

04

Urban Ecology Strategic Action Plan

4.1 Overview

This section provides an overview of the Plan. It first outlines the objectives and targets, then provides an introduction to the actions that are the basis of the Plan and to how they will be implemented. It also outlines how the City will assess and report on its performance in implementing the plan, and how and when the Plan will be reviewed.

4.1.1 Objectives, targets and monitoring requirements

The objectives and targets required to achieve the City's vision for the Plan have been grouped into the following three categories:

- Locally indigenous vegetation;
- Fauna; and
- Habitat connectivity.

Objectives and targets for each category are outlined in Table 5, along with the monitoring that will be undertaken in relation to each to assess the City's performance in implementing the Plan (performance is discussed further in Section 4.1.4).

While the objectives relate to both public and private land across the LGA, the targets relate mainly to City-managed land since it is not possible for the City to control or accurately monitor all activities that take place on land managed by others. Despite this, both public land managed by others and private property will play important roles in meeting the objectives of the Plan, and therefore many of the actions outlined in Sections 4.2–4.4 relate to such land.

Table 5 Urban Ecology Strategic Action Plan objectives, targets, and monitoring requirements

Category	Objectives	Targets	Monitoring	Monitoring frequency
Locally indigenous vegetation	Protect, expand and improve condition of naturally occurring locally indigenous vegetation, including possible remnants	Area of naturally occurring vegetation maintained or increased from 2012 baseline of 2.7 hectares by 2023	Systematic flora surveys and vegetation mapping	Five-yearly
	Increase the extent of bush restoration sites across the LGA, and maintain sites in good condition	<ul style="list-style-type: none"> Area of bush restoration sites increased by 100 per cent from 2012 baseline of 4.2 hectares by 2023 Bush restoration sites characterised by well-established, structurally complex vegetation, free of weeds by 2023 	<ul style="list-style-type: none"> Mapping of bush restoration sites Condition assessment 	<ul style="list-style-type: none"> As sites are established, with annual review Monthly reporting, with annual review
	Re-establish representative patches of the likely original vegetation communities	Representative patches of at least three of the likely original vegetation communities established by 2023	Systematic flora surveys and vegetation mapping	Five-yearly
Fauna	Protect and enhance sites that provide habitat for priority fauna species	Indigenous fauna species diversity maintained or increased by 2023 based on 2012 baseline of 87 confirmed species, comprising: <ul style="list-style-type: none"> – 5 frogs – 11 reptiles – 63 birds – 8 mammals 	Systematic spring bird surveys, with opportunistic reporting of all fauna groups at other times	Annual
	Increase the distribution and abundance of priority fauna species across the LGA	Priority fauna species recorded from greater number of locations and in higher numbers compared to 2012 baseline by 2023	LGA-wide systematic fauna surveys	Five-yearly
Habitat connectivity	Improve habitat connectivity across the LGA, particularly between priority sites, and between identified habitat areas in adjoining LGAs	Progressive increase in number of habitat features for priority fauna species established along potential habitat linkages by 2023	Mapping of habitat features	Annual

4.1.2 Actions

The actions identified for the Plan are based on the survey results and aim to address issues raised in the community consultation process and identified threats to biodiversity in the LGA. Two broad types of actions have been identified:

- General actions – actions that require implementation across the City of Sydney organisation and/or the LGA as a whole. These have been further grouped into the following five categories:
 - Park and streetscape maintenance
 - Planning controls
 - Staff and contractor engagement
 - Community engagement
 - Partnerships
- Specific actions – site-specific actions that relate to the six priority sites, and species-specific actions that relate to the priority fauna species, with some additional actions for other species.

General actions are outlined in detail in Section 4.2; site-specific actions are outlined in Section 4.3, and species-specific actions are outlined in Section 4.4.

4.1.3 Implementation

The Plan will be implemented over a ten-year period, from 2013–14 to 2022–23. The timeframe for implementation and status of each of the actions is indicated in Section 5. As indicated, numerous actions are already in progress, and many will be ongoing.

An annual implementation plan will be prepared and key projects incorporated into the City's annual Corporate Plan.

4.1.4 Performance assessment

In order to evaluate the City's performance in implementing the Plan, the overall number of actions implemented annually (in accordance with the annual implementation plan) will be monitored and recorded.

Monitoring will also be undertaken in relation to the targets as indicated in Table 5 – some monitoring will be undertaken annually, and some at longer intervals.

4.1.5 Reporting

An annual report on the implementation of the Plan, including an overview of actions implemented and monitoring results, will be produced at the end of each financial year, with a summary incorporated into the City's annual State of Environment Report. The City's quarterly Environmental Sustainability Progress Report will also include a summary of progress throughout the year.

4.1.6 Review

The Plan will be subject to the principles of adaptive management, i.e. Sections 4.2–4.4 and Section 5 will be reviewed annually and modified:

- Where monitoring results indicate this is necessary;
- To incorporate new advances or knowledge in the field of urban ecology;
- In response to any identified changes in priorities; and/or
- To take advantage of new opportunities that may arise in the City.

Recommendations for modification of the Plan will be incorporated into the annual report.

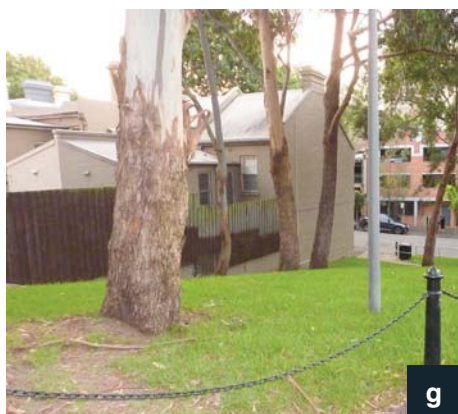
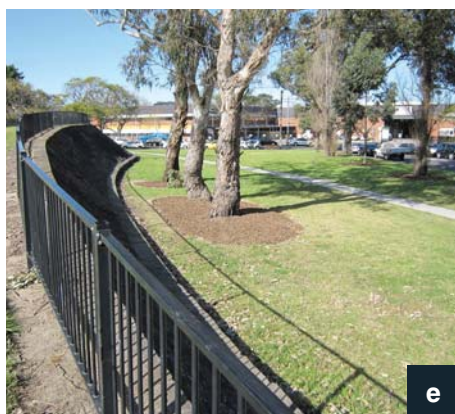
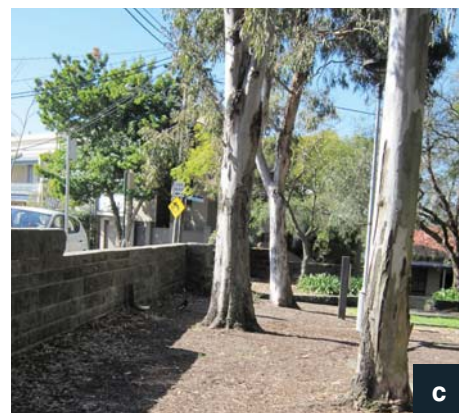
The Plan will also be subject to a full review after a ten-year period, i.e. in 2022–23.

4.2 General actions

4.2.1 Park and streetscape management

The following actions will be undertaken to ensure that best practice bush regeneration and biodiversity management techniques are incorporated into the management of parks and streetscapes:

1. An annual bush restoration and habitat enhancement program will be implemented in City-managed parks. The program will incorporate the principles outlined in Appendix 6.
2. A Bush Restoration Management Plan will be prepared to outline the best practice bush regeneration and biodiversity management techniques that will be implemented in the maintenance of bush restoration and habitat enhancement sites. The requirements of the plan are outlined in Appendix 7.
3. The principles and requirements of both the above will be incorporated into:
 - Landscaping associated with park and streetscape upgrades, in-road plantings and other capital works within the LGA, wherever possible and compatible with existing site conditions and relevant City codes; and
 - All future park and streetscape maintenance contracts.
4. A qualified and experienced bush regeneration specialist will be appointed to fill an existing vacancy within the City's park and streetscape maintenance team.
5. Training in best practice bush regeneration and biodiversity management techniques will be given to existing park and streetscape maintenance staff.
6. Habitat protection fencing will be installed at strategic locations to reduce disturbance to habitats from dogs and park users.
7. Indigenous trees removed due to tree failure or other reasons will be strategically placed within parks to provide ground-level habitat features wherever possible.
8. Where new lighting is required in/near indigenous vegetation patches or other habitat features such as wetlands, lightspill will be minimised wherever possible by installing narrow spectrum bulbs, down lights, shields, embedded lights and/or motion-activated lighting.
9. The diversity of street plantings will be maximised to the extent possible.
10. Understorey species will be included in in-road tree plantings wherever possible.
11. Trials of additional indigenous tree species, particularly any that have recognised habitat value for priority fauna species, will be undertaken with a view to future inclusion in the next review of the City's *Street Tree Master Plan* and *Park Tree Management Plans*.



Examples of pocket parks and edges of larger parks at which habitat planting and other habitat enhancements could be undertaken without compromising existing uses.

- a Clyne Reserve, The Rocks
- b Pocket park in Erskineville
- c Ernest Pedersen Reserve, Glebe
- d Cooper Street Closure, Surry Hills
- e Edges of Erskineville Oval, Erskineville
- f Oatley Reserve, Paddington
- g Pocket park in Woolloomooloo
- h Pocket Park in Rosebery
- i South Sydney Rotary Park, Alexandria



Habitat enhancement works incorporated into the first stage of a stormwater harvesting project at Wetland 4, Sydney Park:

a works in progress

b 18 months later

c & d Plantings and rock features incorporated into landscaping associated with the recent Johnstons Creek Canal shared path.

4.2.2 Planning controls

Landscaping can significantly contribute to the biodiversity of a development site that may be negatively impacted upon as a result of construction. The following actions will be implemented to ensure that these considerations are incorporated into planning instruments and appropriately addressed during the development assessment process:

1. A reference to Figure 17, which identifies priority sites, supporting sites and potential habitat linkages will be mentioned in the relevant section of the Sydney Development Control Plan and Landscape Code. A copy of the map and this Plan will be available on the City's website.
2. Consideration will be given to this Plan, and particularly relevant principles of the Habitat Creation Guide (refer Section 4.2.4) in preparation of the City's Landscape Code.
3. A map layer based on Figure 17, Potential Habitat Linkages, will be added to the City's mapping tool, and updated from time to time as required.
4. Development assessment guidelines will be prepared in accordance with Appendix 9 to ensure appropriate ecological assessment is undertaken for proposed developments, particularly development in or near priority sites, supporting sites and potential habitat linkages and on degraded and disused sites.



Removal of habitat features such as thick weeds, long grass and ground debris at this proposed development site at Green Square has the potential to adversely impact biodiversity (left), while a new apartment complex in Pyrmont (right) that has incorporated locally indigenous species into site landscaping is a good example of the potential for new developments to contribute to biodiversity (photos K. Oxenham & S. Golding).

4.2.3 Staff and contractor engagement

Increased awareness and engagement of all relevant City staff and contractors regarding the actions outlined in this document is essential to ensure the effective implementation of this Plan. The following actions will be implemented:

1. City staff in all relevant units will be briefed on the contents of this Plan, and made aware of their requirements under it.
2. An ecological induction process will be prepared and implemented for all new staff and contractors undertaking on-ground works that have potential to impact on indigenous vegetation and/or other habitat features.
3. Regular biodiversity-related stories will be included in the City's weekly internal email newsletter.

4.2.4 Community engagement

A great level of community engagement is required to assist in the implementation of this Plan, particularly given volunteer bush restoration groups and private properties will play an important role in achieving its objectives. Increased awareness of biodiversity in the LGA is likely to also lead to increased care and concern, not just on private property but on public land as well. The following actions will be implemented to promote community engagement:

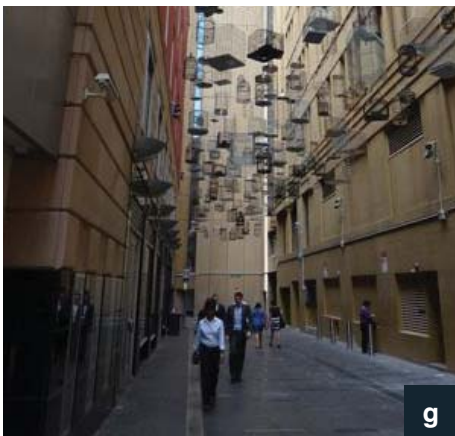
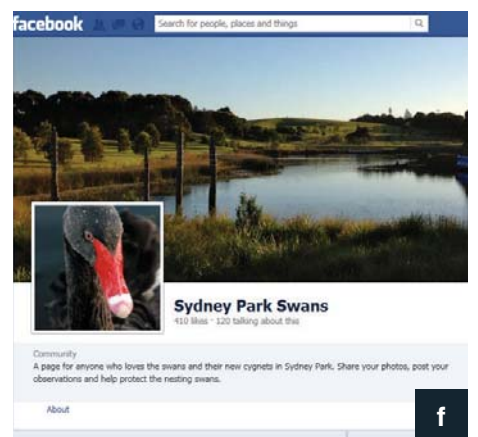
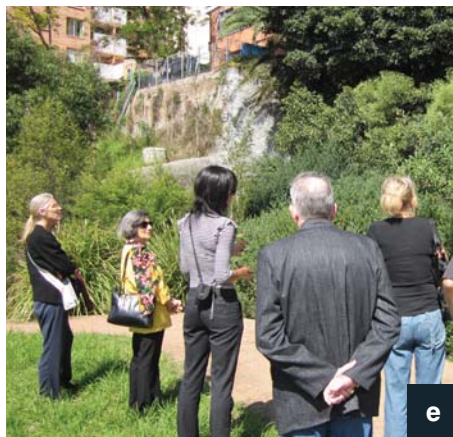
1. A user-friendly Habitat Creation Guide will be prepared for the LGA. The guide will be made available on the City's website, with hard copies distributed to volunteer bush restoration groups and community gardeners, and at workshops and other events. The guide will:
 - Provide lists of species from the likely original vegetation communities (Appendix 8), as well as other species, both indigenous and introduced, that have recognised value as habitat for priority fauna species and invertebrates like butterflies;

- Incorporate information from the *City of Sydney Native Plant List – Sydney Inner West Species* (RBCNN, undated), the suggested plant species list for Superb Fairy-wren habitat (Stevens 2008), and *Birds in Backyards* guidelines (Parsons 2009);
- Provide information on the appearance of each species;
- Provide information on the habitat value of particular species;
- Distinguish species that are readily available and robust from those that are more difficult to obtain and/or grow;
- Provide information on planting and maintenance requirements; and
- Provide guidelines about incorporating other habitat features including frog ponds, rock features, and roost boxes.

2. A demonstration habitat garden will be created on City-managed, publicly-accessible land.
3. Ongoing support will be provided for existing volunteer bush restoration groups and other local community groups such as The Glebe Society's Blue Wren Group.
4. Targeted community consultation will be undertaken to encourage establishment of new volunteer bush restoration groups, particularly around Sydney Park, Moore Park, Green Square, Paddington and Potts Point (refer Section 3.7.2).
5. The potential for locally indigenous plant production at Sydney Park will be investigated as part of the proposed City Farm.
6. Community gardens will continue to be encouraged to incorporate locally indigenous plants and other habitat features.
7. Permanent interpretive signage will be investigated at City-managed priority sites as part of the existing parks signage program.

8. Interpretive strategies will be investigated for both City and non-City managed areas including restoration areas, to provide information about responsible dog management.

- 9.** Information about the potential impacts of companion animals on wildlife and responsible pet management in and around habitat areas will be incorporated into:
- Dog obedience training courses provided by the City;
 - The City's companion animal fact sheets; and
 - Sustainable pet care pages on the City's website.
- 10.** Biodiversity will continue to be promoted through the Green Villages program by:
- Ongoing workshops to increase community awareness of biodiversity and of how to incorporate locally indigenous vegetation and other habitat features into backyards, onto balconies, on common property including rooftops, in community gardens, at schools, and onto footpaths (in accordance with the City's Footpath Gardening Policy);
 - Including biodiversity-related stories when possible in the City's Green Village News monthly e-newsletter;
 - Providing information about existing biodiversity monitoring programs, such as the Australian Museum's BugWise, Web2Spider and Plant2Pollinator programs, on the Green Villages website;
 - Encouraging and supporting community-led social media initiatives relating to local biodiversity, such as the Sydney Park Swans facebook page; and
 - Other Green Villages initiatives whenever possible.
- 11.** An online fauna database will be established to enable the community to report fauna observations and obtain information about the species that occur in the LGA.
- 12.** Community participation will be encouraged in annual bird surveys (refer Table 5).
- 13.** Grants for biodiversity-related projects will continue to be provided through the City's existing grant programs.
- 14.** The potential to establish a program to encourage schools within the LGA to undertake habitat creation, enhancement and monitoring activities, and to involve students in these activities, will be investigated and implemented if practicable.
- 15.** The potential to hold an annual competition for City residents around the theme of incorporating locally indigenous vegetation and other habitat features into small spaces will be investigated, and implemented if practicable.
- 16.** Community planting events will continue to be held in conjunction with National Tree Day, with the Glebe Society's Blue Wren Group, volunteer bush restoration groups, and other organisations such as Conservation Volunteers Australia and Landcare.
- 17.** Biodiversity-themed display materials will be developed for use at planting days and other events.
- 18.** The potential to hold an annual volunteer planting weekend for City residents in rural NSW in association with Landcare or a rural Council (similar to the program run by North Sydney Council with Landcare at Boorowa in south-western NSW), to increase awareness of biodiversity issues on a broader scale, will be investigated.
- 19.** Biodiversity-themed public art installations such as *Forgotten Songs* in the CBD and *What Bird Is That* in Surry Hills will continue to be encouraged through existing City art programs for their potential to increase community awareness of biodiversity issues.
- 20.** Information about pest and nuisance fauna management will continue to be provided to local residents.
- 21.** The tree management provisions of the Sydney Development Control Plan 2012 and the City's *Urban Forest Strategy* will be used to encourage environmental weed trees such as Chinese Hackberry (*Celtis sinensis*) to be removed from private property and replaced with suitable alternatives where appropriate.



Community engagement actions that will be ongoing and expanded throughout the LGA.

- a Glebe Bushcare Group volunteers at a bush restoration site in Federal Park. (photo K. Oxenham)
- b&c City residents participating in community planting days.
- d Backyard biodiversity workshop at Surry Hills.
- e biodiversity tour on the Glebe foreshore.
- f A facebook page set up in mid-2012 by residents interested in Black Swans nesting at Sydney Park – a good example of social media being used to improve community engagement in local biodiversity issues.
- g Biodiversity-inspired public art commissioned by the City: *Forgotten Songs* at Angel Place in the city centre.
- h The *What Bird is That?* mural at Surry Hills. (photos K. Oxenham)

4.2.5 Partnerships

Several priority sites are not managed by the City but by other agencies. Other public land, including sites along or near potential habitat linkages, is likewise managed by others. Collaboration with these other land managers, which include the Royal Botanic Gardens and Domain Trust, the Department of Defence, the Centennial and Moore Park Trust, the University of Sydney, Sydney Water, Railcorp, the Sydney Harbour Foreshore Authority, Housing NSW and adjoining local government authorities (Leichhardt, Marrickville, Botany Bay, Randwick and Woollahra), is required to maximise the effectiveness of this Plan. Similarly, collaboration with other government departments, non-government organisations and research institutions will contribute to the successful implementation of the Plan. The following actions will be implemented:

1. Other land managers within and adjoining the LGA, particularly the managers of priority sites, supporting sites and sites along and near potential habitat linkages, will be briefed on the contents of this Plan to:
 - Create awareness of the existing or potential biodiversity value of land under their management;
 - Encourage the implementation of locally indigenous planting and other habitat enhancement works, adoption of the principles of the Bush Restoration Management Plan (Section 4.2.1), including staged weed control and habitat replacement programs, and implementation of site-specific actions where possible; and
 - Encourage provision of access to their land for volunteer bush restoration groups, for example:
 - By RailCorp to potential bush restoration sites identified near Erskineville and Newtown Stations (RailCorp 2006); and
 - By Sydney Water to weed-infested above-ground pipeline easements, such as adjacent to Perry Park in Alexandria.
2. Partnerships will be established with other land managers within and adjoining the LGA where possible, to facilitate implementation of actions outlined in this Plan.
3. Cooperation with the NSW Office of Environment and Heritage will be ongoing in relation to biodiversity management issues such as the management of threatened species, endangered ecological communities, and nuisance fauna species.
4. The City will continue to advocate with the NSW Department of Primary Industries for the declaration of Chinese Hackberry (*Celtis sinensis*) as a noxious weed under the *Noxious Weeds Act 1995*.
5. Collaboration with research institutions such as the University of Sydney, the Australian Museum and non-government organisations such as BirdLife Australia and Birding NSW will be ongoing in relation to research, monitoring and community education projects that are likely to assist in the ongoing implementation of this Plan.



Plantings undertaken by University of Sydney grounds maintenance staff in July 2011 (left) to provide habitat for the Superb Fairy-wren population at the Camperdown campus and the same plantings establishing habitat value in August 2012 (right).



Sulphur-crested Cockatoo on an inner-city balcony (left) fitted with wing tags as part of University of Sydney and Royal Botanic Gardens and Domain Trust research project, and Australian White Ibis in the Royal Botanic Gardens (right) fitted with leg bands as part of a University of Wollongong, Australian Museum and Royal Botanic Gardens and Domain Trust project. The City will continue to support such studies, which have potential to improve community awareness of biodiversity issues and provide useful information for fauna management.

4.3 Specific actions

4.3.1 City-managed priority sites

In addition to the general actions outlined in Section 4.2, the biodiversity values of City-managed priority sites will be improved through implementation of the actions listed in Table 6.

Table 6 Actions to be implemented at City-managed priority sites

Site	Actions
Sydney Park	Representative patches of the likely original vegetation communities will be established. The communities considered suitable are: <ul style="list-style-type: none"> • Eastern Suburbs Banksia Scrub, on elevated parts of the site away from the wetlands • Coastal Sand Swamp Forest (excluding <i>Casuarina glauca</i>), adjacent to wetlands • Coastal Freshwater Reedland, within and around wetlands, swales and drainage lines
	The diversity and structural complexity of existing indigenous vegetation patches will be increased, and patches will be expanded and consolidated where possible.
	Failed trees in existing densely planted stands will be replaced with understorey species.
	The coverage and diversity of macrophytes, sedges and long grasses will be improved around the wetlands.
	Continuous vegetated areas will be established, linking drainage lines with terrestrial garden beds and wetlands, to facilitate safe movement across the site by ground-dwelling fauna.
	A Planting Plan will be prepared to guide all future plantings.
	Swamp Oak (<i>Casuarina glauca</i>) will be contained to existing stands and suckers will be removed, particularly around wetlands, swales and drainage lines.
	Fencing will be increased around wetlands and rocky drainage lines to reduce disturbance to these habitats.
	Installation of one or more new ponds near the existing wetlands, with ability to be drained, and with fine mesh screens at inlets and outlets to prevent Mosquito Fish access, will be investigated at Sydney Park and implemented if practicable.
	A Wetland Maintenance Manual will be prepared for the park, and will include requirements for implementing an appropriate hydrological regime involving periods of at least partial draining for several weeks in late winter/early spring.
	Regular ranger patrols will continue, to improve education about the impacts of dogs on fauna and habitat plantings and to ensure compliance with park regulations. Patrols will continue to be increased when required, for example when wetland birds are nesting and/or having young.
	Installation of permanent interpretive signage or other interpretive strategies will be investigated to discourage bird feeding, to provide information about responsible dog management and to provide information about wetland birds.
	The establishment of a new volunteer bush restoration group at the park will be strongly encouraged.
	A program of biodiversity-related tours for school and community groups will be established. Where possible, these will be integrated into existing programs such as cycling courses that are held at the park.
Water quality and leachate and methane from landfill will continue to be monitored, and remedial action taken where necessary.	
All of the above will be incorporated into the next revision of the Sydney Park Master Plan/Plan of Management.	

Table 6 Actions to be implemented at City-managed priority sites continued

Site	Actions
Glebe Foreshore Walk East to Orphan School Creek	Representative patches of the likely original vegetation communities will be established. The communities considered suitable are: <ul style="list-style-type: none"> • Coastal Sandstone Foreshores Forest, along the Glebe Foreshore Walk and in Blackwattle Bay Park • Estuarine Swamp Forest, adjoining Johnstons Creek Canal from its mouth to the light rail corridor; • Coastal Alluvial Bangalay Forest, further upstream beyond the extent of tidal influence • Sydney Turpentine Ironbark Forest, at and around Orphan School Creek
	A continuous habitat corridor of the maximum width possible will be established from the Glebe Foreshore Walk East to Orphan School Creek, without compromising existing use or obscuring residents' views along the foreshore.
	The habitat corridor will be extended through landscaping associated with Stage 5 of the Glebe Foreshore Walk extension, in consultation with the Department of Education and Sydney Secondary College, and the potential for extension to the Sydney Fish Markets at Pyrmont through future foreshore walk extensions will be investigated with the relevant stakeholders.
	Bush restoration and habitat enhancement principles will be incorporated into landscaping associated with areas of public open space that are to be created in future at the Crescent Lands, Harold Park and the Hill, such that they contribute to the habitat corridor.
	The involvement of the Glebe Bushcare Group, The Glebe Society's Blue Wren Group, Friends of Orphan School Creek and other community members will be encouraged in the above works and subsequent maintenance.
	Habitat enhancement works will be undertaken for the endangered Coastal Saltmarsh community on either side of Johnstons Creek Canal and the Rozelle Bay foreshores, in accordance with best practice guidelines (DECC 2008), and in collaboration with Sydney Water (the owners of part of this land).
Pyrmont (sandstone cliffs and outcrops)	The potential to naturalise Johnstons Creek Canal will continue to be investigated in collaboration with Sydney Water.
	In consultation with Sydney Water, construction of one or more new ponds at Orphan School Creek will be investigated in accordance with the site's original design, and implemented if practicable.
	Representative patches of the likely original vegetation communities will be established. The communities considered suitable are: <ol style="list-style-type: none"> 1. Sandstone Cliff Soak species from Coastal Sandstone Gully Forest, on sandstone cliffs and outcrops 2. Coastal Sandstone Gully Forest, adjoining sandstone cliffs and outcrops (shaded sites) 3. Coastal Sandstone Ridgetop Woodland, adjoining sandstone cliffs and outcrops (sunny sites)
	A central program for infestations of noxious and environmental weeds on sandstone cliffs and outcrops and adjoining areas will be scoped, and implementation commenced.
At identified sites (for example Jones Street Pocket Park), exotic ornamental plants will be removed in stages to maximise the space available for bush restoration and other habitat enhancement works.	
The involvement of Pyrmont Ultimo Landcare and other community members will be encouraged in the above works, wherever practicable.	



Potential for infill planting at Sydney Park beneath trees where an understorey is currently lacking (left) and in sparsely planted garden beds (right). Photos K. Oxenham



Infill planting in existing garden beds on the Glebe foreshore will contribute to the Glebe Foreshore Walk East to Orphan School Creek corridor (left), as will habitat enhancement works for the endangered Coastal Saltmarsh community (right). Photos K. Oxenham.



Weed-infested cliff at Pyrmont (left), and part of Jones St Pocket Park (right), at which failed landscape plantings have already been replaced with locally indigenous species by Pyrmont Ultimo Landcare. Photos K. Oxenham

4.3.2 Priority sites managed by others

The three other priority sites – the Royal Botanic Gardens and Domain (Yurong Precinct), Garden Island and Moore Park – are not managed by the City. Each of the respective land managers have been consulted in the development of this Plan, and are supportive in principle of the actions suggested in Table 7. However, implementation of these actions will be at the discretion of each land manager, and may be constrained by the primary function of each site, its heritage value, available funding and/or other issues.

Table 7 Actions suggested for priority sites managed by others

Site	Actions
Royal Botanic Gardens and Domain (Yurong Precinct)	Undertake infill planting and expand the existing bush restoration areas on the rocky slopes and outcrops on the eastern side of the Yurong Precinct, using a mix of understorey species from the Coastal Sandstone Foreshore Forest (CSFF) community (Appendix 8).
	Extend existing bush restoration areas using species from the CSFF community into parts of the central ridge of the Yurong Precinct, particularly in the vicinity of the possible remnant trees, around rock outcrops, and in little-used parts of the site.
	Establish walking paths through and between bush restoration sites to create the potential for a ‘bushwalk’ experience in the middle of the city, and maximise this potential by linking with existing paths through established plantings.
	Encourage involvement of the Foundation and Friends of the Botanic Gardens volunteers and city residents in the above works.
	Undertake infill planting with shrubs, grasses and groundcovers in sparsely-planted garden beds wherever possible in the Royal Botanic Gardens, but particularly in garden beds that are already characterised by indigenous vegetation.
	Establish a partnership with the City to improve the range of local provenance stock from the likely indigenous vegetation communities available for sale at the Growing Friends nursery.
	Make local provenance seed collected/stored through the Royal Botanic Gardens and Domain Trust’s PlantBank project available to other indigenous plant nurseries to improve the availability of stock for planting programs.
	Expand existing reed beds in the freshwater ponds in the Royal Botanic Gardens, and establish fringing sedges and grasses if possible.
	Install new interpretive signage at strategic locations within the Royal Botanic Gardens to discourage visitors from feeding birds.
	Incorporate the above actions where possible into future master plans, landscape management plans and similar for the Royal Botanic Gardens and Domain, to maximise potential for meeting biodiversity objectives whilst ensuring alignment with the site’s primary functions, its heritage values and other constraints.
Garden Island	Continue the existing bush regeneration program of planting species from the Coastal Sandstone Foreshores Forest (CSFF) community (Appendix 8) and other locally indigenous species identified in the <i>Habitat Creation Guide</i> (when developed, refer Section 4.2.4) as having recognised habitat value for priority fauna species and that are suited to the site conditions.
	Consider expanding existing CSFF patches where possible, for example understorey species characteristic of CSFF beneath existing trees.
	Should they require removal due to poor health/tree damage/safety concerns, replace non-local indigenous tree species such as Brush Box and Tallowwood, that have potential to regenerate readily and out-compete locally indigenous species, with species from the CSFF community.

Site	Actions
	<p>Undertake microbat surveys in the onsite tunnel network to determine the presence of roost sites and identify the need for any special protection measures to prevent their disturbance.</p> <p>Incorporate the above actions where possible into the next revision of the <i>Garden Island Landscape Management Plan 2004</i>, to maximise potential for meeting biodiversity objectives whilst ensuring alignment with the site's primary function, its heritage values and other constraints.</p>
<p>Moore Park (Mt Steel, Moore Park Golf and Lake Kippax)</p>	<p>Undertake infill planting in existing garden beds on Mt Steel and along South Dowling Street with understorey species from the Eastern Suburbs Banksia Scrub (ESBS) community (Appendix 8) and other locally indigenous species identified in the <i>Habitat Creation Guide</i> (when developed, refer Section 4.2.4) as having recognised habitat value for priority fauna species and that are suited to the site conditions.</p>
	<p>Continue to establish locally indigenous vegetation patches on the Moore Park Golf course where possible, incorporating the same planting principles as above.</p>
	<p>Strengthen planted edges and consider habitat value at Lake Kippax, in accordance with Centennial Parklands Plan of Management 2006–16 by:</p> <ul style="list-style-type: none"> • Planting macrophytes at strategic locations (where there are no overhanging trees) around the lake margin; • Planting fringing sedges and grasses at strategic locations; • Investigating potential to remove fringing peppercorns, for replacement with <i>Melaleuca</i> species from the Coastal Freshwater Reedland community, with reference to the Centennial Park and Moore Park Trust's Tree Master Plan; and • Investigate potential to improve water quality, for example through installation of a gross pollutant trap as recommended by the Centennial Park and Moore Park Trust <i>Ponds Management Plan</i>.
	<p>Incorporate the above actions where possible into future master plans, landscape management plans and similar for Moore Park, to maximise potential for meeting biodiversity objectives whilst ensuring alignment with the site's primary functions and other values/constraints.</p>



a



b



c



d

- a Potential to expand on previous bush restoration works undertaken on the eastern side of the Yurong precinct.
- b Potential to undertake bush restoration works in parts of the central ridge of the Yurong precinct.
- c Potential for infill planting in existing garden beds in the Royal Botanic Gardens.
- d Potential for infill planting for establishing reed beds in existing ponds in the Royal Botanic Gardens.



Potential for expansion of existing Coastal Sandstone Foreshores Forest at Garden Island by understory planting beneath existing trees (left), and seedlings planted as part of recent bush regeneration works (right).



Potential for expansion of existing indigenous plantings at Moore Park Golf (left) and for establishment of reed beds in Kippax Lake (right), where submerged planter boxes could be used around the concrete edges.

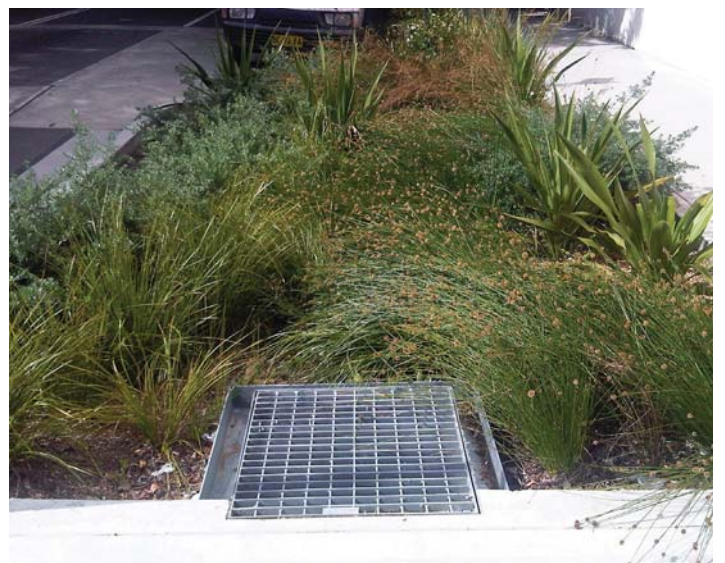
4.3.3 Priority fauna species

Green and Golden Bell Frog and other frogs

1. A program will be implemented to increase community awareness of Green and Golden Bell Frogs in the LGA, particularly the Rosebery area, and to encourage sightings to be reported. The program will include:
 - Preparation of an educational flyer about the Green and Golden Bell Frog, for distribution at workshops and other events, and made available on the City's Green Villages website; and
 - Continued mention during presentations at workshops and other events, and in media releases.
2. Installation of new ponds with ability to be drained and with fine mesh screens at inlets and outlets to prevent Mosquito Fish access will be investigated at Sydney Park and City-managed parks in Rosebery, and implemented if practicable.
3. A 'Pool to Pond' program will be established, similar to the successful program that has been implemented by Ku-ring-gai Council, encouraging and assisting City residents to convert disused backyard swimming pools to ponds, particularly in the Rosebery area where many backyard pools have potential to provide Green and Golden Bell Frog habitat. In doing this, it will be important to ensure that residents are aware of the legislative implications of potentially providing habitat for a threatened species on their land.
4. Installation of ponds will be encouraged in residential backyards, common property areas, and schools, particularly in the Rosebery area. In doing this, it will be important to ensure that residents are aware of the legislative implications of potentially providing habitat for a threatened species on their land.
5. Habitat will be enhanced at existing freshwater wetlands and ponds in City-managed parks by improving the coverage and diversity of emergent and fringing vegetation, and adding other habitat features such as rocks and shelter boards (which can be concealed amongst fringing vegetation) where possible.
6. Annual drainage of Woolwash Park wetland will be investigated and implemented if feasible to control/eradicate Mosquito Fish.
7. Freshwater wetlands, ponds, raingardens and other frog-friendly water-sensitive urban design features vegetated with appropriate species (Appendix 8) will be constructed wherever possible in City-managed parks and streetscapes, and similar features will be encouraged in new developments and on land managed by others.
8. A small pond and other frog-friendly habitat features will be incorporated into the demonstration habitat garden.
9. In accordance with the *Management Plan for the Lower Cooks River Green and Golden Bell Frog Key Population* (DECCW 2008b), investigate the translocation of Green and Golden Bell Frogs to Sydney Park, pending a sufficient supply of tadpoles/frogs from the source population at Rosebery, the establishment of Mosquito Fish-free breeding habitat at the park, and completion of a risk assessment.
10. The potential to re-establish frog populations at unoccupied ponds will be investigated, pending results from trials in Melbourne.



Backyard pools in Rosebery (left): conversion of even a small number to ponds would provide valuable habitat for the small population of endangered Green and Golden Bell Frogs and other frog species that occur in this suburb, and (right) one of more than 40 ponds that have been converted to date in the Ku-ring-gai LGA. (photo P. Clarke)



Frog species such as the Striped Marsh Frog (left) will also benefit from the construction of ponds and other water-sensitive design features such as raingardens (right). (photos K. Oxenham)

Grey-headed Flying-fox

1. Existing Grey-headed Flying-fox feed trees will continue to be maintained in parks and streets, in accordance with the City's *Street Management Plan* and *Park Tree Management Plans*.
2. The existing program of aerial bundling of overhead cables will be continued in conjunction with Ausgrid.
3. The City will work closely with the Royal Botanic Gardens and Domain Trust where required in relation to Grey-headed Flying-fox monitoring and/or other issues associated with the camp relocation.
4. Information about fauna-friendly fruit-tree netting will be provided at workshops, seminars and other events.

Powerful Owl

1. The City will work closely with the Royal Botanic Gardens and Domain Trust to maintain the existing Powerful Owl nest box if required, and/or to install additional nest boxes.
2. If Powerful Owls use a nest box, the potential to install a web-based camera will be investigated in collaboration with the Royal Botanic Gardens and Domain Trust to enable nesting activity to be observed by the public.



Powerful Owl on the hunt by night in the Royal Botanic Gardens (left) and purpose-built nest box installed high in a tree in the gardens (right). (photos S. Golding)

Long-nosed Bandicoot

1. A program will be implemented to increase community awareness of the Long-nosed Bandicoot in the LGA, and to encourage sightings to be reported. The program will include:
 - Continued distribution of the existing educational flyer about the Long-nosed Bandicoot at workshops, talks and other events;
 - Making the flyer available on the City's Green Villages website;
 - Continued mention at workshops, talks and other events, and in media releases; and
 - Installation of interpretive signage about the Long-nosed Bandicoot and the need to keep dogs under control at Alexandria Park.

2. Should more Long-nosed Bandicoots be recorded in the City, surveys will be undertaken to determine the status of this species in the LGA, patterns of habitat use, and the need to undertake habitat enhancements and/or establish bandicoot protection zones, in conjunction with OEH and the University of Sydney or other research institution.



Long-nosed Bandicoot digging (photo T. Leary) and the City's bandicoot flyer (right).



Sydney2030/Green/Global/Connected

If you have seen bandicoots, or their distinctive diggings, in parks or gardens in the City of Sydney area, please email urbanecology@cityofsydney.nsw.gov.au or phone 9265 9377 to let us know.

Let us know!

The photo above was taken in Alexandria in April 2011. This is the first time a bandicoot has been recorded in the City of Sydney local government area for many years, although there is a small population further west around Dulwich Hill.

We would like to find out whether there are other bandicoots living in the City, and if so, how widely distributed they are.

We need you to help by reporting any sightings of bandicoots or their diggings.

We will use this information to ensure that appropriate measures to protect bandicoots, and to enhance their habitats, are included in our Urban Ecology Strategy. Please see over for further information.

city of villages



Small birds

1. The area of structurally complex and diverse understorey habitat will be maximised, particularly at priority sites, supporting sites and along and near potential habitat linkages, using species from the likely original vegetation communities (Appendix 8) as well as other species identified in the *Habitat Creation Guide* (when developed, refer Section 4.2.4) as having recognised habitat value for small birds (note this will include species identified by Stevens 2008).
2. Wherever possible, round or squarish rather than long, thin habitat patches will be created to provide a more protected, 'core' area of habitat (noting that habitat patches should be at least 2–4 hectares if sufficient space is available).
3. Small bird-friendly habitat features will be incorporated into the demonstration habitat garden (Section 4.2.4).
4. Small bird-friendly habitat planting will be encouraged in residential backyards, common property areas, and schools throughout the LGA, and particularly at sites along and near potential habitat linkages, and this will be reinforced by the Landscape Code.
5. Awareness of the potential impact of aggressive and predatory birds and rats on small birds will be increased through the Green Villages program.
6. Where removal of dense vegetation (including weeds) is required, including at proposed development sites, adoption of a staged approach will be required, whereby:
 - Each stage is followed by replacement planting of locally indigenous or other species of similar habitat value to compensate for the vegetation removed; and
 - The next stage of vegetation removal does not take place until the replacement planting has established.
7. Understorey planting, including bipinnate Acacia species, will be encouraged under isolated trees or lines of trees, particularly Eucalyptus, Corymbia, and Angophora species, to assist small birds avoid the Noisy Miner and other aggressive and/or predatory birds (acknowledging that this is difficult to achieve in many situations e.g. most streets, and in parks where isolated trees are often required to provide shade and/or landscape features).
8. Planting of large-flowering plants, including Grevillea hybrids, and of soft-fruited plants will be avoided at habitat planting sites, and consideration will be given to their staged removal (particularly those that are noxious or environmental weeds, such as Chinese Hackberry) at priority and supporting sites, followed by replacement with small bird-friendly, locally indigenous alternatives.
9. Initiatives of The Glebe Society's Blue Wren Group will continue to be supported.



Large-flowering plants, such as these Grevillea hybrids at Embarkation Park (left) encourage aggressive nectarivorous birds like the Noisy Miner that are a threat to small birds, including the Grey Fantail (right, photo N. Lazarus) – a species that no longer occurs in the LGA, but could be encouraged to return.

Microbats

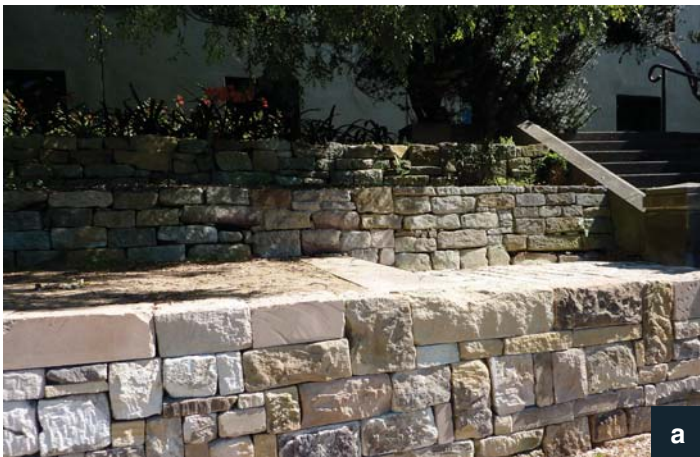
1. Microbat roost boxes will be installed at a selection of sites, with a focus on riparian areas, the largest areas of indigenous vegetation, and parts of the LGA in which original soils were shale-derived (indicated by Blacktown soil landscape in Figure 5), and with design and placement to be based on advice from a bat specialist.
2. A bat box will also be incorporated into the demonstration habitat garden (Section 4.2.4).
3. Hollow and dead trees will be retained wherever possible. The potential for fencing/other barriers will be investigated as an alternative to removal where there are risks to public safety.
4. Fencing or other protective measures will be investigated for any microbat roost sites identified in the LGA.
5. Feral honeybees will continue to be controlled when hives establish on City-managed land.
6. Increased understorey planting as specified for small birds will also be undertaken to improve the extent and diversity of foraging habitat for microbats.
7. Dark corridors will be investigated in sites that are feasible e.g. Sydney Park and Federal Park, that are also connected with the potential habitat linkages (Figure 17).



Microbat roost box. (photo N. Williams)

Reptiles

1. Rock features, including sandstone retaining walls, gabion walls and rock piles, will be incorporated into landscaping wherever possible.
2. Dead or hollow trees and branches removed for safety or aesthetic reasons will be cut up and distributed at bush restoration and habitat enhancement sites to provide ground-level habitat features.
3. Provision of additional ground-level habitat features such as shelter boards will be investigated and implemented where practicable at bush restoration and habitat enhancement sites.
4. The use of herbicide will be avoided on sandstone cliffs and outcrops, on retaining walls, and other rocky features wherever possible.
5. Reptile-friendly habitat features will be incorporated into the demonstration habitat garden (Section 4.2.4).
6. Reptile-friendly habitat features will be encouraged in residential backyards, common property areas, and schools through the LGA, particularly at sites along and near potential habitat linkages, and this will be reinforced by the Landscape Code.
7. Information about the effect of snail baits, and alternative methods of snail control will be included in the *Habitat Creation Guide* and Green Village program initiatives.



a



b



c



d

- a Increased rock features like this dry-pack sandstone wall in the Royal Botanic Gardens will encourage reptile species.
- b Bar-sided Skink (photographed on the Glebe foreshore). (photo K. Oxenham)
- c The Eastern Blue-tongue (photographed at Sydney Park).
- d Southern Leaf-tailed Geckos once occurred in the LGA and are still present in surrounding areas. (photo K. Oxenham)

Freshwater wetland birds

1. Permanent fencing will be increased around the Sydney Park wetlands.
2. Provision of additional roost sites will be investigated in and around the Sydney Park wetlands and installed if practicable.
3. At least two unvegetated, muddy or sandy banks will be maintained around the Sydney Park wetlands to provide foraging and roosting habitat for waders and other birds.
4. New freshwater wetlands and ponds vegetated with appropriate species (Appendix 8) will be constructed wherever possible in City-managed parks.
5. Dense reed beds will be re-established at Victoria Park.
6. Interpretive signage and other interpretive strategies to provide information about freshwater wetland birds will be investigated and implemented where practicable at Sydney Park.
7. Signage to discourage bird feeding will be investigated at Sydney Park and Victoria Park, and encouraged at the Royal Botanic Gardens.
8. Ranger patrols will be maintained at Sydney Park, and rangers will continue take an active role in educating park users about the importance of the wetlands, and in ensuring compliance with park regulations, particularly relating to dogs. Patrols will continue to be increased when required, for example when waterbirds are nesting and/or have young.



Extra roosts over the Sydney Park wetlands would increase habitat for wetland birds such as the Australasian Darter (above left) (photo J. Irvine), and other habitat enhancements of the wetlands (below) including fencing will encourage a wide range of species including the Black-winged Stilt (above right). (photo K. Oxenham)



4.3.4 Other species

1. A baseline invertebrate survey will be undertaken for the LGA.
2. The existing indigenous bee hive installation program will be continued at interested community gardens, and installation of indigenous bee hives at other sites will be encouraged.
3. The potential to install a web-based camera will be investigated to enable Peregrine Falcon nesting activity to be observed by the community, should an active nest site be identified in the city centre where individuals are periodically reported.
4. Australian White Ibis nesting colonies will be managed in accordance with the Regional Ibis Management Strategy prepared by NPWS, once released.



The Blue Triangle Butterfly (top left), a highly-visible invertebrate that occurs in the LGA; a Peregrine Falcon watches over a window-washer from a CBD window ledge (top right), and a hive of the indigenous stingless bee, *Trigona carbonaria*, being installed at The Luncheon Club Eden Garden, Waterloo (below).



05

Implementation

The timeframe for implementation of the actions outlined in Section 5 is indicated in Tables 8–10, along with their status. The estimated budget required for implementation is indicated in Tables 11 and 12. Many actions are covered by existing budgets. New budget items will be subject to the annual budget bid process.

Table 8 Timeframe, status and estimated cost of general actions

		Timeframe	Status
Park and streetscape maintenance			
A.1	Implement an annual bush restoration and habitat enhancement program in City-managed parks and streetscapes	Ongoing	In progress
A.2	Prepare and implement a Bush Restoration Management Plan (BRMP)	2013–2014	To be initiated
A.3	Incorporate habitat planting principles and fauna habitat enhancements into landscaping associated with park and streetscape upgrades	Ongoing	In progress
A.4	Incorporate requirements of BRMP into all future park and streetscape maintenance contracts	2013–2014 and ongoing	In progress
A.5	Appoint a qualified and experienced bush regeneration specialist to the City's park and streetscape maintenance team	2013–2014	To be initiated
A.6	Provide training in best practice bush regeneration and biodiversity management techniques to existing park and streetscape maintenance staff	2013–2014 and ongoing	To be initiated
A.7	Install fencing at strategic locations to reduce disturbance to habitats from dogs and park users	2013–2014 and ongoing	To be initiated
A.8	Strategically place indigenous trees removed due to failure or other reasons within parks to provide ground-level habitat features	2013–2014 and ongoing	To be initiated
A.9	Minimise lightspill where new lighting is required in/near habitat areas	Ongoing	In progress
A.10	Maximise diversity of street plantings	2013–2014 and ongoing	To be initiated
A.11	Include understorey planting where possible in in-road tree plantings	2013–2014 and ongoing	To be initiated
A.12	Undertake trials of indigenous tree species that have recognised habitat value for priority fauna species for suitability as street trees	2013–2023	To be initiated

Table 8 Timeframe, status and estimated cost of general actions continued

		Timeframe	Status
Planning controls			
B.1	Refer to the Potential Habitat Linkages map (Figure 17) in the relevant section of the DCP and Landscape Code, and provide a copy on the City's website	2013–2014	In progress
B.2	Consider relevant principles of this Plan, and the Habitat Creation Guide in particular, in the preparation of the Landscape <u>Code</u>	2013–2014	In progress
B.3	Add a layer based on the Potential Habitat Linkages map (Figure 17) to the City's mapping tool, and update as required	2013–2014	To be initiated
B.4	Prepare ecological assessment guidelines for proposed developments	2013–2014	To be initiated
Staff and contractor engagement			
C.1	Brief all relevant City units on the contents of this Plan	2013–2014	To be initiated
C.2	Prepare and implement an ecological induction process for new staff and contractors	2013–2014 and ongoing	To be initiated
C.3	Include regular biodiversity-related stories in the City's weekly internal email newsletter	2013–2014 and ongoing	To be initiated
Community engagement			
D.1	Produce a user-friendly Habitat Creation Guide for the LGA	2013–2014	To be initiated
D.2	Establish a demonstration habitat garden	2014–2016	To be initiated
D.3	Support existing volunteer bush restoration groups	Ongoing	In progress
D.4	Encourage new volunteer bush restoration groups	2013–2014 and ongoing	To be initiated
D.5	Investigate potential for locally-indigenous plant production as part of the proposed City Farm	2014–2016	To be initiated
D.6	Encourage community gardens to incorporate habitat features	Ongoing	In progress
D.7	Investigate permanent interpretive signage at City-managed priority sites	2013–2015	To be initiated
D.8	Incorporate information about responsible pet management in and around habitat areas into existing dog obedience training courses, companion animal fact sheets and the City's website	2013–2014 and ongoing	In progress
D.9	Promote biodiversity through the Green Villages program	Ongoing	In progress
D.10	Establish an online fauna sighting database	2013–2014	To be initiated
D.11	Encourage community participation in annual bird surveys	2013–2014 and ongoing	To be initiated
D.12	Continue to provide grants for biodiversity-related projects	Ongoing	In progress
D.13	Establish school program	2015–2016	To be initiated
D.14	Establish annual habitat creation competition	2015–2016	To be initiated
D.15	Continue to hold annual community planting events	Ongoing	In progress
D.16	Develop biodiversity-themed display materials for events	2013–2014	To be initiated
D.17	Investigate potential for annual volunteer planting weekend in rural NSW	2015–2016	To be initiated
D.18	Encourage biodiversity-themed public art installations	Ongoing	In progress
D.19	Provide information about nuisance fauna to City residents	Ongoing	In progress
D.20	Encourage environmental weed trees to be removed from private property and replaced with suitable alternatives through the DCP and Urban Forest Strategy	2013–2014 and ongoing	To be initiated

Table 8 Timeframe, status and estimated cost of general actions continued

		Timeframe	Status
Partnerships			
E.1	Brief other land managers on this Plan	2013–2014	To be initiated
E.2	Establish partnerships/collaborate with other land managers	Ongoing	In progress
E.3	Collaborate with the NSW Office of Environment and Heritage	Ongoing	In progress
E.4	Advocate for declaration of Chinese Hackberry as a noxious weed	Ongoing	In progress
E.5	Collaborate with research institutions and non-government organisations	Ongoing	In progress

Table 9 Timeframe, status and estimated cost of actions for City-managed priority sites

		Timeframe	Status
Sydney Park			
F.1	Establish representative patches of likely original vegetation communities	2013–2014 and ongoing	In progress
F.2	Increase diversity and structural complexity, and expand and consolidate existing indigenous vegetation patches	Ongoing	In progress
F.3	Replace failed trees in existing densely-planted stands with understorey species	2013–2014 and ongoing	To be initiated
F.4	Improve coverage and diversity of macrophytes, sedges and long grasses around the wetlands	2013–2016	In progress
F.5	Establish continuous vegetated areas, linking drainage lines with terrestrial plantings and wetlands	2013–2016	To be initiated
F.6	Prepare a Planting Plan	2013–2014	To be initiated
F.7	Contain Swamp Oak	Ongoing	In progress
F.8	Maximise fencing around wetlands and rocky drainage lines	2013–2015	In progress
F.9	Investigate new frog ponds and install if practicable	2013–2016	In progress
F.10	Prepare Wetland Maintenance Manual, to include appropriate hydrological regime	2013–2014	In progress
F.11	Continue regular ranger patrols	Ongoing	In progress
F.12	Investigate interpretive signage and other interpretive strategies regarding dogs, bird feeding and wetland bird species	2013–2015	In progress
F.13	Encourage establishment of new volunteer bush restoration group	2013–2014	To be initiated
F.14	Establish biodiversity-related tour program	2014–2015	To be initiated
F.15	Continue to monitor and manage water quality and methane from landfill and take remedial action where necessary	Ongoing	In progress
F.16	Incorporate the above into next Master Plan/Plan of Management revision	2013–2015	To be initiated

Table 9 Timeframe, status and estimated cost of actions for City-managed priority sites continued

		Timeframe	Status
Glebe Foreshore Walk East-Orphan School Creek			
G.1	Establish representative patches of likely original vegetation communities	Ongoing	In progress
G.2	Establish continuous habitat corridor	2013–2023	In progress
G.3	Extend the habitat corridor through Stage 5 of the Glebe Foreshore Walk extension, and to Pyrmont in the future	2013–2015 (Stage 5); tbd for Pyrmont extension	To be initiated
G.4	Incorporate bush restoration and habitat enhancement principles into landscaping of new open space	Ongoing	In progress
G.5	Encourage involvement of the Glebe Bushcare Group and other volunteers in corridor creation and enhancement	2013–2014 and ongoing	In progress
G.6	Undertake Coastal Saltmarsh habitat enhancement	2013–2016	To be initiated
G.7	Continue to investigate potential to naturalise Johnstons Creek Canal	2013–2023	To be initiated
G.8	Investigate construction of a pond at Orphan School Creek, and install if practicable	2013–2015	To be initiated
Pyrmont			
H.1	Establish representative patches of likely original vegetation communities	Ongoing	In progress (Pyrmont Ultimo Landcare)
H.2	Scope and implement control program for weeds on sandstone cliffs and outcrops	2013–2014 and ongoing	To be initiated
H.3	Remove ornamental plants at identified sites for replacement with locally-indigenous species	2013–2014 and ongoing	In progress (Pyrmont Ultimo Landcare)
H.4	Encourage involvement of Pyrmont Ultimo Landcare in the above works	Ongoing	In progress

Table 10 Timeframe and status of actions for priority fauna species and other fauna

		Timeframe	Status
Green and Golden Bell Frog and other frogs			
I.1	Implement GGBF awareness program	Ongoing	In progress
I.2	Investigate new ponds at Rosebery park and Sydney Park and install if practicable	2013–2015	To be initiated
I.3	Establish 'Pool to Pond' conversion program	2013–2015	To be initiated
I.4	Encourage residents to install ponds and other frog-friendly features	Ongoing	In progress
I.5	Enhance habitat at existing freshwater wetlands and ponds in City-managed parks	2013–2016	In progress
I.6	Investigate annual drainage program at Woolwash Park wetland	2013–2014 and ongoing	To be initiated
I.7	Construct additional freshwater wetlands, ponds and other frog-friendly WSUD features	Ongoing	In progress
I.8	Incorporate frog pond into demonstration habitat garden	2014–2016	To be initiated
I.9	Investigate translocation of GGBFs to Sydney Park	2014–2015	To be initiated, dependent on existing population status
Grey-headed Flying-fox			
J.1	Maintain existing GHFF feed trees	Ongoing	In progress
J.2	Continue existing aerial bundling program	Ongoing	In progress
J.3	Cooperate with the RBGDT in GHFF monitoring associated with camp relocation	When/if required	To be initiated
J.4	Provide information about fauna-friendly fruit-tree netting through the Green Villages program	Ongoing	In progress
Powerful Owl			
K.1	Work with RBGDT to install and maintain nest boxes	When/if required	To be initiated
K.2	Collaborate with the RBGDT to investigate a web-based camera to film nesting activity, if nest boxes are used	Dependent on nesting	To be initiated
Long-nosed Bandicoot			
L.1	Implement LNB awareness program	Ongoing	In progress
L.2	Investigate need to undertake LNB surveys and habitat enhancement	Ongoing	In progress

Table 10 Timeframe and status of actions for priority fauna species and other fauna continued

		Timeframe	Status
Small birds			
M.1	Maximise the availability of structurally-complex and diverse understorey habitat	Ongoing	In progress
M.2	Create more protected, 'core' habitat areas by establishing round or square habitat patches in preference to long, thin patches	Ongoing	In progress
M.3	Incorporate small bird-friendly features into demonstration habitat garden	2014–2016	To be initiated
M.4	Encourage small bird-friendly habitat planting on private property and at schools	Ongoing	In progress
M.5	Ensure a staged approach to removal of dense vegetation	Ongoing	In progress
M.6	Undertake understorey planting wherever possible under isolated trees, particularly eucalypts	Ongoing	In progress
M.7	Avoid planting large-flowering and large-fruited plants, and consider staged removal and replacement	Ongoing	In progress
M.8	Continue to support the initiatives of The Glebe Society's Blue Wren Group	Ongoing	In progress
Microbats			
N.1	Install roost boxes	2013–2014	To be initiated
N.2	Maintain hollow and dead trees wherever possible	2013–2014 and ongoing	To be initiated
N.3	Fence or otherwise protect identified microbat roosts	Dependent on roost site identification	To be initiated
N.4	Control feral honeybees on City-managed land	Ongoing	In progress
Reptiles			
O.1	Incorporate rock features into landscaping on City-managed land	Ongoing	In progress
O.2	Ensure that dead or hollow trees and branches removed for safety or aesthetic reasons are cut up and distributed at bush restoration and habitat enhancement sites	2013–2014 and ongoing	To be initiated
O.3	Investigate potential for ground-level habitat features at bush restoration and habitat enhancement sites, and install where practicable	2013–2014 and ongoing	To be initiated
O.4	Avoid herbicide use on cliffs and rock outcrops, retaining walls, rocky drainage lines and other rocky features wherever possible	Ongoing	In progress
O.5	Incorporate reptile-friendly features into the demonstration habitat garden	2014–2016	To be initiated

Table 10 Timeframe and status of actions for priority fauna species and other fauna continued

		Timeframe	Status
Freshwater wetland birds			
P.1	Maximise fencing around the Sydney Park wetlands	2013–2016	In progress
P.2	Install additional roost sites in and around the Sydney Park wetlands	2013–2014	In progress
P.3	Maintain unvegetated, muddy or sandy banks around the Sydney Park wetlands	2013–2023	In progress
P.4	Construct new freshwater wetlands wherever possible	2013–2023	To be initiated
P.5	Re-establish dense reed beds at Victoria Park	2013–2014	To be initiated
P.6	Investigate potential to incorporate interpretive information about wetland birds at Sydney Park, and implement where practicable	2013–2015	To be initiated
P.7	Investigate signage to discourage bird feeding at Sydney Park and Victoria Park and implement where practicable, and encourage similar signage at the Royal Botanic Gardens	2013–2014	In progress
P.8	Continue ranger patrols at Sydney Park	Ongoing	In progress
Other species			
Q.1	Undertake a baseline invertebrate survey	2015–2016	To be initiated
Q.2	Continue indigenous bee hive installation program	2013–2023	In progress
Q.3	Investigate potential to install a web-based camera to film Peregrine Falcon nesting activity	Dependent on identification of nest site	To be initiated
Q.4	Manage Australian White Ibis nesting colonies in accordance with the regional Ibis Management Strategy prepared by NPWS, once released	2013–2023	To be initiated

Table 11 Estimated implementation costs over *10-year* life of the Strategic Action Plan

				Estimated cost (\$K)	Total estimated cost (\$K)
General actions	Park & streetscape maintenance*	Actions from existing budgets	One-off	2	327
			Recurrent	275	
		Actions requiring new budget	One-off	40	
			Recurrent	10	
	Planning controls	Actions from existing budgets	One-off	5	15
			Recurrent	10	
		Actions requiring new budget	One-off	–	
			Recurrent	–	
	Staff & contractor engagement	Actions from existing budgets	One-off	2	16
			Recurrent	14	
		Actions requiring new budget	One-off	–	
			Recurrent	–	
	Community engagement	Actions from existing budgets	One-off	10	452
			Recurrent	192	
Actions requiring new budget		One-off	200		
		Recurrent	50		
Partnerships	Actions from existing budgets	One-off	4	26	
		Recurrent	12		
	Actions requiring new budget	One-off	–		
		Recurrent	10		
Site-specific actions ^	Actions from existing budgets	One-off	60	280	
		Recurrent	65		
	Actions requiring new budget	One-off	155		
		Recurrent	–		
Species-specific actions ^	Actions from existing budgets	One-off	10	859	
		Recurrent	695		
	Actions requiring new budget	One-off	109		
		Recurrent	45		

*Costs exclude actions that are dependent on scope of future projects as they arise

^ Additional costs for many site-specific and species-specific actions are included in the costs for general actions

Table 12 Summary of implementation costs over *10-year* life of the Strategic Action Plan

		Estimated cost (\$K)
Actions from existing budgets	One-off	93
	Recurrent	1,263
Actions requiring new budget	One-off	504
	Recurrent	115

06

Case studies

This section presents several case studies to illustrate the types of outcomes this Plan is aiming to achieve in different scenarios. The case study sites are all located in the City LGA, thus providing a clear demonstration of the types of initiatives that can be implemented to conserve and enhance biodiversity in this highly urbanised environment, and the potential for community engagement in these initiatives. Large parks have been excluded as case studies, since they have all been discussed as priority sites earlier in this document.

6.1 Small park

Arthur (Paddy) Grey Reserve is a small (0.36 hectare) park in Glebe. It is approximately 500 metres from the Blackwattle Bay Park–Orphan School Creek corridor, for which it is a supporting site. The park provides for passive recreation, and features open lawn with scattered trees (both exotic and indigenous), interspersed with planted garden beds. An exposed sandstone outcrop that runs through the middle of the park is also a notable feature – it is sparsely vegetated with some naturally occurring species including ferns and a Port Jackson Fig *Ficus rubignosa*.

While once characterised by more extensive lawns and formal landscaped garden beds, Arthur (Paddy) Grey Reserve has been gradually transformed over the past three years to provide habitat for the Superb Fairy-wren and contribute to the establishment of habitat corridors for this priority species in Glebe and Forest Lodge, where residents report it still occurs in small numbers.

Some lawn has been converted to new garden beds, other garden beds have been extended, weeds and other exotic species have been removed, and a mix of locally indigenous shrubs, grasses and groundcovers have been planted.

As well as improving the habitat value of the site for Superb Fairy-wrens and other small birds, the plantings have contributed to the restoration of the likely original vegetation of the site, Sydney Turpentine Ironbark Forest (now listed as critically endangered), with a sandstone influence. Most of the plantings are consistent with this vegetation type.



Plantings developing habitat value at Arthur (Paddy) Grey Reserve (left), and Blue Wren Group and Glebe Bushcare Group volunteers with bush regeneration contractors after a working bee (right).

The transformation of the park was driven by The Glebe Society’s Blue Wren Group, who have also undertaken most of the plantings in conjunction with volunteers from the Glebe Bushcare Group and others from the Rozelle Bay Community Native Nursery, and with the wider community during a past National Tree Day event held in conjunction with the City. The City has also installed temporary signage to inform park users about the plantings and the habitat requirements of Superb Fairy-wrens and other small birds.

The plantings are developing habitat value, as well as the typical look and feel of bushland around Sydney, which park users are able to experience on a regular basis. Although initially maintained by general horticultural contractors, the plantings have been maintained by specialist bush regeneration contractors since 2011, with assistance at periodic working bees from Blue Wren Group and Glebe Bushcare Group volunteers.

The transformation of Arthur (Paddy) Grey Reserve clearly demonstrates:

- That bush restoration and other habitat enhancement works, including the restoration of likely original vegetation communities, can successfully be undertaken even in a small, highly modified park, without compromising its use by the public;
- The valuable contribution that can be made by local community groups and other volunteers in advocating for and undertaking such works;
- The potential for bush restoration and other habitat enhancement works to improve community awareness of biodiversity; and
- How such works can contribute to the quality of life of urban residents through providing opportunities to connect with nature.



6.2 Volunteer bush restoration site

0.17 hectares of RailCorp land adjoining the southern side of the Wentworth Park Light Rail Station in Pyrmont is one of a number of sites at which Pyrmont Ultimo Landcare (PUL) volunteers have undertaken bush restoration works for several years, with the aims of establishing wildlife habitat whilst improving community awareness of biodiversity and building community spirit among local residents.

The site surrounds a pathway that provides pedestrian access to the light rail station. Although it had once been landscaped by RailCorp with mostly indigenous species, the site was neglected and became degraded and weed-infested. Recognising its potential, PUL obtained permission to work at the site in 2004. They then commenced a weekly program of bush restoration works, focusing on weed removal followed by planting of locally indigenous species.

Despite access restrictions to part of the site, as well as ongoing invasion of Chinese Hackberry, Lantana, Privet, African Olive and other weeds from infestations on adjoining land, the site is now dominated by a diverse assemblage of locally indigenous trees, shrubs, groundcovers and climbers from a range of vegetation communities. More than 60 species were recorded during the surveys. This vegetation has established well and provides a small area of habitat suitable for small birds and other species. A modified sandstone outcrop adjacent to the site supports three naturally occurring species and adds to the site’s habitat value, although it is currently dominated by weeds including Fountain Grass, Fishbone Fern and Asthma Weed.

As well as improving its habitat value, PUL’s work has also greatly improved the appearance of the previously neglected site. PUL continues to work at the site every Sunday morning, undertaking maintenance weeding, infill planting and other works, and in the last two years

they have commenced additional bush restoration works on the northern side of the light rail station. They have installed temporary signage to inform passers by of their work and encourage others to join their group, which currently comprises about 20 dedicated and enthusiastic local residents.

The City supports PUL’s work by providing grant funding, topsoil, mulch, and plants, and removing green waste and other rubbish. PUL has also successfully sourced funding and other support from a number of companies based in Pyrmont, including Channel Ten, LendLease and The Star, and volunteers from Google, American Express, Suncorp and other companies have assisted PUL in maintenance weeding and planting works from time to time.

PUL’s Wentworth Park Light Rail Stop site clearly demonstrates:

- That bush restoration and other habitat enhancement works can successfully be undertaken even at a small, neglected site in a highly built-up area;
- The potential for such works to dramatically improve site appearance;
- The valuable contribution that can be made by volunteer groups in undertaking bush restoration and other habitat enhancement works;
- The potential for such works to improve community awareness of biodiversity, whilst also building community spirit;
- How such works can contribute to the quality of life of urban residents through providing opportunities to connect with nature; and
- The potential for partnerships to be established between corporate and community groups to undertake these types of works.



Diverse plantings at the Wentworth Park Light Rail bush restoration site, established and maintained by Pyrmont Ultimo Landcare volunteers (right).

6.3 Private property

6.3.1 Backyard

Residents of a terrace house in Forest Lodge have created habitat in their small backyard, illustrated in the photos below. At about 30 square metres, it is a size typical of many terrace houses, and like most backyards, it is fenced.

A diverse mix of indigenous shrubs and groundcovers has been planted to create habitat for small birds, along with a few canopy trees. As one side of the backyard receives substantial sunlight, it has been planted with species typical of the likely original sandstone/shale woodland communities of the area. The other half of the backyard receives limited sunlight, and has therefore been planted with rainforest species (mostly non-local) that are tolerant of shaded conditions.

A frog pond has been installed in a relatively sunny position, and rocks, terracotta roof tiles, and small logs are concealed amongst the undergrowth to provide ground-level habitat features for frogs, reptiles and invertebrates.

Numerous small birds have been recorded from this backyard in recent years, including the Rufous Fantail, Golden Whistler and Leaden Flycatcher – small rainforest birds that migrate through Sydney. Striped Marsh Frogs have been recorded in and around the frog pond, as well as sheltering beneath ground-level features. Indigenous Blue-banded Bees, Teddy Bear Bees and other invertebrates are also commonly observed.

As well as providing habitat for a range of species, the backyard is very attractive and has the feel of a peaceful bushland haven distant from the hustle and bustle of the City Centre, which in reality is virtually a stone's throw away.

This site is a good demonstration of:

- The potential for even small areas to provide habitat used by a range of species;
- The value of habitat in backyards and on other private property given it is generally more protected from disturbance than most larger habitat areas on public land; and
- How habitat in backyards can contribute to the quality of life of urban residents through providing opportunities to connect with nature as well as a peaceful, private space for relaxation.



Diverse habitat provided by the small backyard of a Forest Lodge terrace. Woodland species have been used in sunnier positions (left), while rainforest species, both local and from other parts of Australia (right) planted in shady positions have attracted small, migratory rainforest birds.

6.3.2 Apartment complex

Green roofs and walls are a growing occurrence in the city. The Draft Green Roofs Policy 2013 has recorded 79 green roofs and walls across the LGA. A 'green roof' comprising substantial garden beds was installed in Woolloomooloo as part of the development of a low-rise residential apartment block at 10 Lincoln Crescent, Woolloomooloo. The roof was planted with a mix of indigenous and exotic species, most of which are shrubs, long grasses and groundcovers.

The roof has substantial potential to provide habitat for small birds and other species given the overall type and density of existing plantings, combined with its location immediately adjacent to the Yurong Precinct of the Domain, a priority site with which there is some existing habitat connectivity.

Apartment residents are involved in the maintenance of the green roof.

Although the habitat value of the garden could be improved by increasing the diversity of indigenous plantings, removing species such as large-flowering Grevillea hybrids that encourage large, aggressive birds, and introducing one or more freshwater sources such as bird baths, the roof is nevertheless a good demonstration of the potential for:

- Green roofs to provide habitat;
- Habitat to be created on common property areas;
- Habitat to be incorporated into landscaping associated with new developments; and
- Habitat plantings to contribute to the quality of life of urban residents through providing opportunities to connect with nature.



Green roof at 10 Lincoln Crescent, Woolloomooloo.



6.4 Community garden

Alexandria Community Garden is one of a growing number of community gardens in the LGA. It has been established in two sections, one within the grounds of Alexandria Community School, which also houses Alexandria Community Centre, and the other on the school's sportsfield. Being located in the grounds of the school and community centre, the garden is visited by a wide range of people of all ages.

It features a large number of mulched, ground-level and raised garden beds in which a wide range of fruit, vegetables and herbs have been planted and are tended by the community gardeners, with an additional school garden tended by students. The garden beds are surrounded by mulched areas, and the garden also features compost heaps, a rocky pond incorporating an aquaponic demonstration system, a hive of the stingless indigenous bee *Trigona carbonaria*, and, at the sportsfield section, a range of indigenous shrubs and trees that provide a wind-break and physical barrier to the food gardens.

As well as producing food for humans, the range of different plants within the garden provides habitat for a wide range of insects and other invertebrates – some of which in turn benefit the gardens through providing services such as pollination and soil fertilisation.



Alexandria Community Garden: mulched vegetable garden (left) that provided bandicoot foraging habitat, and (right) the gardeners at work; indigenous plantings in the foreground provide a physical barrier and wind-break to food gardens.

The presence of the pond, indigenous beehive and indigenous plantings further add to the habitat value of the garden and create the potential to attract a wider range of species, including priority species such as frogs, reptiles, and small birds. Of particular note, the garden was recently home to at least one Long-nosed Bandicoot, which foraged regularly among the mulch and sheltered within compost heaps and garden equipment and debris. This was the first bandicoot recorded in the LGA for many years.

Alexandria Community Garden is an excellent demonstration of the potential for community gardens to:

- Produce food while also providing habitat for a range of species, particularly indigenous plants and invertebrates but also vertebrate fauna including priority species;
- Incorporate additional habitat features such as ponds and indigenous plantings without compromising the main function of food production but instead contributing to it, for example through providing a wind-break; and
- Provide educational opportunities to improve community awareness, not just about food production but biodiversity as well.

6.5 School

Erskineville Public School is located in the inner-western suburb of Erskineville. More than 300 students from Kindergarten to Year 6 currently attend the school.

The grounds of the school were once comprised almost entirely of bitumen. However, a group of parents and friends led a transformation of the grounds some years ago. Substantial green spaces were established with a focus on food gardens, sculptural elements and an outdoor classroom/amphitheatre, but also including indigenous plantings and ground-level habitat features such as sandstone boulders and logs.

Although many of the indigenous plantings have failed due to site constraints, the wide range of plants that remains along with the ground-level features contribute to habitat, particularly given the location of the school adjacent to Erskineville Station. The rail corridor in this area is characterised by a mix of dense weeds and indigenous vegetation that is likely to provide habitat for a range of species including small birds and reptiles – the school gardens potentially attract these types of species from time to time.

There is also substantial potential to improve the habitat value of the school gardens by incorporating more indigenous plantings – particularly shrubs and long grasses – in and around the now well-established food gardens and rocks and logs.

Erskineville Public School demonstrates the potential for school grounds to:

- Provide habitat for a range of species, potentially as part of or in addition to a food garden;
- Incorporate additional habitat features such as ponds and indigenous plantings without compromising the main function of food production but instead contributing to it, for example through providing a physical barrier; and
- Provide educational opportunities to improve community awareness, not just about food production but biodiversity as well.



Erskineville Public School.



07

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Appendix 1

Relevant plans and policies

Sustainable Sydney 2030

Sustainable Sydney 2030 is the City's guiding strategic plan for sustainable development of the City to 2030 and beyond. It sets a vision for a Green, Global and Connected city:

- Green, with minimal environmental impact from its operations, and green with trees, parks, gardens and linked open spaces, green by example and green by reputation.
- Global in economic development, global in links and knowledge exchange, global and open-minded in outlook and attitude.
- Connected physically by walking, cycling and high quality public transport, connected 'virtually' by world-class telecommunications, connected through a sense of community and social well-being, connected to other spheres of government and to those with an interest in the City.

Environmental Management Plan 2007

The City's Environmental Management Plan 2007 (EMP) establishes the City's environmental vision, goals, targets and actions for a 10 year period. Many of the targets and actions contained within the EMP were subsequently incorporated within Sustainable Sydney 2030. It addresses the themes of energy and emissions, water, waste, plants and animals, and includes commitments relating to the following that have been expanded upon in this Plan:

- Community planting days;
- Native plants; and
- Native wildlife.

Greening Sydney Plan

The *Greening Sydney Plan* contributes to the "Green" component of the Sustainable Sydney 2030 vision and delivery of EMP objectives. It documents the City's commitment and aspirations for the "living" green elements of our urban landscape. Its strategic action areas are:

- Urban canopy;
- Urban ecology, namely the development and implementation of this Plan; and
- Community empowerment.

Sydney Local Environmental Plan 2012 and Sydney Development Control Plan 2012

The *Sydney Local Environmental Plan 2012* (LEP) is the key planning instrument for controlling development and guiding planning decisions made by Council. The LEP provides development controls for new buildings and other developments, including provisions relating to biodiversity conservation.

The LEP is supported by the Sydney Development Control Plan 2012 (DCP), which includes more detailed planning and design guidelines, including specific provisions aimed at protecting habitat features within and adjacent to proposed development sites, and improving the diversity and abundance of locally indigenous flora and fauna species across the LGA.

Landscape Code

The City is currently developing a Landscape Code to accompany the DCP in guiding the design, installation and maintenance of landscape treatments associated with new developments across the LGA. The principles of this Plan are being considered in development of the Landscape Code.

Park Plans of Management

A Plan of Management is a document that outlines how community land will be used, managed and improved in the future. The City has both generic Plans of Management that apply to many parks, and specific Plans of Management for selected parks at which management requirements are relatively complex, along with a range of supporting policies and strategies. Plans of Management can include provisions relating to the conservation and enhancement of biodiversity. Biodiversity was considered in the recent generic Plan of Management revision, and where relevant, actions from this Plan will be incorporated into future specific Plan of Management revisions.

Tree Management Policy and Plans

The City has developed a Tree Management Policy and a suite of other plans to ensure the protection and enhancement of the City's urban forest. These include:

- Tree Management Policy:
- Urban Forest Strategy:
- Tree Management Controls:
 - Street Tree Master Plan; and
 - Register of Significant Trees.

The City's urban forest comprises a mix of both exotic and indigenous species, both local and from other parts of Australia. As well as providing myriad other environmental benefits, these trees collectively play a role in providing habitat for fauna species, both local and introduced, although many of the priority fauna species identified in this Plan are more dependent on understory vegetation or other habitat features. This Plan includes numerous actions relating to trees that will be implemented in parallel with the Tree Management Policy and suite of other plans.

Community Gardens Policy

The City recognises community gardening as a valuable recreational activity that contributes to the health and well-being of the wider community and provides a wide range of environmental, social and educational benefits. The purpose of the Community Gardens Policy is to establish a framework for the City's commitment to the appropriate management of both new and existing community gardens. Implementation of the Policy promotes the objectives of this Plan since, in addition to other recognised benefits of community gardens, they can also play a role in providing habitat to promote biodiversity.

Liveable Green Network

The Liveable Green Network aims to provide a pedestrian and cycling network across the LGA. Characteristics that will be incorporated along routes prioritised for the network will include:

- Landscape treatments such as street trees and verge planting to make streets more attractive, add interest, provide shade and improve habitat to promote biodiversity; and
- Water-sensitive urban design treatments such as raingardens to improve management of stormwater runoff, maximise infiltration of water, help irrigate the landscape and provide habitat.

Companion Animals Policy

The City's Companion Animals Policy encourages and reinforces responsible pet management, to provide a balanced approach to managing domestic pets, and to maximise the social benefits of pet ownership. The policy is consistent with the aims of the NSW *Companion Animals Act 1998*, which contains regulations relating to pets that must be enforced by local government authorities.

Decentralised Water Master Plan

The City has developed a Decentralised Water Master Plan for the LGA, which identifies that local water sources such as stormwater, seawater and wastewater can produce up to 12 billion litres of local recycled water each year. Benefits to biodiversity of implementing the Decentralised Water Master Plan include improved quality of stormwater discharging into our wetlands and waterways, and opportunities for habitat enhancement through stormwater harvesting, raingardens and other bioretention systems.

Green Roofs and Walls Strategy

The City is aiming to increase the uptake of green roofs and walls. The Strategy provides a framework for the development of a comprehensive Green Roofs and Walls Policy and Implementation Plan. Both green roofs and walls have the potential to make positive contributions to the environment, with other social and economic benefits also. It is recognised that green roofs and walls can also play a role in providing habitat for urban flora and fauna.

National and State biodiversity strategies

The Australian Government has recently prepared *Australia's Biodiversity Strategy 2010–2030*, and the NSW Government has prepared the *Draft NSW Biodiversity Strategy 2010–2015*.

Australia's Biodiversity Strategy 2010–2030 identifies the following three priorities, which are addressed at the local level in this Plan:

1. Engaging all Australians – through mainstreaming biodiversity, increasing indigenous engagement, and enhancing strategic investments and partnerships – since all Australians benefit from biodiversity, all Australians can and should contribute to its well-being;
2. Building ecosystem resilience in a changing climate – through protecting biodiversity, maintaining and re-establishing ecosystem function, and reducing threats to biodiversity; and
3. Getting measurable results – through improving and sharing knowledge, delivering conservation initiatives effectively, and implementing robust national monitoring, reporting and evaluation.

The *Draft NSW Biodiversity Strategy 2010–2015* identifies local government authorities as playing a key role in natural resource management, and also emphasises that it is vital for landholders, industry, government and the wider community to adopt complementary approaches towards biodiversity investment. These principles have been incorporated into this Plan. The draft strategy also identifies State-scale priority ecosystems and threatened species for conservation. Of relevance to the City, these include Coastal Saltmarsh and the Green and Golden Bell Frog.

Other relevant plans

The Hawkesbury–Nepean Catchment Action Plan (CAP) was prepared by the Sydney Metropolitan Catchment Management Authority (SMCMA) and approved by the Minister in 2013. It is central to the delivery of natural resource management in accordance with the NSW State Plan throughout the Sydney metropolitan region. The vision of the CAP is for “Community Growth Reconciled with Nature – an urban community that thrives within a valued natural landscape”. The CAP depicts a region where there are strong and positive links between healthy, functioning natural resource systems, vibrant communities and a robust and sustainable economy. In relation to biodiversity, the CAP specifies the following targets to achieve by 2016:

- the extent and condition of terrestrial native vegetation in all landscapes is maintained or improved;
- there is an increase in the connectivity of terrestrial native vegetation;
- aquatic and terrestrial threatened species and endangered ecological communities and endangered populations are better conserved by implementing actions identified in Priority Action Statements; and
- the impact of terrestrial and aquatic invasive species on biodiversity is reduced by decreasing the number, distribution and impact of invasive weeds, pest animals and pathogens.

Appendix 2

Flora species recorded in the LGA

Type	Scientific Name	Common Name	Likely indigenous to City of Sydney	Naturally occurring at some sites	Example Locations
TREES	<i>Acacia baileyana</i>	Cootamundra Wattle			Kimberley Grove Reserve, Sydney Park
	<i>Acacia binervia</i>	Coast Myall	Y		Moore Park, Domain, Bannerman Crescent Reserve, Orphan School Creek
	<i>Acacia dealbata</i>	Silver Wattle			Sydney Park
	<i>Acacia decurrens</i>	Black Wattle	Y		Sydney Park, AV Henry Reserve
	<i>Acacia elata</i>	Mountain Cedar Wattle	Y		Sydney Park, AV Henry Reserve, Perry Park, Erskineville, Elizabeth Bay
	<i>Acacia implexa</i>	Hickory Wattle	Y	Y	Sydney Park, Garden Island, AV Henry Reserve, Domain, Blackwattle Bay Park
	<i>Acacia irrorata</i>	Green Wattle	Y		Sydney Park
	<i>Acacia parramattensis</i>	Parramatta Wattle	Y	Y	Bicentennial Park, Federal Park, Wentworth Park Light Rail station, Blackwattle Bay Park, Erskineville rail corridor (corner of Swanson Street and Burren Street), Lewis Hoad Reserve, Arthur (Paddy) Grey Reserve
	<i>Acacia podalyriifolia</i>	Queensland Wattle			Blackwattle Bay Park
	<i>Acmena smithii</i>	Lilly Pilly	Y		Bicentennial Park, Federal Park, Sydney Park
	<i>Agathis robusta</i>	Qld Kauri			Sydney Park, Ward Park, Hyde Park
	<i>Agonis flexuosa</i>	Willow Myrtle			Rushcutters Bay Park, Kimberley Grove Reserve
	<i>Allocasuarina littoralis</i>	Black She Oak	Y		Arthur McElhone Reserve, Domain, Blackwattle Bay Park, Sydney Park
	<i>Allocasuarina torulosa</i>	Forest Oak	Y		Orphan School Creek
	<i>Allocasuarina spp.</i>	She Oak	Some		Widespread
	<i>Angophora costata</i>	Smooth-barked Apple	Y	Y	Rozelle Bay; Glebe Foreshore Walk, Moore Park, Garden Island, Pirrama Park, Orphan School Creek, Royal Botanic Gardens, Domain, Wentworth Park Light Rail station, Blackwattle Bay Park, Lewis Hoad Reserve, Arthur (Paddy) Grey Reserve
	<i>Angophora floribunda</i>	Hard-barked Apple	Y	Y	Sydney Park, Garden Island, Orphan School Creek
	<i>Angophora hispida</i>	Dwarf Apple	Y	Possible	Arthur McElhone Reserve, AV Henry Reserve, Orphan School Creek, Bannerman Crescent Reserve, Sydney Park

Type	Scientific Name	Common Name	Likely indigenous to City of Sydney	Naturally occurring at some sites	Example Locations
TREES continued	<i>Araucaria bidwillii</i>	Bunya Pine			Rushcutters Bay Park, University of Sydney
	<i>Araucaria cunninghamii</i>	Hoop Pine			Garden Island, Moore Park
	<i>Araucaria heterophylla</i>	Norfolk Island Pine			Widespread
	<i>Archontophoenix alexandrae</i>	Alexandra Palm			Oatley Reserve (Paddington), Sydney Park
	<i>Archontophoenix cunninghamii</i>	Bangalow Palm	Y		Fitzroy Gardens, Dibbs Road Reserve
	<i>Avicennia marina</i>	Grey Mangrove	Y		Bicentennial Park
	<i>Banksia integrifolia</i>	Coast Banksia	Y	Y	Widespread - Moore Park, Garden Island, Zetland, Blackwattle Bay
	<i>Banksia robur</i>	Swamp Banksia	Y		Arthur McElhone Reserve, Sydney Park
	<i>Banksia serrata</i>	Old Man Banksia	Y		Sydney Park, Orphan School Creek
	<i>Brachychiton acerifolius</i>	Illawarra Flame Tree	Y		Hyde Park, Sydney University, Domain, Forest Lodge
	<i>Brachychiton discolor</i>	Lacebark Kurrajong			Forest Lodge
	<i>Brachychiton rupestris</i>	Bottle Tree			Darling Harbour, Southern Cross Drive Reserve
	<i>Callistemon salignus</i>	Willow Bottlebrush	Y		Sydney Park
	<i>Callistemon viminalis</i>	Crimson Bottlebrush			Widespread
	<i>Castanospermum australe</i>	Black Bean			Rushcutters Bay, Erskineville
	<i>Casuarina cunninghamiana</i>	River Oak	Y		Lawrence Hargreave, Royal Botanic Gardens, Domain, Wentworth Park Light Rail station, Perry Park, Southern Cross Drive Reserve, Blackwattle Bay, Erskineville
	<i>Casuarina glauca</i>	Swamp Oak	Y	Y	Widespread – Bicentennial and Federal Parks Garden Island, Rushcutters Bay, Sydney Park, Royal Botanic Gardens, Domain, Southern Cross Drive Reserve, Blackwattle Bay, Erskineville parks
	<i>Ceratopetalum gummiferum</i>	Christmas Bush	Y		Dibbs Street Res, Arthur (Paddy) Grey Reserve
	<i>Clerodendrum tomentosum</i>	Hairy Clerodendrum	Y	Y	Royal Botanic Gardens, Sydney Park, Pyrmont
	<i>Commersonia fraseri</i>	Brush Kurrajong	Y		Sydney Park
<i>Corymbia citriodora</i>	Lemon Scented Gum			Zetland, Blackwattle Bay, Erskineville, Forest Lodge	
<i>Corymbia eximia</i>	Yellow Bloodwood			Sydney Park	
<i>Corymbia ficifolia</i>	W.A. Flowering Gum			Erskineville, Woolloomooloo	

Type	Scientific Name	Common Name	Likely indigenous to City of Sydney	Naturally occurring at some sites	Example Locations
TREES continued	<i>Corymbia gummifera</i>	Red Bloodwood	Y	Y	Moore Park, Domain (possibly remnant tree), Southern Cross Drive Reserve, Sydney Park, Orphan School Creek, Embarkation Park
	<i>Corymbia maculata</i>	Spotted Gum	Y		Moore Park, Sydney park, AV Henry, Orphan School Creek, Zetland, Blackwattle Bay, Arthur (Paddy) Grey Reserve
	<i>Cupaniopsis anacardioides</i>	Tuckeroo	Y	Possible	Widespread- Sydney Park, Embarkation Park, Arthur McElhone Reserve, Pyrmont, Bicentennial Park, Wentworth Park Light Rail station; Elizabeth Bay (one old tree in private garden)
	<i>Davidsonia jerseyana</i>	Davidsons Plum			Southern Cross Drive Reserve
	<i>Dysoxylum rufum</i>	Hairy Rosewood			Sydney Park
	<i>Elaeocarpus eumundi</i>	Smooth-leaved Quandong			Dibbs Street Reserve, Erskineville
	<i>Elaeocarpus reticulatus</i>	Blueberry Ash	Y	Possible	Widespread
	<i>Eucalyptus botryoides</i>	Bangalay	Y	Y	Widespread - Moore Park, Garden Island, Forbes St, Pyrmont, Sydney Park, Zetland, Perry Park, Southern Cross Drive Reserve, Blackwattle Bay, Erskineville, Lewis Hoad Reserve
	<i>Eucalyptus caesia</i>	Silver Princess			Erskineville
	<i>Eucalyptus camaldulensis</i>	River Red Gum			Alexandria Park
	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	Y		Rushcutters Bay, Saunders Street (Pyrmont), RBG, Domain
	<i>Eucalyptus elata</i>	River Peppermint			Erskineville
	<i>Eucalyptus globoidea</i>	White Stringybark	Y		Orphan School Creek
	<i>Eucalyptus grandis</i>	Flooded Gum			Orphan School Creek, Royal Botanic Gardens, Domain, Zetland, Wentworth Park Light Rail station, Southern Cross Drive Reserve, Turruwal Park
	<i>Eucalyptus haemastoma</i>	Scribbly Gum	Y		Sydney Park, Orphan School Creek
	<i>Eucalyptus maidenii</i>	Maiden's Gum			Domain
	<i>Eucalyptus microcorys</i>	Tallowwood			Hyde Park, Sydney Park, Widespread
	<i>Eucalyptus moluccana</i>	Grey Box	Y		Sydney Park
	<i>Eucalyptus nicholii</i>	Narrow-leaved Black Peppermint			Perry Park, Glebe
	<i>Eucalyptus paniculata ssp. paniculata</i>	Grey Ironbark	Y	Y	St. John Anglican Church Glebe, Orphan School Creek

Type	Scientific Name	Common Name	Likely indigenous to City of Sydney	Naturally occurring at some sites	Example Locations
TREES continued	<i>Eucalyptus pilularis</i>	Blackbutt	Y	Y	Domain
	<i>Eucalyptus piperita</i>	Sydney Peppermint	Y		Orphan School Creek, Pyrmont, Sydney Park
	<i>Eucalyptus punctata</i>	Grey Gum	Y	Y	Moore Park, Domain, Bannerman Crescent Reserve, Jack Shuttleworth Reserve
	<i>Eucalyptus racemosa</i>	Scribbly Gum	Y		Glebe
	<i>Eucalyptus resinifera</i>	Red Mahogany	Y	Y	Domain, Orphan School Creek
	<i>Eucalyptus robusta</i>	Swamp Mahogany	Y		Rushcutters Bay, Ward Park, Sydney Park, Royal Botanic Gardens, Domain, Zetland, Perry Park, Erskineville, Orphan School Creek
	<i>Eucalyptus saligna</i>	Sydney Blue Gum	Y		Moore Park, Ward Park, Saunders St (Pyrmont), Blackwattle Bay
	<i>Eucalyptus saligna x botryoides</i>				Turruwal Park
	<i>Eucalyptus scoparia</i>	Wallengarra Gum			Forest Lodge
	<i>Eucalyptus sideroxylon</i>	Mugga Ironbark	Y		Elizabeth Bay Road, Erskineville
	<i>Eucalyptus tereticornis</i>	Forest Red Gum	Y	Y	Royal Botanic Gardens, Orphan School Creek
	<i>Eucalyptus torelliana</i>	Cadaghi			Johnstons Canal, Glebe
	<i>Eucalyptus species</i>			Some	Widespread, Sydney University
	<i>Ficus benjamina</i>	Weeping Fig			Rushcutters Bay
	<i>Ficus microcarpa var. hillii</i>	Hill's Weeping Fig			Moore Park, Hyde Park, Domain, Zetland
	<i>Ficus macrophylla</i>	Moreton Bay Fig			Rozelle Bay, Rushcutters Bay, Alexandria Park
	<i>Ficus obliqua</i>	Small-leaved Fig			Moore Park, Cook + Phillip Park
	<i>Ficus rubiginosa forma rubiginosa and forma glabrescens</i>	Port Jackson Fig	Y	Y	Widespread
	<i>Ficus superba var. henneana</i>	Deciduous Fig			Moore Park, Jubilee Park
	<i>Ficus virens var sublanceolata</i>				Moore Park
<i>Ficus watkinsoniana (tentative identification)</i>				Zetland	
<i>Flindersia australis</i>	Crow's Ash			Beare Park, Macleay Reserve, Hyde Park	

Type	Scientific Name	Common Name	Likely indigenous to City of Sydney	Naturally occurring at some sites	Example Locations
TREES continued	<i>Glochidion ferdinandi</i>	Cheese Tree	Y	Y	Sydney Park, Royal Botanic Gardens, Domain, Wentworth Park Light Rail station, Garden Island
	<i>Grevillea robusta</i>	Silky Oak			Lawrence Hargreave Reserve, Wentworth Park Light Rail station, Southern Cross Drive Reserve
	<i>Hakea salicifolia</i>	Willow-leaved Hakea	Y		Arthur McElhone Reserve
	<i>Helicia diversifolia</i>	White Oak			Forest Lodge
	<i>Hibiscus heterophyllus</i>	Native Rosella	Y		Sydney Park
	<i>Hibiscus tiliaceus</i>	Beach Hibiscus			Sydney Park
	<i>Hymenosporum flavum</i>	Native Frangipani	Y		Glebe, Sydney Park, Bicentennial Park, Southern Cross Drive Reserve, Erskineville
	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus			Rushcutters Bay, Turruwal Park, Kimberley Grove Reserve
	<i>Leptospermum petersonii</i>	Lemon Scented Tea Tree			Erskineville
	<i>Leptospermum trinervium</i>	Flaky-barked Tea-tree	Y		Glebe foreshore
	<i>Livistona australis</i>	Cabbage Palm	Y		Hyde Park, Beare Park, Forbes Street, Erskineville, Glebe, Sydney Park; widespread
	<i>Lophostemon confertus</i>	Brush Box			Widespread
	<i>Melaleuca armillaris</i>	Bracelet Honey-myrtle	Y		Garden Island, Embarkation Park, Wentworth Park Light Rail station, Widespread
	<i>Melaleuca bracteata</i>	Black Tea-tree			Ward Park, Embarkation Park, Arthur McElhone Reserve, Bicentennial/Federal Park, Domain, Southern Cross Drive Reserve, Erskineville
	<i>Melaleuca linariifolia</i>	Snow-in-summer	Y		Sydney Park, Embarkation Park, Wentworth Park Light Rail station, Perry Park, Southern Cross Drive Reserve, Orphan School Creek
	<i>Melaleuca styphelioides</i>	Prickly-leaved Paperbark	Y		Glebe foreshore, Sydney Park, Rushcutters Bay, Orphan School Creek, Wentworth Park Light Rail station
	<i>Melaleuca quinquenervia</i>	Broad-leaved Paperbark	Y		Hyde Park, Sydney Park, Garden Island, Zetland, widespread
	<i>Melia azedarach</i>	White Cedar	Y		Garden Island, Lawrence Hargreave, Macleay Reserve, Sydney Park, Southern Cross Drive Reserve, Erskineville
	<i>Pittosporum undulatum</i>	Pittosporum	Y	Y	Widespread – Sydney Park, Garden island, Domain, Zetland, Perry Park, Erskineville rail corridor, Lewis Hoad Reserve, Arthur (Paddy) Grey Reserve
	<i>Podocarpus elatus</i>	Plum Pine	Y		Ward Park, Garden Island, Lawrence Hargreave Reserve
<i>Schefflera actinophylla</i>	Umbrella Tree			Alexandria Park, Perry Park	

Type	Scientific Name	Common Name	Likely indigenous to City of Sydney	Naturally occurring at some sites	Example Locations	
TREES continued	<i>Stenocarpus sinuatus</i>	Firewheel Tree			Sydney Park, Garden Island, Lawrence Hargreave Reserve, Blackwattle Bay	
	<i>Syncarpia glomulifera</i>	Turpentine	Y		Sydney Park, Orphan School Creek, Erskineville, Johnstons Canal, Glebe	
	<i>Syzygium australe</i>	Brush Cherry	Possible		Embarkation Park, Sydney Park, Blackwattle Bay, widespread	
	<i>Syzygium luehmannii</i>	Small-leaved Lilly Pilly			Bannerman Crescent Reserve, Erskineville	
	<i>Syzygium oleosum</i>	Blue Lilly Pilly	Y		Zetland, Wentworth Park Light Rail station, Perry Park, Southern Cross Drive Reserve, Dibbs Street Reserve	
	<i>Syzygium paniculatum</i>	Brush Cherry	Y		Pymont	
	<i>Syzygium species</i>				Beare Park, Sydney Park	
	<i>Trema aspera</i>	Native Peach	Y		Pymont (Bank Street)	
	<i>Toona ciliate</i>	Red Cedar	Y		Pymont (Saunders Street)	
	<i>Tristaniopsis laurina</i>	Water Gum	Y		Widespread	
	<i>Waterhousea floribunda</i>	Weeping Lilly Pilly			Arthur McElhone Reserve, Saunders St (Pymont)	
	<i>Wollemia nobilis</i>	Wollemi Pine			Sydney Park	
	SHRUBS	<i>Acacia cognata</i>	Bower Wattle			Beare Park, Sydney Park
		<i>Acacia falcata</i>	Sickle Wattle	Y		AV Henry Reserve, Bicentennial/Federal Park, Orphan School Creek, Arthur (Paddy) Grey Reserve
<i>Acacia fimbriata</i>		Fringed Wattle			Sydney Park, Mary O'Brien Reserve, Wentworth Park Light Rail station, Arthur (Paddy) Grey Reserve	
<i>Acacia floribunda</i>		White Sally Wattle	Y		Bicentennial/Federal Park, Sydney Park	
<i>Acacia linifolia</i>		Flax Wattle	Y		Arthur (Paddy) Grey Reserve, Glebe Foreshore	
<i>Acacia longifolia</i> <i>var. longifolia</i>		Sydney Golden Wattle	Y		Sydney Park, Garden Island, Saunders Street (Pymont), AV Henry Reserve, Moore Park, Domain, Perry Park, Southern Cross Drive Reserve, Bannerman Crescent Reserve	
<i>Acacia longifolia</i> <i>var. sophorae</i>		Coastal Wattle	Y		Perry Park, Glebe, Sydney Park	
<i>Acacia myrtifolia</i>		Red-stemmed Wattle	Y		Pymont, Sydney Park	
<i>Acacia saligna</i>		Golden Wreath Wattle			Sydney Park, Southern Cross Drive Reserve, Bannerman Crescent Reserve, Kimberley Grove Reserve, Lewis Hoad Reserve	
<i>Acacia stricta</i>		Straight Wattle	Y		Pymont	
<i>Acacia suaveolens</i>		Sweet Wattle	Y		Wentworth Park Light Rail station, Orphan School Creek	
<i>Acacia terminalis</i> <i>subsp. terminalis</i>		Sunshine Wattle	Y		Wentworth Park Light Rail station, Royal Botanic Gardens, Domain, Bicentennial Park/Federal Park, Orphan School Creek	

Type	Scientific Name	Common Name	Likely indigenous to City of Sydney	Naturally occurring at some sites	Example Locations
SHRUBS continued	<i>Acacia ulicifolia</i>	Prickly Moses	Y		Bicentennial/Federal Park, AV Henry Reserve, Arthur (Paddy) Grey Reserve
	<i>Allocasuarina distyla</i>	Scrub She-oak	Y		Bannerman Crescent Reserve
	<i>Austromyrtus tenuifolia</i>				Bear Park
	<i>Sannantha similis (Baeckea virgata)</i>		Y		Glebe, Pyrmont
	<i>Baeckea species</i>	Baeckea	Some		Embarkation Park, Beare Park, Sydney Park, Arthur (Paddy) Grey Reserve
	<i>Banksia aemula</i>	Wallum Banksia	Y		Moore Park, Embarkation Park, Pirrama Park, Blackwattle Bay
	<i>Banksia ericifolia</i>	Heath Banksia	Y		Embarkation Park, Sydney Park, Bicentennial/Federal Park, Domain, Southern Cross Drive Reserve, Bannerman Crescent Reserve
	<i>Banksia marginata</i>	Silver Banksia	Y		Blackwattle Bay
	<i>Banksia spinulosa</i>	Hair-pin Banksia	Y		Sydney Park, Wentworth Park Light Rail station, Blackwattle Bay, Lewis Hoad Reserve
	<i>Banksia species</i>	Banksia	Some		Embarkation Park, Southern Cross Drive Reserve
	<i>Bauera rubioides</i>	Dog Rose	Y		Pyrmont
	<i>Breynia oblongifolia</i>	Coffee Bush	Y		Glebe foreshore; Bicentennial/Federal Park; widespread
	<i>Bursaria spinosa</i>	Native Blackthorn	Y		Saunders Street (Pyrmont), Sydney Park, AV Henry Reserve, Wentworth Park Light Rail station, Orphan School Creek
	<i>Ozothamnus diosmifolius</i>	Dogwood	Y		Bicentennial/Federal Park
	<i>Callicoma serratifolia</i>	Black Wattle	Y		Saunders Street (Pyrmont), Orphan School Creek, Wentworth Park Light Rail station
	<i>Callistemon citrinus</i>	Crimson Bottlebrush	Y		Widespread
	<i>Callistemon linearis</i>	Narrow-leaved Bottlebrush	Y		Bicentennial/Federal Park, Domain, Wentworth Park Light Rail station, Southern Cross Drive Reserve, Erskineville rail corridor
	<i>Callistemon species</i>				Widespread
	<i>Callitris species</i>				Sydney Park
	<i>Calytrix tetragona</i>	Common Fringe-myrtle	Y		Pyrmont
	<i>Clerodendrum tomentosum</i>	Hairy Clerodendrum	Y	Y	Royal Botanic Gardens
	<i>Cordyline species</i>				Sydney Park
<i>Correa alba</i>	White Correa	Y		Glebe foreshore, Saunders Street (Pyrmont), Bicentennial/Federal Park, Blackwattle Bay	

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SHRUBS continued	<i>Correa reflexa</i>	Common Correa	Y		Wentworth Park Light Rail station, Bicentennial/Federal Park,
	<i>Desmodium rhytidophyllum</i>	Tick-trefoil	Y		Arthur (Paddy) Grey Reserve
	<i>Dillwynia retorta</i>	Eggs and Bacon	Y		Orphan School Creek
	<i>Dodonaea triquetra</i>	Large-leaved Hop Bush	Y		Glebe foreshore, Bicentennial and Federal Reserves, Saunders Street (Pyrmont), Orphan School Creek, Domain, Wentworth Park Light Rail station, Southern Cross Drive Reserve, Blackwattle Bay
	<i>Dodonaea viscosa subsp. cuneata</i>	Sticky Hop Bush	Y		Bicentennial/Federal Park
	<i>Doryanthes excelsa</i>	GyMEA Lily	Y		Widespread
	<i>Einadia hastata</i>	Berry Saltbush	Y		Bicentennial/Federal Park
	<i>Epacris longiflora</i>	Fuchsia Heath	Y		Pyrmont
	<i>Grevillea linearifolia</i>	Linear-leaf Grevillea	Y		Saunders Street (Pyrmont), AV Henry Reserve
	<i>Grevillea rosmarinifolia</i>	Rosemary Grevillea			Glebe foreshore
	<i>Grevillea sericea</i>	Pink Spider Flower	Y		Bicentennial/Federal Park, Domain, Bannerman Crescent Reserve, Orphan School Creek
	<i>Grevillea hybrids</i>				Sydney Park, Embarkation Park, Domain, Southern Cross Drive Reserve
	<i>Hakea dactyloides</i>	Finger Hakea	Y		Orphan School Creek, Pyrmont
	<i>Hakea sericea</i>	Needlebush	Y		Saunders Street (Pyrmont), Bicentennial/Federal Park, Domain, Wentworth Park Light Rail station
	<i>Hakea salicifolia</i>	Willow-leaved Hakea	Y		Southern Cross Drive Reserve, Erskineville rail corridor (close to station)
	<i>Hakea teretifolia</i>	Needlebush	Y		Bicentennial/Federal Park
	<i>Homalanthus populifolius</i>	Bleeding Heart	Y		Lewis Hoad Reserve, Arthur (Paddy) Grey Reserve
	<i>Indigofera australis</i>	Native Indigo	Y		Sydney Park, Wentworth Park Light Rail station
	<i>Isopogon anemonifolius</i>	Broad-leaf Drumsticks	Y		Pyrmont
	<i>Kunzea ambigua</i>	Tick Bush	Y		Sydney Park, Beare Park, Saunders Street (Pyrmont), Bicentennial/Federal Park, Domain, Wentworth Park Light Rail station, Southern Cross Drive Reserve, Bannerman Crescent Reserve, Arthur (Paddy) Grey Reserve, Blackwattle Bay, Orphan School Creek
<i>Kunzea capitata</i>	Pink Kunzea	Y		Embarkation Park, Sydney Park, Bicentennial/Federal Park, Domain	
<i>Lambertia formosa</i>	Mountain Devil	Y		Domain	

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SHRUBS continued	<i>Leptospermum juniperinum</i>	Prickly Teatree	Y		Bannerman Crescent Reserve
	<i>Leptospermum laevigatum</i>	Coast Teatree	Y		Moore Park, Glebe, Domain, Perry Park, Southern Cross Drive Reserve, Bannerman Crescent Reserve
	<i>Leptospermum polygalifolium</i>	Tantoon	Y		Bicentennial/Federal Park, Orphan School Creek, Wentworth Park Light Rail station
	<i>Leucopogon lanceolatus</i>	Lance-leaf Beard-Heath	Y		Domain
	<i>Leucopogon microphyllus</i>	Small-leaved Beard-Heath	Y		Domain
	<i>Leucopogon parviflorus</i>	Coastal Beard-heath	Y		Blackwattle Bay
	<i>Lomatia silaifolia</i>	Crinkle Bush,	Y		Lewis Hoad Reserve
	<i>Lomatia myricoides</i>	River Lomatia	Y		Lewis Hoad Reserve
	<i>Macrozamia communis</i>	Burrawang	Y		Arthur McElhone Reserve, Sydney Park, Royal Botanic Gardens, Alexandria Park, Pyrmont
	<i>Melaleuca armillaris</i>	Bracelet Honey-myrtle	Y		Moore Park, Sydney Park, Federal Park
	<i>Melaleuca ericifolia</i>	Swamp Paperbark	Y		Federal Park
	<i>Melaleuca erubescens</i>				Sydney Park
	<i>Melaleuca hypericifolia</i>	Hillock Bush	Y		Sydney Park, Southern Cross Drive Reserve
	<i>Melaleuca nodosa</i>	Prickly-leaved Paperbark	Y		Glebe foreshore, Bicentennial and Federal Reserves , Sydney Park, Domain, Wentworth Park Light Rail station, Orphan School Creek
	<i>Melaleuca thymifolia</i>	Thyme Honey-myrtle	Y		Domain, Sydney Park
	<i>Micromyrtus ciliata</i>	Fringed Heath-myrtle	Y		Pyrmont
	<i>Myoporum probably insulare</i>	<i>Boobialla</i>	Y		Blackwattle Bay
	<i>Myrsine variabilis</i>	Muttonwood	Y	Y	Garden Island, Royal Botanic Gardens, Domain
	<i>Notelaea longifolia</i>	Mock Olive	Y		Johnstons Canal, Glebe
	<i>Ozothamnus diosmifolius</i>	Dogwood	Y		Saunders St (Pyrmont), Bicentennial/Federal Park, Orphan School Ck, Wentworth Park Light Rail station, Turruwal Park, Arthur (Paddy) Grey Reserve
<i>Persoonia lanceolata</i>	Lance Leaf Geebung	Y		Domain	
<i>Persoonia laurina</i>	Laurel Geebung	Y		Arthur (Paddy) Grey Reserve	

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SHRUBS continued	<i>Persoonia linearis</i>	Narrow-leaved Geebung	Y		Domain
	<i>Persoonia pinifolia</i>	Pine-leaved Geebung,	Y		Domain, Orphan School Creek
	<i>Philotheca myoporoides</i>	Long-leaved Wax Flower	Y		Bicentennial/Federal Park, Sydney Park
	<i>Pimelea linifolia</i>	Slender Rice Flower	Y		Pyrmont, Glebe
	<i>Pittosporum revolutum</i>	Wild Yellow Jasmine	Y		Saunders Street (Pyrmont)
	<i>Platysace lanceolata</i>	Shrubby Platysace	Y		Pyrmont
	<i>Polyscias sambucifolia</i>	Ferny Panax	Y		Saunders Street (Pyrmont), Wentworth Park Light Rail station
	<i>Pomaderris ferruginea</i>	Woolly Pomaderris	Y		Arthur (Paddy) Grey Reserve
	<i>Pomaderris lanigera</i>	Rusty Pomaderris	Y		Orphan School Creek
	<i>Pomaderris species</i>	Pomaderris			Wentworth Park Light Rail station
	<i>Prostanthera linearis</i>	Mint Bush	Y		Beare Park
	<i>Pultenaea daphnoides</i>	Large-leaf Bush-pea	Y		Orphan School Creek, Wentworth Park Light Rail station
	<i>Pultenaea flexilis</i>	Graceful Bush-pea	Y		Saunders Street (Pyrmont)
	<i>Pultenaea retusa</i>	Notched Bush-pea	Y		Pyrmont
	<i>Pultenaea villosa</i>	Hairy Bush-pea	Y		Orphan School Creek
	<i>Rhagodia candolleana</i>	Seaberry Saltbush	Y	Y	Beare Park, Garden Island, Bicentennial/Federal Park
	<i>Sannantha similis (Baeckea virgata)</i>		Y		Wentworth Park Light Rail station
	<i>Solanum aviculare</i>	Kangaroo Apple,	Y		Saunders Street (Pyrmont)
	<i>Viminaria juncea</i>	Native Broom	Y		Rosebery
	<i>Westringia fruticosa</i>	Native Rosemary	Y		Widespread
	<i>Xanthorrhoea media</i>	Native Rosemary	Y		Pyrmont
	<i>Xanthosia pilosa</i>	Woolly Xanthosia	Y		Pyrmont
	<i>Xylomelum pyriforme</i>	Woody Pear	Y		Sydney Park
<i>Zieria smithii</i>	Sandfly Zieria	Y		Pyrmont	

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FERNS	<i>Adiantum aethiopicum</i>	Maiden Hair Fern	Y	Y	Elizabeth Bay, , Pyrmont, Rushcutters Bay, Oatley Reserve, Arthur McElhone Reserve, the Rocks, Royal Botanic Gardens/Domain
	<i>Adiantum atroviride</i>	Maiden Hair Fern	Y	Y	Pyrmont, Forbes St. Precinct, Royal Botanic Gardens
	<i>Asplenium australasicum</i>	Birds Nest Fern	Y		Ward Park, Beare Park, Sydney Park, Lewis Hoard Reserve
	<i>Asplenium possibly difforme</i>	Spleenwort	Y		Royal Botanic Gardens
	<i>Asplenium flabellifolium</i>	Necklace Fern	Y	Y	Domain, Royal Botanic Gardens
	<i>Asplenium flaccidum ssp. flaccidum</i>	Weeping Spleenwort			Royal Botanic Gardens
	<i>Blechnum cartilagineum</i>	Gristle Fern	Y	Y	Glebe foreshore, Beare Park, Saunders Street (Pyrmont)
	<i>Blechnum ambiguum</i>	Blechnum	Y	Y	Domain – old 1998 record and possibly Arthur McElhone Reserve
	<i>Calochlaena dubia</i>	Rainbow Fern	Y	Possible	Orphan School Creek, Royal Botanic Gardens
	<i>Cheilanthes distans</i>	Bristly Cloak Fern	Y	Y	Royal Botanic Gardens
	<i>Christella dentata</i>	Binung	Y	Possible	Royal Botanic Gardens (modified creek line) – potentially self-sown from cultivated plant; Lewis Hoard Reserve
	<i>Cyathea australis</i>	Tree Fern	Y	Y	Pyrmont, Royal Botanic Gardens, Domain
	<i>Cyathea cooperi</i>	Straw Tree Fern			Arthur McElhone Reserve, Beare Park, Royal Botanic Gardens, Dibbs Street Reserve, Lewis Hoard Reserve, Pyrmont, Widespread
	<i>Cyrtomium falcatum</i>	Holly Fern			Pyrmont, Royal Botanic Gardens
	<i>Davallia solida var. pyxidata</i>	Hares Foot Fern	Y	Y	Royal Botanic Gardens, Domain
	<i>Dicksonia species</i>	Tree Fern			Widespread
	<i>Doodia aspera</i>	Prickly Rasp Fern	Y	Y	Glebe foreshore, Saunders Street (Pyrmont)
	<i>Doodia caudata</i>	Small Rasp Fern	Y	Y	Domain
	<i>Gleichenia dicarpa</i>	Pouched Coral Fern	Y	Y	Pyrmont, the Rocks
	<i>Histiopteris incisa</i>	Bat’s Wing Fern	Y	Y	Pyrmont, Arthur McElhone Reserve, the Rocks, Royal Botanic Gardens, Domain
	<i>Hypolepis muelleri</i>	Harsh Ground Fern	Y	Possible	Glebe foreshore, Bicentennial/Federal Park, Royal Botanic Gardens
	<i>Microsorium scandens</i>	Fragrant Fern	Y	Y	Royal Botanic Gardens
<i>Pellaea falcata</i>	Sickle Fern	Y	Y	Saunders Street (Pyrmont)	

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FERNS continued	<i>Platycerium bifurcatum</i>	Elkhorn	Y	Possible	Moore Park/Centennial Park
	<i>Psilotum nudum</i>	Skeleton Fork Fern	Y	Y	Arthur McElhone Reserve, Pyrmont (Pirrama Park), Royal Botanic Gardens, Lewis Hoad Reserve
	<i>Pteridium esculentum</i>	Common Bracken	Y	Y	Domain, Pyrmont
	<i>Pteris tremula</i>	Tender Brake	Y	Y	Embarkation Park, Oatley Reserve
	<i>Pteris vittata</i>	Ladder Brake	Possible	Y	Pyrmont (Saunders Street), Royal Botanic Gardens, Erskineville (rail tunnel), Lewis Hoad Reserve
	<i>Pyrosia rupestris</i>	Rock Felt Fern	Y	Possible	Moore Park/Centennial Park
	<i>Todea barbara</i>	King Fern	Y	Y	Lewis Hoad Reserve, Royal Botanic Gardens
HERBS +Wetland species	<i>Actinotus helianthi</i>	Flannel Flower	Y		Pyrmont
	+ <i>Alisma plantago-aquatica</i>	Water Plantain	Y		Sydney Park
	<i>Alternanthera denticulata</i>	Native Joyweed	Y		Sydney Park
	<i>Alternanthera species A sensu Harden 1990</i>	Native Joyweed	Y	Possible	Moore Park
	<i>Anigozanthos species</i>	Kangaroo Paw			Dibbs Street Reserve
	+ <i>Azolla filiculoides</i>	Azolla	Y	Y	Sydney Park
	<i>Brachyscome cultivar</i>	Native Daisy			Lawrence Hargreave Reserv
	<i>Carpobrotus glaucescens</i>	Coastal Pigface	Y	Y	Beare Park, Pirrama Park, Bicentennial Park
	<i>Centaurium spicatum</i>		Y	Y	Domain
	<i>Centella asiatica</i>	Pennywort	Y	Y	Rozelle Bay, Glebe foreshore, Orphan School Creek, Domain, Wentworth Park Light Rail station
	<i>Chenopodium glaucum</i>	Glaucous Goosefoot	Y	Y	Bicentennial Park
	<i>Commelina cyanea</i>	Native Wandering Jew	Y	Y	Embarkation Park, Sydney Park, Bicentennial/Federal Park, Orphan School Creek, Royal Botanic Gardens, Domain, Dibbs Street Reserve, Lewis Hoad Reserve
	<i>Cordyline species</i>	Cordyline			Sydney Park
	<i>Cotula australis</i>	Common Cotula	Y	Y	Hyde P, Moore Park, Garden Island, Lawrence Hargreave, Clyne Reserve, Lewis Hoad Reserve
	<i>Crassula sieberiana</i>	Australian Stonecrop	Y	Y	Domain

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HERBS continued + <i>Wetland species</i>	+ <i>Crinum pedunculatum</i>	Swamp Lily	Possible		Widespread
	<i>Dianella caerulea</i>	Blue Flax Lily	Y	Y	Widespread, appears naturally occurring at one location in Royal Botanic Gardens
	<i>Dianella caerulea</i> subsp. <i>asserata</i>	Blue Flax Lily	Y		Widespread
	<i>Dianella revoluta</i>	Blue Flax Lily	Y	Y	Glebe foreshore, Domain (Hind 1988)
	<i>Dianella</i> species (unidentified)	Flax Lily	Y		Sydney Park, Wentworth Park Light Rail station
	<i>Dichondra repens</i>	Kidney Weed	Y	Y	Hyde Park, Garden Island, Glebe, Orphan School Creek, Royal Botanic Gardens, Domain, Dibbs Street Reserve, Arthur (Paddy) Grey Reserve
	<i>Epilobium billardioreanum</i> ssp. <i>ciliatum</i>	Willow Herb	Y		Orphan School Creek
	<i>Geranium homeanum</i>	Native Geranium	Y		Orphan School Creek, Bicentennial/Federal Park
	<i>Goodenia ovata</i>	Hop Goodenia	Y		Saunders Street (Pyrmont), Wentworth Park Light Rail station, Arthur (Paddy) Grey Reserve
	<i>Hydrocotyle peduncularis</i>	Hydrocotyle	Y	Y	Royal Botanic Gardens, Orphan School Creek
	<i>Lobelia anceps</i>	Lobelia	Y	Y	Pirrama Park, Saunders Street (Pyrmont), Domain, Orphan School Creek
	<i>Lythrum hyssopifolium</i>	Hyssop Loosestrife	Y		Sydney Park
	+ <i>Nymphaea</i> sp.	Waterlily			Woolwash Park (Zetland)
	<i>Opercularia aspera</i>	Stink Weed	Y	Y	Domain,
	<i>Oxalis</i> species (probably native)	Oxalis	Y	Y	Hyde Park
	<i>Oxalis rubens</i>	Native Oxalis	Y	Y	Domain
	<i>Pelargonium australe</i>	Native Pelargonium	Y		Glebe Foreshore, Ward Park, Saunders St (Pyrmont), Arthur (Paddy) Grey Reserve
	<i>Persicaria decipiens</i>	Slender Knotweed	Y		Sydney Park, Orphan School Creek
	<i>Persicaria hydropiper</i>	Water Pepper	Y		Orphan School Creek
	+ <i>Philydrum lanuginosum</i>	Woolly Frogmouth	Y		Woolwash Park (Zetland)
	<i>Pimelea linifolia</i>	Rice Flower	Y		Domain
	+ <i>Pistia stratiotes</i>	Water Lettuce			Woolwash Park (Zetland)
	<i>Plectranthus parviflorus</i>	Cockspur Flower	Y	Possible	Bicentennial/Federal Park, Glebe Foreshore, Orphan School Creek, Wentworth Park Light Rail station
<i>Pollia ?crispata</i>	Pollia	Y	Possible	Royal Botanic Gardens	

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HERBS continued <i>+ Wetland species</i>	<i>Pomax umbellata</i>	Pomax	Y		Orphan School Creek
	<i>+Pontederia cordata</i>	Pickerel Weed			Arthur McElhone Reserve
	<i>Poranthera microphylla</i>		Y	Y	Royal Botanic Gardens
	<i>Portulaca oleracea</i>	Pigweed	Y	Y	Garden Island, Sydney Park, Blackwattle Bay, Lewis Hoard Reserve
	<i>Pratia purpurascens</i>	Whiteroot	Y	Possible	Glebe Foreshore, Bicentennial Park, Federal Park, Beare Park
	<i>Rumex brownii</i>	Swamp Dock	Y	Y	Moore Park, Domain
	<i>Sarcocornia quinqueflora</i>	Beaded Glasswort	Y	Y	Bicentennial Park, Federal Park
	<i>Scaevola albida</i>	Pale Fan-flower	Y		Saunders St (Pyrmont)
	<i>Suaeda australis</i>	Austral Seablite	Y	Y	Bicentennial Park, Federal Park
	<i>Tetragonia tetragonioides</i>	New Zealand Spinach	Y	Y	Bicentennial Park
	<i>+Triglochin striata</i>	Streaked Arrow Grass	Y	Y	Bicentennial Park, Orphan School Creek
	<i>+Vallisneria probably australis</i>	Ribbonweed	Y		Sydney Park
	<i>Veronica plebeia</i>	Trailing Speedwell	Y	Y	Domain, Royal Botanic Gardens
	<i>Viola hederacea</i>	Native Violet	Y		Widespread
	<i>Wahlenbergia gracilis</i>	Native Blue Bell	Y	Y	Glebe Foreshore, Forest Lodge, Moore Park, Saunders Street (Pyrmont), Orphan School Creek, Domain, Royal Botanic Gardens, Blackwattle Bay

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GRASSES, SEDGES, RUSHES +Wetland species	<i>Austrodanthonia fulva</i>	Wallaby Grass	Y		Southern Cross Drive Reserve
	<i>Austrodanthonia species</i>	Wallaby Grass	Y		Orphan School Creek, Wentworth Park Light Rail station, Glebe, Domain
	<i>Austrostipa ramosissima</i>	Speargrass	Y	Possible	Johnstons Canal, Glebe, Saunders Street (Pyrmont)
	+ <i>Baumea articulata</i>	Jointed Twig-rush	Y		Woolwash Park (Zetland), Sydney Park
	+ <i>Baumea rubiginosa</i>	Twig-rush	Y		Woolwash Park (Zetland)
	+ <i>Bolboschoenus fluviatilis</i>	Marsh Club-rush	Y		Sydney Park
	<i>Bothriochloa macra</i>	Red-leg Grass	Y		Wentworth Park Light Rail station
	+ <i>Carex appressa</i>	Tall Sedge	Y		Sydney Park, Orphan School Creek, Zetland
	<i>Carex inversa</i>	Knob Sedge	Y	Y	Glebe (St. John Anglican church)
	+ <i>Cladium procerum</i>	Sedge	Y		Sydney Park
	<i>Cymbopogon refractus</i>	Barb Wire Grass	Y		Orphan School Creek, Bicentennial/Federal Park, Arthur (Paddy) Grey Reserve
	<i>Cynodon dactylon</i>	Common Couch	Y	Y	Widespread
	+ <i>Cyperus exaltatus</i>	Cyperus	Y		Sydney Park
	<i>Cyperus gracilis</i>	Slender Flat-sedge	Y	Y	Garden Island, Johnstons Canal, Glebe Oatley Reserve, Arthur (Paddy) Grey Reserve
	<i>Cyperus mirus</i>	Cyperus	Y	Y	Jubilee Park (rock outcrop east of oval) , Lewis Hoad Reserve, Royal Botanic Gardens
	+ <i>Cyperus polystachyos</i>	Cyperus	Y	Y	Beare Park, Woolwash Park (Zetland), Domain (Hind 1988), Lewis Hoad Reserve
	<i>Dichelachne crinita</i>	Longhair Plumegrass	Y	Possible	Glebe foreshore, Pirrama Park, Saunders Street (Pyrmont), Bicentennial/Federal Park, Orphan School Creek, Domain
	<i>Dichelachne micrantha</i>	Shorthair Plumegrass	Y	Y	Bicentennial/Federal Park, Domain, Wentworth Park Light Rail station, Erskineville rail corridor in vicinity of station
	<i>Dichelachne rara</i>	Plumegrass	Y		Orphan School Creek
	<i>Echinopogon caespitosus</i>	Hedgehog Grass	Y		Bicentennial/Federal Park, Orphan School Creek, Arthur (Paddy) Grey Reserve
	<i>Echinopogon ovatus</i>	Hedgehog Grass	Y		Bicentennial/Federal Park, Orphan School Creek, Wentworth Park Light Rail station
+ <i>Eleocharis acutus</i>	Common Spike-rush	Y		Sydney Park	
+ <i>Eleocharis sphacelata</i>	Tall Spike-rush	Y		Sydney Park, Woolwash Park (Zetland)	

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GRASSES, SEDGES, RUSHES continued +Wetland species	<i>Entolasia marginata</i>	Border Panic	Y	Y	Pyrmont, Garden Island
	<i>Entolasia stricta</i>	Wire Panic	Y		Pyrmont, Orphan School Creek
	+ <i>Ficinia nodosa</i>	Knotted Club-rush	Y		Sydney Park, Glebe foreshore, Arthur McElhone Reserve, Pirrama Park, Orphan School Creek, Domain, Zetland, Wentworth Park Light Rail station, Blackwattle Bay, Dibbs Street Reserve
	<i>Gahnia aspera</i>	Rough Saw-sedge	Y		Orphan School Creek, Bicentennial/Federal Park
	<i>Gahnia sieberiana</i>	Red-fruit Saw-sedge	Y		Sydney Park
	<i>Imperata cylindrica</i>	Blady Grass	Y		Sydney Park, Orphan School Creek, Domain
	+ <i>Isolepis inundata</i>		Y		Sydney Park
	+ <i>Juncus kraussii</i> ssp. <i>australiensis</i>	Sea Rush	Y		Arthur McElhone Reserve, Sydney Park, Bicentennial/Federal Park
	+ <i>Juncus prismatocarpus</i>		Y		Sydney Park
	+ <i>Juncus usitatus</i>	Common Rush	Y		Sydney Park, Arthur McElhone Reserve, Pirrama Park, Orphan School Creek, Domain, Zetland, Wentworth Park Light Rail station, Blackwattle Bay
	<i>Lachnagrostis avenacea</i>	Blowngrass	Y		Glebe Foreshore, Sydney Park, Bicentennial/Federal Park, Orphan School Creek, Dibbs Street Reserve
	<i>Lomandra hystrix</i>	Mat-rush			Widespread
	<i>Lomandra longifolia</i>	Spiny-headed Mat Rush	Y		Widespread
	<i>Microlaena stipoides</i>	Weeping Grass	Y	Y	Glebe Foreshore, Bicentennial/Federal Parks, Garden Island, Sydney Park, Domain, Royal Botanic Gardens, Wentworth Park Light Rail station, Lewis Hoad Reserve
	<i>Oplismenus aemulus</i>	Basket Grass	Y	Y	Embarkation Park, Bicentennial/Federal Park, Orphan School Creek, Royal Botanic Gardens, Lewis Hoad Reserve
	+ <i>Paspalum distichum</i>	Water Couch	Y		Sydney Park
	<i>Poa affinis</i>	Tussock Grass	Y		Sydney Park, Orphan School Creek, Arthur (Paddy) Grey Reserve
	<i>Poa labillardieri</i>	Tussock Grass	Y		Zetland
	<i>Poa sieberiana</i>	Poa	Y		Ward Park, Oatley Reserve, Zetland
	+ <i>Schoenoplectus mucronatus</i>		Y		Woolwash Park (Zetland)
+ <i>Schoenoplectus validus</i>		Y		Sydney Park, Woolwash Park (Zetland)	
<i>Sporobolus virginicus</i>	Saltwater Couch	Y	Possible	Bicentennial and Federal Parks	

Type	Scientific Name	Common Name	Likely indigenous to City of Sydney	Naturally occurring at some sites	Example Locations
GRASSES, SEDGES, RUSHES continued +Wetland species	<i>Themeda australis</i>	Kangaroo Grass	Y		Glebe Foreshore, Oatley Reserve, Saunders Street (Pyrmont), Domain, Wentworth Park Light Rail station
	+ <i>Typha possibly domingensis</i>	Cumbungi	Y		Sydney Park, Woolwash Park (Zetland)
	+ <i>Typha orientalis</i>	Cumbungi	Y		Sydney Park, Woolwash Park (Zetland)
CLIMBERS/ TWINERS	<i>Cayratia clematidea</i>	Native Grape	Y	Possible	Wentworth Park Light Rail station, Lawrence Hargreave
	<i>Cissus antarctica</i>	Kangaroo Vine	Y		Garden Island, Lawrence Hargreave, Orphan School Creek, Blackwattle Bay, Embarkation Park
	<i>Clematis aristata</i>	Old Man's Beard	Y		Orphan School Creek, Wentworth Park Light Rail station
	<i>Commelina cyanea</i>	Native Wandering Jew	Y	Y	Rozelle Bay, Glebe Foreshore, Garden Island, Beare Park (on sandstone), Rushcutters Bay, Saunders Street (Pyrmont), Royal Botanic Gardens, Domain, Wentworth Park Light Rail station, Kimberley Grove Reserve
	<i>Eustrephus latifolius</i>	Wombat Berry	Y		Bicentennial/Federal Park
	<i>Geitonoplesium cymosum</i>	Scrambling Lily	Y		Federal Park
	<i>Glycine microphylla</i>		Y	Possible	Glebe Foreshore, Wentworth Park Light Rail station, Johnstons Canal (Rozelle)
	<i>Glycine tabacina</i>		Y		Bicentennial/Federal Park
	<i>Hardenbergia violacea</i>	Flase Sarsparilla	Y		Widespread
	<i>Hibbertia scandens</i>	Climbing Guinea Flower	Y		Garden Island, Beare Park, Forbes Street., Pirrama Park, AV Henry, Orphan School Creek, Wentworth Park Light Rail station, Blackwattle Bay
	<i>Kennedia rubicunda</i>	Dusky Coral Pea	Y		Orphan School Creek, Domain, Wentworth Park Light Rail station
	<i>Pandorea jasminoides</i>	Bower Vine	Y		Zetland
	<i>Pandorea pandorana</i>	Wonga Wonga Vine	Y		Forbes St, Bicentennial/Federal Park, Orphan School Creek, Domain, Wentworth Park Light Rail station
<i>Smilax glyciphylla</i>	Sweet Sarsaparilla	Y		Royal Botanic Gardens	

Appendix 3

Fauna species recorded in the LGA+

Frogs

Striped Marsh Frog
Common Eastern Froglet
Green and Golden Bell Frog#
Eastern Dwarf Tree Frog
Peron's Tree Frog

Mammals

Common Brushtail Possum
Common Ringtail Possum
Long-nosed Bandicoot ^
Grey-headed Flying-fox#
Black Flying-fox
Gould's Wattled Bat
(Eastern Bent-wing Bat#)
Eastern Freetail Bat
(Southern Forest Bat)
Little Forest Bat
Black Rat*
Brown Rat*
House Mouse*
Red Fox*
Feral Cat*

Reptiles

Eastern Long-necked Turtle
Eastern Water Dragon
Elegant Snake-eyed Skink
Dark-flecked Garden Sunskink
Pale-flecked Garden Sunskink
Weasel Skink
Gully Skink
Eastern Water Skink
Bar-sided Skink
Eastern Blue-tongue
Red-bellied Black Snake

Birds

Australian Wood Duck	Yellow-tailed Black Cockatoo
Black Swan	Sulphur-crested Cockatoo
Plumed Whistling Duck	Little Corella
Hardhead	Galah
Pacific Black Duck	Rainbow Lorikeet
Mallard*	Eastern Koel
Grey Teal	Channel-billed Cuckoo
Chestnut Teal	Powerful Owl#
Australasian Grebe	Barn Owl
Australasian Darter	Tawny Frogmouth
Little Black Cormorant	Laughing Kookaburra
Pied Cormorant	Superb Fairy-wren
Little Pied Cormorant	Little Wattlebird
Australian Pelican	Red Wattlebird
White-faced Heron	Noisy Miner
Cattle Egret	New Holland Honeyeater
Eastern Great Egret	White-plumed Honeyeater
Striated Heron	Red-whiskered Bulbul*
Australian White Ibis	Rufous Whistler
Royal Spoonbill	Willie Wagtail
White-bellied Sea-eagle	Black-faced Cuckoo-shrike
Nankeen Kestrel	Australasian Figbird
Peregrine Falcon	Grey Butcherbird
Black-shouldered Kite	Australian Magpie
Buff-banded Rail	Pied Currawong
Dusky Moorhen	Magpie-lark
Purple Swamphen	Australian Raven
Eurasian Coot	Nutmeg Mannikin*
Black-winged Stilt	Welcome Swallow
Black-fronted Dotterel	Tree Martin
Masked Lapwing	Australian Reed-warbler
Silver Gull	Silvereye
Spotted Turtle-dove*	Common Myna*
Rock Dove*	Common Starling*
Crested Pigeon	White-headed Pigeon

+ records from Dec 2010–June 2012 only

#threatened species under the TSC and/or EPBC Act

^ endangered population in Inner West under the TSC Act (does not currently apply to the City LGA)

*introduced species

() unconfirmed record

Appendix 4

Community consultation results

Introduction

The community consultation aspect of the Urban Ecology Survey and Strategic Action Plan project was managed by Dr Lynda Kelly of Australian Museum Business Services (AMBS) in conjunction with Glenn Muir (AMBS) and Katie Oxenham (City of Sydney). Community input was received in two ways:

1. Three in-depth consultations with community groups: Blue Wren Group (29 November 2010); Pyrmont Ultimo Landcare (8 December 2010) and Rozelle Bay Nursery Group (15 December 2010). Meetings were held onsite with total participation of approximately 28 people.
2. An online survey (via Survey Monkey) open from 15 October 2010 to 17 January 2011 with total response rate of 231.

COMMUNITY GROUP CONSULTATION FINDINGS

Three community meetings were held over November/December 2010 with Blue Wren Group; Pyrmont Ultimo Landcare and the Rozelle Bay Nursery Group. Meetings were held at each organisation with total participation of approximately 28 people. These groups were chosen as they were considered interested, informed and engaged in the issues and seen as community leaders (and therefore increase buy-in to the strategy).

The discussion was kept open-ended in order to solicit key issues for the Strategy from each organisation's perspective. Responses were grouped around four key theme areas: policy, procedures, education and training, and community resources.

Policy

There was a strong sense across the groups the Council needed an over-arching policy for biodiversity, and a feeling that the approach to date has been fairly ad hoc.:

"[An] overarching policy will help different departments work together and make consistent decisions"

"Need to know what [Council] stand for, engage with other land managers and take the opportunities"

"Open the conversations"

"Encourage biodiversity as a basic principle"

"Focus on more than just threatened species ... philosophy of sustainable populations of common and engaging species"

There was also a recognition that the policy (and resulting processes) need to be owned across Council – by staff as well as contractors. It was felt that a policy would help in breaking down (perceived) silos in Council as well as providing one consistent and findable point of contact, given the complexity and diversity of areas Council is involved with. This contact point should be sufficiently senior in role in order to have some influence over Council policy, to be able to coordinate across Council and provide information and guidance to other areas of Council and remove blockages (both regulatory and financial):

"Ownership is key. [You] only need the one staff to oversee, need people on the ground also"

It was suggested that the policy have a high level goal of increasing biodiversity through *"Encouraging the establishment and maintenance of a diverse flora and fauna"*. This goal can be used to persuade others to get on board and underpin Council's work in this area as well as increase the influence of Council across other Trusts and Government agencies that operate within Sydney LGA.

It was noted that biodiversity is a major global issue that needs action at the highest levels of Government:

"[Biodiversity] needs to be factored in urban landscape as we all live there now [and strive for] aesthetic values in our contact with the natural world"

Procedures

Closely linked with, and stemming from, the policy issue were many suggestions of both concrete and high-level procedural decisions that could be considered and implemented. These were specifically around contractors, plantings and companion animals.

The use of **contractors** in site maintenance was a noticeable talking point across all groups (and was recognised that this is an area Council is also grappling with). Key concerns were around who the contractors have in their employ; what qualifications were held by personnel and whether there is sufficient regard to considering and understanding the importance of maintaining biodiversity. It was felt that the lines of communication between Council, contractors and volunteers needed to be improved (with suggestions under Policy also relevant here). This area needed to have a more consistent approach with better checking of qualifications and skills of those employed via contract and the desire expressed for less contractors and more staff:

"[Need] more informed and in-house Council staff rather than contractors"

There were a range of suggestions and questions regarding the issue of **plantings**:

- Create incentives such as garden competitions, free collars for cats, community nursery
- Could there be assistance provided to remove exotic/ noxious plants rather than residents having to pay?
- Noxious weeds – need clearer idea of who enforces Council's requirements, given that DPI administers the Noxious Weeds Act
- Could Council establish a native nursery focusing on local area plants? Would generate savings for Council and a resource for the local community. Needs to be well-publicised and a place for residents to get advice on plantings. This would:

"Promote the growing of appropriate plants for the City plus encourage volunteers (such as the homeless, those with disabilities) to work there"

- Identify areas for indigenous plantings and habitats:

"[In the strategy] look for corridors and opportunities for creative plantings; think about the types of plants; include offsets as a requirement in large developments"

"[Look at] opportunities for more wetlands – do more walkways"

"Increasing the canopy not always a good solution, eucalypts good for light and filtered shade and habitat"

The problem of **companion animals** generally, and cats specifically, were raised across each group:

"What is Council's policy on cats and what to do about them? Could there be a 'one animal' policy introduced?"

It was recognised that this is an emotive issue and felt that education was probably the best way to manage it. Coupled with this was the recognition that Council needs to address the broad issue of feral animals, specifically foxes, cats and rabbits.

Other procedural issues/questions raised were:

- Urban ecology is a dynamic thing – when do you survey? Past, present or future?
- Look at the biggest changes to the area and track the effects (examples cited here were the development of the Children's Hospital into high-rise; increase in introduced species such as Indian mynahs; 70s gum tree planting encouraging currawongs and loss of small birds; increased urbanisation; concrete replacing greenery)
- Can a mangrove swamp be established?
- How do we encourage water rats? Are they a suitable species for the LGA?
- *"Council needs to assert its authority in the Harold Park area"*

Education and Training

The third area to emerge from the community group consultations were ideas around education, which mainly focused on involving school and university students; and training of contractors and staff:

"Education is not done. Build education into the strategy"

"Involve local schools in the survey. [Encourage] school projects"

Training ideas centered around Council staff and contractors:

"Council policy needs to be supported by internal [staff] and contractors training. [this will] lead to community education and how to engage in conversation with residents"

"Educate contractors about relocation [of plants rather than just removing them] for example"

"[Training enables] staff [to] make informed judgment and have the language to talk to residents"

Community Resources

The final area from the consultations was community resources, which included suggestions of individual and groups to contact, including other councils/LGAs:

“Look at what others do and learn from that”

“Leichardt Council a good model to look at”

“Do a tour of Leichardt Council – learn from them”

- Share contacts within authorities such as RTA, DPI, Maritime, etc – central database suggested
- Look at programs offered by the Observatory Hill Environmental Education Centre (<http://www.observhill-e.schools.nsw.edu.au/Site/Home.html>)
- Dr Tony Larkum, marine biologist living in Glebe (alarkum@bigpond.net.au) re-established Rozelle Bay/Blackwattle bay mangroves
- The Hindmarsh's have a comprehensive bird list (via Pyrmont Ultimo Landcare)
- Develop relationship with Leichardt Nursery?
- Talk to Sydney University about their reptile surveys
- The submission by Pyrmont Ultimo Landcare to Sustainable Sydney 2030 (<http://www.cityofsydney.nsw.gov.au/2030/>)

ONLINE SURVEY FINDINGS

A relatively simple survey was developed to seek broader feedback about the proposed Action Plan. Questions were developed in conjunction with Katie Oxenham and input from Council's Communications Department. The survey was placed on the City of Sydney website (<http://www.cityofsydney.nsw.gov.au/Environment/Biodiversity/UrbanEcologySurvey.asp> - note it has been removed as now closed) and was broadly advertised via the City of Sydney website, community groups, chambers of commerce, libraries and media releases/stories. An online tool, Survey Monkey, was used to collect and analyse responses. This report details the key findings, with a copy of the full results provided to Council (via Katie Oxenham).

Sample¹ details

A total of 231 responses² were received as follows:

- 36% male and 64% female
- Good age range:
 - 34% aged 35-49 years
 - 27% aged 25-34 years
 - 26% aged 50-64 years
 - 7% aged over 65
 - 5% under 25 years
- 50% identified as residents; 27% as workers; 14% interested in biodiversity (but not living/working in Sydney), and 9% ticked 'Other'. Of residents:
 - 46% lived in area more than ten years
 - 23% more than five, less than ten years
 - 21% more than one, less than five years
 - 9% less than one year

Seventy-nine percent of respondents were interested in being kept up-to-date on the Strategy – these names and email addresses have been supplied to Council separately.

Listing any interesting/unusual animals

The first question asked people to list any animal sightings. 98 responses were received which have been passed to AMBS Ecology to incorporate in their field survey findings.

Interest in participating in biodiversity-related activities

The aim of this question was to see overall what kinds of biodiversity activities were of broad interest to respondents. This was a multiple response question, with a total of 515 responses as follows:

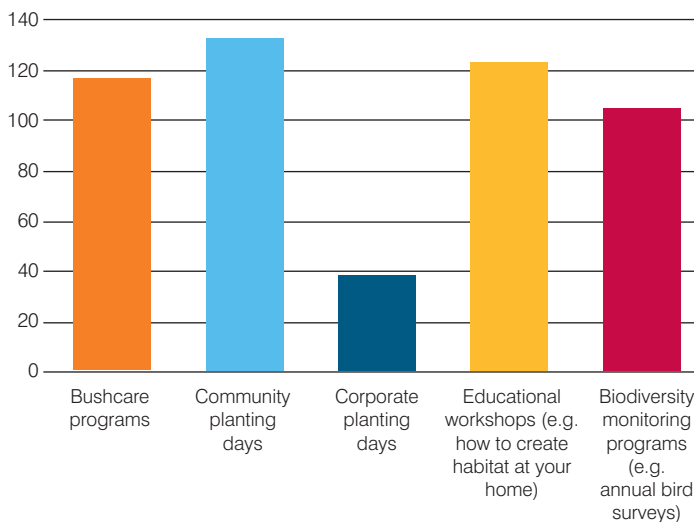
- 26% Community planting days
- 24% Educational workshops
- 22% Bushcare programs
- 20% Biodiversity monitoring
- 7% Corporate planning days

1 A note on sampling: This is a self-selected sample which means the findings can be biased. However, this method has resulted in more high quality and detailed responses as participants are interested and engaged in the topic. However, it is recommended that results be viewed with this in mind.

2 Note that responses don't always add to 100 due to rounding errors and some non-responses

Chart 1: Interest in biodiversity activities

Are you interested in participating in any of the following biodiversity-related activities within the City of Sydney council area?



There was also an option to add comments. 22 comments were received with specific feedback as follows:

- I'd be interested in 'bat box' distribution days
- Already involved with Pyrmont/Ultimo Landcare
- Programs aimed at people keeping their cats in their own backyards
- Bush tucker community gardens as part of community gardens
- Giving talks at the primary and secondary schools to educate people on these important issues
- Already involved. Would like to learn about foreshore wildlife
- Education about microclimates in local parklands and what the Council is trying to regain or emulate from the wild
- Education to reduce the use of pesticides that can damage ecosystem and on keeping cats indoors
- Wildlife rescue and care groups
- Wildlife caring
- Providing information or conducting workshops for school children
- Ecological studies before development on remnant bush- Pyrmont last stage of Jacksons Landing did not do this and the last refuge was destroyed without any survey

Rating importance of activities to improve biodiversity

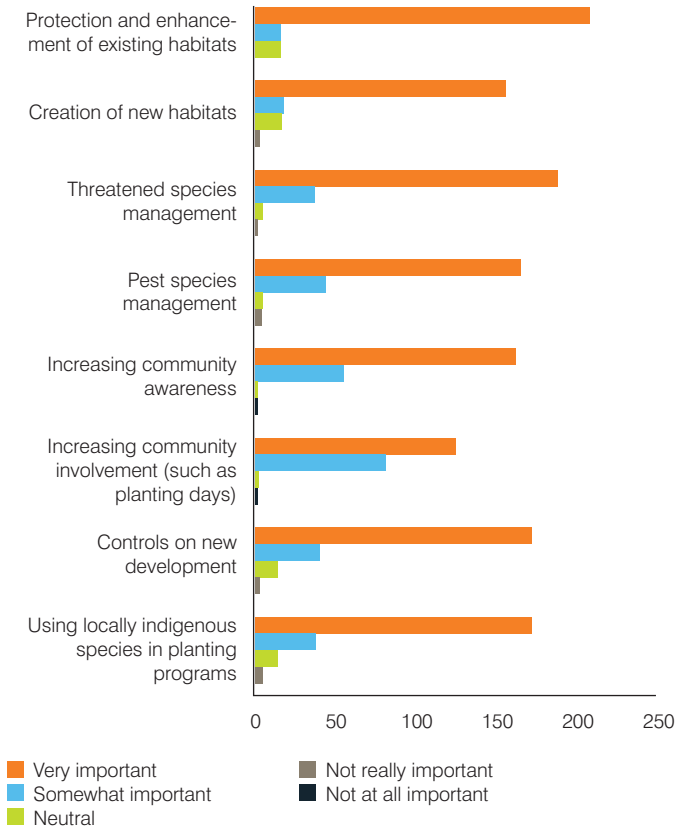
A set of activities were provided for respondents to select the level of importance to them, shown in Table 1. Overall, respondents thought all activities were important, with Protection and enhancement of existing habitats being seen as the most important (91% rating as very important) followed by Threatened species management (82% rated very important).

Table 1: Rating of importance of activities (in order of highest to lowest)

	Very Important %	Somewhat Important %	Neutral %	Not really important %	Not at all important %
Protection and enhancement of existing habitats	91	7	2	0	0
Threatened species management	82	16	2	0	0
Using locally indigenous species in planting programs	75	17	6	2	0
Controls on new development	75	17	6	1	0
Pest species management	71	24	4	0	0
Creation of new habitats	68	24	7	1	0
Increasing community involvement	55	35	9	1	0

Chart 2: Rating importance of activities (in order of how asked in survey)

How important are the following activities to you in terms of improving biodiversity in the City of Sydney council area?



Other issues they'd like Council to address

This was an open-ended question with 93 responses received – many were extremely detailed (the full list of responses to this question is attached as a pdf file). Responses were categorised under three of the areas identified from the community consultation meetings – policy; procedure and education. Each separate response was counted (with a total of 515 responses overall).

85% made a comment about **procedure**, which included a broader range of issues than from the community group consultations, including:

- Roof gardens;
- Waste management/composting;
- Water recycling and management (including rainwater);
- Air and water quality; transport issues;
- Provision of nesting boxes; and
- Wildlife corridors.

Sample comments:

"I think a food strategy would be good that places the emphasis on creating an alternative food source in the urban environment" (#30)

"Bringing in by laws to prevent people from allowing dogs and cats to wander and therefore kill or harm local wildlife ..." (#35)

"I am always shocked by how much rainwater is lost in the Sydney area to the point where you have floods created by the back up. If every structure was fitted with tanks that could capture this water that could be used for laundry/ toilet or the garden it would [mean] less water would need to be taken from the country areas..." (#74)

"I would like to see construction [of] functional wetlands in Inner City parks that include frog habitat ... The ponds could include small areas of mud which are essential for swallows and some native wasps to build their nests." (#96)

10% of responses related to **education and training**:

"Perhaps a leaflet or other education/awareness strategy included in rates notices or with the Lord Mayor's newsletter that provides some information about flora and fauna that is indigenous to the area" (#36)

"Schools can be a vital part of developing community awareness. Council should make an effort to make a contact in each school (other than the busy principal) and develop programs to involve students" (#5)

"I commend the City for finally adding a Biodiversity Officer to the team and think that community education is the key" (#38)

5% of responses related to **policy** areas Council should address for example:

"The installation of a biodiversity committee made up of community representatives (with an interest and skills) to act as a support decision making body..." (#65)

"Placing weight on priorities and fixing strategies to a detailed implementation plan which includes funding" (#88)

Report prepared by Dr Lynda Kelly, AMBS, 9 February 2011

Appendix 5

Identification of biodiversity values

Site	Size	Landscape	Vegetation Structure	Canopy cover	No. indig-enous flora species	Naturally occurring flora species	Fauna values	Potential to increase biodiversity	Other values or notes	Overall biodiversity values in LGA context (high, medium, low)
Sydney Park, St Peters	Large	Undulating land on site of former landfill	Mostly canopy and lawn, with understory in some sections	Variable; very high in woodland plantings	> 100	<5 (wetland species)	High	High	Large area; large freshwater wetlands contribute to high fauna values; very high diversity of indigenous flora species, but local vegetation focus lacking, and woodland plantings generally lacking understory. High public use; dog-off-leash area.	High
Royal Botanic Gardens (RBG) and Domain (Yurong Precinct)	Large	Foreshore land with some natural sandstone outcrops	All layers	> 30%	> 90	c.25	High	High	Sandstone outcrops with forest remnants; remnant trees of Coastal Swamp/Alluvial Forest EEC and other naturally occurring species; extensive indigenous plantings of local provenance; actual native species richness in RBG much higher. Ponds, themed plantings and sandstone outcrops contribute to high fauna values. High public use, but access to RBG generally restricted to day time. Dogs prohibited.	High
Bicentennial, Federal and Jubilee Parks, AV Henry Reserve, Glebe	Large	Reclaimed land on waterfront with concrete-lined stormwater canal; bush restoration sites and estuarine habitat	Mostly canopy and lawn, with understory in some sections	Variable	> 100	c. 15	Medium	High	Coastal Saltmarsh EEC and mangrove forest; diverse indigenous plantings in several bush restoration sites established and maintained by volunteers; connectivity with several adjoining parks values. Sandstone outcrops and other rocky habitat contribute to fauna values. High public use; partially dog off-leash area.	High
Moore Park (Mt Steel, Moore Park Golf, Lake Kippax)	Large	Undulating hills, sandy soils, some sandstone at surface around Mt Steel; low-lying, flat, completely modified terrain around Lake Kippax	Mostly canopy and lawn, with understory in some sections	> 30%	20-40 recorded but likely >40	2	Low	High	Extensive turf areas; historic fig plantings and more recent indigenous native plantings. Connectivity to adjacent Centennial Park. Dogs prohibited in Moore Park Golf and Lake Kippax; Mt Steel is dog off-leash.	High
Garden Island (northern end), Woolloomooloo	Large	Modified foreshore ridge-top with sandstone cliff	All layers	> 30%	> 40	13	Medium	Medium	Coastal Sandstone Outcrop with high number of naturally occurring species. Restricted access. Dogs prohibited.	High
Saunders Street Open Space, Jones St Pocket Park and light rail corridor, Pymont	Small	Bush restoration sites adjoining sandstone cliffs and steep slopes	All layers	> 30%	> 40	c. 10	Medium	Medium	Significant sandstone cliff habitat with naturally occurring species; mostly indigenous plantings at several adjoining bush restoration sites established and maintained by volunteers; heavy weed infestation along light rail corridor.	High

Site	Size	Landscape	Vegetation Structure	Canopy cover	No. indig-enous species	Naturally occurring flora species	Fauna values	Potential to increase biodiversity	Other values or notes	Overall biodiversity values in LGA context (high, medium, low)
Orphan School Creek, Forest Lodge	Medium	Modified creekline gully	All layers	<30%	>80	3	Medium	Medium	Modified, dry creek line and adjoining bush restoration site; good diversity of indigenous plantings, particularly shrubs and groundcovers, and possible remnant tree of Sydney Turpentine Ironbark Forest EEC. Potential connectivity to Federal and Bicentennial Parks. Fencing and steep slopes restrict public access to some sections.	High
Wentworth Park Light Rail Station	Small	Bush restoration site adjacent to light rail line; modified sandstone outcrop on southern side	All layers	<10%	>46	0	Medium	Medium	Bush restoration site established and maintained by volunteers, with diverse plantings and adjoining sandstone outcrops; some connectivity with other bush restoration sites in Pyrmont via the light rail corridor.	High
Embarcation Park and McElhone Stairs, Potts Point	Medium	Tiered park on carpark roof adjoining modified sandstone cliffs	All layers	<10%	>40	4	Low	High	Diverse native plantings in park, but many encourage common, aggressive indigenous fauna; adjoining sandstone cliff habitat subject to weed invasion but also supports naturally occurring species.	Medium
Clyne Reserve, The Rocks	Small	Hilltop site, sandstone outcropping at surface	Mostly canopy and lawn	>30%	<20	1	Low	High	Mostly native plantings; understorey currently sparse. Dog on-leash area.	Medium
Alexandria Park, Alexandria	Small	Completely modified, inner city park	Mostly canopy and lawn	>30%	<20	0	Medium (due to Long-nosed Bandicoot)	Low	Good fig canopy, similar to many other City parks. Limited potential for understorey plantings or other habitat enhancements given formal design and existing range of uses. Dog off-leash park.	Medium
Bear Park, Elizabeth Bay	Small	Reclaimed land on waterfront; limited sandstone outcrops	All layers	c. 30%	20-40	1	Low	Low	Potential to enhance sandstone plantings; diverse indigenous plantings close to playground. Dog off-leash from late afternoon until early morning.	Medium
Rushcutters Bay Park, Rushcutters Bay	Medium	Reclaimed land on waterfront; sandstone cliff at western edge.	Mostly canopy and lawn	<30%	<20	2	Medium, along western boundary	Low	Sandstone cliff with naturally occurring indigenous ferns; some potential to plant species representative of original swamp forest; historic plantings; high public use. Dog off-leash from late afternoon to early morning.	Medium
Pirrama Road, Pyrmont	Small	Modified sandstone cliff	Mostly ferns and herbs	<10%	<20	9	Low	Low	Significant sandstone cliff habitat with naturally occurring vegetation.	Medium
Woolwash Park, Zetland	Small	Constructed freshwater wetland connected to natural aquifer	Canopy and understorey (wetland species only)	>10%	<20	?	Medium	Low	Good representation of freshwater wetland habitat, currently scarce in the LGA; habitat value reduced by Mosquito Fish infestation.	Medium

Site	Size	Landscape	Vegetation Structure	Canopy cover	No. indigenous flora species	Naturally occurring flora species	Fauna values	Potential to increase biodiversity	Other values or notes	Overall biodiversity values in LGA context (high, medium, low)
Kirsova One Playground, park on corner of Swanson Street and Railway Pde and Burren St, Erskineville	Small	Completely modified pocket parks and road reserves	All layers	>30%	20-40	2	Medium	Low	Sites provide support for dense weedy habitat within the rail corridor.	Medium
Pirrama Park and Pyrmont Point Park	Medium	Reclaimed land on waterfront; minor sandstone cliff at southern end of park	Mostly canopy and lawn	<10%	c. 20	3	Low	Low	New park, mostly indigenous plantings; swales incorporate good range of indigenous sedges/grasses. High public use.	Medium
Argyle Street, The Rocks	Small	Steep sandstone cliff along road	Mostly canopy along street and ferns, herbs on cliff	>30%	<10	4	Low	Low	Significant sandstone habitat with large fern specimens; mixed plantings along bottom of cliff.	Medium
University of Sydney	Large	Completely modified university campus	Mostly canopy and lawn, with understorey in some areas	<30%	20-40 (estimate in limited area surveyed)	Possible	Medium	Medium	Mix of indigenous and exotic plantings including mature trees; increasing use of indigenous species in recent landscaping; well-vegetated small pond is representative of freshwater wetland habitat, currently scarce in the LGA; dogs prohibited.	Medium
Arthur McElhone Reserve, Elizabeth Bay	Small	Elevated park with large ponds above sandstone rock outcrop	All layers	<30%	30-40	5	Medium	Medium	Sandstone outcrop with naturally occurring species and possible remnant Dwarf Apple; rock habitat with ephemeral pools; mix of indigenous and exotic plantings in main park; well-vegetated ponds.	Medium
DH Foley Park and St Johns Anglican Church grounds, Glebe	Small	Completely modified park, and adjoining church grounds	Mostly canopy and lawn	>30%	<20	1	Low	Medium	Significant Grey Ironbark tree with Dichondra and Carex, possibly remnant of Sydney Turpentine Ironbark Forest EEC, in church grounds.	Medium
Blackwattle Bay Park, Glebe	Medium	Foreshore park with small sandstone outcrops and bush restoration sites	All layers	>10%	30-40	0	Medium	Medium	Diverse indigenous plantings reflecting likely original sandstone foreshore vegetation; connectivity to Bicentennial, Federal, Jubilee Parks etc. High public use; dog off-leash area.	Medium
Southern Cross Drive Reserve, Rosebery	Medium	Completely modified park	All layers	>30%	>40	Some may have colonised	Low	Medium	Corridor values, close proximity to Moore Park; diverse native plantings; low public usage.	Medium

Site	Size	Landscape	Vegetation Structure	Canopy cover	No. indig-enous flora species	Naturally occurring flora species	Fauna values	Potential to increase biodiversity	Other values or notes	Overall biodiversity values in LGA context (high, medium, low)
Lewis Hoade Reserve, Forest Lodge	Small	Narrow pocket park along sandstone outcrop	All layers	>30%	c. 40	c.12	Medium	Medium	Significant sandstone outcrop habitat with naturally occurring species; old Bangalay at eastern end possibly remnant of Alluvial Forest EEC; connectivity with AV Henry, Federal, Jubilee, Bicentennial Parks; small natural pool in rock shelf.	Medium
The Anchorage, Glebe	Small	Bush restoration site along Glebe foreshore; small rock outcrop in south east corner	All layers	>10%	c. 40	c. 5–10	Medium	Medium	Connectivity with Blackwattle Bay Park and Bicentennial Park etc. Bush restoration site maintained by volunteers.	Medium
John Street Reserve, Glebe	Small	Completely modified pocket park. Proposed site of demonstration habitat garden	Most canopy and lawn	c. 30%	<10	0	Low	Medium	Has the potential linkage value with the demonstration habitat garden. Low public use and quiet.	Low
Arundel Street Reserve, Forest Lodge	Small	Completely modified park	Mostly canopy and lawn with some understorey plantings	<30%	c. 10	2	Medium	Low	Includes Melaleuca's and a mix of grasses and herbs. Low public use and small size. Potential support to linkage area.	Low
Larkin Street Park, Forest Lodge	Small	Completely modified park	Mostly canopy and lawn with understorey in some sections	<30%	<20	0	Medium	Medium	Potential for increasing understorey plantings in perimeter of park to have some habitat value.	Low
Arthur (Paddy) Grey Reserve, Forest Lodge	Small	Park surrounding sandstone outcrop with some seepage; bush restoration site	All layers	>30%	c. 40	4	Medium	Medium	Sandstone outcrop habitat with some (sparse) naturally occurring species; good range of indigenous plantings, mostly undertaken by volunteers.	Medium
Bannerman Crescent Reserve, Rosebery	Small	Suburban pocket park	All layers	>10%	c. 30	0	Medium	Medium	Recently planted; good range of indigenous shrubs and small trees; low usage. Connectivity with other indigenous plantings along Southern Cross Drive and golf courses etc to the east.	Medium
Perry Park, Alexandria	Medium	Completely modified park	Mostly canopy and lawn	c.30%	20–40	0	Medium	Medium	Potential for increasing understorey plantings; connectivity to weedy Sydney Water easement that has some habitat values.	Medium
Eddie Ward Park, Surry Hills	Small	Completely modified park	Mostly canopy and lawn	<30%	20–40	0	Low	Low	Mix of indigenous and exotic plantings; groundcover mostly exotic; high public use.	Low

Site	Size	Landscape	Vegetation Structure	Canopy cover	No. indig-enous flora species	Naturally occurring flora species	Fauna values	Potential to increase biodiversity	Other values or notes	Overall biodiversity values in LGA context (high, medium, low)
Joynton Road and side streets to Joynton Park e.g. Morris Grove, Zetland	Small	Completely modified streetscape	Mostly canopy	>30%	<20	0	Low	Low	Swales planted with limited range of indigenous sedges/grasses beneath tree canopy in middle of side streets.	Low
Argyle Place Park	Small	Completely modified pocket park	Mostly canopy and lawn	>30%	<10	0	Low	Low	Mostly indigenous canopy.	Low
Hyde Park	Medium	Completely modified, formally landscaped park	Most canopy and lawn	>30%	<20	Few ground-covers	Low	Low	Extensive fig canopy; formal design, high public use.	Low
Observatory Hill	Medium	Elevated, completely modified park	Mostly canopy and lawn	>30%	<10	0	Low	Low	Historic fig plantings.	Low
Fitzroy Gardens, Kings Cross	Small	Completely modified pocket park	Mostly canopy only	>30%	<10	0	Low	Low	Formal plantings; high public use.	Low
Macleay Reserve, Elizabeth Bay	Small	Completely modified	Mostly canopy and lawn	<30%	<10	0	Low	Low	Mostly indigenous plantings; uncommon Ironbark planted locally.	Low
Dawes Point, The Rocks	Small	Completely modified, waterfront site	Mostly canopy and lawn	<30%	<10	0	Low	Low	Both indigenous and exotic canopy.	Low
Ballarat and Darling Island Park, Pyrmont	Small	Completely modified, waterfront sites	Mostly canopy and lawn	<30%	<10	0	Low	Low	Mostly indigenous species.	Low
Turruwul Park, Rosebery	Small	Completely modified	Mostly canopy and lawn	>10%	<20	0	Low	Low	Sport and other recreational facilities; high public use.	Low
Cook+Phillip Park	Small	Highly modified	Canopy, lawn and understorey	>30%	<20	0	Low	Low-Medium	Formal landscaping; high public use; dog off-leash area.	Low
Kimberley Grove Reserve, Rosebery	Medium	Pocket park on ridge-line	Mostly canopy and lawn	>10%	<20	0	Low	Medium	One of several parks in Rosebery with potential to improve the habitat value of the local area.	Low
Oatley Reserve, Paddington	Small	Slope with sandstone exposed at surface	Mostly canopy and lawn	<30%	<20	3 or 4	Low	Medium	Potential for increased indigenous plantings; low public use apart from playground at southern end.	Low
Stewart St Closure, Paddington	Small	Completely modified pocket park	Canopy and lawn	>30%	<10	1	Low	Medium	Mostly indigenous plantings; some potential for infill understorey planting.	Low

Site	Size	Landscape	Vegetation Structure	Canopy cover	No. indig-enous flora species	Naturally occurring flora species	Fauna values	Potential to increase biodiversity	Other values or notes	Overall biodiversity values in LGA context (high, medium, low)
Lawrence Hargreave Reserve, Kings Cross	Small	Park on top of car park	Mostly canopy and lawn	<30%	c.20	2	Low	Medium	Mostly indigenous plantings, but understorey very sparse.	Low
Joynton and Tote Parks, Zetland	Small	Completely modified park	Mostly canopy and lawn	>10%	<20	0	Low	Medium	Swales with good range of indigenous sedges/grasses and large sandstone boulders, but dry conditions reduce habitat value.	Low
Forbes Street Precinct – closed areas between Nicholson Street and Cathedral Street and Wallamulla Park	Small	Completely modified sites including pocket parks	Mostly canopy and lawn	>30%	<20	0	Low	Medium	Potential for indigenous plantings in several pocket parks/open space adjoining rail viaduct.	Low
Cooper Street Closure and some adjoining areas, Surry Hills	Small	Completely modified site	Mostly canopy and lawn	>30%	<10	0	Low	Medium	Mostly exotic plantings but potential to establish indigenous understorey.	Low
Pyrmont Bay Park	Small	Completely modified foreshore park	Mostly canopy and lawn	>30%	<10	0	Low	Medium	Existing garden beds sparsely planted.	Low
Dibbs Street and Jack Shuttleworth Reserves, Erskineville	Small	Small pocket parks	Mostly canopy and lawn	>30%	20–40	0	Low	Low	Reasonable local canopy connectivity between parks, gardens, streets and rail corridor. Potential to increase diversity and density of plantings.	Low
Erskineville rail corridor (as viewed from edges, Swanson St to Bridge St)	Small	Weed-infested rail corridor	Few trees, dense understorey	<10%	<10	Potentially 2–3	Medium	Medium	No access to corridor for survey. Very weedy, little potential for naturally occurring flora but dense vegetation has fauna habitat value; substantial potential for bush restoration; connectivity between Sydney Park and University of Sydney.	Low

Appendix 6

Annual bush restoration and habitat enhancement program principles

The annual bush restoration and habitat enhancement program will:

- Focus on priority sites and supporting sites, but also include under-utilised or publicly inaccessible sections of other parks, particularly where these are along or near the potential linkages indicated in Figure 17;
- Initially focus on infill planting and other habitat enhancement within existing garden beds that are characterised by indigenous vegetation, with subsequent expansion and consolidation wherever possible without compromising existing site use; and
- Incorporate the following planting principles:
 - Species from the likely original vegetation communities, and/or other indigenous species that have identified value as habitat for priority fauna species (refer Appendix 8) are to be used wherever possible and compatible with the existing site conditions;
 - Species from other indigenous vegetation communities may also be incorporated if considered better suited to site conditions;
 - Other indigenous species that have identified value as habitat for priority fauna species may also be incorporated;
 - Where new trees are required, they are to be planted at a minimum 50 metre spacing to maximise the potential for understorey development;
 - A mix of understorey species (shrubs, grasses, sedges, vines/scramblers and groundcovers) is to be used to improve plant diversity and habitat complexity;
 - The density of new plantings, particularly groundcover species, is to be maximised in order to stabilise and increase ecological function of the soil, and minimise potential for weed invasion;
 - Local provenance stock, preferably propagated from seed, is to be used wherever possible;
 - The use of hybridised plants, large-flowering plants and soft-fruited plants is to be avoided;
 - The use of bipinnate Acacias is to be maximised;
 - The exact mix of species to be planted is to be based on site-specific advice obtained from a qualified and experienced bush regeneration specialist, with reference to this document and the user-friendly *Habitat Creation Guide*, once developed (refer Section 4.2.4);
 - Plants are to be sourced from local nurseries that specialise in indigenous species of local provenance, in order to increase the range and genetic diversity of species available for planting; and
 - The potential for seed to be collected from new sources, such as the Yurong Precinct of the Domain, Sydney Harbour National Park, Centennial Parklands and similar, is to be investigated to increase the diversity of locally indigenous species propagated at local nurseries and available for planting.
- Incorporate habitat enhancements for priority fauna species and other fauna as outlined in Section 4.3.3, wherever possible and appropriate based on specialist ecological advice; and
- Include the installation of temporary fencing around habitat plantings to prevent access by dogs and park users during the plant establishment phase, and identify the need for permanent fencing.

Appendix 7

Bush restoration management plan requirements

The Bush Restoration Management Plan will:

- Include a map indicating the the locations of:
 - Identified naturally occurring vegetation, including possible remnants; and
 - Existing and proposed future bush restoration sites.
 - Specify the requirement for maintenance to be undertaken by or under the supervision of qualified and experienced bush regeneration specialists;
 - Require that all City staff and contractors involved in park and streetscape maintenance undergo an induction to ensure they are familiar with the contents and requirements of the plan;
 - Specify a regular program of monitoring, maintenance and reporting on the condition of bush restoration and habitat enhancement sites, to enable any issues to be addressed as early as possible;
 - Specify the particular maintenance practices that require implementation in accordance with best practice bush regeneration and biodiversity management techniques, including:
 - Installation of at least temporary fencing around all bush restoration sites during the plant establishment phase, to minimise the potential for trampling and vandalism;
 - Watering as required during the plant establishment phase;
 - Exclusion of mowing and brush-cutting;
 - Restrictions on herbicide use, particularly around wetlands, drainage lines and sandstone cliffs and outcrops;
 - Manual removal of weeds and other inappropriate species;
 - Installation of timber edging, paving or similar to create a defined maintenance edge;
 - Encouraging natural regeneration where possible;
 - Undertaking supplementary planting with locally indigenous species from the relevant likely original vegetation communities and other species listed in Appendix 8 and the *Habitat Creation Guide*, when developed (refer Section 4.2.4);
 - Retaining fauna habitat features such as dense understorey vegetation, rocks, fallen timber and other woody debris, leaf litter, mistletoe and tree hollows wherever possible;
 - Ensuring that dead/hollow indigenous trees/branches that have to be removed for safety or aesthetic reasons from, are distributed at bush restoration and habitat enhancement sites (cut into pieces if required);
 - Ensuring that removal of dense vegetation (including weeds), where required, is undertaken in stages, with each stage followed by replacement planting of locally indigenous species or other species of similar habitat value to compensate for the vegetation removed, and that the next stage of vegetation removal does not take place until the replacement planting has established; and
 - Ensuring that shrubs are pruned lightly, when necessary, outside of bird nesting season.
 - Outline a specific program of staged weed removal to protect naturally occurring vegetation on sandstone cliffs and outcrops throughout the LGA, along with replacement planting where possible using species from the Sandstone Cliff Soaks community (Appendix 8); and
 - Outline a specific program for collection and propagation of seed from possible remnants and other naturally occurring vegetation within the LGA for subsequent use in the annual bush restoration and habitat enhancement program.
- Include a list of common weed species which should be removed, including methods for their removal.**

Appendix 8

Species to be considered in bush restoration and other habitat enhancement programs

The following species lists, which should be used in conjunction with Figure 5 Soil Landscapes of the LGA, include:

- The likely original vegetation communities of the LGA, based on Tozer *et al.* (2010), DECCW (2009) and various NSW Scientific Committee final determinations for endangered ecological communities; and
- Coastal Escarpment Littoral Rainforest and a range of species suitable for water-sensitive urban design (WSUD), based on EPA (1997), that may not have originally occurred in the LGA, but occur elsewhere in Sydney, provide good habitat and/or may be better suited to current conditions at some sites than the likely original communities.

It should be noted that not all species are readily available, and many are difficult to propagate and grow. The *Habitat Creation Guide* (Section 4.2.4) will provide more information in this regard.

Vegetation Community	Description and Soil Landscape	Tree Layer	Small Tree/ Shrub Layer	Ground Layer	Vines/Climbers
Sydney Turpentine Ironbark Forest	A diverse eucalypt forest with an open shrub layer and grassy groundcover. occupies undulating terrain and broad ridgetops on shale up to 500m ASL. Blacktown Soil Landscape Unit	<i>Angophora costata</i> <i>Angophora floribunda</i> <i>Allocasuarina torulosa</i> <i>Eucalyptus punctata</i> <i>Eucalyptus pilularis</i> <i>Eucalyptus paniculata</i> <i>Eucalyptus eugenioides</i> <i>Eucalyptus globoidea</i> <i>Eucalyptus resinifera</i> <i>Syncarpia glomulifera</i> <i>Exocarpos cupressiformis</i>	<i>Acacia decurrens</i> <i>Acacia falcata</i> <i>Acacia floribunda</i> <i>Acacia implexa</i> <i>Acacia longifolia</i> <i>Acacia parramattensis</i> <i>Breynia oblongifolia</i> <i>Bursaria spinosa</i> <i>Clerodendrum tomentosum</i> <i>Desmodium rhytidophyllum</i> <i>Dodonaea triquetra</i> <i>Einadia hastata</i> <i>Glochidion ferdinandi</i> <i>Goodenia hederacea</i> <i>Kunzea ambigua</i> <i>Leucopogon juniperinus</i> <i>Maytenus silvestris</i> <i>Myrsine variabilis</i> <i>Notelaea longifolia</i> <i>Omalanthus populifolius</i> <i>Ozothamnus diosmifolius</i> <i>Persoonia linearis</i> <i>Pittosporum revolutum</i> <i>Polyscias sambucifolia</i> <i>Zieria smithii</i>	Herbs: <i>Centella asiatica</i> <i>Dianella caerulea</i> <i>Dichondra repens</i> <i>Hibbertia aspera</i> <i>Hydrocotyle peduncularis</i> <i>Pratia purpurascens</i> <i>Pseuderanthemum variabile</i> <i>Veronica plebeia</i> <i>Wahlenbergia gracilis</i> Grasses: <i>Aristida vagans</i> <i>Austrodanthonia tenuior</i> <i>Cymbopogon refractus</i> <i>Echinopogon species</i> <i>Entolasia marginata</i> <i>Entolasia stricta</i> <i>Microlaena stipoides</i> <i>Oplismenus aemulus</i> <i>Oplismenus imbecillis</i> <i>Setaria (Paspalidium) distans</i> <i>Poa affinis</i> <i>Themeda australis</i> <i>Poa affinis</i> Sedges/Rushes: <i>Carex inversa</i> <i>Cyperus gracilis</i> <i>Gahnia aspera</i> <i>Lomandra filiformis</i> <i>Lomandra longifolia</i> Ferns: <i>Adiantum aethiopicum</i> , <i>Cheilanthes sieberi</i> <i>Doodia aspera</i>	<i>Billardiera scandens</i> <i>Clematis glycinoides</i> <i>Commelina cyanea</i> <i>Eustrephus latifolius</i> <i>Glycine clandestina</i> <i>Glycine microphylla</i> <i>Hardenbergia violacea</i> <i>Kennedia rubicunda</i> <i>Pandorea pandorana</i>

Vegetation Community	Description and Soil Landscape	Tree Layer	Small Tree/ Shrub Layer	Ground Layer	Vines/Climbers
Coastal Sandstone Foreshores Forest and Coastal Shale Sandstone Forest	<p>Open eucalypt forest on sheltered sandstone slopes along foreshores (maritime influence), often with some clay influence. Also shale-sandstone transitional areas away from foreshore. Moist shrub layer and groundcover of ferns, and grasses.</p> <p>GyMEA, Hawkesbury or Lucas Heights Soil Landscape Units</p>	<p><i>Angophora costata</i> <i>Banksia integrifolia</i> <i>Corymbia gummifera</i> <i>Eucalyptus botryoides</i> <i>Eucalyptus pilularis</i> <i>Eucalyptus piperita</i> <i>Eucalyptus resinifera</i> <i>Eucalyptus punctata</i> <i>Ficus rubiginosa</i></p>	<p><i>Acacia implexa</i> <i>Acacia longifolia</i> <i>Acacia linifolia</i> <i>Acacia suaveolens</i> <i>Acacia terminalis</i> <i>Allocasuarina littoralis</i> <i>Banksia spinulosa</i> <i>Breynia oblongifolia</i> <i>Ceratopetalum gummiferum</i> <i>Clerodendrum tomentosum</i> <i>Dodonaea triquetra</i>, <i>Elaeocarpus reticulatus</i> <i>Epacris longiflora</i> <i>Glochidion ferdinandii</i> <i>Hakea sericea</i> <i>Homalanthus populifolius</i> <i>Kunzea ambigua</i> <i>Leptospermum polygalifolium</i> <i>Leucopogon juniperinus</i> <i>Leucopogon lanceolatus</i> <i>Lomatia silaifolia</i> <i>Myrsine variabilis</i> <i>Notelaea longifolia</i> <i>Ozothamnus diosmifolius</i> <i>Persoonia levis</i> <i>Persoonia linearis</i> <i>Pittosporum revolutum</i> <i>Platysace linearifolia</i> <i>Podocarpus spinulosus</i> <i>Polyscias sambucifolia</i> <i>Pomaderris ferruginea</i> <i>Synoum glandulosum</i> <i>Zieria smithii</i> <i>Xanthorrhoea arborea</i></p>	<p>Herbs: <i>Commelina cyanea</i> <i>Crassula sieberiana</i> <i>Dianella caerulea</i> <i>Dichondra repens</i> <i>Hydrocotyle peduncularis</i> <i>Pratia purpurascens</i> <i>Plectranthus parvifolius</i> <i>Pseuderanthemum variabilis</i> <i>Veronica plebeia</i> <i>Wahlenbergia gracilis</i></p> <p>Grasses: <i>Dichelachne micrantha</i> <i>Dichelachne crinita</i> <i>Echinopogon caespitosus</i> <i>Entolasia stricta</i> <i>Microlaena stipoides</i> <i>Oplismenus aemulus</i> <i>Oplismenus imbecillis</i> <i>Poa affinis</i> <i>Themeda australis</i></p> <p>Sedges/Rushes: <i>Cyperus gracilis</i> <i>Cyperus mirus</i> <i>Lepidosperma laterale</i> <i>Lomandra longifolia</i></p> <p>Ferns: <i>Adiantum aethiopicum</i> <i>Calochlaena dubia</i> <i>Davallia solida</i> var. <i>pyxidata</i> <i>Pteridium esculentum</i></p>	<p><i>Cayratia clematidea</i> <i>Clematis glycinoides</i> <i>Eustrephus latifolius</i> <i>Glycine clandestina</i> <i>Glycine tabacina</i> <i>Hibbertia dentata</i> <i>Pandorea pandorana</i> <i>Smilax glyciphylla</i></p>

Vegetation Community	Description and Soil Landscape	Tree Layer	Small Tree/ Shrub Layer	Ground Layer	Vines/Climbers
Coastal Sandstone Ridgetop Woodland	<p>A low eucalypt forest with a diverse sclerophyll shrub layer and open groundcover of sedges. Widespread on ridgetops and upper valley slopes.</p> <p>Lucas Heights, Gynea or Hawkesbury Soil Landscape Units</p>	<p><i>Angophora costata</i> <i>Angophora hispida</i> <i>Corymbia eximia</i> <i>Corymbia gummifera</i> <i>Eucalyptus haemastoma</i> <i>Eucalyptus racemosa</i> <i>Eucalyptus sieberi</i> <i>Eucalyptus oblonga</i> <i>Eucalyptus sparsifolia</i> <i>Eucalyptus squamosa</i></p>	<p><i>Acacia linifolia</i> <i>Acacia suaveolens</i> <i>Acacia terminalis</i> <i>Acacia ulicifolia</i> <i>Allocasuarina distyla</i> <i>Aotus ericoides</i> <i>Baeckea diosmifolia</i> <i>Baeckea linifolia</i> <i>Banksia ericifolia</i> <i>Banksia marginata</i> <i>Banksia serrata</i> <i>Banksia spinulosa</i> <i>Bossiaea heterophylla</i> <i>Bossiaea obcordata</i> <i>Calytrix tetragona</i> <i>Darwinia fascicularis</i> <i>Dillwynia floribunda</i> <i>Dillwynia retorta</i> <i>Epacris longiflora</i> <i>Epacris microphylla</i> <i>Gompholobium grandifolium</i> <i>Grevillea mucronulata</i> <i>Grevillea sericea</i> <i>Grevillea speciosa</i> <i>Hakea dactyloides</i> <i>Hakea sericea</i> <i>Hovea linearis</i> <i>Isopogon anemonifolius</i> <i>Lambertia formosa</i> <i>Leptospermum trinervium</i> <i>Monotoca scoparia</i> <i>Persoonia levis</i> <i>Petrophile pulchella</i> <i>Persoonia pinifolia</i> <i>Platysace lanceolata</i> <i>Phebalium squamulosum</i> <i>Pultenaea tuberculata</i> <i>Pultenaea stipularis</i> <i>Ricinocarpos pinifolius</i> <i>Telopea speciosissima</i> <i>Xylomelum pyriforme</i> <i>Xanthorrhoea arborea</i> <i>Xanthorrhoea resinifera</i></p>	<p>Herbs: <i>Actinotus helianthi</i> <i>Actinotus minor</i> <i>Dampiera stricta</i> <i>Mirbelia rubiifolia</i> <i>Patersonia sericea</i> <i>Scaevola ramosissima</i> <i>Xanthosia pilosa</i></p> <p>Grasses: <i>Anisopogon avenacea</i> <i>Austrostipa pubescens</i> <i>Entolasia stricta</i> Sedges/Rushes: <i>Caustis flexuosa</i> <i>Cyathochaeta diandra</i> <i>Guringalia dimorpha</i> <i>Lepidosperma concavum</i> <i>Lepyrodia scariosa</i> <i>Lomandra glauca</i> <i>Lomandra gracilis</i> <i>Lomandra obliqua</i> <i>Schoenus imberbis</i></p> <p>Ferns: <i>Lindsaea linearis</i></p>	<p><i>Cassytha pubescens</i></p>

Vegetation Community	Description and Soil Landscape	Tree Layer	Small Tree/ Shrub Layer	Ground Layer	Vines/Climbers
Coastal Sandstone Gully Forest (includes Sandstone Cliff Soaks¹ and Coastal Enriched Sandstone Sheltered Forest)	<p>Open eucalypt forest with a diverse sclerophyll shrub stratum and an open groundcover dominated by sedges found in gullies. Includes moist sandstone cliff/ outcrop flora.</p> <p>GyMEA and Hawkesbury Soil Landscape Units</p>	<p><i>Angophora costata</i> <i>Banksia serrata</i> <i>Callicoma serratifolia</i>¹ <i>Corymbia gummifera</i> <i>Eucalyptus pilularis</i> <i>Eucalyptus piperita</i> <i>Ficus rubiginosa</i>¹ <i>Tristania neriifolia</i>¹</p>	<p><i>Acacia linifolia</i> <i>Acacia suaveolens</i> <i>Acacia terminalis</i> <i>Aotus ericoides</i> <i>Astroloma pinifolium</i> <i>Austromyrtus tenuifolius</i>¹ <i>Banksia ericifolia</i> <i>Banksia marginata</i> <i>Banksia spinulosa</i> <i>Bauera rubioides</i>¹ <i>Bossiaea heterophylla</i> <i>Ceratopetalum gummiferum</i> <i>Dodonaea triquetra</i>, <i>Doryanthes excelsa</i> <i>Dracophyllum secundum</i>¹ <i>Epacris microphylla</i>¹ <i>Eriostemon australasicus</i> <i>Gompholobium grandiflorum</i> <i>Grevillea diffusa</i> <i>Hakea propinqua</i> <i>Hakea teretifolia</i> <i>Hibbertia bracteata</i> <i>Hibbertia linearis</i> <i>Lasiopetalum ferrugineum</i> <i>Leptospermum polygalifolium</i> <i>Leptospermum squarrosus</i> <i>Leptospermum trinervium</i> <i>Leucopogon amplexicaulis</i>¹ <i>Leucopogon ericoides</i> <i>Lomatia silaifolia</i> <i>Persoonia levis</i> <i>Persoonia pinifolia</i> <i>Platysace linearifolia</i> <i>Podocarpus spinulosus</i> <i>Prostanthera linearis</i> <i>Pultenaea daphnoides</i> <i>Sprengelia incarnata</i>¹ <i>Styphelia tubiflora</i> <i>Viminaria juncea</i> <i>Zieria laevigata</i></p>	<p>Herbs: <i>Gonocarpus teucrioides</i>¹ <i>Dianella caerulea</i> <i>Dampiera stricta</i> <i>Lobelia anceps</i>¹ <i>Patersonia glabrata</i> <i>Selaginella uliginosa</i>¹</p> <p>Grasses: <i>Entolasia stricta</i></p> <p>Sedges/Rushes: <i>Juncus continuus</i>¹ <i>Lepidosperma filiforme</i>¹ <i>Lepidosperma laterale</i> <i>Lomandra longifolia</i> <i>Caustis flexuosa</i> <i>Baloskion tetraphyllum</i> <i>Empodisma minus</i> <i>Gahnia sieberiana</i>,</p> <p>Ferns: <i>Adiantum aethiopicum</i>¹ <i>Adiantum hispidulum</i>¹ <i>Blechnum ambiguum</i>¹ <i>Blechnum wattsii</i>¹ <i>Gleichenia dicarpa</i>¹ <i>Histiopteris incisa</i>¹ <i>Pteridium esculentum</i> <i>Lindsaea microphylla</i> <i>Sticherus flabellatus</i>¹ <i>Todea barbata</i>¹</p>	<p><i>Clematis glycinoides</i> <i>Eustrephus latifolius</i> <i>Hibbertia dentata</i> <i>Kennedia rubicunda</i> <i>Morinda jasminoides</i> <i>Stephania japonica</i> var. <i>discolor</i> <i>Marsdenia suaveolens</i> <i>Smilax glyciophylla</i></p>

Vegetation Community	Description and Soil Landscape	Tree Layer	Small Tree/ Shrub Layer	Ground Layer	Vines/Climbers
Littoral Thicket	Open to dense scrub or low closed forest with an open groundcover, restricted to beach dunes and clay soil. Grows on headlands within 200m of the sea, subject to moderate wind shear and salt spray. GyMEA and Hawkesbury Soil Landscape Units	<i>Banksia integrifolia</i> , <i>Acmena smithii</i> , <i>Eucalyptus botryoides</i> , <i>Ficus rubiginosa</i> <i>Livistona australis</i> <i>Leptospermum laevigatum</i>	<i>Acacia longifolia</i> <i>Breynia oblongifolia</i> <i>Glochidion ferdinandi</i> <i>Monotoca elliptica</i> <i>Myrsine variabilis</i> <i>Notelaea longifolia</i> <i>Synoum glandulosum</i> <i>Westringia fruticosa</i>	Herbs: <i>Commelina cyanea</i> <i>Dianella caerulea</i> <i>Dichondra repens</i> <i>Hibbertia scandens</i> <i>Rhagodia candolleana</i> <i>Pseuderanthemum variable</i> <i>Pelargonium australe</i> <i>Viola hederacea</i> Grasses: <i>Entolasia marginata</i> <i>Oplismenus imbecillis</i> Sedges/Rushes: <i>Lomandra longifolia</i> <i>Isolepis nodosa</i> Ferns: <i>Adiantum aethiopicum</i> <i>Adiantum hispidulum</i> <i>Blechnum cartilagineum</i> <i>Calochlaena dubia</i> <i>Doodia aspera</i> <i>Pteridium esculentum</i>	<i>Cayratia clematidea</i> <i>Eustrephus latifolius</i> <i>Hibbertia scandens</i> <i>Kennedia rubicunda</i> <i>Morinda jasminoides</i> <i>Stephania japonica</i> var. <i>discolor</i>
Coastal Escarpment Littoral Rainforest	Potentially suitable for shaded sites.	<i>Angophora costata</i> <i>Syncarpia glomulifera</i> subsp. <i>glomulifera</i> <i>Eucalyptus botryoides</i> <i>Acmena smithii</i> <i>Livistona australis</i> <i>Elaeocarpus reticulatus</i> <i>Callicoma serratifolia</i>	<i>Eupomatia laurina</i> <i>Pittosporum undulatum</i> <i>Synoum glandulosum</i> <i>Breynia oblongifolia</i> <i>Glochidion ferdinandi</i> <i>Homalanthus populifolius</i> <i>Notelaea longifolia</i> <i>Cyathaea australis</i> <i>Endiandra sieberi</i> <i>Myrsine variabilis</i> <i>Backhousia myrtifolia</i>	Herbs and grasses: <i>Dianella caerulea</i> <i>Oplismenus imbecillis</i> <i>Pseuderanthemum variable</i> <i>Entolasia marginata</i> <i>Microlaena stipoides</i> <i>Oplismenus imbecillis</i> <i>Viola hederacea</i> <i>Plectranthus parviflorus</i> <i>Macrozamia communis</i> <i>Poa affinis</i> Ferns: <i>Calochlaena dubia</i> <i>Doodia aspera</i> <i>Blechnum cartilagineum</i> <i>Adiantum aethiopicum</i> <i>Adiantum hispidulum</i>	<i>Morinda jasminoides</i> <i>Smilax australis</i> <i>Geitonoplesium cymosum</i> <i>Glycine clandestine</i> <i>Marsdenia rostrata</i> <i>Morinda jasminoides</i> <i>Pandorea pandorana</i> <i>Passiflora herbertiana</i> <i>Smilax glycyphylla</i> <i>Cissus hypoglauca</i> <i>Eustrephus latifolius</i>

Vegetation Community	Description and Soil Landscape	Tree Layer	Small Tree/ Shrub Layer	Ground Layer	Vines/Climbers
Eastern Suburbs Banksia Scrub	Characterised by a dense to open tall shrub canopy and open groundcover of forbs and sedges, and may include small areas of shrub swamp (s), woodland or low forest. Podsolised sand dunes, sometimes perched on coastal sandstone plateaux. Tuggerah Soil Landscape Unit	<i>Corymbia gummifera</i> <i>Angophora costata</i> <i>Eucalyptus botryoides</i> <i>Eucalyptus haemastoma</i> <i>Eucalyptus piperita</i> <i>Banksia integrifolia</i>	<i>Acacia longifolia</i> <i>Acacia suaveolens</i> <i>Acacia terminalis</i> <i>Acacia ulicifolia</i> <i>Actinotus helianthi</i> <i>Allocasuarina distyla</i> <i>Aotus ericoides</i> <i>Astroloma pinifolium</i> <i>Baeckea imbricata</i> (s) <i>Banksia aemula</i> <i>Banksia ericifolia</i> (s) <i>Banksia marginata</i> <i>Banksia serrata</i> <i>Bauera rubioides</i> (s) <i>Boronia ledifolia</i> <i>Bossiaea heterophylla</i> <i>Bossiaea scolopendria</i> <i>Callistemon citrinus</i> (s) <i>Conospermum taxifolium</i> <i>Correa reflexa</i> <i>Darwinia fascicularis</i> <i>Darwinia leptantha</i> <i>Dillwynia retorta</i> <i>Epacris longiflora</i> <i>Epacris microphylla</i> <i>Epacris obtusifolia</i> <i>Eriostemon australasius</i> <i>Gompholobium grandiflorum</i> <i>Grevillea sphacelata</i> <i>Grevillea speciosa</i> <i>Hakea teretifolia</i> (s) <i>Hibbertia fasciculata</i> <i>Isopogon anemonifolius</i> <i>Kunzea ambigua</i> <i>Lambertia formosa</i> <i>Lasiopetalum ferrugineum</i> <i>Leucopogon ericoides</i> <i>Leptospermum juniperinum</i> (s) <i>Leptospermum laevigatum</i> <i>Melaleuca armillaris</i> <i>Melaleuca ericifolia</i> (s) <i>Melaleuca nodosa</i> <i>Melaleuca squamea</i> (s) <i>Micrantheum ericoides</i> <i>Monotoca elliptica</i> <i>Monotoca scoparia</i> <i>Persoonia lanceolata</i> <i>Persoonia levis</i> <i>Philotheca salsolifolia</i> <i>Pimelea linifolia</i> <i>Platysace lanceolata</i> <i>Platysace linearifolia</i> <i>Ricinocarpos pinifolius</i> <i>Styphelia viridis</i> <i>Viminaria juncea</i> (s) <i>Woolfsia pungens</i> <i>Xanthorrhoea media</i>	Herbs: <i>Actinotus minor</i> <i>Actinotus helianthi</i> <i>Boronia parviflora</i> (s) <i>Dampiera stricta</i> <i>Gonocarpus teucrioides</i> <i>Dianella revoluta</i> <i>Isotoma fluviatilis</i> (s) <i>Patersonia glabrata</i> <i>Philydrum lanuginosum</i> (s) <i>Pomax umbellata</i> <i>Viola hederacea</i> (s) <i>Villarsia exalata</i> (s) <i>Xanthorrhoea resinifera</i> <i>Xanthosia pilosa</i> Grasses: <i>Austrostipa pubescens</i> <i>Dichelachne crinita</i> <i>Entolasia stricta</i> <i>Eragrostis brownii</i> <i>Hemarthria uncinata</i> (s) <i>Isachne globosa</i> (s) Sedges/Rushes: <i>Caustis pentandra</i> <i>Cyathochaeta diandra</i> <i>Eleocharis sphacelata</i> (s) <i>Gahnia sieberiana</i> (s) <i>Haemodorum planifolium</i> <i>Hypolaena fastigata</i> <i>Lepidosperma laterale</i> <i>Leptocarpus tenax</i> (s) <i>Lepyrodia scariosa</i> <i>Lomandra glauca</i> <i>Lomandra longifolia</i> <i>Chordifex (Restio) fastigiatus</i> <i>Schoenus ericetorum</i> Ferns: <i>Pteridium esculentum</i>	<i>Billardiera scandens</i> <i>Hardenbergia violacea</i> <i>Hibbertia scandens</i>

Vegetation Community	Description and Soil Landscape	Tree Layer	Small Tree/ Shrub Layer	Ground Layer	Vines/Climbers
Coastal Sand Swamp Forest	<p>A low eucalypt forest with an open shrub layer and a dense groundcover of sedges and forbs, and occurs as scattered patches along the coastline at elevations below 15m ASL in drainage lines and depressions on sandy alluvium and coastal sand flats.</p> <p>Tuggerah Soil Landscape Unit</p>	<p><i>Banksia integrifolia</i> <i>Casuarina glauca</i> <i>Eucalyptus botryoides</i> <i>Eucalyptus robusta</i> <i>Livistona australis</i> <i>Melaleuca linariifolia</i> <i>Melaleuca styphelioides</i></p>	<p><i>Acacia longifolia</i> <i>Banksia ericifolia</i> <i>Banksia robur</i> <i>Elaeocarpus reticulatus</i> <i>Glochidion ferdinandi</i> <i>Leptospermum continentale</i> <i>Leptospermum polygalifolium</i> <i>Melaleuca ericifolia</i> <i>Melaleuca thymifolia</i> <i>Monotoca elliptica</i> <i>Polyscias sambucifolia</i></p>	<p>Herbs: <i>Centella asiatica</i> <i>Gahnia clarkei</i> <i>Gonocarpus micranthus</i> <i>Hydrocotyle peduncularis</i> <i>Lobelia anceps</i> <i>Selaginella uliginosa</i> <i>Villarsia exalata</i></p> <p>Grasses: <i>Entolasia marginata</i> <i>Entolasia stricta</i> <i>Hemarthria uncinata</i> (s) <i>Isachne globosa</i></p> <p>Sedges/Rushes: <i>Baumea articulata</i> <i>Baumea juncea</i> <i>Empodisma minus</i> <i>Gahnia clarkei</i> <i>Leptocarpus tenax</i> <i>Schoenus brevifolius</i></p> <p>Ferns: <i>Blechnum indicum</i> <i>Gleichenia dicarpa</i> <i>Hypolepis muelleri</i> <i>Pteridium esculentum</i></p>	<p><i>Parsonsia straminea</i> <i>Hibbertia scandens</i> <i>Stephania japonica</i> var. <i>discolor</i></p>
Floodplain Swamp Forest	<p>This is a low, rather dense forest, with an open shrub layer and a semi-continuous groundcover dominated by taxa tolerant of brackish groundwater.</p> <p>Deep Creek Soil Landscape Unit</p>	<p><i>Casuarina glauca</i> <i>Eucalyptus botryoides</i> <i>Eucalyptus robusta</i> <i>Livistona australis</i> <i>Melaleuca linariifolia</i> <i>Melaleuca quinquenervia</i> <i>Melaleuca styphelioides</i> <i>Syzygium paniculatum</i></p>	<p><i>Melaleuca ericifolia</i> <i>Glochidion ferdinandi</i></p>	<p>Herbs: <i>Alternanthera denticulata</i> <i>Commelina cyanea</i> <i>Centella asiatica</i> <i>Lobelia anceps</i> <i>Persicaria decipiens</i> <i>Rumex brownii</i></p> <p>Grasses: <i>Cynodon dactylon</i> <i>Entolasia marginata</i> <i>Hemarthria uncinata</i> <i>Isachne globosa</i> <i>Paspalum distichum</i> <i>Phragmites australis</i></p> <p>Rushes/Sedges: <i>Carex appressa</i> <i>Gahnia clarkei</i> <i>Gahnia sieberiana</i> <i>Juncus kraussii</i> subsp. <i>australiensis</i> <i>Juncus usitatus</i> <i>Microlaena stipoides</i> <i>Oplismenus imbecillis</i> <i>Phragmites australis</i></p> <p>Ferns: <i>Blechnum indicum</i> <i>Gleichenia dicarpa</i> <i>Histiopteris incisa</i> <i>Hypolepis muelleri</i></p>	<p><i>Cayratia clematidea</i> <i>Parsonsia straminea</i> <i>Stephania japonica</i> var. <i>discolor</i></p>

Vegetation Community	Description and Soil Landscape	Tree Layer	Small Tree/ Shrub Layer	Ground Layer	Vines/Climbers
Coastal Freshwater Reedland	<p>Reeds to 3m high dominated by few species e.g. Phragmites and Typha. Low lying land <5 metres above sea level on coastal plains and flats.</p> <p>Poorly drained alluvial flats and sand depressions.</p>	<p><i>Casuarina glauca</i> <i>Melaleuca decora</i> <i>Melaleuca ericifolia</i> <i>Melaleuca linariifolia</i></p>		<p>Reeds and Rushes 1-3m <i>Typha orientalis</i> <i>Phragmites australis</i> <i>Bolboschoenus fluviatilis</i> <i>Eleocharis sphacelata</i></p> <p>Sedges, grasses and herbs < 1.5 m high <i>Baumea juncea</i> <i>Carex appressa</i> <i>Philydrum lanuginosum</i> <i>Isachne globosa</i> <i>Juncus krausii</i> <i>Juncus continuus</i></p> <p>Groundcovers <i>Blechnum indicum</i> <i>Gleichenia dicarpa</i> <i>Hypolepis muelleri</i> <i>Hemarthria uncinata</i> <i>Hydrocotyle verticillata</i> <i>Juncus planifolius</i> <i>Parsonsia straminea</i></p>	
Species suitable for WSUD (incorporates species from numerous communities; list not comprehensive)		<p><i>Banksia integrifolia</i> <i>Banksia aemula</i> <i>Melaleuca ericifolia</i> <i>Melaleuca styphelioides</i> <i>Melaleuca linariifolia</i> <i>Melaleuca quinquenervia</i></p>	<p><i>Callistemon citrinus</i> <i>Callistemon linearis</i> <i>Callistemon salignus</i> <i>Banksia paludosa</i> <i>Banksia robur</i> <i>Leptospermum continentale</i> <i>Leptospermum polygalifolium</i> <i>Leptospermum trinervium</i> <i>Melaleuca erubescens</i> <i>Melaleuca thymifolia</i></p>	<p>Reeds: <i>Alisma plantago aquatica</i> <i>Baumea articulata</i> <i>Baumea rubignosa</i> <i>Bolboschoenus caldwellii</i> <i>Bolboschoenus fluviatilis</i> <i>Eleocharis acuta</i> <i>Eleocharis sphacelata</i> <i>Restio tetraphyllus</i> <i>Schoenoplectus validus</i> <i>Schoenoplectus mucronatus</i> <i>Triglochin procerum</i></p> <p>Sedges: <i>Carex appressa</i> <i>Carex fascicularis</i> <i>Ficinia (Isolepis) nodosa</i> <i>Gahnia sieberiana</i> <i>Juncus continuus</i> <i>Juncus usitatus</i> <i>Lepironia articulata</i></p> <p>Grasses: <i>Dianella caerulea</i> var. <i>caerulea</i> <i>Dianella revoluta</i> <i>Dichelachne micrantha</i> <i>Echinopogon ovatus</i> <i>Imperata cylindrica</i> <i>Lomandra longifolia</i> <i>Microlaena stipoides</i> <i>Themeda australis</i></p> <p>Herbs: <i>Cotula coronopifolia</i> <i>Crinum pedunculatum</i> <i>Philydrum lanuginosum</i> <i>Potamogeton crispus</i></p>	

Vegetation Community	Description and Soil Landscape	Tree Layer	Small Tree/ Shrub Layer	Ground Layer	Vines/Climbers
Coastal Saltmarsh	<p>A complex, fine-scale mosaic of succulent herbs and sedges restricted to estuarine mudflats and saline lagoons, and is found on the upper limit of the intertidal zone.</p> <p>Supratidal Hydrosols soils.</p>		<p><i>Atriplex australasica</i> <i>Rhagodia candolleana</i></p>	<p>Herbs: <i>Samolus repens</i> <i>Sarcocornia quinqueflora</i> subsp. <i>quinqueflora</i> <i>Selliera radicans</i> <i>Suaeda australis</i> <i>Triglochin striata</i></p> <p>Grasses: <i>Sporobolus virginicus</i> <i>Zoysia macrantha</i></p> <p>Sedges/Reeds: <i>Baumea juncea</i> <i>Gahnia filum</i> <i>Ficinis (Isolepis) nodosa</i> <i>Juncus kraussii</i></p>	
Estuarine Mangroves	<p>A low forest characterised by a dense tree/scrub canopy over bare mud or a patchy herbaceous groundcover restricted to mudflats exposed to daily tidal inundation.</p> <p>Marine mud soils.</p>	<p><i>Avicennia marina</i> ssp. <i>australasica</i></p>		<p>Herbs: <i>Samolus repens</i> <i>Sarcocornia quinqueflora</i> subsp. <i>quinqueflora</i></p>	

Appendix 9

Development assessment guidelines

Development assessment guidelines will be prepared to ensure that:

- An ecological assessment is undertaken where required;
- Developments avoid or minimise the removal of, and disturbance to, indigenous vegetation and other habitat features (including exotic vegetation and artificial structures), particularly those that have potential to support priority fauna species;
- Existing habitat features within and adjacent to development sites are protected where possible;
- Where habitat removal is required, an ecologist or wildlife rescue officer is engaged to check habitat features for the presence of fauna, and relocate any fauna to a suitable area of nearby habitat;
- Wherever possible, a suitable offset is provided to compensate for any indigenous vegetation or other habitat features removed or disturbed; and
- Diverse and structurally complex locally indigenous vegetation and other fauna habitat features are incorporated into site landscaping wherever possible, consistent with Appendix 8 and the City's Landscape Code, particularly at or near priority sites, supporting sites and potential habitat linkages (Figure 17).

