

# Urban Biodiversity Strategy Draft

2024–2034

**Responsible Directorate:** Places and Spaces

**Authorised By:**

**Date of Adoption:**

**Review Date:**



BOROONDARA

### Acknowledgement of Traditional Owners

The City of Boroondara acknowledges the Wurundjeri Woi-wurrung people as the Traditional Owners and original custodians of this land, and we pay our respects to their Elders past and present.

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## **Introduction**

Council developed its previous Urban Biodiversity Strategy in 2013 as a ten-year strategy to guide biodiversity protection and enhancement in Boroondara, with the target of increasing the total area managed for biodiversity from 36 to 45 hectares (ha). Throughout the life of the strategy, Council, in partnership with local friends groups, has demonstrated this commitment by proactively taking steps to improve the quality of biodiversity and habitat connectivity within the urban environment, and actively fostering greater community awareness and involvement in biodiversity projects.

At the completion of this previous strategy, Council is managing approximately 60.8 ha of land for biodiversity values, exceeding the strategy's target. In addition to incrementally exceeding yearly targets, this has largely been achieved through the transfer of management of various sites to the Urban Biodiversity and Revegetation team. Such sites include Burke Road Billabong from an existing Committee of Management (approximately 5.3 ha of biodiversity zones) and Fritsch Holzer Park from Council's Parks team (approximately 2.3 ha of biodiversity zones). Council remains dedicated to its mission to protect and enhance biodiversity in Boroondara and has developed this current strategy to guide our approach over the next ten years.

The term biodiversity refers to the entirety of living organisms and encompasses not only the number and variety of living beings but also their genetic information, the habitats and ecosystems they inhabit, and their interconnections with other forms of life and the natural world as a whole. In most cases however, when people talk about protecting biodiversity, it is local biodiversity they are referring to. That is, the biodiversity that is native to a particular area. It is this definition of biodiversity that this strategy has been largely developed to protect and enhance. However, many plant species that are native to other areas of Australia, or even some exotic species that are not considered to be weeds, can provide resilience in the face of climate change, and still provide valuable habitat for our native wildlife and contribute to creating a greener, more sustainable city.

Despite our heavily urbanised and modified environment, Boroondara's many parks and reserves play a crucial role in supporting a diverse range of native flora and fauna. Our biodiversity helps to provide essential ecosystem services such as regulating temperature, purifying air and water, reducing the risk of flooding, and absorbing carbon dioxide, helping to combat climate change. Our biodiversity has the potential to improve the quality of life for community members by enhancing green spaces like parks, gardens, and urban forests, which offer recreational opportunities and improve mental and physical well-being.

Our community highly value our parks and urban green spaces. In the 2021–2031 Boroondara Community Plan consultation, 69% of respondents nominated 'Your Parks and Green Spaces' as a top three priority for Council over the next 10 years, with the

desire to protect green spaces and assist private land owners to retain greenery coming through as important.

Boroondara's native biodiversity faces multiple challenges, including climate change, development, weed proliferation, invasive fauna, light pollution, and domestic pets. In response to these concerns, this strategy outlines not only the threats but also identifies opportunities to enhance biodiversity. Council will deliver on these opportunities under four strategic objectives:

1. Protect and enhance biodiversity on public land.
2. Reduce land use and development impacts on biodiversity.
3. Increase community support for biodiversity protection and enhancement.
4. Ensure decision-making is based on sound knowledge and up-to-date evidence.

This strategy is supported and influenced by various legislation, policies, and strategies from across all levels of government (outlined in Appendix 1) and sets our 10-year strategic vision for biodiversity management. The strategy will be supported by Action Plans which outline specific actions to be taken over two-year periods.



Image: *Podargus strigoides* - Tawny Frogmouth

## Vision and Purpose

A sustainable urban landscape where thriving ecosystems and green corridors connect, supporting a diverse community of native flora and fauna, and where the community values biodiversity and actively seeks out opportunities to connect with, and protect nature.

This strategy details how Council intends to work towards the vision for Boroondara's biodiversity, ensuring that it is protected and enhanced, and adapts to the challenges detailed within this strategy.

The strategy is designed to guide Council in making informed decisions that prioritise the conservation and promotion of biodiversity in Boroondara and beyond.



Image: *Eucalyptus melliodora* - Yellow Box

## Urban Biodiversity in Boroondara

Wurundjeri Woi-wurrung are the Traditional Custodians of Boroondara. In the Woi wurrung language of the Wurundjeri Woi wurrung people, Boroondara means 'where the ground is thickly shaded'. Therefore, this legacy of the word 'Boroondara' shows that this has always been a place of trees. The term 'Wurundjeri' in the Woi-wurrung language, the word 'wurun' means Manna Gum *Eucalyptus viminalis* and 'djeri' is the grub that lives with the tree. Therefore, the Wurundjeri ancestral lands are where the Manna Gum and its associated grub occur. We see Manna Gum growing along the Yarra, along with River Red Gums *Eucalyptus camaldulensis* and Yellow Box *Eucalyptus melliodora*.

Boroondara is situated at the junction of the Gippsland Plain and the Victorian Volcanic Plain bioregions, and predominantly exhibits flat terrains with few hills and fertile soils, making it suitable for diverse agricultural uses. This has led to the transformation of land for farming and urban expansion since European settlement, resulting in a notable reduction in native vegetation. Despite the extensive clearing of vegetation that has occurred since European settlement, Boroondara harbors pockets of remnant vegetation and restored habitats that hold value for biodiversity conservation.

These are mainly found along Boroondara's biodiversity corridors that create a network of green spaces to facilitate the dispersal of fauna throughout the municipality (refer to Figure 1). By linking parks, reserves and waterways, biodiversity corridors play a pivotal role in supporting the movement of plants and animals, promoting genetic diversity, and enabling the survival of various species.

Boroondara has approximately 260 open space reserves covering approximately 613 ha of land (equating to 10.2% of the municipality). Of this, approximately 60.8 ha is currently managed for biodiversity values. In addition, public golf courses cover 26 ha and private golf courses add another 106 ha of restricted open space within the municipality.



Key to significant sites		
1 Winfield Road Reserve, Balwyn North	19 Gardiners Creek Corridor	39 Kew Residential Services Redevelopment
2 Koonung Creek Reserve, Balwyn North	20 Burke Road South Reserve, Glen Iris	40 Willsmere Estate, Kew
3 Koonung Creek East of Bulleen Rd, Balwyn North	21 Nettleton Park Reserve, Glen Iris	41 River Red Gum at 83 Walpole St, Kew
4 Freeway Golf Course, Balwyn North & Bulleen	22 Eric Raven Reserve, Glen Iris	42 River Red Gum at 10-12 Gellibrand St, Kew
5 Yarra Flats, Balwyn North	23 Dorothy Laver Reserve, Glen Iris	43 Xavier College, Kew
6 Burke Road Billabong, Kew East	24 Ryburne Avenue Reserve & Neighbouring Tree	44 Kellett Reserve, Kew
7 Kew Golf Club	25 Clifford Close Reserve, Ashburton	45 Hilda Crescent, Hawthorn
8 Greenacres Golf Course, Kew East	26 Markham Reserve, Ashburton	46 Grace Park's Yellow Gums, Hawthorn
9 Willsmere Park, Kew East	27 South Surrey Park, Surrey Hills	47 Lennox St Rail Reserve, Hawthorn
10 Chandler Park, Kew	28 Back Creek – Riversdale Rd to Cornell St	48 St James Park, Hawthorn
11 Yarra Bend Park, Kew	29 Back Creek – Toorak Rd to Denman Av, Camberwell	49 John Gardiner Reserve, Hawthorn East
12 River Retreat Reserve, Kew	30 Rail Reserve – Burwood Station to Alamein Station	50 Cato Park, Hawthorn East
13 Victoria Bridge Escarpment, Kew & Hawthorn	31 Outer Circle Railway Corridor	51 Canterbury Gardens' River Red Gum, Canterbury
14 Pridmore Park Riverbank, Hawthorn	32 Outer Circle Linear Park at Asquith Street, Kew	52 John August Reserve, Balwyn
15 Yarra Bank Reserve, Hawthorn	33 Stradbroke Park, Kew East	53 Beckett Park, Balwyn
16 Riverbank, Fairview Park Area, Hawthorn	34 Kew High School Woodland	54 Maranoa Gardens, Balwyn
17 Scotch College, Hawthorn	35 Hays Paddock, Kew East	55 Belmont Park, Canterbury
18 Yarra River, Hawthorn and Kew	36 Kilby Park Stud, Kew East	56 Deepdene Park's River Red Gums, Balwyn
	37 Victoria Park, Kew (72 River Red Gums some centuries old)	57 Bundy Tree on Belmore Rd, Balwyn North
	38 Boroondara General Cemetery, Kew	58 Leigh Park, Balwyn North (no sig rating)

Figure 1. Boroondara's biodiversity corridors, biogeographical zones and biologically significant sites

## Biodiversity Corridors

### Yarra River Corridor

The Yarra River Corridor is the most significant biodiversity corridor in Boroondara, boasting an extensive and nearly uninterrupted stretch of vegetation from Yarra Bend Park to the Freeway Golf Course. The Yarra River and its surrounding open spaces serve as a vital corridor, facilitating the dispersal of indigenous fauna, including flying, terrestrial, and aquatic species. Moreover, it supports the dispersal of pollen, seeds, and other propagules of indigenous flora.

Within this corridor, there are ten sites of national significance, highlighting its significant biological value. The river and its billabongs provide habitat for several threatened fish species including Murray Cod *Maccullochella peelii*, Australian Grayling *Prototroctes maraena*, and Macquarie Perch *Macquaria australasica* that rely on the Yarra River for their essential migratory patterns. Other notable species that have been observed in this corridor include the Platypus *Ornithorhynchus anatinus*, Rakali *Hydromys chrysogaster*, Common wombat *Vombatus ursinus*, Grey-headed Flying Fox *Pteropus poliocephalus*, and various microbat species.

The riparian habitat of the river offers nesting and foraging sites for numerous threatened bird species, including the Azure Kingfisher *Alcedo azurea*, Nankeen Night Heron *Nycticorax caledonicus*, and Spotted Pardalote *Pardalotus punctatus*. The reeds and vegetation along the riverbanks are home to Gippsland Water Dragons *Intelligama lesueurii*, snakes, and skinks.

## **Creek Corridors**

### ***Gardiners Creek***

Gardiners Creek, running along Boroondara's south-western boundary, forms a natural biodiversity corridor. Despite modifications and water quality issues, it sustains a diverse range of indigenous flora and fauna, including several native fish species such as Common Galaxias *Galaxias maculatus*, and Flathead Gudgeon *Philypnodon grandiceps*.

Council's Gardiners Creek (Kooyongkoot) Master Plan 2022-2032 presently informs the management of this corridor. Additionally, the Gardiners Creek (Kooyongkoot) Regional Collaboration Project, initiated in 2021, forms a coalition of various organisations and groups, including the Council. This coalition is primarily dedicated to working together to safeguard and improve the Gardiners Creek catchment area.

### ***Back Creek***

The Back Creek corridor links with the Gardiners Creek corridor as well as linear and stepping stone corridors. It provides habitat for a diverse range of fauna, including bird species such as the Brown Thornbill *Acanthiza pusilla*, Eastern Rosella *Platycercus eximius*, Grey Butcherbird *Cracticus torquatus*, and Musk Lorikeet *Glossopsitta concinna*, and frog species such as the Eastern Banjo Frog *Limnodynastes dumerilii*.

### ***Koonung Creek***

Koonung Creek, which joins the Yarra River at the Freeway Golf Course, has been partially converted into underground barrel drains. In areas where the creek remains visible above ground, these stretches serve as crucial wildlife habitats. In areas where the creek flows underground, the network of interconnected open spaces preserves corridor connectivity. The engineered wetlands within the Koonung Creek Reserve, positioned along this corridor, play a crucial role in supporting a diverse array of fauna including the Eastern snake-necked turtle *Chelodina longicollis*, and Australasian Swamphen *Porphyrio melanotus*.

Koonung Creek Reserve will be impacted by the widening of the Eastern Freeway for the Victorian Government's North East Link, losing up to 7 ha of land. This will negatively impact the biodiversity in the reserve, and although some reinstatement will occur, a significant amount of vegetation will still be lost. Council will work to ensure the best possible outcomes for the reserve.

## Linear Corridors

Despite the absence of an uninterrupted canopy and sparse mid and understory vegetation, the linear corridors play a pivotal role as habitats for a diverse range of fauna, providing essential support for bats, birds, arboreal mammals, and invertebrates. The strengthening of these corridors will provide even further benefits to local fauna.

## Stepping Stone Corridors

Through the strategic selection of stepping stone corridors and designated encouragement areas, a deliberate effort is underway to establish connections between natural spaces. These corridors have the potential to link the Yarra River, creek corridors, linear corridors, reserves, and neighbouring natural areas.

The creation of functional pathways to facilitate fauna dispersal within residential zones hinges upon a cooperative approach with the community. Council has outlined 48 Biodiversity Encouragement Areas, and actively fosters engagement with residents situated in these areas. This engagement encourages their participation in the Backyard Biodiversity project, an initiative aimed at increasing native vegetation on privately owned properties.



Image: *Limnodynastes dumerilii* - Eastern Banjo frog

## Flora and Fauna

Boroondara boasts a wealth of biodiversity, hosting 899 species of flora and fauna, 525 (58%) of which are indigenous. Table 1 provides a representation of the diversity of flora and fauna present within Boroondara. It highlights the vast array of life forms found in Boroondara and underscores the importance of ongoing efforts to protect and conserve urban biodiversity.

Table 1. Number of Flora and Fauna species recorded in Boroondara<sup>1</sup>.

	Total	Indigenous	Non-indigenous native	Exotic	Listed <sup>2</sup>
<b>FLORA</b>	622	284 (46%)	26	312	9 (<2%)
<b>FAUNA</b>	277	241 (87%)	6	30	23 (8%)
Birds	158	145	0	13	15
Fish	28	15	4	9	5
Mammals	17	11	0	6	2
Invertebrates	50	47	0	3	0
Reptiles	12	12	0	0	0
Amphibians	12	11	1	0	1
<b>TOTAL</b>	899	525 (58%)	31	342	32 (<4%)

<sup>1</sup> The figures in the table represent records within the Victorian Biodiversity atlas since 1990, which may underestimate the actual number of species in Boroondara within certain taxon. This is especially true for invertebrates, which make up approximately 75% of fauna species globally, while only contributing to 18% of recorded fauna species in Boroondara.

<sup>2</sup> These figures represent species listed under the *FFG Act* and *EPBC Act* and includes threatened and migratory species.

## Ecological Vegetation Classes

Ecological Vegetation Classes (EVCs) serve as categorisations of plant communities based on shared environmental conditions, encompassing factors such as floristic composition, vegetation structure, landform, soil type, and climate.

Only a limited portion of Boroondara's land encompasses native vegetation still representative of EVCs, with those remaining in Boroondara including:

- Valley Grassy Forest (EVC 47)
- Swamp Scrub (EVC 53)
- Plains Grassy Woodland (EVC 55)

- Floodplain Riparian Woodland (EVC 56)
- Box Ironbark Forest (EVC 61)
- Creekline Grassy Woodland (EVC 68)
- Swampy Riparian Complex (EVC 126)
- Creekline Herb-rich Woodland (EVC 164)
- Floodplain Wetland Complex (EVC 172)
- Grassy Woodland (EVC 175)
- Aquatic Sedgeland (EVC 308)
- Riparian Woodland (EVC 641)
- Aquatic Herbland (EVC 653)
- Tall Marsh (EVC 821)
- Escarpment Shrubland (EVC 895)
- Wet Verge Sedgeland (EVC 932)

Information about the species composition of these EVCs and their location in Boroondara can be found in Appendix 2 (The *Biodiversity Sites Plan*).

## **Community Engagement with Biodiversity**

We are fortunate to have ten friends groups in Boroondara, all working hard alongside Council to protect and enhance our native biodiversity. The efforts of these groups have resulted in the restoration of many sites and the return of birds and other fauna. Friends group members undertake a variety of important tasks such as planting, watering, pruning, weed removal, mulching, wildlife monitoring, and helping to engage the community through organised events at biodiversity sites.

Council runs a number of biodiversity education and engagement programs to help grow community interest in biodiversity protection and enhancement. Such programs include our award-winning Backyard Biodiversity project, which takes participants through a series of workshops to learn how to create safe havens for native animals and includes landscape gardening advice and free native plants. We also engage the community in a range of citizen science opportunities, which strengthens participants' connection to nature while collecting valuable data on our biodiversity.

## **Biodiversity Sites Plan**

The Biodiversity Sites Plan is designed to assist in the maintenance, management, financial and resource planning of biodiversity and revegetation sites and corridors within the municipality. It establishes a detailed baseline of the extent of Council's biodiversity sites and details up to 25 ha of potential future Council managed biodiversity assets that can be managed for biodiversity values without negatively impacting on other open space uses.

It provides a 10-year framework for improving the condition and connectivity of areas currently managed for biodiversity (53 sites), as well as a strategy for creating new zones at existing biodiversity sites and selected new sites at a rate of 1 ha per year for the next 10 years. It is included in this strategy as Appendix 2.

## **Challenges for Urban Biodiversity Conservation**

### **Climate Change**

Climate change presents threats to urban biodiversity in Boroondara, particularly as South-east Australia is projected to experience a warmer and drier climate, along with more frequent and extreme weather events. These climatic changes are expected to lead to increased flooding, damage to waterways, and reduced vegetation health during prolonged periods of drought. Moreover, the altered climate may disrupt the timing and distribution of natural events, such as flowering and breeding, disturbing the delicate balance of urban ecosystems. Smaller and isolated biodiversity sites within the municipality face elevated risks due to limited genetic diversity and potential inbreeding in flora and fauna populations. As climate change intensifies, ecosystems become more vulnerable and these effects are likely to compound existing threats to biodiversity conservation.

Responding to climate change is recognised as important to consider across all actions undertaken to protect and enhance biodiversity.

## **Managing Biodiversity on Private Land**

Urbanisation in Boroondara presents distinctive challenges in managing biodiversity on private land. The autonomy and rights of landowners can lead to inconsistent land management practices, hindering cohesive conservation efforts. Moreover, a lack of awareness and understanding of urban biodiversity among private landowners further complicates preservation initiatives. Additionally, the fragmented nature of private land ownership makes it difficult to implement comprehensive and coordinated conservation strategies across larger landscapes.

The further development of relationships with private landholders is important as numerous ecologically significant sites and land along biodiversity corridors fall under private ownership.

## **Community Perception**

Differing views on the value of biodiversity can impede efforts to gain widespread support for urban biodiversity initiatives. When urban biodiversity is not recognised as valuable or essential, preservation efforts may lack the necessary enthusiasm and commitment. By promoting a deeper understanding and appreciation of the importance of urban biodiversity, Council can foster stronger support for its conservation and create a more sustainable urban environment.

## **Development**

Development can have detrimental effects on the environment, both during construction and after completion. These impacts encompass vegetation clearing, loss of canopy trees on private land, damage to trees on public land, runoff from construction sites contributing to water pollution, erosion of surrounding landscapes, improper dumping of construction waste, and utilisation of public land and reserves for construction access. There is a need to strengthen regulations related to vegetation protection to reduce the loss of biodiversity as a result of development.

An example of development impacting on biodiversity is the widening of the Eastern Freeway for the Victorian Government's North East Link. This project will acquire up to 7 hectares (equivalent to 25%) of the Koonung Creek Reserve. Council is advocating to the North East Link Program (NELP) to guarantee the best possible outcomes for biodiversity restoration. We have developed a Tree Canopy Replacement Plan, which will guide the replacement of trees that will be removed from Boroondara as a result of

NELP. We have also developed the Koonung Creek Reserve master plan which will guide the replacement of native vegetation and amenity plantings removed from the reserve by the NELP.

## **Weeds**

Weedy species, both invasive and native, pose a significant threat to biodiversity in Boroondara. They can outcompete indigenous plants, reducing their population and diversity. Rapid growth and reproduction allow them to form dense monocultures, disrupting urban ecosystems by altering habitats and reducing food for native fauna. Weedy species may not offer the same ecological benefits as indigenous plants, further impacting native fauna diversity and weakening the resilience of urban ecosystems. Weed management is an important and ongoing action for this strategy.

Council uses a variety of methods to manage weeds including the use of herbicides, and in sensitive areas such as playgrounds, mechanical methods (like hand weeding).

Until the end of November 2024, Council is trialling weed management practises that don't use the herbicide glyphosate along Gardiners Creek. Council is also undertaking several strategies to reduce the use of all herbicides. These include an increased mulching and planting regime, steam treatments in sensitive areas, increased service levels and higher dilution rates.

## **Degrading Waterways**

Urbanisation poses a significant threat to waterway health in Boroondara. The replacement of green spaces with buildings and hard landscaping disrupts the flow of stormwater, carrying litter, nutrients, and pollutants into creeks, causing fluctuations in water flow and leading to erosion and degradation of aquatic and riparian habitats. Consequently, the water quality in Boroondara's rivers and creeks has been reported as poor. This issue extends beyond the local level since Boroondara is part of the Yarra catchment, meaning that pollution levels in local waterways are influenced by actions occurring upstream, and water quality downstream in the Yarra River and Port Phillip Bay is impacted by activity in Boroondara.

The Integrated Water Management Strategy is Council's primary strategy for waterway improvement, however the Urban Biodiversity Strategy recognises the importance of riparian vegetation maintenance and enhancement to waterway health. The Biodiversity Sites Plan (Appendix 2) sets out how riparian zones will be managed for biodiversity benefit.

## **Invasive Fauna**

Urban biodiversity in Boroondara faces a challenge posed by invasive fauna. These non-native species disrupt the delicate balance of the local ecosystem, creating detrimental impacts on urban biodiversity. Invasive fauna species recorded in Boroondara include foxes, rabbits, and the Common Myna, and recognising the scale and consequences of their presence is vital for implementing effective management and conservation strategies. Collaboration with other councils and land managers will be important in addressing invasive fauna, and the Eastern Region Pest Animal Strategy will be important in determining appropriate management pathways.

## **Native Pests**

Native species, while integral to ecosystems, can also detrimentally impact biodiversity in urban environments when they become overabundant. Managing native pest species poses challenges due to the absence of direct control options as native wildlife is protected in Victoria. In Boroondara, the Noisy Miner *Manorina melanocephala* and Common Brush-tailed Possum *Trichosurus vulpecula* are sometimes considered native pests. The Noisy Miner's dominant behaviour can displace other indigenous bird species, necessitating strategies to discourage their proliferation. The Common Brush-tailed Possum can damage vegetation through over-browsing and competes with other native wildlife, primarily in residential areas rather than biodiversity reserves.

## **Domestic Pets**

Domestic dogs and cats exert a significant impact on biodiversity. Off-leash dogs in natural areas disturb wildlife, affecting their behaviour, habitat use, and breeding. Additionally, the roaming and hunting behaviours of both stray and registered cats pose a threat to native birds, small mammals, and reptiles, disrupting ecological balance and reducing native wildlife populations. Investigating the implementation of interventions to lessen the impacts of domestic pets on our wildlife is an important action.

### **Myrtle Rust and *Phytophthora***

Myrtle Rust and *Phytophthora* are pathogens that significantly impact urban biodiversity. Myrtle rust affects plants in the family Myrtaceae, leading to defoliation and death. The water mould *Phytophthora* (*cinnamomi* and other species) includes root, foliage disease and damage. Overall outcomes include loss of susceptible species, reducing plant diversity and favouring invasives. These pathogens disrupt ecosystems, endanger native plants, and alter ecological dynamics. Although not currently a major issue in Boroondara, it is important that Council remains vigilant and has processes in place to manage this issue as needed.

### **Canopy Dieback**

Canopy dieback observed in large old trees, particularly River Red-gum *Eucalyptus camaldulensis*, stems from a combination of factors. These include drought stress, excessive grazing by possums, and the impact of leaf-feeding insects. An additional important cause is the decrease in populations of small insect-eating birds which help prevent die back by feeding on lerps that suck the sap out of leaves, which can result in the discoloration of leaves, leading to them eventually dying and falling off.

The reduced presence of these birds can be attributed to their displacement by more dominant species, such as the Noisy Miner *Manorina melanocephala*. This displacement is closely related to the vegetation structure in urban environments, specifically the scarcity of suitable shrubby understorey areas that serve as vital havens for the smaller bird species. The creation of more understorey habitat where feasible needs to be a focus at reserves across Boroondara.

### **Light Pollution**

Artificial light sources in urban settings exert a significant influence on the natural behaviour of various fauna species. Nocturnal fauna are dependent on darkness for essential activities like navigation, feeding, and reproduction. Unfortunately, light pollution disrupts their biological rhythms, leading to disorientation, reduced efficiency in foraging, and altered migration patterns. There is a need to ensure that wildlife friendly lighting principles are considered in the development of all Council lighting projects.

## **Targets and Strategic Objectives**

The four strategic objectives from the previous Urban Biodiversity Strategy will again help deliver Council's vision for urban biodiversity over the next 10 years. They are:

1. Protect and enhance biodiversity on public land.
2. Reduce land use and development impacts on biodiversity.
3. Increase community support for biodiversity protection and enhancement.
4. Ensure decision-making is based on sound knowledge and up-to-date evidence.

While considerable progress has been made in accomplishing the actions contained in the earlier strategy, similar challenges to urban biodiversity endure, highlighting the continued relevance of the previous strategy's objectives.

The strategy also includes two targets:

- Increase the area of land managed for biodiversity by 1 hectare per year.
- Residents and schools plant 5,000 new indigenous plants per year.

These targets are consistent with the adopted targets in Council's Climate Action Plan. Please note that approximately 60.8 ha of land is currently managed for biodiversity and that losses of up to 7 ha at Koonung Creek Reserve are anticipated due to the widening of the Eastern Freeway for the Victorian Government's North East Link. Council's target is to bring additional land under biodiversity management at a rate of 1 ha per year, and although Council is advocating to the North East Link Program (NELP) to guarantee the best possible outcomes for biodiversity restoration, the overall increase in land managed for biodiversity over the 10 year life of the strategy will be less than 10 ha.

## Objective 1: Protect and enhance biodiversity on public land

Enhancing biodiversity on public land involves protecting remnant vegetation and restoring native habitats that may have been degraded over time, to create environments for native wildlife to thrive. This includes managing weeds.

Through restoration and enhancement initiatives, Council can contribute to the preservation and restoration of diverse urban ecosystems, making them more resilient to challenges and disturbance, including climate change.

### Strategic Actions

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| 1.1 | Progressively implement the Biodiversity Sites Plan to improve the habitat condition of remnant vegetation and existing areas under biodiversity management. |
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| 1.2 | Progressively extend revegetation to improve connectivity between biodiversity sites and along corridors as set out in the Biodiversity Sites Plan. |
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| 1.3 | Ensure continued focus on the establishment of mid and understory vegetation to support populations of small insect-eating birds. |
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| 1.4 | Respond to existing issues (e.g. climate change, pest animals, significant weeds, lighting, domestic pets) and emerging threats (e.g. Myrtle Rust and <i>Phytophthora</i> ) to indigenous flora and fauna. |
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| 1.5 | Protect our waterways as natural landscapes and for their ecological values. |
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| 1.6 | Use streetscapes to support indigenous flora and fauna, including promoting the use of nature strips to enhance biodiversity. |
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| 1.7 | Ensure a diverse range of climate-ready species are planted. |
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- 1.8 Undertake habitat restoration, including the installation of artificial nesting sites, to provide improved habitat for a range of hollow dependant species at appropriate locations.
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- 1.9 Seek engagement with the Wurundjeri Woi-wurrung Cultural Heritage Corporation (such as the Narrup team) and other Aboriginal groups in revegetation projects.
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- 1.10 Continue to work with other public land managers (Melbourne Water, Parks Victoria, VicTrack) to enhance habitat condition and connectivity across the municipality.
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Image: *Petaurus notatus* - Krefft's Glider

## **Objective 2: Reduce land use and development impacts on biodiversity**

This objective acknowledges the impacts of land use and development on urban biodiversity and seeks to develop strategic actions to protect and preserve biodiversity on private land.

Several sites of significance and land along biodiversity corridors are private land that is not controlled by Council. Collaboration with these landowners offers valuable opportunities to preserve and enhance urban biodiversity in Boroondara and beyond.

An opportunity lies in supporting urban biodiversity through a review and amendment of the Boroondara Planning Scheme. With development posing challenges to biodiversity conservation, strengthening regulations and powers related to vegetation protection can help address issues including vegetation loss and fragmentation. This proactive step would allow Council to prioritise environmental values, expand canopy cover, protect biodiversity corridors and sites of significance, and promote sustainable construction practices.

### **Strategic Actions**

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2.1 Encourage private landowners with significant habitat (e.g. golf clubs) to protect, manage and enhance indigenous habitat.

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2.2 Strengthen biodiversity protection through the Boroondara Planning Scheme where possible.

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2.3 Investigate the purchase, sub-division and re-selling of land adjacent to river corridors to support better biodiversity access and management. Where this land would be of regional benefit Council will advocate to the State Government for them to purchase.

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### **Objective 3: Increase community support for biodiversity protection and enhancement**

This objective is centred on continuing to build community support for the protection and enhancement of biodiversity through inspiring and empowering active participation in Council's biodiversity programs.

Through education and engagement programs, Council aims to create accessible opportunities for residents to engage with nature. Through nature-based activities, citizen science programs, wildlife gardening programs, and hands-on conservation opportunities, individuals can experience biodiversity firsthand, fostering a deeper connection with their environment.

Collaborative partnerships with community groups, schools, businesses, and organisations are essential to achieving this objective. By uniting efforts and sharing knowledge, Council can foster collective strengths and resources to implement conservation projects.

#### **Strategic Actions**

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| 3.1 | Promote and deliver community education projects and activities that encourage positive behaviours and values towards biodiversity conservation. |
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| 3.2 | Encourage and incentivise indigenous restoration, revegetation, and gardening across the municipality (including on nature strips). |
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| 3.3 | Maintain (and expand as necessary) educational signage at strategic sites to promote key biodiversity messages and support management objectives. |
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| 3.4 | Work with friends groups and other community organisations that contribute to biodiversity conservation locally. |
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| 3.5 | Provide the community with a range of citizen science opportunities to increase their knowledge of and connection to nature and contribute valuable data about biodiversity in Boroondara. |
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| 3.6 | Engage with the Wurundjeri Woi-wurrung Cultural Heritage Corporation to provide education and engagement opportunities to the community with an indigenous focus. |
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## **Objective 4: Ensure decision-making is based on sound knowledge and up-to-date evidence**

This objective aims to ensure that all decisions and actions related to biodiversity are grounded in reliable knowledge and up-to-date evidence. Recognising the importance of making informed choices in the management of urban biodiversity, Council strives to adopt a rigorous and scientific approach to biodiversity conservation.

The primary focus of this objective is on embracing adaptive management principles and fostering a culture of continuous improvement through consistent monitoring and evaluation. Through ongoing ecological data collection and monitoring, Council can gain valuable insights into the changes in Boroondara's biodiversity over time and refine its strategies in response to emerging challenges (for example climate change) and opportunities.

By sharing knowledge and best practices, stakeholders can align their conservation strategies, creating a cohesive network of protected areas and biodiversity corridors. This collaborative approach enhances the effectiveness of conservation efforts and supports the long-term viability of urban biodiversity.

### **Strategic Actions**

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- 4.1 Support the technical knowledge and capacity of staff, contractors, and friends group volunteers.

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- 4.2 Participate in knowledge sharing with other councils and expert bodies. For example, through participation in groups such as the Yarra Collaboration Committee and KooyongKoot Alliance, and collaboration with the Wurundjeri Woi-wurrung Cultural Heritage Corporation.

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- 4.3 Undertake regular monitoring of biodiversity sites.

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- 4.4 Review and update key guiding documents to address remaining gaps in knowledge and data.

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- 4.5 Incorporate biodiversity considerations into key Council documents as appropriate.

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4.6 Contribute data to relevant state and national biodiversity inventories.

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## **Consultation**

This strategy was shaped by a thorough literature review of online resources and a series of engagement workshops involving Council officers, local friends groups, and various stakeholders. These efforts led to the identification of several challenges concerning urban biodiversity conservation within Boroondara, as well as opportunities to address the identified challenges.

Details of public consultation on the draft to be inserted prior to the finalisation of the strategy.

## Implementation, Monitoring and Evaluation

The Urban Biodiversity Strategy has been prepared with a vision for the future and a set of long-term strategic objectives to be implemented over a ten-year period.

A separate two-year Action Plan outlines specific actions to be undertaken and supports the implementation of the strategy. The Action Plan will be reviewed and refreshed after each two-year period. Council's internal corporate reporting system will be used to monitor the implementation of the strategy's actions. The progression and completion of actions will be monitored annually throughout the life of the strategy.



Image: *Eucalyptus camaldulensis* - River Red Gum

## Appendices

### Appendix 1 - Strategic Context

A selection of relevant plans, strategies and documents are outlined below.

#### Federal

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#### Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

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Environment Protection and Biodiversity  
Conservation Act 1999  
No. 91, 1999

The EPBC Act protects matters of National Environmental Significance. Under the EPBC Act, actions that are likely to have a significant impact on a matter of National Environmental Significance must be referred to the Commonwealth and are subject to a detailed assessment and approval process.

The Act identifies seven matters of national environmental significance including: World Heritage properties, National heritage places, Wetlands of international importance, Threatened species and ecological communities, Migratory species, Commonwealth marine areas and Nuclear actions (including uranium mining).

Potential EPBC matters within Boroondara are likely to be limited to any proposal that impacts habitat of a listed threatened species.

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#### Australia's Strategy for Nature (2019-2030)

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Australia's Strategy for Nature 2019-2030 is the overarching framework for all national, state and territory and local strategies, legislation, policies and actions that target nature. The strategy sets out three goals, all of which align with the objectives of the Urban Biodiversity Strategy:

- Connect all Australians with nature
  - Care for nature in all its diversity
  - Share and build knowledge
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## State

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### Flora and Fauna Guarantee Act 1988 (FFG Act)

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Authorised Version No. 046  
**Flora and Fauna Guarantee Act 1988**  
No. 47 of 1988  
Authorised Version incorporating amendments as at  
1 June 2020

The FFG Act is the primary piece of Victorian legislation that provides for the conservation of biodiversity and the management of associated potentially threatening processes. The FFG Act provides a listing of taxa, threatened communities, and threatening process and how these must be managed. This legal framework guides our approach to identifying and protecting threatened species.

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### Catchment and Land Management Act 1994 (CaLP Act)

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Authorised Version No. 064  
**Catchment and Land Protection Act 1994**  
No. 52 of 1994  
Authorised Version incorporating amendments as at  
6 April 2020

The CaLP Act serves as the primary legislation in Victoria that governs the management of invasive plants and animals. Under this Act, all landowners and land managers are required to manage declared noxious weeds and pest animals on their land. The Urban Biodiversity Strategy outlines threats posed by weeds and pest animals and resolves to manage their negative impacts.

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### Planning and Environment Act 1987

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Authorised Version No. 155  
**Planning and Environment Act 1987**  
No. 45 of 1987  
Authorised Version incorporating amendments as at  
28 June 2023

The Planning and Environment Act 1987 defines a framework for urban planning and the use and development of land in Victoria. The Boroondara Planning Scheme is the local expression of this Act.

It provides a legal framework that allows for the integration of biodiversity conservation measures into urban planning and development decisions.

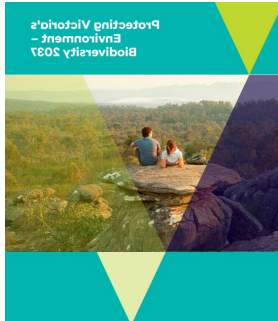
The Urban Biodiversity Strategy recognises the threats posed to biodiversity from development and proposes approaches to further integrate biodiversity conservation measures into planning decisions.

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## Protecting Victoria's Environment - Biodiversity 2037

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Biodiversity 2037 outlines a long-term approach to the conservation and management of biodiversity within the state. It sets goals and strategies for safeguarding native flora, fauna, and ecosystems, promoting habitat restoration, enhancing ecological resilience, and engaging communities in biodiversity conservation efforts. These all align with the objectives of the Urban Biodiversity Strategy.



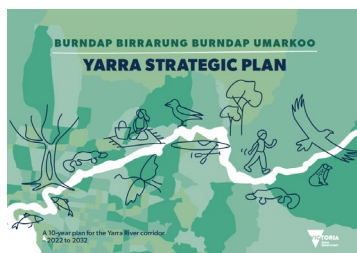

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## Regional

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### Burndap Birrarung burndap umarkoo, Yarra Strategic Plan (2022-2032)

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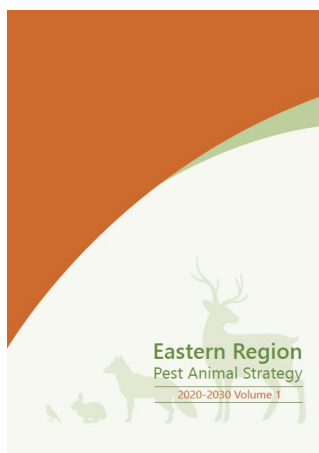


Burndap Birrarung burndap umarkoo, Yarra Strategic Plan (2022–2032) is a ten-year plan for the sustainable management and enhancement of the Yarra River and its surroundings in Melbourne. Through integrating ecological restoration, cultural heritage preservation, and community engagement, the plan aims to improve the river's health, accessibility, and significance.

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### Eastern Region Pest Animal Management Strategy 2020-2030

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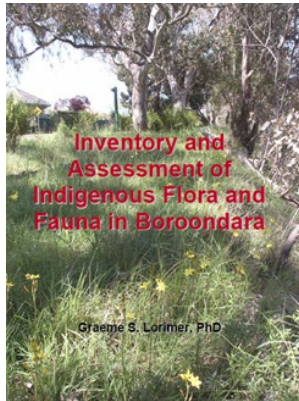
The Eastern Region Pest Animal Strategy provides a regional framework for vertebrate pest animal management in the Eastern Metropolitan Melbourne Region. Recognising that effective, long-term pest animal management requires cooperation from most land managers in an area, it articulates agreed pest animal management principles and overarching objectives for regional pest management. The Urban Biodiversity Strategy recognises the threat pest animals pose to biodiversity and identifies the relevance of the Eastern Region Pest Animal Strategy in determining appropriate management pathways.

## Council

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### Inventory and Assessment of Indigenous Flora and Fauna in Boroondara (2006)

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The document includes an assessment of 58 sites and details the vegetation condition and habitat quality, species present, level of significance, potential as a source of propagation material, threats and priorities for protection and management. The inventory has been instrumental to the success of the previous strategy and future updates will be important. The Urban Biodiversity Strategy highlights the importance of updating key guiding documents to ensure decision-making is based on sound knowledge and up-to-date evidence.

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### Biodiversity Corridors Plan (2004)

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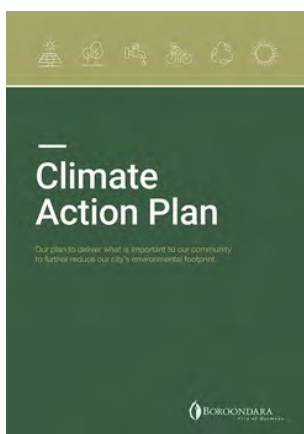


Council's Biodiversity Corridors Plan assessed fauna dispersal potential within the municipality and neighbouring Local Government Areas. This plan identifies existing corridors facilitating fauna dispersal in Boroondara and highlights the need to enhance specific areas to improve habitat connectivity throughout the municipality. The goals of this plan are still relevant in today's context, and the Urban Biodiversity Strategy highlights the importance of continued investment in strengthening the biodiversity corridors in Boroondara.

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### Climate Action Plan (2021)

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Council's Climate Action Plan acknowledges the significant threat posed by climate change to the environment, human well-being, and the quality of life for present and future generations. Under the theme of 'Biodiversity and trees', the plan and associated implementation plan outlines a range of actions to enhance and protect Boroondara's biodiversity in response to climate change impacts. It also sets out targets for 2030:

- Hectares of land managed for biodiversity increases from 51 to 61
- Residents and schools plant 50,000 new indigenous plants including 10,000 trees

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## Integrated Water Management Strategy 2012-2024

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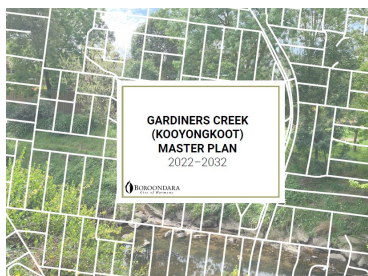


Council's Integrated Water Management Strategy recognises that water is vital for life and provides for the daily needs of our community as well as our natural environment. It sets out a vision of a '... a healthy, green and resilient city ... where a diversity of water sources is available so that the right quality of water is available when and where it is required ... contributing to healthier waterways and open spaces for greater community well-being.'

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## Gardiners Creek (Kooyongkoot) Master Plan 2022-2032

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The Gardiners Creek (Kooyongkoot) Master Plan (2022-23) was created to enhance the green corridor encompassing Gardiners Creek and its catchment, including Back Creek and spanning the suburbs of Hawthorn, Hawthorn East, Glen Iris, Ashburton, Camberwell, and Canterbury. The master plan's core aim is to boost the creek's overall health, with a focus on acknowledging the traditional owners' role. The City of Boroondara and the City of Stonnington collaborated to develop the plan, aligning efforts to address issues negatively impacting the river catchment.

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## Boroondara Community Plan 2021-2031

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The Boroondara Community Plan is structured around seven themes that represent what our community want us to focus on over the next 10 years. The Urban Biodiversity Strategy aligns with the Boroondara Community Plan across most themes, with the most significant linkages being:

- Community, Services and Facilities – Strategy 1.1. Neighbourhoods and community spaces facilitate social connections and belonging.
- Community, Services and Facilities – Strategy 1.2. Health and wellbeing are improved.
- Parks and Green Spaces – Strategy 2.2. Our sustainable urban forest is preserved and increased.
- Parks and Green Spaces – Strategy 2.4. Green spaces are maintained and increased.

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- The Environment – Strategy 3.4. Trees and vegetation on private land are valued.
  - The Environment – Strategy 3.5. Our leafy streetscapes are maintained and improved.
  - The Environment – Strategy 3.6. Our biodiversity is conserved and maintained.
  - Neighbourhood Character and Heritage – Strategy 4.4. New development positively contributes to amenity and liveability.
  - Neighbourhood Character and Heritage – Strategy 4.5. Better development outcomes are achieved.
  - Leadership and Governance – Strategy 7.8 - Celebrate and recognise Aboriginal and Torres Strait Islander cultures, knowledge and heritage.

The Urban Biodiversity Strategy will also support us to deliver on the health priorities which form a significant part of our Health and Wellbeing Plan. These priorities include 'improving mental wellbeing and social connection', 'tackling climate change and its impacts on health', and 'increasing active living'.

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