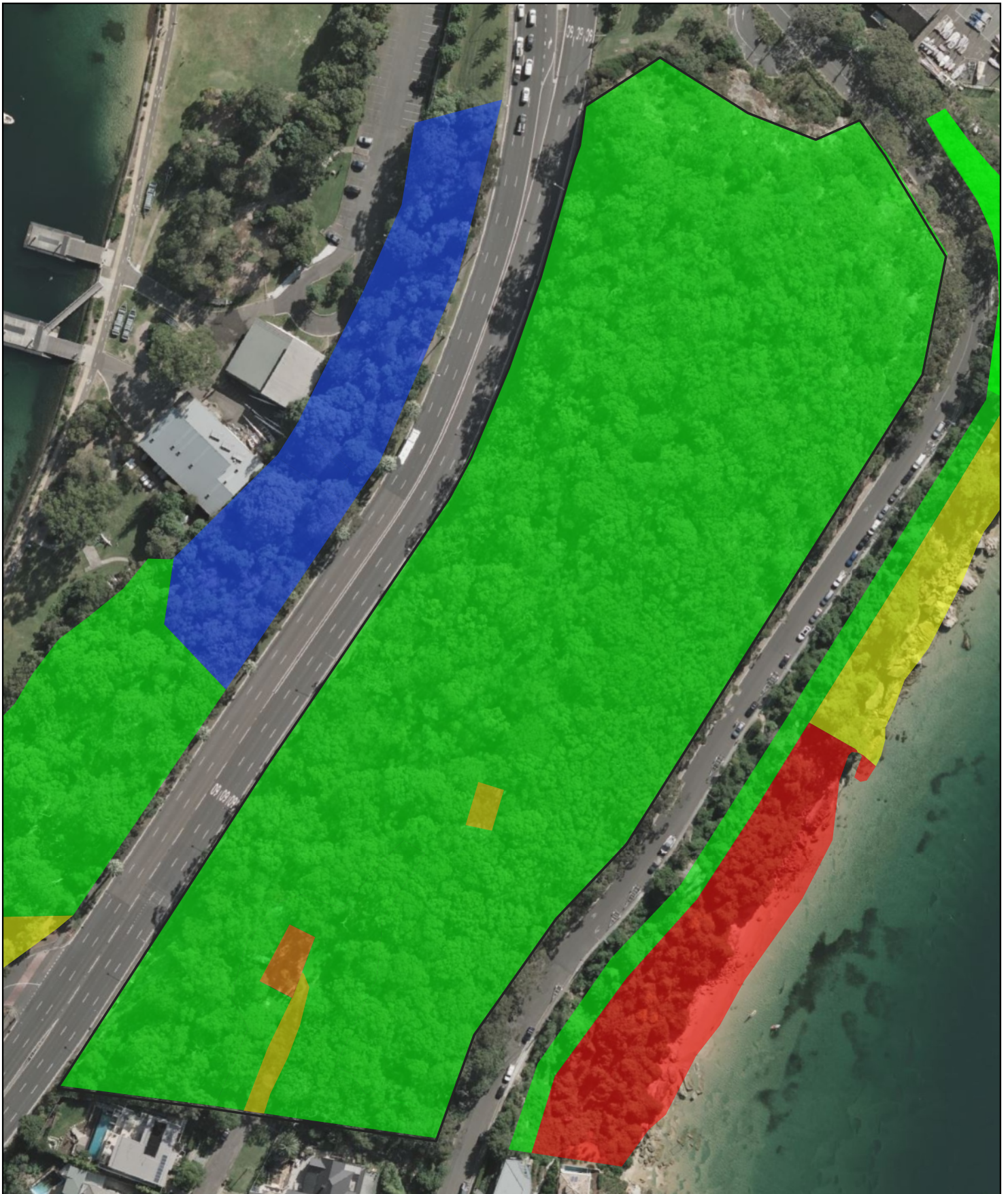
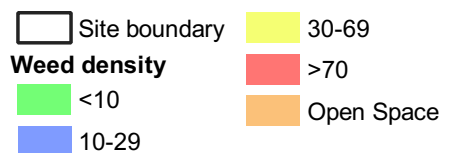


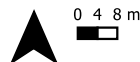
Figure 39: Weed density - Parriwi Park

Mosman Council

Mosman Flora and Fauna Survey 2021



Job number: PR6939
Date: 30/01/2022



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Projection: Transverse Mercator
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2.14 Parriwi Point

2.14.1 General description

Parriwi Point is a linear reserve that begins at Parriwi Head and continues south along a very steep east-facing slope towards Shell Cove. Sandstone outcrops and boulders are scattered throughout the reserve with a tidally inundated beach along the foreshore.

2.14.2 Vegetation communities

The vegetation community at Parriwi Point is dominated by Disturbed Sydney Sandstone Gully Forest which occurs across most of the site with the exception of a small section in the north of Regrowth Sydney Sandstone Gully Forest (Figure 40). A small area of open space also occurs adjacent to the marina. The majority of Parriwi Point Reserve consists of pockets of remnant and regrowth vegetation that is heavily degraded by weed species that occur in all strata. Table 95 provides an updated list of species frequently recorded in each community.

Table 95 Vegetation community description - Parriwi Point

Regrowth Sydney Sandstone Gully Forest

Canopy	<i>Ficus rubiginosa</i> (Port Jackson fig), <i>Angophora costata</i> (Sydney red gum)
Midstorey and understorey	<i>Pittosporum undulatum</i> (sweet pittosporum), <i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle), <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> (coast banksia)
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Imperata cylindrica</i> (blady grass), <i>Dianella caerulea</i> (blue flax-lily), <i>Austrodanthonia</i> sp (wallaby grass), <i>Asplenium australasicum</i> (birds nest fern), <i>Polygala myrtifolia</i> (polygala)

Disturbed Sydney Sandstone Gully Forest

Canopy	<i>Pittosporum undulatum</i> (sweet pittosporum), <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Cissus hypoglauca</i> (water vine), <i>Erythrina crista-galli</i> (cockspur coral tree), <i>Ipomoea carica</i> (coastal morning glory), <i>Ipomoea purpurea</i> (morning glory)
Midstorey and understorey	<i>Callistemon rigidus</i> (stiff bottlebrush), <i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle), <i>Ligustrum lucidum</i> (large leaf privet), <i>Tithonia diversifolia</i> (Japanese sunflower), <i>Senna pendula</i> var. <i>glabrata</i> (cassia), <i>Lantana camara</i> (Lantana)
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Dianella caerulea</i> (blue flax-lily), <i>Chlorophytum comosum</i> (spider plant), <i>Nephrolepis cordifolia</i> (fishbone fern)

2.14.3 Threatened flora

No threatened species were identified at Parriwi Point.

2.14.4 Threatened ecological communities

No threatened ecological communities (TECs) are mapped within the bushland reserve (OEH 2016c). The current survey did not detect any vegetation that corresponds to a TEC.

2.14.5 Native vegetation and weed cover

Native vegetation cover at Parriwi Point is relatively low across the majority of the site. The

area in the north adjacent to the sailing club included the highest percentage of native plant species within the reserve. Canopy species were present in this area but it lacked diversity in the midstorey and ground layer stratum, although plantings have occurred. The edge of the reserve along Parriwi Road has established native plantings as well. South of the sailing club native vegetation cover decreases and weed density increases. In the mid-section, *Cissus hypoglauca* (water vine) a native climbing plant, has smothered a large area of canopy trees, the species of which were not readily identifiable. Climbing and woody weed species dominated the remainder of the reserve. Figures 41 and 42 show native vegetation cover and weed density at the site. The top five weed species and total weed cover for each class is provided in Table 96.

Table 96 Top five weed species and total weed cover for each weed density class at Parriwi Point Reserve

Weed Class Density (%)	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Ochna serrulata</i>	Mickey Mouse plant	Lower	1
	<i>Ehrharta erecta</i>	panic veldtgrass	Lower	1
	<i>Asparagus aethiopicus</i>	ground asparagus	Lower	1
	<i>Polygala myrtifolia</i>	polygala	Lower	1
	Other weed species	annuals	Lower	2
				Total
30-69	<i>Asparagus aethiopicus</i>	ground asparagus	Lower	50
	<i>Erythrina x sykesii</i>	coral tree	Upper	2
	<i>Ligustrum lucidum</i>	large-leaved privet	Upper	2
	<i>Lantana camara</i>	lantana	Middle	1
	<i>Senna pendula</i> var. <i>glabrata</i>	cassia	Middle	1
	Other weed species		Lower	5
				Total
>70	<i>Ipomoea carica</i>	coastal morning glory	Upper	35
	<i>Ipomoea purpurea</i>	morning glory	Upper	15
	<i>Ligustrum lucidum</i>	large-leaved privet	Upper	10
	<i>Lantana camara</i>	lantana	Middle	5
	<i>Senna pendula</i> var. <i>glabrata</i>	cassia	Lower	1
	Other weed species			20
				Total

2.14.6 Fauna habitat

Fauna habitat attributes recorded for Parriwi Point are listed in Table 97

Table 97 Fauna habitat summary of Parriwi Point

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Moderately sized reserve with good connectivity to Parriwi Park (4) and The Spit Reserve (14); narrow, largely inaccessible site with steep slope to water front
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Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Connectivity	Good local connectivity, bounded by the harbour but two other bushland reserves (Parriwi Park and The Spit Reserve) are in close proximity.
Large hollows (>20 cm)	Absent
Small hollows (<20 cm)	Absent
Hollow status	n/a
Large logs (>50 cm)	Not assessed due to steep slope
Small logs (10-50 cm)	Not assessed due to steep slope
Cliffs/outcrops	Abundant
Large rocks (>30 cm)	Not assessed due to steep slope
Small rocks (10-30 cm)	Not assessed due to steep slope
Leaf litter	Common
Dense shrubs/grass shelter	Abundant
Termite mounds	Absent
Water bodies	Shoreline
Threatened fauna habitat	Foraging for threatened shorebirds.

2.14.7 Threats to flora and fauna

Current threats to the flora and fauna within Parriwi Point Reserve include:

- garden escapes from surrounding private properties
- introduced predators of native shorebirds including cat (*Felis catus*), dog (*Canis lupus familiaris*) and European fox (*Vulpes vulpes*).

2.14.8 Conservation significance

2.14.8.1 Vegetation

The vegetation conservation significance in this reserve is medium. The native vegetation in this bushland reserve is highly disturbed with weeds but sections could potentially be restored Sydney Sandstone Gully Forest.

2.14.8.2 Fauna

Seven fauna species (six bird, one reptile) were detected at this reserve during surveys in in December 2021 and January 2022. None of these species are threatened.

2.14.8.3 Priority

This site has a medium to high priority for conservation. Expanded bush regeneration works are needed to reduce weeds in the reserve and improve the condition and resilience.

2.14.9 Current management practices

Parriwi Point Reserve bushland reserve is currently managed as a bush regeneration and restoration site under Mosman Council's Bushland Restoration Contracts 2012 - 2022. A summary of the works to date is shown in Table 98.

Table 98 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary

Weeding	<ul style="list-style-type: none"> Primary weeding targeting noxious, woody and vine weeds along the road verge Secondary and maintenance weeding of noxious, woody and vine weed regrowth and annual and perennial herbs and grasses by hand weeding and spot spraying along the road verge.
Planting	n/a
Ecological/Hazard reduction burns	None on record.
Other	n/a

2.14.10 Recommendations

Difficult access constrains treatment of the weeds in this bushland reserve.

Current bushland management practices for Parriwi Point Reserve bushland reserve should be continued and expanded if possible. Prioritised recommendations are shown in Table 99.

Table 99 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds along the road verge.
2	Targeted weed treatment of noxious and woody weeds throughout the reserve where accessible.
3	Primary weeding targeting noxious, woody and vine weeds in areas surrounding <i>Ficus rubiginosa</i> (Port Jackson fig) individuals.
3	Ecological burns to be considered to assist in managing weed infestations in inaccessible areas.

2.14.11 Flora and fauna species list

Flora species recorded during current and previous surveys of Parriwi Point bushland reserve are listed in Table 100 and fauna species are listed in Table 101.

Table 100 Flora species list for Parriwi Point

Family	Scientific name	common name	Status	BR62
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		b
Fabaceae - Mimosoideae	<i>Acacia suaveolens</i>	sweet wattle		b
Fabaceae - Mimosoideae	<i>Acacia terminalis</i> subsp. <i>eastern Sydney</i>	sunshine wattle	E	a
Fabaceae - Mimosoideae	<i>Acacia ulicifolia</i>	prickly moses		a

Family	Scientific name	common name	Status	BR62
Polygonaceae	<i>Acetosa sagittata</i>	turkey rhubarb	*	b
Myrtaceae	<i>Acmena smithii</i>	lilly pilly		a
Adiantaceae	<i>Adiantum hispidulum</i>	rough maidenhair fern		a
Asteraceae	<i>Ageratina adenophora</i>	crofton weed	*	b
Casuarinaceae	<i>Allocasuarina littoralis</i>	black she-oak		b
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		b
Arecaceae	<i>Archontophoenix cunninghamiana</i>	bangalow palm		b
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	b
Aspleniaceae	<i>Asplenium australasicum</i>	birds nest fern		b
Aspleniaceae	<i>Asplenium flabellifolium</i>	necklace fern		a
Poaceae	<i>Austrodanthonia</i> sp.	wallaby grass		b
Poaceae	<i>Avena fatua</i>	wild oats	*	a
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*	b
Sterculiaceae	<i>Brachychiton acerifolius</i>	flame tree		a
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush		a
Crassulaceae	<i>Bryophyllum delagoense</i>	mother-of-millions	*	a
Myrtaceae	<i>Callistemon rigidus</i>	stiff bottlebrush		b
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken		a
Sapindaceae	<i>Cardiospermum grandiflorum</i>	balloon vine	*	a
Cunoniaceae	<i>Ceratopetalum gummiferum</i>	christmas bush		b
Anthericaceae	<i>Chlorophytum comosum</i>	spider plant	*	a
Vitaceae	<i>Cissus antarctica</i>	kangaroo vine		b
Vitaceae	<i>Cissus hypoglauca</i>	water vine		b
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp.	fleabane	*	b
Rubiaceae	<i>Coprosma repens</i>	new zealand laurel	*	a
Rutaceae	<i>Crowea saligna</i>			a
Cyatheaceae	<i>Cyathea cooperi</i>	straw treefern		a
Poaceae	<i>Cymbopogon refractus</i>	barbed wire grass		b
Poaceae	<i>Cynodon dactylon</i>	couch		b
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Phormiaceae	<i>Dianella revoluta</i>	paroo lily		b
Poaceae	<i>Digitaria sanguinalis</i>	summer grass	*	b
Sapindaceae	<i>Dodonaea triquetra</i>	large-leaf hop-bush		b
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	b
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	blueberry ash		a
Fabaceae - Faboideae	<i>Erythrina crista-galli</i>	cockspur coral tree	*	b
Myrtaceae	<i>Eucalyptus botryoides</i>	bangalay		b

Family	Scientific name	common name	Status	BR62
Myrtaceae	<i>Eucalyptus</i> sp.			a
Luzuriagaceae	<i>Eustrephus latifolius</i>	wombat berry		b
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Cyperaceae	<i>Gahnia</i> sp	saw-sedge		b
Asteraceae	<i>Galinsoga parviflora</i>	potato weed	*	a
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	cheese tree		b
Proteaceae	<i>Grevillea</i> sp.			b
Proteaceae	<i>Hakea sericea</i>	needlebush		b
Zingiberaceae	<i>Hedychium gardnerianum</i>	ginger lily	*	c
Dilleniaceae	<i>Hibbertia scandens</i>	climbing guinea flower		b
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b
Poaceae	<i>Imperata cylindrica</i>	blady grass		b
Convolvulaceae	<i>Ipomoea cairica</i>	coastal morning glory	*	b
Convolvulaceae	<i>Ipomoea indica</i>	morning glory	*	b
Cyperaceae	<i>Isolepis nodosa</i>	knobby club-rush		b
Proteaceae	<i>Isopogon anemonifolius</i>	broad-leaf drumsticks		c
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		a
Verbenaceae	<i>Lantana camara</i>	lantana	WoNS	b
Cyperaceae	<i>Lepidosperma laterale</i>			a
Oleaceae	<i>Ligustrum lucidum</i>	large leaved privet	*	b
Oleaceae	<i>Ligustrum sinense</i>	small leaved privet	*	a
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Caprifoliaceae	<i>Lonicera japonica</i>	japanese honeysuckle	*	b
Myrtaceae	<i>Melaleuca hypericifolia</i>	hillock bush		b
Hypoxidaceae	<i>Molineria capitulata</i>	palm grass	*	c
Araceae	<i>Monstera deliciosa</i>	fruit salad plant	*	b
Davalliaceae	<i>Nephrolepis cordifolia</i>	fishbone fern	ni	b
Oleaceae	<i>Notelaea longifolia</i>	large mock-olive		a
Poaceae	<i>Notodanthonia longifolia</i>	long-leaved wallaby grass		b
Ochnaceae	<i>Ochna serrulata</i>	ochna	*	b
Bignoniaceae	<i>Pandorea pandorana</i>	wonga wonga vine		a
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*	b
Passifloraceae	<i>Passiflora</i> sp.	passionfruit	*	a
Adiantaceae	<i>Pellaea falcata</i>	sickle fern		a
Poaceae	<i>Pennisetum clandestinum</i>	kikuyu grass	*	a
Arecaceae	<i>Phoenix canariensis</i>	canary island date palm	*	a
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Polypodiaceae	<i>Platynerium bifurcatum</i>	elkhorn		a

Family	Scientific name	common name	Status	BR62
Apiaceae	<i>Platysace lanceolata</i>	shrubby platysace		a
Polygalaceae	<i>Polygala myrtifolia</i>		*	a
Araliaceae	<i>Polyscias sambucifolia</i>	elderberry panax		a
Rubiaceae	<i>Pomax umbellata</i>	pomax		a
Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken		a
Polypodiaceae	<i>Pyrrosia rupestris</i>	rock felt fern		a
Fabaceae - Caesalpinioideae	<i>Senna pendula</i> var. <i>glabrata</i>	cassia	*	a
Malvaceae	<i>Sida rhombifolia</i>	paddy's lucerne	*	a
Smilacaceae	<i>Smilax glycyphylla</i>	sweet sarsaparilla		a
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	b
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	*	b
Gleicheniaceae	<i>Sticherus flabellatus</i> var. <i>flabellatus</i>	shiny fan fern		a
Meliaceae	<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	scentless rosewood		a
Aizoaceae	<i>Tetragonia tetragonioides</i>	New Zealand spinach		a
Poaceae	<i>Themeda triandra</i>	kangaroo grass		a
Commelinaceae	<i>Tradescantia fluminensis</i>	trad	*	a
Campanulaceae	<i>Wahlenbergia</i> sp.			a
Lamiaceae	<i>Westringia fruticosa</i>	coastal rosemary		a




Table 101 Fauna species list for Parriwi Point

Class	Family	Scientific Name	Common Name	Status	BR62
Birds	Cacatuidae	<i>Cacatua sanguinea</i>	little corella		a
Birds	Corvidae	<i>Corvus coronoides</i>	Australian raven		b
Birds	Alcedinidae	<i>Dacelo novaeguinea</i>	laughing kookaburra		a
Birds	Laridae	<i>Larus novaehollandiae</i>	silver gull		c
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		b
Birds	Phalacrocoracidae	<i>Phalacrocorax varius</i>	pied cormorant		c
Birds	Columbidae	<i>Phaps chalcoptera</i>	common bronzewing		a
Birds	Monarchidae	<i>Rhipidura fuliginosa</i>	grey fantail		a
Birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		b
Birds	Artamidae	<i>Strepera graculina</i>	pied currawong		b
Mammals	Muridae	<i>Hydromys chrysogaster</i>	water-rat		a
Mammals	Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	common ringtail possum		a
Mammals	Pteropodidae	<i>Pteropus poliocephalus</i>	grey-headed flying-fox	V	a
Reptiles	Scincidae	<i>Eulamprus quoyii</i>	eastern water-skink		b

2.14.12 Maps for Parriwi Point



Vegetation communities

-  Disturbed Sydney Sandstone Gully Forest
-  Sydney Sandstone Gully Forest
-  Open Space





-  Regrowth Sydney Sandstone Gully Forest

Figure 40: Vegetation Communities and threatened flora locations - Parriwi Point

Mosman Council

Mosman Flora and Fauna Survey 2021

-  Site boundary
-  *Acacia terminalis* ssp Eastern Sydney
-  *Acacia terminalis* ssp Eastern Sydney

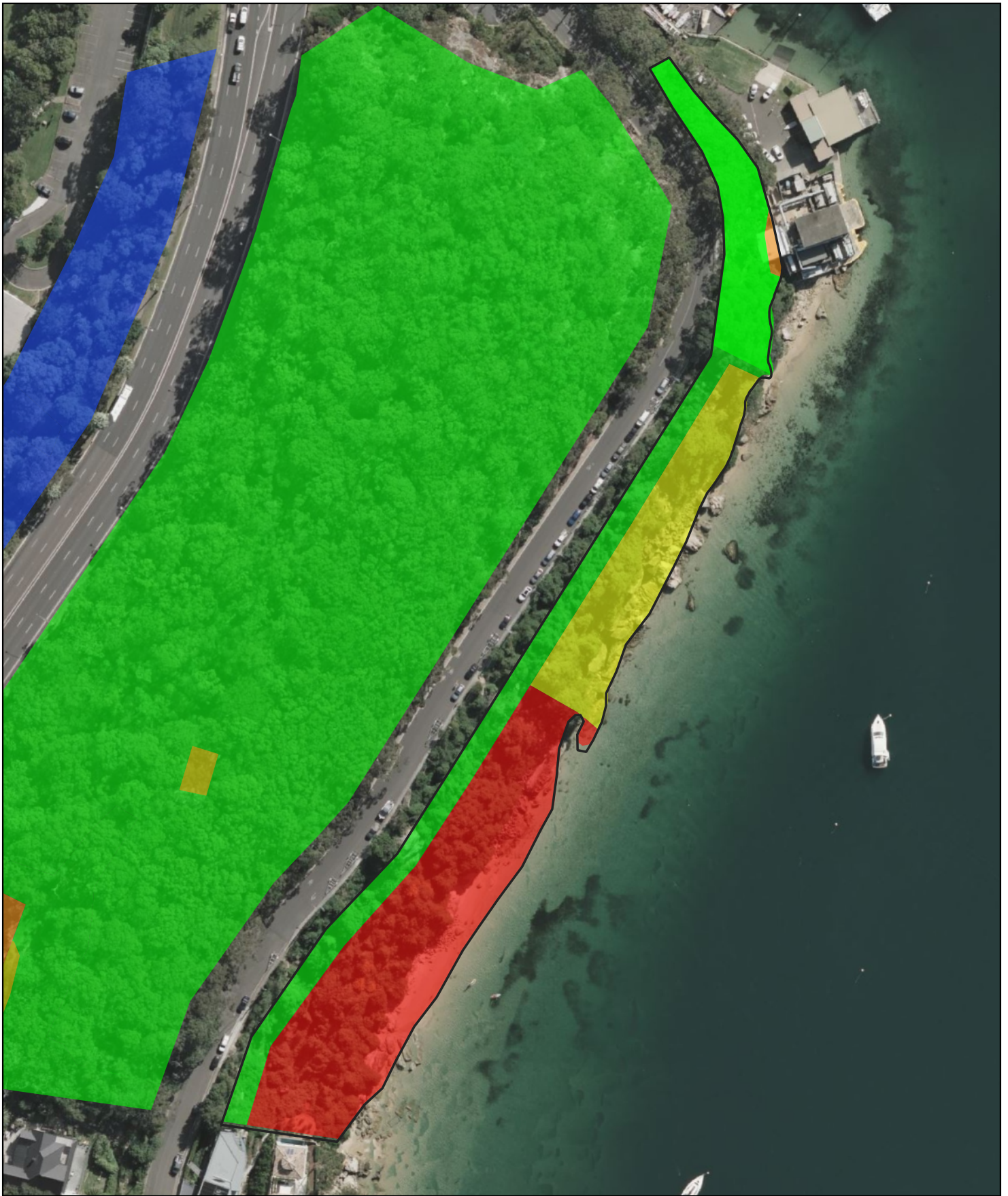
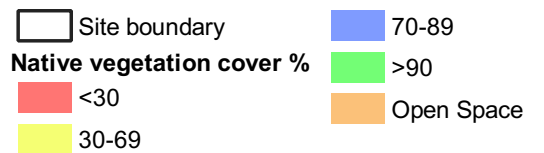
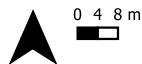


Figure 41: Native vegetation cover percent - Parriwi Point

Mosman Council
 Mosman Flora and Fauna Survey 2021



Job number: PR6939
 Date: 30/01/2022



GDA 1994 MGA Zone 56
 Projection: Transverse Mercator
 Datum: GDA 1994
 Units: Meter

Data Sources: © State of New South Wales (Department of Planning, Industry and Environment), 2022; © Ecosure 2022
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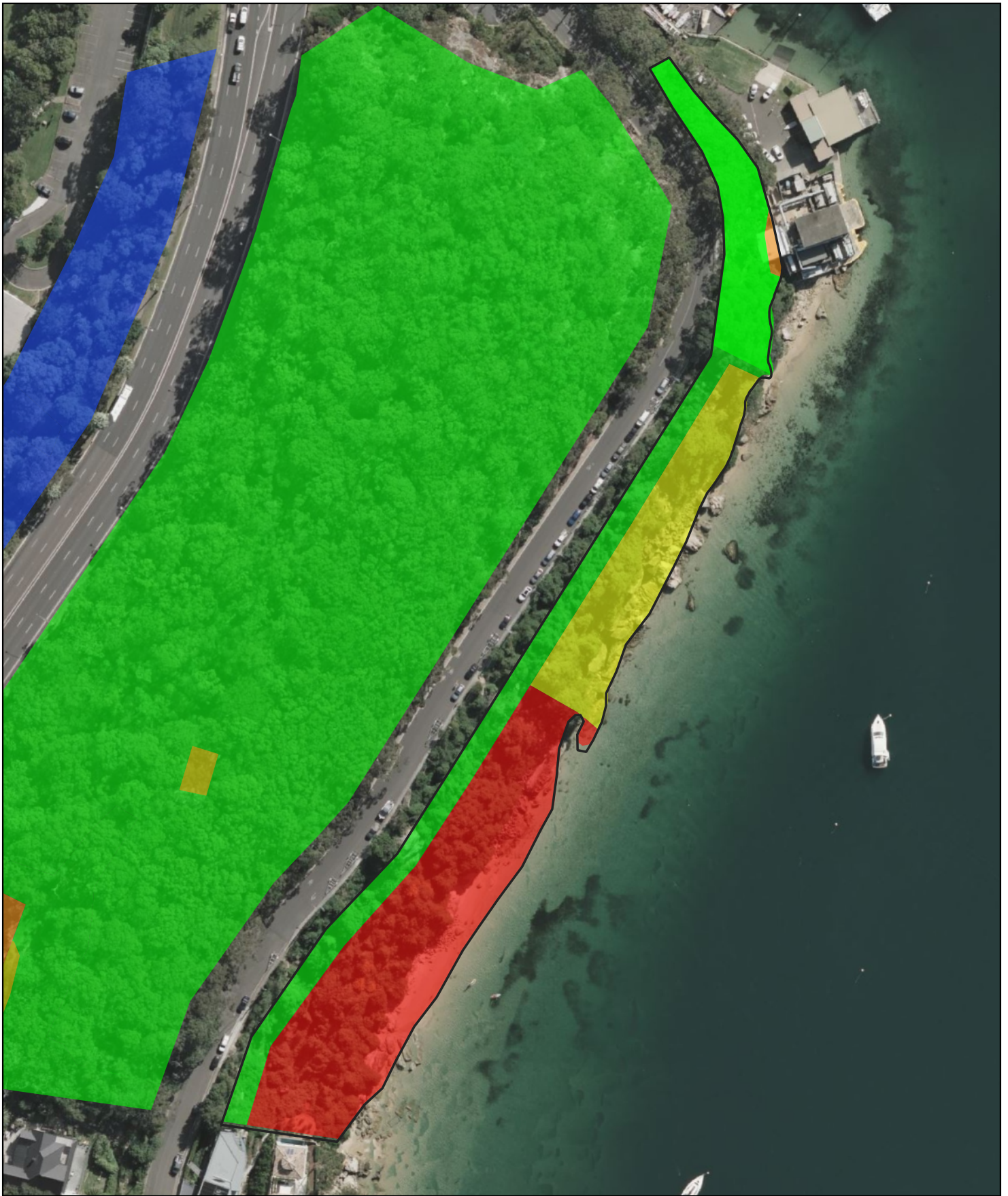
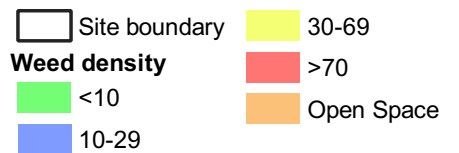


Figure 42: Weed density - Parriwi Point

Mosman Council

Mosman Flora and Fauna Survey 2021



2.15 Quakers Hat North

2.15.1 General description

Quakers Hat North is located in the north-west of Mosman LGA on the northern end of Quakers Hat Bay and adjoining Middle Harbour. The reserve occurs on a west-facing sandstone escarpment with sandstone outcrops and boulders scattered throughout. It includes a section of parkland in the south leading north behind private properties.

2.15.2 Vegetation communities

Sydney Sandstone Gully Forest occurs in the northern portion of Quakers Hat North. Two variations of this vegetation community continue to occur at the site, including Regrowth Sydney Sandstone Gully Forest and Disturbed Sydney Sandstone Gully Forest. Open Space exists as small areas in the central, east and west areas of the reserve together with portions of Established Planted Area (Figure 43). Table 102 provides an updated list of species frequently recorded in each community.

Table 102 Vegetation community descriptions - Quakers Hat North

Sydney Sandstone Gully Forest

Canopy	<i>Angophora costata</i> (Sydney red gum) and <i>Eucalyptus botryoides</i> (bangalay)
Midstorey	<i>Pittosporum undulatum</i> (sweet pittosporum), <i>Allocasuarina littoralis</i> (black she-oak), <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree) and <i>Ficus rubiginosa</i> (Port Jackson fig)
Understorey	<i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle), <i>Pittosporum undulatum</i> (sweet pittosporum), <i>Elaeocarpus reticulatus</i> (blueberry ash) and <i>Kunzea ambigua</i> (tick bush)
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Pteridium esculentum</i> (common bracken), <i>Dianella caerulea</i> (blue flax-lily) and <i>Microlaena stipoides</i> (weeping grass)

Regrowth Sydney Sandstone Gully Forest

Canopy	<i>Angophora costata</i> (Sydney red gum), <i>Eucalyptus botryoides</i> (bangalay) and <i>Acacia binervia</i> (coast myall)
Midstorey	<i>Pittosporum undulatum</i> (sweet pittosporum), <i>Acmena smithii</i> (lilly pilly), <i>Ligustrum lucidum</i> (large leaved privet), <i>Hakea gibbosa</i> (needlebush)
Understorey	<i>Pteridium esculentum</i> (common bracken), <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Pittosporum undulatum</i> (sweet pittosporum), <i>Nephrolepis cordifolia</i> (fishbone fern)
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Commelina cyanea</i> (scurvy weed), <i>Oplismenus aemulus</i> (oplismenus), <i>Gahnia clarkei</i> (tall saw-sedge) and <i>Imperata cylindrica</i> (blady grass)

Disturbed Sydney Sandstone Gully Forest

Canopy	<i>Angophora costata</i> (Sydney red gum) and <i>Eucalyptus botryoides</i> (bangalay)
Midstorey	<i>Pittosporum undulatum</i> (sweet pittosporum), <i>Allocasuarina littoralis</i> (black she-oak), <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Cuscuta australis</i> (Australian dodder)
Understorey	<i>Hedychium gardnerianum</i> (ginger lily), <i>Pteridium esculentum</i> (common bracken), <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Anredera cordifolia</i> (Madeira vine)
Groundcover	<i>Nephrolepis cordifolia</i> (fishbone fern), <i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Commelina cyanea</i> (scurvy weed), <i>Gahnia clarkei</i> (tall saw-sedge), <i>Imperata cylindrica</i> (blady grass)

Established Planted Area

Canopy	<i>Pittosporum undulatum</i> (sweet pittosporum) and <i>Banksia spinulosa</i> (hairpin banksia)
Understorey	<i>Lomandra longifolia</i> (spiny-headed mat-rush) and <i>Pteridium esculentum</i> (common bracken)
Groundcover	<i>Commelina cyanea</i> (scurvy weed), <i>Nephrolepis cordifolia</i> (fishbone fern), <i>Imperata cylindrica</i> (blady grass) and <i>Conyza</i> sp (fleabane)

2.15.3 Threatened flora

Previous surveys recorded two individual *Acacia terminalis* subsp. *eastern Sydney* (sunshine wattle) in the reserve (Total Earth Care 2007). No threatened flora species were recorded at this site during the current survey.

2.15.4 Threatened ecological communities

The Threatened Ecological Communities Greater Sydney (DPIE 2021) did not identify any TECs within Quakers Hat North. The current survey did not detect any vegetation that corresponds to a TEC.

2.15.5 Native vegetation and weed cover

Native vegetation cover of greater than 90% occurs across approximately 30% of the site together with two sections of 70-89% and two small areas of 30-69%. Weed density is concentrated along the foreshore in the south which is difficult to access for treatment, as well as a relatively high weed density located north of the central zone. Figures 44 and 45 show native vegetation cover and weed density at the site. The top five weed species and total weed cover for each class is provided in Table 103.

Table 103 Top five weed species and total weed cover for each weed density class at Quakers Hat North

Weed Density Class	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Ipomoea purpurea</i>	morning glory	Middle	1
	<i>Ligustrum sinense</i>	small-leaved privet	Lower	1
	<i>Acetosa saggitata</i>	turkey rhubarb	Lower	1
	<i>Chorophytum comosum</i>	spider plant	Lower	
	<i>Nephrolepis cordifolia</i>	fishbone fern	Lower	
	Other weed species		Lower	4
				Total
10-29	<i>Anredera cordifolia</i>	Madeira vine	Lower	1
	<i>Ipomoea purpurea</i>	morning glory	Middle	1
	<i>Nephrolepis cordifolia</i>	fishbone fern	Lower	1
	<i>Acetosa sagittata</i>	turkey rhubarb	Lower	1
	<i>Asparagus aethiopicus</i>	ground asparagus	Lower	1
	Other weed species		Lower	10

Weed Density Class	Scientific name	Common name	Dominant stratum	% Cover
			Total	15
30-69	<i>Nephrolepis cordifolia</i>	fishbone fern	Lower	25
	<i>Hedychium gardnerianum</i>	ginger lily	Lower	5
	<i>Crococsmia crocosmiiflora</i>	montbretia	Lower	1
	<i>Acetosa sagittata</i>	turkey rhubarb	Lower	1
	<i>Rubus fruticosus</i>	blackberry	Lower	1
	Other weed species			12
				Total

2.15.6 Fauna habitat

Fauna habitat attributes recorded for Quakers Hat North are listed in Table 104.

Table 104 Fauna habitat summary of Quakers Hat North

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Fauna habitat is poor to moderate. The reserve has good local connectivity (see below), which compensates for the small size of the reserve. However, the shore terrace and cliff top are compromised by clearing. It provides habitat for water rat (<i>Hydromys chrysogaster</i>) and large-footed myotis (<i>Myotis macropus</i>).
Connectivity	Good local connectivity, bounded by the harbour but two other bushland reserves (Quakers Hat Park and Quakers Hat South) are in close proximity.
Large hollows (>20 cm)	Absent
Small hollows (<20 cm)	Scattered
Hollow status	Mixture
Large logs (>50 cm)	Absent
Small logs (10-50 cm)	Scattered
Cliffs/outcrops	Common
Large rocks (>30 cm)	Scattered
Small rocks (10-30 cm)	Scattered
Leaf litter	Scattered
Dense shrubs/grass shelter	Scattered
Termite mounds	Absent
Water bodies	Shoreline, seepage line
Threatened fauna habitat	Hollows and foraging for threatened parrots and microbats.

2.15.7 Threats to flora and fauna

Current threats to the flora and fauna within Quakers Hut North reserve include:

- dispersal of weeds from higher weed density vegetation including surrounding disturbed Sydney Sandstone Gully Forest

- removal of native vegetation in the open area and surrounds to enhance private property views
- garden escapes from surrounding private properties.

2.15.8 Conservation significance

2.15.8.1 Vegetation

The vegetation conservation significance in this reserve is medium to high. Weed abundance in this bushland reserve is low to moderate and has decreased since previous surveys by Total Earth Care 2007 and Ecosure 2016. The restoration and revegetation works have reduced weed presence and aided in the regeneration of native species.

2.15.8.2 Fauna

Eleven fauna species (nine birds and two reptile) were detected at this reserve during surveys in December 2021 and January 2022. None of these species are threatened.

2.15.8.3 Priority

This site has a medium to high priority for conservation. Weed levels have remained static and ongoing bushland restoration works are still required to reach low weed abundance in Sydney Sandstone Gully Forest and reduce weed abundance in disturbed and regenerating communities of Sydney Sandstone Gully Forest. Bushland revegetation in the open space will also aid in connectivity between native vegetation areas. Some regeneration here was noticeable during the current surveys.

2.15.9 Current management practices

Quakers Hat North is currently managed as a bush regeneration and restoration site under Mosman Council's Bushland Restoration Contracts 2012 - 2022. A summary of the works to date is shown in Table 105.

Table 105 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary

Weeding	<ul style="list-style-type: none"> • Primary weeding targeting noxious, woody and vine weeds • Secondary and maintenance weeding of noxious, woody and vine weed regrowth and annual and perennial herbs and grasses by hand weeding and spot spraying.
Planting	Recent and established scattered plantings and open space buffer plantings in the open space and Regrowth Sydney Sandstone Gully Forest.
Ecological/Hazard reduction burns	Pile burns occurred in 2005 and 2006.
Other	n/a

2.15.10 Recommendations

Current bushland management practices for Quakers Hat North should be continued. Prioritised recommendations are shown in Table 106.

Table 106 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve.
2	Continue planting of native tree, shrub and groundcover species in the regenerating and disturbed Sydney Sandstone Gully Forest to supplement regeneration.
3	Continue planting of native vegetation in the open space to aid connectivity between the native regenerating and disturbed Sydney Sandstone Gully Forest vegetation communities.

2.15.11 Flora and fauna species list

Flora species recorded during current and previous surveys of Quakers Hat North are listed in Table 107 and fauna species are listed in Table 108.

Table 107 Flora species list for Quakers Hat North

Family	Scientific name	Common name	Status	BR63
Fabaceae - Mimosoideae	<i>Acacia binervia</i>	coast myall		b
Fabaceae - Mimosoideae	<i>Acacia floribunda</i>	white sally wattle		a
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		b
Fabaceae - Mimosoideae	<i>Acacia suaveolens</i>	sweet wattle		a
Fabaceae - Mimosoideae	<i>Acacia terminalis</i> subsp. <i>eastern Sydney</i>	sunshine wattle	E	a
Fabaceae - Mimosoideae	<i>Acacia ulicifolia</i>	prickly Moses		b
Polygonaceae	<i>Acetosa sagittata</i>	turkey rhubarb	*	b
Myrtaceae	<i>Acmena smithii</i>	lilly pilly		a
Adiantaceae	<i>Adiantum aethiopicum</i>	common maidenhair		a
Alliaceae	<i>Agapanthus praecox</i> subsp. <i>orientalis</i>	African lily	*	a
Agavaceae	<i>Agave americana</i>	century plant	*	b
Asteraceae	<i>Ageratina adenophora</i>	Crofton weed	*	b
Casuarinaceae	<i>Allocasuarina distyla</i>			a
Casuarinaceae	<i>Allocasuarina littoralis</i>	black she-oak		b
Araceae	<i>Alocasia brisbanensis</i>			a
Primulaceae	<i>Anagallis arvensis</i>	scarlet pimpernel	*	b
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		b
Basellaceae	<i>Anredera cordifolia</i>	Madeira vine	WoNS	b
Arecaceae	<i>Archontophoenix cunninghamiana</i>	bangalow palm		c
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	b

Family	Scientific name	Common name	Status	BR63
Aspleniaceae	<i>Asplenium flabellifolium</i>	necklace fern		a
Araliaceae	<i>Astrotricha floccosa</i>			a
Poaceae	<i>Austrodanthonia</i> sp.	wallaby grass		a
Poaceae	<i>Austrostipa pubescens</i>	spear grass		a
Proteaceae	<i>Banksia ericifolia</i> subsp. <i>ericifolia</i>	heath-leaved banksia		b
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Proteaceae	<i>Banksia serrata</i>	old-man banksia		a
Proteaceae	<i>Banksia spinulosa</i>	hairpin banksia		b
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*	b
Pittosporaceae	<i>Billardiera scandens</i>	hairy apple berry		a
Blechnaceae	<i>Blechnum cartilagineum</i>	gristle fern		c
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush		b
Poaceae	<i>Briza maxima</i>	quaking grass	*	b
Crassulaceae	<i>Bryophyllum delagoense</i>	mother-of-millions	*	a
Anthericaceae	<i>Caesia parviflora</i>	pale grass-lily		a
Portulacaceae	<i>Calandrinia pickeringii</i>			a
Myrtaceae	<i>Callistemon salignus</i>	willow bottlebrush		b
Cupressaceae	<i>Callitris rhomboidea</i>	Port Jackson pine		b
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken		b
Asteraceae	<i>Cassinia denticulata</i>	stiff cassinia		a
Lauraceae	<i>Cassytha pubescens</i>			a
Apiaceae	<i>Centella asiatica</i>	Indian pennywort		a
Cunoniaceae	<i>Ceratopetalum gummiferum</i>	Christmas bush		a
Solanaceae	<i>Cestrum parqui</i>	green poisonberry	N3	a
Adiantaceae	<i>Cheilanthes sieberi</i>			a
Chenopodiaceae	<i>Chenopodium album</i>	fat hen	*	a
Agavoidae	<i>Chorophytum comosum</i>	spider plant	*	b
Lauraceae	<i>Cinnamomum camphora</i>	camphor laurel	*	a
Vitaceae	<i>Cissus antarctica</i>	kangaroo vine		a
Vitaceae	<i>Cissus hypoglauca</i>	water vine		a
Rutaceae	<i>Citrus</i> sp.	citrus	*	a
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp.	fleabane	*	b
Rubiaceae	<i>Coprosma repens</i>	New Zealand laurel	*	a
Malaceae	<i>Cotoneaster</i> sp.	Cotoneaster	*	a
Asteraceae	<i>Crassocephalum crepidioides</i>	thickhead	*	b
Amaryllidaceae	<i>Crinum pedunculatum</i>	swamp lily		a
Iridaceae	<i>Crocasmia crocosmiiflora</i>	montbretia	*	c
Rutaceae	<i>Crowea saligna</i>			b

Family	Scientific name	Common name	Status	BR63
Cyatheaceae	<i>Cyathea cooperi</i>	straw tree-fern		b
Apiaceae	<i>Cyclospermum leptophyllum</i>	slender celery	*	b
Poaceae	<i>Cymbopogon obtectus</i>			a
Poaceae	<i>Cynodon dactylon</i>	couch		b
Cyperaceae	<i>Cyperus brevifolius</i>		*	a
Cyperaceae	<i>Cyperus polystachyos</i>			b
Cyperaceae	<i>Cyperus sanguinolentus</i>			a
Orchidaceae	<i>Dendrobium linguiforme</i>	tongue orchid		a
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Phormiaceae	<i>Dianella revoluta</i>	paroo lily		a
Poaceae	<i>Dichelachne</i> sp.			a
Convolvulaceae	<i>Dichondra repens</i>	kidney weed		b
Poaceae	<i>Digitaria didactyla</i>	Queensland blue couch		a
Poaceae	<i>Digitaria parviflora</i>	small-flowered finger grass		a
Poaceae	<i>Digitaria sanguinalis</i>	summer grass	*	a
Fabaceae - Faboideae	<i>Dillwynia retorta</i>			b
Sapindaceae	<i>Dodonaea triquetra</i>	large-leaf hop-bush		a
Blechnaceae	<i>Doodia aspera</i>	prickly rasp fern		b
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	b
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	blueberry ash		a
Poaceae	<i>Entolasia marginata</i>	bordered panic		a
Poaceae	<i>Entolasia stricta</i>	wiry panic		a
Ericaceae	<i>Epacris longiflora</i>	fuchsia heath		b
Poaceae	<i>Eragrostis brownii</i>	brown's lovegrass		a
Myrtaceae	<i>Eucalyptus botryoides</i>	bangalay		b
Myrtaceae	<i>Eucalyptus piperita</i>	Sydney peppermint		a
Myrtaceae	<i>Eucalyptus resinifera</i>	red mahogany		a
Myrtaceae	<i>Eucalyptus robusta</i>	swamp mahogany		a
Euphorbiaceae	<i>Euphorbia peplus</i>	petty spurge	*	a
Moraceae	<i>Ficus macrophylla</i>	Moreton Bay fig		a
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Cyperaceae	<i>Fimbristylis dichotoma</i>	common fringe-sedge		a
Fumariaceae	<i>Fumaria officinalis</i>		*	a
Cyperaceae	<i>Gahnia clarkei</i>	tall saw-sedge		b
Geraniaceae	<i>Geranium homeanum</i>	native geranium		b
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	cheese tree		b
Fabaceae - Faboideae	<i>Glycine clandestina</i>			a
Fabaceae - Faboideae	<i>Glycine microphylla</i>	small-leaf glycine		a
Haloragaceae	<i>Gonocarpus teucroides</i>	raspwort		a

Family	Scientific name	Common name	Status	BR63
Proteaceae	<i>Grevillea linearifolia</i>	linear-leaf grevillea		b
Proteaceae	<i>Grevillea</i> sp. hort		ni	
Proteaceae	<i>Hakea dactyloides</i>	finger hakea		b
Proteaceae	<i>Hakea gibbosa</i>	needlebush		b
Fabaceae - Faboideae	<i>Hardenbergia violacea</i>	purple coral pea		a
Zingiberaceae	<i>Hedychium gardnerianum</i>	ginger lily	*	b
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b
Dennstaedtiaceae	<i>Hypolepis muelleri</i>	harsh ground fern		a
Poaceae	<i>Imperata cylindrica</i>	blady grass		b
Convolvulaceae	<i>Ipomoea indica</i>	morning glory	*	b
Bignoniaceae	<i>Jacaranda mimosifolia</i>	jacaranda	*	a
Juncaceae	<i>Juncus usitatus</i>	common rush		b
Fabaceae - Faboideae	<i>Kennedia rubicunda</i>	dusky coral pea		a
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		b
Proteaceae	<i>Lambertia formosa</i>	mountain devil		b
Verbenaceae	<i>Lantana camara</i>	lantana	WoNS	b
Sterculiaceae	<i>Lasiopetalum ferrugineum</i> var. <i>ferrugineum</i>			a
Rutaceae	<i>Leionema dentatum</i>	toothed phebalium		a
Cyperaceae	<i>Lepidosperma gunnii</i>			a
Cyperaceae	<i>Lepidosperma laterale</i>			a
Myrtaceae	<i>Leptospermum petersonii</i>	lemon-scented teatree	ni	a
Myrtaceae	<i>Leptospermum polygalifolium</i>	yellow tea-tree		b
Oleaceae	<i>Ligustrum lucidum</i>	large leaved privet	*	b
Oleaceae	<i>Ligustrum sinense</i>	small leaved privet	*	b
Arecaceae	<i>Livistona australis</i>	cabbage fan-palm		a
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Proteaceae	<i>Lomatia silaifolia</i>	crinkle bush		a
Caprifoliaceae	<i>Lonicera japonica</i>	Japanese honeysuckle	*	a
Zamiaceae	<i>Macrozamia communis</i>	burrawang		b
Myrtaceae	<i>Melaleuca armillaris</i>	bracelet honey-myrtle		a
Myrtaceae	<i>Melaleuca bracteata</i>	black tea-tree		a
Myrtaceae	<i>Melaleuca hypericifolia</i>	hillock bush		b
Myrtaceae	<i>Melaleuca linariifolia</i>	flax-leaved paperbark		b
Myrtaceae	<i>Melaleuca styphelioides</i>	prickly-leaved tea tree		b
Euphorbiaceae	<i>Micrantheum ericoides</i>			a
Poaceae	<i>Microlaena stipoides</i> var. <i>stipoides</i>	weeping grass		b
Malvaceae	<i>Modiola caroliniana</i>	red-flowered mallow	*	b
Ericaceae	<i>Monotoca elliptica</i>	tree broom-heath		b
Araceae	<i>Monstera deliciosa</i>	fruit salad plant	*	b

Family	Scientific name	Common name	Status	BR63
Musaceae	<i>Musa</i> sp.	banana	*	b
Myrsinaceae	<i>Myrsine variabilis</i>			a
Davalliaceae	<i>Nephrolepis cordifolia</i>	fishbone fern	ni	b
Oleaceae	<i>Notelaea longifolia</i>	large mock-olive		a
Poaceae	<i>Notodanthonia longifolia</i>	long-leaved wallaby grass		a
Ochnaceae	<i>Ochna serrulata</i>	ochna	*	b
Rubiaceae	<i>Opercularia aspera</i>	coarse stinkweed		a
Poaceae	<i>Oplismenus aemulus</i>	oplismenus		b
Poaceae	<i>Oplismenus imbecillis</i>			a
Oxalidaceae	<i>Oxalis latifolia</i>		*	a
Oxalidaceae	<i>Oxalis</i> sp.		*	a
Bignoniaceae	<i>Pandorea pandorana</i>	wonga wonga vine		b
Poaceae	<i>Panicum simile</i>	two-colour panic		a
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*	b
Poaceae	<i>Paspalum dilatatum</i>	paspalum	*	b
Passifloraceae	<i>Passiflora</i> sp.	passionfruit	*	a
Poaceae	<i>Pennisetum setaceum</i>	fountain grass	*	a
Polygonaceae	<i>Persicaria capitata</i>		*	a
Proteaceae	<i>Persoonia levis</i>	broad-leaved geebung		a
Euphorbiaceae	<i>Phyllanthus hirtellus</i>			a
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Plantaginaceae	<i>Plantago lanceolata</i>	lamb's tongues	*	b
Apiaceae	<i>Platysace linearifolia</i>			a
Lamiaceae	<i>Plectranthus parviflorus</i>	cockspur flower		b
Poaceae	<i>Poa affinis</i>	poa		b
Araliaceae	<i>Polyscias sambucifolia</i>	elderberry panax		a
Rhamnaceae	<i>Pomaderris ferruginea</i>			b
Portulacaceae	<i>Portulaca oleracea</i>	pigweed		a
Proteaceae	<i>Protea</i> sp.	protea sp	*	a
Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken		b
Fabaceae - Faboideae	<i>Pultenaea daphnoides</i>			a
Polypodiaceae	<i>Pyrrosia rupestris</i>	rock felt fern		a
Rosaceae	<i>Rubus fruticosus agg</i> sp	blackberry	WoNS	a
Cyperaceae	<i>Schoenus melanostachys</i>			a
Cyperaceae	<i>Schoenus</i> sp.			a
Crassulaceae	<i>Sedum</i> sp.	stonecrop	*	a
Fabaceae - Caesalpinioideae	<i>Senna pendula</i> var. <i>glabrata</i>	cassia	*	a
Poaceae	<i>Setaria palmifolia</i>	palm grass	*	c
Smilacaceae	<i>Smilax glycyphylla</i>	sweet sarsaparilla		b

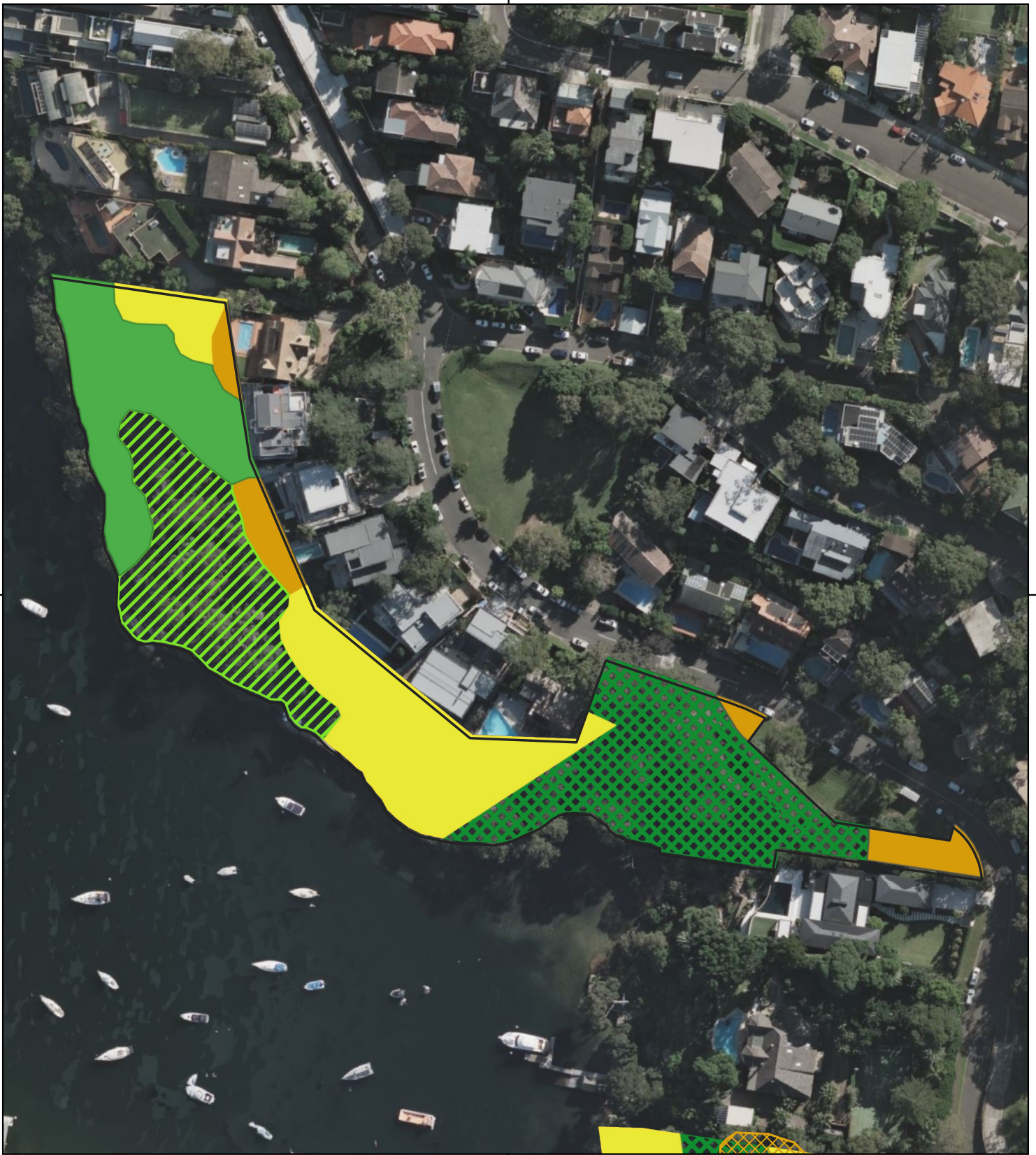
Family	Scientific name	Common name	Status	BR63
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	a
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	*	a
Menispermaceae	<i>Stephania japonica</i> var. <i>discolor</i>	snake vine		a
Strelitziaceae	<i>Strelitzia nicolai</i>	giant bird of paradise	*	b
Asteraceae	<i>Taraxacum officinale</i>	dandelion	*	b
Poaceae	<i>Themeda triandra</i>	kangaroo grass		b
Commelinaceae	<i>Tradescantia fluminensis</i>	trad	*	b
Verbenaceae	<i>Verbena bonariensis</i>	purple top	*	b
Verbenaceae	<i>Verbena officinalis</i>	common verbena	*	a
Scrophulariaceae	<i>Veronica plebeia</i>	trailing speedwell		a
Fabaceae - Faboideae	<i>Vicia sativa</i>	vetch	*	a
Violaceae	<i>Viola hederacea</i>	native violet		a
Campanulaceae	<i>Wahlenbergia gracilis</i>	sprawling bluebell		a
Lamiaceae	<i>Westringia fruticosa</i>	coastal rosemary		c
Ericaceae	<i>Woolfsia pungens</i>			a
Xanthorrhoeaceae	<i>Xanthorrhoea</i> sp	blackboy		b
Apiaceae	<i>Xanthosia pilosa</i>	woolly xanthosia		a
Apiaceae	<i>Xanthosia tridentata</i>	rock xanthosia		a
Agavaceae	<i>Yucca aloifolia</i>	Spanish bayonet	*	a
Araceae	<i>Zantedeschia aethiopica</i>	arum lily	*	b
Rutaceae	<i>Zieria pilosa</i>	pilose-leafed zieria		a

Table 108 Fauna species list for Quakers Hat North

Class	Family	Scientific Name	Common name	Status	BR63
Birds	Sturnidae	<i>Acridotheres tristis</i>	common myna	*	a
Birds	Megapodiidae	<i>Alectura lathami</i>	Australian brushturkey		b
Birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		b
Birds	Corvidae	<i>Corvus coronoides</i>	Australian raven		b
Birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		a
Birds	Alcedinidae	<i>Dacelo novaeguinea</i>	laughing kookaburra		b
Birds	Cuculidae	<i>Eudynamys scolopacea</i>	common koel		a
Birds	Dicruridae	<i>Grallina cyanoleuca</i>	magpie-lark		a
Birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		b
Birds	Hirundinidae	<i>Hirundo neoxena</i>	welcome swallow		a
Birds	Laridae	<i>Larus novaehollandiae</i>	silver gull		b
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		b
Birds	Estrildidae	<i>Neochmia temporalis</i>	red-browed finch		a
Birds	Phalacrocoracidae	<i>Phalacrocorax carbo</i>	great cormorant		a
Birds	Podargidae	<i>Podargus strigoides</i>	tawny frogmouth		a
Birds	Psophodidae	<i>Psophodes olivaceus</i>	eastern whipbird		a

Class	Family	Scientific Name	Common name	Status	BR63
Birds	Dicruridae	<i>Rhipidura leucophrys</i>	willie wagtail		a
Birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		a
Birds	Artamidae	<i>Strepera graculina</i>	pieb currawong		a
Birds	Sturnidae	<i>Sturnus vulgaris</i>	common starling		a
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		b
Birds	Charadriidae	<i>Vanellus miles</i>	masked lapwing		c
Mammals	Peramelidae	<i>Perameles nasuta</i>	long-nosed bandicoot		a
Mammals	Pteropodidae	<i>Pteropus poliocephalus</i>	grey-headed flying-fox	V	a
Reptiles	Scincidae	<i>Ctenotus taeniolatus</i>	copper-tailed skink		a
Reptiles	Scincidae	<i>Eulamprus quoyi</i>	Eastern water skink		c
Reptiles	Scincidae	<i>Lampropholis delicata</i>	dark-flecked garden sunskink		b
Reptiles	Scincidae	<i>Lampropholis guichenoti</i>	pale-flecked garden sunskink		a
Reptiles	Agamidae	<i>Physignathus lesueurii</i>	eastern water dragon		a
Reptiles	Scincidae	<i>Tiliqua scincoides</i>	common bluetongue		a



2.15.12 Maps for Quakers Hat North



Vegetation communities

-  Disturbed Sydney Sandstone Gully Forest
-  Established Planted Area
-  Open Space
-  Regrowth Sydney Sandstone Gully Forest
-  Sydney Sandstone Gully Forest

Figure 43: Vegetation Communities and threatened flora locations - Quakers Hat North

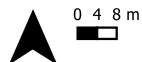
-  Site boundary
-  *Acacia terminalis* ssp Eastern Sydney

Mosman Council

Mosman Flora and Fauna Survey 2021



Job number: PR6939
Date: 30/01/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

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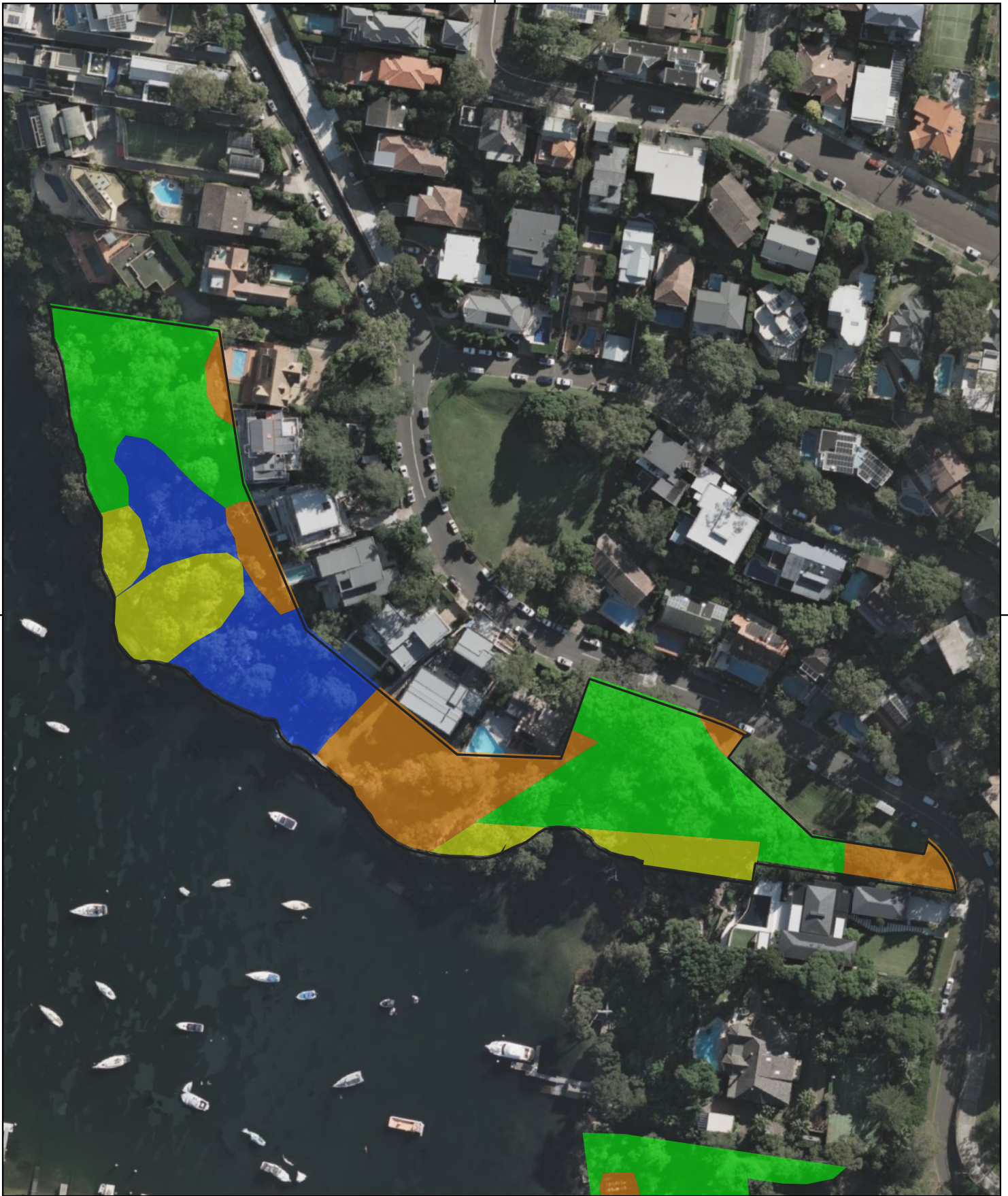


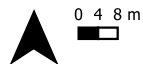
Figure 44: Native vegetation cover percent - Quakers Hat North

Mosman Council

Mosman Flora and Fauna Survey 2021



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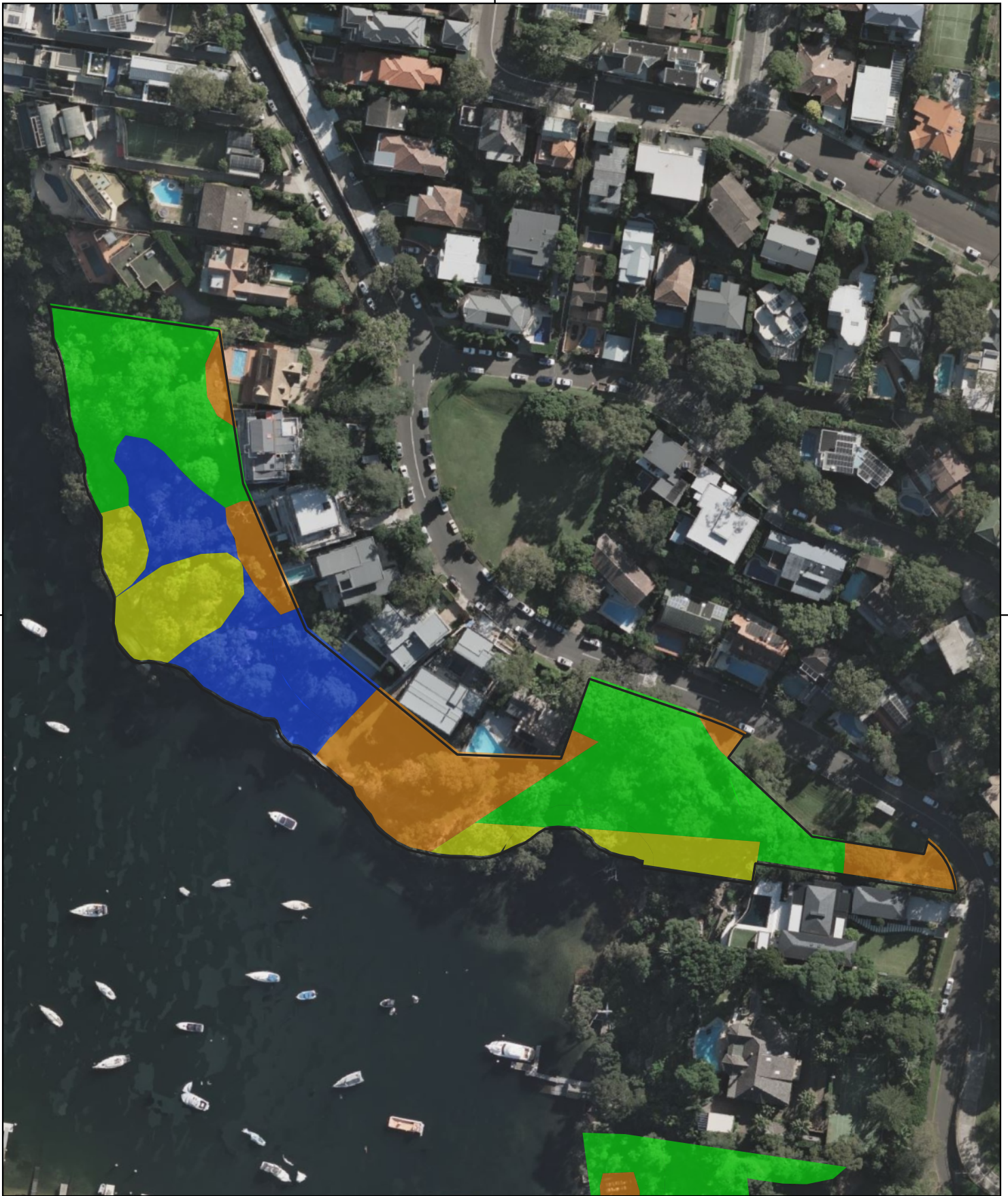
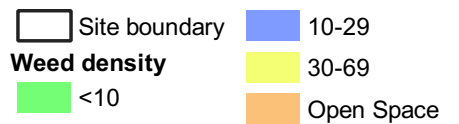


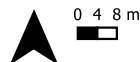
Figure 45: Weed density - Quakers Hat North

Mosman Council

Mosman Flora and Fauna Survey 2021



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2.16 Quakers Hat Park

2.16.1 General description

Quakers Hat Park is located in the north of Mosman LGA along the Middle Harbour foreshore. The bushland reserve is a long, linear reserve that extends along a sandstone escarpment from Quakers Hat to Beauty Point and further east to the western foreshore of Pearl Bay in Middle Harbour. Sandstone outcrops and boulders are scattered throughout the reserve, and a public walking track exists throughout the length of the reserve, with various access points along several adjoining road reserves.

2.16.2 Vegetation communities

A single vegetation community of Sydney Sandstone Gully Forest occurs across the entire reserve with the exception of several patches of open space adjacent to private property boundaries (Figure 46). The vegetation is in excellent condition and consists of remnant and regrowth native vegetation with an intact canopy, and a diverse range of midstorey, understorey and groundcover species. Table 109 provides an updated list of species frequently recorded in the community.

Table 109 Vegetation community description - Quakers Hat Park

Sydney Sandstone Gully Forest

Canopy	<i>Angophora costata</i> (Sydney red gum), <i>Eucalyptus botryoides</i> (bangalay), <i>Eucalyptus resinifera</i> (red mahogany), <i>Eucalyptus robusta</i> (swamp mahogany), <i>Corymbia gummiifera</i> (red bloodwood) and <i>Ficus rubiginosa</i> (Port Jackson fig)
Midstorey	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Callitris rhomboidea</i> (Port Jackson Pine), <i>Pittosporum undulatum</i> (sweet pittosporum), <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> (coast banksia), <i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle), <i>Melaleuca bracteata</i> (black tea-tree) and <i>Pultenaea stipularis</i> (handsome bush-pea)
Understorey	<i>Homalanthus populifolius</i> (bleeding heart), <i>Banksia serrata</i> (old-man banksia), <i>Acacia implexa</i> (hickory wattle), <i>Pteridium esculentum</i> (common bracken), <i>Crowea saligna</i> , <i>Dillwynia retorta</i> and <i>Myrsine variabilis</i>
Groundcover	<i>Commelina cyanea</i> (scurvy weed), <i>Oplismenus aemulus</i> (oplistmenus), <i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Dianella caerulea</i> (blue flax-lily), <i>Entolasia stricta</i> (wiry panic), <i>Cymbopogon refractus</i> (barbed wire grass), <i>Lepidosperma laterale</i> and <i>Tetragonia tetragonioides</i> (New Zealand spinach)

2.16.3 Threatened flora

Approximately 58 stems of *Acacia terminalis* subsp. *eastern Sydney* were recorded at Quakers Hat Park by Ecosure in 2016. The species was identified in the same area by Ecosure in 2019. Twenty-one individuals were identified in the same area in the current surveys.

2.16.4 Threatened ecological communities

The Threatened Ecological Communities Greater Sydney (DPIE 2021) identified one TEC, Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner bioregions (Endangered under both the BC Act and EPBC Act) within Quakers Hat Park. The

current survey confirmed vegetation that corresponds to this TEC occurs in two small areas within the reserve (Figure 46).

2.16.5 Native vegetation and weed cover

Quakers Hat Park has a very low density of weeds recorded sporadically throughout the reserve but there are still species of concern because of their ability to spread. A relatively recent fire at Quakers Hat in the southern tip of the reserve triggered germination and growth of native and weed species in the area. Figures 47 and 48 show native vegetation cover and weed density at the site. The top five weed species and total weed cover is provided in Table 110.

Table 110 Top five weed species and total weed cover at Quakers Hat Park

Weed Density Class	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Bidens pilosa</i>	cobblers pegs	Lower	1
	<i>Bryophyllum delagoense</i>	mother-of-millions	Lower	
	<i>Ipomoea carica</i>	coastal morning glory	Middle	
	<i>Ipomoea purpurea</i>	morning glory	Middle	
	<i>Sida rhombifolia</i>	paddy's lucerne	Lower	
	Other species		Lower	5
			Total	6

2.16.6 Fauna habitat

Fauna habitat attributes recorded for Quakers Hat Park are listed in Table 111.

Table 111 Fauna habitat summary of Quakers Hat Park

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Relatively long but narrow reserve with good connectivity to The Spit Reserve (14) and Quakers Hat North (2); extensive sandstone escarpment with some old growth elements and good regeneration.
Connectivity	Good local connectivity, bounded by the harbour and The Spit Reserve bushland reserve and also in close proximity to two other bushland reserves (Quakers Hat North and Parriwi Park).
Large hollows (>20 cm)	Scattered
Small hollows (<20 cm)	Common
Hollow status	Mixture
Large logs (>50 cm)	Scattered
Small logs (10-50 cm)	Abundant
Cliffs/outcrops	Abundant
Large rocks (>30 cm)	Common
Small rocks (10-30 cm)	Scattered
Leaf litter	Common
Dense shrubs/grass	Abundant

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

shelter	
Termite mounds	Scattered
Water bodies	Drainage lines, shoreline
Threatened fauna habitat	Hollow and foraging habitat for threatened parrots, microbats and owls. Shoreline foraging habitat for threatened shorebirds. Foraging habitat for grey-headed flying-fox (<i>Pteropus poliocephalus</i>).

2.16.7 Threats to flora and fauna

The vegetation within Quakers Hat Park is generally in good condition with minimal weeds. Current threats to the flora and fauna within Quakers Hat Park include:

- introduction of new weed species to the reserve from recreational activities including bushwalking
- garden escapes from surrounding private properties
- introduced predators of native ground-dwelling fauna and shorebirds including cat (*Felis catus*), dog (*Canis lupus familiaris*) and European fox (*Vulpes vulpes*).

2.16.8 Conservation significance

2.16.8.1 Vegetation

The native vegetation in this bushland reserve contains minimal weeds and weed abundance has reduced since previous surveys by Total Earth Care (2007) and Ecosure (2016, 2019). Quakers Hat Park also supports a significant population of *Acacia terminalis* subsp. *eastern Sydney* (sunshine wattle). The population appears to have declined from about 300 plants in 2007 (Total Earth Care 2007) to about 60 in 2016, and about 21 individuals currently for unknown reasons. The area received a broad acre burn 15 years ago in 2006. The sunshine wattle recovery plan (DECCW 2010) recommends fire intervals of 6 to 12 years, so a late summer to early autumn fire could be considered to promote germination of seedlings.

2.16.8.2 Fauna

Thirty-nine species (one amphibian, 27 bird, four mammal, seven reptiles) were detected at this reserve during surveys in December 2021 and January 2022. None of these species are threatened.

2.16.8.3 Priority

This site has a medium to high priority for conservation. Continued bush regeneration works will maintain and improve the condition of the native vegetation within the bushland reserve.

2.16.9 Current management practices

Quakers Hat Park is currently managed as a bush regeneration and restoration site under

Mosman Council's Bushland Restoration Contracts 2012 - 2022. A summary of the works to date is shown in Table 112.

Table 112 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary

Weeding	<ul style="list-style-type: none"> Primary weeding targeting noxious, woody and vine weeds Secondary and maintenance weeding of noxious, woody and vine weed regrowth and annual and perennial herbs and grasses by hand weeding and spot spraying.
Planting	Scattered established plantings on edges of the reserve to supplement native vegetation.
Ecological/Hazard reduction burns	Broad acre burns occurred at Beauty Point in 2004 and throughout the broader reserve in 2006.
Other	n/a

2.16.10 Recommendations

Current bushland management practices for Quakers Hat Park should be continued. Prioritised recommendations are shown in Table 113.

Table 113 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve, particularly targeting areas of low to moderate weed abundance in the south-west of the reserve.
2	Monitoring the status of <i>Acacia terminalis</i> subsp. <i>eastern Sydney</i> (sunshine wattle).
3	Ecological or hazard reduction burns to be carried out for management of <i>Acacia terminalis</i> subsp. <i>eastern Sydney</i> (sunshine wattle).
4	Removal of horticultural plantings and restoration of open space with native vegetation.

2.16.11 Flora and fauna species list

Flora species recorded during current and previous surveys of Quakers Hat Park are listed in Table 114 and fauna species are listed in Table 115.

Table 114 Flora species list for Quakers Hat Park

Family	Scientific name	Common name	Status	BR64
Fabaceae - Mimosoideae	<i>Acacia binervata</i>	two-veined hickory		a
Fabaceae - Mimosoideae	<i>Acacia binervia</i>	coast myall		b
Fabaceae - Mimosoideae	<i>Acacia fimbriata</i>	fringed wattle		b
Fabaceae - Mimosoideae	<i>Acacia floribunda</i>	white sally wattle		b
Fabaceae - Mimosoideae	<i>Acacia genistifolia</i>	early wattle		a
Fabaceae - Mimosoideae	<i>Acacia implexa</i>	hickory wattle		b
Fabaceae - Mimosoideae	<i>Acacia irrorata</i> subsp. <i>irrorata</i>	green wattle		a

Family	Scientific name	Common name	Status	BR64
Fabaceae - Mimosoideae	<i>Acacia linifolia</i>	white wattle		b
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		b
Fabaceae - Mimosoideae	<i>Acacia maidenii</i>	maiden's wattle		a
Fabaceae - Mimosoideae	<i>Acacia oxycedrus</i>	spike wattle		a
Fabaceae - Mimosoideae	<i>Acacia parramattensis</i>	Sydney green wattle		b
Fabaceae - Mimosoideae	<i>Acacia prominens</i>	gosford wattle		a
Fabaceae - Mimosoideae	<i>Acacia suaveolens</i>	sweet wattle		b
Fabaceae - Mimosoideae	<i>Acacia terminalis</i> subsp. <i>eastern Sydney</i>	sunshine wattle	E	b
Fabaceae - Mimosoideae	<i>Acacia ulicifolia</i>	prickly moses		b
Polygonaceae	<i>Acetosa sagittata</i>	turkey rhubarb	*	a
Myrtaceae	<i>Acmena smithii</i>	lily pilly		b
Apiaceae	<i>Actinotus helianthi</i>	flannel flower		a
Adiantaceae	<i>Adiantum aethiopicum</i>	common maidenhair		b
Agavaceae	<i>Agave americana</i>	century plant	*	a
Asteraceae	<i>Ageratina adenophora</i>	crofton weed	*	b
Casuarinaceae	<i>Allocasuarina distyla</i>			a
Casuarinaceae	<i>Allocasuarina littoralis</i>	black she-oak		b
Casuarinaceae	<i>Allocasuarina torulosa</i>	forest oak		b
Amaranthaceae	<i>Alternanthera denticulata</i>	lesser joyweed		a
Amaranthaceae	<i>Amaranthus viridis</i>	green amaranth	*	a
Loranthaceae	<i>Amyema miquelii</i>			a
Primulaceae	<i>Anagallis arvensis</i>	scarlet pimpernel	*	a
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		b
Myrtaceae	<i>Angophora floribunda</i>	apple		a
Basellaceae	<i>Anredera cordifolia</i>	madeira vine	WoNS	a
Poaceae	<i>Aristida vagans</i>	threeawn speargrass		b
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	b
Aspleniaceae	<i>Asplenium australasicum</i>	birds nest fern		b
Aspleniaceae	<i>Asplenium flabellifolium</i>	necklace fern		a
Araliaceae	<i>Astrotricha floccosa</i>			b
Poaceae	<i>Austrodanthonia</i> sp.	wallaby grass		a
Poaceae	<i>Austrodanthonia tenuior</i>	wallaby grass		b
Poaceae	<i>Austrostipa pubescens</i>	spear grass		b
Poaceae	<i>Austrostipa rudis</i>			a
Poaceae	<i>Avena fatua</i>	wild oats	*	a
Poaceae	<i>Axonopus fissifolius</i>	narrow-leaved carpet grass	*	a
Proteaceae	<i>Banksia ericifolia</i> subsp. <i>ericifolia</i>	heath-leaved banksia		b
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b

Family	Scientific name	Common name	Status	BR64
Proteaceae	<i>Banksia marginata</i>	silver banksia		b
Proteaceae	<i>Banksia robur</i>	swamp banksia		b
Proteaceae	<i>Banksia serrata</i>	old-man banksia		b
Proteaceae	<i>Banksia spinulosa</i>	hairpin banksia		b
Pittosporaceae	<i>Billardiera scandens</i>	hairy apple berry		a
Blechnaceae	<i>Blechnum cartilagineum</i>	gristle fern		a
Blechnaceae	<i>Blechnum gregsonii</i>		ROTAP	a
Poaceae	<i>Bothriochloa macra</i>	red grass		a
Sterculiaceae	<i>Brachychiton acerifolius</i>	flame tree		a
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush		b
Poaceae	<i>Briza maxima</i>	quaking grass	*	a
Poaceae	<i>Briza minor</i>	shivery grass	*	a
Poaceae	<i>Bromus catharticus</i>	praire grass	*	a
Crassulaceae	<i>Bryophyllum delagoense</i>	mother-of-millions	*	b
Anthericaceae	<i>Caesia parviflora</i>	pale grass-lily		a
Portulacaceae	<i>Calandrinia pickeringii</i>			a
Myrtaceae	<i>Callistemon citrinus</i>	crimson bottlebrush		a
Myrtaceae	<i>Callistemon viminalis</i>	weeping bottlebrush		b
Cupressaceae	<i>Callitris rhomboidea</i>	Port Jackson pine		b
Orchidaceae	<i>Calochilus campestris</i>	copper beard orchid		a
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken		a
Cyperaceae	<i>Carex inversa</i>			a
Asteraceae	<i>Cassinia denticulata</i>	stiff cassinia		a
Lauraceae	<i>Cassytha pubescens</i>			b
Casuarinaceae	<i>Casuarina glauca</i>	swamp oak		b
Cyperaceae	<i>Caustis flexuosa</i>	curly wig		b
Apiaceae	<i>Centella asiatica</i>	Indian pennywort		b
Cunoniaceae	<i>Ceratopetalum gummiferum</i>	Christmas bush		a
Adiantaceae	<i>Cheilanthes sieberi</i>			a
Chenopodiaceae	<i>Chenopodium glaucum</i>			a
Thelypteridaceae	<i>Christella dentata</i>	binung		b
Vitaceae	<i>Cissus antarctica</i>	kangaroo vine		b
Vitaceae	<i>Cissus hypoglauca</i>	water vine		b
Ranunculaceae	<i>Clematis aristata</i>	old man's beard		a
Ranunculaceae	<i>Clematis glycinoides</i> var. <i>glycinoides</i>	headache vine		a
Verbenaceae	<i>Clerodendrum tomentosum</i>	hairy clerodendrum		b
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp.	fleabane	*	b
Asteliaceae	<i>Cordyline stricta</i>	narrow-leaved palm lily		a

Family	Scientific name	Common name	Status	BR64
Rutaceae	<i>Correa reflexa</i> var. <i>speciosa</i>	common correa		a
Myrtaceae	<i>Corymbia gummifera</i>	red bloodwood		b
Myrtaceae	<i>Corymbia maculata</i>	spotted gum		b
Asteraceae	<i>Cotula australis</i>	common cotula		a
Rutaceae	<i>Crowea saligna</i>			b
Orchidaceae	<i>Cryptostylis erecta</i>	bonnet orchid		a
Sapindaceae	<i>Cupaniopsis anacardioides</i>	tuckeroo		a
Cyatheaceae	<i>Cyathea australis</i>	black tree-fern		b
Cyatheaceae	<i>Cyathea cooperi</i>	straw treefern		b
Apiaceae	<i>Cyclospermum leptophyllum</i>	slender celery	*	a
Poaceae	<i>Cymbopogon refractus</i>	barbed wire grass		b
Poaceae	<i>Cynodon dactylon</i>	couch		b
Cyperaceae	<i>Cyperus difformis</i>			b
Cyperaceae	<i>Cyperus eragrostis</i>		*	b
Cyperaceae	<i>Cyperus gracilis</i>	slender flat-sedge		b
Cyperaceae	<i>Cyperus polystachyos</i>			a
Cyperaceae	<i>Cyperus vorsteri</i>		*	a
Orchidaceae	<i>Dendrobium linguiforme</i>	tongue orchid		b
Dennstaedtiaceae	<i>Dennstaedtia davallioides</i>	lacy ground fern		a
Fabaceae - Faboideae	<i>Desmodium rhytidophyllum</i>			b
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Phormiaceae	<i>Dianella revoluta</i>	paroo lily		a
Poaceae	<i>Dichelachne crinita</i>	longhair plumegrass		a
Convolvulaceae	<i>Dichondra repens</i>	kidney weed		b
Poaceae	<i>Digitaria didactyla</i>	Queensland blue couch		a
Poaceae	<i>Digitaria parviflora</i>	small-flowered finger grass		a
Poaceae	<i>Digitaria sanguinalis</i>	summer grass	*	b
Fabaceae - Faboideae	<i>Dillwynia retorta</i>			b
Fabaceae - Faboideae	<i>Dillwynia sieberi</i>			a
Sapindaceae	<i>Dodonaea triquetra</i>	large-leaf hop-bush		b
Blechnaceae	<i>Doodia aspera</i>	prickly rasp fern		b
Doryanthaceae	<i>Doryanthes excelsa</i>			b
Poaceae	<i>Echinopogon caespitosus</i> var. <i>caespitosus</i>	tufted hedgehog-grass		b
Poaceae	<i>Echinopogon ovatus</i>	forest hedgehog grass		a
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	a
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	blueberry ash		b
Poaceae	<i>Eleusine indica</i>	crowsfoot grass	*	a
Poaceae	<i>Entolasia marginata</i>	bordered panic		a
Poaceae	<i>Entolasia stricta</i>	wiry panic		b

Family	Scientific name	Common name	Status	BR64
Ericaceae	<i>Epacris longiflora</i>	fuchsia heath		a
Poaceae	<i>Eragrostis brownii</i>	brown's lovegrass		a
Poaceae	<i>Eragrostis leptostachya</i>	paddock lovegrass		a
Rutaceae	<i>Eriostemon australasius</i>			a
Myrtaceae	<i>Eucalyptus botryoides</i>	bangalay		b
Myrtaceae	<i>Eucalyptus microcorys</i>	tallowwood	ni	a
Myrtaceae	<i>Eucalyptus piperita</i>	Sydney peppermint		a
Myrtaceae	<i>Eucalyptus punctata</i>	grey gum		a
Myrtaceae	<i>Eucalyptus resinifera</i>	red mahogany		a
Myrtaceae	<i>Eucalyptus robusta</i>	swamp mahogany		b
Myrtaceae	<i>Eucalyptus umbra</i>	broad-leaved white mahogany		b
Asteraceae	<i>Euchiton sphaericus</i>			a
Euphorbiaceae	<i>Euphorbia peplus</i>	petty spurge	*	a
Luzuriagaceae	<i>Eustrephus latifolius</i>	wombat berry		b
Santalaceae	<i>Exocarpos cupressiformis</i>	cherry ballart		a
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Moraceae	<i>Ficus</i> sp.	fig	*	a
Cyperaceae	<i>Gahnia</i> sp.	Saw-sedge		b
Asteraceae	<i>Galinsoga parviflora</i>	potato weed	*	a
Asteraceae	<i>Gamochaeta americana</i>	cudweed	*	a
Luzuriagaceae	<i>Geitonoplesium cymosum</i>	scrambling lily		b
Geraniaceae	<i>Geranium homeanum</i>	native geranium		b
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>Ferdinandi</i>	cheese tree		b
Fabaceae – Faboideae	<i>Glycine clandestina</i>			a
Fabaceae – Faboideae	<i>Glycine microphylla</i>	small-leaf glycine		a
Fabaceae – Faboideae	<i>Glycine tabacina</i>			a
Haloragaceae	<i>Gonocarpus teucrioides</i>	raspwort		a
Proteaceae	<i>Grevillea buxifolia</i> subsp. <i>buxifolia</i>	grey spider flower		b
Proteaceae	<i>Grevillea linearifolia</i>	linear-leaf grevillea		b
Proteaceae	<i>Grevillea sericea</i> subsp. <i>Sericea</i>	pink spider flower		a
Proteaceae	<i>Grevillea robusta</i>	silky oak	ni	c
Proteaceae	<i>Grevillea</i> sp. hort		ni	a
Haemodoraceae	<i>Haemodorum planifolium</i>			a
Proteaceae	<i>Hakea dactyloides</i>	finger hakea		b
Proteaceae	<i>Hakea sericea</i>	needlebush		a
Haloragaceae	<i>Haloragis heterophylla</i>	rough raspwort		b
Fabaceae - Faboideae	<i>Hardenbergia violacea</i>	purple coral pea		a
Araliaceae	<i>Hedera helix</i>	English ivy	*	a
Dilleniaceae	<i>Hibbertia aspera</i>	rough guinea flower		b

Family	Scientific name	Common name	Status	BR64
Dilleniaceae	<i>Hibbertia dentata</i>	trailing guinea flower		a
Dilleniaceae	<i>Hibbertia diffusa</i>	wedge guinea flower		a
Dilleniaceae	<i>Hibbertia riparia</i>	erect guinea-flower		a
Dilleniaceae	<i>Hibbertia scandens</i>	climbing guinea flower		b
Dennstaedtiaceae	<i>Histiopteris incisa</i>	bat's wing fern		a
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b
Fabaceae - Faboideae	<i>Hovea lanceolata</i>			a
Apiaceae	<i>Hydrocotyle laxiflora</i>	stinking pennywort		a
Apiaceae	<i>Hydrocotyle peduncularis</i>			a
Asteraceae	<i>Hypochaeris radicata</i>	catsear	*	b
Balsaminaceae	<i>Impatiens walleriana</i>		*	a
Poaceae	<i>Imperata cylindrica</i>	blady grass		b
Convolvulaceae	<i>Ipomoea carica</i>	coastal morning glory	*	b
Convolvulaceae	<i>Ipomoea indica</i>	morning glory	*	b
Cyperaceae	<i>Isolepis nodosa</i>	knobby club-rush		b
Bignoniaceae	<i>Jacaranda mimosifolia</i>	jacaranda	*	a
Juncaceae	<i>Juncus kraussii</i>		*	a
Juncaceae	<i>Juncus planifolius</i>			a
Juncaceae	<i>Juncus subsecundus</i>			a
Juncaceae	<i>Juncus usitatus</i>	common rush		b
Fabaceae - Faboideae	<i>Kennedia rubicunda</i>	dusky coral pea		a
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		b
Poaceae	<i>Lachnagrostis aemula</i>	blowngrass		a
Proteaceae	<i>Lambertia formosa</i>	mountain devil		b
Verbenaceae	<i>Lantana camara</i>	lantana	WoNS	a
Sterculiaceae	<i>Lasiopetalum ferrugineum</i> var. <i>ferrugineum</i>			b
Cyperaceae	<i>Lepidosperma filiforme</i>			b
Cyperaceae	<i>Lepidosperma laterale</i>			b
Cyperaceae	<i>Lepidosperma limicola</i>			a
Cyperaceae	<i>Lepidosperma neesii</i>			a
Myrtaceae	<i>Leptospermum laevigatum</i>	coast teatree		a
Myrtaceae	<i>Leptospermum polygalifolium</i>	yellow tea-tree		b
Myrtaceae	<i>Leptospermum trinervium</i>	slender tea-tree		a
Ericaceae	<i>Leucopogon juniperinus</i>	prickly beard-heath		a
Oleaceae	<i>Ligustrum lucidum</i>	large leaved privet	*	a
Arecaceae	<i>Livistona australis</i>	cabbage fan-palm		a
Lomandraceae	<i>Lomandra filiformis</i> subsp. <i>coriacea</i>			a
Lomandraceae	<i>Lomandra filiformis</i> subsp. <i>filiformis</i>	wattle mat-rush		a
Lomandraceae	<i>Lomandra glauca</i>	pale mat-rush		a

Family	Scientific name	Common name	Status	BR64
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Lomandraceae	<i>Lomandra multiflora</i>	many-flowered mat-rush		b
Lomandraceae	<i>Lomandra obliqua</i>			b
Proteaceae	<i>Lomatia silaifolia</i>	crinkle bush		a
Caprifoliaceae	<i>Lonicera japonica</i>	Japanese honeysuckle	*	a
Cyperaceae	<i>Machaerina juncea</i>	Bare twig-rush		c
Zamiaceae	<i>Macrozamia communis</i>	burrawang		a
Myrtaceae	<i>Melaleuca armillaris</i>	bracelet honey-myrtle		a
Myrtaceae	<i>Melaleuca bracteata</i>	black tea-tree		a
Myrtaceae	<i>Melaleuca decora</i>			a
Myrtaceae	<i>Melaleuca linariifolia</i>	flax-leaved paperbark		b
Myrtaceae	<i>Melaleuca quinquenervia</i>	broad-leaved paperbark		b
Myrtaceae	<i>Melaleuca styphelioides</i>	prickly-leaved tea tree		b
Euphorbiaceae	<i>Micranthemum ericoides</i>			a
Poaceae	<i>Microlaena stipoides</i> var. <i>stipoides</i>	weeping grass		a
Ericaceae	<i>Monotoca elliptica</i>	tree broom-heath		a
Rutaceae	<i>Murraya paniculata</i>	mock orange	*	a
Musaceae	<i>Musa</i> sp.	banana	*	a
Myrsinaceae	<i>Myrsine howittiana</i>	brush muttonwood		a
Myrsinaceae	<i>Myrsine variabilis</i>			a
Davalliaceae	<i>Nephrolepis cordifolia</i>	fishbone fern	ni	b
Oleaceae	<i>Notelaea longifolia</i>	large mock-olive		b
Oleaceae	<i>Notelaea ovata</i>			a
Poaceae	<i>Notodanthonia longifolia</i>	long-leaved wallaby grass		a
Ochnaceae	<i>Ochna serrulata</i>	ochna	*	a
Oleaceae	<i>Olea europaea</i> subsp. <i>cuspidata</i>	olive	*	a
Rubiaceae	<i>Opercularia aspera</i>	coarse stinkweed		a
Poaceae	<i>Oplismenus aemulus</i>	oplismenus		b
Poaceae	<i>Oplismenus imbecillis</i>			a
Oxalidaceae	<i>Oxalis corniculata</i>		*	b
Oxalidaceae	<i>Oxalis pes-caprae</i>		*	a
Asteraceae	<i>Ozothamnus diosmifolius</i>	rice flower		b
Bignoniaceae	<i>Pandorea pandorana</i>	Wonga Wonga vine		b
Poaceae	<i>Panicum simile</i>	two-colour panic		a
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*	a
Poaceae	<i>Paspalidium gracile</i>	slender panic		b
Poaceae	<i>Paspalum dilatatum</i>	paspalum	*	b
Passifloraceae	<i>Passiflora suberosa</i>	corky passionflower	*	a
Iridaceae	<i>Patersonia sericea</i>	silky purple-flag		a
Polygonaceae	<i>Persicaria decipiens</i>	slender knotweed		a

Family	Scientific name	Common name	Status	BR64
Proteaceae	<i>Persoonia levis</i>	broad-leaved geebung		b
Proteaceae	<i>Persoonia linearis</i>	narrow-leaved geebung		b
Proteaceae	<i>Persoonia pinifolia</i>	pine-leaved geebung		a
Rutaceae	<i>Phebalium squamulosum</i>	scaly phebalium		a
Euphorbiaceae	<i>Phyllanthus gunnii</i>	scrubby spurge		b
Euphorbiaceae	<i>Phyllanthus hirtellus</i>			b
Pinaceae	<i>Pinus radiata</i>	radiata pine	*	a
Pittosporaceae	<i>Pittosporum revolutum</i>	wild yellow jasmine		b
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Plantaginaceae	<i>Plantago lanceolata</i>	lamb's tongues	*	a
Polypodiaceae	<i>Platynerium bifurcatum</i>	elkhorn		a
Apiaceae	<i>Platysace lanceolata</i>	shrubby platysace		a
Apiaceae	<i>Platysace linearifolia</i>			a
Lamiaceae	<i>Plectranthus parviflorus</i>	cockspur flower		a
Poaceae	<i>Poa affinis</i>	poa		a
Poaceae	<i>Poa labillardierei</i>	tussock grass		a
Podocarpaceae	<i>Podocarpus elatus</i>	plum pine		b
Podocarpaceae	<i>Podocarpus subsp. inulosus</i>	spiny-leaf podocarp		a
Commelinaceae	<i>Pollia crispata</i>	pollia		a
Caryophyllaceae	<i>Polycarpon tetraphyllum</i>	four-leaved allseed	*	a
Polygalaceae	<i>Polygala myrtifolia</i>		*	a
Convolvulaceae	<i>Polymeria calycina</i>			a
Araliaceae	<i>Polyscias murrayi</i>	pencil cedar		a
Araliaceae	<i>Polyscias sambucifolia</i>	elderberry panax		b
Rhamnaceae	<i>Pomaderris ferruginea</i>			b
Rubiaceae	<i>Pomax umbellata</i>	pomax		a
Euphorbiaceae	<i>Poranthera microphylla</i>			b
Portulacaceae	<i>Portulaca oleracea</i>	pigweed		a
Lobeliaceae	<i>Pratia purpurascens</i>	whiteroot		a
Psilotaceae	<i>Psilotum nudum</i>	skeleton fork-fern		a
Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken		b
Pteridaceae	<i>Pteris tremula</i>	tender brake		b
Orchidaceae	<i>Pterostylis</i> sp.	greenhood		c
Fabaceae - Faboideae	<i>Pultenaea flexilis</i>			a
Fabaceae - Faboideae	<i>Pultenaea stipularis</i>			b
Ripogonaceae	<i>Ripogonum fawcettianum</i>	small supplejack		a
Rosaceae	<i>Rubus moluccanus</i> var. <i>trilobus</i>	molucca bramble		a
Menispermaceae	<i>Sarcopetalum harveyanum</i>	pearl vine		a
Uvulariaceae	<i>Schelhammera undulata</i>			a
Cyperaceae	<i>Schoenus melanostachys</i>			b

Family	Scientific name	Common name	Status	BR64
Asteraceae	<i>Senecio hispidulus</i>	hill fireweed		a
Asteraceae	<i>Senecio lautus</i> subsp. <i>maritimus</i>	variable groundsel		a
Asteraceae	<i>Senecio quadridentatus</i>	cotton fireweed		a
Fabaceae - Caesalpinioideae	<i>Senna pendula</i> var. <i>glabrata</i>	cassia	*	a
Poaceae	<i>Setaria parviflora</i>	slender pigeon grass	*	b
Poaceae	<i>Setaria palmifolia</i>	palm grass	*	b
Malvaceae	<i>Sida rhombifolia</i>	paddy's lucerne	*	b
Asteraceae	<i>Sigesbeckia orientalis</i> subsp. <i>orientalis</i>			b
Smilacaceae	<i>Smilax glycyphylla</i>	sweet sarsaparilla		b
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	b
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	*	a
Poaceae	<i>Sporobolus fertilis</i>	giant parramatta grass	*	a
Proteaceae	<i>Stenocarpus salignus</i>	scrub beefwood		a
Poaceae	<i>Stenotaphrum secundatum</i>			a
Menispermaceae	<i>Stephania japonica</i> var. <i>discolor</i>	snake vine		b
Strelitziaceae	<i>Strelitzia nicolai</i>	giant bird of paradise	*	b
Ericaceae	<i>Styphelia longifolia</i>			a
Ericaceae	<i>Styphelia viridis</i>			a
Myrtaceae	<i>Syncarpia glomulifera</i> subsp. <i>glomulifera</i>	turpentine		a
Myrtaceae	<i>Syzygium australe</i>	brush cherry		b
Asteraceae	<i>Taraxacum officinale</i>	dandelion	*	c
Aizoaceae	<i>Tetragonia tetragonioides</i>	new zealand spinach		b
Poaceae	<i>Themeda triandra</i>	kangaroo grass		b
Acanthaceae	<i>Thunbergia alata</i>	black-eyed susan	*	b
Commelinaceae	<i>Tradescantia fluminensis</i>	trad	*	b
Myrtaceae	<i>Tristaniopsis laurina</i>	water gum		b
Tropaeolaceae	<i>Tropaeolum majus</i>	nasturtium	*	b
Scrophulariaceae	<i>Veronica plebeia</i>	trailing speedwell		a
Fabaceae - Faboideae	<i>Vicia sativa</i>		*	a
Violaceae	<i>Viola hederacea</i>	native violet		b
Campanulaceae	<i>Wahlenbergia gracilis</i>	sprawling bluebell		a
Lamiaceae	<i>Westringia fruticosa</i>	coastal rosemary		b
Thymelaeaceae	<i>Wikstroemia indica</i>			a
Ericaceae	<i>Woolisia pungens</i>			a
Xanthorrhoeaceae	<i>Xanthorrhoea arborea</i>			b
Xanthorrhoeaceae	<i>Xanthorrhoea macronema</i>			a
Apiaceae	<i>Xanthosia pilosa</i>	woolly xanthosia		a
Rutaceae	<i>Zieria smithii</i>	sandfly zieria		a

Family	Scientific name	Common name	Status	BR64
Poaceae	<i>Zoysia macrantha</i>	prickly couch		a

Table 115 Fauna species list for Quakers Hat Park

Class	Family	Scientific name	Common name	Status	BR64
Amphibians	Myobatrachidae	<i>Crinia signifera</i>	common eastern froglet		b
Birds	Sturnidae	<i>Acridotheres tristis</i>	common myna	*	a
Birds	Megapodiidae	<i>Alectura lathami</i>	Australian brushturkey		b
Birds	Meliphagidae	<i>Anthochaera chrysoptera</i>	little wattlebird		c
Birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		b
Birds	Cacatuidae	<i>Cacatua sanguinea</i>	little corella		a
Birds	Columbidae	<i>Columba livia</i>	rock dove	*	b
Birds	Corvidae	<i>Corvus coronoides</i>	Australian raven		b
Birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		b
Birds	Alcedinidae	<i>Dacelo novaeguinea</i>	laughing kookaburra		b
Birds	Ardeidae	<i>Egretta novaehollandiae</i>	white-faced heron		b
Birds	Columbidae	<i>Geopelia humeralis</i>	bar-shouldered dove		a
Birds	Acanthizidae	<i>Gerygone mouki</i>	brown gerygone		a
Birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		b
Birds	Apodidae	<i>Hirundapus caudacutus</i>	white-throated needletail		a
Birds	Hirundinidae	<i>Hirundo neoxena</i>	welcome swallow		b
Birds	Laridae	<i>Larus crassirostris</i>	black-tailed gull		a
Birds	Laridae	<i>Larus novaehollandiae</i>	silver gull		b
Birds	Maluridae	<i>Malurus cyaneus</i>	superb fairy-wren		b
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		b
Birds	Estrildidae	<i>Neochmia temporalis</i>	red-browed finch		b
Birds	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon		b
Birds	Phalacrocoracidae	<i>Microcarbo melanoleucos</i>	little pied cormorant		a
Birds	Phalacrocoracidae	<i>Phalacrocorax sulcirostris</i>	little black cormorant		c
Birds	Podargidae	<i>Podargus strigoides</i>	tawny frogmouth		b
Birds	Psittacidae	<i>Psephotus haematonotus</i>	red-rumped parrot		a
Birds	Psophodidae	<i>Psophodes olivaceus</i>	eastern whipbird		b
Birds	Pycnonotidae	<i>Pycnonotus jocosus</i>	red-whiskered bulbul	*	a
Birds	Cuculidae	<i>Scythrops novaehollandiae</i>	channel-billed cuckoo		b
Birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		c
Birds	Artamidae	<i>Strepera graculina</i>	pied currawong		b
Birds	Columbidae	<i>Streptopelia chinensis</i>	spotted turtle-dove	*	a
Birds	Sturnidae	<i>Sturnus vulgaris</i>	common starling		a
Birds	Laridae	<i>Thalasseus bergii</i>	crested tern		c
Birds	Psittacidae	<i>Trichoglossus chlorolepidotus</i>	scaly-breasted lorikeet		c
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		b

Class	Family	Scientific name	Common name	Status	BR64
Birds	Tytonidae	<i>Tyto alba</i>	barn owl		a
Birds	Zosteropidae	<i>Zosterops lateralis</i>	silveryeye		b
Mammals	Vespertilionidae	<i>Chalinolobus gouldi</i>	Gould's wattled bat		c
Mammals	Molossidae	<i>Ozimops ridei</i>	Ride's free-tailed bat		c
Mammals	Peramelidae	<i>Perameles nasuta</i>	long-nosed bandicoot		b
Mammals	Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	common ringtail possum		b
Mammals	Muridae	<i>Rattus rattus</i>	black rat	*	b
Mammals	Phalangeridae	<i>Trichosurus vulpecula</i>	common brushtail possum		b
Reptiles	Scincidae	<i>Cryptoblepharus virgatus</i>	wall lizard		b
Reptiles	Scincidae	<i>Ctenotus taeniolatus</i>	copper-tailed skink		b
Reptiles	Scincidae	<i>Eulamprus quoyii</i>	eastern water-skink		b
Reptiles	Scincidae	<i>Lampropholis delicata</i>	dark-flecked garden sunskink		b
Reptiles	Scincidae	<i>Lampropholis guichenoti</i>	pale-flecked garden sunskink		b
Reptiles	Scincidae	<i>Lygisaurus foliorum</i>			a
Reptiles	Gekkonidae	<i>Phyllurus platurus</i>	southern leaf-tailed gecko		b
Reptiles	Agamidae	<i>Physignathus lesueurii</i>	eastern water dragon		b
Reptiles	Pygopodidae	<i>Pygopus lepidopodus</i>	common scaly-foot		a
Reptiles	Scincidae	<i>Tiliqua scincoides</i>	common bluetongue		a

2.16.12 Maps for Quakers Hat Park



- Vegetation communities**
- Regrowth Sydney Sandstone Gully Forest
 - Established Planted Area
 - Sydney Sandstone Gully Forest
 - Open Space
 - Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner bioregions – Endangered

Figure 46: Vegetation Communities, Threatened Ecological Communities and threatened flora locations - Quakers Hat Park

- Site boundary
- Acacia terminalis* ssp Eastern Sydney

Mosman Council

Mosman Flora and Fauna Survey 2021

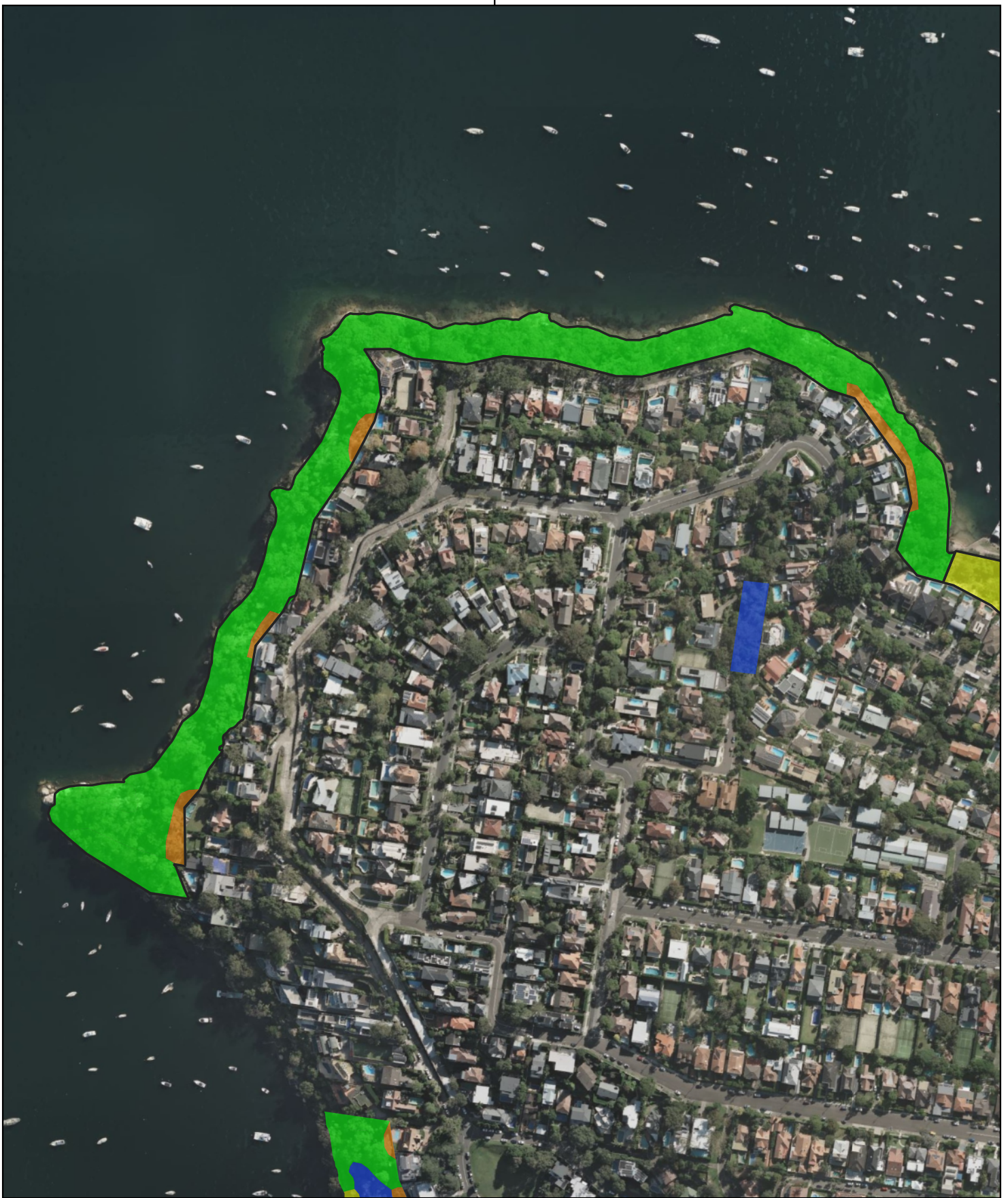


Figure 47: Native vegetation cover percent - Quakers Hat Park

Mosman Council

Mosman Flora and Fauna Survey 2021



Job number: PR6939
Date: 30/01/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

Data Sources: © State of New South Wales (Department of Planning, Industry and Environment), 2022; © Ecosure 2022
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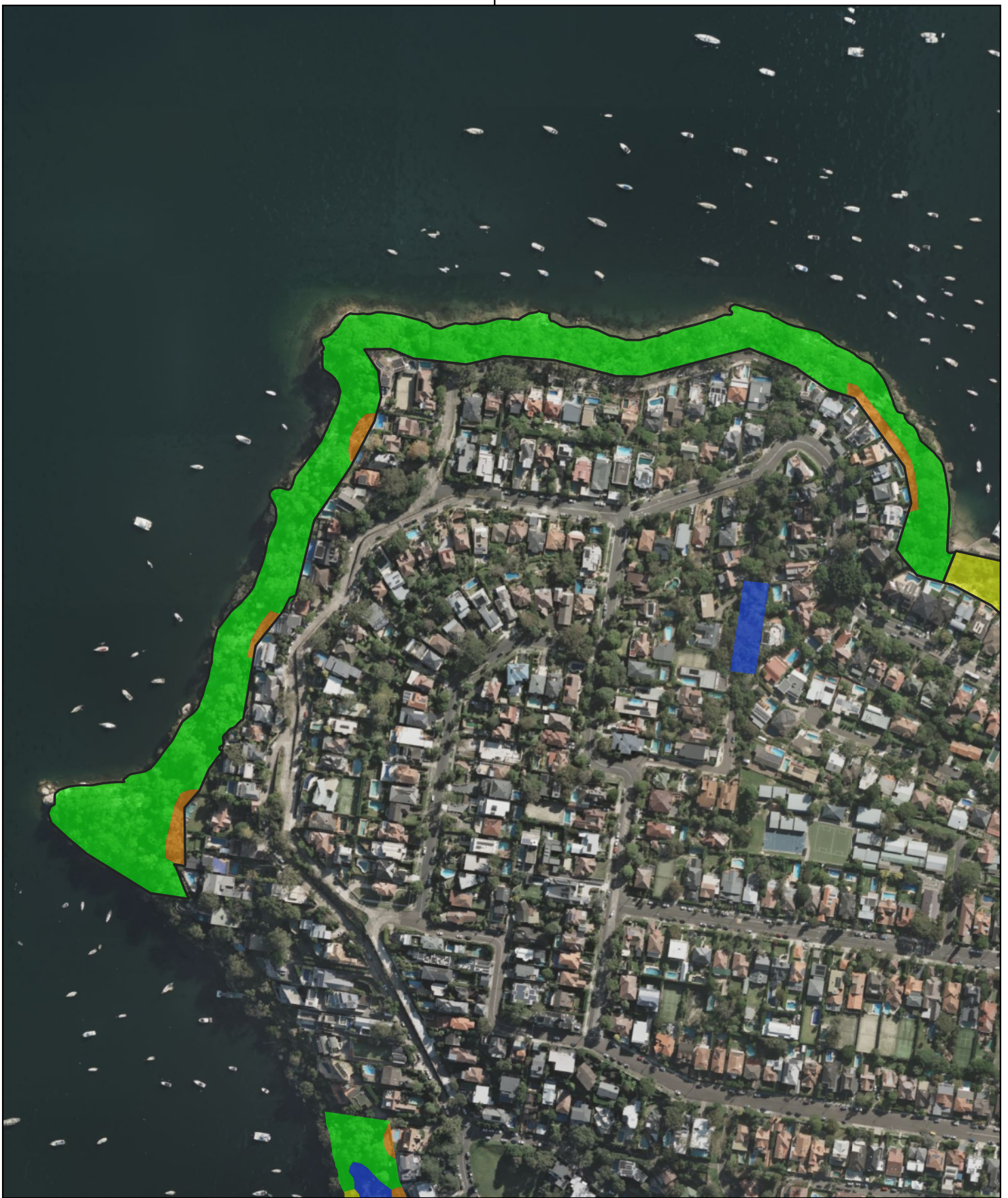
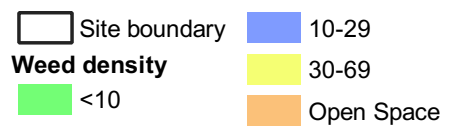


Figure 48: Weed density - Quakers Hat Park

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2.17 Quakers Hat South

2.17.1 General description

Quakers Hat South bushland reserve is located in the north of Mosman LGA on the eastern foreshore of Quakers Hat Bay. The reserve is situated on a west-facing sandstone escarpment with sandstone outcrops scattered throughout the northern and central portions and is partially dissected by two private properties. A small portion of the reserve along the southern boundary appears to have been annexed by sewerage upgrade works.

Deliberate poisoning of canopy trees has occurred at this site, and Council has placed a large banner publicly indicating illegal activity. This site is also subject to disposal of domestic garden waste over boundary fences into the reserve. The private property immediately to the north of the reserve is cultivating a significant area of *Anredera cordifolia* (Madeira vine) on a carport structure which is likely a contributing factor to the spread of this species in the local area.

2.17.2 Vegetation communities

Sydney Sandstone Gully Forest is the recognised vegetation community occurring in the northern section of the reserve (Figure 49). Regrowth Sydney Sandstone Gully Forest occurs as two portions in the northern and southern parts of the reserve. Both communities consist of remnant and regrowth vegetation, together with scattered in-fill plantings. Established planted areas occur throughout the reserve. A small section of open space for boat storage occurs in the north. Table 116 provides an updated list of species frequently recorded in each community.

Table 116 Vegetation community descriptions - Quakers Hat South

Sydney Sandstone Gully Forest	
Canopy	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Angophora costata</i> (Sydney red gum) and <i>Eucalyptus piperita</i> (Sydney peppermint)
Midstorey	<i>Allocasuarina littoralis</i> (black she-oak), <i>Pittosporum undulatum</i> (sweet pittosporum), <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Leionema dentatum</i> (toothed Phebalium) and <i>Polyscias sambucifolia</i> (elderberry panax)
Understorey	<i>Kunzea ambigua</i> (tick bush), <i>Homalanthus populifolius</i> (bleeding heart), <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Westringia fruticosa</i> (coastal rosemary) and <i>Smilax glyciphylla</i> (sweet sarsaparilla)
Groundcover	<i>Commelina cyanea</i> (scurvy weed), <i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Dianella caerulea</i> (blue flax-lily) and <i>Oplismenus aemulus</i> (oplismenus)
Regrowth Sydney Sandstone Gully Forest	
Canopy	<i>Eucalyptus botryoides</i> (bangalay), <i>Angophora costata</i> (Sydney red gum) and <i>Allocasuarina littoralis</i> (black she-oak)
Midstorey	<i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle), <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Pittosporum undulatum</i> (sweet pittosporum) and <i>Allocasuarina littoralis</i> (black she-oak)
Understorey	<i>Calochlaena dubia</i> (soft bracken), <i>Dodonaea triquetra</i> (large-leaf hop-bush), <i>Homalanthus populifolius</i> (bleeding heart) and <i>Banksia ericifolia</i> subsp. <i>ericifolia</i> (heath-leaved banksia)

Groundcover	<i>Oplismenus aemulus</i> (oplismenus), <i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Entolasia stricta</i> (wiry panic), and <i>Microlaena stipoides</i> (weeping grass)
Established Planted Area	
Canopy	<i>Eucalyptus botryoides</i> (bangalay), <i>Allocasuarina littoralis</i> (black she-oak), <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> (coast banksia) and <i>Hakea sericea</i> (needlebush)
Midstorey	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Grevillea</i> sp hort, <i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle), <i>Hakea sericea</i> (needlebush), <i>Melaleuca armillaris</i> (bracelet honey-myrtle), <i>Angophora costata</i> (Sydney red gum) and <i>Ficus rubiginosa</i> (Port Jackson fig)
Understorey	<i>Homalanthus populifolius</i> (bleeding heart), <i>Kunzea ambigua</i> (tick bush), <i>Cyathea australis</i> (black treefern), <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Pteris vittata</i> (Chinese brake) and <i>Banksia ericifolia</i> subsp. <i>ericifolia</i> (heath-leaved banksia)
Groundcover	<i>Dianella caerulea</i> (blue flax-lily), <i>Ochna serrulata</i> (mickey mouse plant), <i>Commelina cyanea</i> (scurvy weed), <i>Lomandra longifolia</i> (spiny-headed mat-rush) and <i>Imperata cylindrica</i> (blady grass)

2.17.3 Threatened flora

The survey recorded approximately seven individuals of the threatened *Syzygium paniculatum* (magenta lilly pilly) located in the northern section of the reserve adjacent to children's play equipment. The threatened *Acacia terminalis* subsp. *eastern Sydney* (sunshine wattle) was also recorded in the reserve (Figure 49).

2.17.4 Threatened ecological communities

The Threatened Ecological Communities Greater Sydney (DPIE 2021) did not identify any TECs within Quakers Hat South bushland reserve. The current survey did not detect any vegetation that corresponds to a TEC.

2.17.5 Native vegetation and weed cover

Native vegetation cover occurs at greater than 90% across the majority of the Quakers Hat South except for a small area of open space in the north, and an area in the south that was recorded with 70-89% native vegetation cover. Consequently, weed density was low and patchy throughout the reserve with increased weed density tending to correlate with the location of a stormwater outlet where numerous weed species were recorded. Figures 50 and 51 show native vegetation cover and weed density at the site. The top five weed species and total weed cover for each class is provided in Table 117.

Table 117 Top five weed species and total weed cover for each weed density class at Quakers Hat South

Weed Density Class (%)	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Anredera cordifolia</i>	Madeira vine	Lower	1
	<i>Nephrolepis cordifolia</i>	fishbone fern	Lower	
	<i>Ricinus communis</i>	castor oil plant	Middle	
	<i>Ochna serrulata</i>	Mickey Mouse plant	Lower	
	<i>Senna pendula</i> var. <i>glabrata</i>	cassia	Lower	
	Other weed species		Lower	3

Weed Density Class (%)	Scientific name	Common name	Dominant stratum	% Cover	
			Total	4	
10-29	<i>Ipomoea carica</i>	coastal morning glory	Middle	1	
	<i>Crocosmia crocosmiiflora</i>	montbretia	Lower	2	
	<i>Anredera cordifolia</i>	Madeira vine	Lower	1	
	<i>Acetosa sagittata</i>	turkey rhubarb	Lower		
	<i>Ageratina adenophora</i>	crofton weed	Lower		
		Other weed species		Lower	10
				Total	14

2.17.6 Fauna habitat

Fauna habitat attributes recorded for Quakers Hat South are listed in Table 118.

Table 118 Fauna habitat summary of Quakers Hat South

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Moderately sized reserve with tenuous connectivity to Quakers Hat North (2); history of disturbed and impacted vegetation, yet regeneration well underway.
Connectivity	Good local connectivity, bounded by the harbour but in between two other bushland reserves (Quakers Hat Park and Quakers Hat South)
Large hollows (>20 cm)	Absent
Small hollows (<20 cm)	Scattered
Hollow status	Mostly alive
Large logs (>50 cm)	Scattered
Small logs (10-50 cm)	Common
Cliffs/outcrops	Abundant
Large rocks (>30 cm)	Scattered
Small rocks (10-30 cm)	Scattered
Leaf litter	Common
Dense shrubs/grass shelter	Common
Termite mounds	Absent
Water bodies	Shoreline
Threatened fauna habitat	Hollows and foraging for threatened parrots and microbats. Foraging habitat for grey-headed flying-fox (<i>Pteropus poliocephalus</i>). Abandoned boatshed may provide habitat for threatened microbats.

2.17.7 Threats to flora and fauna

Current threats to the flora and fauna within Quakers Hat South include:

- dispersal of weeds from higher weed density vegetation including surrounding Regrowth Sydney Sandstone Gully Forest
- garden escapes from surrounding private properties.

2.17.8 Conservation significance

2.17.8.1 Vegetation

The vegetation conservation significance in this reserve is medium to high. Weed abundance in this bushland reserve is low to moderate and has decreased since previous surveys by Total Earth Care (2007) and remained low since surveys in 2019 (Ecosure 2019). The restoration and revegetation works have reduced weed presence and aided in the regeneration of native species.

2.17.8.2 Fauna

Eighteen species (one amphibian, 12 bird, five reptile) were detected during surveys in December 2021 and January 2022. None of these species are threatened.

2.17.8.3 Priority

This site has a medium to high priority for conservation. Although weed levels have been reduced, ongoing bushland restoration works are still required to maintain low weed abundance in Sydney Sandstone Gully Forest and reduce weed abundance in regenerating communities of Sydney Sandstone Gully Forest. Bushland revegetation in the open space will also aid in connectivity between native vegetation areas.

2.17.9 Current management practices

Quakers Hat South is currently managed as a bush regeneration and restoration site under Mosman Council's Bushland Restoration Contracts 2012 - 2022. A summary of the works to date is shown in Table 119.

Table 119 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary

Weeding	<ul style="list-style-type: none"> · Primary weeding targeting noxious, woody and vine weeds · Secondary and maintenance weeding of noxious, woody and vine weed regrowth and annual and perennial herbs and grasses by hand weeding and spot spraying.
Planting	Established scattered plantings and buffer plantings throughout the reserve.
Ecological/Hazard reduction burns	Broad acre burns occurred in 2003 followed by pile burns in 2004.
Other	n/a

2.17.10 Recommendations

Current bushland management practices for Quakers Hat South bushland reserve should be continued. Prioritised recommendations are shown in Table 120.

Table 120 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve.
2	Continue planting of native tree, shrub and groundcover species in the regenerating and disturbed Sydney Sandstone Gully Forest as well as mapped established planted areas to supplement regeneration.
3	Ecological or hazard reduction burns to be carried out for management of <i>Acacia terminalis</i> subsp. <i>eastern Sydney</i> (sunshine wattle).

2.17.11 Flora and fauna species list

Flora species recorded during current and previous surveys of Quakers Hat South bushland reserve are listed in Table 121 and fauna species are listed in Table 122.

Table 121 Flora species list within Quakers Hat South bushland reserve

Family	Scientific name	Common Name	Status	BR65
Fabaceae - Mimosoideae	<i>Acacia fimbriata</i>	fringed wattle		a
Fabaceae - Mimosoideae	<i>Acacia floribunda</i>	white sally wattle		a
Fabaceae - Mimosoideae	<i>Acacia linifolia</i>	white wattle		a
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		b
Fabaceae - Mimosoideae	<i>Acacia longissima</i>	long-leaf wattle		a
Fabaceae - Mimosoideae	<i>Acacia obtusifolia</i>			a
Fabaceae - Mimosoideae	<i>Acacia parramattensis</i>	Sydney green wattle		a
Fabaceae - Mimosoideae	<i>Acacia prominens</i>	Gosford wattle		a
Fabaceae - Mimosoideae	<i>Acacia saligna</i>	golden wreath wattle	ni	a
Fabaceae - Mimosoideae	<i>Acacia suaveolens</i>	sweet wattle		b
Fabaceae - Mimosoideae	<i>Acacia terminalis</i> subsp. <i>eastern Sydney</i>	sunshine wattle	E	a
Fabaceae - Mimosoideae	<i>Acacia ulicifolia</i>	prickly moses		a
Polygonaceae	<i>Acetosa sagittata</i>	turkey rhubarb	*	a
Adiantaceae	<i>Adiantum aethiopicum</i>	common maidenhair		a
Alliaceae	<i>Agapanthus praecox</i> subsp. <i>orientalis</i>	African lily	*	b
Asteraceae	<i>Ageratina adenophora</i>	crofton weed	*	a
Casuarinaceae	<i>Allocasuarina distyla</i>			b
Casuarinaceae	<i>Allocasuarina littoralis</i>	black she-oak		b
Primulaceae	<i>Anagallis arvensis</i>	scarlet pimpernel	*	b
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		b
Myrtaceae	<i>Angophora hispida</i>	dwarf apple		b
Basellaceae	<i>Anredera cordifolia</i>	Madeira vine	WoNS	b
Apocynaceae	<i>Araujia sericifera</i>	moth vine	*	b
Poaceae	<i>Aristida vagans</i>	threeawn speargrass		a

Family	Scientific name	Common Name	Status	BR6 5
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	b
Aspleniaceae	<i>Asplenium australasicum</i>	birds nest fern		b
Poaceae	<i>Austrodanthonia</i> sp	wallaby grass		a
Poaceae	<i>Austrodanthonia tenuior</i>	wallaby grass		b
Poaceae	<i>Avena fatua</i>	wild oats	*	a
Proteaceae	<i>Banksia ericifolia</i> subsp. <i>ericifolia</i>	heath-leaved banksia		b
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Proteaceae	<i>Banksia marginata</i>	silver banksia		b
Proteaceae	<i>Banksia serrata</i>	old-man banksia		b
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*	b
Pittosporaceae	<i>Billardiera scandens</i>	hairy apple berry		a
Blechnaceae	<i>Blechnum ambiguum</i>			a
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush		b
Poaceae	<i>Briza maxima</i>	quaking grass	*	b
Poaceae	<i>Briza minor</i>	shivery grass	*	a
Poaceae	<i>Bromus catharticus</i>	prairie grass	*	b
Crassulaceae	<i>Bryophyllum delagoense</i>	mother-of-millions	*	a
Cunoniaceae	<i>Callicoma serratifolia</i>	black wattle		b
Myrtaceae	<i>Callistemon citrinus</i>	crimson bottlebrush		b
Myrtaceae	<i>Callistemon linearis</i>	narrow-leaved bottlebrush		a
Cupressaceae	<i>Callitris rhomboidea</i>	Port Jackson pine		a
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken		b
Asteraceae	<i>Cassinia denticulata</i>	stiff cassinia		a
Lauraceae	<i>Cassytha glabella</i>			b
Gentianaceae	<i>Centaurium erythraea</i>	common centauray	*	a
Cunoniaceae	<i>Ceratopetalum gummiferum</i>	Christmas bush		a
Lauraceae	<i>Cinnamomum camphora</i>	camphor laurel	*	b
Vitaceae	<i>Cissus hypoglauca</i>	water vine		b
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp.	fleabane	*	b
Myrtaceae	<i>Corymbia gummifera</i>	red bloodwood		a
Myrtaceae	<i>Corymbia maculata</i>	spotted gum		b
Asteraceae	<i>Crassocephalum crepidioides</i>	thickhead	*	b
Orchidaceae	<i>Cryptostylis erecta</i>	bonnet orchid		a
Cyatheaceae	<i>Cyathea australis</i>	black tree-fern		b
Apiaceae	<i>Cyclosporum leptophyllum</i>	slender celery	*	b
Poaceae	<i>Cymbopogon refractus</i>	barbed wire grass		b
Poaceae	<i>Cynodon dactylon</i>	couch		a
Cyperaceae	<i>Cyperus gracilis</i>	slender flat-sedge		b

Family	Scientific name	Common Name	Status	BR6 5
Cyperaceae	<i>Cyperus involucratus</i>	umbrella sedge	*	b
Cyperaceae	<i>Cyperus polystachyos</i>			a
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Phormiaceae	<i>Dianella revoluta</i>	paroo lily		a
Poaceae	<i>Dichelachne crinita</i>	longhair plumegrass		a
Poaceae	<i>Dichelachne micrantha</i>	shorthair plumegrass		a
Convolvulaceae	<i>Dichondra repens</i>	kidney weed		b
Poaceae	<i>Digitaria didactyla</i>	Queensland blue couch		a
Poaceae	<i>Digitaria sanguinalis</i>	summer grass	*	b
Sapindaceae	<i>Dodonaea triquetra</i>	large-leaf hop-bush		b
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	b
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	blueberry ash		b
Poaceae	<i>Eleusine indica</i>	crowsfoot grass	*	b
Poaceae	<i>Entolasia stricta</i>	wiry panic		a
Onagraceae	<i>Epilobium billardierianum</i> subsp. <i>cinereum</i>			a
Myrtaceae	<i>Eucalyptus botryoides</i>	bangalay		b
Myrtaceae	<i>Eucalyptus piperita</i>	Sydney peppermint		b
Myrtaceae	<i>Eucalyptus robusta</i>	swamp mahogany		b
Myrtaceae	<i>Eucalyptus</i> sp.			a
Euphorbiaceae	<i>Euphorbia peplus</i>	petty spurge	*	b
Luzuriagaceae	<i>Eustrephus latifolius</i>	wombat berry		b
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Fumariaceae	<i>Fumaria officinalis</i>		*	a
Asteraceae	<i>Gamochaeta americana</i>	cudweed	*	b
Geraniaceae	<i>Geranium homeanum</i>	native geranium		b
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	cheese tree		b
Proteaceae	<i>Grevillea linearifolia</i>	linear-leaf grevillea		b
Proteaceae	<i>Grevillea</i> sp hort		ni	b
Proteaceae	<i>Hakea dactyloides</i>	finger hakea		b
Proteaceae	<i>Hakea gibbosa</i>	needlebush		a
Proteaceae	<i>Hakea sericea</i>	needlebush		b
Proteaceae	<i>Hakea</i> sp.			a
Fabaceae - Faboideae	<i>Hardenbergia violacea</i>	purple coral pea		b
Dennstaedtiaceae	<i>Histiopteris incisa</i>	bat's wing fern		a
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b
Asteraceae	<i>Hypochaeris radicata</i>	catsear	*	b
Poaceae	<i>Imperata cylindrica</i>	blady grass		b
Convolvulaceae	<i>Ipomoea cairica</i>	coastal morning glory	*	b
Cyperaceae	<i>Isolepis nodosa</i>	knobby club-rush		b

Family	Scientific name	Common Name	Status	BR6 5
Proteaceae	<i>Isopogon anemonifolius</i>	broad-leaf drumsticks		a
Juncaceae	<i>Juncus</i> sp.			a
Juncaceae	<i>Juncus usitatus</i>	common rush		a
Fabaceae - Faboideae	<i>Kennedia rubicunda</i>	dusky coral pea		a
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		b
Proteaceae	<i>Lambertia formosa</i>	mountain devil		a
Sterculiaceae	<i>Lasiopetalum ferrugineum</i> var. <i>ferrugineum</i>			b
Rutaceae	<i>Leionema dentatum</i>	toothed phebalium		b
Cyperaceae	<i>Lepidosperma laterale</i>			b
Myrtaceae	<i>Leptospermum morrisonii</i>			a
Myrtaceae	<i>Leptospermum polygalifolium</i>	yellow tea-tree		b
Oleaceae	<i>Ligustrum lucidum</i>	large leaved privet	*	a
Arecaceae	<i>Livistona australis</i>	cabbage fan-palm		b
Lobeliaceae	<i>Lobelia anceps</i>			b
Poaceae	<i>Lolium perenne</i>	perennial ryegrass	*	a
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Myrtaceae	<i>Lophostemon confertus</i>	brush box	ni	a
Fabaceae - Faboideae	<i>Medicago polymorpha</i>	burr medic	*	a
Myrtaceae	<i>Melaleuca armillaris</i>	bracelet honey-myrtle		b
Poaceae	<i>Microlaena stipoides</i> var. <i>stipoides</i>	weeping grass		b
Malvaceae	<i>Modiola caroliniana</i>	red-flowered mallow	*	b
Ericaceae	<i>Monotoca elliptica</i>	tree broom-heath		a
Araceae	<i>Monstera deliciosa</i>	fruit salad plant	*	b
Rutaceae	<i>Murraya paniculata</i>	mock orange	*	b
Davalliaceae	<i>Nephrolepis cordifolia</i>	fishbone fern	ni	b
Oleaceae	<i>Notelaea longifolia</i>	large mock-olive		a
Alliaceae	<i>Nothoscordum borbonicum</i>	onion weed	*	a
Poaceae	<i>Notodanthonia longifolia</i>	long-leaved wallaby grass		a
Ochnaceae	<i>Ochna serrulata</i>	ochna	*	b
Rubiaceae	<i>Opercularia aspera</i>	coarse stinkweed		a
Poaceae	<i>Oplismenus aemulus</i>	oplismenus		b
Oxalidaceae	<i>Oxalis corniculata</i>		*	b
Bignoniaceae	<i>Pandorea pandorana</i>	Wonga Wonga vine		b
Poaceae	<i>Panicum</i> sp.			a
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*	b
Passifloraceae	<i>Passiflora suberosa</i>	corky passionflower	*	b
Poaceae	<i>Pennisetum setaceum</i>	fountain grass	*	a
Euphorbiaceae	<i>Phyllanthus hirtellus</i>			b

Family	Scientific name	Common Name	Status	BR6 5
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Poaceae	<i>Poa affinis</i>	poa		a
Araliaceae	<i>Polyscias sambucifolia</i>	elderberry panax		b
Rhamnaceae	<i>Pomaderris ferruginea</i>			b
Portulacaceae	<i>Portulaca oleracea</i>	pigweed		b
Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken		b
Pteridaceae	<i>Pteris vittata</i>	Chinese brake		b
Fabaceae - Faboideae	<i>Pultenaea ferruginea</i>			a
Fabaceae - Faboideae	<i>Pultenaea stipularis</i>			a
Brassicaceae	<i>Raphanus raphanistrum</i>	wild radish	*	a
Euphorbiaceae	<i>Ricinus communis</i>	castor oil plant	*	b
Rosaceae	<i>Rubus fruticosus</i> agg sp	blackberry	WoNS	a
Fabaceae - Caesalpinioideae	<i>Senna pendula</i> var. <i>glabrata</i>	cassia	*	b
Poaceae	<i>Setaria palmifolia</i>	palm grass	*	b
Malvaceae	<i>Sida rhombifolia</i>	paddy's lucerne	*	b
Smilacaceae	<i>Smilax glyciphylla</i>	sweet sarsaparilla		b
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	b
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	*	b
Caryophyllaceae	<i>Stellaria media</i>	common chickweed	*	a
Myrtaceae	<i>Syzygium australe</i>	brush cherry		b
Myrtaceae	<i>Syzygium paniculatum</i>	magenta lilly pilly	E	b
Aizoaceae	<i>Tetragonia tetragonioides</i>	New Zealand spinach		b
Poaceae	<i>Themeda triandra</i>	kangaroo grass		b
Commelinaceae	<i>Tradescantia fluminensis</i>	trad	*	b
Fabaceae - Faboideae	<i>Trifolium repens</i>	white clover	*	a
Myrtaceae	<i>Tristaniopsis laurina</i>	water gum		a
Scrophulariaceae	<i>Veronica arvensis</i>		*	a
Fabaceae - Faboideae	<i>Vicia sativa</i>	vetch	*	a
Fabaceae - Faboideae	<i>Viminaria juncea</i>	golden spray		a
Campanulaceae	<i>Wahlenbergia gracilis</i>	sprawling bluebell		b
Iridaceae	<i>Watsonia meriana</i>	wild watsonia	*	a
Lamiaceae	<i>Westringia fruticosa</i>	coastal rosemary		b
Xanthorrhoeaceae	<i>Xanthorrhoea arborea</i>			b
Apiaceae	<i>Xanthosia tridentata</i>	rock xanthosia		a

Table 122 Fauna species list within Quakers Hat South bushland reserve

Class	Family	Scientific Name	Common Name	Status	BR65
Amphibia	Lymnodynastidae	<i>Lymnodynastes peronii</i>	striped marsh frog		c
Birds	Megapodiidae	<i>Alectura lathami</i>	Australian brushturkey		b
Birds	Psittacidae	<i>Alisterus scapularis</i>	Australian king-parrot		a
Birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		b
Birds	Corvidae	<i>Corvus coronoides</i>	Australian raven		b
Birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		b
Birds	Alcedinidae	<i>Dacelo novaeguinea</i>	laughing kookaburra		b
Birds	Dicruridae	<i>Grallina cyanoleuca</i>	magpie-lark		a
Birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		a
Birds	Hirundinidae	<i>Hirundo neoxena</i>	welcome swallow		c
Birds	Laridae	<i>Larus novaehollandiae</i>	silver gull		b
Birds	Maluridae	<i>Malurus lamberti</i>	variegated fairy-wren		a
Birds	Maluridae	<i>Malurus cyaneus</i>	superb fairy-wren		c
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		b
Birds	Estrildidae	<i>Neochmia temporalis</i>	red-browed finch		a
Birds	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon		a
Birds	Passeridae	<i>Passer domesticus</i>	house sparrow	*	a
Birds	Phalacrocoracidae	<i>Phalacrocorax carbo</i>	great cormorant		a
Birds	Phalacrocoracidae	<i>Phalacrocorax sulcirostris</i>	little black cormorant		a
Birds	Psittacidae	<i>Platycercus adscitus eximius</i>	eastern rosella		a
Birds	Psophodidae	<i>Psophodes olivaceus</i>	eastern whipbird		a
Birds	Pycnonotidae	<i>Pycnonotus jocosus</i>	red-whiskered bulbul	*	a
Birds	Monarchidae	<i>Rhipidura fuliginosa</i>	grey fantail		a
Birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		b
Birds	Artamidae	<i>Strepera graculina</i>	pieb currawong		b
Birds	Columbidae	<i>Streptopelia chinensis</i>	spotted turtle-dove	*	a
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		b
Mammals	Vespertilionidae	<i>Chalinolobus gouldii</i>	Gould's wattled bat		a
Mammals	Pteropodidae	<i>Pteropus poliocephalus</i>	grey-headed flying-fox	V	a
Mammals	Canidae	<i>Vulpes vulpes</i>	fox	*	a
Reptiles	Scincidae	<i>Ctenotus taeniolatus</i>	copper-tailed skink		a
Reptiles	Scincidae	<i>Eulamprus quoyii</i>	eastern water skink		c
Reptiles	Agamidae	<i>Intellagama lesueurii lesueurii</i>	eastern water dragon		c
Reptiles	Scincidae	<i>Lampropholis delicata</i>	dark-flecked garden sunskink		b
Reptiles	Scincidae	<i>Lampropholis guichenoti</i>	pale-flecked garden sunskink		c
Reptiles	Gekkonidae	<i>Phyllurus platurus</i>	southern leaf-tailed gecko		c
Reptiles	Scincidae	<i>Tiliqua scincoides</i>	common bluetongue		a

2.17.12 Maps for Quakers Hat South



- | | |
|-------------------------------|--|
| Vegetation communities | Open Space |
| Cleared and Disturbed | Regrowth Sydney Sandstone Gully Forest |
| Established Planted Area | Sydney Sandstone Gully Forest |

Figure 49: Vegetation Communities and threatened floral locations - Quakers Hat South

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- | |
|---|
| Site boundary |
| <i>Acacia terminalis</i> ssp Eastern Sydney |
| <i>Acacia terminalis</i> ssp Eastern Sydney |
| <i>Syzygium paniculatum</i> |

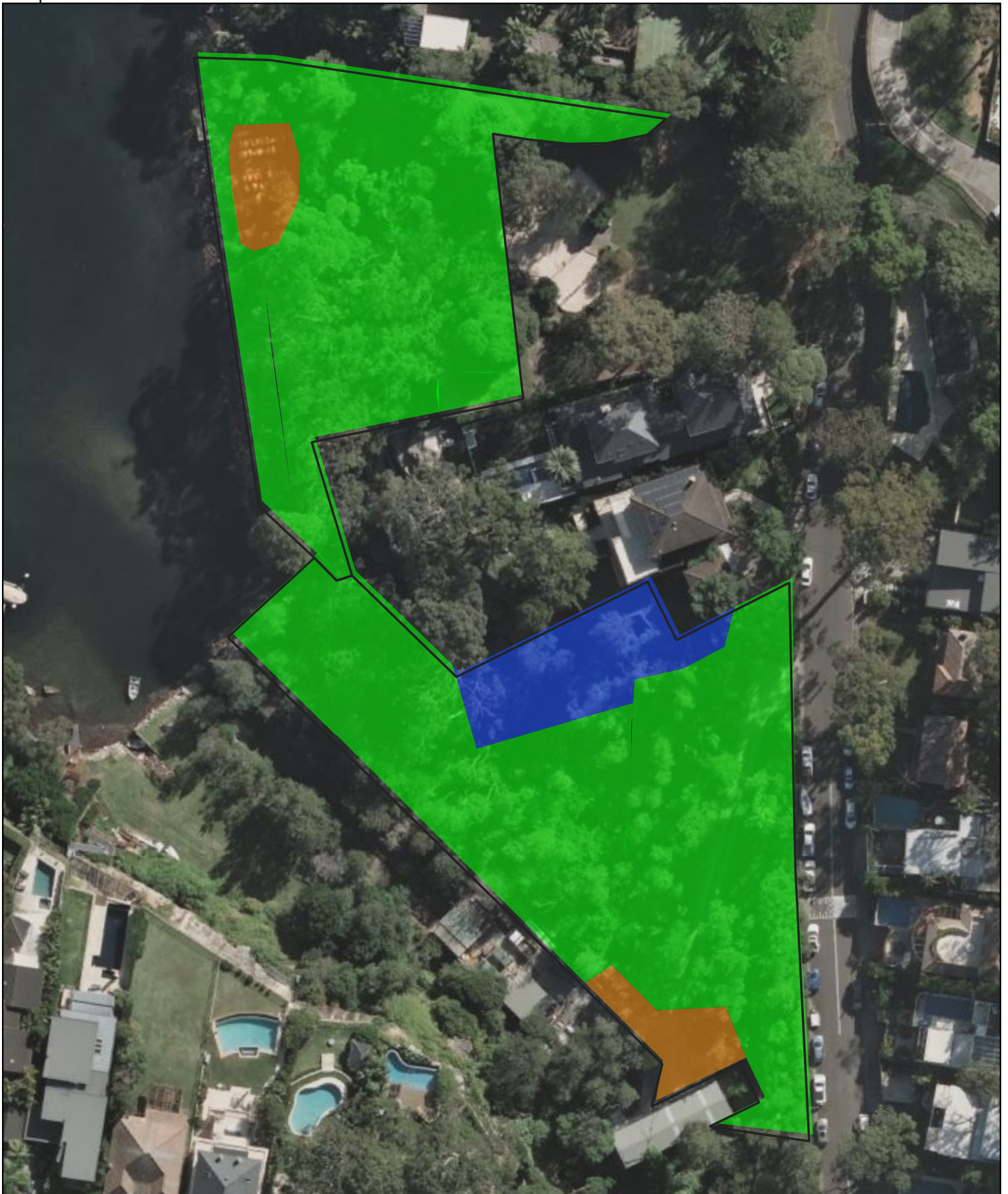


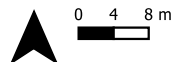
Figure 50: Native vegetation cover percent - Quakers Hat South

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Job number: PR6939
Date: 30/01/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
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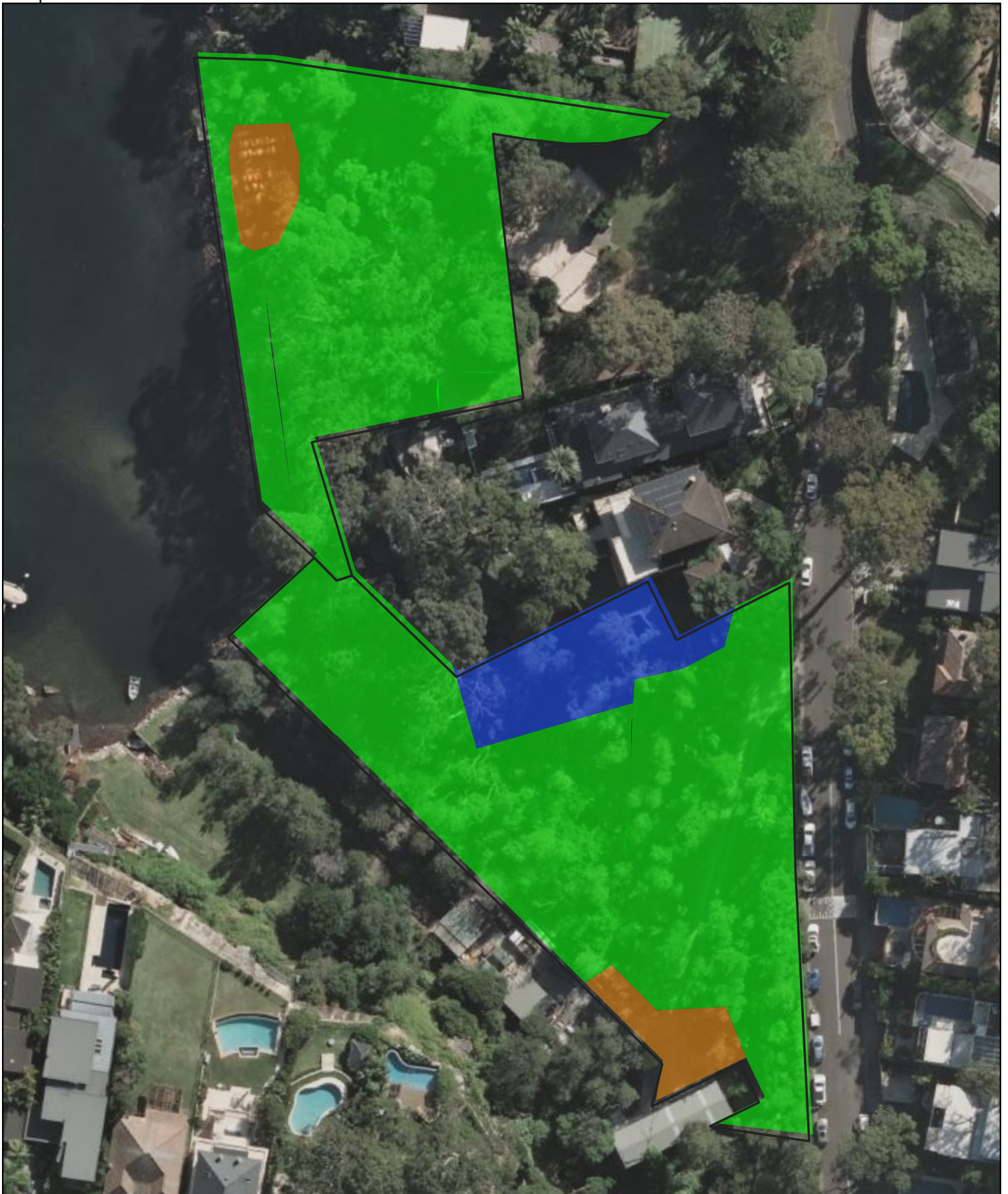
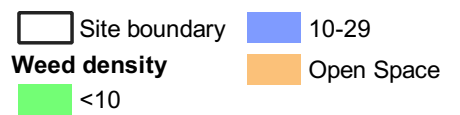


Figure 51: Weed density - Quakers Hat South

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2.18 Rawson Park

2.18.1 General description

Rawson Park bushland reserve is continuous with Bradley's Bushland Reserve and is located on the broad east-west ridge in the eastern part of Mosman LGA. The reserve includes a north facing fill batter of Rawson Park.

2.18.2 Vegetation communities

Two vegetation communities are recognised within Rawson Park reserve (Figure 52). Regrowth Sydney Sandstone Gully Forest is located in the east of the reserve and is comprised of remnant and regrowth vegetation with some established plantings scattered throughout. A Cosmopolitan section occurs in the western portion of the reserve in the vicinity of infrastructure and a public pathway. Significant weed treatment has occurred in this area. Table 123 provides an updated list of species frequently recorded in each community.

Table 123 Vegetation community description - Rawson Park

Regrowth Sydney Sandstone Gully Forest

Canopy	<i>Eucalyptus saligna</i> (Sydney blue gum), <i>Ficus obliqua</i> (small-leaved fig)
Midstorey	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i> (coast banksia), <i>Pittosporum undulatum</i> (sweet pittosporum) and <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree)
Understorey	<i>Pittosporum undulatum</i> (sweet pittosporum), <i>Callistemon salignus</i> (willow bottlebrush) and <i>Homalanthus populifolius</i> (bleeding heart)
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Microlaena stipoides</i> var. <i>stipoides</i> (weeping grass) and <i>Oplismenus aemulus</i> (oplismenus)

Cosmopolitan

Canopy	<i>Ficus macrophylla</i> (Moreton Bay fig), <i>Ficus rubiginosa</i> (Port Jackson fig)
Midstorey/ understorey	<i>Pittosporum undulatum</i> (sweet pittosporum), <i>Pittosporum revolutum</i> (wild yellow jasmin) and <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree) <i>Celtis sinensis</i> (Japanese hackberry) and <i>Breynia oblongifolia</i> (coffee bush)
Groundcover	<i>Stephania japonica</i> var. <i>discolor</i> (snake vine), <i>Trifolium repens</i> (white clover), <i>Stenotaphrum secundatum</i> and <i>Dianella caerulea</i> (blue flax-lily)

2.18.3 Threatened flora

There were no threatened flora species recorded during the current survey at Rawson Park.

2.18.4 Threatened ecological communities

The Threatened Ecological Communities Greater Sydney (DPIE 2021) did not identify any TECs within Rawson Park bushland reserve. The current survey did not detect any vegetation that corresponds to a TEC.

2.18.5 Native vegetation and weed cover

Native vegetation is in good condition in the eastern half of the reserve with low weed density

observed in this area. Native vegetation cover declines in the western half of Rawson Park, however weed density has decreased. Figures 53 and 54 show native vegetation cover and weed density at the site. The top five weed species and total weed cover for each class is provided in Table 124.

Table 124 Top five weed species and total weed cover at Rawson Park

Weed Class	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Anredera cordifolia</i>	Madeira vine	Lower	1
	<i>Celtis sinensis</i>	Japanese hackberry	Lower	1
	<i>Solanum nigrum</i>	blackberry night-shade	Lower	1
	<i>Bidens pilosa</i>	cobblers pegs	Lower	1
	<i>Ehrharta erecta</i>	panic veldtgrass	Lower	1
	Other weed species		Lower	1
				Total
10-29	<i>Ehrharta erecta</i>	panic veldtgrass	Lower	5
	<i>Anredera cordifolia</i>	Madeira vine	Lower	1
	<i>Celtis sinensis</i>	Japanese hackberry	Lower	1
	<i>Solanum nigrum</i>	blackberry night-shade	Lower	1
	<i>Cinnamomum camphora</i>	camphor laurel	Lower	1
	Other weed species		Lower	1
				Total

2.18.6 Fauna habitat

Fauna habitat attributes recorded for Rawson Park are listed in Table 125.

Table 125 Fauna habitat summary of Rawson Park

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Fairly small, narrow reserve with good connectivity to Bradleys Bushland Reserve (2), SHNP and beyond; few old growth elements; some large fruiting figs and dense understorey vegetation.
Connectivity	Good local connectivity, one other bushland reserve (Bradley's Bushland Reserve) as well as SHNP are in close proximity.
Large hollows (>20 cm)	Absent
Small hollows (<20 cm)	Absent
Hollow status	n/a
Large logs (>50 cm)	Absent
Small logs (10-50 cm)	Common
Cliffs/outcrops	Absent
Large rocks (>30 cm)	Absent
Small rocks (10-30 cm)	Common
Leaf litter	Common
Dense shrubs/grass	Abundant

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

shelter	
Termite mounds	Absent
Water bodies	Absent
Threatened fauna habitat	Foraging for grey-headed flying-fox (<i>Pteropus poliocephalus</i>).

2.18.7 Threats to flora and fauna

Current threats to the flora and fauna within Rawson Park include:

- dispersal of weeds from surrounding vegetation including Bradley Bushland Reserve and potentially SHNP – Bradley Head
- garden escapes from surrounding private properties.

2.18.8 Conservation significance

2.18.8.1 Vegetation

The vegetation conservation significance in this reserve is medium to high. The vegetation within this bushland reserve is valuable due to the connectivity with other native vegetation including Bradley's Bushland Reserve and SHNP – Bradley Head. This bushland reserve contains a low to moderate abundance of weeds which has reduced since previous surveys by Total Earth Care 2007 and Ecosure 2016, 2019.

2.18.8.2 Fauna

Nineteen species (16 birds, one mammal and two reptiles) were detected at this reserve during surveys in December 2021 and January 2022. One of these species is threatened, the grey-headed flying-fox (*Pteropus poliocephalus*).

2.18.8.3 Priority

This site has a high priority for conservation. Rawson Park has a high priority for continued and expanded bush regeneration works due to its proximity to surrounding resilient bushland reserves.

2.18.9 Current management practices

The majority of Rawson Park is not currently managed as a bush regeneration and restoration site under Mosman Council's Bushland Restoration Contracts 2011 – 2020. The north-eastern part of the Regrowth Sydney Sandstone Gully Forest is managed as part of Bradley's Bushland Reserve. Significant restoration and revegetation works have been undertaken in the reserve, especially in the Cosmopolitan/urban area by bushcare volunteer groups. A summary of the works to date is shown in Table 126.

Table 126 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary

Weeding	Targeting of noxious, woody and vine weeds
Planting	n/a
Ecological/Hazard reduction burns	None on record
Other	n/a

2.18.10 Recommendations

Current bushland management practices for Rawson Park bushland reserve should be continued and expanded to include the rest of the reserve. Prioritised recommendations are shown in Table 127.

Table 127 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve.
2	Planting and revegetation of native shrub and groundcover species throughout the reserve to supplement regeneration.

2.18.11 Flora and fauna species list

Flora species recorded during current and previous surveys of Rawson Park bushland reserve are listed in Table 128 and fauna species are listed in Table 129.

Table 128 Flora species list for Rawson Park

Family	Scientific name	Common name	Status	BR44
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		b
Fabaceae - Mimosoideae	<i>Acacia prominens</i>	Gosford wattle		b
Fabaceae - Mimosoideae	<i>Acacia ulicifolia</i>	prickly moses		c
Adiantaceae	<i>Adiantum aethiopicum</i>	common maidenhair		c
Casuarinaceae	<i>Allocasuarina distyla</i>			a
Casuarinaceae	<i>Allocasuarina littoralis</i>	black she-oak		a
Betulaceae	<i>Alnus jorullensis</i>	evergreen alder	*	a
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		b
Basellaceae	<i>Anredera cordifolia</i>	Madeira vine	WoNS	b
Apocynaceae	<i>Araujia sericifera</i>	moth vine	*	a
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	b
Poaceae	<i>Avena fatua</i>	wild oats	*	b
Proteaceae	<i>Banksia ericifolia</i> subsp. <i>ericifolia</i>	heath-leaved banksia		b
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b

Family	Scientific name	Common name	Status	BR44
Proteaceae	<i>Banksia serrata</i>	old-man banksia		b
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*	b
Sterculiaceae	<i>Brachychiton acerifolius</i>	flame tree		b
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush		b
Myrtaceae	<i>Callistemon salignus</i>	willow bottlebrush		b
Cupressaceae	<i>Callitris rhomboidea</i>	Port Jackson pine		a
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken		c
Ulmaceae	<i>Celtis sinensis</i>	chinese celtis	*	b
Lauraceae	<i>Cinnamomum camphora</i>	camphor laurel	*	b
Asteraceae	<i>Cirsium vulgare</i>	spear thistle	*	a
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp.	fleabane	*	b
Rubiaceae	<i>Coprosma repens</i>	new zealand laurel	*	a
Myrtaceae	<i>Corymbia maculata</i>	spotted gum		b
Cyatheaceae	<i>Cyathea cooperi</i>	straw treefern		a
Apiaceae	<i>Cyclospermum leptophyllum</i>	slender celery	*	a
Cyperaceae	<i>Cyperus polystachyos</i>			b
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Iridaceae	<i>Dietes</i> sp.		*	a
Poaceae	<i>Digitaria didactyla</i>	Queensland blue couch		b
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	b
Poaceae	<i>Eleusine indica</i>	crowsfoot grass	*	b
Fabaceae - Faboideae	<i>Erythrina crista-galli</i>	cockspur coral tree	*	a
Myrtaceae	<i>Eucalyptus botryoides</i>	bangalay		b
Myrtaceae	<i>Eucalyptus saligna</i>	Sydney blue gum		b
Myrtaceae	<i>Eucalyptus</i> sp.			a
Moraceae	<i>Ficus macrophylla</i>	Moreton Bay fig		b
Moraceae	<i>Ficus obliqua</i>	small-leaved fig		b
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Geraniaceae	<i>Geranium homeanum</i>	native geranium		b
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	cheese tree		b
Colchicaceae	<i>Gloriosa superba</i>	glory lily	*	b
Proteaceae	<i>Grevillea buxifolia</i> subsp. <i>buxifolia</i>	grey spider flower		c
Proteaceae	<i>Grevillea linearifolia</i>	linear-leaf grevillea		b
Proteaceae	<i>Hakea sericea</i>	needlebush		b
Araliaceae	<i>Hedera helix</i>	english ivy	*	a
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b
Poaceae	<i>Imperata cylindrica</i>	blady grass		a
Convolvulaceae	<i>Ipomoea indica</i>	morning glory	*	a
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		b

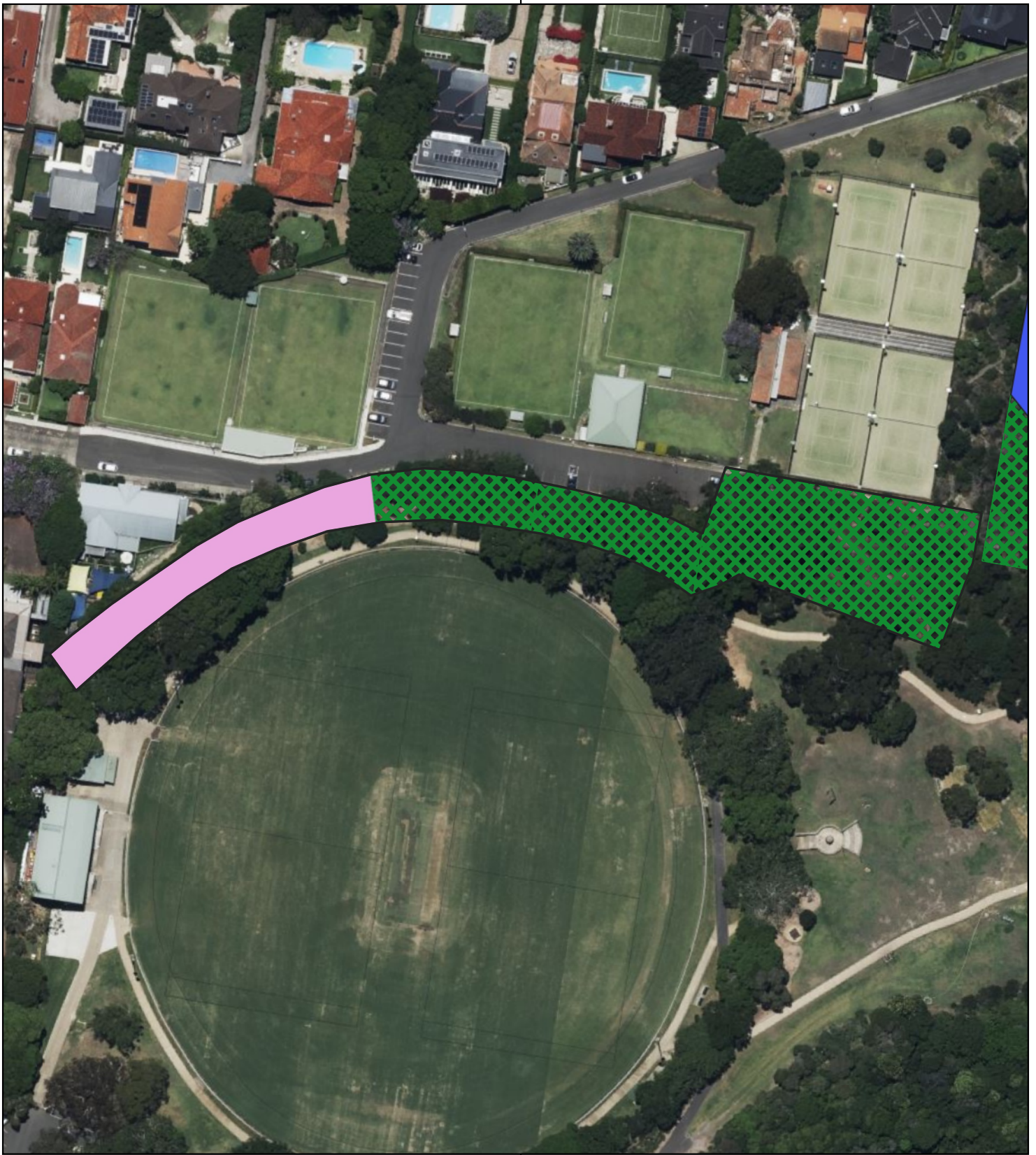
Family	Scientific name	Common name	Status	BR44
Verbenaceae	<i>Lantana camara</i>	lantana	WoNS	a
Oleaceae	<i>Ligustrum lucidum</i>	large leaved privet	*	b
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Fabaceae - Faboideae	<i>Medicago polymorpha</i>	burr medic	*	a
Myrtaceae	<i>Melaleuca armillaris</i>	bracelet honey-myrtle		a
Myrtaceae	<i>Melaleuca quinquenervia</i>	broad-leaved paperbark		b
Myrtaceae	<i>Melaleuca styphelioides</i>	prickly-leaved tea tree		a
Poaceae	<i>Microlaena stipoides</i> var. <i>stipoides</i>	weeping grass		b
Oleaceae	<i>Olea europaea</i> subsp. <i>cuspidata</i>	olive	*	a
Poaceae	<i>Oplismenus aemulus</i>	oplismenus		b
Oxalidaceae	<i>Oxalis</i> sp.		*	b
Asteraceae	<i>Ozothamnus diosmifolius</i>	rice flower		a
Bignoniaceae	<i>Pandorea pandorana</i>	wonga wonga vine		a
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*	a
Poaceae	<i>Pennisetum clandestinum</i>	kikuyu grass	*	a
Arecaceae	<i>Phoenix canariensis</i>	Canary Island date palm	*	a
Pittosporaceae	<i>Pittosporum revolutum</i>	wild yellow jasmine		b
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Lamiaceae	<i>Plectranthus parviflorus</i>	cockspur flower		b
Araliaceae	<i>Polyscias sambucifolia</i>	elderberry panax		c
Malvaceae	<i>Sida rhombifolia</i>	paddy's lucerne	*	b
Solanaceae	<i>Solanum aviculare</i>	kangaroo apple		c
Solanaceae	<i>Solanum mauritianum</i>	wild tobacco bush	*	a
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	b
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	*	a
Poaceae	<i>Stenotaphrum secundatum</i>			a
Menispermaceae	<i>Stephania japonica</i> var. <i>discolor</i>	snake vine		b
Asteraceae	<i>Taraxacum officinale</i>	dandelion	*	b
Fabaceae - Faboideae	<i>Trifolium repens</i>	white clover	*	b
Tropaeolaceae	<i>Tropaeolum majus</i>	nasturtium	*	a
Violaceae	<i>Viola hederacea</i>	native violet		a

Table 129 Fauna species list for Rawson Park

Class	Family	Scientific name	Common name	Status	BR44
Birds	Sturnidae	<i>Acridotheres tristis</i>	common myna	*	b
Birds	Megapodiidae	<i>Alectura lathami</i>	Australian brushturkey		b
Birds	Meliphagidae	<i>Anthochaera carunculata</i>	red wattlebird		c
Birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		b
Birds	Columbidae	<i>Columba livia</i>	rock dove	*	a
Birds	Corvidae	<i>Corvus coronoides</i>	Australian raven		a

Class	Family	Scientific name	Common name	Status	BR44
Birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		b
Birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		b
Birds	Hirundinidae	<i>Hirundo neoxena</i>	welcome swallow		c
Birds	Laridae	<i>Larus novaehollandiae</i>	silver gull		b
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		b
Birds	Strigidae	<i>Ninox boobook</i>	southern boobook		a
Birds	Pycnonotidae	<i>Pycnonotus jocosus</i>	red-whiskered bulbul	*	a
Birds	Cuculidae	<i>Scythrops novaehollandiae</i>	channel-billed cuckoo		c
Birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		a
Birds	Sturnidae	<i>Sphecotheres viridis</i>	figbird		c
Birds	Artamidae	<i>Strepera graculina</i>	pieb currawong		b
Birds	Threskiornidae	<i>Threskiornis moluccus</i>	Australian white ibis		c
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		b
Birds	Charadriidae	<i>Vanellus miles</i>	masked lapwing		b
Birds	Zosteropidae	<i>Zosterops lateralis</i>	silveryeye		b
Mammals	Pteropodidae	<i>Pteropus poliocephalus</i>	grey-headed flying-fox	V	b
Reptiles	Scincidae	<i>Ctenotus taeniolatus</i>	copper-tailed skink		a
Reptiles	Scincidae	<i>Lampropholis delicata</i>	dark-flecked garden sunskink		b
Reptiles	Scincidae	<i>Lampropholis guichenoti</i>	pale-flecked garden sunskink		b
Reptiles	Gekkonidae	<i>Phyllurus platurus</i>	southern leaf-tailed gecko		a
Reptiles	Agamidae	<i>Physignathus lesueurii</i>	eastern water dragon		a
Reptiles	Scincidae	<i>Soprosincus mustelinus</i>	weasel skink		a

2.18.12 Maps for Rawson Park



Vegetation communities

- Cosmopolitan
- Coastal Sandstone Heath
- Regrowth Sydney Sandstone Gully Forest

Site boundary

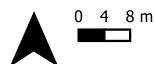
Figure 52: Vegetation Communities and threatened floralocations - Rawson Park

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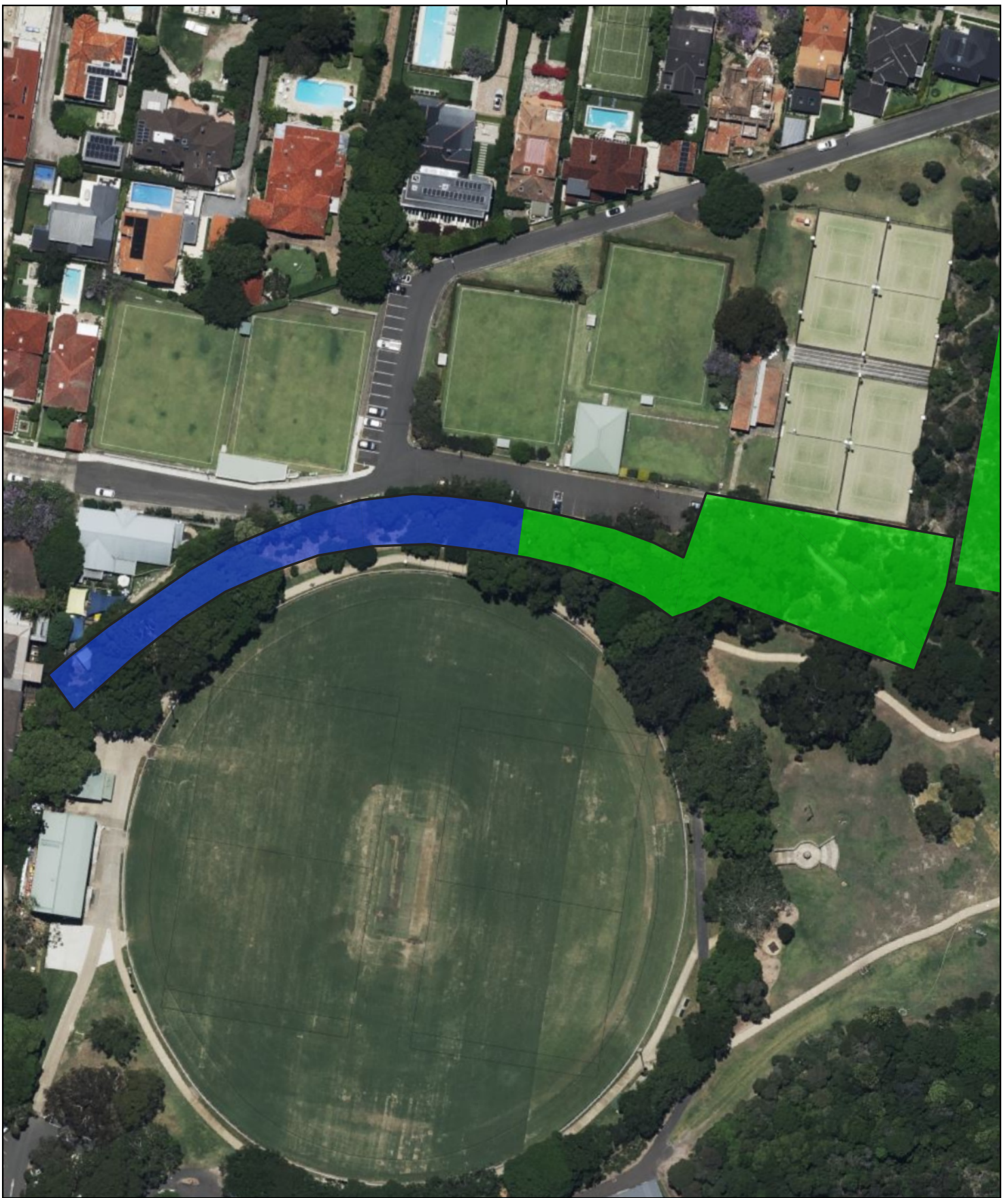
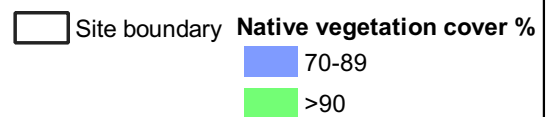


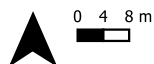
Figure 53: Native vegetation cover percent - Rawson Park

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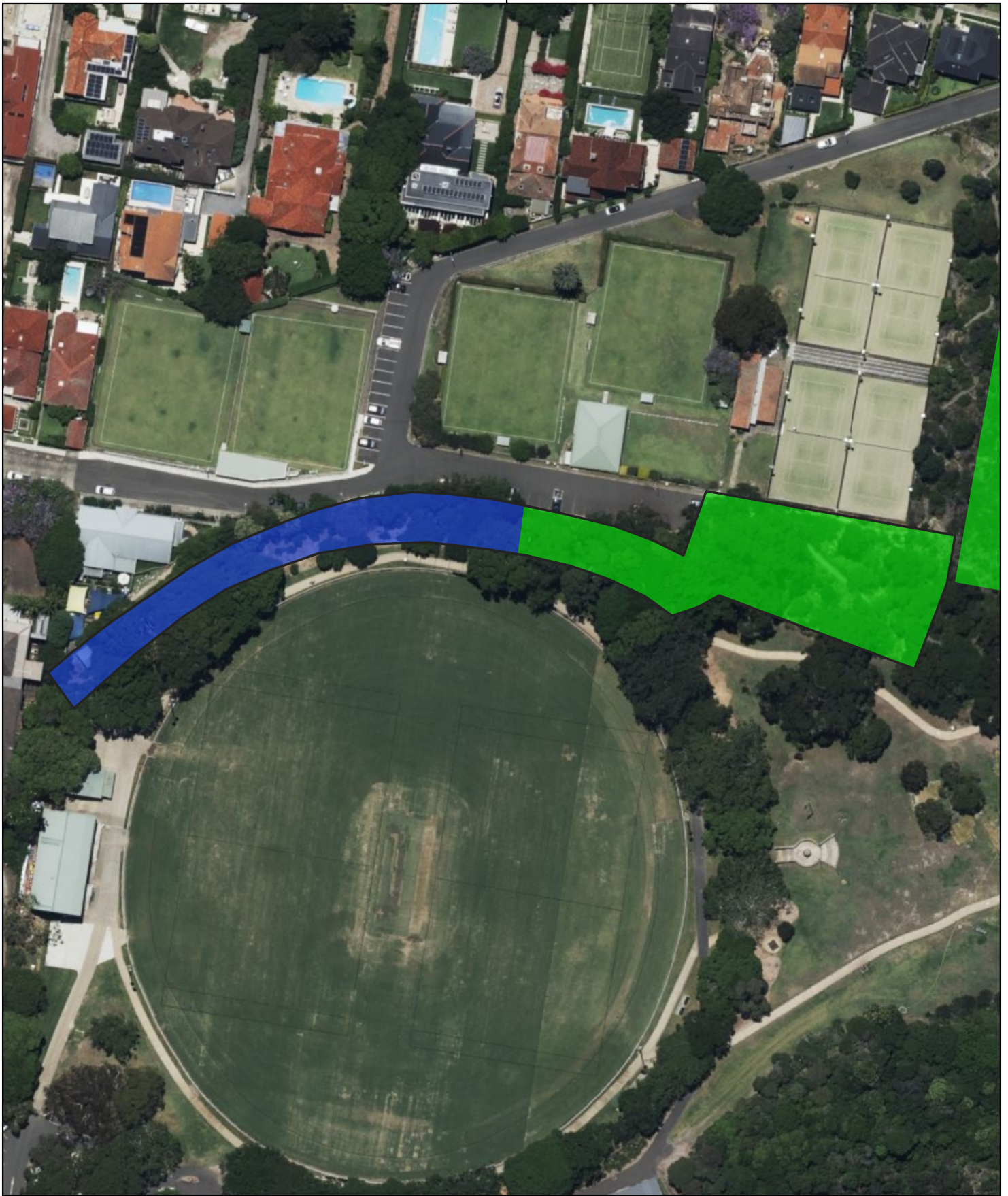
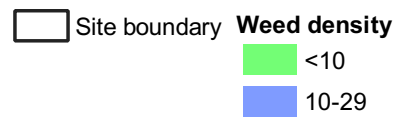


Figure 54: Weed density - Rawson Park

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2.19 Reid Park

2.19.1 General description

Reid Park is located on the east and west facing slopes surrounding Reid Park open space in the south-west of Mosman LGA. It has sandstone outcrops, benches and small gullies scattered throughout, with a concrete watercourse running along the length of the eastern portion. A public path and footbridge are located in the north of the reserve, and it connects to Harnett Park in the south-west corner.

2.19.2 Vegetation communities

Three vegetation communities are recognised at Reid Park including Sydney Sandstone Gully Forest which occurs in the northern and eastern sections of the reserve, Regrowth Sydney Sandstone Gully Forest which occurs in the western and southern sections, and Disturbed Sydney Sandstone Gully Forest which occurs in a small area in the west of the reserve (Figure 55). These communities consist of remnant and regrowth vegetation. Table 130 provides an updated list of species frequently recorded in each community.

Table 130 Vegetation community description - Reid Park

Sydney Sandstone Gully Forest	
Canopy	<i>Corymbia gummifera</i> (red bloodwood), <i>Lophostemon confertus</i> (brush box), <i>Eucalyptus piperita</i> (Sydney peppermint), <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> (coast banksia), <i>Eucalyptus saligna</i> (Sydney blue gum) and <i>Eucalyptus sieberi</i> (silvertop ash)
Midstorey / understorey	<i>Banksia ericifolia</i> subsp. <i>ericifolia</i> (heath-leaved banksia), <i>Allocasuarina littoralis</i> (black sheoak), <i>Pittosporum undulatum</i> (sweet pittosporum), <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree) and <i>Banksia spinulosa</i> (hairpin banksia)
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Dianella caerulea</i> (blue flax-lily) and <i>Microlaena stipoides</i> var. <i>stipoides</i> (weeping grass)
Regrowth Sydney Sandstone Gully Forest	
Canopy	<i>Ficus rubiginosa</i> (Port Jackson fig), <i>Angophora costata</i> (Sydney red gum), <i>Lophostemon confertus</i> (brush box) and <i>Phoenix canariensis</i> (Canary Island date palm)
Midstorey	<i>Kunzea ambigua</i> (tick bush), <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), and <i>Melaleuca nodosa</i> (prickly-leaved paperbark)
Understorey	<i>Dodonaea triquetra</i> (large-leaf hop-bush), <i>Melaleuca hypericifolia</i> (hillock bush), <i>Syzygium australe</i> (brush cherry), <i>Solanum aviculare</i> (kangaroo apple) and <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> (coast banksia)
Groundcover	<i>Microlaena stipoides</i> var. <i>stipoides</i> (weeping grass), <i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Commelina cyanea</i> (scurvy weed) and <i>Sida rhombifolia</i> (paddy's lucerne)
Disturbed Sydney Sandstone Gully Forest	
Canopy	<i>Angophora costata</i> (Sydney red gum) and <i>Lophostemon confertus</i> (brush box)
Midstorey	<i>Kunzea ambigua</i> (tick bush) and <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree)
Understorey	<i>Solanum aviculare</i> (kangaroo apple), <i>Banksia integrifolia</i> ssp. <i>integrifolia</i> (coast banksia) and large leaf privet (<i>Ligustrum lucidum</i>)
Groundcover	<i>Microlaena stipoides</i> var. <i>stipoides</i> (weeping grass), <i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Commelina cyanea</i> (scurvy weed), <i>Nephrolepis cordifolia</i> (fishbone fern) and <i>Tradescantia fluminensis</i> (trad)

2.19.3 Threatened flora

The current survey was unable to identify previously recorded threatened flora, *Acacia terminalis* subsp. *eastern Sydney*, but there is potential that they could occur at the site in the future.

2.19.4 Threatened ecological communities

The Threatened Ecological Communities Greater Sydney (DPIE 2021) identified one TEC, Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner bioregions (Endangered under both the BC Act and EPBC Act) within Reid Park. The current survey confirmed vegetation that corresponds to this TEC occurs in one area in the south-west of the reserve (Figure 55).

2.19.5 Native vegetation and weed cover

Native vegetation cover is relatively high at Reid Park, with the majority of the site recording low weed density. Two areas were identified with higher weed density in the western portion of the site, one in the north and another near a storm water outflow point below the central area. Another area in the south-east of the reserve has higher weed density. Figures 56 and 57 show native vegetation cover and weed density at the site. The top five weed species and total weed cover for each class is provided in Table 131.

Table 131 Top five weed species and total weed cover at Reid Park

Weed Class	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Cardiospermum grandiflorum</i>	balloon vine	Lower	2
	<i>Ligustrum lucidum</i>	large leaved privet	Lower	1
	<i>Asparagus aethiopicus</i>	asparagus fern	Lower	1
	<i>Araujia sericifera</i>	moth vine	Lower	1
	<i>Ipomoea purpurea</i>	morning glory	Lower	1
	Other weed species			2
	Total			9
10-29	<i>Cinnamomum camphora</i>	camphor laurel	Upper	5
	<i>Tradescantia fluminensis</i>	trad	Lower	5
	<i>Ligustrum lucidum</i>	large leaf privet	Middle	5
	<i>Ipomoea purpurea</i>	morning glory	Middle	5
	<i>Nephrolepis cordifolia</i>	fishbone fern	Lower	5
	Other weed species		Lower	4
	Total			29

2.19.6 Fauna habitat

Fauna habitat attributes recorded for Reid Park are listed in Table 132.

Table 132 Fauna habitat summary of Reid Park

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Relatively large but narrow reserve with local connectivity only to Reid Park East (18) and Harnnet Park (20); extensive disturbance history, but some remnant bushland features; good sandstone outcropping.
Connectivity	Good local connectivity, one other bushland reserve (Harnett Park) is in close proximity.
Large hollows (>20 cm)	Scattered
Small hollows (<20 cm)	Scattered
Hollow status	Mostly alive
Large logs (>50 cm)	Scattered
Small logs (10-50 cm)	Common
Cliffs/outcrops	Abundant
Large rocks (>30 cm)	Abundant
Small rocks (10-30 cm)	Abundant
Leaf litter	Common
Dense shrubs/grass shelter	Abundant
Termite mounds	Absent
Water bodies	Creek, drainage lines, bay.
Threatened fauna habitat	Hollows and foraging habitat for threatened parrots, microbats and owls. Likely a sea cave or sandstone cliff roost nearby for large-eared pied-bat (<i>Chalinolobus dwyeri</i>) as this species was recorded in Reid Park. Foraging habitat for grey-headed flying-fox (<i>Pteropus poliocephalus</i>).

2.19.7 Threats to flora and fauna

Current threats to the flora and fauna within Reid Park include:

- garden escapes from surrounding private properties
- dispersal of weeds from higher weed density vegetation from surrounding vegetation and road reserves
- introduced predators of native ground-dwelling fauna including cat (*Felis catus*), dog (*Canis lupus familiaris*) and European fox (*Vulpes vulpes*).

2.19.8 Conservation significance

2.19.8.1 Vegetation

The vegetation conservation significance in this reserve is high. The Sydney Sandstone Gully Forest promotes dispersal of native flora to the surrounding Regrowth Sydney Sandstone Gully Forest and has good connectivity to surrounding bushland reserves. The native vegetation in this bushland reserve also contains low to moderate abundance of weeds and has decreased since previous surveys by Ecosure 2016, particularly in the north of the site. The restoration and revegetation works have reduced weed presence and aided in the regeneration of native species.

2.19.8.2 Fauna

Twenty-seven species (sixteen birds, six mammals and five reptile) were detected at this reserve during surveys in December 2021 and January 2022. Two of these species are threatened, the grey-headed flying-fox (*Pteropus poliocephalus*) and large-eared pied bat (*Chalinolobus dwyeri*), under both the EPBC Act and BC Act.

2.19.8.3 Priority

This site has a high priority for conservation. Although weed levels have been reduced, ongoing bushland restoration works are still required to maintain low weed abundance in the Sydney Sandstone Gully Forest and Regrowth Sydney Sandstone Gully Forest in the northern polygon and reduce weed abundance in Regrowth Sydney Sandstone Gully Forest in the southern polygon, particularly in the south-eastern section of the reserve.

2.19.9 Current management practices

The western side of Reid Park is currently managed as a bush regeneration and restoration site under Mosman Council’s Bushland Restoration Contracts 2012 – 2022, while the eastern side is managed by a Bushcare volunteer group as part of Mosman Council’s Bushcare volunteer programme. A summary of the works to date is shown in Table 133.

Table 133 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary

Weeding	<ul style="list-style-type: none"> · Primary weeding targeting noxious, woody and vine weeds · Secondary and maintenance weeding of noxious, woody and vine weed regrowth and annual and perennial herbs and grasses by hand weeding and spot spraying.
Planting	Recent and established scattered plantings in the Regrowth Sydney Sandstone Gully Forest to supplement and aid regeneration.
Ecological/Hazard reduction burns	Pile burns occurred in 2006.
Other	n/a

2.19.10 Recommendations

Current bushland management practices for Reid Park should be continued. Prioritised recommendations are shown in Table 134.

Table 134 Recommended bush regeneration and restoration works

Recommended bush regeneration, restoration works and threatened fauna protection

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve.
2	Monitoring the status of <i>Acacia terminalis</i> subsp. <i>eastern Sydney</i> (sunshine wattle).
3	Continue planting of native tree, shrub and groundcover species in the regenerating Sydney Sandstone Gully Forest to supplement regeneration.

Recommended bush regeneration, restoration works and threatened fauna protection

4	Ecological/hazard reduction/pile burns to be considered to stimulate regeneration of native plants such as <i>Acacia terminalis</i> subsp. <i>eastern Sydney</i> as it has been recorded and may regenerate elsewhere in the reserve.
5	Further investigations into large-eared pied-bat (<i>chalinolobus dwyeri</i>) habitat surrounding the reserve. Searches for roost and breeding habitat in caves, sea cliff overhangs and disused fairy martin (<i>Hirundo ariel</i>) nests.

2.19.11 Flora and fauna species list

Flora species recorded during current and previous surveys of Reid Park are listed in Table 135 and fauna species Table 136.

Table 135 Flora species list for Reid Park

Family	Scientific name	Common name	Status	BR46
Fabaceae - Mimosoideae	<i>Acacia binervia</i>	coast myall		a
Fabaceae - Mimosoideae	<i>Acacia elata</i>	mountain cedar wattle	ni	a
Fabaceae - Mimosoideae	<i>Acacia fimbriata</i>	fringed wattle		a
Fabaceae - Mimosoideae	<i>Acacia floribunda</i>	white sally wattle		a
Fabaceae - Mimosoideae	<i>Acacia implexa</i>	hickory wattle		b
Fabaceae - Mimosoideae	<i>Acacia linifolia</i>	white wattle		b
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		a
Fabaceae - Mimosoideae	<i>Acacia parramattensis</i>	Sydney green wattle		a
Fabaceae - Mimosoideae	<i>Acacia parvipinnula</i>	silver-stemmed wattle		a
Fabaceae - Mimosoideae	<i>Acacia suaveolens</i>	sweet wattle		a
Fabaceae - Mimosoideae	<i>Acacia terminalis</i> susp. <i>eastern Sydney</i>	sunshine wattle	E	a
Fabaceae - Mimosoideae	<i>Acacia ulicifolia</i>	prickly moses		a
Polygonaceae	<i>Acetosa sagittata</i>	turkey rhubarb	*	a
Myrtaceae	<i>Acmena smithii</i>	lily pilly		b
Adiantaceae	<i>Adiantum aethiopicum</i>	common maidenhair		a
Adiantaceae	<i>Adiantum hispidulum</i>	rough maidenhair fern		b
Casuarinaceae	<i>Allocasuarina distyla</i>			a
Casuarinaceae	<i>Allocasuarina littoralis</i>	black she-oak		b
Casuarinaceae	<i>Allocasuarina torulosa</i>	forest oak		a
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		b
Myrtaceae	<i>Angophora floribunda</i>	apple		a
Basellaceae	<i>Anredera cordifolia</i>	madeira vine	WoNS	b
Arecaceae	<i>Archontophoenix cunninghamiana</i>	bangalow palm		b
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	b
Aspleniaceae	<i>Asplenium australasicum</i>	birds nest fern		b
Aspleniaceae	<i>Asplenium flabellifolium</i>	necklace fern		a
Araliaceae	<i>Astrotricha floccosa</i>			a

Family	Scientific name	Common name	Status	BR46
Myrtaceae	<i>Babingtonia virgata</i>		ni	a
Myrtaceae	<i>Baeckea linifolia</i>	weeping baeckea		b
Proteaceae	<i>Banksia ericifolia</i> subsp. <i>ericifolia</i>	heath-leaved banksia		b
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Proteaceae	<i>Banksia serrata</i>	old-man banksia		b
Proteaceae	<i>Banksia spinulosa</i>	hairpin banksia		b
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*	b
Pittosporaceae	<i>Billardiera scandens</i>	hairy apple berry		a
Blechnaceae	<i>Blechnum cartilagineum</i>	gristle fern		a
Sterculiaceae	<i>Brachychiton acerifolius</i>	flame tree		a
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush		b
Cunoniaceae	<i>Callicoma serratifolia</i>	black wattle		b
Myrtaceae	<i>Callistemon citrinus</i>	crimson bottlebrush		a
Myrtaceae	<i>Callistemon salignus</i>	willow bottlebrush		b
Myrtaceae	<i>Callistemon viminalis</i>	weeping bottlebrush		a
Cupressaceae	<i>Callitris rhomboidea</i>	Port Jackson pine		a
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken		b
Sapindaceae	<i>Cardiospermum grandiflorum</i>	balloon vine	*	b
Lauraceae	<i>Cassytha pubescens</i>			a
Casuarinaceae	<i>Casuarina glauca</i>	swamp oak		b
Ulmaceae	<i>Celtis sinensis</i>	Chinese celtis	*	b
Apiaceae	<i>Centella asiatica</i>	Indian pennywort		a
Cunoniaceae	<i>Ceratopetalum apetalum</i>	coachwood		b
Cunoniaceae	<i>Ceratopetalum gummiferum</i>	Christmas bush		a
Solanaceae	<i>Cestrum parqui</i>	green poisonberry	N3	a
Adiantaceae	<i>Cheilanthes sieberi</i>			a
Thelypteridaceae	<i>Christella dentata</i>	binung		a
Lauraceae	<i>Cinnamomum camphora</i>	camphor laurel	*	b
Asteraceae	<i>Cirsium vulgare</i>	spear thistle	*	b
Vitaceae	<i>Cissus antarctica</i>	kangaroo vine		a
Vitaceae	<i>Cissus hypoglauca</i>	water vine		a
Ranunculaceae	<i>Clematis aristata</i>	old man's beard		a
Verbenaceae	<i>Clerodendrum tomentosum</i>	hairy clerodendrum		a
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp.	fleabane	*	b
Asteliaceae	<i>Cordyline</i> sp.			b
Asteraceae	<i>Coreopsis lanceolata</i>	coreopsis	*	b
Myrtaceae	<i>Corymbia gummifera</i>	red bloodwood		b
Myrtaceae	<i>Corymbia maculata</i>	spotted gum		a

Family	Scientific name	Common name	Status	BR46
Asteraceae	<i>Crassocephalum crepidioides</i>	thickhead	*	a
Euphorbiaceae	<i>Croton insularis</i>	silver croton		a
Rutaceae	<i>Crowea saligna</i>			a
Cyatheaceae	<i>Cyathea australis</i>	black tree-fern		a
Cyatheaceae	<i>Cyathea cooperi</i>	straw treefern		b
Apiaceae	<i>Cyclospermum leptophyllum</i>	slender celery	*	a
Poaceae	<i>Cymbopogon refractus</i>	barbed wire grass		a
Poaceae	<i>Cynodon dactylon</i>	couch		b
Cyperaceae	<i>Cyperus albostratus</i>		*	b
Cyperaceae	<i>Cyperus gracilis</i>	slender flat-sedge		b
Cyperaceae	<i>Cyperus involucratus</i>	umbrella sedge	*	b
Cyperaceae	<i>Cyperus rotundus</i>	nutgrass	*	b
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Phormiaceae	<i>Dianella revoluta</i>	paroo lily		b
Convolvulaceae	<i>Dichondra repens</i>	kidney weed		b
Poaceae	<i>Digitaria didactyla</i>	Queensland blue couch		b
Poaceae	<i>Digitaria sanguinalis</i>	summer grass	*	b
Fabaceae - Faboideae	<i>Dillwynia retorta</i>			a
Sapindaceae	<i>Dodonaea triquetra</i>	large-leaf hop-bush		b
Blechnaceae	<i>Doodia aspera</i>	prickly rasp fern		b
Blechnaceae	<i>Doodia caudata</i>	small rasp fern		a
Poaceae	<i>Echinopogon caespitosus</i> var. <i>caespitosus</i>	tufted hedgehog-grass		a
Poaceae	<i>Echinopogon ovatus</i>	forest hedgehog grass		a
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	b
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	blueberry ash		b
Poaceae	<i>Eleusine indica</i>	crowsfoot grass	*	b
Poaceae	<i>Entolasia marginata</i>	bordered panic		a
Poaceae	<i>Entolasia stricta</i>	wiry panic		a
Myrtaceae	<i>Eucalyptus botryoides</i>	bangalay		a
Myrtaceae	<i>Eucalyptus microcorys</i>	tallowwood	ni	a
Myrtaceae	<i>Eucalyptus pilularis</i>	blackbutt		a
Myrtaceae	<i>Eucalyptus piperita</i>	Sydney peppermint		b
Myrtaceae	<i>Eucalyptus resinifera</i>	red mahogany		a
Myrtaceae	<i>Eucalyptus robusta</i>	swamp mahogany		b
Myrtaceae	<i>Eucalyptus saligna</i>	Sydney blue gum		b
Myrtaceae	<i>Eucalyptus sieberi</i>	silvertop ash		b
Eupomatiaceae	<i>Eupomatia laurina</i>	bolwarra		b
Luzuriagaceae	<i>Eustrephus latifolius</i>	wombat berry		b
Moraceae	<i>Ficus coronata</i>	sandpaper fig		b

Family	Scientific name	Common name	Status	BR46
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Cyperaceae	<i>Gahnia aspera</i>	rough saw-sedge		a
Cyperaceae	<i>Gahnia melanocarpa</i>	black fruit saw-sedge		a
Luzuriagaceae	<i>Geitonoplesium cymosum</i>	scrambling lily		a
Geraniaceae	<i>Geranium homeanum</i>	native geranium		b
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	cheese tree		b
Fabaceae - Faboideae	<i>Glycine clandestina</i>			b
Fabaceae - Faboideae	<i>Glycine microphylla</i>	small-leaf glycine		b
Haloragaceae	<i>Gonocarpus teucrioides</i>	raspwort		a
Proteaceae	<i>Grevillea linearifolia</i>	linear-leaf grevillea		b
Proteaceae	<i>Grevillea</i> sp. hort		ni	a
Proteaceae	<i>Hakea dactyloides</i>	finger hakea		a
Proteaceae	<i>Hakea salicifolia</i>	willow-leaved hakea		a
Proteaceae	<i>Hakea sericea</i>	needlebush		b
Proteaceae	<i>Hakea teretifolia</i>	needlebush		a
Fabaceae - Faboideae	<i>Hardenbergia violacea</i>	purple coral pea		a
Araliaceae	<i>Hedera helix</i>	english ivy	*	b
Zingiberaceae	<i>Hedychium gardnerianum</i>	ginger lily	*	b
Dilleniaceae	<i>Hibbertia aspera</i>	rough guinea flower		a
Dilleniaceae	<i>Hibbertia dentata</i>	trailing guinea flower		a
Dilleniaceae	<i>Hibbertia empetrifolia</i> subsp. <i>empetrifolia</i>			a
Dilleniaceae	<i>Hibbertia scandens</i>	climbing guinea flower		b
Dennstaedtiaceae	<i>Histiopteris incisa</i>	bat's wing fern		a
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b
Fabaceae - Faboideae	<i>Hovea acutifolia</i>			b
Apiaceae	<i>Hydrocotyle laxiflora</i>	stinking pennywort		a
Apiaceae	<i>Hydrocotyle peduncularis</i>			b
Apiaceae	<i>Hydrocotyle tripartita</i>	pennywort		a
Poaceae	<i>Imperata cylindrica</i>	blady grass		a
Juncaceae	<i>Juncus continuus</i>			a
Juncaceae	<i>Juncus subsecundus</i>			a
Juncaceae	<i>Juncus usitatus</i>	common rush		a
Fabaceae - Faboideae	<i>Kennedia rubicunda</i>	dusky coral pea		a
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		b
Proteaceae	<i>Lambertia formosa</i>	mountain devil		a
Rutaceae	<i>Leionema dentatum</i>	toothed phebalium		b
Cyperaceae	<i>Lepidosperma laterale</i>			a
Myrtaceae	<i>Leptospermum laevigatum</i>	coast teatree		a
Myrtaceae	<i>Leptospermum petersonii</i>	lemon-scented teatree	ni	b

Family	Scientific name	Common name	Status	BR46
Myrtaceae	<i>Leptospermum polygalifolium</i>	yellow tea-tree		b
Myrtaceae	<i>Leptospermum trinervium</i>	slender tea-tree		a
Oleaceae	<i>Ligustrum lucidum</i>	large leaved privet	*	b
Areaceae	<i>Livistona australis</i>	cabbage fan-palm		b
Lomandraceae	<i>Lomandra confertifolia</i> subsp. <i>pallida</i>	mat-rush		a
Lomandraceae	<i>Lomandra filiformis</i> subsp. <i>filiformis</i>	wattle mat-rush		b
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Lomandraceae	<i>Lomandra multiflora</i>	many-flowered mat-rush		a
Lomandraceae	<i>Lomandra obliqua</i>			a
Proteaceae	<i>Lomatia myricoides</i>	river lomatia		a
Proteaceae	<i>Lomatia silaifolia</i>	crinkle bush		a
Myrtaceae	<i>Lophostemon confertus</i>	brush box	ni	b
Myrtaceae	<i>Melaleuca armillaris</i>	bracelet honey-myrtle		a
Myrtaceae	<i>Melaleuca decora</i>			a
Myrtaceae	<i>Melaleuca hypericifolia</i>	hillock bush		a
Myrtaceae	<i>Melaleuca linariifolia</i>	flax-leaved paperbark		a
Myrtaceae	<i>Melaleuca nodosa</i>	prickly-leaved paperbark		b
Myrtaceae	<i>Melaleuca quinquenervia</i>	broad-leaved paperbark		a
Myrtaceae	<i>Melaleuca styphelioides</i>	prickly-leaved tea tree		b
Meliaceae	<i>Melia azedarach</i>	white cedar		b
Poaceae	<i>Microlaena stipoides</i> var. <i>stipoides</i>	weeping grass		b
Polypodiaceae	<i>Microsorium scandens</i>	fragrant fern		a
Araceae	<i>Monstera deliciosa</i>	fruit salad plant	*	a
Myrsinaceae	<i>Myrsine howittiana</i>	brush muttonwood		b
Myrsinaceae	<i>Myrsine variabilis</i>			b
Davalliaceae	<i>Nephrolepis cordifolia</i>	fishbone fern	ni	b
Oleaceae	<i>Notelaea longifolia</i>	large mock-olive		b
Poaceae	<i>Notodanthonia longifolia</i>	long-leaved wallaby grass		a
Rubiaceae	<i>Opercularia aspera</i>	coarse stinkweed		a
Poaceae	<i>Oplismenus aemulus</i>	oplismenus		b
Poaceae	<i>Oplismenus imbecillis</i>			a
Oxalidaceae	<i>Oxalis</i> sp.		*	b
Asteraceae	<i>Ozothamnus diosmifolius</i>	rice flower		a
Bignoniaceae	<i>Pandorea pandorana</i>	Wonga Wonga vine		b
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*	b
Poaceae	<i>Paspalum dilatatum</i>	paspalum	*	a
Passifloraceae	<i>Passiflora subpeltata</i>	white passionflower	*	b

Family	Scientific name	Common name	Status	BR46
Iridaceae	<i>Patersonia sericea</i>	silky purple-flag		a
Adiantaceae	<i>Pellaea falcata</i>	sickle fern		b
Polygonaceae	<i>Persicaria decipiens</i>	slender knotweed		a
Proteaceae	<i>Persoonia levis</i>	broad-leaved geebung		a
Proteaceae	<i>Persoonia linearis</i>	narrow-leaved geebung		a
Rutaceae	<i>Phebalium squamulosum</i>	scaly phebalium		a
Rutaceae	<i>Philothea myoporoides</i>	long-leaf wax flower		a
Arecaceae	<i>Phoenix canariensis</i>	Canary Island date palm	*	b
Euphorbiaceae	<i>Phyllanthus hirtellus</i>			a
Pinaceae	<i>Pinus radiata</i>	radiata pine	*	b
Pittosporaceae	<i>Pittosporum revolutum</i>	wild yellow jasmine		b
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Plantaginaceae	<i>Plantago lanceolata</i>	lamb's tongues	*	b
Plantaginaceae	<i>Plantago major</i>	large plantain	*	b
Apiaceae	<i>Platysace linearifolia</i>			a
Lamiaceae	<i>Plectranthus parviflorus</i>	cockspur flower		b
Poaceae	<i>Poa affinis</i>	poa		b
Podocarpaceae	<i>Podocarpus spinulosus</i>	spiny-leaf podocarp		b
Commelinaceae	<i>Pollia crispata</i>	pollia		b
Araliaceae	<i>Polyscias elegans</i>	celery wood		b
Araliaceae	<i>Polyscias murrayi</i>	pencil cedar		a
Araliaceae	<i>Polyscias sambucifolia</i>	elderberry panax		a
Rhamnaceae	<i>Pomaderris elliptica</i> subsp. <i>elliptica</i>			b
Rhamnaceae	<i>Pomaderris ferruginea</i>			b
Rubiaceae	<i>Pomax umbellata</i>	pomax		a
Lamiaceae	<i>Prostanthera ovalifolia</i>	mint bush		a
Psilotaceae	<i>Psilotum nudum</i>	skeleton fork-fern		a
Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken		b
Pteridaceae	<i>Pteris tremula</i>	tender brake		a
Pteridaceae	<i>Pteris umbrosa</i>	jungle brake		b
Fabaceae - Faboideae	<i>Pultenaea daphnoides</i>			a
Fabaceae - Faboideae	<i>Pultenaea stipularis</i>			a
Polygonaceae	<i>Rumex brownii</i>	swamp dock		b
Cyperaceae	<i>Schoenus melanostachys</i>			a
Selaginellaceae	<i>Selaginella uliginosa</i>	swamp selaginella		a
Fabaceae - Caesalpinioideae	<i>Senna pendula</i> var. <i>glabrata</i>	cassia	*	b
Poaceae	<i>Setaria palmifolia</i>	palm grass	*	a
Malvaceae	<i>Sida rhombifolia</i>	paddy's lucerne	*	b
Asteraceae	<i>Sigesbeckia orientalis</i> subsp.			a

Family	Scientific name	Common name	Status	BR46
	<i>orientalis</i>			
Smilacaceae	<i>Smilax glycyphylla</i>	sweet sarsaparilla		b
Solanaceae	<i>Solanum aviculare</i>	kangaroo apple		b
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	b
Menispermaceae	<i>Stephania japonica</i> var. <i>discolor</i>	snake vine		b
Myrtaceae	<i>Syncarpia glomulifera</i> ubssp. <i>glomulifera</i>	turpentine		a
Meliaceae	<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	scentless rosewood		a
Myrtaceae	<i>Syzygium australe</i>	brush cherry		b
Myrtaceae	<i>Syzygium luehmannii</i>	small-leaved lilly pilly	ni	a
Myrtaceae	<i>Syzygium oleosum</i>	blue lilly pilly		a
Asteraceae	<i>Taraxacum officinale</i>	dandelion	*	b
Aizoaceae	<i>Tetragonia tetragonioides</i>	New Zealand spinach		a
Poaceae	<i>Themeda triandra</i>	kangaroo grass		b
Commelinaceae	<i>Tradescantia fluminensis</i>	trad	*	b
Ulmaceae	<i>Trema tomentosa</i> subsp. <i>viridis</i>	native peach		b
Myrtaceae	<i>Tristaniopsis laurina</i>	water gum		b
Scrophulariaceae	<i>Veronica plebeia</i>	trailing speedwell		a
Fabaceae - Faboideae	<i>Viminaria juncea</i>	golden spray		a
Violaceae	<i>Viola hederacea</i>	native violet		b
Lamiaceae	<i>Westringia fruticosa</i>	coastal rosemary		b
Xanthorrhoeaceae	<i>Xanthorrhoea arborea</i>			b
Apiaceae	<i>Xanthosia pilosa</i>	woolly xanthosia		a
Proteaceae	<i>Xylomelum pyriforme</i>	woody pear		a
Rutaceae	<i>Zieria smithii</i>	sandfly zieria		a

Table 136 Fauna species list for Reid Park

Class	Family	Scientific name	Common name	Status	BR46
Birds	Sturnidae	<i>Acridotheres tristis</i>	common myna	*	a
Birds	Megapodiidae	<i>Alectura lathamii</i>	Australian brushturkey		c
Birds	Psittacidae	<i>Alisterus scapularis</i>	Australian king-parrot		a
Birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		b
Birds	Corvidae	<i>Corvus coronoides</i>	Australian raven		b
Birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		b
Birds	Alcedinidae	<i>Dacelo novaeguinea</i>	laughing kookaburra		b
Birds	Dicruridae	<i>Grallina cyanoleuca</i>	magpie-lark		c
Birds	Columbidae	<i>Geopelia humeralis</i>	bar-shouldered dove		a
Birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		b
Birds	Maluridae	<i>Malurus cyaneus</i>	superb fairy-wren		b
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		b

Class	Family	Scientific name	Common name	Status	BR46
Birds	Meliphagidae	<i>Meliphaga lewinii</i>	Lewin's honeyeater		a
Birds	Strigidae	<i>Ninox boobook</i>	southern boobook		c
Birds	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon		a
Birds	Pachycephalidae	<i>Pachycephala pectoralis</i>	golden whistler		a
Birds	Passeridae	<i>Passer domesticus</i>	house sparrow	*	a
Birds	Meliphagidae	<i>Phylidonyris nigra</i>	white-cheeked honeyeater		a
Birds	Meliphagidae	<i>Phylidonyris novaehollandiae</i>	new holland honeyeater		a
Birds	Podargidae	<i>Podargus strigoides</i>	tawny frogmouth		b
Birds	Dicruridae	<i>Rhipidura leucophrys</i>	willie wagtail		a
Birds	Cuculidae	<i>Scythrops novaehollandiae</i>	channel-billed cuckoo		b
Birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		a
Birds	Sturnidae	<i>Sphecotheres viridis</i>	figbird		b
Birds	Artamidae	<i>Strepera graculina</i>	pied currawong		b
Birds	Threskiornidaea	<i>Threskiornis moluccus</i>	Australian white ibis		c
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		b
Mammals	Felidae	<i>Felis catus</i>	feral cat	*	b
Mammals	Vespertilionidae	<i>Chalinolobus gouldii</i>	Gould's wattled bat		b
Mammals	Vespertilionidae	<i>Chalinolobus dwyeri</i>	large-eared pied bat	V	c
Mammals	Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	common ringtail possum		b
Mammals	Pteropodidae	<i>Pteropus poliocephalus</i>	grey-headed flying-fox	V	b
Mammals	Phalangeridae	<i>Trichosurus vulpecula</i>	common brushtail possum		a
Mammals	Muridae	<i>Rattus rattus</i>	black rat	*	c
Reptiles	Scincidae	<i>Eulamprus quoyii</i>	eastern water-skink		c
Reptiles	Agamidae	<i>Intellagama lesueurii lesueurii</i>	eastern water dragon		c
Reptiles	Scincidae	<i>Lampropholis delicata</i>	dark-flecked garden sunskink		c
Reptiles	Scincidae	<i>Lampropholis guichenoti</i>	pale-flecked garden sunskink		b
Reptiles	Gekkonidae	<i>Phyllurus platurus</i>	southern leaf-tailed gecko		b

2.19.12 Maps for Reid Park



- | | |
|---|--|
| Vegetation communities | Regrowth Sydney Sandstone Gully Forest |
| Disturbed Sydney Sandstone Gully Forest | Sydney Sandstone Gully Forest |
| Established Planted Area | Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner bioregions – Endangered |
| Open Space | |

Figure 55: Vegetation Communities, Threatened Ecological Communities and threatened flora locations - Reid Park Site boundary

Mosman Council

Mosman Flora and Fauna Survey 2021



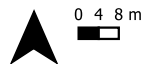
Figure 56: Native vegetation cover percent - Reid Park

Mosman Council

Mosman Flora and Fauna Survey 2021



Job number: PR6939
Date: 30/01/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

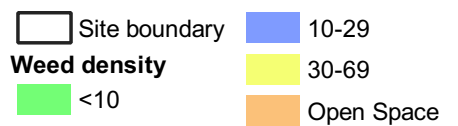
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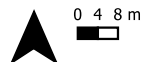
Figure 57: Weed density - Reid Park

Mosman Council

Mosman Flora and Fauna Survey 2021



Job number: PR6939
Date: 30/01/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

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2.20 Rosherville Reserve

2.20.1 General description

Rosherville Reserve is located north of Rosherville Reserve parkland in the north-east of Mosman LGA. The reserve occurs on a moderate to steep south-east facing slope with sandstone outcrops and benches on the higher slopes.

2.20.2 Vegetation communities

A single vegetation community is recognised at Rosherville Reserve, Sydney Sandstone Gully Forest (Figure 58), that consists of both remnant and regrowth vegetation. The middle section of the reserve contains some species that occur in littoral rainforest however, the dominant canopy species are more typical of Sydney Sandstone Gully Forest. Table 137 provides an updated list of species frequently recorded in each community.

Table 137 Vegetation community description - Rosherville Reserve

Regrowth Sydney Sandstone Gully Forest	
Canopy	<i>Ficus rubiginosa</i> (Port Jackson fig), <i>Angophora costata</i> (Sydney red gum), <i>Eucalyptus botryoides</i> (bangalay) and <i>Brachychiton acerifolius</i> (flame tree)
Midstorey	<i>Synoum glandulosum</i> subsp. <i>glandulosum</i> (scentless rosewood), <i>Ficus coronata</i> (sandpaper fig), <i>Cyathea cooperi</i> (straw treefern) and <i>Allocasuarina littoralis</i> (black sheoak)
Understorey	<i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle), <i>Breynia oblongifolia</i> (coffee bush), <i>Homalanthus populifolius</i> (bleeding heart) and <i>Calochlaena dubia</i> (soft bracken)
Groundcover	<i>Oplismenus imbecillis</i> , <i>Oplismenus aemulus</i> (oplismenus), <i>Lomandra longifolia</i> (spiny-headed mat-rush) and <i>Dianella caerulea</i> (blue flax-lily)

2.20.3 Threatened flora

There were no threatened plant species recorded during the current survey at this site.

2.20.4 Threatened ecological communities

No TECs are mapped within Rosherville Reserve (OEH 2016c). However, field surveys have recorded vegetation with landforms and some species characteristic of the Coastal Escarpment Littoral Rainforest (S_RF07) vegetation community. This community is included in the TEC, Littoral Rainforest in the NSW North Coast, Sydney Basin and South East Corner Bioregions. However, the canopy layer is dominated by sclerophyll forest species and therefore, the vegetation in Rosherville Reserve is not suitable for classification as this TEC.

2.20.5 Native vegetation and weed cover

Native vegetation is in excellent condition throughout Rosherville Reserve at greater than 90% cover. Weed density was recorded as slightly higher along the northern boundary above a rocky outcrop and in the vicinity of a stormwater outlet. The native vine, *Cissus hypoglauca* (water vine), is smothering native plants in some areas and should be monitored. Figures 59

and 60 show native vegetation cover and weed density at the site. The top five weed species and total weed cover is provided in Table 138.

Table 138 Top five weed species and total weed cover at Rosherville Reserve

Weed Class	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Ipomoea purpurea</i>	morning glory	Lower	1
	<i>Anredera cordifolia</i>	Madeira vine	Lower	
	<i>Parietaria judaica</i>	asthma weed	Lower	1
	<i>Tradescantia fluminensis</i>	trad	Lower	1
	<i>Nephrolepis cordifolia</i>	fishbone	Lower	1
	Other weed species		Lower	2
				Total

2.20.6 Fauna habitat

Fauna habitat attributes recorded for Rosherville Reserve are listed in Table 139.

Table 139 Fauna habitat summary of Rosherville Reserve

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Small narrow reserve with local connectivity only; extensive disturbance; some remnant bushland elements.
Connectivity	Moderate local connectivity, two other bushland reserves (Unnamed Reserve [Rosherville] [unnamed] reserve and Chinamans Beach Dunes) are in close proximity.
Large hollows (>20 cm)	Absent
Small hollows (<20 cm)	Scattered
Hollow status	Mixture
Large logs (>50 cm)	Absent
Small logs (10-50 cm)	Common
Cliffs/outcrops	Common
Large rocks (>30 cm)	Scattered
Small rocks (10-30 cm)	Scattered
Leaf litter	Common
Dense shrubs/grass shelter	Common
Termite mounds	Absent
Water bodies	Drainage line
Threatened fauna habitat	Hollows and foraging for threatened parrots and microbats. Foraging habitat for grey-headed flying-fox (<i>Pteropus poliocephalus</i>).

2.20.7 Threats to flora and fauna

Current threats to the flora and fauna within Rosherville Reserve bushland reserve include:

- dispersal of weeds from higher weed density vegetation, including the south-western part of the reserve
- garden escapes from surrounding private properties.

2.20.8 Conservation significance

2.20.8.1 Vegetation

The vegetation conservation significance in this reserve is medium to high. The vegetation within Rosherville Reserve is regenerating. However, the mid and understoreys are sparse and would benefit from planting of suitable native species. The native vegetation contains low abundance of weeds and has reduced since previous surveys by Total Earth Care (2007) and Ecosure 2016.

2.20.8.2 Fauna

Twelve species (seven birds, one mammal and four reptile) were detected at this reserve during surveys in December 2021 and January 2022. One of these species is listed as threatened, the grey-headed flying-fox (*Pteropus poliocephalus*), under both the EPBC Act and BC Act.

2.20.8.3 Priority

This site has a medium to high priority for conservation. Continued and expanded bush regeneration works will maintain and improve the condition of the native vegetation within the bushland reserve.

2.20.9 Current management practices

Rosherville Reserve bushland reserve is currently managed as a bush regeneration and restoration site under Mosman Council's Bushland Restoration Contracts 2012 - 2022. A summary of the works to date is shown in Table 140.

Table 140 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary

Weeding	<ul style="list-style-type: none"> • Primary weeding targeting noxious, woody and vine weeds • Secondary and maintenance weeding of noxious, woody and vine weed regrowth and annual and perennial herbs and grasses by hand weeding and spot spraying.
Planting	Scattered plantings throughout the reserve to supplement native vegetation and regeneration.
Ecological/Hazard reduction burns	Pile burns were carried out in 2003.
Other	n/a

2.20.10 Recommendations

Current bushland management practices for Rosherville Reserve bushland reserve should be continued. Prioritised recommendations are shown in Table 141.

Table 141 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve.
2	Targeted clearing of <i>Nephrolepis cordifolia</i> (fishbone fern) in the south-west section of the reserve.
3	Continue planting of native shrub and groundcover species throughout the regenerating Sydney Sandstone Gully Forest to supplement regeneration.

2.20.11 Flora and fauna species list

Flora species recorded during current and previous surveys of Rosherville Reserve bushland reserve are listed in Table 142 and fauna species in Table 143.

Table 142 Flora species list for Rosherville Reserve

Family	Scientific name	Common name	Status	BR48
Fabaceae - Mimosoideae	<i>Acacia elata</i>	mountain cedar wattle	ni	a
Fabaceae - Mimosoideae	<i>Acacia implexa</i>	hickory wattle		a
Fabaceae - Mimosoideae	<i>Acacia linifolia</i>	white wattle		a
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		b
Fabaceae - Mimosoideae	<i>Acacia parramattensis</i>	Sydney green wattle		a
Fabaceae - Mimosoideae	<i>Acacia prominens</i>	Gosford wattle		a
Fabaceae - Mimosoideae	<i>Acacia suaveolens</i>	sweet wattle		b
Myrtaceae	<i>Acmena smithii</i>	lilly pilly		a
Adiantaceae	<i>Adiantum aethiopicum</i>	common maidenhair		b
Asteraceae	<i>Ageratina adenophora</i>	crofton weed	*	b
Casuarinaceae	<i>Allocasuarina distyla</i>			a
Casuarinaceae	<i>Allocasuarina littoralis</i>	black she-oak		b
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		b
Basellaceae	<i>Anredera cordifolia</i>	Madeira vine	WoNS	b
Apocynaceae	<i>Araujia sericifera</i>	moth vine	*	a
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	a
Aspleniaceae	<i>Asplenium australasicum</i>	birds nest fern		b
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Proteaceae	<i>Banksia serrata</i>	old-man banksia		a
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*	a
Blechnaceae	<i>Blechnum cartilagineum</i>	gristle fern		b

Family	Scientific name	Common name	Status	BR48
Sterculiaceae	<i>Brachychiton acerifolius</i>	flame tree		b
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush		b
Cunoniaceae	<i>Callicoma serratifolia</i>	black wattle		a
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken		b
Casuarinaceae	<i>Casuarina glauca</i>	swamp oak		a
Lauraceae	<i>Cinnamomum camphora</i>	camphor laurel	*	b
Vitaceae	<i>Cissus hypoglauca</i>	water vine		b
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp.	fleabane	*	b
Asteraceae	<i>Crassocephalum crepidioides</i>	thickhead	*	a
Cyatheaceae	<i>Cyathea cooperi</i>	straw treefern		b
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Convolvulaceae	<i>Dichondra repens</i>	kidney weed		b
Sapindaceae	<i>Dodonaea triquetra</i>	large-leaf hop-bush		a
Blechnaceae	<i>Doodia aspera</i>	prickly rasp fern		b
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	b
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	blueberry ash		b
Poaceae	<i>Eleusine indica</i>	crowsfoot grass	*	b
Poaceae	<i>Entolasia marginata</i>	bordered panic		b
Fabaceae - Faboideae	<i>Erythrina crista-galli</i>	cockspur coral tree	*	a
Myrtaceae	<i>Eucalyptus botryoides</i>	bangalay		b
Euphorbiaceae	<i>Euphorbia peplus</i>	petty spurge	*	a
Luzuriagaceae	<i>Eustrephus latifolius</i>	wombat berry		b
Moraceae	<i>Ficus coronata</i>	sandpaper fig		b
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Geraniaceae	<i>Geranium homeanum</i>	native geranium		b
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	cheese tree		b
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b
Dennstaedtiaceae	<i>Hypolepis muelleri</i>	harsh ground fern		a
Convolvulaceae	<i>Ipomoea indica</i>	morning glory	*	b
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		a
Verbenaceae	<i>Lantana camara</i>	lantana	WoNS	a
Myrtaceae	<i>Leptospermum laevigatum</i>	coast teatree		a
Oleaceae	<i>Ligustrum lucidum</i>	large leaved privet	*	a
Oleaceae	<i>Ligustrum sinense</i>	small leaved privet	*	a
Arecaceae	<i>Livistona australis</i>	cabbage fan-palm		b
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Proteaceae	<i>Lomatia myricoides</i>	river lomatia		a
Myrtaceae	<i>Melaleuca styphelioides</i>	prickly-leaved tea tree		b

Family	Scientific name	Common name	Status	BR48
Poaceae	<i>Microlaena stipoides</i> var. <i>stipoides</i>	weeping grass		b
Davalliaceae	<i>Nephrolepis cordifolia</i>	fishbone fern	ni	b
Oleaceae	<i>Notelaea longifolia</i>	large mock-olive		a
Ochnaceae	<i>Ochna serrulata</i>	ochna	*	a
Oleaceae	<i>Olea europaea</i> subsp. <i>cuspidata</i>	olive	*	b
Poaceae	<i>Oplismenus aemulus</i>	oplismenus		b
Poaceae	<i>Oplismenus imbecillis</i>			b
Poaceae	<i>Panicum simile</i>	two-colour panic		a
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*	a
Pittosporaceae	<i>Pittosporum revolutum</i>	wild yellow jasmine		a
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Poaceae	<i>Poa affinis</i>	poa		a
Poaceae	<i>Poa annua</i>	winter grass	*	a
Podocarpaceae	<i>Podocarpus elatus</i>	plum pine		b
Portulacaceae	<i>Portulaca oleracea</i>	pigweed		a
Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken		b
Selaginellaceae	<i>Selaginella uliginosa</i>	swamp selaginella		a
Fabaceae - Caesalpinioideae	<i>Senna pendula</i> var. <i>glabrata</i>	cassia	*	a
Poaceae	<i>Setaria palmifolia</i>	palm grass	*	b
Malvaceae	<i>Sida rhombifolia</i>	paddy's lucerne	*	a
Solanaceae	<i>Solanum mauritianum</i>	wild tobacco bush	*	b
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	b
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	*	b
Menispermaceae	<i>Stephania japonica</i> var. <i>discolor</i>	snake vine		b
Gleicheniaceae	<i>Sticherus flabellatus</i> var. <i>flabellatus</i>	shiny fan fern		b
Meliaceae	<i>Synoum glandulosum</i> subsp. <i>glandulosum</i>	scentless rosewood		b
Myrtaceae	<i>Syzygium luehmannii</i>	small-leaved lilly pilly	ni	b
Commelinaceae	<i>Tradescantia fluminensis</i>	trad	*	b
Verbenaceae	<i>Verbena bonariensis</i>	purple top	*	a
Scrophulariaceae	<i>Veronica plebeia</i>	trailing speedwell		a
Violaceae	<i>Viola hederacea</i>	native violet		b

Table 143 Fauna species list for Rosherville Reserve

Class	Family	Scientific Name	Common Name	Status	BR48
Birds	Sturnidae	<i>Acridotheres tristis</i>	common myna	*	a
Birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		c
Birds	Cacatuidae	<i>Cacatua sanguinea</i>	little corella		a

Class	Family	Scientific Name	Common Name	Status	BR48
Birds	Anatidae	<i>Chenonetta jubata</i>	maned duck		a
Birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		a
Birds	Alcedinidae	<i>Dacelo novaeguinea</i>	laughing kookaburra		a
Birds	Ardeidae	<i>Egretta novaehollandiae</i>	white-faced heron		a
Birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		b
Birds	Hirundinidae	<i>Hirundo neoxena</i>	welcome swallow		b
Birds	Laridae	<i>Larus crassirostris</i>	black-headed gull		a
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		b
Birds	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon		a
Birds	Podargidae	<i>Podargus strigoides</i>	tawny frogmouth		b
Birds	Psophodidae	<i>Psophodes olivaceus</i>	eastern whipbird		c
Birds	Artamidae	<i>Strepera graculina</i>	piebald currawong		b
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		b
Birds	Charadriidae	<i>Vanellus miles</i>	masked lapwing		a
Birds	Zosteropidae	<i>Zosterops lateralis</i>	silveryeye		a
Mammals	Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	common ringtail possum		a
Mammals	Pteropodidae	<i>Pteropus poliocephalus</i>	grey-headed flying-fox	V	c
Mammals	Muridae	<i>Rattus fuscipes</i> subsp. <i>assimilis</i>	bush rat		a
Mammals	Muridae	<i>Rattus rattus</i>	black rat	*	a
Mammals	Phalangeridae	<i>Trichosurus vulpecula</i>	common brushtail possum		a
Reptiles	Scincidae	<i>Eulamprus quoyii</i>	eastern water-skink		b
Reptiles	Agamidae	<i>Intellagama lesueurii lesueurii</i>	eastern water dragon		c
Reptiles	Scincidae	<i>Lampropholis guichenoti</i>	pale-flecked garden sunskink		b
Reptiles	Scincidae	<i>Soprosincus mustelinus</i>	weasel skink		b


2.20.12 Maps for Rosherville Reserve



Vegetation communities

 Regrowth Sydney Sandstone Gully Forest

Figure 58: Vegetation Communities and threatened floralocations - Rosherville Reserve

 Site boundary

Mosman Council

Mosman Flora and Fauna Survey 2021



Figure 59: Native vegetation cover percent - Rosherville Reserve

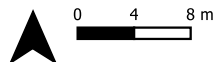
Mosman Council

Mosman Flora and Fauna Survey 2021

Site boundary
 Native vegetation cover %
 >90



Job number: PR6939
Date: 30/01/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

Data Sources: © State of New South Wales (Department of Planning, Industry and Environment), 2022; © Ecosure 2022
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Figure 60: Weed density - Rosherville Reserve

Mosman Council

Mosman Flora and Fauna Survey 2021

Site boundary
 Weed density
 <10

2.21 Sirius Park East

2.21.1 General description

Sirius Park East is located at the eastern end of Sirius Cove Reserve in the south of Mosman LGA. The reserve occurs on a sloping sandstone escarpment above the north-eastern foreshore of Great Sirius Cove. Fill batter is present in the northern section followed by gentle to moderate slopes in the middle and a coastal foreshore sandstone escarpment with sandstone outcrops in the south. The southern part of the reserve contains a section of the Foreshore Track that joins the Taronga to Balmoral walk.

2.21.2 Vegetation communities

A single vegetation community is recognised within Sirius Park East, Regrowth Sydney Sandstone Gully Forest, and consists of remnant, regrowth and planted vegetation (Figure 61). Table 144 provides an updated list of species frequently recorded in each community.

Table 144 Vegetation community description - Sirius Park East

Regrowth Sydney Sandstone Gully Forest

Canopy	<i>Ficus rubiginosa</i> (Port Jackson fig), <i>Angophora costata</i> (Sydney red gum), <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Allocasuarina littoralis</i> (black she-oak) and <i>Melaleuca styphelioides</i> (prickly-leaved tea tree)
Midstorey	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Pittosporum undulatum</i> (sweet pittosporum), <i>Cyathea cooperi</i> (straw treefern) and <i>Elaeocarpus reticulatus</i> (blueberry ash)
Understorey	<i>Hakea sericea</i> (needlebush), <i>Breynia oblongifolia</i> (coffee bush), <i>Calochlaena dubia</i> (soft bracken) and <i>Solanum aviculare</i> (kangaroo apple)
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Commelina cyanea</i> (scurvy weed) <i>Oplismenus aemulus</i> (oplismenus), <i>Ehrharta erecta</i> (panic veldtgrass) and <i>Tradescantia fluminensis</i> (trad)

2.21.3 Threatened flora

Previous surveys recorded two mature individuals of *Acacia terminalis* subsp. *eastern Sydney* (sunshine wattle) in the reserve (Total Earth Care 2007). One individual of this threatened species was recorded in the current surveys.

2.21.4 Threatened ecological communities

The Threatened Ecological Communities Greater Sydney (DPIE 2021) identified one TEC, Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner bioregions (Endangered under both the BC Act and EPBC Act) within Sirius Park East. The current survey confirmed vegetation that corresponds to this TEC occurs in one area in the middle of the reserve towards the foreshore (Figure 61).

2.21.5 Native vegetation and weed cover

Native vegetation cover is in good condition across the majority of the site. Weed density increases in the north of the site in the vicinity of the amenities block, with climbing weeds present such as *Anredera cordifolia* (Madeira vine) and *Cardiospermum grandiflorum* (balloon vine). Figures 62 and 63 show native vegetation cover and weed density at the site. The top five weed species and total weed cover for each class is provided in Table 145.

Table 145 Top five weed species and total weed cover at Sirius Park East

Weed Class	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Cardiospermum grandiflorum</i>	balloon vine	Upper	1
	<i>Ligustrum lucidum</i>	large leaf privet	Middle	1
	<i>Anredera cordifolia</i>	Madeira vine	Lower	1
	<i>Acestosa sagittata</i>	turkey rhubarb	Lower	
	<i>Cestrum parqui</i>	green cestrum	Lower	1
	Other weed species		Lower	5
				Total
10-29	<i>Cardiospermum grandiflorum</i>	balloon vine	Upper	5
	<i>Ipomoea purpurea</i>	morning glory	Middle	1
	<i>Anredera cordifolia</i>	Madeira vine	Lower	1
	<i>Acetosa sagittata</i>	turkey rhubarb	Lower	1
	<i>Tradescantia fluminensis</i>	trad	Lower	5
	Other weed species			5
				Total

2.21.6 Fauna habitat

Fauna habitat attributes recorded for Sirius Park East are listed in Table 146.

Table 146 Fauna habitat summary of Sirius Park East

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Moderately sized reserve with narrow connectivity to Bardleys Head via Taronga Zoo; limited old growth elements, but good understorey vegetation; some sandstone outcrops.
Connectivity	Moderate local connectivity, one other bushland reserve (Sirius Park West) is in close proximity.
Large hollows (>20 cm)	Absent
Small hollows (<20 cm)	Scattered
Hollow status	Mostly alive
Large logs (>50 cm)	Scattered
Small logs (10-50 cm)	Common
Cliffs/outcrops	Common
Large rocks (>30 cm)	Common
Small rocks (10-30 cm)	Common
Leaf litter	Abundant

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Dense shrubs/grass shelter	Abundant
Termite mounds	Absent
Water bodies	Shoreline
Threatened fauna habitat	Hollows and foraging habitat for threatened parrots and microbats. Shoreline habitat for threatened shorebirds.

2.21.7 Threats to flora and fauna

Current threats to the flora and fauna within Sirius Park East bushland reserve include:

- dispersal of weeds from higher weed density vegetation (including the northern part of the reserve)
- garden escapes from surrounding private properties
- introduced predators of native ground-dwelling fauna including cat (*Felis catus*), dog (*Canis lupus familiaris*) and European fox (*Vulpes vulpes*)
- European rabbit herbivory on native saplings.

2.21.8 Conservation significance

2.21.8.1 Vegetation

The vegetation conservation significance in this reserve is medium to high. The Regrowth Sydney Sandstone Gully Forest is regenerating and will continue with ongoing bushland management. The majority of this bushland reserve contains low to moderate abundance of weeds and has reduced significantly since previous surveys by Total Earth Care 2007 and Ecosure 2016.

2.21.8.2 Fauna

Eleven species (six bird, two mammal and three reptile) were detected at this reserve during surveys in December 2021 and January 2022. One of these species is listed as threatened, the grey-headed flying-fox (*Pteropus poliocephalus*), under both the EPBC Act and BC Act.

2.21.8.3 Priority

This site has a high priority for conservation. Continued and expanded bush regeneration works will maintain and improve the condition of the native vegetation within the bushland reserve.

2.21.9 Current management practices

Sirius Park East bushland reserve is currently managed as a bush regeneration and restoration site under Mosman Council's Bushland Restoration Contracts 2012 - 2022. A summary of the works to date is shown in Table 147.

Table 147 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary

Weeding	<ul style="list-style-type: none"> Primary weeding targeting noxious, woody and vine weeds Secondary and maintenance weeding of noxious, woody and vine weed regrowth and annual and perennial herbs and grasses by hand weeding and spot spraying.
Planting	Scattered plantings throughout the reserve to supplement native vegetation and regeneration.
Ecological/Hazard reduction burns	Pile burns have been carried out in 2003 and 2004.
Other	n/a

2.21.10 Recommendations

Current bushland management practices for Sirius Park East bushland reserve should be continued. Prioritised recommendations are shown in Table 148.

Table 148 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve including weed trees.
2	Continue planting of native shrub and groundcover species throughout the regenerating Sydney Sandstone Gully Forest to supplement regeneration.
3	Ecological/hazard reduction/pile burns to be considered to stimulate regeneration of native plants including threatened species such as <i>Acacia terminalis</i> subsp. <i>eastern Sydney</i> that was recorded and will likely be present in the seed bank.

Flora and fauna species list

Flora species recorded during current and previous surveys of Sirius Park East are listed in Table 149 and fauna species are listed in Table 150.

Table 149 Flora species list for Sirius Park East bushland reserve

Family	Scientific name	Common name	Status	BR66
Malvaceae	<i>Abutilon grandifolium</i>		*	a
Fabaceae - Mimosoideae	<i>Acacia binervia</i>	coast myall		b
Fabaceae - Mimosoideae	<i>Acacia fimbriata</i>	fringed wattle		b
Fabaceae - Mimosoideae	<i>Acacia linifolia</i>	white wattle		a
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		b
Fabaceae - Mimosoideae	<i>Acacia myrtifolia</i>	red-stemmed wattle		a
Fabaceae - Mimosoideae	<i>Acacia suaveolens</i>	sweet wattle		a
Fabaceae - Mimosoideae	<i>Acacia terminalis</i> subsp. <i>eastern Sydney</i>	sunshine wattle	E	b
Fabaceae - Mimosoideae	<i>Acacia ulicifolia</i>	prickly moses		a
Polygonaceae	<i>Acetosa sagittata</i>	turkey rhubarb	*	b

Family	Scientific name	Common name	Status	BR66
Myrtaceae	<i>Acmena smithii</i>	lilly pilly		b
Adiantaceae	<i>Adiantum aethiopicum</i>	common maidenhair		b
Adiantaceae	<i>Adiantum formosum</i>	black stem		b
Asteraceae	<i>Ageratina riparia</i>	mistflower	*	b
Asteraceae	<i>Ageratum houstonianum</i>		*	a
Casuarinaceae	<i>Allocasuarina distyla</i>			a
Casuarinaceae	<i>Allocasuarina littoralis</i>	black she-oak		b
Betulaceae	<i>Alnus jorullensis</i>	evergreen alder	*	a
Amaranthaceae	<i>Amaranthus viridis</i>	green amaranth	*	b
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		b
Basellaceae	<i>Anredera cordifolia</i>	madeira vine	WoNS	b
Arecaceae	<i>Archontophoenix cunninghamiana</i>	bangalow palm		b
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	b
Aspleniaceae	<i>Asplenium australasicum</i>	birds nest fern		b
Poaceae	<i>Austrodanthonia</i> sp	wallaby grass		a
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Proteaceae	<i>Banksia marginata</i>	silver banksia		a
Proteaceae	<i>Banksia serrata</i>	old-man banksia		b
Proteaceae	<i>Banksia spinulosa</i>	hairpin banksia		b
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*	b
Pittosporaceae	<i>Billardiera scandens</i>	hairy apple berry		a
Sterculiaceae	<i>Brachychiton acerifolius</i>	flame tree		b
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush		b
Crassulaceae	<i>Bryophyllum delagoense</i>	mother-of-millions	*	a
Myrtaceae	<i>Callistemon rigidus</i>	stiff bottlebrush		b
Myrtaceae	<i>Callistemon viminalis</i>	weeping bottlebrush		b
Cupressaceae	<i>Callitris rhomboidea</i>	Port Jackson pine		a
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken		b
Cannaceae	<i>Canna indica</i>	tous-les-mois arrowroot	*	b
Sapindaceae	<i>Cardiospermum grandiflorum</i>	balloon vine	*	b
Aizoaceae	<i>Carpobrotus glaucescens</i>	pigface		c
Lauraceae	<i>Cassytha pubescens</i>			b
Casuarinaceae	<i>Casuarina glauca</i>	swamp oak		b
Apiaceae	<i>Centella asiatica</i>	indian pennywort		b
Cunoniaceae	<i>Ceratopetalum gummiferum</i>	Christmas bush		a
Solanaceae	<i>Cestrum parqui</i>	green poisonberry	N3	b
Chenopodiaceae	<i>Chenopodium album</i>	fat hen	*	a
Anthericaceae	<i>Chlorophytum comosum</i>	spider plant	*	a
Lauraceae	<i>Cinnamomum camphora</i>	camphor laurel	*	b

Family	Scientific name	Common name	Status	BR66
Vitaceae	<i>Cissus antarctica</i>	kangaroo vine		b
Vitaceae	<i>Cissus hypoglauca</i>	water vine		b
Verbenaceae	<i>Clerodendrum tomentosum</i>	hairy clerodendrum		a
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp.	fleabane	*	b
Myrtaceae	<i>Corymbia gummifera</i>	red bloodwood		a
Iridaceae	<i>Crococsmia x crocosmiiflora</i>	montbretia	*	a
Rutaceae	<i>Crowea saligna</i>			a
Sapindaceae	<i>Cupaniopsis anacardioides</i>	tuckeroo		a
Cyatheaceae	<i>Cyathea cooperi</i>	straw treefern		b
Apiaceae	<i>Cyclosporum leptophyllum</i>	slender celery	*	a
Poaceae	<i>Cynodon dactylon</i>	couch		a
Cyperaceae	<i>Cyperus eragrostis</i>		*	b
Cyperaceae	<i>Cyperus gracilis</i>	slender flat-sedge		a
Cyperaceae	<i>Cyperus rotundus</i>	nutgrass	*	a
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Poaceae	<i>Dichelachne crinita</i>	longhair plumegrass		a
Convolvulaceae	<i>Dichondra repens</i>	kidney weed		b
Poaceae	<i>Digitaria didactyla</i>	Queensland blue couch		a
Poaceae	<i>Digitaria sanguinalis</i>	summer grass	*	a
Sapindaceae	<i>Dodonaea triquetra</i>	large-leaf hop-bush		b
Poaceae	<i>Echinopogon caespitosus</i> var. <i>caespitosus</i>	tufted hedgehog-grass		b
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	b
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	blueberry ash		b
Poaceae	<i>Eleusine indica</i>	crowsfoot grass	*	a
Poaceae	<i>Entolasia marginata</i>	bordered panic		a
Poaceae	<i>Entolasia stricta</i>	wiry panic		a
Myrtaceae	<i>Eucalyptus pilularis</i>	blackbutt		b
Myrtaceae	<i>Eucalyptus robusta</i>	swamp mahogany		b
Myrtaceae	<i>Eucalyptus tereticornis</i>	forest red gum		b
Euphorbiaceae	<i>Euphorbia peplus</i>	petty spurge	*	a
Luzuriagaceae	<i>Eustrephus latifolius</i>	wombat berry		b
Moraceae	<i>Ficus coronata</i>	sandpaper fig		b
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Cyperaceae	<i>Gahnia clarkei</i>	tall saw-sedge		b
Luzuriagaceae	<i>Geitonoplesium cymosum</i>	scrambling lily		b
Gleicheniaceae	<i>Gleichenia dicarpa</i>	pouched coral fern		a
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	cheese tree		b
Haloragaceae	<i>Gonocarpus teucrioides</i>	raspwort		a

Family	Scientific name	Common name	Status	BR66
Proteaceae	<i>Grevillea linearifolia</i>	linear-leaf grevillea		b
Proteaceae	<i>Hakea dactyloides</i>	finger hakea		a
Proteaceae	<i>Hakea sericea</i>	needlebush		b
Fabaceae - Faboideae	<i>Hardenbergia violacea</i>	purple coral pea		a
Zingiberaceae	<i>Hedychium gardnerianum</i>	ginger lily	*	b
Dilleniaceae	<i>Hibbertia dentata</i>	trailing guinea flower		a
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b
Dennstaedtiaceae	<i>Hypolepis muelleri</i>	harsh ground fern		a
Poaceae	<i>Imperata cylindrica</i>	blady grass		b
Convolvulaceae	<i>Ipomoea indica</i>	morning glory	*	a
Cyperaceae	<i>Isolepis inundata</i>			a
Juncaceae	<i>Juncus usitatus</i>	common rush		b
Fabaceae - Faboideae	<i>Kennedia rubicunda</i>	dusky coral pea		a
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		b
Verbenaceae	<i>Lantana camara</i>	lantana	WoNS	a
Sterculiaceae	<i>Lasiopetalum ferrugineum</i> var. <i>ferrugineum</i>			a
Cyperaceae	<i>Lepidosperma laterale</i>			a
Myrtaceae	<i>Leptospermum polygalifolium</i>	yellow tea-tree		a
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Lomandraceae	<i>Lomandra multiflora</i>	many-flowered mat-rush		a
Lomandraceae	<i>Lomandra obliqua</i>			a
Myrtaceae	<i>Lophostemon confertus</i>	brush box	ni	a
Myrtaceae	<i>Melaleuca styphelioides</i>	prickly-leaved tea tree		b
Poaceae	<i>Microlaena stipoides</i> var. <i>stipoides</i>	weeping grass		b
Araceae	<i>Monstera deliciosa</i>	fruit salad plant	*	a
Moraceae	<i>Morus alba</i>	white mulberry	*	b
Myrsinaceae	<i>Myrsine variabilis</i>			a
Davalliaceae	<i>Nephrolepis cordifolia</i>	fishbone fern	ni	b
Oleaceae	<i>Notelaea longifolia</i>	large mock-olive		b
Poaceae	<i>Notodanthonia longifolia</i>	long-leaved wallaby grass		a
Ochnaceae	<i>Ochna serrulata</i>	ochna	*	a
Oleaceae	<i>Olea europaea</i> subsp. <i>cuspidata</i>	olive	*	a
Rubiaceae	<i>Opercularia aspera</i>	coarse stinkweed		a
Poaceae	<i>Oplismenus aemulus</i>	oplismenus		b
Poaceae	<i>Oplismenus imbecillis</i>			b
Bignoniaceae	<i>Pandorea pandorana</i>	Wonga Wonga vine		a
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*	b
Passifloraceae	<i>Passiflora edulis</i>	common passionfruit	*	a
Poaceae	<i>Pennisetum clandestinum</i>	kikuyu grass	*	a

Family	Scientific name	Common name	Status	BR66
Proteaceae	<i>Persoonia levis</i>	broad-leaved geebung		a
Areaceae	<i>Phoenix canariensis</i>	canary island date palm	*	b
Euphorbiaceae	<i>Phyllanthus hirtellus</i>			b
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Apiaceae	<i>Platysace linearifolia</i>			a
Lamiaceae	<i>Plectranthus parviflorus</i>	cockspur flower		b
Poaceae	<i>Poa affinis</i>	poa		a
Araliaceae	<i>Polyscias sambucifolia</i>	elderberry panax		b
Rhamnaceae	<i>Pomaderris ferruginea</i>			a
Portulacaceae	<i>Portulaca oleracea</i>	pigweed		a
Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken		b
Pteridaceae	<i>Pteris tremula</i>	tender brake		b
Cyperaceae	<i>Schoenus brevifolius</i>			a
Cyperaceae	<i>Schoenus melanostachys</i>			a
Fabaceae - Caesalpinioideae	<i>Senna pendula</i> var. <i>glabrata</i>	cassia	*	a
Poaceae	<i>Setaria palmifolia</i>	palm grass	*	b
Malvaceae	<i>Sida rhombifolia</i>	Paddy's lucerne	*	b
Asteraceae	<i>Sigesbeckia orientalis</i> subsp. <i>orientalis</i>			b
Smilacaceae	<i>Smilax glycyphylla</i>	sweet sarsaparilla		a
Solanaceae	<i>Solanum aviculare</i>	kangaroo apple		b
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	b
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	*	a
Menispermaceae	<i>Stephania japonica</i> var. <i>discolor</i>	snake vine		b
Aizoaceae	<i>Tetragonia tetragonioides</i>	New Zealand spinach		a
Poaceae	<i>Themeda triandra</i>	kangaroo grass		a
Acanthaceae	<i>Thunbergia alata</i>	black-eyed susan	*	b
Commelinaceae	<i>Tradescantia fluminensis</i>	trad	*	b
Violaceae	<i>Viola hederacea</i>	native violet		b
Lamiaceae	<i>Westringia fruticosa</i>	coastal rosemary		b
Xanthorrhoeaceae	<i>Xanthorrhoea arborea</i>			a
Apiaceae	<i>Xanthosia pilosa</i>	woolly xanthosia		a

Table 150 Fauna species list for Sirius Park East bushland reserve

Class	Family	Scientific Name	Common Name	Status	BR66
Amphibia	Lymnodynastidae	<i>Lymnodynastes peronii</i>	striped marsh frog		c
Birds	Sturnidae	<i>Acridotheres tristis</i>	common myna	*	a
Birds	Megapodiidae	<i>Alectura lathami</i>	Australian brushturkey		c
Birds	Psittacidae	<i>Alisterus scapularis</i>	Australian king-parrot		a
Birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		b

Class	Family	Scientific Name	Common Name	Status	BR66
Birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		a
Birds	Alcedinidae	<i>Dacelo novaeguinea</i>	laughing kookaburra		a
Birds	Columbidae	<i>Geopelia humeralis</i>	bar-shouldered dove		a
Birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		a
Birds	Laridae	<i>Larus novaehollandiae</i>	silver gull		a
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		b
Birds	Meliphagidae	<i>Meliphaga lewinii</i>	Lewin's honeyeater		a
Birds	Passeridae	<i>Passer domesticus</i>	house sparrow	*	a
Birds	Meliphagidae	<i>Phylidonyris nigra</i>	white-cheeked honeyeater		a
Birds	Meliphagidae	<i>Phylidonyris novaehollandiae</i>	new holland honeyeater		a
Birds	Podargidae	<i>Podargus strigoides</i>	tawny frogmouth		a
Birds	Dicruridae	<i>Rhipidura leucophrys</i>	willie wagtail		a
Birds	Cuculidae	<i>Scythrops novaehollandiae</i>	channel-billed cuckoo		a
Birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		a
Birds	Artamidae	<i>Strepera graculina</i>	pieb currawong		b
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		b
Mammals	Leporidae	<i>Oryctolagus cuniculus</i>	rabbit	*	c
Mammals	Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	common ringtail possum		a
Mammals	Pteropodidae	<i>Pteropus poliocephalus</i>	grey-headed flying-fox	V	b
Mammals	Phalangeridae	<i>Trichosurus vulpecula</i>	common brushtail possum		a
Reptiles	Scincidae	<i>Eulamprus quoyii</i>	eastern water-skink		b
Reptiles	Agamidae	<i>Intellagama lesueurii lesueurii</i>	eastern water dragon		b
Reptiles	Scincidae	<i>Lampropholis guichenoti</i>	pale-flecked garden sunskink		b

2.21.11 Maps for Sirius Park East



- Vegetation communities**
- Regrowth Sydney Sandstone Gully Forest
 - Open Space
 - Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner bioregions – Endangered

Figure 61: Vegetation Communities, Threatened Ecological Communities and threatened flora locations - Sirius Park East

Site boundary

▲ *Acacia terminalis* ssp Eastern Sydney

Mosman Council

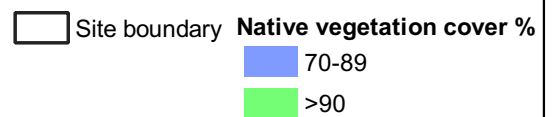
Mosman Flora and Fauna Survey 2021



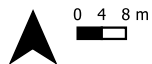
Figure 62: Native vegetation cover percent - Sirius Park East

Mosman Council

Mosman Flora and Fauna Survey 2021



Job number: PR6939
Date: 30/01/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

Data Sources: © State of New South Wales (Department of Planning, Industry and Environment), 2022; © Ecosure 2022
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Figure 63: Weed density - Sirius Park East

Mosman Council

Mosman Flora and Fauna Survey 2021

Site boundary Weed density

<10

10-29

2.22 Sirius Park West

2.22.1 General description

Sirius Park West reserve is located above the north-western foreshore of Little Sirius Cove in the south of Mosman LGA. The reserve occurs along low benches and terraces above a coastal foreshore escarpment and includes a public pathway to surrounding private properties. Sandstone outcrops are scattered throughout the reserve.

2.22.2 Vegetation communities

There are two vegetation communities recognised within Sirius Park West, Regrowth Sydney Sandstone Gully Forest and Disturbed Sydney Sandstone Gully Forest (Figure 64). The site consists of remnant and regrowth vegetation with some scattered plantings throughout. Table 151 provides an updated list of species frequently recorded in each community.

Table 151 Vegetation community description - Sirius Park West

Regrowth Sydney Sandstone Gully Forest	
Canopy	<i>Pittosporum undulatum</i> (sweet pittosporum), <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Hakea sericea</i> (needlebush), <i>Acmena smithii</i> (lilly pilly), <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> (coast banksia) and <i>Ficus rubiginosa</i> (Port Jackson fig)
Midstorey	<i>Pittosporum undulatum</i> (sweet pittosporum), <i>Kunzea ambigua</i> (tick bush), <i>Banksia ericifolia</i> subsp. <i>ericifolia</i> (heath-leaved banksia), <i>Cyathea australis</i> (black treefern), <i>Allocasuarina distyla</i>
Understorey	<i>Persicaria decipiens</i> (slender knotweed), <i>Callistemon rigidus</i> (stiff bottlebrush), <i>Pteridium esculentum</i> (common bracken) and <i>Kunzea ambigua</i> (tick bush)
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Commelina cyanea</i> (scurvy weed), <i>Oplismenus aemulus</i> (oplismenus), <i>Dianella caerulea</i> (blue flax lilly) and <i>Cissus antarctica</i> (water vine)
Disturbed Sydney Sandstone Gully Forest	
Canopy	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> (coast banksia) and <i>Ficus rubiginosa</i> (Port Jackson fig)
Midstorey	<i>Pittosporum undulatum</i> (sweet pittosporum), <i>Cyathea australis</i> (black treefern), <i>Ligustrum sinense</i> (small-leaf privet)
Groundcover	<i>Commelina cyanea</i> (scurvy weed), <i>Microlaena stipoides</i> var. <i>stipoides</i> (weeping grass) and <i>Lomandra longifolia</i> (spiny-headed mat-rush)

2.22.3 Threatened flora

There were no threatened flora species recorded at the site, however *Acacia terminalis* subsp. *eastern Sydney* has been previously recorded.

2.22.4 Threatened ecological communities

No TECs are mapped within Sirius Park West bushland reserve (OEH 2016c). The current survey did not detect any vegetation that corresponds to a TEC.

2.22.5 Native vegetation and weed cover

Native vegetation cover is generally high across the majority of the site. Weed density increases in the central portion of the site likely due to the openness of this area. The area mapped as open space also recorded a number of weed species such as *Acetosa saggitata* (turkey rhubarb). Figures 65 and 66 show native vegetation cover and weed density at the site. The top five weed species and total weed cover for each class is provided in Table 152.

Table 152 Top five weed species and total weed cover at Sirius Park West

Weed Class	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Ipomoea purpurea</i>	morning glory	Middle	2
	<i>Ligustrum sinense</i>	small leaf privet	Middle	2
	<i>Conyza</i> sp	fleabane	Lower	1
	<i>Acetosa saggitata</i>	turkey rhubarb	Lower	1
	<i>Celtis sinensis</i>	Japanese hackberry	Lower	1
	Other weed species		Lower	1
			Total	8
10-29	<i>Lantana camara</i>	lantana	Middle	2
	<i>Ligustrum sinense</i>	small leaf privet	Middle	2
	<i>Ipomoea purpurea</i>	morning glory	Middle	2
	<i>Morus alba</i>	white mulberry	Middle	2
	<i>Acetosa saggitata</i>	turkey rhubarb	Lower	1
	Other weed species			3
			Total	12

2.22.6 Fauna habitat

Fauna habitat attributes recorded for Sirius Park West are listed in Table 153.

Table 153 Fauna habitat summary of Sirius Park West

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Moderately sized reserve with narrow connectivity to Bradleys Head via Taronga Zoo and Sirius Park East; limited old growth elements, but good understorey vegetation; limited sandstone outcrops.
Connectivity	Moderate local connectivity, but two other bushland reserves (Curraghbeena Park and Sirius Park East) are in close proximity.
Large hollows (>20 cm)	Absent
Small hollows (<20 cm)	Absent
Hollow status	n/a
Large logs (>50 cm)	Absent
Small logs (10-50 cm)	Scattered
Cliffs/outcrops	Common
Large rocks (>30 cm)	Scattered
Small rocks (10-30 cm)	Common

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Leaf litter	Scattered
Dense shrubs/grass shelter	Abundant
Termite mounds	Absent
Water bodies	Shoreline
Threatened fauna habitat	Absent

2.22.7 Threats to flora and fauna

Current threats to the flora and fauna within Sirius Park West bushland reserve include:

- dispersal of weeds from higher weed density vegetation from surrounding reserves
- garden escapes from surrounding private properties
- introduced predators of native ground-dwelling fauna including cat (*Felis catus*), dog (*Canis lupus familiaris*) and European fox (*Vulpes vulpes*).

2.22.8 Conservation significance

2.22.8.1 Vegetation

The vegetation conservation significance in this reserve is medium. Both Regrowth and Disturbed Sydney Sandstone Gully Forest vegetation communities are regenerating and will continue with ongoing bushland management. The majority of this bushland reserve contains low abundance of weeds and has reduced significantly since previous surveys by Total Earth Care (2007) and Ecosure 2016.

2.22.8.2 Fauna

Twelve species (eight birds, two mammals and two reptiles) were detected at this reserve during surveys December 2021 and January 2022. One of these species is threatened, the grey-headed flying-fox (*Pteropus poliocephalus*), under both the EPBC Act and BC Act.

2.22.8.3 Priority

Medium. Although weed levels have been reduced, ongoing bushland restoration works are still required to maintain low weed abundance in the native vegetation of the reserve.

2.22.9 Current management practices

The Sirius Park West bushland reserve is currently managed as a bush regeneration and restoration site under Mosman Council's Bushland Restoration Contracts 2012 - 2022. A summary of the works to date is shown in Table 154.

Table 154 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary

Weeding	<ul style="list-style-type: none"> Primary weeding targeting noxious, woody and vine weeds Secondary and maintenance weeding of noxious, woody and vine weed regrowth and annual and perennial herbs and grasses by hand weeding and spot spraying.
Planting	Established plantings throughout the reserve.
Ecological/Hazard reduction burns	Pile burns occurred in 2006 and 2009.
Other	n/a

2.22.10 Recommendations

Current bushland management practices for Sirius Park West reserve bushland reserve should be continued. Prioritised recommendations are shown in Table 155.

Table 155 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve.
2	Continue planting of native tree, shrub and groundcover species in the regenerating and disturbed Sydney Sandstone Gully Forest as well as open space to supplement regeneration.
3	Ecological/hazard reduction/pile burns to be considered to stimulate regeneration of native plants including threatened species such as <i>Acacia terminalis</i> subsp. <i>eastern Sydney</i> that may be present in the seed bank. Hazard reduction burns should be avoided in areas of regenerating rainforest.

2.22.11 Flora and fauna species list

Flora species recorded during current and previous surveys of Sirius Park West bushland reserve are listed in Table 156 and fauna species in Table 157.

Table 156 Flora species list for Sirius Park West bushland reserve

Family	Scientific name	Common name	Status	BR67
Fabaceae - Mimosoideae	<i>Acacia linifolia</i>	white wattle		a
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		b
Fabaceae - Mimosoideae	<i>Acacia suaveolens</i>	sweet wattle		b
Fabaceae - Mimosoideae	<i>Acacia terminalis</i> subsp. <i>eastern Sydney</i>	sunshine wattle	E	a
Fabaceae - Mimosoideae	<i>Acacia ulicifolia</i>	prickly moses		a
Polygonaceae	<i>Acetosa sagittata</i>	turkey rhubarb	*	b
Myrtaceae	<i>Acmena smithii</i>	lilly pilly		a
Adiantaceae	<i>Adiantum aethiopicum</i>	common maidenhair		b
Adiantaceae	<i>Adiantum formosum</i>	black stem		a
Asteraceae	<i>Ageratina adenophora</i>	crofton weed	*	b
Asteraceae	<i>Ageratina riparia</i>	mistflower	*	b

Family	Scientific name	Common name	Status	BR67
Asteraceae	<i>Ageratum houstonianum</i>		*	b
Casuarinaceae	<i>Allocasuarina distyla</i>			a
Casuarinaceae	<i>Allocasuarina littoralis</i>	black she-oak		b
Primulaceae	<i>Anagallis arvensis</i>	scarlet pimpernel	*	b
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		b
Basellaceae	<i>Anredera cordifolia</i>	madeira vine	WoNS	a
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	b
Aspleniaceae	<i>Asplenium australasicum</i>	birds nest fern		a
Araliaceae	<i>Astrotricha floccosa</i>			a
Proteaceae	<i>Banksia ericifolia</i> subsp. <i>ericifolia</i>	heath-leaved banksia		b
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Proteaceae	<i>Banksia serrata</i>	old-man banksia		b
Cunoniaceae	<i>Bauera rubioides</i>	river rose		a
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*	b
Pittosporaceae	<i>Billardiera scandens</i>	hairy apple berry		a
Fabaceae - Faboideae	<i>Bossiaea scolopendria</i>			a
Sterculiaceae	<i>Brachychiton acerifolius</i>	flame tree		a
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush		b
Cunoniaceae	<i>Callicoma serratifolia</i>	black wattle		a
Myrtaceae	<i>Callistemon rigidus</i>	stiff bottlebrush		b
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken		b
Sapindaceae	<i>Cardiospermum grandiflorum</i>	balloon vine	*	a
Asteraceae	<i>Cassinia denticulata</i>	stiff cassinia		a
Lauraceae	<i>Cassytha pubescens</i>			a
Cyperaceae	<i>Caustis flexuosa</i>	curly wig		a
Cyperaceae	<i>Caustis pentandra</i>	thick twist rush		a
Vitaceae	<i>Cayratia clematidea</i>	native grape		a
Apiaceae	<i>Centella asiatica</i>	Indian pennywort		a
Cunoniaceae	<i>Ceratopetalum gummiferum</i>	Christmas bush		a
Solanaceae	<i>Cestrum parqui</i>	green poisonberry	N3	b
Chenopodiaceae	<i>Chenopodium album</i>	fat hen	*	a
Vitaceae	<i>Cissus antarctica</i>	kangaroo vine		b
Vitaceae	<i>Cissus hypoglauca</i>	water vine		a
Verbenaceae	<i>Clerodendrum tomentosum</i>	hairy clerodendrum		a
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp.	fleabane	*	b
Myrtaceae	<i>Corymbia gummifera</i>	red bloodwood		a
Asteraceae	<i>Crassocephalum crepidioides</i>	thickhead	*	a
Rutaceae	<i>Crowea saligna</i>			a

Family	Scientific name	Common name	Status	BR67
Sapindaceae	<i>Cupaniopsis anacardioides</i>	tuckeroo		a
Cyatheaceae	<i>Cyathea cooperi</i>	straw treefern		b
Cycadaceae	<i>Cycas</i> sp.			a
Apiaceae	<i>Cyclospermum leptophyllum</i>	slender celery	*	a
Cyperaceae	<i>Cyperus eragrostis</i>		*	b
Cyperaceae	<i>Cyperus gracilis</i>	slender flat-sedge		a
Davalliaceae	<i>Davallia solida</i> var. <i>pyxidata</i>	hare's foot fern		a
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Poaceae	<i>Dichelachne crinita</i>	longhair plumegrass		a
Convolvulaceae	<i>Dichondra repens</i>	kidney weed		b
Poaceae	<i>Digitaria didactyla</i>	Queensland blue couch		a
Poaceae	<i>Digitaria sanguinalis</i>	summer grass	*	b
Fabaceae - Faboideae	<i>Dillwynia retorta</i>			a
Sapindaceae	<i>Dodonaea triquetra</i>	large-leaf hop-bush		a
Poaceae	<i>Echinopogon caespitosus</i> var. <i>caespitosus</i>	tufted hedgehog-grass		a
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	a
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	blueberry ash		b
Restionaceae	<i>Empodisma minus</i>			a
Poaceae	<i>Entolasia marginata</i>	bordered panic		a
Poaceae	<i>Entolasia stricta</i>	wiry panic		a
Ericaceae	<i>Epacris longiflora</i>	fuchsia heath		b
Ericaceae	<i>Epacris pulchella</i>	wallum heath		a
Asteraceae	<i>Erigeron karvinskianus</i>	bony-tip fleabane	*	a
Myrtaceae	<i>Eucalyptus pilularis</i>	blackbutt		a
Myrtaceae	<i>Eucalyptus piperita</i>	Sydney peppermint		a
Myrtaceae	<i>Eucalyptus robusta</i>	swamp mahogany		b
Myrtaceae	<i>Eucalyptus tereticornis</i>	forest red gum		a
Euphorbiaceae	<i>Euphorbia peplus</i>	petty spurge	*	a
Luzuriagaceae	<i>Eustrephus latifolius</i>	wombat berry		a
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Cyperaceae	<i>Gahnia clarkei</i>	tall saw-sedge		b
Luzuriagaceae	<i>Geitonoplesium cymosum</i>	scrambling lily		a
Geraniaceae	<i>Geranium homeanum</i>	native geranium		b
Gleicheniaceae	<i>Gleichenia dicarpa</i>	pouched coral fern		a
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	cheese tree		b
Haloragaceae	<i>Gonocarpus teucrioides</i>	raspwort		a
Proteaceae	<i>Grevillea buxifolia</i> subsp. <i>buxifolia</i>	grey spider flower		a
Proteaceae	<i>Grevillea linearifolia</i>	linear-leaf grevillea		a
Proteaceae	<i>Hakea dactyloides</i>	finger hakea		b

Family	Scientific name	Common name	Status	BR67
Proteaceae	<i>Hakea sericea</i>	needlebush		b
Fabaceae - Faboideae	<i>Hardenbergia violacea</i>	purple coral pea		a
Zingiberaceae	<i>Hedychium gardnerianum</i>	ginger lily	*	b
Dilleniaceae	<i>Hibbertia aspera</i>	rough guinea flower		a
Dilleniaceae	<i>Hibbertia dentata</i>	trailing guinea flower		a
Dilleniaceae	<i>Hibbertia empetrifolia</i> subsp. <i>empetrifolia</i>			a
Dilleniaceae	<i>Hibbertia scandens</i>	climbing guinea flower		a
Dennstaedtiaceae	<i>Histiopteris incisa</i>	bat's wing fern		a
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b
Pittosporaceae	<i>Hymenosporum flavum</i>	native frangipani		a
Dennstaedtiaceae	<i>Hypolepis muelleri</i>	harsh ground fern		a
Poaceae	<i>Imperata cylindrica</i>	blady grass		a
Convolvulaceae	<i>Ipomoea indica</i>	morning glory	*	b
Convolvulaceae	<i>Ipomoea cairica</i>	coastal morning glory	*	c
Cyperaceae	<i>Isolepis inundata</i>			a
Cyperaceae	<i>Isolepis nodosa</i>	knobby club-rush		a
Juncaceae	<i>Juncus usitatus</i>	common rush		b
Fabaceae - Faboideae	<i>Kennedia rubicunda</i>	dusky coral pea		a
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		b
Proteaceae	<i>Lambertia formosa</i>	mountain devil		a
Verbenaceae	<i>Lantana camara</i>	lantana	WoNS	a
Sterculiaceae	<i>Lasiopetalum ferrugineum</i> var. <i>ferrugineum</i>			a
Cyperaceae	<i>Lepidosperma laterale</i>			a
Myrtaceae	<i>Leptospermum polygalifolium</i>	yellow tea-tree		b
Restionaceae	<i>Lepyrodia scariosa</i>			a
Oleaceae	<i>Ligustrum lucidum</i>	large leaved privet	*	b
Oleaceae	<i>Ligustrum sinense</i>	small leaved privet	*	b
Lindsaeaceae	<i>Lindsaea linearis</i>	screw fern		a
Arecaceae	<i>Livistona australis</i>	cabbage fan-palm		a
Lobeliaceae	<i>Lobelia anceps</i>			a
Lomandraceae	<i>Lomandra filiformis</i> subsp. <i>filiformis</i>	wattle mat-rush		a
Lomandraceae	<i>Lomandra glauca</i>	pale mat-rush		a
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Lomandraceae	<i>Lomandra multiflora</i>	many-flowered mat-rush		a
Lomandraceae	<i>Lomandra obliqua</i>			a
Proteaceae	<i>Lomatia silaifolia</i>	crinkle bush		a
Myrtaceae	<i>Lophostemon confertus</i>	brush box	ni	a
Myrtaceae	<i>Melaleuca armillaris</i>	bracelet honey-myrtle		a

Family	Scientific name	Common name	Status	BR67
Myrtaceae	<i>Melaleuca hypericifolia</i>	hillock bush		b
Myrtaceae	<i>Melaleuca styphelioides</i>	prickly-leaved tea tree		a
Euphorbiaceae	<i>Micrantheum ericoides</i>			a
Poaceae	<i>Microlaena stipoides</i> var. <i>stipoides</i>	weeping grass		b
Araceae	<i>Monstera deliciosa</i>	fruit salad plant	*	b
Moraceae	<i>Morus alba</i>	white mulberry	*	b
Myrsinaceae	<i>Myrsine variabilis</i>			a
Oleaceae	<i>Notelaea longifolia</i>	large mock-olive		a
Poaceae	<i>Notodanthonia longifolia</i>	long-leaved wallaby grass		a
Ochnaceae	<i>Ochna serrulata</i>	ochna	*	a
Rubiaceae	<i>Opercularia aspera</i>	coarse stinkweed		a
Poaceae	<i>Oplismenus aemulus</i>	oplismenus		b
Poaceae	<i>Oplismenus imbecillis</i>			b
Bignoniaceae	<i>Pandorea pandorana</i>	Wonga Wonga vine		a
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*	b
Poaceae	<i>Paspalidium distans</i>			a
Poaceae	<i>Paspalum distichum</i>	saltwater couch		a
Iridaceae	<i>Patersonia glabrata</i>	leafy purple-flag		a
Polygonaceae	<i>Persicaria decipiens</i>	slender knotweed		b
Proteaceae	<i>Persoonia levis</i>	broad-leaved geebung		a
Pittosporaceae	<i>Pittosporum revolutum</i>	wild yellow jasmine		a
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Apiaceae	<i>Platysace linearifolia</i>			a
Poaceae	<i>Poa affinis</i>	poa		a
Podocarpaceae	<i>Podocarpus elatus</i>	plum pine		a
Podocarpaceae	<i>Podocarpus spinulosus</i>	spiny-leaf podocarp		b
Araliaceae	<i>Polyscias sambucifolia</i>	elderberry panax		a
Rhamnaceae	<i>Pomaderris ferruginea</i>			a
Myrtaceae	<i>Psidium guajava</i>	common guava	*	a
Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken		b
Pteridaceae	<i>Pteris tremula</i>	tender brake		a
Polygonaceae	<i>Rumex crispus</i>	curled dock	*	a
Cyperaceae	<i>Schoenus brevifolius</i>			a
Cyperaceae	<i>Schoenus melanostachys</i>			b
Poaceae	<i>Setaria palmifolia</i>	palm grass	*	b
Asteraceae	<i>Sigesbeckia orientalis</i> subsp. <i>orientalis</i>			a
Smilacaceae	<i>Smilax glycyphylla</i>	sweet sarsaparilla		a
Solanaceae	<i>Solanum aviculare</i>	kangaroo apple		b
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	b

Family	Scientific name	Common name	Status	BR67
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	*	b
Menispermaceae	<i>Stephania japonica</i> var. <i>discolor</i>	snake vine		a
Strelitziaceae	<i>Strelitzia nicolai</i>	giant bird of paradise	*	c
Ericaceae	<i>Styphelia tubiflora</i>	red five-corner		a
Arecaceae	<i>Syagrus romanzoffiana</i>	cocos palm	*	a
Myrtaceae	<i>Syzygium australe</i>	brush cherry		a
Asteraceae	<i>Taraxacum officinale</i>	dandelion	*	c
Aizoaceae	<i>Tetragonia tetragonioides</i>	New Zealand spinach		a
Poaceae	<i>Themeda triandra</i>	kangaroo grass		a
Osmundaceae	<i>Todea barbara</i>	king fern		a
Commelinaceae	<i>Tradescantia fluminensis</i>	trad	*	a
Fabaceae - Faboideae	<i>Trifolium pratense</i>	red clover	*	a
Myrtaceae	<i>Tristaniopsis laurina</i>	water gum		a
Typhaceae	<i>Typha orientalis</i>	broadleaf cumbungi		b
Verbenaceae	<i>Verbena bonariensis</i>	purple top	*	a
Lamiaceae	<i>Westringia fruticosa</i>	coastal rosemary		b
Ericaceae	<i>Woolfsia pungens</i>			a
Xanthorrhoeaceae	<i>Xanthorrhoea arborea</i>			a
Apiaceae	<i>Xanthosia pilosa</i>	woolly xanthosia		a
Apiaceae	<i>Xanthosia tridentata</i>	rock xanthosia		a
Rutaceae	<i>Zieria pilosa</i>	pilose-leafed zieria		a

Table 157 Fauna species list for Sirius Park West bushland reserve

Class	Family	Scientific name	Common name	Status	BR67
Birds	Sturnidae	<i>Acridotheres tristis</i>	common myna	*	a
Birds	Megapodiidae	<i>Alectura lathamii</i>	Australian brushturkey		c
Birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		c
Birds	Anatidae	<i>Chenonetta jubata</i>	maned duck		a
Birds	Corvidae	<i>Corvus coronoides</i>	Australian raven		a
Birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		a
Birds	Alcedinidae	<i>Dacelo novaeguinea</i>	laughing kookaburra		b
Birds	Columbidae	<i>Geopelia humeralis</i>	bar-shouldered dove		a
Birds	Dicruridae	<i>Grallina cyanoleuca</i>	magpie-lark		a
Birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		a
Birds	Hirundinidae	<i>Hirundo neoxena</i>	welcome swallow		a
Birds	Laridae	<i>Larus novaehollandiae</i>	silver gull		a
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		b
Birds	Meliphagidae	<i>Meliphaga lewinii</i>	Lewin's honeyeater		a
Birds	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon		a
Birds	Passeridae	<i>Passer domesticus</i>	house sparrow	*	a

Class	Family	Scientific name	Common name	Status	BR67
Birds	Psophodidae	<i>Psophodes olivaceus</i>	eastern whipbird		c
Birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		a
Birds	Artamidae	<i>Strepera graculina</i>	pied currawong		b
Birds	Threskiornidaea	<i>Threskiornis moluccus</i>	Australian white ibis		c
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		b
Mammals	Leporidae	<i>Oryctolagus cuniculus</i>	rabbit	*	a
Mammals	Pteropodidae	<i>Pteropus poliocephalus</i>	grey-headed flying-fox	V	c
Mammals	Muridae	<i>Rattus rattus</i>	black rat	*	c
Reptiles	Scincidae	<i>Ctenotus taeniolatus</i>	copper-tailed skink		a
Reptiles	Scincidae	<i>Eulamprus quoyii</i>	eastern water skink		c
Reptiles	Agamidae	<i>Intellagama lesueurii lesueurii</i>	eastern water dragon		b
Reptiles	Scincidae	<i>Lampropholis guichenoti</i>	pale-flecked garden sunskink		b
Reptiles	Pygopodidae	<i>Pygopus lepidopodus</i>	common scaly-foot		a

2.22.12 Maps for Sirius Park West



Vegetation communities

Open Space
 Disturbed Sydney Sandstone Gully Forest
 Regrowth Sydney Sandstone Gully Forest

Figure 64: Vegetation Communities and threatened flora locations - Sirius Park West

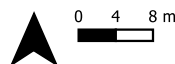
Site boundary

Mosman Council

Mosman Flora and Fauna Survey 2021



Job number: PR6939
Date: 30/01/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

Data Sources: © State of New South Wales (Department of Planning, Industry and Environment), 2022; © Ecosure 2022
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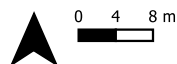
Figure 65: Native vegetation cover percent - Sirius Park West

Mosman Council

Mosman Flora and Fauna Survey 2021



Job number: PR6939
Date: 30/01/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

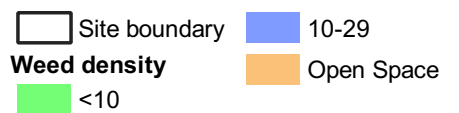
Data Sources: © State of New South Wales (Department of Planning, Industry and Environment), 2022; © Ecosure 2022
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Figure 66: Weed density - Sirius Park West

Mosman Council

Mosman Flora and Fauna Survey 2021



2.23 The Spit Reserve

2.23.1 General description

The Spit Reserve is a linear reserve located between Spit Road and Pearl Bay in the north of Mosman LGA. The reserve occurs on a moderate to steep north-west facing slope and includes fill batters in the north and sandstone outcrops and ledges in the south. A public walking track is located in the south of the reserve and joins Quakers Hat Park Reserve.

2.23.2 Vegetation communities

There are two vegetation communities recognised at The Spit Reserve including Sydney Sandstone Gully Forest and Regrowth Sydney Sandstone Gully Forest (Figure 67). Both communities consist of remnant and regrowth vegetation. Table 158 provides an updated list of species frequently recorded in each community.

Table 158 Vegetation community description - The Spit Reserve

Sydney Sandstone Gully Forest	
Canopy	<i>Angophora costata</i> (Sydney red gum)
Midstorey	<i>Eleocarpus reticulatus</i> (blueberry ash), <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree) and <i>Pittosporum undulatum</i> (sweet pittosporum)
Understorey	<i>Pteridium esculentum</i> (common bracken), <i>Xanthorrhoea arborea</i> and <i>Acacia linifolia</i> (white wattle)
Groundcover	<i>Gahnia aspera</i> (rough saw-sedge), <i>Lomandra longifolia</i> (spiny-headed mat-rush) and <i>Commelina cyanea</i> (scurvy weed)
Regrowth Sydney Sandstone Gully Forest	
Canopy	<i>Angophora costata</i> (Sydney red gum), <i>Eucalyptus botryoides</i> (bangalay) and <i>Ficus rubiginosa</i> (Port Jackson fig)
Midstorey	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Pittosporum undulatum</i> (sweet pittosporum) and <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> (coast banksia)
Understorey	<i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle), <i>Dodonaea triquetra</i> (large-leaf hop-bush) and <i>Cyathea cooperi</i> (straw treefern)
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Commelina cyanea</i> (scurvy weed), <i>Oplismenus aemulus</i> (oplismenus), <i>Solanum nigrum</i> (black-berry nightshade) and <i>Parietaria judaica</i> (asthma weed)

2.23.3 Threatened flora

The current survey did not detect any threatened plant species. However, *Acacia terminalis* subsp. *eastern Sydney* (sunshine wattle) has been previously recorded, and is likely to occur in the future.

2.23.4 Threatened ecological communities

The Threatened Ecological Communities Greater Sydney (DPIE 2021) did not identify any TECs within The Spit Reserve bushland reserve. The current survey did not detect any vegetation that corresponds to a TEC.

2.23.5 Native vegetation and weed cover

Native vegetation cover is high and in good condition across the majority of The Spit Reserve. Weed density is low in the central portion of the reserve, and higher in the northern and southern areas due to increased edge effects and reduced canopy (in the south). Weed density has increased in the south. Figures 69 and 69 show native vegetation cover and weed density at the site. The top five weed species and total weed cover for each class is provided in Table 159.

Table 159 Top five weed species and total weed cover at The Spit Reserve

Weed Class	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Ipomoea purpurea</i>	morning glory	Lower	5
	<i>Asparagus aethiopicus</i>	ground asparagus	Lower	1
	<i>Cyclosporum leptophyllum</i>	slender celery	Lower	
	<i>Chlorophytum comosum</i>	spider plant	Lower	
	<i>Ehrharta erecta</i>	panic veldtgrass	Lower	2
	Other weed species		Lower	1
				Total
10-29	<i>Ipomoea purpurea</i>	morning glory	Middle	1
	<i>Asparagus aethiopicus</i>	ground asparagus	Lower	1
	<i>Passiflora suberosa</i>	cork passionflower	Lower	1
	<i>Araujia sericifera</i>	moth vine	Lower	1
	<i>Conyza sp</i>	fleabane	Lower	1
	Other weed species		Lower	5
				Total
30-69	<i>Ipomoea purpurea</i>	morning glory	Middle	10
	<i>Araujia sericifera</i>	moth vine	Lower	5
	<i>Anredera cordifolia</i>	Madeira vine	Lower	5
	<i>Asparagus aethiopicus</i>	asparagus fern	Lower	5
	<i>Conyza sp</i>	fleabane	Lower	5
				Total

2.23.6 Fauna habitat

Fauna habitat attributes recorded for The Spit Reserve are listed in Table 160.

Table 160 Fauna habitat summary of The Spit Reserve

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Relatively large but narrow reserve with good connectivity to Quakers Hat Park (3) and Parriwi Park (4); very disturbed at northern end; extensive sandstone escarpment with some old growth elements and good regeneration.
Connectivity	Good local connectivity, bounded by the harbour but two other bushland reserves (Parriwi Park and Quakers Hat Park) are in close proximity.
Large hollows (>20 cm)	Scattered

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Small hollows (<20 cm)	Common
Hollow status	Mostly alive
Large logs (>50 cm)	Common
Small logs (10-50 cm)	Abundant
Cliffs/outcrops	Scattered
Large rocks (>30 cm)	Common
Small rocks (10-30 cm)	Common
Leaf litter	Abundant
Dense shrubs/grass shelter	Common
Termite mounds	Scattered
Water bodies	Shoreline and drainage lines
Threatened fauna habitat	Hollows and foraging for threatened parrots, microbats and owls.

2.23.7 Threats to flora and fauna

Current threats to the flora and fauna within Spit Reserve include:

- garden escapes from surrounding private properties
- dispersal of weeds from higher weed density vegetation of the Regrowth Sydney Sandstone Gully Forest and surrounding bushland and road reserves.

2.23.8 Conservation significance

2.23.8.1 Vegetation

The vegetation conservation significance in this reserve is high. The native vegetation in this bushland reserve contains low to moderate abundance of weeds. The Sydney Sandstone Gully Forest is an important source of native propagules for surrounding regenerating communities. The Spit Reserve is also connected to Quakers Hat Park making this area a significant vegetated corridor within the LGA.

2.23.8.2 Fauna

Eighteen species (13 bird, four mammals and one reptile) were detected at this reserve during surveys in December 2021 and January 2022. One of these species, the grey-headed flying-fox (*Pteropus poliocephalus*), is threatened under both the EPBC Act and BC Act.

2.23.8.3 Priority

This site has a high priority for conservation. Continued and expanded bush regeneration works will maintain and improve the condition of the native vegetation within the bushland reserve. Weed removal in the south is therefore crucial for improved corridor value within the reserve.

2.23.9 Current management practices

The Spit Reserve bushland reserve is currently managed as a bush regeneration and restoration site under Mosman Council's Bushland Restoration Contracts 2012 - 2022. A summary of the works to date is shown in Table 161.

Table 161 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary

Weeding	<ul style="list-style-type: none"> Primary weeding targeting noxious, woody and vine weeds Secondary and maintenance weeding of noxious, woody and vine weed regrowth and annual and perennial herbs and grasses by hand weeding and spot spraying.
Planting	Established plantings along Spit Rd verge and scattered plantings to supplement existing native vegetation and regeneration throughout the reserve.
Ecological/Hazard reduction burns	Pile burns occurred in 2009.
Other	Weed tree removals.

2.23.10 Recommendations

Current bushland management practices for The Spit Reserve bushland reserve should be continued. Prioritised recommendations are shown in Table 162.

Table 162 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve, especially in the southern and northern section of the reserve.
2	Continue planting of native tree, shrub and groundcover species in the regenerating Sydney Sandstone Gully Forest to supplement regeneration.
3	Ecological/hazard reduction/pile burns to be considered to stimulate regeneration of native plants such as <i>Acacia terminalis</i> subsp. <i>eastern Sydney</i> as it has previously been recorded and may be present in the seed bank.

2.23.11 Flora and fauna species list

Flora species recorded during current and previous surveys of The Spit Reserve bushland reserve are listed in Table 163 and fauna species in Table 164.

Table 163 Flora species list for The Spit Reserve bushland reserve

Family	Scientific name	Common name	Status	BR18 9
Fabaceae - Mimosoideae	<i>Acacia binervia</i>	coast myall		a
Fabaceae - Mimosoideae	<i>Acacia elata</i>	mountain cedar wattle	ni	b
Fabaceae - Mimosoideae	<i>Acacia implexa</i>	hickory wattle		a
Fabaceae - Mimosoideae	<i>Acacia linifolia</i>	white wattle		b
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp.	Sydney golden wattle		b

Family	Scientific name	Common name	Status	BR18 9
	<i>longifolia</i>			
Fabaceae - Mimosoideae	<i>Acacia suaveolens</i>	sweet wattle		a
Fabaceae - Mimosoideae	<i>Acacia terminalis</i> subsp. <i>eastern Sydney</i>	sunshine wattle	E	a
Fabaceae - Mimosoideae	<i>Acacia ulicifolia</i>	prickly moses		a
Asteraceae	<i>Ageratina adenophora</i>	crofton weed	*	a
Casuarinaceae	<i>Allocasuarina distyla</i>			a
Casuarinaceae	<i>Allocasuarina littoralis</i>	black she-oak		b
Amaranthaceae	<i>Amaranthus viridis</i>	green amaranth	*	b
Primulaceae	<i>Anagallis arvensis</i>	scarlet pimpernel	*	b
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		b
Poaceae	<i>Anisopogon avenaceus</i>	oat speargrass		a
Basellaceae	<i>Anredera cordifolia</i>	madeira vine	WoNS	b
Poaceae	<i>Aristida vagans</i>	threeawn speargrass		a
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	b
Aspleniaceae	<i>Asplenium australasicum</i>	birds nest fern		a
Araliaceae	<i>Astrotricha floccosa</i>			b
Poaceae	<i>Austrodanthonia</i> sp	wallaby grass		a
Proteaceae	<i>Banksia ericifolia</i> subsp. <i>ericifolia</i>	heath-leaved banksia		a
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Proteaceae	<i>Banksia serrata</i>	old-man banksia		a
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*	b
Sterculiaceae	<i>Brachychiton acerifolius</i>	flame tree		b
Sterculiaceae	<i>Brachychiton discolor</i>	lace tree	ni	a
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush		a
Crassulaceae	<i>Bryophyllum delagoense</i>	mother-of-millions	*	a
Myrtaceae	<i>Callistemon rigidus</i>	stiff bottlebrush		a
Myrtaceae	<i>Callistemon salignus</i>	willow bottlebrush		a
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken		b
Cannaceae	<i>Canna indica</i>	tous-les-mois arrowroot	*	a
Sapindaceae	<i>Cardiospermum grandiflorum</i>	balloon vine	*	a
Cyperaceae	<i>Carex appressa</i>	tall sedge		b
Lauraceae	<i>Cassytha pubescens</i>			a
Casuarinaceae	<i>Casuarina glauca</i>	swamp oak		a
Anthericaceae	<i>Chlorophytum comosum</i>	spider plant	*	b
Vitaceae	<i>Cissus antarctica</i>	kangaroo vine		b
Vitaceae	<i>Cissus hypoglauca</i>	water vine		a
Verbenaceae	<i>Clerodendrum tomentosum</i>	hairy clerodendrum		b
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b

Family	Scientific name	Common name	Status	BR18 9
Asteraceae	<i>Conyza</i> sp.	fleabane	*	b
Myrtaceae	<i>Corymbia gummifera</i>	red bloodwood		a
Myrtaceae	<i>Corymbia maculata</i>	spotted gum		a
Rutaceae	<i>Crowea saligna</i>			b
Cyatheaceae	<i>Cyathea australis</i>	black tree-fern		a
Cyatheaceae	<i>Cyathea cooperi</i>	straw treefern		b
Apiaceae	<i>Cyclosporum leptophyllum</i>	slender celery	*	b
Poaceae	<i>Cymbopogon refractus</i>	barbed wire grass		a
Cyperaceae	<i>Cyperus gracilis</i>	slender flat-sedge		a
Cyperaceae	<i>Cyperus involucratus</i>	umbrella sedge	*	b
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Phormiaceae	<i>Dianella revoluta</i>	paroo lily		a
Poaceae	<i>Dichelachne crinita</i>	longhair plumegrass		a
Poaceae	<i>Digitaria didactyla</i>	Queensland blue couch		a
Sapindaceae	<i>Dodonaea triquetra</i>	large-leaf hop-bush		b
Poaceae	<i>Echinopogon caespitosus</i> var. <i>caespitosus</i>	tufted hedgehog-grass		a
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	b
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	blueberry ash		b
Poaceae	<i>Entolasia marginata</i>	bordered panic		a
Poaceae	<i>Entolasia stricta</i>	wiry panic		b
Fabaceae - Faboideae	<i>Erythrina crista-galli</i>	cockspur coral tree	*	a
Myrtaceae	<i>Eucalyptus botryoides</i>	bangalay		b
Myrtaceae	<i>Eucalyptus piperita</i>	Sydney peppermint		a
Myrtaceae	<i>Eucalyptus resinifera</i>	red mahogany		a
Myrtaceae	<i>Eucalyptus saligna</i>	Sydney blue gum		b
Euphorbiaceae	<i>Euphorbia peplus</i>	petty spurge	*	a
Luzuriagaceae	<i>Eustrephus latifolius</i>	wombat berry		a
Moraceae	<i>Ficus elastica</i>	rubber tree	*	b
Moraceae	<i>Ficus macrophylla</i>	moreton bay fig		a
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Cyperaceae	<i>Gahnia aspera</i>	rough saw-sedge		b
Luzuriagaceae	<i>Geitonoplesium cymosum</i>	scrambling lily		b
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	cheese tree		b
Haloragaceae	<i>Gonocarpus teucroides</i>	raspwort		a
Proteaceae	<i>Grevillea linearifolia</i>	linear-leaf grevillea		b
Proteaceae	<i>Grevillea</i> sp hort		ni	b
Proteaceae	<i>Hakea dactyloides</i>	finger hakea		a
Proteaceae	<i>Hakea gibbosa</i>	needlebush		a

Family	Scientific name	Common name	Status	BR18 9
Proteaceae	<i>Hakea sericea</i>	needlebush		b
Dilleniaceae	<i>Hibbertia scandens</i>	climbing guinea flower		c
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b
Asteraceae	<i>Hypochaeris radicata</i>	catsear	*	b
Poaceae	<i>Imperata cylindrica</i>	blady grass		b
Convolvulaceae	<i>Ipomoea indica</i>	morning glory	*	b
Bignoniaceae	<i>Jacaranda mimosifolia</i>	jacaranda	*	b
Juncaceae	<i>Juncus usitatus</i>	common rush		b
Fabaceae - Faboideae	<i>Kennedia rubicunda</i>	dusky coral pea		a
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		b
Proteaceae	<i>Lambertia formosa</i>	mountain devil		b
Verbenaceae	<i>Lantana camara</i>	lantana	WoNS	b
Sterculiaceae	<i>Lasiopetalum ferrugineum</i> var. <i>ferrugineum</i>			a
Cyperaceae	<i>Lepidosperma laterale</i>			a
Myrtaceae	<i>Leptospermum laevigatum</i>	coast teatree		a
Myrtaceae	<i>Leptospermum polygalifolium</i>	yellow tea-tree		a
Oleaceae	<i>Ligustrum lucidum</i>	large leaved privet	*	a
Oleaceae	<i>Ligustrum sinense</i>	small leaved privet	*	b
Arecaceae	<i>Livistona australis</i>	cabbage fan-palm		a
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Myrtaceae	<i>Lophostemon confertus</i>	brush box	ni	a
Myrtaceae	<i>Melaleuca armillaris</i>	bracelet honey-myrtle		b
Myrtaceae	<i>Melaleuca bracteata</i>	black tea-tree		b
Poaceae	<i>Microlaena stipoides</i> var. <i>stipoides</i>	weeping grass		a
Myrsinaceae	<i>Myrsine variabilis</i>			a
Oleaceae	<i>Notelaea longifolia</i>	large mock-olive		a
Alliaceae	<i>Nothoscordum borbonicum</i>	onion weed	*	a
Poaceae	<i>Notodanthonia longifolia</i>	long-leaved wallaby grass		a
Ochnaceae	<i>Ochna serrulata</i>	ochna	*	a
Oleaceae	<i>Olea europaea</i> subsp. <i>cuspidata</i>	olive	*	a
Poaceae	<i>Oplismenus aemulus</i>	oplismenus		b
Poaceae	<i>Oplismenus imbecillis</i>			b
Opuntioideae	<i>Opuntia</i> sp.	cactus pear	WoNS	c
Oxalidaceae	<i>Oxalis corniculata</i>		*	b
Oxalidaceae	<i>Oxalis latifolia</i>		*	b
Bignoniaceae	<i>Pandorea pandorana</i>	wonga wonga vine		b
Poaceae	<i>Panicum simile</i>	two-colour panic		a

Family	Scientific name	Common name	Status	BR18 9
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*	a
Poaceae	<i>Paspalidium distans</i>			b
Passifloraceae	<i>Passiflora suberosa</i>	cork passionflower	*	b
Proteaceae	<i>Persoonia linearis</i>	narrow-leaved geebung		a
Areaceae	<i>Phoenix canariensis</i>	Canary Island date palm	*	a
Euphorbiaceae	<i>Phyllanthus hirtellus</i>			a
Pittosporaceae	<i>Pittosporum revolutum</i>	wild yellow jasmine		a
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Lamiaceae	<i>Plectranthus parviflorus</i>	cockspur flower		a
Poaceae	<i>Poa affinis</i>	poa		a
Araliaceae	<i>Polyscias sambucifolia</i>	elderberry panax		b
Rhamnaceae	<i>Pomaderris ferruginea</i>			b
Portulacaceae	<i>Portulaca oleracea</i>	pigweed		a
Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken		b
Crassulaceae	<i>Sedum</i> sp.	Stonecrop	*	a
Malvaceae	<i>Sida rhombifolia</i>	paddy's lucerne	*	b
Asteraceae	<i>Sigesbeckia orientalis</i> subsp. <i>Orientalis</i>			a
Smilacaceae	<i>Smilax glycyphylla</i>	sweet sarsaparilla		b
Solanaceae	<i>Solanum mauritianum</i>	wild tobacco bush	*	b
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	b
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	*	b
Poaceae	<i>Sorghum halepense</i>			a
Caryophyllaceae	<i>Stellaria media</i>	common chickweed	*	a
Menispermaceae	<i>Stephania japonica</i> var. <i>Discolor</i>	snake vine		a
Strelitziaceae	<i>Strelitzia reginae</i>	bird of paradise	*	a
Aizoaceae	<i>Tetragonia tetragonioides</i>	New Zealand spinach		a
Poaceae	<i>Themeda triandra</i>	kangaroo grass		a
Commelinaceae	<i>Tradescantia fluminensis</i>	trad	*	b
Ulmaceae	<i>Trema tomentosa</i> subsp. <i>Viridis</i>	native peach		a
Lamiaceae	<i>Westringia fruticosa</i>	coastal rosemary		a
Xanthorrhoeaceae	<i>Xanthorrhoea arborea</i>			b
Apiaceae	<i>Xanthosia pilosa</i>	woolly xanthosia		a
Rutaceae	<i>Zieria pilosa</i>	pilose-leaved zieria		a

Table 164 Fauna species list for The Spit Reserve bushland reserve

Class	Family	Scientific name	Common name	Status	BR189
Birds	Acanthizidae	<i>Acanthiza pusilla</i>	brown thornbill		a
Birds	Sturnidae	<i>Acridotheres tristis</i>	common myna	*	a
Birds	Megapodiidae	<i>Alectura lathamii</i>	Australian brushturkey		b
Birds	Apodidae	<i>Apus pacificus</i>	fork-tailed swift		a
Birds	Corvidae	<i>Corvus coronoides</i>	Australian raven		c
Birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		b
Birds	Alcedinidae	<i>Dacelo novaeguinea</i>	laughing kookaburra		b
Birds	Eopsaltriidae	<i>Eopsaltria australis</i>	eastern yellow robin		a
Birds	Cuculidae	<i>Eudynamys scolopacea</i>	common koel		a
Birds	Acanthizidae	<i>Gerygone olivacea</i>	white-throated gerygone		b
Birds	Dicruridae	<i>Grallina cyanoleuca</i>	magpie-lark		a
Birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		b
Birds	Laridae	<i>Larus novaehollandiae</i>	silver gull		b
Birds	Maluridae	<i>Malurus lamberti</i>	variegated fairy-wren		a
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		b
Birds	Meliphagidae	<i>Meliphaga lewinii</i>	Lewin's honeyeater		a
Birds	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon		a
Birds	Meliphagidae	<i>Phylidonyris novaehollandiae</i>	new holland honeyeater		a
Birds	Podargidae	<i>Podargus strigoides</i>	tawny frogmouth		b
Birds	Dicruridae	<i>Rhipidura leucophrys</i>	willie wagtail		a
Birds	Cuculidae	<i>Scythrops novaehollandiae</i>	channel-billed cuckoo		a
Birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		a
Birds	Artamidae	<i>Strepera graculina</i>	pieb currawong		b
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		b
Birds	Charadriidae	<i>Vanellus miles</i>	masked lapwing		b
Mammals	Leporidae	<i>Oryctolagus cuniculus</i>	rabbit	*	a
Mammals	Peramelidae	<i>Perameles nasuta</i>	long-nosed bandicoot		a
Mammals	Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	common ringtail possum		b
Mammals	Pteropodidae	<i>Pteropus poliocephalus</i>	grey-headed flying-fox	V	b
Reptiles	Scincidae	<i>Ctenotus taeniolatus</i>	copper-tailed skink		a
Reptiles	Scincidae	<i>Lampropholis guichenoti</i>	pale-flecked garden sunskink		b
Reptiles	Gekkonidae	<i>Phyllurus platurus</i>	southern leaf-tailed gecko		b
Reptiles	Scincidae	<i>Tiliqua scincoides</i>	common bluetongue		a

2.23.12 Maps for The Spit Reserve









- Vegetation communities**
-  Disturbed Sydney Sandstone Gully Forest
 -  Regrowth Sydney Sandstone Gully Forest
 -  Sydney Sandstone Gully Forest
 -  Open Space

Figure 67: Vegetation Communities and threatened flora locations - The Spit Reserve

Mosman Council

Mosman Flora and Fauna Survey 2021

-  Site boundary
-  *Acacia terminalis* ssp Eastern Sydney
-  *Acacia terminalis* ssp Eastern Sydney

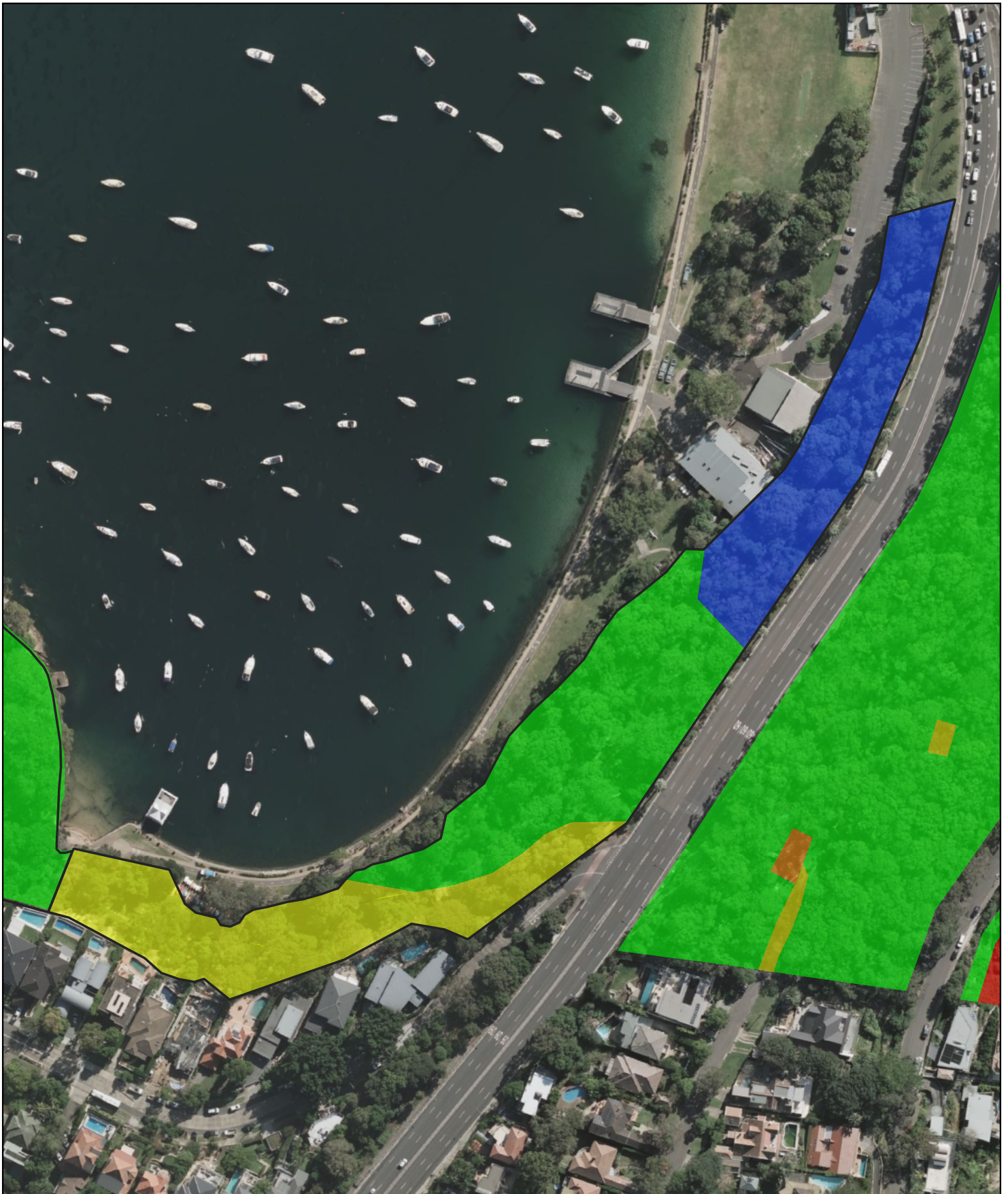
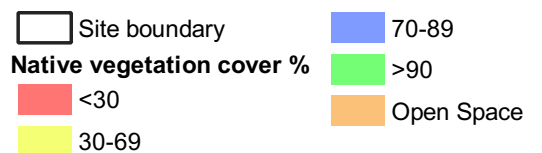


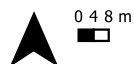
Figure 68: Native vegetation cover percent - The Spit Reserve

Mosman Council

Mosman Flora and Fauna Survey 2021



Job number: PR6939
Date: 30/01/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

Data Sources: © State of New South Wales (Department of Planning, Industry and Environment), 2022; © Ecosure 2022
ECOSURE does not warrant the accuracy or completeness of information displayed in this map. Any person using this map does so at their own risk, and should consider the context of the report that this map supports.
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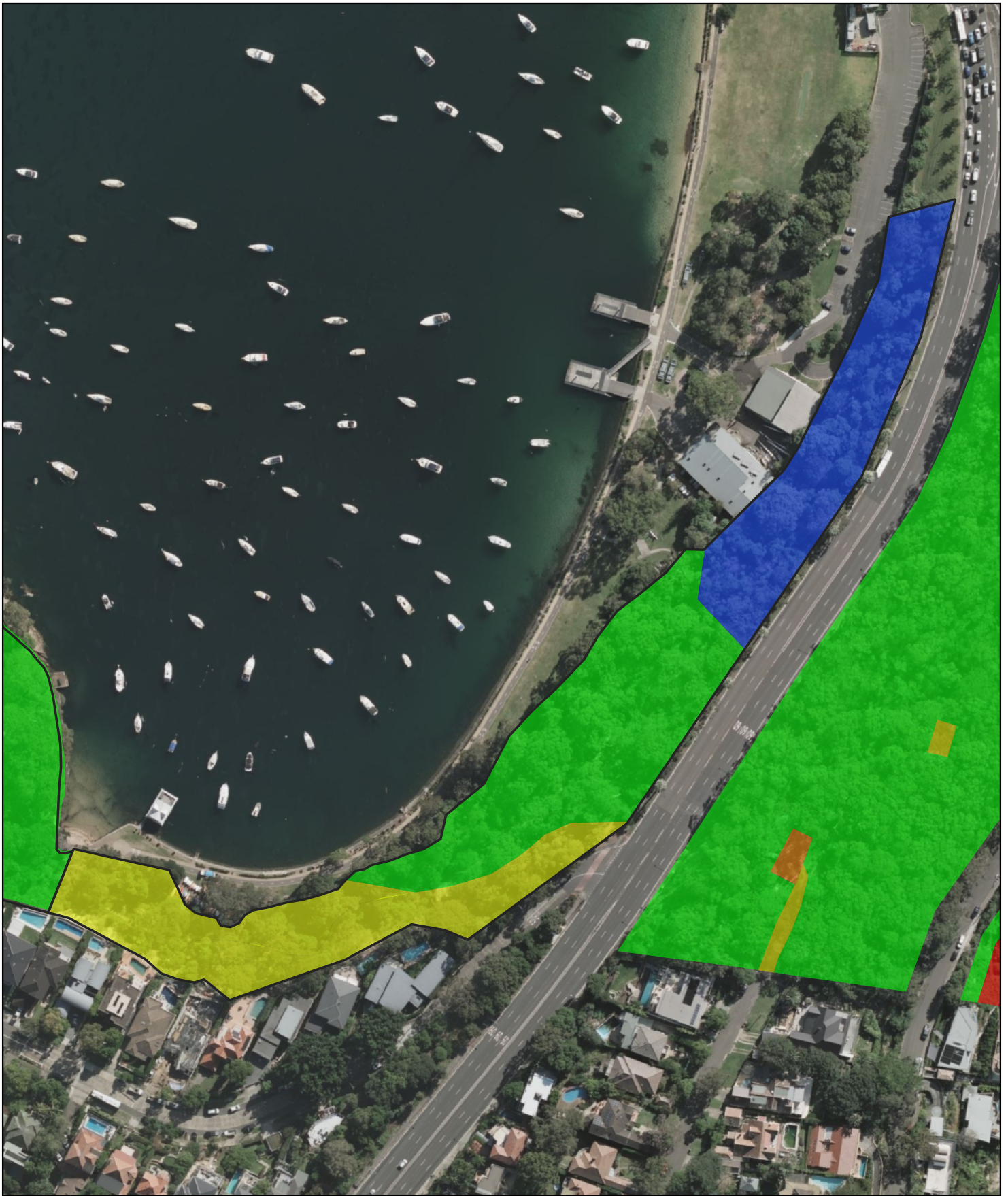
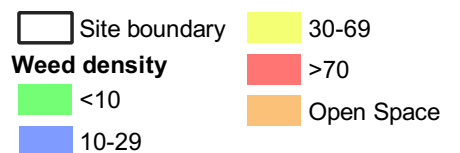


Figure 69: Weed density - The Spit Reserve

Mosman Council

Mosman Flora and Fauna Survey 2021



2.24 Unnamed Reserve (Rosherville)

2.24.1 General description

Unnamed Reserve (Rosherville) is located south of Rosherville Reserve and Chinamans Beach Dunes reserve in the north-east of Mosman LGA. The reserve occurs along north-facing slopes and is bounded by a large area of open space. A public pathway is located in the east of the reserve and sandstone outcrops are scattered throughout. Unmaed Reserve (Rosherville) is currently not being maintained under the bushland restoration contracts and is excluded from the comparison study in this report.

2.24.2 Vegetation communities

Two vegetation communities are recognised within Unmaed Reserve (Rosherville) including Regrowth Sydney Sandstone Gully Forest and Disturbed Sydney Sandstone Gully Forest (Figure 70). Both communities consist of regrowth and planted vegetation. Table 165 provides an updated list of species frequently recorded in each community.

Table 165 Vegetation community description - Unmaed Reserve (Rosherville)

Regrowth Sydney Sandstone Gully Forest

Canopy	<i>Angophora costata</i> (Sydney red gum), <i>Eucalyptus botryoides</i> (bangalay), <i>Casuarina glauca</i> (swamp oak) and <i>Ficus rubiginosa</i> (Port Jackson fig)
Midstorey	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree), <i>Pittosporum undulatum</i> (sweet pittosporum), and <i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle)
Understorey	<i>Pteridium esculentum</i> (common bracken), <i>Senna pendula</i> var. <i>glabrata</i> and <i>Homalanthus populifolius</i> (bleeding heart)
Groundcover	<i>Oplismenus aemulus</i> (oplismenus), <i>Commelina cyanea</i> (scurvy weed) <i>Lomandra longifolia</i> (spiny-headed mat-rush)

Disturbed Sydney Sandstone Gully Forest

Canopy	<i>Eucalyptus botryoides</i> (bangalay) and <i>Casuarina glauca</i> (swamp oak)
Midstorey	<i>Pittosporum undulatum</i> (sweet pittosporum) and <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree)
Understorey	<i>Leptospermum polygalifolium</i> (yellow tea-tree), <i>Kunzea ambigua</i> (tick bush), <i>Westringia fruticosa</i> (coastal rosemary), <i>Banksia serrata</i> (old-man banksia) and <i>Pteridium esculentum</i> (common bracken)
Groundcover	<i>Commelina cyanea</i> (scurvy weed), <i>Dianella caerulea</i> (blue flax-lily) and <i>Lomandra longifolia</i> (spiny-headed mat-rush)

2.24.3 Threatened flora

There were no threatened flora species recorded during the current survey at Unnamed Reserve (Rosherville).

2.24.4 Threatened ecological communities

No TECs are mapped within Unnamed Reserve (Rosherville) (OEH 2016c). The current survey did not detect any vegetation that corresponds to a TEC.

2.24.5 Native vegetation and weed cover

Medium to high weed density occurs across the majority of Unnamed Reserve (Rosherville). Climbing weeds such as *Ipomoea purpurea* (morning glory) and *Anredera cordifolia* (Madeira vine) were frequently recorded in the midstorey and understorey layers. Infestations of *Bidens pilosa* (cobblers pegs) were also noted. However, weed density is lower than previous surveys. While some areas of native canopy species remain, a portion is comprised of exotic species such as *Jacaranda mimosifolia* (jacaranda). Figures 71 and 71 show native vegetation cover and weed density at the site. The top five weed species and total weed cover for each class is provided in Table 166.

Table 166 Top five weed species and total weed cover at Unnamed Reserve (Rosherville)

Weed Class	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Ipomoea purpurea</i>	morning glory	Lower	1
	<i>Anredera cordifolia</i>	Madeira vine	Lower	1
	<i>Senna pendula</i> var. <i>glabrata</i>	cassia	Middle	1
	<i>Asparagus aethiopicus</i>	ground asparagus	Lower	1
	<i>Passiflora filamentosa</i>	passionflower	Lower	1
	Other weed species			5
	Total			10
10-29	<i>Ipomoea purpurea</i>	morning glory	Middle	8
	<i>Anredera cordifolia</i>	Madeira vine	Lower	5
	<i>Senna pendula</i> var. <i>glabrata</i>	cassia	Lower	2
	<i>Bidens pilosa</i>	cobblers pegs	Middle	2
	<i>Olea europaea</i> subsp. <i>cuspidate</i>	ground asparagus	Middle	1
	Other weed species			5
	Total			23
30-69	<i>Ipomoea purpurea</i>	morning glory	Middle	10
	<i>Anredera cordifolia</i>	Madeira vine	Lower	5
	<i>Senna pendula</i> var. <i>glabrata</i>	cassia	Lower	2
	<i>Bidens pilosa</i>	cobblers pegs	Middle	5
	<i>Olea europaea</i> subsp. <i>cuspidate</i>	ground asparagus	Middle	1
	Other weed species			10
Total			33	

2.24.6 Fauna habitat

Fauna habitat attributes recorded for Unnamed Reserve (Rosherville) are listed in Table 167

Table 167 Fauna habitat summary of Unnamed Reserve (Rosherville)

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Small narrow reserve with local connectivity only; extensive disturbance; some remnant bushland elements.
Connectivity	Moderate local connectivity, two other bushland reserves (Rosherville Reserve and Chinamans Beach Dunes) are in close proximity.
Large hollows (>20 cm)	Absent
Small hollows (<20 cm)	Scattered
Hollow status	Mostly alive
Large logs (>50 cm)	Absent
Small logs (10-50 cm)	Scattered
Cliffs/outcrops	Common
Large rocks (>30 cm)	Scattered
Small rocks (10-30 cm)	Scattered
Leaf litter	Common
Dense shrubs/grass shelter	Scattered
Termite mounds	Absent
Water bodies	Shoreline
Threatened fauna habitat	Hollows and foraging habitat for threatened parrots and microbats. Shoreline habitat for threatened shorebirds.

2.24.7 Threats to flora and fauna

Current threats to the flora and fauna within Unnamed Reserve (Rosherville) include:

- dispersal of weeds from higher weed density vegetation including (far eastern part of the reserve)
- garden escapes from surrounding private properties
- introduced predators of native ground-dwelling fauna including cat (*Felis catus*), dog (*Canis lupus familiaris*) and European fox (*Vulpes vulpes*).

2.24.8 Conservation significance

2.24.8.1 Vegetation

The vegetation conservation significance in this reserve is medium. The Regrowth Sydney Sandstone Gully Forest is regenerating and will continue with ongoing bushland management. The majority of this bushland reserve contains low to moderate abundance of weeds and has reduced significantly since previous surveys by Total Earth Care 2007 and Ecosure 2016.

2.24.8.2 Fauna

Eighteen species (13 birds, two mammals and three reptiles) were detected at this reserve during surveys in December 2021 and January 2022. One of these species, the grey-headed

flying-fox (*Pteropus poliocephalus*), is threatened under both the EPBC Act and BC Act.

2.24.8.3 Priority

This site has a medium priority for conservation. Although weed levels have been reduced, ongoing bushland restoration works are still required to maintain low weed abundance in the native vegetation patches and reduce weed abundance in the far eastern section of the reserve.

2.24.9 Current management practices

The Unnamed Reserve (Rosherville) is currently managed as a bush regeneration and restoration site under Mosman Council's Bushland Restoration Contracts 2012 - 2022. A summary of the works to date is shown in Table 168.

Table 168 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary

Weeding	<ul style="list-style-type: none"> · Primary weeding targeting noxious, woody and vine weeds · Secondary and maintenance weeding of noxious, woody and vine weed regrowth and annual and perennial herbs and grasses by hand weeding and spot spraying.
Planting	Recent plantings in the disturbed and regenerating communities of Sydney Sandstone Gully Forest and open space.
Ecological/Hazard reduction burns	None on record
Other	n/a

2.24.10 Recommendations

Current bushland management practices for Unnamed Reserve (Rosherville) bushland reserve should be continued. Prioritised recommendations are shown in Table 169.

Table 169 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve.
2	Targeted clearing of woody weeds in the far-eastern part of the reserve.
3	Continue planting of native tree, shrub and groundcover species in the regenerating and disturbed Sydney Sandstone Gully Forest to supplement regeneration.

2.24.11 Flora and fauna species list

Flora species recorded during current and previous surveys of Unnamed Reserve (Rosherville) are listed in Table 170 and fauna species are listed in Table 171.

Table 170 Flora species list for Unnamed Reserve (Rosherville)

Family	Scientific name	Common name	Status	BR69
Fabaceae - Mimosoideae	<i>Acacia implexa</i>	hickory wattle		a
Fabaceae - Mimosoideae	<i>Acacia linifolia</i>	white wattle		b
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		b
Fabaceae - Mimosoideae	<i>Acacia maidenii</i>	maiden's wattle		a
Fabaceae - Mimosoideae	<i>Acacia suaveolens</i>	sweet wattle		a
Fabaceae - Mimosoideae	<i>Acacia terminalis</i> subsp. <i>longiaxialis</i>	sunshine wattle		a
Fabaceae - Mimosoideae	<i>Acacia terminalis</i> subsp. <i>eastern Sydney</i>	sunshine wattle	E	a
Polygonaceae	<i>Acetosa sagittata</i>	turkey rhubarb	*	a
Asteraceae	<i>Ageratina adenophora</i>	crofton weed	*	b
Araceae	<i>Alocasia brisbanensis</i>			a
Alstroemeriaceae	<i>Alstroemeria pulchella</i>	parrot alstroemeria	*	a
Asteraceae	<i>Ambrosia artemisiifolia</i>	annual ragweed	*	a
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		a
Basellaceae	<i>Anredera cordifolia</i>	madeira vine	WoNS	b
Apocynaceae	<i>Araujia sericifera</i>	moth vine	*	a
Asparagaceae	<i>Asparagus plumosus</i>	climbing asparagus fern	WoNS	a
Asparagaceae	<i>Asparagus aethiopicus</i>	ground asparagus	WoNS	b
Proteaceae	<i>Banksia ericifolia</i> subsp. <i>ericifolia</i>	heath-leaved banksia		b
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Proteaceae	<i>Banksia serrata</i>	old-man banksia		b
Proteaceae	<i>Banksia spinulosa</i>	hairpin banksia		c
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*	b
Sterculiaceae	<i>Brachychiton acerifolius</i>	flame tree		b
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush		b
Myrtaceae	<i>Callistemon citrinus</i>	crimson bottlebrush		b
Cupressaceae	<i>Callitris rhomboidea</i>	Port Jackson pine		b
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken		b
Fabaceae - Faboideae	<i>Castanospermum australe</i>	black bean	ni	b
Casuarinaceae	<i>Casuarina glauca</i>	swamp oak		b
Lauraceae	<i>Cinnamomum camphora</i>	camphor laurel	*	b
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp.	fleabane	*	a
Rutaceae	<i>Correa reflexa</i> var. <i>speciosa</i>	common correa		a
Asteraceae	<i>Crassocephalum crepidioides</i>	thickhead	*	a
Cyatheaceae	<i>Cyathea cooperi</i>	straw treefern		b
Apiaceae	<i>Cyclospermum leptophyllum</i>	slender celery	*	a
Poaceae	<i>Cymbopogon refractus</i>	barbed wire grass		a

Family	Scientific name	Common name	Status	BR69
Poaceae	<i>Cynodon dactylon</i>	couch		a
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Poaceae	<i>Dichelachne crinita</i>	longhair plumegrass		b
Poaceae	<i>Digitaria sanguinalis</i>	summer grass	*	b
Sapindaceae	<i>Dodonaea triquetra</i>	large-leaf hop-bush		b
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	b
Poaceae	<i>Eleusine indica</i>	crowsfoot grass	*	b
Malaceae	<i>Eriobotrya japonica</i>	loquat	*	a
Myrtaceae	<i>Eucalyptus botryoides</i>	bangalay		b
Myrtaceae	<i>Eucalyptus piperita</i>	Sydney peppermint		a
Myrtaceae	<i>Eucalyptus robusta</i>	swamp mahogany		a
Myrtaceae	<i>Eucalyptus</i> sp.			a
Euphorbiaceae	<i>Euphorbia cyathophora</i>	painted spurge	*	a
Euphorbiaceae	<i>Euphorbia peplus</i>	petty spurge	*	a
Luzuriagaceae	<i>Eustrephus latifolius</i>	wombat berry		b
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Apiaceae	<i>Foeniculum vulgare</i>	fennel	*	b
Cyperaceae	<i>Gahnia clarkei</i>	tall saw-sedge		b
Luzuriagaceae	<i>Geitonoplesium cymosum</i>	scrambling lily		a
Geraniaceae	<i>Geranium homeanum</i>	native geranium		b
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>ferdinandi</i>	cheese tree		b
Proteaceae	<i>Grevillea linearifolia</i>	linear-leaf grevillea		c
Proteaceae	<i>Grevillea</i> sp. <i>hort</i>		ni	a
Proteaceae	<i>Hakea sericea</i>	needlebush		b
Dilleniaceae	<i>Hibbertia scandens</i>	climbing guinea flower		a
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b
Apiaceae	<i>Hydrocotyle bonariensis</i>		*	a
Convolvulaceae	<i>Ipomoea indica</i>	morning glory	*	b
Bignoniaceae	<i>Jacaranda mimosifolia</i>	jacaranda	*	b
Juncaceae	<i>Juncus usitatus</i>	common rush		a
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		b
Verbenaceae	<i>Lantana camara</i>	lantana	WoNS	a
Myrtaceae	<i>Leptospermum laevigatum</i>	coast teatree		b
Myrtaceae	<i>Leptospermum petersonii</i>	lemon-scented teatree	ni	a
Myrtaceae	<i>Leptospermum polygalifolium</i>	yellow tea-tree		a
Oleaceae	<i>Ligustrum lucidum</i>	large leaved privet	*	a
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Myrtaceae	<i>Melaleuca bracteata</i>	black tea-tree		b
Myrtaceae	<i>Melaleuca quinquenervia</i>	broad-leaved paperbark		b

Family	Scientific name	Common name	Status	BR69
Myrtaceae	<i>Melaleuca styphelioides</i>	prickly-leaved tea tree		b
Poaceae	<i>Microlaena stipoides</i> var. <i>stipoides</i>	weeping grass		b
Moraceae	<i>Morus alba</i>	white mulberry	*	a
Musaceae	<i>Musa</i> sp.	banana	*	a
Davalliaceae	<i>Nephrolepis cordifolia</i>	fishbone fern	ni	b
Apocynaceae	<i>Nerium oleander</i>	oleander	*	a
Ochnaceae	<i>Ochna serrulata</i>	ochna	*	a
Oleaceae	<i>Olea europaea</i> subsp. <i>cuspidata</i>	olive	*	b
Poaceae	<i>Oplismenus aemulus</i>	oplismenus		b
Asteraceae	<i>Osteospermum ecklonis</i>	cape daisy	*	a
Oxalidaceae	<i>Oxalis corniculata</i>		*	b
Bignoniaceae	<i>Pandorea pandorana</i>	Wonga Wonga vine		b
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*	b
Poaceae	<i>Paspalum dilatatum</i>	paspalum	*	a
Passifloraceae	<i>Passiflora filamentosa</i>	passionflower	*	b
Arecaceae	<i>Phoenix canariensis</i>	Canary Island date palm	*	a
Pittosporaceae	<i>Pittosporum revolutum</i>	wild yellow jasmine		b
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Platanaceae	<i>Platanus</i> sp.	plane tree	*	b
Lamiaceae	<i>Plectranthus parviflorus</i>	cockspur flower		a
Araliaceae	<i>Polyscias elegans</i>	celery wood		a
Portulacaceae	<i>Portulaca oleracea</i>	pigweed		a
Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken		b
Araliaceae	<i>Schefflera</i> sp.			a
Fabaceae - Caesalpinioideae	<i>Senna pendula</i> var. <i>glabrata</i>	cassia	*	b
Poaceae	<i>Setaria palmifolia</i>	palm grass	*	a
Malvaceae	<i>Sida rhombifolia</i>	paddy's lucerne	*	b
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	a
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	*	a
Poaceae	<i>Sporobolus africanus</i>	Parramatta grass	*	a
Proteaceae	<i>Stenocarpus sinuatus</i>	firewheel tree	ni	a
Menispermaceae	<i>Stephania japonica</i> var. <i>discolor</i>	snake vine		a
Strelitziaceae	<i>Strelitzia nicolai</i>	giant bird of paradise	*	a
Aizoaceae	<i>Tetragonia tetragonioides</i>	New Zealand spinach		a
Commelinaceae	<i>Tradescantia fluminensis</i>	trad	*	b
Violaceae	<i>Viola hederacea</i>	native violet		a
Lamiaceae	<i>Westringia fruticosa</i>	coastal rosemary		b

Table 171 Fauna species list for Unnmaed Reserve (Rosherville)

Class	Family	Scientific name	Common name	Status	BR69
Birds	Sturnidae	<i>Acridotheres tristis</i>	common myna	*	a
Birds	Megapodiidae	<i>Alectura lathamii</i>	Australian brushturkey		c
Birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		c
Birds	Corvidae	<i>Corvus coronoides</i>	Australian raven		b
Birds	Artamidae	<i>Cracticus nigrogularis</i>	piebald butcherbird		a
Birds	Artamidae	<i>Cracticus tibicen</i>	Australian magpie		c
Birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		a
Birds	Alcedinidae	<i>Dacelo novaeguineae</i>	laughing kookaburra		a
Birds	Ardeidae	<i>Egretta novaehollandiae</i>	white-faced heron		b
Birds	Cuculidae	<i>Eudynamis orientalis</i>	eastern koel		c
Birds	Dicruridae	<i>Grallina cyanoleuca</i>	magpie-lark		c
Birds	Hirundinidae	<i>Hirundo neoxena</i>	welcome swallow		b
Birds	Maluridae	<i>Malurus cyaneus</i>	superb fairy-wren		a
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		b
Birds	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon		a
Birds	Passeridae	<i>Passer domesticus</i>	house sparrow	*	a
Birds	Podargidae	<i>Podargus strigoides</i>	tawny frogmouth		c
Birds	Pycnonotidae	<i>Pycnonotus jocosus</i>	red-whiskered bulbul	*	a
Birds	Cuculidae	<i>Scythrops novaehollandiae</i>	channel-billed cuckoo		c
Birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		a
Birds	Artamidae	<i>Strepera graculina</i>	piebald currawong		b
Birds	Sturnidae	<i>Sturnus vulgaris</i>	common starling		a
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		b
Birds	Charadriidae	<i>Vanellus miles</i>	masked lapwing		a
Mammals	Pteropodidae	<i>Pteropus poliocephalus</i>	grey-headed flying-fox	V	c
Mammals	Muridae	<i>Rattus rattus</i>	black rat	*	c
Reptiles	Scincidae	<i>Eulamprus quoyii</i>	eastern water-skink		b
Reptiles	Scincidae	<i>Lampropholis guichenoti</i>	pale-flecked garden sunskink		c
Reptiles	Scincidae	<i>Lampropholis delicata</i>	dark-flecked garden sunskink		c

2.24.12 Maps for Unnamed Reserve (Rosherville)



Vegetation communities

Coastal Fore-dune Wattle Scrub

Disturbed Sydney Sandstone Gully Forest

Open Space

Regrowth Sydney Sandstone Gully Forest

Site boundary

Figure 70: Vegetation Communities and threatened flora locations - Unnamed Reserve (Rosherville)

Mosman Council

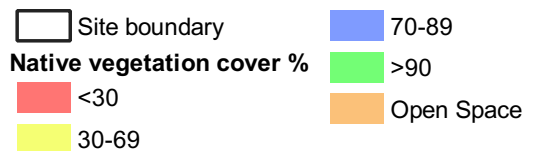
Mosman Flora and Fauna Survey 2021



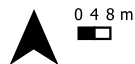
Figure 71: Native vegetation cover percent - Unnamed Reserve (Rosherville)

Mosman Council

Mosman Flora and Fauna Survey 2021



Job number: PR6939
Date: 30/01/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

Data Sources: © State of New South Wales (Department of Planning, Industry and Environment), 2022; © Ecosure 2022
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Figure 72: Weed density - Unnamed Reserve (Rosherville)

Mosman Council

Mosman Flora and Fauna Survey 2021

Site boundary

Weed density

<10
10-29

30-69

>70

Open Space

2.25 Wy-ar-gine Point

2.25.1 General description

Wy-ar-gine Point is located on a small headland at the northern end of Edwards Beach in the north-east of Mosman LGA. The reserve occurs within a south-east facing gully with sandstone outcrops scattered throughout the reserve. A public pathway leads from Burran Avenue to the beach. Human activities appear to be having an impact on the reserve through rubbish dumping and informal track formation.

2.25.2 Vegetation communities

Two vegetation communities are recognised at Wy-ar-gine Point including Sydney Sandstone Gully Forest which occurs in the eastern section of the reserve (Figure 73). Regrowth Sydney Sandstone Gully Forest occurs in the west and comprises a mix of regenerating and planted species, with vegetation structure developing in this area. Weed density is low with scattered occurrences of weeds occurring mainly in the groundcover stratum to the south-west. Table 172 provides an updated list of species frequently recorded in each community.

Table 172 Vegetation community description - Wy-ar-gine Point Reserve

Sydney Sandstone Gully Forest

Canopy	<i>Angophora costata</i> (Sydney red gum), <i>Eucalyptus botryoides</i> (bangalay), <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> (coast banksia)
Midstorey	<i>Acacia binervia</i> (coast myall), <i>Pittosporum undulatum</i> (sweet pittosporum) and <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree)
Understorey	<i>Acacia longifolia</i> subsp. <i>longifolia</i> (Sydney golden wattle), <i>Pittosporum undulatum</i> (sweet pittosporum), <i>Dodonaea triquetra</i> (large-leaf hop-bush) and <i>Homalanthus populifolius</i> (bleeding heart)
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Dianella caerulea</i> (blue flax-lily), <i>Microlaena stipoides</i> (weeping grass), <i>Stephania japonica</i> var. <i>discolor</i> (snake vine)

Regrowth Sydney Sandstone Gully Forest

Canopy	<i>Eucalyptus botryoides</i> (bangalay) and <i>Glochidion ferdinandi</i> var. <i>ferdinandi</i> (cheese tree)
Midstorey	<i>Pittosporum undulatum</i> (sweet pittosporum), <i>Elaeocarpus reticulatus</i> (blueberry ash), <i>Acacia binervia</i> (coast myall), <i>Acacia implexa</i> (hickory wattle), <i>Allocasuarina littoralis</i> (black she-oak)
Understorey	<i>Breynia oblongifolia</i> (coffee bush), <i>Dodonaea triquetra</i> (large-leaf hop-bush), <i>Homalanthus populifolius</i> (bleeding heart), <i>Crowea saligna</i>
Groundcover	<i>Lomandra longifolia</i> (spiny-headed mat-rush), <i>Hibbertia scandens</i> (climbing guinea flower), <i>Microlaena stipoides</i> var. <i>stipoides</i> (weeping grass), <i>Oplismenus aemulus</i> (oplismenus) and <i>Doodia aspera</i> (prickly rasp fern)

2.25.3 Threatened flora

No threatened flora species were recorded during the current surveys.

2.25.4 Threatened ecological communities

The Threatened Ecological Communities Greater Sydney (DPIE 2021) identified one TEC,

Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner bioregions (Endangered under both the BC Act and EPBC Act) within Wy-ar-gine Point. The current survey confirmed vegetation that corresponds to this TEC occurs in one small area in the east of the reserve towards the foreshore (Figure 73).

2.25.5 Native vegetation and weed cover

Native vegetation cover is high at Wy-ar-gine Point with good regeneration of native species occurring throughout. Weeds occur in a very low density. Figures 74 and 75 show native vegetation cover and weed density at the site. The top five weed species and total weed cover at the site is provided in Table 173.

Table 173 Top five weed species and total weed cover at Wy-ar-gine Point

Weed Class	Scientific name	Common name	Dominant stratum	% Cover
<10	<i>Nephrolepis cordifolia</i>	fishbone fern	Lower	1
	<i>Acetosa sagittata</i>	turkey rhubarb	Lower	1
	<i>Asparagus aethiopicus</i>	ground asparagus	Lower	
	<i>Rubus fruticosus</i>	blackberry	Lower	
	<i>Lantana camara</i>	lantana	Lower	
	Other weed species		Lower	3
			Total	5

2.25.6 Fauna habitat

Fauna habitat attributes recorded for Wy-ar-gine Reserve are listed in Table 174.

Table 174 Fauna habitat summary of Wy-ar-gine Reserve

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Overview	Fairly small reserve with very little connectivity; few old growth elements; good understorey vegetation; good sandstone outcropping.
Connectivity	Poor connectivity to other bushland reserves
Large hollows (>20 cm)	Absent
Small hollows (<20 cm)	Scattered
Hollow status	Mostly alive
Large logs (>50 cm)	Scattered
Small logs (10-50 cm)	Common
Cliffs/outcrops	Abundant
Large rocks (>30 cm)	Common
Small rocks (10-30 cm)	Scattered
Leaf litter	Scattered
Dense shrubs/grass shelter	Abundant
Termite mounds	Absent

Fauna habitat (See Flora and Fauna Assessment, Volume 1 for criteria)

Water bodies	Shoreline
Threatened fauna habitat	Hollows and foraging for threatened parrots and microbats. Shoreline foraging for threatened shorebirds.

2.25.7 Threats to flora and fauna

Current threats to the flora and fauna within Wy-ar-gine Point Reserve bushland reserve include:

- garden escapes from surrounding private properties
- dispersal of weeds from higher weed density vegetation from surrounding road reserves
- introduced predators of shorebirds including cat (*Felis catus*), dog (*Canis lupus familiaris*) and European fox (*Vulpes vulpes*).

2.25.8 Conservation significance

2.25.8.1 Vegetation

The vegetation conservation significance in this reserve is high. The native vegetation in this bushland reserve contains low abundance of weeds and has decreased since previous surveys by Total Earth Care 2007 and Ecosure 2016. However, some weed invasion was noticeable from the current survey on the south-western edge of the reserve. The restoration and revegetation works have reduced weed presence and aided in the regeneration of native species.

2.25.8.2 Fauna

Six fauna species (four bird, one mammal, one reptile) were detected at this reserve during surveys in December 2021 and January 2022. One of these species, the grey-headed flying-fox (*Pteropus poliocephalus*), is threatened under both the EPBC Act and BC Act.

2.25.8.3 Priority

This site has a high priority for conservation. Although weed levels have been reduced, ongoing bushland restoration works are still required to maintain low weed abundance in Sydney Sandstone Gully Forest.

2.25.9 Current management practices

Wy-ar-gine Point is currently managed as a bush regeneration and restoration site under Mosman Council's Bushland Restoration Contracts 2012 - 2022. A summary of the works to date is shown in Table 175.

Table 175 Bush regeneration and restoration works summary

Bush regeneration and restoration works summary

Weeding	<ul style="list-style-type: none"> Primary weeding targeting noxious, woody and vine weeds Secondary and maintenance weeding of noxious, woody and vine weed regrowth and annual and perennial herbs and grasses by hand weeding and spot spraying.
Planting	Recent and established scattered plantings and open space buffer plantings in the Regrowth Sydney Sandstone Gully Forest to supplement and aid regeneration.
Ecological/Hazard reduction burns	Pile burns occurred in 2004 and 2007
Other	n/a

2.25.10 Recommendations

Current bushland management practices for Wy-ar-gine Point Reserve bushland reserve should be continued. Prioritised recommendations are shown in Table 176.

Table 176 Recommended bush regeneration and restoration works

Recommended bush regeneration and restoration works

Priority	Description
1	Continue hand weeding and spot spraying for all noxious and environmental weeds throughout the bushland reserve.
2	Continue planting of native tree, shrub and groundcover species in the regenerating Sydney Sandstone Gully Forest to supplement regeneration.
3	Ecological/hazard reduction/pile burns to be considered to stimulate regeneration of native plants such as <i>Acacia terminalis</i> subsp. <i>eastern Sydney</i> as it has previously been recorded and may be present in the seed bank.

2.25.11 Flora and fauna species list

Flora species recorded during current and previous surveys of Wy-ar-gine Point Reserve bushland reserve are listed in Table 177 and fauna species are listed in Table 178.

Table 177 Flora species list for Wy-ar-gine Point

Family	Scientific name	Common name	Status	BR70
Fabaceae - Mimosoideae	<i>Acacia binervia</i>	coast myall		b
Fabaceae - Mimosoideae	<i>Acacia implexa</i>	hickory wattle		b
Fabaceae - Mimosoideae	<i>Acacia linifolia</i>	white wattle		a
Fabaceae - Mimosoideae	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney golden wattle		b
Fabaceae - Mimosoideae	<i>Acacia saligna</i>	golden wreath wattle	ni	a
Fabaceae - Mimosoideae	<i>Acacia suaveolens</i>	sweet wattle		b
Fabaceae - Mimosoideae	<i>Acacia terminalis</i> subsp. <i>eastern Sydney</i>	sunshine wattle	E	a
Fabaceae - Mimosoideae	<i>Acacia ulicifolia</i>	prickly moses		b
Polygonaceae	<i>Acetosa sagittata</i>	turkey rhubarb	*	b

Family	Scientific name	Common name	Status	BR70
Myrtaceae	<i>Acmena smithii</i>	lilly pilly		a
Adiantaceae	<i>Adiantum formosum</i>	black stem		a
Asteraceae	<i>Ageratina adenophora</i>	crofton weed	*	b
Alismataceae	<i>Alisma plantago-aquatica</i>	water plantain		a
Casuarinaceae	<i>Allocasuarina distyla</i>			b
Casuarinaceae	<i>Allocasuarina littoralis</i>	black she-oak		b
Primulaceae	<i>Anagallis arvensis</i>	scarlet pimpernel	*	a
Myrtaceae	<i>Angophora costata</i>	Sydney red gum		b
Basellaceae	<i>Anredera cordifolia</i>	madeira vine	WoNS	a
Apocynaceae	<i>Araujia sericifera</i>	moth vine	*	a
Asparagaceae	<i>Asparagus aethiopicus</i>	asparagus fern	WoNS	b
Asteraceae	<i>Aster subulatus</i>	wild aster	*	b
Poaceae	<i>Austrodanthonia</i> sp.	wallaby grass		a
Poaceae	<i>Avena fatua</i>	wild oats	*	a
Myrtaceae	<i>Babingtonia virgata</i>		ni	a
Proteaceae	<i>Banksia ericifolia</i> subsp. <i>ericifolia</i>	heath-leaved banksia		a
Proteaceae	<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	coast banksia		b
Proteaceae	<i>Banksia serrata</i>	old-man banksia		b
Asteraceae	<i>Bidens pilosa</i>	cobblers pegs	*	a
Pittosporaceae	<i>Billardiera scandens</i>	hairy apple berry		a
Blechnaceae	<i>Blechnum ambiguum</i>			a
Euphorbiaceae	<i>Breynia oblongifolia</i>	coffee bush		b
Myrtaceae	<i>Callistemon linearis</i>	narrow-leaved bottlebrush		b
Dicksoniaceae	<i>Calochlaena dubia</i>	soft bracken		b
Cannaceae	<i>Canna indica</i>	tous-les-mois arrowroot	*	a
Cyperaceae	<i>Carex breviculmis</i>			a
Aizoaceae	<i>Carpobrotus glaucescens</i>	pigface		b
Casuarinaceae	<i>Casuarina glauca</i>	swamp oak		b
Chenopodiaceae	<i>Chenopodium glaucum</i>			b
Anthericaceae	<i>Chlorophytum comosum</i>	spider plant	*	a
Rutaceae	<i>Citrus</i> sp.	citrus	*	a
Commelinaceae	<i>Commelina cyanea</i>	scurvy weed		b
Asteraceae	<i>Conyza</i> sp.	fleabane	*	b
Crassulaceae	<i>Crassula sieberiana</i>	Australian stonecrop		a
Rutaceae	<i>Crowea saligna</i>			a
Cyatheaceae	<i>Cyathea australis</i>	black tree-fern		b
Cyatheaceae	<i>Cyathea cooperi</i>	straw treefern		b
Plantaginaceae	<i>Cymbalaria muralis</i>	ivy-leaved toadflax	*	a
Poaceae	<i>Cymbopogon refractus</i>	barbed wire grass		b

Family	Scientific name	Common name	Status	BR70
Cyperaceae	<i>Cyperus gracilis</i>	slender flat-sedge		a
Cyperaceae	<i>Cyperus involucratus</i>	umbrella sedge	*	b
Cyperaceae	<i>Cyperus</i> sp.			B
Phormiaceae	<i>Dianella caerulea</i>	blue flax-lily		b
Phormiaceae	<i>Dianella revoluta</i>	paroo lily		a
Convolvulaceae	<i>Dichondra repens</i>	kidney weed		b
Poaceae	<i>Digitaria parviflora</i>	small-flowered finger grass		a
Poaceae	<i>Digitaria sanguinalis</i>	summer grass	*	a
Fabaceae – Faboideae	<i>Dillwynia retorta</i>			b
Sapindaceae	<i>Dodonaea triquetra</i>	large-leaf hop-bush		b
Sapindaceae	<i>Dodonaea viscosa</i>	hop bush		a
Blechnaceae	<i>Doodia aspera</i>	prickly rasp fern		a
Poaceae	<i>Echinopogon ovatus</i>	forest hedgehog grass		b
Poaceae	<i>Ehrharta erecta</i>	panic veldtgrass	*	b
Chenopodiaceae	<i>Einadia trigonos</i> subsp. <i>Trigonos</i>	fishweed		b
Elaeocarpaceae	<i>Elaeocarpus reticulatus</i>	blueberry ash		a
Poaceae	<i>Entolasia marginata</i>	bordered panic		a
Poaceae	<i>Entolasia stricta</i>	wiry panic		a
Asteraceae	<i>Erigeron karvinskianus</i>	bony-tip fleabane	*	a
Myrtaceae	<i>Eucalyptus botryoides</i>	bangalay		b
Myrtaceae	<i>Eucalyptus umbra</i>	broad-leaved white mahogany		b
Euphorbiaceae	<i>Euphorbia pepus</i>	petty spurge	*	a
Luzuriagaceae	<i>Eustrephus latifolius</i>	wombat berry		b
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson fig		b
Asteraceae	<i>Gamochaeta americana</i>	cudweed	*	b
Geraniaceae	<i>Geranium homeanum</i>	native geranium		b
Euphorbiaceae	<i>Glochidion ferdinandi</i> var. <i>Ferdinandi</i>	cheese tree		b
Fabaceae – Faboideae	<i>Glycine clandestina</i>			a
Fabaceae – Faboideae	<i>Glycine microphylla</i>	small-leaf glycine		a
Haloragaceae	<i>Gonocarpus teucroides</i>	raspwort		a
Proteaceae	<i>Grevillea linearifolia</i>	linear-leaf grevillea		b
Proteaceae	<i>Grevillea</i> sp. hort		ni	a
Proteaceae	<i>Hakea sericea</i>	needlebush		b
Fabaceae - Faboideae	<i>Hardenbergia violacea</i>	purple coral pea		b
Dilleniaceae	<i>Hibbertia dentata</i>	trailing guinea flower		a
Dilleniaceae	<i>Hibbertia scandens</i>	climbing guinea flower		b
Dennstaedtiaceae	<i>Histiopteris incisa</i>	bat's wing fern		a
Euphorbiaceae	<i>Homalanthus populifolius</i>	bleeding heart		b

Family	Scientific name	Common name	Status	BR70
Apiaceae	<i>Hydrocotyle laxiflora</i>	stinking pennywort		b
Apiaceae	<i>Hydrocotyle peduncularis</i>			b
Poaceae	<i>Imperata cylindrica</i>	blady grass		b
Convolvulaceae	<i>Ipomoea indica</i>	morning glory	*	a
Cyperaceae	<i>Isolepis nodosa</i>	knobby club-rush		b
Bignoniaceae	<i>Jacaranda mimosifolia</i>	jacaranda	*	b
Juncaceae	<i>Juncus continuus</i>			a
Juncaceae	<i>Juncus kraussii</i>		*	a
Juncaceae	<i>Juncus usitatus</i>	common rush		b
Fabaceae - Faboideae	<i>Kennedia rubicunda</i>	dusky coral pea		a
Myrtaceae	<i>Kunzea ambigua</i>	tick bush		b
Verbenaceae	<i>Lantana camara</i>	lantana	WoNS	b
Cyperaceae	<i>Lepidosperma laterale</i>			a
Myrtaceae	<i>Leptospermum laevigatum</i>	coast teatree		b
Myrtaceae	<i>Leptospermum polygalifolium</i>	yellow tea-tree		b
Oleaceae	<i>Ligustrum lucidum</i>	large leaved privet	*	a
Lobeliaceae	<i>Lobelia anceps</i>			a
Lomandraceae	<i>Lomandra filiformis</i> subsp. <i>filiformis</i>	wattle mat-rush		a
Lomandraceae	<i>Lomandra longifolia</i>	spiny-headed mat-rush		b
Lomandraceae	<i>Lomandra</i> sp.			a
Myrtaceae	<i>Melaleuca hypericifolia</i>	hillock bush		a
Myrtaceae	<i>Melaleuca quinquenervia</i>	broad-leaved paperbark		a
Poaceae	<i>Microlaena stipoides</i> var. <i>stipoides</i>	weeping grass		b
Ericaceae	<i>Monotoca elliptica</i>	tree broom-heath		a
Araceae	<i>Monstera deliciosa</i>	fruit salad plant	*	a
Myrsinaceae	<i>Myrsine variabilis</i>			b
Davalliaceae	<i>Nephrolepis cordifolia</i>	fishbone fern	ni	b
Oleaceae	<i>Notelaea longifolia</i>	large mock-olive		a
Poaceae	<i>Notodanthonia longifolia</i>	long-leaved wallaby grass		a
Ochnaceae	<i>Ochna serrulata</i>	ochna	*	a
Rubiaceae	<i>Opercularia aspera</i>	coarse stinkweed		a
Poaceae	<i>Oplismenus aemulus</i>	oplismenus		b
Poaceae	<i>Oplismenus imbecillis</i>			a
Oxalidaceae	<i>Oxalis</i> sp.		*	a
Bignoniaceae	<i>Pandorea pandorana</i>	Wonga Wonga vine		b
Urticaceae	<i>Parietaria judaica</i>	asthma weed	*	a
Poaceae	<i>Paspalidium distans</i>			a
Passifloraceae	<i>Passiflora</i> sp	passionfruit	*	a
Geraniaceae	<i>Pelargonium australe</i>	native storksbill		a

Family	Scientific name	Common name	Status	BR70
Adiantaceae	<i>Pellaea falcata</i>	sickle fern		b
Lauraceae	<i>Persea americana</i>	avocado	*	a
Euphorbiaceae	<i>Phyllanthus tenellus</i>	hen and chicken	*	a
Pittosporaceae	<i>Pittosporum revolutum</i>	wild yellow jasmine		b
Pittosporaceae	<i>Pittosporum undulatum</i>	sweet pittosporum		b
Polypodiaceae	<i>Platynerium bifurcatum</i>	elkhorn		a
Apiaceae	<i>Platysace lanceolata</i>	shrubby platysace		b
Lamiaceae	<i>Plectranthus parviflorus</i>	cockspur flower		a
Poaceae	<i>Poa affinis</i>	poa		b
Podocarpaceae	<i>Podocarpus spinulosus</i>	spiny-leaf podocarp		a
Araliaceae	<i>Polyscias sambucifolia</i>	elderberry panax		b
Portulacaceae	<i>Portulaca oleracea</i>	pigweed		a
Dennstaedtiaceae	<i>Pteridium esculentum</i>	common bracken		b
Pteridaceae	<i>Pteris tremula</i>	tender brake		a
Fabaceae - Faboideae	<i>Pultenaea daphnoides</i>			b
Rosaceae	<i>Rubus fruticosus</i>	blackberry	WoNS	b
Araliaceae	<i>Schefflera</i> sp			a
Asteraceae	<i>Senecio lautus</i> subsp. <i>maritimus</i>	variable groundsel		a
Poaceae	<i>Setaria parviflora</i>	slender pigeon grass	*	a
Malvaceae	<i>Sida rhombifolia</i>	paddy's lucerne	*	a
Asteraceae	<i>Sigesbeckia orientalis</i> subsp. <i>orientalis</i>			b
Smilacaceae	<i>Smilax glycyphylla</i>	sweet sarsaparilla		a
Solanaceae	<i>Solanum nigrum</i>	black-berry nightshade	*	b
Asteraceae	<i>Sonchus oleraceus</i>	common sowthistle	*	a
Poaceae	<i>Sporobolus africanus</i>	Parramatta grass	*	a
Poaceae	<i>Sporobolus virginicus</i>	sand couch		b
Poaceae	<i>Stenotaphrum secundatum</i>			b
Menispermaceae	<i>Stephania japonica</i> var. <i>discolor</i>	snake vine		b
Strelitziaceae	<i>Strelitzia nicolai</i>	giant bird of paradise	*	a
Myrtaceae	<i>Syzygium</i> sp.	lilly pilly		b
Aizoaceae	<i>Tetragonia tetragonioides</i>	New Zealand spinach		b
Poaceae	<i>Themeda triandra</i>	kangaroo grass		b
Commelinaceae	<i>Tradescantia fluminensis</i>	trad	*	b
Scrophulariaceae	<i>Veronica plebeia</i>	trailing speedwell		a
Violaceae	<i>Viola hederacea</i>	native violet		b
Lamiaceae	<i>Westringia fruticosa</i>	coastal rosemary		b
Apiaceae	<i>Xanthosia pilosa</i>	woolly xanthosia		a
Agavaceae	<i>Yucca aloifolia</i>	Spanish bayonet	*	a
Poaceae	<i>Zoysia macrantha</i>	prickly couch		a

Table 178 Fauna species list for Wy-ar-gine Point

Class	Family	Scientific Name	Common Name	Status	BR70
Birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		a
Birds	Corvidae	<i>Corvus coronoides</i>	Australian raven		a
Birds	Artamidae	<i>Cracticus nigrogularis</i>	piebald butcherbird		a
Birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		b
Birds	Ardeidae	<i>Egretta novaehollandiae</i>	white-faced heron		a
Birds	Cuculidae	<i>Eudynamis scolopacea</i>	eastern koel		c
Birds	Columbidae	<i>Geopelia humeralis</i>	bar-shouldered dove		a
Birds	Artamidae	<i>Gymnorhina tibicen</i>	Australian magpie		a
Birds	Hirundinidae	<i>Hirundo neoxena</i>	welcome swallow		a
Birds	Laridae	<i>Larus novaehollandiae</i>	silver gull		a
Birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		b
Birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		a
Birds	Artamidae	<i>Strepera graculina</i>	piebald currawong		a
Birds	Sturnidae	<i>Sturnus vulgaris</i>	common starling		a
Birds	Psittacidae	<i>Trichoglossus haematodus</i>	rainbow lorikeet		b
Birds	Charadriidae	<i>Vanellus miles</i>	masked lapwing		a
Mammals	Muridae	<i>Hydromys chrysogaster</i>	water-rat		a
Mammals	Leporidae	<i>Oryctolagus cuniculus</i>	rabbit	*	a
Mammals	Peramelidae	<i>Perameles nasuta</i>	long-nosed bandicoot		a
Mammals	Pteropodidae	<i>Pteropus poliocephalus</i>	grey-headed flying-fox	V	c
Reptiles	Scincidae	<i>Ctenotus taeniolatus</i>	copper-tailed skink		a
Reptiles	Scincidae	<i>Lampropholis delicata</i>	dark-flecked garden sunskink		b

2.25.12 Maps for Wy-ar-gine Point



Vegetation communities

Sydney Sandstone Gully Forest
 Regrowth Sydney Sandstone Gully Forest
 Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner bioregions – Endangered

Figure 73: Vegetation Communities, Threatened Ecological Communities and threatened flora locations - Wy-ar-gine Point Site boundary

Mosman Council

Mosman Flora and Fauna Survey 2021

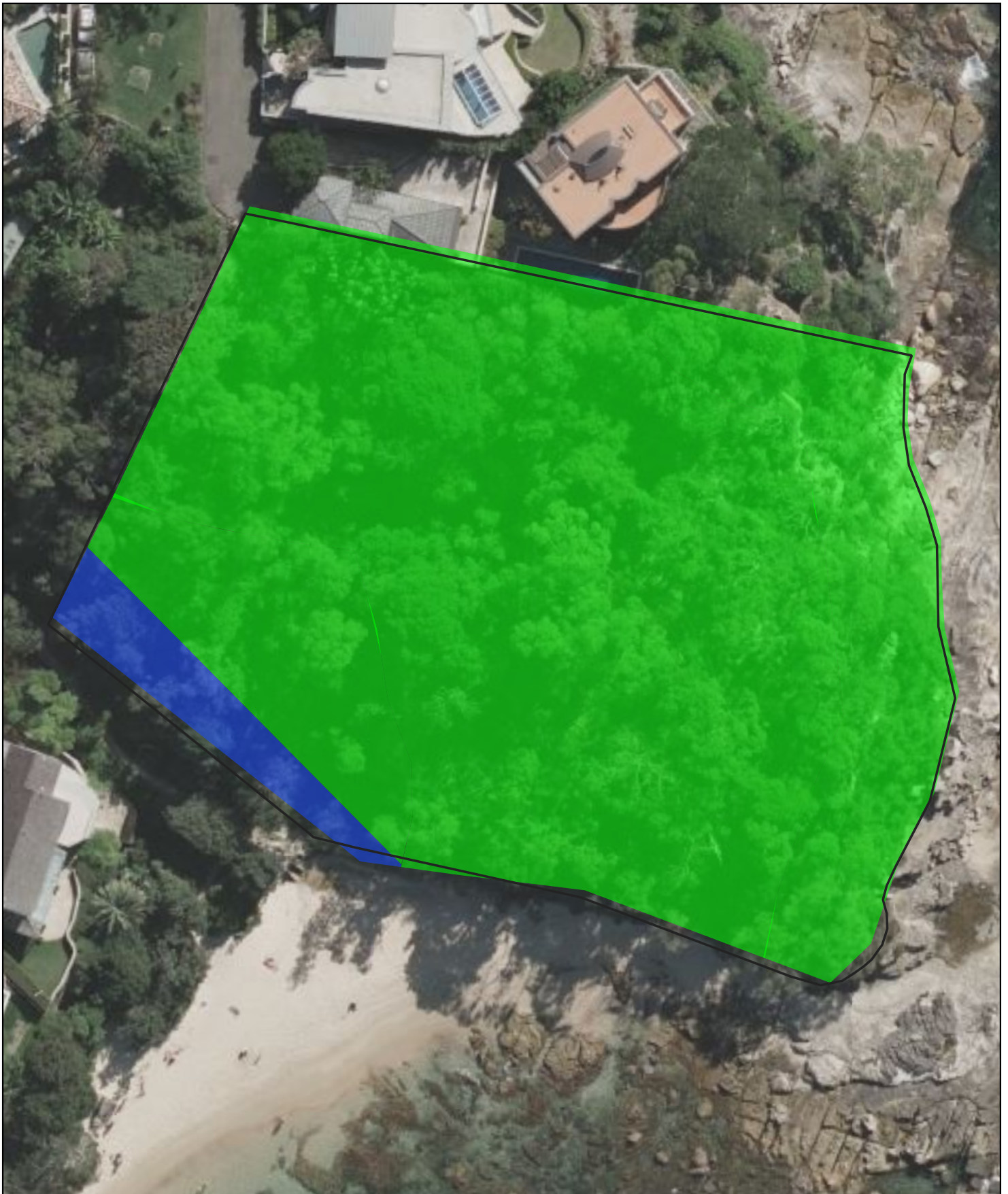
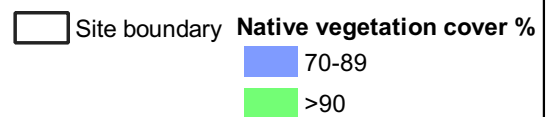


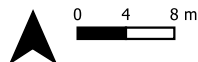
Figure 74: Native vegetation cover percent - Wy-ar-gine Point

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Mosman Flora and Fauna Survey 2021



Job number: PR6939
Date: 30/01/2022



GDA 1994 MGA Zone 56
Projection: Transverse Mercator
Datum: GDA 1994
Units: Meter

Data Sources: © State of New South Wales (Department of Planning, Industry and Environment), 2022; © Ecosure 2022
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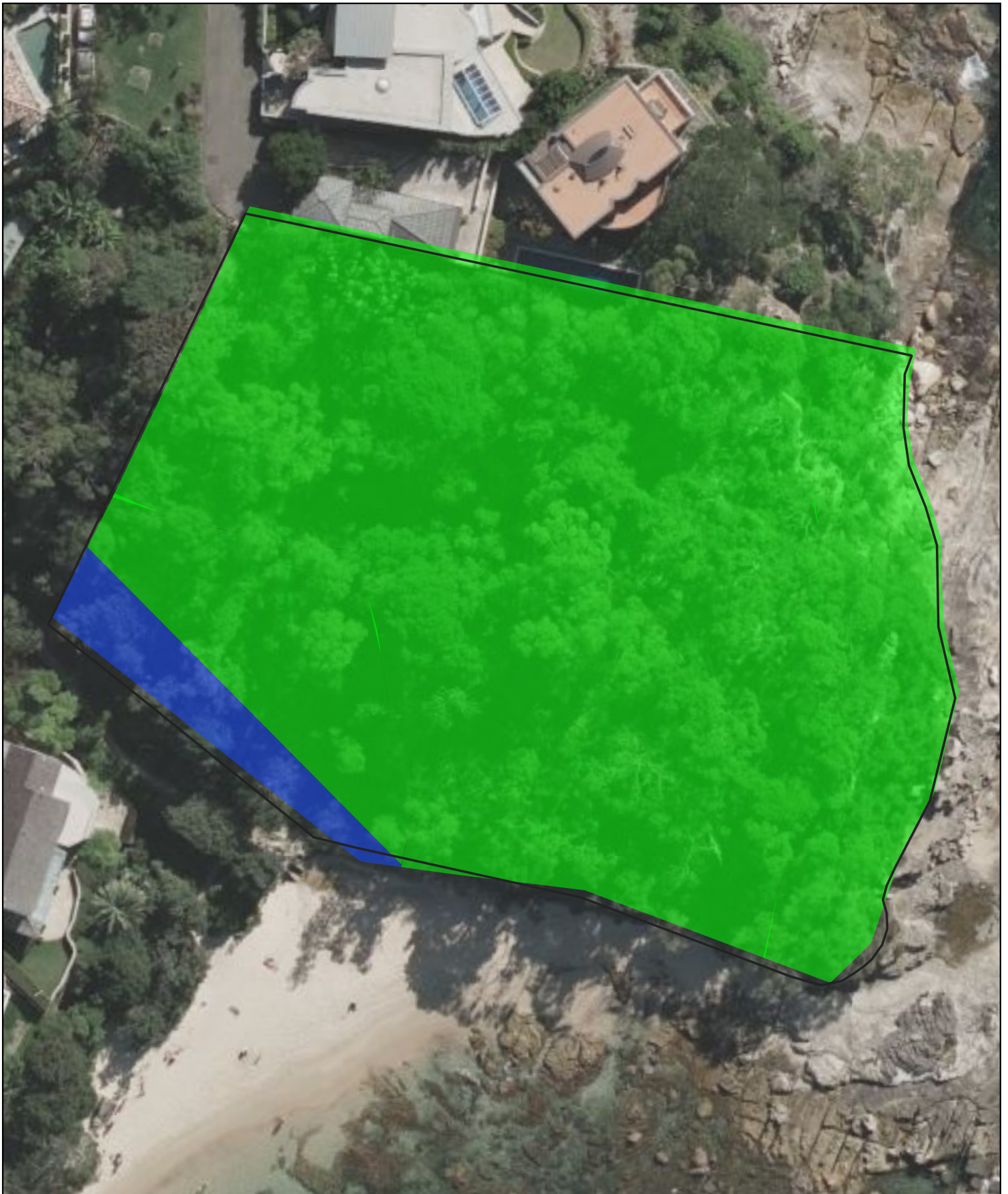


Figure 75: Weed density - Wy-ar-gine Point

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Site boundary Weed density

<10

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Revision History

Revision No.	Revision date	Details	Prepared by	Reviewed by	Approved by
00	02/02/2022	Mosman Flora and Fauna Survey V2	Cameron Radford, Senior Ecologist	Julie Whelan, Senior Environmental Scientist	Heather Richards, Senior Environmental Scientist
01	21/02/2022	Mosman Flora and Fauna Survey 2022 V2 FINAL	Cameron Radford, Senior Ecologist	Heather Richards, Senior Environmental Scientist	

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Report compiled by Ecosure Pty Ltd

ABN: 63 106 067 976

admin@ecosure.com.au www.ecosure.com.au

PR6939-RE.Mosman Flora and Fauna Survey 2021 Volume 2b Recovered CR

Adelaide

PO Box 145
Pooraka SA 5095
P 1300 112 021
M 0407 295 766

Brisbane

PO Box 675
Fortitude Valley QLD 4006
P 07 3606 1030

Coffs Harbour

PO Box 4370
Coffs Harbour Jetty NSW 2450
P 02 5621 8103

Gladstone

PO Box 5420
Gladstone QLD 4720
P 07 4994 1000

Gold Coast

PO Box 404
West Burleigh QLD 4219
P 07 5508 2046

Rockhampton

PO Box 235
Rockhampton QLD 4700
P 07 4994 1000

Sunshine Coast

PO Box 1457
Noosaville QLD 4566
P 07 5357 6019

Sydney

PO Box 880
Surry Hills NSW 2010
P 1300 112 021

Townsville

PO Box 2335
Townsville QLD 4810
P 1300 112 021



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