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Fairfield City Biodiversity Strategy 2022

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Fairfield City Biodiversity Strategy 2022

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Foreword

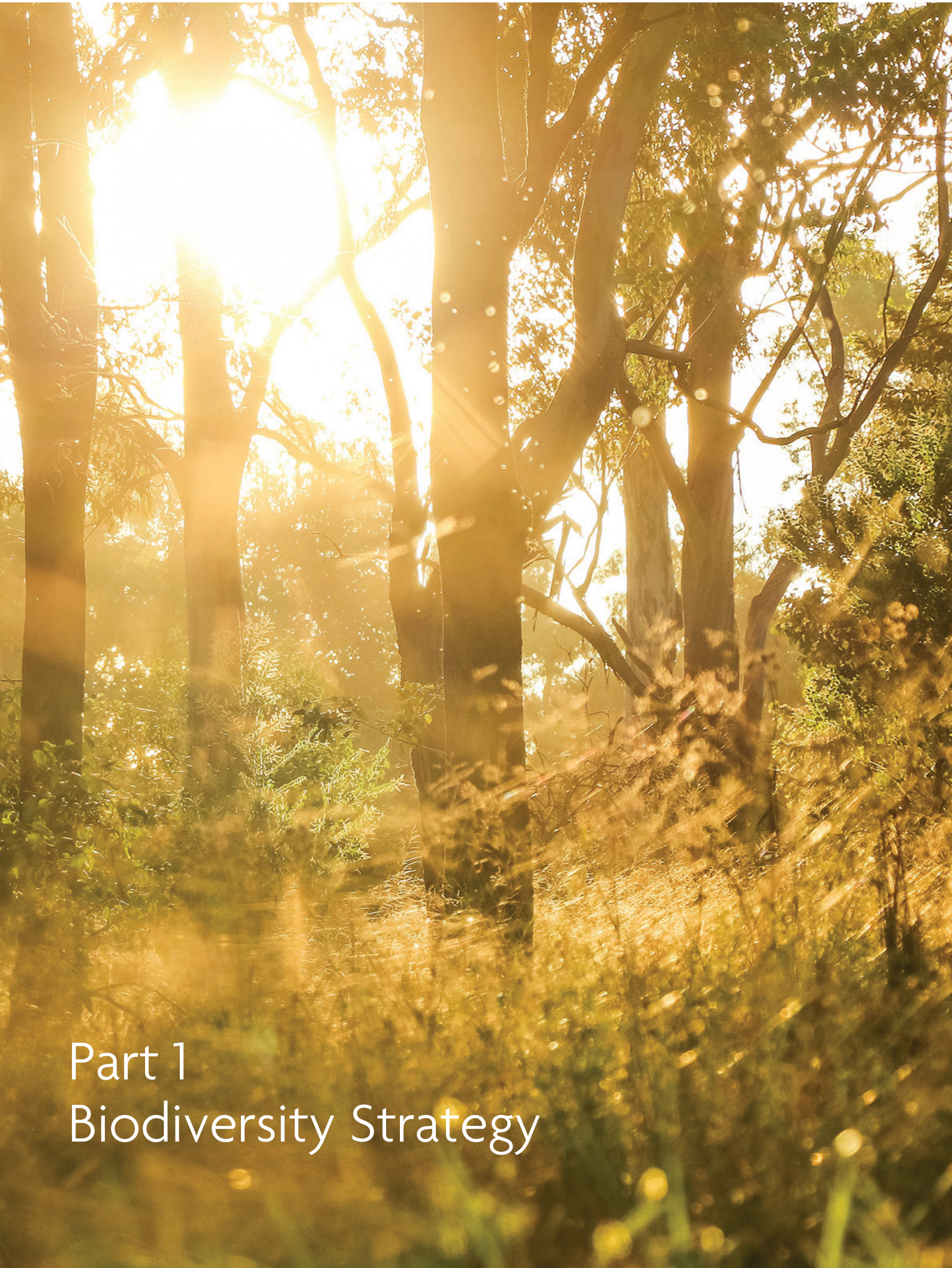
Fairfield City Council has developed the Fairfield Biodiversity Strategy 2022 to:

- meet legislative requirements (state, federal and international law)
- fulfil environmental actions/objectives detailed in the Fairfield City Local Strategic Plan 2040 and Fairfield City Plan 2026
- provide opportunities for the community to engage with biodiversity during a period of rapid growth throughout Greater Sydney.

The Strategy recognises that biodiversity is a vital asset for current and future generations and supports our community through the provision of clean air, reduced urban heat and improved health and wellbeing. This document outlines Fairfield City's natural assets (flora and fauna), setting the strategic approach and providing an action plan to manage biodiversity over the next decade.

The Strategy supersedes the strategy adopted by Council in 2012. It is central to informing the zoning of land under the Fairfield City Local Environmental Plan 2013 with critical environmental values, as well as a range of local planning controls and policy aimed at protecting these areas.

In preparing this Strategy, Fairfield City Council acknowledge the Cabrogal of the Darug Nation who are the Traditional Custodians of Fairfield City's land and biodiversity.



Part 1
Biodiversity Strategy

1. What Makes the Biodiversity of Fairfield City Unique?

Fairfield City (the City) is located in Sydney's south-west, about 30 kilometres (km) from the Sydney CBD. With more than 200,000 residents, the City encompasses a total land area of approximately 100 km^2. The Fairfield local government area (LGA), managed by Fairfield City Council (Council), has close to 500 parks and reserves, incorporating a diverse range of recreational settings which include children's playgrounds, youth facilities, picnic areas, reserves and bush parks. In addition, the City has an extensive network of open spaces, walking trails and cycleways, which make use of a green grid along the City's waterways.

The City has eight major waterways that stretch out over 80 km throughout the city, flowing into the Georges River and Hawkesbury-Nepean Catchments and providing important habitat and connectivity for aquatic and terrestrial native fauna. These waterways are also a connection to the past, with these same creek lines used by the original Aboriginal inhabitants for settlement, food sources and movement pathways. As Europeans settled in the area, they also relied on these waterways for agriculture and recreation.

Fairfield City is at the heart of the Cumberland Plain, and a significant portion of the remnant vegetation within the city is Cumberland Plain Woodland, a critically endangered ecological community (CEEC).

The major sites of ecological significance across the City include Prospect Reservoir, Western Sydney Parklands and Chipping Norton Lakes. These, along with the many waterways, offer accessible areas of biodiversity which are enjoyed by the City's diverse and multicultural residents and visitors.

1.1. Why is Biodiversity Important?

Having access to green spaces is seen as an essential part of a fulfilled local community. In fact, 85% of people say that the benefits of urban green space is 'somewhat or very important to them'; with the character and aesthetics associated with natural areas ranked as their highest value[1]. Urbanisation in cities and suburbs has removed, altered and fragmented natural environments. Night lighting, noise pollution and vehicle collisions all affect the suitability of residual habitat for the remaining wildlife. Urban waterways are also impacted by contaminated stormwater, removal of native riparian cover and weed infestation. There is much we can do in urban areas to reduce unwanted repercussions of development and improve liveability for people, flora and fauna; such as decreasing the areas of impervious surfaces to reduce stormwater runoff, while concurrently increasing and enhancing native vegetation extent and condition.

Managing biodiversity presents a challenge in a highly urbanised landscape such as Fairfield City, where vegetation cover has been reduced by more than 80% since European settlement. Outer Sydney is under continued pressure to provide additional housing for a growing population and threatening processes like weed invasion, feral pests and uncontrolled litter negatively impact on the habitat potential of retained natural areas. Additionally, modified waterways that provide stormwater drainage have little or no in-stream habitat for aquatic fauna.

Urban nature can support healthy and sustainable populations of species, and cities have been found to have greater species richness than might otherwise be expected. Studies[2] have found that at least 20% of the world's bird species and 5% of plant species occur in cities. Within urban areas, biodiversity is not restricted to nature parks and other forms of open space. Utility easements (including road reserves and powerline corridors) along with backyard habitat are important components of conservation planning, as they increase biodiversity and connectivity across cities and improve quality of life for residents[3]. Street trees, nature strip plantings, private gardens and even native plants in pots on a balcony can all contribute to healthy biodiversity.

Research indicates that landscaping in urban environments can reduce air conditioning costs by up to 50% by shading the windows and walls of a home; and a single healthy tree can provide cooling equivalent to ten room-size air conditioners operating 20 hours a day[4].

Urban green spaces provide many public health benefits from contact with nature such as relaxation, stress reduction, enhanced physical activity and mitigation of exposure to air pollution, excessive heat and noise. There is a direct link between spending time in nature and improved human mental health and wellbeing[5].

The local environment and natural resources define the City and contribute to the community's wellbeing. In turn, the activities undertaken throughout the city impact on the quality and viability of many species and finite resources. Increasing awareness of environmental challenges, such as increased urban heat effects and water shortages, has increased the pressure for protection and management of bushland, local wildlife and waterways throughout the city as well as improved design and operation of the built environment. Local environmental sustainability is important for the health and wellbeing of future generations.

2. Context

From March 2018 the Environmental Planning and Assessment Act 1979 (EP&A Act) has required all NSW councils to establish a Local Strategic Planning Instrument (LSPS). Fairfield City Council's LSPS was adopted in March 2020 and provides a 20-year vision for Fairfield City, informed by many years of community engagement that is an ongoing communication between the Council and its community. One of the five key themes in the Fairfield City LSPS is 'environmental sustainability' whereby *the community, acting as partners, will continue to transform the City into a clean, healthy and resilient place well beyond 2040.* The LSPS sets an action for Council to:

> *"…prepare a Biodiversity Strategy to identify and ensure the protection of areas of high natural value and environmental significance".*

This biodiversity strategy builds on the previous Fairfield Biodiversity Strategy (2012), updating content to reflect new legislation, planning and policy as well as reviewing the location, extent and condition of flora, fauna and native vegetation communities. As part of this process, the zoning on land under the Fairfield City Local Environment Plan (LEP) 2013 for environmental protection has also been extensively reviewed having regard to State and Federal legislation.

This document has three parts:

PART 1 Biodiversity Strategy – describing the ecological values within Fairfield City, as well as setting Council's objectives to protect and enhance biodiversity.

PART 2 Action Plan – detailing how Council will achieve their biodiversity objectives.

PART 3 Technical Information – supporting data and other information.

2.1. Strategy Aims

The biodiversity strategy:

- Delivers on commitments made in the LSPS and support the Fairfield City LEP 2013 and Fairfield City Wide Development Control Plan (DCP).
- Acknowledges and celebrates the City's biodiversity values.
- Provides land use planning and policy directions to address negative impacts on the natural environment, supporting Council decision making on issues affecting biodiversity.
- Identifies actions to conserve and enhance biodiversity values within the City.
- Identifies measurable targets and specific actions for Council.

2.2. Strategic Focus

The Fairfield Biodiversity Strategy 2020 has been developed within the context of a broad range of International, National and State legislation and policy, as well as local strategies and planning instruments (Table 2-1). Table 2-1 provides an overview of those that directly relate to the conservation of biodiversity within the City of Fairfield. Part 3: Supporting Information provides additional detail on key pieces of legislation.

The strategic themes and action plans have been developed to integrate biodiversity objectives from the Fairfield City LSPS, Western City District Plan, the relevant NSW Government's *Saving Our Species programs and Australia's Strategy for Nature 2019 – 2030.*

Table 2-1 Agreements, legislation, policy and guidelines that influences biodiversity management in Fairfield City

International	National
• Convention on Biological Diversity • Ramsar Convention on Wetlands of International Importance • World Heritage Convention • Framework Convention on Climate Change • International Plant Protection Convention • Convention on the Conservation of Migratory Species (Bonn Convention) • Convention on International Trade in Endangered Species of Wild Fauna and Flora • Migratory bird agreements (JAMBA, CAMBA and ROKAMBA)	• Environment Protection and Biodiversity Conservation Act 1999 • Australia's Strategy for Nature 2019-2030 • Australia's Native Vegetation Framework • Australia's Weed Strategy 2017 - 2027 • Australia's Pest Animal Strategy 2017 - 2027 • Australian Government State of the Environment reporting • Biosecurity Act 2016 • Environment Protection and Biodiversity Conservation Regulations 2000
State	**Regional/Local**
• Biodiversity Conservation Act 2016 • Environmental Planning and Assessment Act 1979 • Local Land Services Act 2013 • State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017 • State Environmental Planning Policy (Sydney Region Growth Centres) 2006 • New South Wales Biodiversity Conservation Program - Saving our Species • Biosecurity Act 2015 • Fisheries Management Act 1994 • State Environmental Planning Policy (Biodiversity and Conservation) 2021 • State Environmental Planning Policy (Resilience and Hazards) 2021 • Water Management Act 2000 • Biosecurity Regulation 2017 • Biodiversity Conservation Regulation 2017	• A Metropolis of Three Cities - the Greater Sydney Region Plan • Greater Sydney Green Grid • Western City District Plan • Western Sydney Parklands Plan of Management • Fairfield City 2040 – Shaping A Diverse City. Local Strategic Planning Statement, 2020 • Fairfield City Plan 2016 – 2026 • Fairfield Local Environmental Plan 2013 • Fairfield Citywide Development Control Plan 2013. • Cumberland Plan Conservation Plan (CPCP) • Greater Sydney Regional Strategic Weed Management Plan 2017 – 2022 (currently being updated/revised) • Greater Sydney Regional Strategic Pest Animal Plan 2018 - 2023

2.3. Stakeholders & Collaborators

Managing biodiversity, particularly at the local level, requires consolidated effort from multiple stakeholders including government agencies, education institutions, community groups and private landholders (Table 2-2). Community engagement encourages all groups and individuals interested in biodiversity to work together to obtain conservation outcomes. Working together promotes the exchange of information and ideas and increases the likelihood of community ownership of biodiversity problems and solutions.

Table 2-2 Stakeholders and collaborators for biodiversity management

Stakeholder / collaborator	Biodiversity management role
Federal Government	• Department of Agriculture, Water and the Environment (DAWE)
State Government	• NSW Department of Planning, Industry and Environment (DPE) • DPE Biodiversity Conservation Division • Environment Protection Authority (EPA) NSW • Department of Planning, Industry and Environment • Skills and Regional Development • Water NSW • Greater Sydney Parklands
Fairfield City Council	• Natural Resource Management • Catchment Management • Strategic Land Use Planning • Open Spaces • Parks and Garden • Assets • Waste Enforcement • Waste • Sustainable Resource Centre
Not-for-profit organisations	• Australian Youth Climate Coalition • Keep Australia Beautiful • National Tree Day, Earth Hour and Clean Up Australia Day • Western Sydney Regional Illegal Dumping Squad • Environmental Educator Network • Georges River Combined Councils' Committee • Greater Sydney Local Land Services
Community and industry	• Agriculture-related businesses, including market gardens • Schools • Businesses • Local churches e.g. for tree planting days • Research institutes, including universities • Grant organisations • Developers • Council environmental volunteer groups including, Fairfield Community Nursery, Fairfield Indigenous Flora Park, Creeks and Wetland's Group.

3. Fairfield City's Biodiversity

Fairfield City supports important ecological processes, which occur in natural features along waterways, adjacent riparian vegetation, the native vegetation present in parks, reserves, streetscaping (including stormwater water sensitive urban design infrastructure), in privately owned gardens and private land in the rural area. Despite a long history of anthropogenic influences in the City, there are still a significant variety of vegetation communities which support an array of native flora and fauna.

In 2020, 56% of the LGA was found to be green, comprising 14.5% canopy cover, 4.6% shrubs, and 36.9% grass or bare ground[6]. The remainder of the land area is built surfaces.

3.1. Biodiversity Values

3.1.1. Bioregion

Sydney Basin Bioregion – Cumberland subregion

Fairfield City is part of the Sydney Basin Bioregion, which lies on the central east coast of NSW and covers an area of more than 3,000,000 ha. The Sydney Basin Bioregion occupies approximately 4.53% of NSW and extends from just north of Batemans Bay to Nelson Bay on the central coast, and almost as far west as Mudgee[7]. The Cumberland subregion below the Blue Mountains is characterised by low rolling hills and wide valleys. Numerous swamps and lagoons are found on the floodplain of the Nepean River. The geology of the subregion is dominated by Triassic Wianamatta shales and sandstones. The coastal side of the Lapstone monocline contains downwarped volcanic bedrock partly covered by Tertiary river gravels and sands[8]. Quaternary alluvium deposits occur along the main watercourses. Native vegetation communities are closely aligned with the geology of the area.

The subregion is home to Grey Box, Forest Red Gum, Narrow-leaved Ironbark communities with some Spotted Gum occurring on the shale hills. Dominant species of the river flats are Broad-leaved Apple Gum, Cabbage Gum, Forest Red Gum, and Swamp Oak. Juncus species and Parramatta Red Gum persist within the riparian zones of swamps and billabongs.

3.1.2. Plants

Native plants are those species which are indigenous to a given area. Native plants are vital to many essential ecological processes, such as:

- providing habitat, foraging and refuge for wildlife
- allowing movement opportunity for fauna across the landscape
- protects waterways
- absorbs carbon dioxide and produces oxygen
- moderating effects of urban heat
- cooling the environment.

There are nine (9) native vegetation communities present within the City[9] (see also Part 3: Supporting Information). Cumberland Plain Woodland (on shale) and River-flat Eucalypt Forest (on recent alluvium) were dominant communities in the original vegetation cover with smaller areas of Cooks River/Castlereagh Ironbark Forest and Shale Gravel Transition Forest (on older Tertiary alluvium), Western Sydney Dry Rainforest (on shale) and Freshwater Wetlands (on recent alluvium). The majority of vegetation within the City is considered to be threatened, with only two vegetation communities (Estuarine Mangrove Forest and Reedland) considered not under current threat.

Fairfield City is home to two endangered flora populations and four threatened plant species, with an additional two considered to potentially occur *(see Part 3: Supporting Information)*.

An endangered plant species, now returning to Council reserves

A number of populations of the endangered Marsdenia viridiflora subsp. viridiflora have been recorded in recent years where Council have established 'no-mow zones' in Fairfield City reserves.

There are only a few places in NSW where this species is found, and these include Wylde Park, Tasman Park, Curran Park and Fairfield Showground, as well as within the Sartor Crescent / Allambie Road Bushland Reserve.

This picture is of a 'no-mow' area in Fairfield, where native ground cover species are thriving.

Around 260 native plant species have been recorded for the LGA, with over 50% of these considered to be vulnerable and inadequately conserved in western Sydney[10]. There are a number of parks within Fairfield City which support both threatened vegetation communities and threatened flora species (Table 3-1) and which are therefore particularly important for conservation.

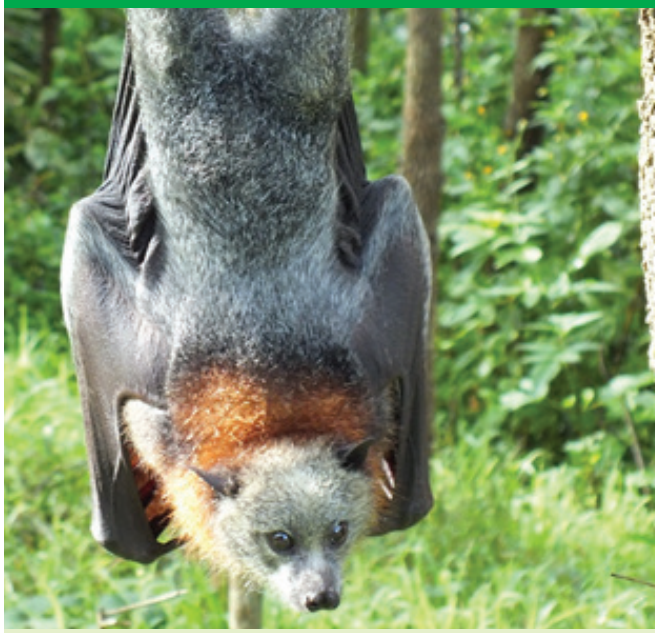
Table 3-1 Important areas for conservation due to their threatened flora values[11]

Location	Threatened community	Threatened/rare plant species
Western Sydney Parklands, Calmsley Hill City Farm	Cumberland Plain Woodland, Moist Shale Woodland, Western Sydney Dry Rainforest, River-flat Eucalypt Forest	*Acacia pubescens* (Downy Wattle), *Pimelea spicata* (Spiked Rice-flower), *Cynanchum elegans* (White-flowered Wax Plant), *Marsdenia viridiflora subsp. viridiflora* (Native Pear).
Fairfield Flora Park and Showground	Cumberland Plain Woodland, Shale Gravel Transition Forest, River-flat Eucalypt Forest, Cooks River Castlereagh Ironbark Forest	*Acacia pubescens* (Downy Wattle), *Marsdenia viridiflora subsp. Viridiflora* (Native Pear), *Pomaderris prunifolia* (Plum-leaf Pomaderris)
Bossley Public School Reserve, Bossley Road	Cumberland Plain Woodland integrating with Shale Gravel Transition Forest	*Acacia pubescens* (Downy Wattle). Unusual occurrence of *Eucalyptus beyeriana* (Grey Ironbark)
Orphan School Creek Corridor (contains several small remnants)	Cumberland Plain Woodland, River-flat Eucalypt Forest	*Acacia pubescens* (Downy Wattle), *Marsdenia viridiflora subsp. viridiflora* (Native Pear), *Syzygium paniculatum* (Magenta Lilly Pilly)
Prospect Creek & and Cabramatta Creek Corridorscorridors	River-flat Eucalypt Forest, Western Sydney Dry Rainforest Freshwater Wetlands	*Acacia pubescens* (Downy Wattle), *Marsdenia viridiflora subsp. viridiflora* (Native Pear); and some regionally significant rainforest species, e.g., *Aphanopetalum resinosum* (Gum Vine), *Alectryon subcinereus* (Native Quince)
Northern & and eastern remnants away from creek-lines	Cumberland Plain Woodland intergrading with Shale Gravel Transition Forest and Cooks River Castlereagh Ironbark Forest	*Acacia pubescens* (Downy Wattle), *Marsdenia viridiflora subsp. viridiflora* (Native Pear), *Persoonia nutans* (Nodding Geebung); *Potential - Pultenaea pedunculata* (Matted Bush-pea), *Hibbertia puberula subsp. glabrescens*
Chipping Norton Lakes and De Freitas Wetland	Cumberland Plain Woodland, River-flat Eucalypt Forest, Swamp Oak Floodplain Forest, Freshwater Wetlands; Cooks River Castlereagh Ironbark Forest and transitional forest at Lansvale on northern side of lake	Regionally significant wetland species e.g., *Cladium procerum* (Leafy Twig-rush) and *Carex fascicularis* (Tassel Sedge).

3.1.3. Animals

Twenty-six (26) threatened fauna species are known or considered likely to be present in Fairfield City *(see Part 3: Supporting Information)*. Notably, these include the critically endangered Regent Honeyeater and Swift Parrot, Eastern Pygmy-possum, Eastern Bentwing-bat and Cumberland Plain Land Snail.

Flying-fox: Australia's most important long range pollinator



The Grey-headed Flying-fox is one of the largest bats in the world and is also highly mobile. As well as flying up and down the east coast of Australia, individuals can roam up to 50 km from their camp in a single night, looking for the best sources of nectar and fruit. Because of these characteristics, flying-fox are vital to the health of our forests through the role they play in pollination and seed dispersal across long distances.

The Cabramatta Creek Flying-fox Reserve is located on the border of Fairfield City and Liverpool City Council LGAs.

Previously Fairfield City Council has worked closely with the Cabramatta Creek Flying-fox Committee and State government over time to restore what was a disturbed and degraded park into an exemplar urban site for flying-fox. Currently Council is working on a project to enhance the reserve.

This reserve is home to a maternity colony of Grey-headed Flying-fox (a vulnerable species), with more than 30,000 individuals recorded here at a time[12].

3.1.4. Waterways

In the western part of the City, Eastern Creek and Ropes Creek flow into the Hawkesbury- Nepean Catchment. The eastern and southern sections of the City are part of the Prospect Creek and Cabramatta Creek sub-catchments that flow into the Georges River catchment (and eventually flow into Botany Bay). The waterways in these sub-catchments are a mix of urbanised natural creeks, rural natural creeks, concrete lined channels and enclosed pipe drainage systems. In total, there are more than 80 km of creeks in these urban sub-catchments. Prospect Creek and Cabramatta Creek form part of the boundary for the City, adding an additional layer of complication by sharing management of these waterways with neighbouring local government agencies.

Fairfield City's waterways are associated with the majority of intact native vegetation in the LGA (albeit with the challenge of weed infestations), with riparian areas sustaining most of the biodiversity and providing environmental corridors for wildlife movement. Riparian areas provide additional important ecological services including:

- a diversity of habitat for terrestrial, riparian and aquatic species
- food for aquatic and terrestrial fauna
- connectivity throughout the landscape for the dispersal and re-colonisation by both plant and animal species
- shading and temperature regulation
- conveyance of flood flows
- settlement of high debris loads
- reduction of bank and channel erosion through root systems binding the soil
- macrophytes help protect the lower bank, especially the bed of natural creeks, from excessive erosion
- water quality maintenance through the trapping of sediment, nutrients and other contaminants by macrophytes
- an interface between development and waterways
- recreation opportunities
- visual amenity
- a sense of place, with green and blue belts naturally dividing localities and suburbs.

The above attributes of the riparian areas of the City are acknowledged and protected under the provisions of clause *6.6 Riparian land and watercourses* (and associated LEP Map) of the Fairfield City LEP 2013. In addition, DCP controls also apply to development located within or in proximity to riparian lands and provide guidance for new development to protect the ecological values and functions of these lands. (They are also under the Fisheries Management Act 1994 and the Water Management Act 2000)

3.1.5. Connectivity

Linking areas of habitat via wildlife corridors can support natural processes that occur in a healthy environment, including the movement of species to find resources, such as food and water[13]. Linking animal habitat also facilitates breeding between populations, which can boost population gene pools and increase resistance to environmental thresholds and disease.

Native vegetation corridors can also contribute to the resilience of the landscape in a changing climate and help to reduce the urban heat island effect and the need for air conditioning. They can also support multiple land uses such as conservation area, native gardens, sport, and recreation.

While all waterways are important, Prospect Reservoir, Western Sydney Parklands, and Prospect Creek through to Orphan School Creek have been specifically identified as regional biodiversity corridors[14] and priority areas for conservation.

Opportunities to improve connectivity in and through the Fairfield LGA exist, particularly along the many rivers and creek lines. Key corridors to focus on improving connections include:

- Prospect Nature Reserve to Western Sydney Regional Park via street trees, running parallel to Ferrers Road
- Prospect Nature Reserve to Garrison Point via Prospect Creek
- Coot Island to Lansdowne Reserve and Shearer Park.

3.2. Threats To Fairfield City's Biodiversity

Globally and across Australia, biodiversity is under pressure from a range of threats. Recent findings of the Commonwealth and New South Wales Governments' state of the environment reporting concluded that the major pressures on biodiversity remain static or continue to increase[15,16]. The Organisation for Economic Cooperation and Development found that the state of Australia's biodiversity is "poor and worsening"[17].

Key threatening processes identified for the Sydney Basin – Cumberland subregion (BioNet) include (but are not limited to) clearing native vegetation, the alteration of natural flows of rivers and streams, anthropogenic global warming, competition from feral (European) honeybees, introduction of exotic rust fungi on Myrtaceae trees *(including Eucalyptus spp.)*, predation by feral cats, fox, pigs and Mosquito Fish, and weed invasion. There are also numerous State and nation-wide key threatening processes for biodiversity listed under the BC Act and EPBC Act, many of which have corresponding management strategies that are an important resource for land managers to mitigate threats.

Most of NSW's population growth is projected to occur in the Greater Sydney region, which could see the region supporting up to 9.7 million people by 2066[18]. Specifically, Fairfield City is forecast to grow to a community of 245,146 people by 2036. This is an additional 38,710 people; or approximately 2,000 new people per year who will be residing in a spatial area that cannot increase as the population increases.

This projected growth will result in increasing pressure to develop the region's remaining green spaces that currently support biodiversity. This urban expansion is considered one of the key threats to biodiversity in Fairfield City, contributing to habitat loss and fragmentation, impacts on waterways and increasing the vulnerability of natural assets to threats. The key threats to biodiversity in Fairfield City are described in Table 3-2.

Table 3-2 Key threats to biodiversity

Threat	Implications
 **Land clearance**	Vegetation clearing to support population growth and urban expansion has been the greatest threat to biodiversity in Fairfield City. Vegetation clearing removes species, destroys habitat and food resources for a wide range of species, not only those that would live permanently in the vegetation but also those that rely on it for food and shelter seasonally or during crisis times. Land clearing also destroys or alters ecological process relating to or dependent on hydrology and soil composition. Land clearing can also cause salinity and increase flooding. On a large-scale, land clearing has been shown to change weather patterns and may contribute to global warming and reduced rainfall. Land clearing disrupts connectivity between vegetated areas, increasing pressure on the sustainability of flora and fauna species through loss of genetic diversity and breeding opportunities. The majority of remaining remnant native vegetation is part of an endangered ecological community (mainly Cumberland Plain Woodland), which means that almost all clearing requires Council's consent. Historic mowing and incremental clearing at the edges of remnant native vegetation within the City has reduced the area of vegetation and has the potential to further reduce the extent of threatened ecological communities in the future, disrupting native plant colonisation and creating conditions which are favourable to the invasion of weed species.
 **Weeds**	Invasive species and pathogens are widespread across the landscape. Many declared priority weeds, as well as environmental weeds, can negatively impact on biodiversity, by degrading or destroying habitat, competing with native species or by providing inappropriate foods for fauna. Weeds can spread through illegal dumping of garden waste and thrive in disturbed environments. The Department of Primary Industries has identified priority weeds for the Fairfield LGA[19] in the Greater Sydney Regional Strategic Weed Management Plan 2017 – 2022 (currently under revision).
 **Pest animals**	Feral animals are a threat to biodiversity because: • they are predators to native species • they compete with native species for food and habitat • they destroy or damage native species habitat and behaviour • they spread diseases that impact on native species. Pest animals recorded in Fairfield City include • Rabbits • Cats • Foxes • Indian Mynas • European honeybees • Wasps • Gambusia The management of pest animals are regulated by the Local Land Services under the Greater Sydney Regional Strategic Pest Animal Plan 2018 – 2023.
 **Stormwater runoff and pollution**	Pollutants and sediments found in stormwater runoff can have detrimental effects on aquatic organisms, including macro-invertebrates, fish, bacteria and microphytes. Aquatic species form an important food source for other fauna. A decline in aquatic ecosystem health can lead to a reduction in water quality as well as encourage growth of algal blooms and aquatic weeds.

Threat	Implications
Rubbish dumping	Dumping of rubbish, soils and garden wastes in areas of remnant vegetation can increase weed density and diversity, as well as smothering the growth of native species. Illegal dumping of garden waste including grass clippings and other material is a significant problem in parks within the urban area. Grass and other exotic garden materials contributes to weed infestation. Illegal dumping of asbestos and liquid chemicals in natural areas can cause significant harm to the environment and the community. Uncontrolled rubbish is unsightly and can lead to toxic leachate into natural areas as well as providing unnatural (and potentially dangerous) food sources for native wildlife.
Global warming	Human induced global warming is expected to lead to generally warmer drier climates across the world leading to an increase in the intensity, frequency and extent of disturbances such as fire, cyclone, drought, disease and flood that would place existing vegetation and local fauna under stress and favour hardy generalist species including weeds and pest animals.
Bushfire and fire regimes	Changed fire regimes as a result of bushfire or a lack of well-planned ecological burns can have a detrimental effect on the diversity and quality of vegetation, resulting in changes to dominant species and community species composition. Changed fire regimes can also lead to a predominance of fire dependant species, increased fire frequency, weed invasion, soil erosion and unnecessary air pollution.
Lack of knowledge about biodiversity	Biodiversity is a complex subject involving genetics, species populations, interspecies interactions and the responses of different species to threats and conservation efforts. Having a good understanding of the historical and current state of biodiversity is vital to be able to track changes over time to gauge whether management actions are effective and whether threatening processes are being effectively controlled. Sharing knowledge about what works and what doesn't across organisations can lead to more efficient use of limited resources and better biodiversity outcomes.

3.3. Existing Biodiversity Management Approach

Fairfield City Council proactively manages biodiversity to enhance and sustain a healthy urban and natural environment. Council leads the management of the City's natural assets through an array of programs and activities (Table 3-3). Examples of initiatives implemented by Council include:

- pest animal management
- weed control, natural area restoration and revegetation
- annual environmental calendar of community engagement events
- waterway maintenance and enhancement programs to manage catchment health
- partnerships with research organisations, State and Federal government; including a partnership with the Georges Riverkeeper to enhance stormwater management, litter removal along our creeks and in our bushland, and bush regeneration activities, e.g., Clean Up Australia Day, volunteer groups (Creeks and Wetland Group).
- engagement of the local community in hands on environmental activities, through the environmental volunteer program
- implementation of Council's general biosecurity duty under the *Biosecurity Act 2015* through weed inspections on private land and commercial properties and weed eradication along council managed creek lines. Targeted inspections of properties to identify weeds and educating the owners of their obligations under the *Biosecurity Act 2015*
- development and distribution of educational information about the management of weeds to private property owners
- educational activities for school aged children during school holidays and within the school's program
- provision of native plants to the community, through the Fairfield Community Nursery
- volunteer opportunities through Council's environmental volunteer program, as well as tree planting days.

Table 3-3 Examples of Fairfield City Council's current biodiversity activities

Georges Riverkeeper	Georges Riverkeeper advocates for the protection, conservation and enhancement of the health of the Georges River. Work focuses on five strategic priorities: catchment actions (such as litter removal and bush rehabilitation), river health monitoring and research, stormwater, and education and capacity building. Georges Riverkeeper represents the eight local councils in the Georges River Catchment of NSW with a collective responsibility for the health of the Georges River. Members include Bayside Council, Campbelltown City Council, City of Canterbury Bankstown, Georges River Council, Liverpool City Council, Sutherland Shire Council, Wollondilly Shire Council and Fairfield City Council
Fairfield Indigenous Flora Park	Fairfield Indigenous Flora Park is an example of regenerating Cumberland Plain Woodland EEC. With less than 9% remaining anywhere of the original extent of Cumberland Plain Woodland, the park is of high importance not only for conservation but also for social connection and as a seed source for future re-vegetation projects. This park is under active management by Fairfield City Council with the input from volunteers.
Fairfield Community Nursery	Council run, with members from the community, Fairfield Community Nursery is a local provenance native plant production nursery focused on preserving, restoring and enhancing Fairfield City's endangered Cumberland Plain vegetation community of Fairfield City. The Fairfield Community Nursery promotes biodiversity via a community nursery volunteer program - seed banking 200 local plant species, propagating up to 75,000 native plants per year, donating 4000 plants per annum to the community, planting 30,000+ native plants in Fairfield, and by providing native plants for revegetation projects in Fairfield City. Training and education opportunities including volunteers, work experience, tours, workshops, plant giveaways, open days and festivals.

Fabulous Fairfield Garden Awards	The program acknowledges residents who take responsibility for the area immediately outside their house for their own enjoyment as well as improving the overall look and environmental quality of Fairfield City. This program celebrates residents who: • maintain landscaping outside the home • mow the grass outside their property • pick up litter on the footpath or in the gutter • grow beautiful gardens with flowers, vegetables and natives. Monthly Fabulous Fairfield winners are eligible for the annual Best Garden of the Year Awards, which are presented at the last Council meeting of the year in December. The Best School Garden category presents awards to public schools who maintain striking gardens.
Environmental Calendar	The Environmental Calendar is available on Council's website and promotes community environmental activities throughout the year; such as art made from reusable materials, guided walks and photography, healthy food workshops, native species identification and appreciation events.
Natural Resources Programs	Council's Natural Resources Program encompasses creek cleaning, re-vegetation, weed control and bush regeneration of more than 60 sites across the City, including along riparian corridors and wetlands, parks and reserves. More than 100 tonnes of litter is removed every year from the City's stormwater quality improvement devices.
Stormwater and Water Quality	Council's Stormwater Levy allows an additional $1.2 million a year to be dedicated to significant stormwater-related environmental projects and the establishment of WSUD (water-sensitive urban design) stormwater systems. Funds spent each year are reported in Council's annual report, separately from the rest of Council's budget. The Local Government Act 1993 provides councils with the ability to implement a program of major improvements to stormwater management, funded by a Stormwater Levy.

3.3.1. Protection through zoning

Zoning sets out permissible land uses and allows for development in appropriate areas.

The Fairfield City Biodiversity Strategy 2010 provided the original platform to introduce the NSW Standard LEP zones to Fairfield City, including the application of zones *C2 Environmental Conservation* and *C3 Environmental Management* to areas with conservation values that require protection. In addition, Standard LEP local clauses relating to terrestrial biodiversity and riparian land and watercourses were applied to areas with environmental/biodiversity significance (located both within and outside the C2 and C3 zones), that require protection, in light of State Government practice notes and guidelines relating to preparation of the Fairfield City LEP 2013.

Land is zoned C2 where the management objective is to protect, manage and restore areas of high ecological, cultural, scientific or aesthetic value. Any development which could have an adverse impact on these values is prohibited. C3 land is zoned as such where the aforementioned values are still considered to be special, however a limited range of development is seen as appropriate, where this does not reduce ecological, cultural, scientific or aesthetic values.

Preparation of this Biodiversity Strategy has involved a comprehensive review of the zoning of land in the City to protect conservation of threatened species and ecosystems. Field work was conducted by qualified ecologists along with Council's Natural Resource Team to confirm State-mapped plant communities and assess suitability of Council land for a change in zoning.

The review focused on areas of the City zoned C2 Environmental Conservation, particularly at the interface with areas zoned RE1 Public Recreation that are used for active and passive recreation pursuits.

3.3.2. Preservation of trees and native vegetation

LEP zoning and areas identified on the Terrestrial Biodiversity Map and Riparian Lands and Watercourses Map trigger various levels of assessment and development constraint. However, these mapped areas do not encompass all of the biodiversity features which occur across Fairfield City.

There may be good reason for land managers to want to remove a tree on private property. Sometimes trees have been planted in an inappropriate setting and may be affecting building structures, or perhaps are dying and need to be removed for safety.

The Fairfield Citywide DCP (Section 3.2) contains provisions to protect and manage trees or vegetation, making sure that trees can be removed where necessary, while protecting other trees for the sake of the environment and the community's enjoyment.

3.3.3. Biodiversity offsets

Fairfield City Council is a determining authority for an activity to be carried out by, or on behalf of, the Council under Part 5 of the EP&A Act. The effect of these provisions is to enable the Council to assess the environmental impacts of activities permitted without consent under the Fairfield LEP 2013 or relevant Environmental Planning Instruments (EPI), for which it is the proponent and also the owner (or has care and control) of public land, including crown land.

It is important to ensure that the impacts of approved Council activities on biodiversity values are, where required, assessed, managed and offset in accordance with the obligations set out under the EP&A Act and BC Act. This will enable the Council to demonstrate a consistent and lawful approach to the protection of biodiversity where it carries out an activity or grants an approval for an activity to be carried out on its behalf.

Council is committed to meet all of its offsetting obligations, if possible, through stewardship sites established within Fairfield City. As part of the development of this Biodiversity Strategy, potential stewardship sites have been identified and are being progressed.

4. Strategy Themes

4.1. Engaging With Biodiversity

Engaging the community in urban greening is one of the biggest challenges for councils. An Australia-wide survey found that 92% of the broader community support urban greening, however 59% are unable or unwilling to volunteer their time to urban greening initiatives[20] (Greener Spaces, Better Places 2019). Within a local government organisation there are typically also competing priorities and a lack of understanding about the significance of the biodiversity values. In response, Fairfield City Council is committed to improving engagement with biodiversity across Council, as well as more broadly within the community.

Visitors and residents to Fairfield City will have opportunities to engage with biodiversity. The characteristics that make the City unique will be celebrated, including vegetation communities, shaded waterways, and ready access to nature via walking and cycling paths.

The benefits of engaging with Fairfield City's biodiversity will include:

- Improved human health through nature-based activities
- Increased visitation rates to the City's nature conservation areas
- Established relationships between Council and community groups who are concerned with environmental issues.

This perspective will lead to a greater understanding about why our natural ecosystems should be protected and enhanced.

The *'engaging with biodiversity' theme aligns with the first goal of Australia's Strategy for Nature: 'Connect all Australians with nature'.*

Engaging with biodiversity – objectives for Fairfield City

- Training and education resources are developed, which improve Council's understanding of biodiversity management
- Fairfield City's community participates in biodiversity conservation activities and enjoys the City's natural areas

4.2. Enhancing Biodiversity

Maximising the diversity of species and ecosystems needs action through the protection and restoration of native habitats, management of risks from development and mitigation of threats. Conservation efforts could include improved inter-governmental and community collaboration and the provision of consistent, robust and transparent approaches for assessing the state of ecosystem management areas.

The recent draft Fairfield City Community Facilities and Open Space Needs Study identified that one of the community's main priorities for open space was to address heat, with trees and canopy cover highly valued as sheltered places to sit and gather together.

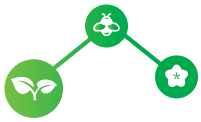
Protection of species could also involve increased support for environmental community groups and private landowners who protect threatened or vulnerable species, establishment of predator- and threat-free 'safe havens' for native species and targeted reductions in the intensity of key threatening processes.

This theme aligns with **Planning Priority 8** in the Fairfield City LSPS *'Protect areas of high natural value and environmental significance and improve the health of catchments and waterways'*, and Planning Priority 10 *'Adapt to natural hazards and environmental impacts'*. It also aligns with the second goal of Australia's Strategy for Nature:

'Care for nature in all of its diversity'.

Enhancing biodiversity – objectives for Fairfield City

- Natural areas are valued
- Volunteer groups are supported to improve the condition of bushland and waterways
- Habitat is restored for a diverse range of species
- Greening initiatives increase urban biodiversity across the city
- Threats from pest animals and rubbish dumping are reduced.



4.3. Connecting Biodiversity

A wildlife corridor is a relatively unbroken linear strip of habitat connecting two or more patches of habitat that are otherwise surrounded by unsuitable areas for the species or community in question[21].

Despite the pressures they are under, urban and peri-urban vegetated linkages and corridors that flow between suburbs, recreational parks and conservation estates, can raise community awareness and actively engage the community in conservation and management activities[22]. Reducing the isolation of bushland remnants will decrease the risk of local extinctions; and by maximising connectivity, the diversity, functioning and survival of urban bushland is enhanced[23]. Habitat connectivity is key to reducing biodiversity loss and can increase colonisation rates, improving diversity and strengthening existing populations[24].

Wildlife corridors range in size from regional corridors, which might be hundreds of metres wide with many multiple landscape types, down to local linkages which could follow a creek line in a suburban setting. Smaller 'stepping' stones can also facilitate movement of more mobile species (such as birds and bats). Stepping-stones can be habitat features such as a stag, rocky outcrop, urban garden, or a single tree.

A landscape connected by native vegetation and healthy waterways is essential for biodiversity persistence, as it:

- Allows the movement of animals and the dispersal of plants.
- Ensures genetic exchange of flora and fauna populations that may otherwise become extinct
- Allows recolonisation of habitat areas by fauna and flora that have become locally extinct from events such as land clearing, fire, disease, fluctuating food supply and extreme weather.
- Provides a relatively safe route for the movement of animals across the landscape.

This theme aligns with **Planning Priority 8** in the Fairfield City LSPS *'Protect areas of high natural value and environmental significance and improve the health of catchments and waterways'*; specifically, to deliver green and blue grid connections. It also aligns with the Western City District Plan Planning Priority W15 to deliver connections.

Connecting biodiversity – objective for Fairfield City

- Wildlife movement is facilitated and enhanced across a variety of zones and tenures

4.4. Protecting Biodiversity

Major threats to ecological communities include habitat loss from development and degradation, invasive species, overharvesting, pollution, disease and global warming. Opportunities for Council to reduce impacts on biodiversity resulting directly from its activities include scheduling vegetation clearing activities outside of breeding season (late winter to early summer). Joint action between Council and other levels of government includes improving planning, regulation, environmental impact assessment and approvals processes. Threat abatement activities involving not-for-profit organisations, institutions and private landholders and could include targeted pest management, ecosystem restoration (integrated fire management and revegetation), pollution control, and responsible pet guardianship.

Protecting biodiversity and bushland aligns with a number of Planning Priorities in the Western City District Plan as well as within the LSPS.

Protecting biodiversity – objectives for Fairfield City

- Impacts to biodiversity are offset locally
- Development improves outcomes for biodiversity
- Areas of conservation value are protected and enhanced

4.5. Improving biodiversity knowledge

Opportunities for adapting urban environments to maximise biodiversity are numerous and include both tried and tested programs, as well as initiatives such as using strategic street tree planting and landscaping to create wildlife corridors through urban areas. Outcomes of local biodiversity programs should be shared with the wider community to reduce gaps in knowledge and improve planning and management strategies, support development and implementation of innovative tools and techniques, and to build connections between environmental disciplines and social sciences. A sustained and strategic effort across all levels of government and within academia enhances our knowledge about nature, including improved partnerships with community groups and business. Providing access to specific information about wildlife is also an essential part of enabling members of the public to implement sustainable practices in their own lives and value biodiversity as an aspect of their sense of place.

This theme aligns with the Goal 3 of *Australia's Strategy for Nature*: Share and build knowledge.

Improving biodiversity knowledge – objectives for Fairfield City

- The results of biodiversity actions are shared to improve decision-making and increase collective knowledge
- Information is shared in order to integrate past learnings from Fairfield City and elsewhere into new activities
- Initiatives are supported that lead to further understanding about Fairfield City's biodiversity
- The community are given improved access to information about local wildlife, through a variety of platforms

Part 2
Action Plan

1. Purpose

The Action Plan details prioritised activities for Fairfield City Council to complete or commence over a 10 year period to best enhance and protect biodiversity in Fairfield City. These actions have been developed with consideration of synergies between Federal and State Government biodiversity strategies, the Fairfield Local Strategic Planning Statement 2040 and Fairfield City Plan and feedback from the wider Fairfield City community.

2. Achieving the Themes and Key Objectives

The Action Plan is linked to the stated objectives and directions for each theme in Section 4 of this Strategy:

- Engaging with biodiversity
- Enhancing biodiversity
- Connecting biodiversity
- Protecting biodiversity
- Improving biodiversity knowledge.

These consider the planning priorities identified under the Environmental Sustainability theme of Fairfield City's LSPS.

3. Targets For Fairfield City

Targets were set in the Fairfield City Biodiversity Strategy 2010 which remain relevant today, along with new targets that have been added. Biodiversity targets are:

- 30% of the City with tree canopy cover[1, 25],
- 60% reduction of Priority Weeds within Fairfield City Council's natural areas (currently under maintenance)
- 30% of both sides of creek banks rehabilitated to naturalised condition
- Give away 4,000 indigenous trees, shrubs and groundcovers each year to the local community
- Plant and maintain up to 15,000 indigenous trees, shrubs and groundcovers each year
- Fauna species list developed for the City.

4. Action Plan

Actions have been assigned either a high, medium or low priority, which is reflected by the timeframe that Council has committed to completing each action (Table 4-1). Priorities might change during the life of the Strategy in line with new information, amended legislation or guidelines, or funding opportunities. Any changes to priority will be reflected in the Annual Report.

The 'Lead' column demonstrates which Council department will drive each action.

Table 4-1 Action plan prioritisation

Timing	
Short-term	Commence within 1-2 years, completion within 5 years
Medium-term	Commence within 3 years, completion within 10 years
Long-term	Commence within 5 years
Ongoing	Occurring on a continual basis

* actions may remain ongoing following the life of the Strategy

[1] Currently (2020) measured at 14.5%

Engaging With Biodiversity

No.	Action	Timing	Performance indicator	Lead
Objective: Training and education resources are developed, which improve Council's understanding of biodiversity management				
1.1	Ensure that relevant Council officers are aware of their role in implementing the Biodiversity Strategy and Action Plan by: • holding initial information session(s) on the Biodiversity Strategy and Action Plan • advertising the adoption of the Biodiversity Strategy on Council's intranet • Include biodiversity achievement updates in Council staff newsletter	Short-term	Biodiversity inception session – within one month of Strategy adoption At least two biodiversity achievements (annually) reported in staff newsletter.	Strategic Planning/ Natural Resources
1.2	Develop a guideline to support biodiversity management during the planning and execution of Council projects.	Medium-term	Guideline developed and in use.	Natural Resources
Objective: Fairfield City's community participates in biodiversity conservation activities and enjoy the city's natural areas				
1.3	Develop interpretative signage to enhance visitor experience within key natural areas, including (as a priority) Shearer Park and Strong Park at Hollywood Drive, Lansvale. Locate interpretive signs near play/picnic areas alongside natural areas, promoting the bushland as something else for visitors 'to see and do'. Signage to focus on the links between indigenous use of species and their links to the landscape	Medium-term	Interpretive signage installed. Local Aboriginal community engaged in story-telling signage focussing on biodiversity	Natural Resources
1.4	Continue to support and improve the Environmental Calendar program.	Ongoing	Number of programs in the environmental calendar maintaining year on year. Attendance at events: average of 15 attendees at event	Natural Resources
1.5	Support existing volunteers and provide more activities at sites which have high conservation value, but which do not have a dedicated Bushcare group. Approach nearby community groups (i.e., schools, aged care facilities, CALD and new residents etc) and invite people to participate in Environmental Calendar events.	Ongoing Medium-term	Regular recruitment of new volunteers and existing registered volunteers retained for three years Approach existing 'non-environmental' community groups about participating in environmental calendar events, through 'welcome packs' presented at community events (two events per year).	Natural Resources
1.6	Encourage wildlife friendly gardens, drawing on available, as well as tailored resources (e.g., Australian Herpetology Society for frog friendly gardens and/or Birdlife Australia for bird friendly gardens).	Long-term	Two workshops annually. Fauna friendly gardens factsheet available on the Council website.	Natural Resources

No.	Action	Timing	Performance indicator	Lead
1.7	Continue to promote and enhance the Fabulous Fairfield program to encourage and reward gardeners within the community, incorporating a focus on sustainable, native gardens.	Ongoing	Monthly Fabulous Fairfield award Annual Garden of the Year award Provide plants for this award via the Fairfield Community Nursery	Place Management
1.8	Support the establishment of a community/ educational garden at the Nalawala Sustainability Hub	Ongoing	Community garden launched to the public via the Fairfield Community Nursery volunteer program.	Natural Resources

Enhancing Biodiversity

No.	Action	Timing	Performance indicator	Lead
Objective: Natural areas are valued				
2.1	Calculate the economic value of natural areas within the LGA by completing a project to assess the ecosystem (and potentially species) credit value using the NSW biodiversity assessment methodology (BAM) calculator.	Short-term	Indicative credit values calculated for mapped PCTs within the LGA. Credits register established and maintained for Council infrastructure	Natural Resources
Objective: Volunteer groups are supported to improve the condition of bushland and waterways				
2.2	Facilitate Clean-up Australia Day events	Ongoing	Annually each March	Waste
2.3	Continue support for the current volunteer groups that exist within the LGA	Ongoing	Maintain or improve volunteer numbers or time spent on site Educational programs specifically targeted to volunteers to increase practical knowledge, e.g., through on-site workshops on bush regeneration, weed control, plant identification	Natural Resources
Objective: Habitat is restored for a diverse range of species				
2.4	Amend street tree and landscaping species lists to include a variety of locally indigenous native plants that flower throughout the year, providing annual supply of food for birds, bats and marsupials. Minimise use of street tree species that have potential for being invasive.	Medium-term	Species planting lists updated.	Open Space/ Natural Resources
2.5	*"Right tree, right place initiative"* Tree Management Policy updated, including detail about using locally indigenous species and those which are adaptable to urban heat. Include justification of use of endemic vs non-endemic species and some facts on the allergy status of trees recommended	Medium-term	Tree Management Policy revised and implemented.	Open Space/ Natural Resources
2.6	Prioritise planting along creek banks, recognising the multiple benefits including bank stabilisation, improved water quality, and enhanced connectivity for wildlife movement	Medium-term	30% of both sides of creek banks rehabilitated to natural condition, including local provenance plants provided by Fairfield Community Nursery	Natural Resources/ Catchment Planning
2.7	Maintenance programs are maintained and increased to improve native vegetation cover and condition in natural areas.	Medium-term	60% reduction of Priority Weeds within Fairfield City Council's natural areas (currently under maintenance)	Natural Resources
2.8	Support private landholders to control high threat exotic weeds.	Short-term	10% of private land adjoining creeks free of high threat exotic weeds by 2040.	Natural Resources

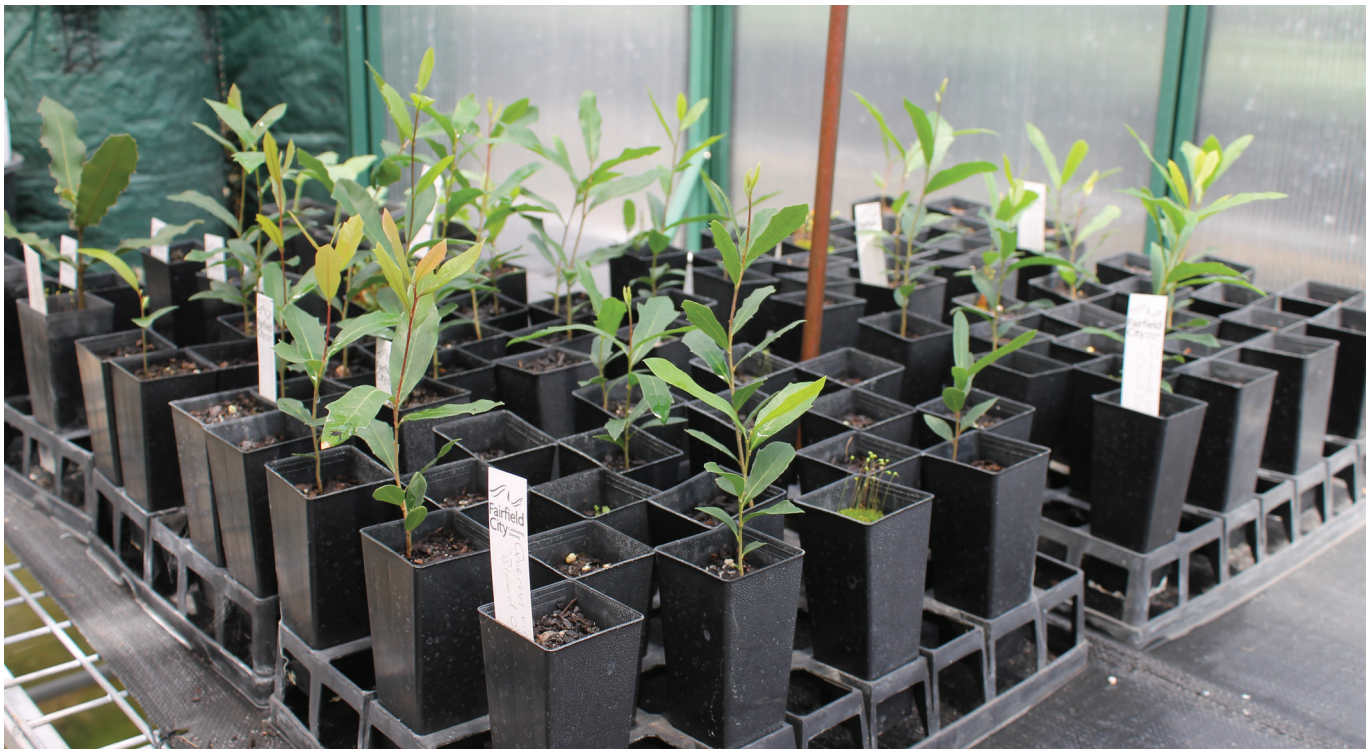
No.	Action	Timing	Performance indicator	Lead
2.9	Identify plant communities within Fairfield City Council's natural area where the introduction of an ecological burn regime would improve restoration. Involve relevant Aboriginal stakeholders to determine whether cultural burning practices would be appropriate.	Medium-term	Assessment of suitable locations and viability of sites to support ecological outcomes. Plan for ecological and cultural burning developed.	Natural Resources
Objective: Greening initiatives increase urban biodiversity across the city				
2.10	Update the City's street tree and landscaping regime to increase the abundance of native trees, shrubs and groundcover, prioritising areas mapped as being conservation significant, particularly where connectivity is enhanced.	Medium-term	Canopy cover increases to 30% across the LGA	Open Space/ Natural Resources
2.11	LGA residents are encouraged to plant natives on private property for a variety of mammals, birds, insects and other pollinators. Promote the use of locally indigenous plants through plant give-a-ways to the community	Long-term	4,000 indigenous trees, shrubs and groundcovers are given away each year to the local community Number of residential properties received plants	Open Space/ Natural Resources
Objective: Threats from pest animals and rubbish dumping are reduced				
2.12	Implement responsible pet guardianship initiatives to reduce predation on native animals. • Update cat licensing information • Educate the community about keeping cats indoors, for their own safety, as well as the protection of wildlife. • Consult with local vets to promote a 'keep cats at home campaign.'	Long-term	Cat predation of native animals is reduced	Community Regulatory Services/ Natural Resources
2.13	Pest animals are managed strategically across the LGA, including consultation with adjacent land managers to coordinate actions.	Long-term	Reduced reports of pest animal sightings Increased community awareness.	Natural Resources
2.14	Implement educational programs and enforce City-wide strategies to address illegal dumping.	Short-term	Number of illegal dumpings are reduced.	Waste
2.15	School bin sticker competition (i.e., winners could have stickers printed which can be used on wheelie bins).	Long-term	Competition held for students to create art encouraging people not to litter	Waste
2.16	Bin sticker competition art used on signage in local playgrounds and parks to encourage litter reduction.	Medium-term	Signs installed in public areas where ibis (and/or other problematic wildlife) are observed foraging	Waste

Connecting Biodiversity

No.	Action	Timing	Performance indicator	Lead
Objective: Wildlife movement is facilitated and enhanced across a variety of zones and tenures				
3.1	Review and update mapped areas of conservation significance (including zoning of land and LEP overlay maps), to identify bushland in good condition, areas for revegetation, wildlife corridors, opportunities for urban greening and potential biodiversity stewardship sites.	Short-term	LEP zoning and overlay maps are updated to reflect conservation significance of land and waterways in the City.	Strategic Planning/ Natural Resources
3.2	Develop a map showing priority areas for management actions, based on areas of conservation significance.	Medium-term	Conservation significant areas mapping is used to prioritise management actions	Strategic Planning/ Natural Resources
3.3	Preferentially locate biodiversity enhancement and restoration programs within identified wildlife corridors and 'green grid' connections (see also Action 2.13).	Medium-term	Fauna diversity is maintained (or improved) within the LGA as wildlife movement is enhanced	Strategic Planning/ Natural Resources

Protecting Biodiversity

No.	Action	Timing	Performance indicator	Lead
Objective: Impacts to biodiversity are offset locally				
4.1	Biodiversity stewardship sites on Council land are used to offset Council activities.	Short-term	Stewardship sites are established and managed on Council land.	Strategic Planning/ Natural Resources
4.2	Mechanisms are explored to maximise the retirement of developer biodiversity credits within the Fairfield LGA (outside of Council land).	Medium-term	Impacts within Fairfield LGA are offset to the benefit of Fairfield City's biodiversity.	Strategic Planning/ Natural Resources
4.3	Identify private landholders with high conservation value land and promote biodiversity stewardship agreements.	Long-term	Conservation significant areas in private ownership is identified.	Natural Resources
Objective: Development improves outcomes for biodiversity				
4.4	Consider opportunities to facilitate development outcomes that avoid first, then minimise adverse impacts (and maximise biodiversity benefits), with mitigation such as appropriate landscaping, installing nest boxes/ salvaging and relocating hollows, native beehives.	Medium-term	DCP updated.	Strategic Planning/ Natural Resources
Objective: Areas of conservation value are protected				
4.5	Rezone conservation significant areas and potential stewardship sites to C2 Environmental Protection, where not already applied.	Short-term	Planning amendment drafted.	Strategic Planning/ Natural Resources



Improving Biodiversity Knowledge

No.	Action	Timing	Performance indicator	Lead
Objective: The results of biodiversity actions are shared to improve decision-making and increase collective knowledge				
5.1	Biodiversity Strategy and Action Plan achievements monitored, and results communicated in Council's Annual Report.	Short-term	Annual Report includes quantitative results from implemented Action Plan.	Corporate Planning
Objective: Information is shared in order to integrate past learnings from Fairfield City and elsewhere into new activities				
5.2	Review this Biodiversity Strategy and Action Plan every 5 years and build on achievements and lessons learnt in the new Biodiversity Strategy and Action Plan. • Record quantitative data to assess progress towards meeting this Action Plan's targets and outcomes. • Integrate past learning from Fairfield City and elsewhere. • Track and report progress towards targets and outcomes and communicate results in Annual Report. • Identify successes and achievements under this Action Plan, targets not met, and lessons learnt. • Report these experiences in a Council workshop session and integrate these experiences into the new Biodiversity Strategy and Action Plan.	Medium-term	Success of management actions is tracked	Natural Resources/ Strategic Planning/
Objective: Initiatives are supported that lead to further understanding about Fairfield City's biodiversity				
5.3	Build on the environmental calendar to include events such as fauna friendly gardens program, Fabulous Fairfield Garden Awards, community garden meetings, litter clean-ups, Bioblitz and revegetation. Encourage external groups to run environmental initiatives within the LGA	Medium-term	Maintain or increase in the number of events each year. Maintain or increase the number of participants each year.	Natural Resources
5.4	Improve understanding of Fairfield City's flora and fauna diversity by recording species (through ecological survey, Council programs and citizen science).	Medium-term	Register of native species records kept updated. Species records verified with suitably qualified ecologist and publicly available (link to BioNet)	Natural Resources
5.5	Develop an interactive reporting portal on the Fairfield City Council web page for residents to report species records (flora and fauna) with (GPS) location/date/time/ species; or investigate using an existing platform to create a city-specific citizen science project (i.e., through Atlas of Living Australia).	Long-term	Online data collection method supported and promoted	Natural Resources

No.	Action	Timing	Performance indicator	Lead
5.6	Two-yearly Bioblitz event in spring to bring together ecologists and members of the community to identify plants and animals in native bushland area	Long-term	Bioblitz event(s) held every two years.	Natural Resources
5.7	Continue to host and support educational events such as 'breakfast with the birds', spotlighting, and frog surveys, Backyard Habitat and Community Nursery propagation workshops. Bush regeneration contractors to identify and report on any new flora and fauna species seen while undertaking works	Medium-term	All results recorded in BioNet and register of native species records. New species or species locations transferred from contractor reports to BioNet once verified by a suitably qualified ecologist.	Natural Resources
5.8	Pending available funding, undertake a Fauna Study across the city to inform future updates to the Biodiversity Strategy.	Long-term	Fauna Study complete.	Natural Resources
Objective: The community are given improved access to information about local wildlife, through a variety of platforms				
5.9	Livestreamed/recorded biodiversity workshops for people with limited mobility and a general online resource for the community.	Long-term	Trial biodiversity workshops/ lectures livestreamed/ recorded and available through the Council website, e.g., Zoom webinars, YouTube videos, e.g., RegenTV by the Australian Association of Bush Regenerators.	Natural Resources
5.10	Develop a biodiversity resources guide for local residents to promote existing environmental groups and encourage new members. Digitise local resources for download on Council website	Medium-term	Add a resources section to the 'Your Environment' page of Council's website including environmental groups listing, useful downloads, external links and educational reading materials, e.g., RegenTV, local plant and bird identification Digitise existing publications on environment that are specific to Fairfield City.	Natural Resources

5. Funding and In-Kind Contributions

Traditionally, Council's environmental programs are funded by general revenue and implemented by Council staff and contractors. In recent years additional funding and information has become available from a range of different government, research institutions and private industry. The Action Plan identifies the management requirements for high value natural areas to inform the allocation of both human and financial resources, as well as inviting members of their community to donate their time and knowledge to improve the place in which they live.

Employing a range of funding mechanisms such as grants from various government and private sector organisations allows Council to achieve more than was previously possible. Many of the grants available are also open to community groups and private landholders, to implement management actions on land to protect, restore and maintain biodiversity values. Sources of funds are subject to change, however Council will continue to use Government grant finders and The Grants Hub, to identify funding opportunities and share this knowledge with other biodiversity stakeholders.

6. Monitoring and Reporting

Targets have been established which will be used to assess the success of the Action Plan. Action progress should be monitored on an annual basis. This will provide transparency to the community as well as to Council and demonstrate effective use of public funding. Monitoring results may also be used to support grant applications.

Council is committed to monitoring progress towards LSPS planning priorities through Quarterly, Annual and End of Term Reports. These reports will summarise the progress made to achieving the actions in the Fairfield City Biodiversity Strategy 2022. Images and other visual information will be included where relevant, to demonstrate progress. Reports will be made publicly available and published on the Council's website. Some actions may change over time, as may the priorities. For the Annual Report, the status of actions will be nominated as either:

- Complete
- In progress
- Ongoing
- New.

7. Strategy Review

This is a five-year plan from the date of Council's adoption. A review of the Biodiversity Strategy and Action Plan should commence in 5 years from the date of adoption of this strategy. This review should consider:

- Priorities and actions of the Fairfield City LSPS 2040 and City Plan
- changes to relevant legislation
- improved knowledge about biodiversity within the City
- the latest scientific findings
- community feedback
- the success of the Biodiversity Strategy to date.

Part 3
Supporting Information

1. Biodiversity Legislation and Policy

1.1. Commonwealth Government

Environment Protection and Biodiversity Conservation Act 1999

The Commonwealth Environment Protection and *Biodiversity Conservation Act 1999* (EPBC Act) provides a national scheme for environmental protection and biodiversity conservation. The purpose of the EPBC Act is to ensure that actions likely to cause a significant impact on a matter of national environmental significance undergo an assessment and approval process. Under the EPBC Act, an action includes a project, undertaking, development or activity.

The EPBC Act also lists threatened and migratory species which occur within the City (55 migratory, 88 species and 10 communities).

1.2. NSW Government

Biodiversity Conservation Act 2016

The *Biodiversity Conservation Act 2016* (BC Act) establishes a regulatory framework for assessing and offsetting the biodiversity impacts of proposed developments. The BC Act contains provisions relating to flora and fauna protection, threatened species and ecological communities listing and assessment, a biodiversity offsets scheme, a single biodiversity assessment method, calculation and retirement of biodiversity credits and biodiversity assessment and planning approvals. The BC Act is supported by the Biodiversity Conservation Regulation 2017.

Biosecurity Act 2015

The *Biosecurity Act 2015* (Biosecurity Act) provides a framework for the prevention, elimination and minimisation of biosecurity risks posed by biosecurity matter, dealing with biosecurity matter, carriers and potential carriers, and other activities that involve biosecurity matter, carriers or potential carriers. The Biosecurity Act emphasises shares responsibility between the State Government, industry and the community. Private landholders and local government are responsible for controlling priority weeds on their land.

Crown Lands Management Act 2016

The main aims of the Crown Lands Management Act 2016 are to provide for the ownership and management of Crown land in NSW, and provide clarity concerning the law applicable to Crown land. Works within a Crown Reserve require environmental, social, cultural heritage and economic considerations to be considered and must facilitate the use of land by the NSW Aboriginal people.

Environmental Planning and Assessment Act 1979

Council has a range of development assessment and approval functions under the *Environmental Planning and Assessment Act 1979* (EP&A Act), which includes in its objectives the proper management of natural resources, and the promotion of orderly and economic development of land.

When deciding if a proposal should be approved, the consent/determining authority (e.g. Council) must consider a range of environmental matters including maintenance of biodiversity and the likely impact on threatened species, populations or ecological communities.

Fisheries Management Act 1994

The *Fisheries Management Act 1994* aims to conserve, develop and share the fishery resources of NSW. The Fisheries Management Act protects marine vegetation, fish habitat (freshwater and marine) and threatened species, including species and habitat found in inland rivers and creeks. The Fisheries Management Act also provides for the identification of critical habitat and threatening processes.

Local Government Act 1993

Council has a charter set out in the Local Government Act 1993 to address biodiversity conservation, detailed under Section 8(1) of the LG Act:

"…to properly manage, develop, protect, restore, enhance and conserve the environment of the area for which it is responsible, in a manner that is consistent with and promotes the principles of ecologically sustainable development".

Several Management Plans have been prepared for public lands in the City under the Local Government Act. Typically, these plans include environmental management provisions linked to the Fairfield City Plan 2016 to 2026. There are also provisions (s36B and s36C of the Act), which detail Council's obligations in responding to recovery planning, threatened species habitat and areas of natural value.

National Parks and Wildlife Act 1974

Under the *National Parks and Wildlife Act 1974*, the Director General of the Biodiversity and Conservation Division of DPE, is responsible for the care, control and management of all national parks, historic sites, nature reserves, reserves, Aboriginal areas and state game reserves. The Director General of BCD is also responsible under this legislation for the protection and care of native fauna and flora, and Aboriginal places and objects throughout NSW.

Water Management Act 2000

The *Water Management Act 2000*, currently administered by the Department of Industry (Water), is progressively being implemented throughout NSW to manage water resources. The aim of the Water Management Act is to ensure that water resources are conserved and properly managed for sustainable use benefiting both present and future generations. It is also intended to provide formal means for the protection and enhancement of the environmental qualities of waterways and their in-stream uses as well as to provide for protection of catchment conditions.

State Environment Planning Policy (Biodiversity Conservation) 2021

The State Environmental Planning Policy (biodiversity and conservation) 2021 aims to protect the biodiversity values of trees and other vegetation in non-rural areas of the State, and to preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation. Chapter 6 of this SEPP, Bushland in Urban Areas, applies to the areas and parts of areas specified in Schedule 5 of the SEPP that adjoin bushland zoned or reserved for public open space purposes. The Fairfield LGA is listed in Schedule 5 of the SEPP.

State Environmental Planning Policy (Resilience and Hazards) 2021

State Environmental Planning Policy (Resilience and Hazards) 2021 – Coastal Management applies to land within the coastal zone. The coastal zone means the area of land comprised of the following coastal management areas:

- The coastal wetlands and littoral rainforests area;
- The coastal vulnerability area;
- The coastal environment area; and
- The coastal use area.

The SEPP Resilience and Hazards encompasses the following repealed SEPP's: *State Environmental Planning Policy (Coastal Management) 2018; State Environmental Planning Policy 33 – Hazardous and Offensive Development; State Environmental Planning Policy 55 – Remediation of Land.*

1.3. Local Government

Fairfield City 2040 – Local Strategic Planning Statement (March 2020)

The LSPS sets out:

- the 20-year vision for land use in the local area.
- the special characteristics which contribute to local identity.
- shared community values to be maintained and enhanced.
- how growth and change will be managed into the future.

The LSPS is the key resource to understand how strategic and statutory plans, including the LEP, DCPs and Development Contribution Plans are implemented at the local level.

The vision statement for Theme 3: Environmental sustainability of the LSPS relates directly to this Biodiversity Strategy:

"The City has a proud history of environmental initiatives recognised and showcased globally. Past efforts and investments in revegetating the City's extensive creek-line corridors and cleaning its waterways has resulted in new green corridors and habitats that promote the vision for the Western Parkland City. These elements provide an excellent backdrop for the City's extensive cycleway network, with recreation facilities and sporting fields all interconnected and accessible. The community acting as partners will continue to transform the City into a clean, healthy and resilient place well beyond 2040."

Fairfield City Local Environmental Plan 2013

The Fairfield City Local Environment Plan 2013 applies to the majority of land in Fairfield City and ensures:

- that appropriate housing opportunities are provided for all existing and future residents and that those housing opportunities accommodate different lifestyles, incomes and cultures
- the economic, employment and educational needs of the existing and future community are appropriately planned for
- the recreational and social needs of the existing and future community are appropriately planned
- development is properly integrated with, or assists in improving, Fairfield City's public services, infrastructure and amenities
- the proper management of productive agricultural land and prevent the fragmentation of agricultural holdings
- conserves the environmental heritage of Fairfield City
- protects and manage areas of remnant bushland, natural watercourses and threatened species.

Fairfield City Wide Development Control Plan 2013

The purpose of the Fairfield City Wide Development Control Plan 2013 (the City Wide DCP) is to identify controls that apply to particular types of development. The DCP provides greater planning detail and guidance for development, supplementing the zoning and development standards in the Fairfield City LEP 2013.

The City Wide DCP provides guidance for assessing development and includes detailed development controls used by Council as benchmarks for assessing impacts. Of particular relevance to this Biodiversity Strategy are the development controls for stormwater management and landscaping.

Other Relevant Controls

Other relevant legislation, planning instruments and policies are listed below (not exhaustive):

- Australia's Strategy for Nature 2019-2030
- Fairfield City 2020 Community Engagement Strategy
- Fairfield City Plan 2016-2026
- Fairfield City Resourcing Strategy
- Fairfield City Annual Delivery Programs
- Fairfield City Annual Operational Plans
- Bushland Management Strategy for Fairfield Indigenous Flora Park, Fairfield City Council, October 2015, updated January 2016
- National Local Government Biodiversity Strategy (1998)
- Nationally Agreed Criteria for the Establishment of Comprehensive, Adequate and Representative Reserve System for Forests in Australia.
- State Environmental Planning Policy 19 –Bushland in Urban Areas
- Greater Metropolitan Regional Environmental Plan No 2—Georges River Catchment
- Sydney Regional Environmental Plan No 20—Hawkesbury-Nepean River (No 2—1997)
- NSW Catchment Action Plans 2013 to 2023
- Planning for Bush Fire Protection 2019
- Conveyancing Act 1919
- Community Land Management Act 1989
- Guidelines for controlled activities on waterfront land – riparian corridors 2018
- Cumberland Plain Recovery Plan 2011

2. Threatened Species and Communities

Table 2-1 Vegetation communities of Fairfield City[26]

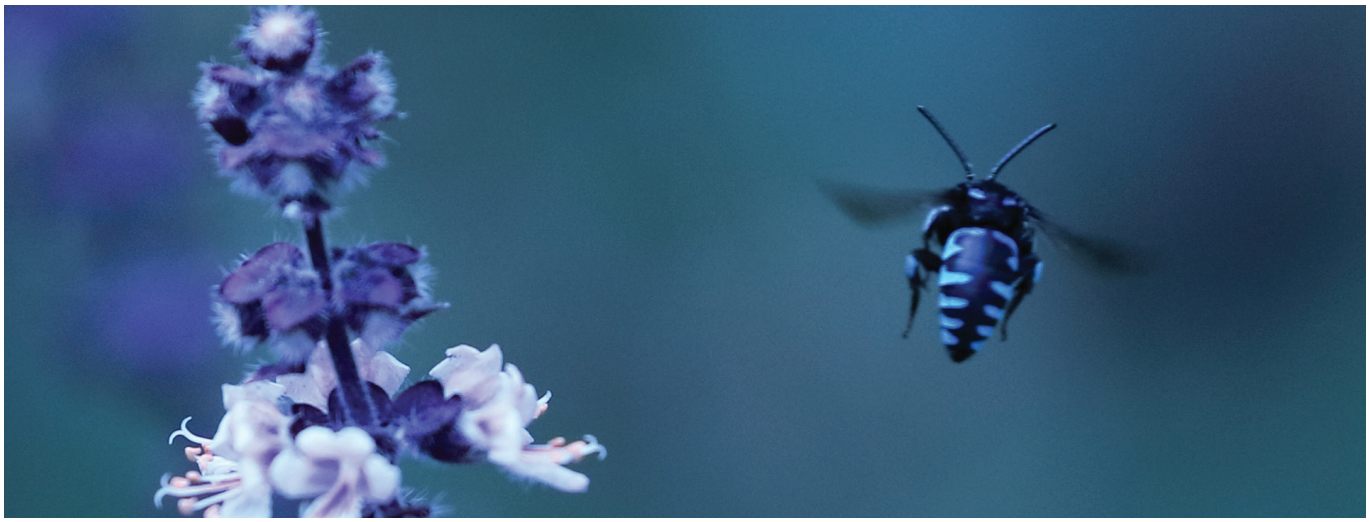
Vegetation community	BC Act status	EPBC Act status
Cumberland Plain Woodland	Critically Endangered	Critically Endangered
Western Sydney Dry Rainforest	Critically Endangered	Critically Endangered
Cooks River Castlereagh Ironbark Forest	Endangered	n/a
Moist Shale Woodland	Endangered	n/a
River-flat Eucalypt Forest	Endangered	n/a
Shale Gravel Transition Forest	Endangered	n/a
Freshwater Wetlands on Coastal Floodplains	Endangered	n/a
Estuarine Mangrove Forest	n/a	n/a
Estuarine Reedland	n/a	n/a

Table 2-2 Threatened plants within Fairfield City

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Source[27, 28]
Acacia pubescens	Downy Wattle, Hairy Stemmed Wattle	Vulnerable	Vulnerable	James 2019; Narla 2018
Cynanchum elegans	White-flowered Wax Plant	Endangered	Endangered	James 2019
Hibbertia puberula subsp. glabrescens		Critically Endangered	Critically Endangered	James 2019
Marsdenia viridiflora subsp. viridiflora		Endangered		James 2019
Persoonia nutans	Nodding Geebung	Endangered	Endangered	James 2019
Pimelea spicata	Spiked Rice-flower	Endangered	Endangered	James 2019
Pomaderris prunifolia		Endangered		James 2019
Pultenaea pedunculata		Endangered		James 2019

Table 2-3 Threatened fauna known or likely to occur in Fairfield City

Category	Scientific Name	Common Name	BC Act Status	EPBC Act Status	Source[29, 30, 31]
Amphibian	Litoria aurea	Green and Golden Bell Frog	Endangered	Vulnerable	BioNet
Bird	Anthochaera phrygia	Regent Honeyeater	Critically Endangered	Critically Endangered	BioNet
Bird	Callocephalon fimbriatum	Gang-gang Cockatoo	Vulnerable	n/a	BioNet
Bird	Falsistrellus tasmaniensis	Eastern False Pipistrelle	Vulnerable	n/a	BioNet
Bird	Grantiella picta	Painted Honeyeater	Vulnerable	Vulnerable	BioNet
Bird	Ixobrychus flavicollis	Black Bittern	Vulnerable	n/a	BioNet
Bird	Lathamus discolor	Swift Parrot	Critically Endangered	Endangered	Narla 2018
Bird	Ninox strenua	Powerful Owl	Vulnerable	n/a	BioNet
Bird	Pyrrholaemus sagittatus	Speckled Warbler	Vulnerable	n/a	BioNet
Bird	Stagonopleura guttata	Diamond Firetail	Vulnerable	n/a	BioNet
Fish	Macquaria australasica	Macquarie Perch	Endangered	Endangered	BioNet
Fish	Prototroctes maraena	Australian Grayling	Endangered	Vulnerable	BioNet
Gastropod	Meridolum corneovirens	Cumberland Plain Land Snail	Endangered	n/a	BioNet
Mammal	Cercartetus nanus	Eastern Pygmy-possum	Vulnerable	n/a	BioNet
Mammal	Chalinolobus dwyeri	Large-eared Pied Bat, Large Pied Bat	Vulnerable	Vulnerable	BioNet
Mammal	Miniopterus schreibersii oceanensis	Eastern Bentwing-bat	Vulnerable	n/a	Niche 2018; Narla 2019
Mammal	Micronomus norfolkensis	Eastern Coastal Freetail-bat	Vulnerable	n/a	BioNet
Mammal	Petaurus australis	Yellow-bellied Glider	Vulnerable	n/a	BioNet
Mammal	Petaurus norfolcensis	Squirrel Glider	Vulnerable	n/a	BioNet
Mammal	Potorous tridactylus tridactylus	Long-nosed Potoroo	Vulnerable	Vulnerable	BioNet
Mammal	Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	Vulnerable	Niche 2018
Mammal	Scoteanax rueppellii	Greater Broad-nosed Bat	Vulnerable	n/a	BioNet
Reptile	Hoplocephalus bungaroides	Broad-headed Snake	Endangered	Vulnerable	BioNet



3. Mapping Areas of Biodiversity Value and Conservation Significance

Conservation significance assessments (CSA) have been previously undertaken by the NSW National Parks and Wildlife Service[32] and Ecological Australia[33,34,35] with detailed methods provided in the *Fairfield City Biodiversity Strategy - 2010*[36]. The CSA process identified areas of high, moderate and low conservation significance.

Conservation significance was determined by a combination of:

- amended vegetation boundaries
- legislative status of the vegetation community at both state and Commonwealth level
- patch condition and patch size
- adjacency/connectivity
- known records of threatened species.

The CSA method was based on the process set out in the *Guidelines for the Conservation Significance Assessment of the Native Vegetation for the Cumberland Plain*[37] and was modified to address the small remnant sizes within the Fairfield City and the presence of known threatened species sightings.

3.1. Method To Update The Csa Map

The previous Fairfield City CSA map has been updated during the preparation of this Biodiversity Strategy to produce a new *'Areas of biodiversity value and conservation significance map'*.

The update has considered the Biodiversity Values Map (BV Map, under the BC Act) and the results of a desktop assessment process along with field surveys.

3.1.1. Biodiversity values

The BV Map is developed by DPE and identified areas that have high biodiversity value which are also sensitive to impacts from development, including land clearing. The types of area that can be included on the BV Map are listed in Clause 7.3(3) of the Biodiversity Conservation Regulation. These are:

- coastal wetlands and littoral rainforest mapped under the State Environmental Planning Policy (Resilience and Hazards) 2021
- core koala habitat identified in a plan of management under State Environmental Planning Policy (Biodiversity and Conservation) 2021
- declared Ramsar wetlands defined by the EPBC Act
- land containing threatened species or threatened ecological communities identified as potential serious and irreversible impacts (SAII) under section 6.5 of the BC Act
- protected riparian land
- high conservation value grasslands or groundcover
- old growth forest identified in mapping developed under the National Forests Policy Statement but excluding areas not meeting the criteria published jointly by the Minister of the Environment and the Minister for Primary Industries
- rainforest identified in mapping developed under the National Forests Policy Statement but excluding areas not meeting the criteria published jointly by the Minister for Energy and Environment and the Minister for Primary Industries
- declared areas of outstanding biodiversity value
- council nominated areas with connectivity or threatened species habitat that the Minister for Energy and Environment considers will conserve biodiversity at bioregional or state scale
- any other land that in the opinion of the Environment Agency Head is of sufficient biodiversity value to be included.

3.1.2. Conservation value areas

NGH ecologists spent four days ground truthing (79) key sites which had been nominated by Fairfield City Council officers as being one (or more) of the following:

- potential to include in C2 zoning (or an alternative zoning change)
- potential to include in the Terrestrial Biodiversity Map and Riparian Lands and/or Watercourses Map
- requiring confirmation of Plant Community Type (PCT).

Data collected during this ground truthing was assessed against desktop resources (aerial imagery, PCT mapping, BV Map) in order to identify and/or refine areas of conservation value within Council-owned land. PCT allocation and boundaries were updated as a result of this assessment. Condition codes (Table 3-1) were also applied to all areas of conservation value.

Table 3-1 Vegetation condition codes[38]

Condition ID	Canopy density	Description
A	>10%	Canopy and understorey in good condition
B	5-10%	Canopy thinner, some understorey
C	>10%	Do not have Eucalypt canopy cover. Understorey appears dominated by native vegetation cover
Cmi	>10%	Similar to C, but with understory not dominated by natives, extensive weeds present in understorey
TX	<10%	Scattered tree overstorey over agriculture (grazing paddocks)
TXR	<10%	Scattered tree overstorey over rural residential development
TXU	<10%	Scattered trees over urban development

3.1.3. Areas of biodiversity value and conservation significance map

The Biodiversity Map (BV) identifies land with high biodiversity value that is particularly sensitive to impacts from development and land clearing. The map forms part of the Biodiversity Offsets scheme threshold, which is one of the factors for determining whether the biodiversity offset scheme (BOS) applies to a clearing or development proposal. The map is prepared by the Department of Planning and Environment under Part 7 of the Biodiversity Conservation Act 2016 (BC Act).

The Conservation Significance Map (previously known as the conservation values map) is an internal Council resource used to determine areas of existing biodiversity value, complementary to the NSW DPE BV map. As part of this strategy, field surveys were undertaken by Biodiversity consultants to determine the current extent of native vegetation across various sites of biodiversity significance in the Fairfield Council area. These field survey results have been used to update the new conservation significance map.

3.1.4. Application of this map

The intent of this map is to identify areas where biodiversity values need to be considered as an early part of any development process.

It is anticipated that this map will be incorporated into future iterations of the Fairfield City LEP 2013, contributing to an update of the Terrestrial Biodiversity Map and Riparian Lands and Watercourses Map, serving as the trigger for a development assessment and consent process, as described in the Fairfield City LEP 2013.

From time to time, DPE will update the BV Map to add or remove areas based on new information. Proponents (including Council for Council infrastructure projects) should refer back to the source BV Map[39] to understand whether the Biodiversity Offset Scheme is likely to apply and not rely solely on the Fairfield City Areas of biodiversity value and conservation significance map for this purpose.

4. Principles for Selecting Flora Species: Landscape Planting

Planting for biodiversity should be considered in all Fairfield City Council landscaping (including street tree planting) and natural area restoration planning and activities. Biodiversity planting should also be encouraged on private property. Addressing these principles will assist in the consideration of species not currently listed in the DCP Appendix F.

Species selection needs to address a wide range of criteria, including:

1. **Plant requirements:**
   - » plant growing requirements e.g., soil, water and shade
   - » characteristics that individual plants will provide for each location e.g., shade provision, wind break, size, wildlife attraction
   - » plant choice to be sympathetic to future, potentially drier climate regimes.
   - » availability of appropriate plant stock. Volunteers encouraged to propagate appropriate species at Council nursery
   - » approximate lifespan of the tree e.g., avoid short-lived wattles and callistemons.

2. **Physical aspects:**
   - » ongoing maintenance and maintenance costs of the individual plants (e.g., pruning, leaf/fruit drop)
   - » public safety e.g., limb drop, spikes
   - » location of nearby electrical, water, stormwater, sewerage services and roadways e.g., avoiding overhanging branches over roadways or power lines
   - » suitability for use in erosion control or 'soft' visual amenity screening
   - » vulnerability to vandalism or other damage e.g., use robust species in high use areas.

3. **Biosecurity and biodiversity aspects**
   - » invasiveness; including native species that can be invasive e.g., avoid or limit planting of Mount Morgan Wattle, Cootamundra Wattle, Callistemon viminalis etc in proximity to waterways or natural areas
   - » possible genetic hybridisation with similar native species, otherwise known as genetic pollution e.g., avoid nursery hybrids of threatened species that occur in the Greater Sydney Bioregion, such as Syzygium paniculatum and Grevillea juniperina
   - » Proximity to nearby or adjacent natural bushland areas e.g., ensure nursery hybrids of locally occurring native species are not planted within 100 m of natural areas.
   - » potential use by specific native fauna for foraging or nesting e.g., provide specific habitat or food trees to support native fauna that are known to occur locally, or which could be encouraged to recolonise the area
   - » only local provenance plant stock should be planted in or adjacent to reserves, to complement existing vegetation. Provenance of plants to be of the Greater Sydney Bioregion plant species specific to Fairfield City Council LGA.

4. **Locality and community aspects**
   - » community perceptions of certain species e.g., poisonous fruit or plants, 'dangerous' trees, spikes.
   - » potential of plant parts to cause serious allergies
   - » aesthetic appeal of individual plant and broader landscaping
   - » future uses of the area where planting exists or is planned.

5. Acronyms, Glossary & References (Endnote)

BC Act	Biodiversity Conservation Act 2016 (NSW)
Biodiversity	Biodiversity is the variety of all living things; the different plants, animals and microorganisms, the genetic information they contain and the ecosystems they form
BV Map	Biodiversity Values Map
Council	Fairfield City Council
DAWE	Department of Agriculture, Water and Environment
DCP	Development Control Plan
DPE	Department of Planning and Environment
EEC	Endangered Ecological Community
EP&A Act	Environmental Planning and Assessment Act 1979 (NSW)
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)
Invasive species	Invasive species are animals, plants, parasites or disease-causing organisms that establish outside their natural range and become pests.
LEP	Local Environment Plan
LGA	Local government area
MNES	Matters of National Environmental Significance, under the EPBC Act (c.f.)
NPW Act	National Parks and Wildlife Act 1974
NSW	New South Wales
OEH	(NSW) Office of Environment and Heritage, now BCD
PCT	Plant Community Type
sp/spp	Species/multiple species
Urban ecology	Urban ecology is specifically focused on cities and urban areas and the relationship between living organisms in an urban environment
Wildlife corridor	Vegetation connections across the landscape that link up areas of habitat. They support natural processes that occur in a healthy environment, including the movement of species to find resources, such as food and water.

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