

## Our local biodiversity

The City of Kalamunda (the City) is home to vibrant and varied natural ecosystems supporting a wealth of plant and animal species.

From waterways and wetlands, to mushrooms and microorganisms, the City is steward of an abundance of complex, diverse and precious lifeforms and natural areas.

As a growing community, the City is committed to balancing growth and development with protecting our precious natural environment.

These values are shared by our community, who have told us conserving and protecting our environment is very important.

Positively impacting our environment, economy, health and wellbeing, and benefitting enterprise and ecosystems, it is vital the City, community and stakeholders work together to protect, manage, and value local biodiversity, ensuring a lasting legacy for future generations.

The City demonstrates a continued commitment to building the City's future while preserving its heritage. This is reflected in facilitating sustainable land development, to supporting residents with voluntary protection initiatives and education programs, managing revegetation and restoration initiatives, and integrating environmental protection into our core strategies.



## Purpose and Vision of the Local Biodiversity Strategy

The City of Kalamunda's Local Biodiversity Strategy (LBS) guides the City in how we retain, conserve and manage Local Natural Areas (LNAs) for the perpetual wellbeing of our residents, enterprise, and ecosystems.

The overarching vision of the LBS is that:

*The City of Kalamunda and its community will protect, manage, and value the local biodiversity to ensure a lasting legacy for future generations.*

The LBS defines LNAs as all native vegetation on land managed by the City or on private land. It does not include areas managed by the State government (see Figure 1).

The LBS provides a process for assessing LNAs. This framework helps the City identify conservation priorities and methods to improve biodiversity, retain natural ecological processes, and protect and enhance LNAs to provide a resilient place for people, enterprise, and ecosystems to flourish into the future.

The scope focuses on retaining, conserving and managing LNAs on land managed by the City. We also want to encourage and support people to do the same on their private land.

The LBS outlines the specific and measurable actions needed to protect and grow local biodiversity. Actions are prioritised through an annual action plan, as well as monitoring and reporting on the success of the actions, enabling review and continual improvement of the LBS to achieve the City's local biodiversity goals.

As a non-statutory document, the LBS complements existing environmental laws, strategies, and policies, but does not replace them.

## Target and LBS focus area goals

The City aspires to achieve the following target:

*To increase the conservation protection status of 500ha land, containing approximately 270ha of native vegetation.*

This includes City managed reserves with high biodiversity value, such as:

- Hartfield Reserve;
- Maida Vale Reserve;



- Pioneer Park;
- Norwood Reserve;
- Jorgenson Park; and
- Fleming Reserve.

A full list of City managed reserves proposed for conservation, along with a figure showing their location, is provided in Appendix 5 of the LBS.

To achieve this target, the LBS identifies five goals, offering a holistic and strategic approach to achieve the City's vision and target:

<b>Retain and Protect</b>	Retain and protect LNAs and other biodiversity values on City-managed land and private land.
<b>Investigate</b>	Investigate and actively pursue new resourcing (human, funding, and data) and research opportunities to enable further investment and improvement in on-ground actions on public and private land to manage and protect local biodiversity.
<b>Manage and Enhance</b>	Manage, enhance, and rehabilitate LNAs and other biodiversity values on City-managed land to improve the quality and quantity of biodiversity values.
<b>Link</b>	Maintain and improve local and regional ecological linkages that allow flora and fauna species movement and the flow of genetics throughout the landscape.
<b>Engage</b>	Actively engage with Aboriginal representatives to understand and integrate cultural knowledge into local biodiversity management. Engage with the community to strengthen the appreciation of biodiversity values, and encourage them to retain, protect and enhance biodiversity values on private land.

The five goals include stakeholder collaboration, investigating and integrating best practices to strengthen City actions and strategies, and engaging and empowering the community to care for and contribute to conservation efforts.

The goals, objectives, and actions of the LBS are detailed on page 10.





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## Message From the Mayor

The Local Biodiversity Strategy provides the framework for the consideration of biodiversity in local land use planning, it provides for biodiversity conservation and management of “Local Natural Areas” across our City.

Residents and visitors alike highly value the natural environment of the City of Kalamunda, and nowhere is this displayed more clearly than through the tireless work of our City's many volunteers and friends groups. These values are reflected in the *Strategic Community Plan, Kalamunda Advancing 2027*, and the *City's Environmental Land Use Planning Strategy* and *Local Environment Strategy*, which includes the review and update of the City's 2008 *Local Biodiversity Strategy* as a priority action.



This strong local desire for environmental protection is well supported by scientific research into the benefits of investment into environmental protection and management, including benefits to human health and community wellbeing, economic activity, moderation of climate and may provide future research opportunities. Benefits of protecting biodiversity go beyond protecting a ‘clean and green’ environment.

Replacing the plants, animals and the natural systems they maintain with highly modified and simplified landscapes leads to significant degradation of quality of the environment and its capacity to offer the services such as clean air, clean water, renewable resources, pollination of crops, natural pest control and other provisioning or regulating services. There is also a clear link between the diversity of natural areas and their values to improving human wellbeing with natural areas retaining high biodiversity providing greater benefits to human health.

Many cultural practices have developed around specific features of natural areas and to be able to maintain these cultural practices or cultural identities, it is critical to retain the natural landscapes.

Natural areas with high biodiversity provide greater opportunities for future research, diversity in economic opportunities and in artistic expressions.

Cr Margaret Thomas

Mayor

## Defining local biodiversity

Biodiversity encompasses a full variety of different living things, including plants, animals, fungi, and microorganisms, as well as the genes they have and the ecosystems they make.

Biodiversity is usually considered in three ways: the variety of genes, the variety of species, and the variety of ecosystems. These three levels of biodiversity together make life on Earth diverse and complex.

Natural places are any area where there are plants, animals, and ecosystems that naturally belong there and haven't been greatly changed by humans. These places are important because they have a lot of biodiversity.

The LBS uses the term Local Natural Areas (LNAs) to refer to these areas found within the City. LNAs include all the plants and vegetation on land that is managed by the City or on private land. It doesn't include areas managed by the State government, as this land is outside of the City's ability to directly influence. The City seeks to positively influence the protection of other areas outside its jurisdiction through advocacy, partnerships and other collaborative efforts.

*Biodiversity is defined as the variety of life forms, including plants, animals, fungi, and microorganisms, as well as the genes they contain and the ecosystems they form (Commonwealth of Australia, 1996).*



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*Laccaria laccata – fungi painting by Kevin Griffiths*



## Community benefits from local biodiversity

Biodiversity is important for keeping our natural world functioning properly and keeping our communities healthy and happy. Different species and ecosystems are all connected and depend on each other, just as we depend on the things that nature provides, like food, water, good health, and places to enjoy ourselves.

The benefits of investing in protecting biodiversity and LNAs are vast and varied - from improving community health and wellbeing, to supporting cultural identity, economic activity, moderating climate or diseases, greater resilience and future research opportunities.

Taking care of our natural resources creates job opportunities for local communities. As the original custodians and with strong, continuing connections to land, Aboriginal people should be involved in sharing their knowledge and directly managing the land.

Having access to more diverse and easily accessible green spaces has a greater positive impact on our health and wellbeing, compared to simplified parks with limited plant species. Engaging with nature, participating in meaningful outdoor activities, and even working with animals have been proven to provide mental and physical health benefits. Care farms, for example, combine these practices to offer therapeutic, social, and educational services.

Other benefits of biodiversity include:

- creating soils;
- maintaining air, water, and soil quality;
- naturally controlling pest populations;
- decomposing and recycling nutrients from organic waste material;
- pollinating and facilitating natural regeneration and crop production;
- stabilising climate and moderating extreme weather patterns;
- sequestering carbon;
- enhancing the resilience of natural areas to acute and chronic stressors, including climate change;
- ensuring food security for human survival;
- providing natural resources for human health care;
- ensuring income generation and economic growth; and,
- retaining spiritual and cultural values.



*Hemianandra pungens*

## Understanding the environment – building on the City's progress

The City is an active conservator of the environment, and already works hard to protect and enhance local biodiversity assets. The LBS builds on the City's current activities, including those adopted in the Kalamunda Clean and Green Local Environment Strategy.

Following our participation in a pilot local biodiversity conservation planning process developed in partnership with the Western Australian Local Government Association (WALGA) in 2004, the City published its first LBS in 2008. We were the first Western Australian local government to adopt an LBS aligning with the State government-endorsed methodology for biodiversity planning.

The City achieved a variety of outcomes and accomplishments set out in the 2008 LBS, including:

- creating three new reserves via the provisions of the *Land Administration Act 1997* (LA Act) with the vesting purpose of 'conservation'. This protected an additional 2.2ha of natural areas and raised the number of reserves managed by the City for conservation purposes to eight;
- preparing and adopting the City's *Public Open Space Strategy* in 2018 and continuing its successful implementation;
- creating a new full-time role of Environmental Planner;
- employing structure planning to retain natural areas containing threatened ecological communities and threatened flora and buffer a watercourse;
- retaining areas with high biodiversity value within areas of Public Open Space through the approval conditions for proposed subdivisions;
- proactively monitoring compliance with permit conditions relating to environmental outcomes;
- adopting *Local Planning Policy 33 – Tree Retention* to minimise removing trees of a certain size and maturity to maintain and increase canopy cover;
- drafting and publicly advertising Local Planning Policy 34 – Wetlands and Waterways to guide managing wetlands to protect them from the impacts of development, improve water quality, and manage potential risks of property damage;
- commencing drafting Local Planning Scheme No. 4, adding provisions for biodiversity protection and consideration;
- employing a full time Bushcare Officer;
- implementing several restoration projects within reserves recognised as having significant conservation value, including some funded by offset requirements for native vegetation clearing within the City;
- implementing a weed disposal program offering residents unlimited green waste disposal at Walliston Transfer Station;
- creating wetland areas and vegetated swales in new developments according to Water Sensitive Urban Design;
- gazetting a Cat Local Law with declared cat-free zones and educating the community on responsible pet ownership;

- receiving the first draft of the Bushfire and Biodiversity Management Guidelines as an outcome of the Local Environment Strategy;
- publishing the Private Landholder Bushland Information Package in 2013;
- increasing the number of Friends Groups implementing numerous restoration projects within the City;
- continuing the 'Plants for Residents' program and encouraging residents to use native species; and,
- engaging with local Aboriginal leaders to prepare the City's Reconciliation Action Plan, currently published for public consultation.

The new LBS seeks to review, improve, and build on existing programs and identify new opportunities to protect and enhance local biodiversity.

## Roadmap for success

The LBS provides a roadmap for the City to design, manage and improve local biodiversity for the wellbeing of our residents, enterprise, and ecosystems. It sets out a framework to maintain a balance between protecting biodiversity values and meeting the projected social and economic development needed in the City over the next 20 years.

Broadly, the goals of the LBS are based on the pillars of Retain and Protect, Investigate, Manage and Enhance, Link and Engage. This provides a holistic and strategic approach to achieving our aspirational target of increasing the conservation protection status of 500ha land. More detail on the five goals is included on page 3 of this document.

To understand and address the challenge of local biodiversity, the City uses available data; undertakes its own research such as scientific assessments, site surveying and monitoring priority areas; and makes evidence-based inferences where there are gaps in data.

This data includes information about the amount, variety, and condition of native plants and wetlands, as well as the presence of important species and ecological communities.

The Department of Primary Industries and Regional Development (DPIRD) provides the best data currently available on the overall extent of native vegetation. DPIRD uses satellite imagery and aerial photographs to interpret and update this data. However, it's important to note the data is not perfect and may not always accurately represent the current state of native vegetation. Despite its limitations, it serves as a useful baseline for monitoring changes in vegetation.



## Turning plans into action

Protecting and enhancing the City's local biodiversity is a shared responsibility between government agencies, the City, and the community.

It's vital that all spheres work together to achieve our shared vision of increasing the conservation protection status of LNAs and realise the benefits this creates.

While the City has varying degrees of influence over how different land uses and tenures impact LNAs, some of the ways the City can work collaboratively with other stakeholders to conserve biodiversity in LNAs includes:

- monitoring and strategically responding to broader factors such as international agreements, societal trends, and State government strategies seeking to support growth while balancing social and economic outcomes;
- managing biodiversity on private land through education and support, community initiatives, and advocacy to influence state and federal policies and initiatives;
- permitting higher density within urban areas and reducing demand for urban sprawl into areas of higher biodiversity to encourage retaining biodiverse areas; and,
- discharging statutory responsibilities for which the City has a decision-making role while protecting and managing City parks and reserves.

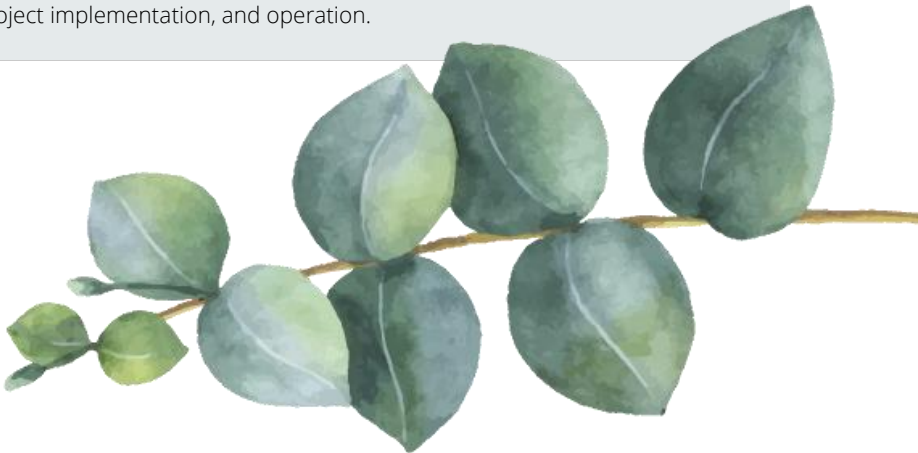
To achieve the aspirational City-wide target of increasing the conservation protection status of 500ha land, containing approximately 270ha of native vegetation, as well as the goals and strategic objectives of the LBS, the City will undertake a program of strategies and actions, as outlined in the table below.



Carnaby's Cockatoo  
(*Zanda latirostris*)

Focus Area 1: Retain and Protect	
Retain and protect LNAs and other native vegetation on City-managed land and private land.	
Strategic objectives	<p>Strategy</p> <ol style="list-style-type: none"> <li>1. Retain and protect ecological values on City-owned and managed land by formally setting aside land for conservation purpose and improving operational processes.</li> <li>2. Maximise retaining and protecting high biodiversity values through strengthening the planning and development framework.</li> </ol>
<b>Action 1.1</b>	<p>Introduce provisions for biodiversity retention and protection on private land in the local planning framework, including:</p> <ol style="list-style-type: none"> <li>1. Integrating the Local Biodiversity strategic objectives and LNA mapping into the City's <i>Local Planning Strategy</i>.</li> <li>2. Introducing a new Local Open Space category for environmental conservation in Local Planning Scheme 4.</li> <li>3. Introducing a requirement in <i>Local Planning Scheme 4</i> for rehabilitating land where an owner or occupier has caused or allowed land to be intensively cleared or degraded.</li> <li>4. Investigate measures and general provisions to retain, protect and manage biodiversity through the <i>Local Planning Scheme 4</i>.</li> <li>5. Investigate the inclusion of provisions for rural land uses in Local Planning Scheme 4 that provide for biodiversity retention and management, such as:             <ol style="list-style-type: none"> <li>a. Extending land use provisions to facilitate business opportunities that are compatible with natural areas (e.g., 'care farms' or conservation cooperatives);</li> <li>b. Providing flexibility in minimum lot size (where average lot size and/or total lot yield is maintained) to minimise the need for vegetation clearing and maximise vegetation retention.</li> </ol> </li> <li>6. Preparing a Local Planning Policy for Biodiversity Conservation to provide for the assessment, retention, protection and management of biodiversity through the planning and development process.</li> </ol>
<b>Action 1.2</b>	Review and update prioritisation mapping completed in 2020 as shown in Figure 5 of the LBS to assign or confirm priority ratings for City-managed reserves based on environmental significance.
<b>Action 1.3</b>	<p>Assess the adequacy of current planning protection of existing and proposed City LNAs and identify and implement appropriate planning controls, such as:</p> <ol style="list-style-type: none"> <li>1. changing the purpose (management order) of reserves containing priority LNAs to include "conservation" (Action 1.1).</li> </ol>

<div>Focus Area 1:</div> <div>Retain and Protect</div> <div>Retain and protect LNAs and other native vegetation on City-managed land and private land.</div>	
	<div><div><div>2. for Reserves that serve both a conservation and recreation function, consider defining each purpose on separate lots or as separate reserves, particularly where the recreation is more organised (and may involve leasing arrangements) and/or if the conservation areas involve other government agencies or areas with significant environmental value.</div><div>3. changing the classification of local open space containing priority LNAs to a new local reserve category (refer Action 1.1) providing for biodiversity conservation.</div></div><div>This action is to be informed by the land tenure category recommendations in Appendix 5 and is to be prioritised based on City LNAs with the highest Natural Area Prioritisation Score.</div></div>
<div>Action 1.4</div>	<div>Establish an operational framework within City departments to maximise retaining and protecting biodiversity in the planning and implementation of City projects, comprising a checklist and internal guideline covering due diligence, project planning/design, project implementation, and operation.</div>





<p>Focus Area 2:</p> <p><b>Investigate</b></p>	<p>Investigate and actively pursue new resourcing (human, funding, and data) and research opportunities to enable further investment and improvement in on-ground actions on public and private land to manage and protect local biodiversity.</p>
<p><b>Strategic Objectives</b></p>	<ol style="list-style-type: none"> <li>1. Identify and secure adequate resources to implement the Strategy.</li> <li>2. Improve knowledge of the ecological values within the City's LNAs and understand their threatening processes.</li> <li>3. Develop, expand, and manage a central ecological database.</li> <li>4. Collaborate with land management agencies and research institutions to examine best practice management and education relating to biodiversity.</li> </ol>
<p><b>Action 2.1</b></p>	<p>Undertake on-ground surveys of LNAs situated on land managed by the City to confirm and record environmental values, priority listing and threatening processes. Prioritise survey locations based on environmental significance (highest Natural Area Prioritisation Score), and the risk of degradation and level of investment required to ensure a self-sustaining ecosystem (based on viability score).<sup>1</sup></p>
<p><b>Action 2.2</b></p>	<p>Develop an internal, central environmental database to inform the City's decision making. The database should capture:</p> <ol style="list-style-type: none"> <li>1. existing and new records of flora, fauna, and ecological community data from consultant reports, City technical studies, and community group studies;</li> <li>2. LNA priority mapping; and</li> <li>3. available ecological spatial data layers (e.g. native vegetation extent, Threatened and Priority species and communities, wetlands and waterways, ecological linkages).</li> </ol>
<p><b>Action 2.3</b></p>	<p>Undertake a climate risk assessment to identify the impact of climate change on keystone species and natural areas within the City, to inform a climate change adaptation strategy. This will include the development of thresholds for unacceptable change in the condition of LNAs managed by the City, to inform management actions in the Greening Masterplan.</p>

<sup>1</sup> This action should be informed by Appendix 4, which prioritises City Reserves with a high Natural Area Prioritisation Score and low viability score. This assessment is based on the ratio of Natural Area Prioritisation Score to viability score, however, does not consider pressures such as highly frequented public areas (e.g., Hartfield Park), the purpose of the Reserve or the size of the Reserve. As such, additional characteristics must be considered on a case-by-case basis in determining survey priorities.

<p>Focus Area 2:</p> <p><b>Investigate</b></p>	<p>Investigate and actively pursue new resourcing (human, funding, and data) and research opportunities to enable further investment and improvement in on-ground actions on public and private land to manage and protect local biodiversity.</p>
<p><b>Action 2.4</b></p>	<p>Through developing the Annual Implementation Action Plan (see Section 7.1), identify human resource needs for implementation of the Strategy. This may include:</p> <ol style="list-style-type: none"> <li>1. additional part-time or full-time staff.</li> <li>2. collaborating with land management agencies, research institutions and not-for-profit organisations.</li> <li>3. utilising volunteers / Friends Groups / professional learning and research opportunities.</li> </ol>
<p><b>Action 2.5</b></p>	<p>Through developing the Annual Implementation Action Plan (see Section 7.1), identify and secure third-party funding to support the City in implementation of the Strategy. This may include:</p> <ol style="list-style-type: none"> <li>1. Grant funding opportunities.</li> <li>2. Third party environmental offsets (e.g. those required under the <i>Environmental Protection Act 1986</i> and <i>Environment Protection Biodiversity Conservation Act 1999</i>).</li> <li>3. Exploring funding opportunities with other agencies, such as: <ol style="list-style-type: none"> <li>a. the Water Corporation Waterwise Greening Scheme, as an Endorsed Waterwise Council to facilitate the conversion of resident verges to waterwise, native gardens.</li> <li>b. State and Commonwealth partnerships to deliver on actions within adopted Threatened species and communities recovery plans and manage the City's LNAs containing these values.</li> </ol> </li> </ol>
<p><b>Action 2.6</b></p>	<p>Look for opportunities to partner with other agencies, universities, private sector, NGOs, and community groups to deliver research projects to improve understanding and best-practice management relating to biodiversity, such as studies on rehabilitation, threatened species and communities, ecological linkages, climate change impact on biodiversity, weed, pest and feral fauna management.</p>



<b>Focus Area 3:</b>  <b>Manage and Enhance</b>	
Manage, enhance, and rehabilitate LNAs and other native vegetation on City-managed land to improve the quality and quantity of biodiversity values.	
<b>Strategic objectives</b>	<ol style="list-style-type: none"> <li>1. Plan and implement managing, enhancing and rehabilitating biodiversity values on City owned and managed land in line with best industry practice.</li> <li>2. Work collaboratively with other public land managers and knowledge holders for cohesive management of LNAs.</li> </ol>
<b>Action 3.1</b>	<p>Using on-ground information gathered through Action 1.1, ensure current, best-practice environmental management is determined and implemented for LNAs and native vegetation on City owned or managed land through the development of environmental management plans and/or an appropriate design response.<sup>2</sup></p> <p>This will include:</p> <ul style="list-style-type: none"> <li>• an appropriate planning and/or design response for Reserves with high environmental values but low viability based on their small size and/or linear shape, or their purpose/ function. For example drainage reserves and waterways; and/or,</li> <li>• the preparation and implementation of environmental management plans for larger LNAs with high environmental values (prioritisation score) and greatest threatening process (e.g. highly frequented by the public, and/or low viability score). For example; Hartfield Park, Maida Vale Reserve.</li> </ul> <p>At a minimum, environmental management plans (EMP) will include:</p> <ul style="list-style-type: none"> <li>• a description and spatial mapping of environmental values and threats (e.g. vegetation type and condition, habitat, flora and fauna species list, presence of weeds/ pests/ disease).</li> <li>• identifying mitigation and management measures to protect and enhance biodiversity values (e.g. weed control, access control, feral pest management).</li> <li>• identifying areas for rehabilitation/enhancement of biodiversity values.</li> </ul>

<sup>2</sup> This action should be informed by Appendix 4, which prioritises City Reserves with a high Natural Area Prioritisation Score and low viability score. This assessment is based on the ratio of Natural Area Prioritisation Score to viability score, however, does not consider pressures such as highly frequented public areas (e.g., Hartfield Park), the purpose of the Reserve or the size of the Reserve. As such, additional characteristics must be considered on a case-by-case basis in determining survey priorities. The list requires further assessment by City Officers to determine the management response required (such as a planning or design response, or a Reserve environmental management plan) depending on the physical characteristics of the Reserve (size, connectivity), threats (including anthropogenic) and purpose of the Reserve.



Focus Area 3:  Manage and Enhance	Manage, enhance, and rehabilitate LNAs and other native vegetation on City-managed land to improve the quality and quantity of biodiversity values.
	<ul style="list-style-type: none"> <li>a program for implementing the EMP, including identifying completion criteria, roles, responsibilities, and timeframes.</li> </ul>
Action 3.2	<p>Using on-ground information gathered through Action 1.1 and other available spatial information, develop a register of sites containing biodiversity values that would benefit from additional management actions and rehabilitation programs. This register can be provided to third parties seeking environmental offset opportunities within the City which will assist with identifying third party funding and resources for the implementation of the LBS.<sup>3</sup></p> <p>T</p>
Action 3.3	<p>Revise the City's <i>Public Open Space Strategy</i> including:</p> <ol style="list-style-type: none"> <li>updating the "Biodiversity Asset" mapping to reflect the presence of priority LNAs.</li> <li>revising Action 1.1.6, or include an additional action, that requires replacing all native vegetation removed within Public Open Space at a minimum ratio of 2:1 either within the same reserve or another City-managed reserve, within 12 months of the vegetation being removed. The current Public Open Space Strategy Action 1.1.6 applies only to 'significant trees'.</li> </ol>
Action 3.4	Identify opportunities for fauna management and enhancement of fauna habitat on City-managed land, such as installing black cockatoo nesting hollows, water stations, fauna road crossings and educational signage.
Action 3.5	Investigate opportunities to require protecting and improving habitat value on City owned or managed land that is leased to private entities for recreation or similar through the lease conditions (e.g. Hartfield Park Golf Course).

<sup>3</sup> This action builds on Action 1.1.5: of the City's *Public Open Space Strategy* which states: "Utilising this Strategy as an overarching authority, a project specific brief for the development of a framework that identifies all available land areas that can be rehabilitated / revegetated through offset plans for the City to be utilised as environmental offsets. The Environmental Planning Strategy, Local Biodiversity Strategy 2008 and Local Environment Strategy are to assist in informing rehabilitation and revegetation plans and offset areas."

<b>Focus Area 3:</b> <b>Manage and Enhance</b>	
<b>Manage, enhance, and rehabilitate LNAs and other native vegetation on City-managed land to improve the quality and quantity of biodiversity values.</b>	
<b>Action 3.6</b>	Develop and implement best-practice operational procedures (e.g. dieback/ hygiene management procedures) for all City staff and contractors working near and accessing natural areas and managing infrastructure assets.
<b>Action 3.7</b>	Develop and implement a Greening Masterplan guiding a revegetation and landscaping that uses local native species, for City managed land, including public open space, drains and drainage basins, street verges and other suitable City-managed assets.
<b>Action 3.8</b>	Consult with technical experts from fire management background, fire ecologists and local Indigenous representatives to: <ol style="list-style-type: none"> <li>1. Determine an agreed way forward for managing fire in areas of high ecological value, in accordance with the Bushfire and Biodiversity Management Guidelines; and,</li> <li>2. Establish one reference Ecological Burn Site in each of the key vegetation Associations across the City.</li> </ol>
<b>Action 3.9</b>	Explore multi-tenure land management programs such as targeted pest and weed control, disease and pathogen, fire management and stream and roadside reserve restoration works.



*Lacrymaria asperosora- fungi painting by Kevin Griffiths*

Focus Area 4:	
Link	Maintain and improve local and regional ecological linkages that allow flora and fauna species movement and the flow of genetics throughout the landscape.
Strategic objectives	<ol style="list-style-type: none"> <li>1. Maximise retaining, protecting and enhancing ecological linkages through the planning framework.</li> <li>2. Retain, protect, and enhance ecological linkages within City-managed land.</li> <li>3. Encourage enhancing ecological linkages on private property.</li> </ol>
<b>Action 4.1</b>	Include measures to retain, protect and enhance ecological linkages within the Local Planning Policy for Biodiversity Conservation to be prepared under Action 1.2.
<b>Action 4.2</b>	<p>Retain, protect, and enhance ecological linkages within City owned and managed land as a component of the Greening Masterplan (see Action 3.7), developed through the following steps:</p> <ol style="list-style-type: none"> <li>1. undertake a desktop mapping exercise to identify City owned and managed land that can potentially be enhanced and/ or managed as local ecological linkages connecting remnant patches of vegetation, for example within public open space and reserves, along suitable local roads, walkways, cycleways, waterways and through converting open drains and restoring riparian vegetation on creek lines.</li> <li>2. prioritise site selection for potential rehabilitation and management based on connectivity between LNAs with high biodiversity value.</li> <li>3. validate or augment the desktop mapping to confirm suitability of sites for rehabilitation/management and prepare a conceptual Green Links Masterplan map.</li> <li>4. develop and implement a rehabilitation and management program on a site-by-site basis.</li> </ol>
<b>Action 4.3</b>	<p>Encourage enhancement of ecological linkages on private property through:</p> <ol style="list-style-type: none"> <li>1. Targeting educational material for landowners located within a mapped regional or local ecological linkage informing how they can contribute, such as planting of suitable local native species and creating habitat.</li> <li>2. Investigating incentives for properties within a mapped regional or local ecological linkage to manage and enhance biodiversity values, such as a local plant subsidy scheme.</li> <li>3. Continuing to deliver the Plants for Residents program, or similar.</li> </ol>

<p>Focus Area 5:</p> <p><b>Engage</b>      Actively engage with Aboriginal representatives to understand and integrate cultural knowledge into local biodiversity management. Engage with the community to strengthen the appreciation of biodiversity values, and encourage the retention, protection and enhancement of biodiversity values on private land.</p>	
Strategic objectives	<ol style="list-style-type: none"> <li>1. Aboriginal representatives are engaged and actively involved in managing biodiversity and promoting the cultural values of natural areas.</li> <li>2. Members of the community are educated, incentivised and engaged on the importance of maintaining and improving local biodiversity, as well as effective land management techniques to manage and enhance LNAs on private land.</li> <li>3. Members of the community actively participate in events relating local biodiversity management and enhancement.</li> <li>4. Members of the community engage in education programs to improve knowledge and provide inspiration for private land holders.</li> </ol>
Action 5.1	Engage with Aboriginal and Torres Strait Islander peoples to investigate opportunities for their involvement in managing biodiversity and promoting the cultural values of natural areas in the City, such as guided biodiversity walks by Aboriginal people or an Indigenous Ranger traineeship program.
Action 5.2	Prepare a report/plan analysing the location and conservation or amenity value of priority LNAs on private land to identify opportunities for targeted engagement.
Action 5.3	<p>Identify and implement opportunities to incentivise retaining, protecting, managing, and enhancing LNAs on private land. Incentives may include:</p> <ul style="list-style-type: none"> <li>• fiscal incentives where the City can secure funding,</li> <li>• Local Planning Scheme provisions that allow incentives in a planning context,</li> <li>• educating rural landowners on existing incentives to protect biodiversity on private land (e.g. conservation covenant programs/ tax offsets).</li> </ul>
Action 5.5	<p>Build on the City's existing <i>Local Environment Strategy</i> education campaign and coordinate biodiversity planning (ecological communities, local ecological linkages, etc.) and educational efforts across the City , including but not limited to:</p> <ol style="list-style-type: none"> <li>1. The establishment of a physical and online environmental hub including local biodiversity information, such as:</li> </ol>

<p>Focus Area 5:</p> <p>Engage</p>	<p>Actively engage with Aboriginal representatives to understand and integrate cultural knowledge into local biodiversity management. Engage with the community to strengthen the appreciation of biodiversity values, and encourage the retention, protection and enhancement of biodiversity values on private land.</p>
	<ul style="list-style-type: none"> <li>a. updated environment module on public Intramaps</li> <li>b. best-practice land management for biodiversity</li> <li>c. natural history of Kalamunda</li> <li>d. lists of indigenous flora and fauna</li> <li>e. guidance on planting in private land</li> <li>f. weed identification and control</li> <li>g. supporting native bees in private gardens</li> <li>h. habitat creation</li> <li>i. sustainable landscaping – linked to ecological linkages</li> <li>j. benefits of biodiversity and the value of bush land to the broader community</li> <li>k. recognising community efforts in managing and enhancing biodiversity</li> <li>l. legislative protection of biodiversity values.</li> </ul> <ul style="list-style-type: none"> <li>2. Facilitating educational programs with schools, early learning centres and community groups to initiate improvements in biodiversity (e.g. revegetation, installing nest boxes, Adopt-A-Patch program) on City reserves or on school grounds, especially those next to existing local natural areas.</li> <li>3. Providing complementary biodiversity conservation advice services for private landholders.</li> <li>4. Targeting consultation with landowners and land managers regarding retaining, protecting, managing and enhancing priority LNAs on or adjacent to private land.</li> </ul>



## Monitoring and reporting on our shared success

To ensure we're meeting our targets and staying on track to achieve the objectives of the LBS, a Monitoring and Evaluation Program (MEP) will track progress and success. The MEP will be developed by a working group formed within the City with expertise in arboriculture, environmental management, planning and operations.

The objectives of the LBS are designed to be specific, measurable, actionable, realistic, and time-bound to ensure progress toward targets can be effectively measured and reported and adapted if needed.

Each year the City will monitor and report against:

1. Progress toward the aspirational target to increase the conservation protection status of 500ha land, containing approximately 270ha of native vegetation.
2. Progress toward the focus area goals of Retain and Protect, Investigate, Manage and Enhance, and Engage.
3. Progress toward the strategic objectives (refer Action Plan Table 15).
4. Achieving the actions and their determined, measurable targets under the Annual Local Biodiversity Action Plan for the given year.
5. Reporting will be undertaken each year, with results provided with the following years' annual action plan.

Annual reporting on the progress and measures of success of the LBS actions will be conducted through the City's Corporate Business Plan and provided with the following years' annual action plan. Additionally, key updates on the LBS will be reported via a Local Biodiversity landing page on the City's website.

The LBS will be reviewed every four years to analyse improvements in the quality and quantity of native vegetation and determine if the LBS needs to be adjusted to address any new issues or actions that have not been effective.



Quenda

(*Isoodon obesulus fusciventer*)

