



CITY OF BALLARAT

# Draft Biodiversity Strategy

Healing Country Together





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The City of Ballarat acknowledges the Traditional Custodians of the land we live and work on, the Wadawurrung and Dja Dja Wurrung People, and recognises their continuing connection to the land and waterways.

We pay our respects to their Elders past, present and emerging and extend this to all Aboriginal and Torres Strait Islander People.

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## Wurru-ki murrun (To talk about Nature)<sup>1</sup>

Wadawurrung Traditional Owners Aboriginal Corporation

*Comugeen budj-o thalikiyu kin bil beng ordi-ngadak. Ngarrwabil, boron, guli, bagurrk. Comugeen budj-o bengadak ngarr-uk dja, ngubiyt, weagoon gobata gupma wurring-wurring baap beng-ordi-nganak, djarrima murrup-nhuk bengadak.*

We deeply respect our people of the past. Elders, children, men, women. We deeply respect their knowledge of dja (Country), water, life, their care of the traditions and of each other, we stand with their spirit.

*Gobata Wadawurrung balug jumbuk didalbil murrup-nhuk bundjil monomeeth beek-o weagoon. Mutjak-ak noogie n'uder durrallully.*

Great spirit Bunjil told us to take care of the great life within the land. To only take what you need without selfishness<sup>2</sup>.

Wadawurrung people are deeply connected to Dja (Country) and all of which belongs to Dja. We have relied upon Dja, Ngubitj (water) Murran (nature), Weeagoon (living thing) such as animals and sacred Wiy (fire) since time immemorial. Our Karringalabil (great creator spirit) Bunjil created everything on Wadawurrung Dja.

Wadawurrung ancestors honoured Murran (nature) and Weeagoon all (living creatures) great and small, they knew everything has a role to play. The memories embedded in places like, Ballarat, are a reminder of the intangible cultural heritage such as creation stories which are very much alive for Wadawurrung people.

Wadawurrung people and their families are committed to Caring for Country as our ancestors did before us. We continue to nurture and heal Country and foster respectful and reciprocal relationships with all living creatures that call Ballarat home. Together, we strive to weave healing and restoration through the past, present, and future of Wadawurrung Dja and Wadawurrung people.



Wadawurrung Scar Tree

We acknowledge that biodiversity is not just a collection of species but a delicate web of relationships and interdependencies. Our traditional ecological knowledges such as Cultural fire practices and the care of our waterways emphasize the interconnectedness of all living beings and the environment, urging us to view nature not as a resource to be exploited but as a sacred, interconnected system that demands respect and care.

We extend an invitation, Koling wada ngitj to walk with us on a journey towards a healthier Country. Together, we can protect and strengthen biodiversity on Wadawurrung Country. This is a shared journey which supports a sustainable future where biodiversity thrives, and the delicate balance of our ecosystems are healed and protected for all generations to come.

**Nyatne (Thank you).**

<sup>1</sup> In accordance with CONSULTANCY AGREEMENT this Wurru-ki murrun (To talk about Nature) statement is to be used for the sole purpose of inclusion in the City of Ballarat Biodiversity Engagement Strategy and Ballarat Biodiversity Strategy. For inclusion of all/part of this statement in other publications, media or communications material, please seek written permission from Wadawurrung Traditional Owners Aboriginal Corporation prior to use.

<sup>2</sup> Wadawurrung Traditional Owners Aboriginal Corporation (WTOAC) (2020), Paleert Tjaara Dja – Let's make Country good together 2020-2030: Wadawurrung Country Plan. Ballarat, Vic: Wadawurrung Traditional Owners Aboriginal Corporation.

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### Note on referencing:

This Strategy is supported by technical documents available on the City of Ballarat website:

- Background Consultation – City of Ballarat
- What was Said Report – Mosaic Lab
- Background Documents – City of Ballarat
- Background Science – City of Ballarat



Yarn on Country, November 2023

## Mayor's Message

We are proud to present to our community the first Ballarat Biodiversity Strategy – Healing Country Together.

This is also the first co-designed strategy we have delivered in partnership with Wadawurrung and alongside the Country Plans of the Wadawurrung and Dja Dja Wurrung Traditional Owners. We thank them for walking with us on this important journey.

The Ballarat Biodiversity Strategy – Healing Country Together maps out a future for biodiversity across our municipality, outlining actions that will protect and strengthen our natural environment.

This strategy will help guide the management and protection of the municipality's unique landscapes and species.

We are all custodians of our municipality's unique biodiversity. Taking positive action today will shape a sustainable and brighter future for our tomorrow.

It is also imperative that the City of Ballarat lead by example.

We will instill improved sustainability practices into our organisation, raise greater awareness among our community and advocate for better outcomes for our natural environment.

In 2022, Council adopted the Biodiversity Vision and Commitment, paving the way for the development of the Biodiversity Strategy.

The Biodiversity Strategy will align with the Council Plan 2021-2025 goal to 'develop policy guidance on biodiversity and natural resources management' and supports the Ballarat Strategy 2040.

We look forward to implementing the Biodiversity Strategy and achieving outcomes that will ensure we improve the way we care for and restore a healthy environment.

**Cr Des Hudson**  
**Mayor, City of Ballarat**



Young child learning about nature

## Introduction

### Definition

Biodiversity encompasses all components of the living world — the number and variety of plants, animals and other living things, including fungi and micro-organisms, across our land, rivers and sky. It includes the diversity of their genetic information, the habitats and ecosystems within which they live, and their connections with other life forms and the natural world<sup>3</sup>.

In 2022 the City of Ballarat and the community came together to discuss a future for biodiversity in Ballarat. From the feedback received, a community vision for the natural environment was formed with five focus areas: Urgency, Environmental Outcomes, Community, Development and Government. The community vision led to the development of the City of Ballarat Biodiversity Vision and Commitment, which was adopted by Council in November 2022, and which called for the development of a Biodiversity Strategy.

The Ballarat Biodiversity Strategy – Healing Country Together sets out how we will achieve our Biodiversity Vision Statement:

*Championed by an actively engaged and informed community, the natural environment is protected, restored and connected for health and resilience.*

Its focus is on providing a framework to assist the City of Ballarat in managing the environmental impacts from its service delivery and operations, setting directions to improve the health and resilience of the natural environment, and raising the community and corporate awareness of human impact on the natural environment. For those issues that fall outside the City of Ballarat's control, the City of Ballarat and Council has a role in influencing or advocating for better outcomes.

<sup>3</sup> Department of Environment, Land, Water and Planning, *Protecting Victoria's Environment – Biodiversity 2037*, Victorian State Government 2017

## Consultation for the Strategy

The Ballarat community is knowledgeable, passionate and active when it comes to the environment as demonstrated by the abundant active 'Friends of' groups (FoGs) in the municipality and the creation of natural assets, such as the Yarwree River Trail and Woowookarung Regional Park. In developing this Strategy, we went to the community to gather their ideas.

To get the most out of community consultation, Mosaic Lab were engaged to help develop and facilitate an engagement strategy. In July 2023, the City of Ballarat, Wadawurrung Traditional Owners Aboriginal Corporation (Wadawurrung) and Dja Dja Wurrung Clans Aboriginal Corporation (Djaara) and community members met to discuss and co-design how the Strategy would be developed.

From this meeting it became clear that Traditional Owners and youth would be critical inputs. A Strategic Engagement Plan was developed and between September and December 2023, the following engagement was undertaken:

- Community consultation, Conversation Kit and MySay online survey – 100+ responses
- Young Peoples' Forum – 20 youth aged 15-25 years
- Staff workshops – 65+ staff
- Discussions with authorities – 25+ staff
- Yarn on Country – Wadawurrung hosted Djaara and the City of Ballarat Mayor, Councillors, CEO and Directors
- Friends Forum – Key community members
- Ballarat Housing Strategy and Ballarat Open Space Strategy – Recommendations to align.

More detailed information on the community consultation and Young Peoples' Forum is available in the supporting documents – Background Consultation and What Was Said Report.



Youth Forum November 2023

## Partnering with Wadawurrung and Djaara for Country

Early in the process of planning the structure for the Ballarat Biodiversity Strategy it was identified that the City of Ballarat's relationship with the Traditional Owners, the Wadawurrung Traditional Owners Aboriginal Corporation (Wadawurrung) and Dja Dja Wurrung Clans Aboriginal Corporation (Djaara) needed to be strengthened.

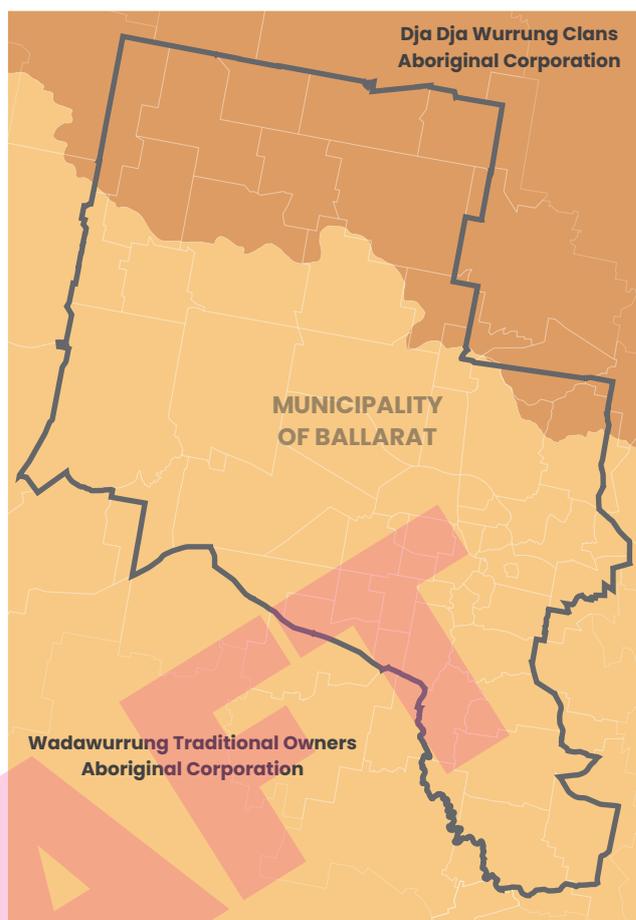
Approximately three-quarters of the municipality and urban area of Ballarat is located on Wadawurrung Country, with more than a quarter of the municipality located on Djaara Country to the north. Areas of important cultural value are located on both 'Dja' (Wadawurrung Country) and 'Djandak' (Djaara Country). The image below illustrates Wadawurrung and Djaara Country relative to the municipality of Ballarat.

'Country' is the term often used by Aboriginal peoples to describe the lands, waterways and seas to which they are connected. The term contains complex ideas about law, place, custom, language, spiritual belief, cultural practice, material sustenance, family and identity<sup>4</sup>. Traditional Ecological Knowledge systems (TEK) of the land, waterways, seasons and fire combines as an intimate and personal understanding of how to manage Country, and can offer valuable new adaptive and responsive approaches to land and natural resource management as climate change sets in.

Wadawurrung and Djaara both provide guidance on how the City of Ballarat can Care for Country and better manage our human relationship with the land, waterways and animals through their Country Plans and associate documents. The City of Ballarat's operations and decisions need to align with Wadawurrung and Djaara's respective strategies, which reflect the aspirations and vision of the Wadawurrung and Dja Dja Wurrung people respectively.

The core values of Wadawurrung and Djaara's Healthy Country Plans connect people within nature and sees culture and community as intrinsically linked to the land. Caring for Country has multiple benefits including<sup>5</sup>:

- Environmental benefits
- Health and wellbeing benefits
- Cultural and socio-political benefits
- Economic benefits
- Connection with animals as non-human kin



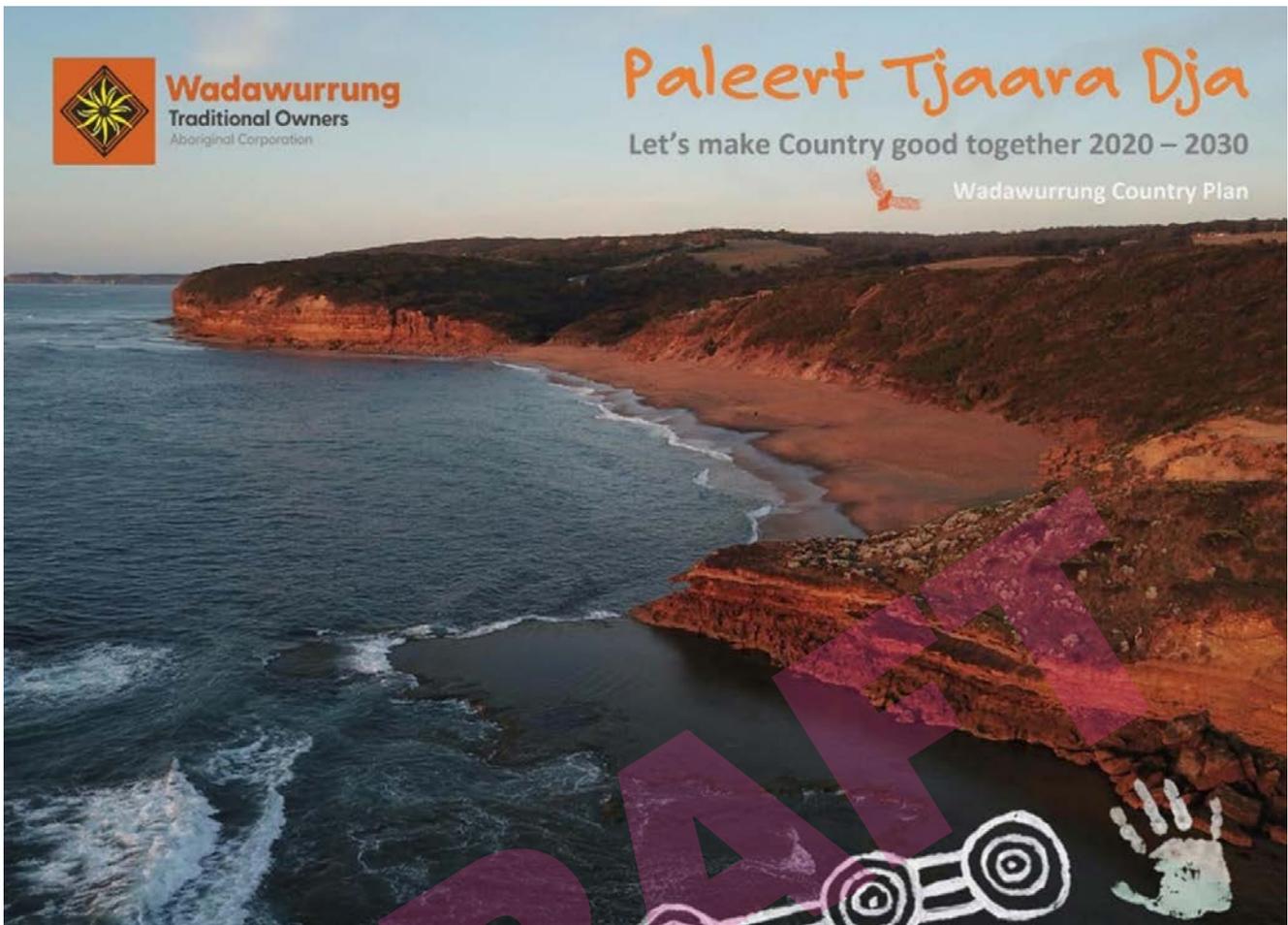
Wadawurrung and Djaara Country relative to the municipality of Ballarat

The historic Kunming-Montreal Global Biodiversity Framework agreed at COP 15 in 2022 "acknowledges the important roles and contributions of indigenous peoples and local communities as custodians of biodiversity and partners in the conservation, restoration and sustainable use. Its implementation must ensure their rights, knowledge, including traditional knowledge associated with biodiversity, innovations, worldviews, values and practices of indigenous peoples and local communities are respected, documented, preserved with their free, prior and informed consent, including through their full and effective participation in decision-making"<sup>6</sup>. Partnering with Wadawurrung and Djaara and taking a Caring for Country approach has been a deliberate decision and is the right thing to do.

<sup>4</sup> Australian Institute of Aboriginal and Torres Strait Islander Studies 2024, *Welcome to Country*, accessed 17 January 2024, <https://aiatsis.gov.au/>

<sup>5</sup> Australian Institute of Aboriginal and Torres Strait Islander Studies, *The Benefits Associated with Caring for Country*, AIATSIS 2011

<sup>6</sup> Convention on Biological Diversity, 15/4. *Kunming-Montreal Global Biodiversity Framework*, UN Environment Program, Fifteenth Meeting – Part II, December 2022



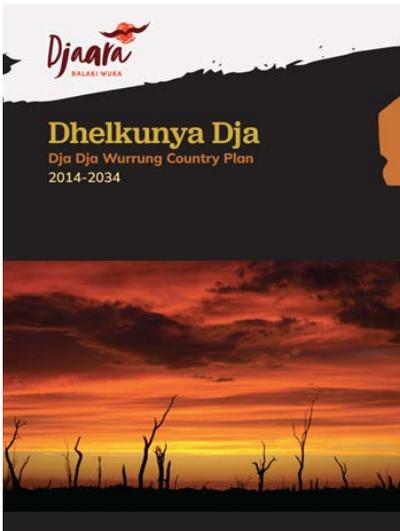
Paleert Tjaara Dja – Wadawurrung Country Plan 2020-2030

The issues with the natural environment are many and relatively obvious, and we know how to address them from a protection and restoration perspective. Where ‘fixing the environment’ falls down, is the lack of value we place on doing this as a society. The personal choices, political decisions, and financial investments we make in relation to the environment stem from our values<sup>7</sup>.

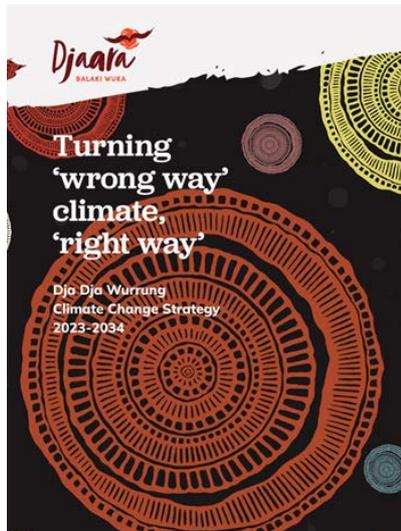
If we are to see genuine and sustained improvements in the state of Ballarat’s biodiversity, our community needs to value it more. Adopting a Caring for Country approach and supporting Wadawurrung and Djaara to do this will raise the value of the environment within the community and foster a more harmonious relationship with nature, while also supporting Wadawurrung and Djaara People’s, and progressing the City of Ballarat

Wadawurrung partnered with the City of Ballarat to develop the engagement process and structure for this Strategy and were invaluable in the community consultation events. Both Wadawurrung and Djaara brought a wealth of knowledge and experience to their involvement, offering invaluable insights on how the City of Ballarat can partner in a meaningful way with mob in Caring for Country. While this is the start of our journey and we as an organisation have much to learn, we are committed to building meaningful relationships based on trust and honesty.

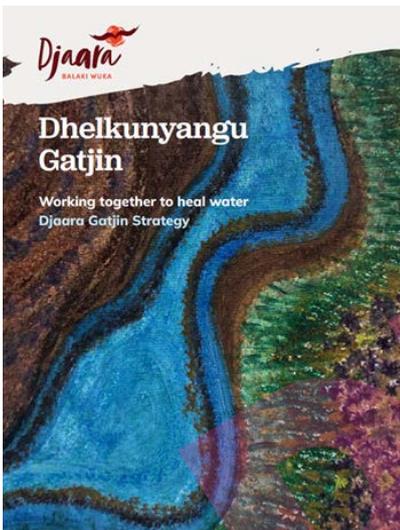
<sup>7</sup> The Conversation, *Fascinating and troubling Australians would rather save a single human life than prevent an entire species from becoming extinct*, accessed 14 February 2024, <https://theconversation.com/>



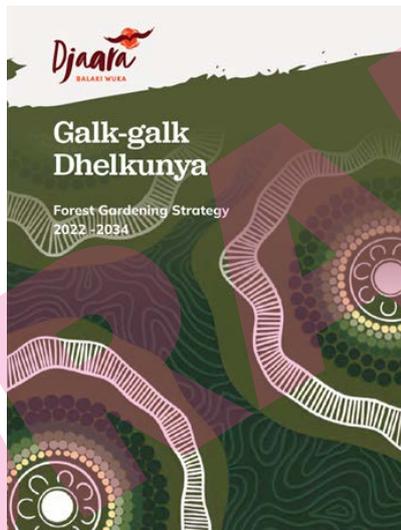
Dhelkunya Dja – Dja Dja Wurrung Country Plan 2014-2034



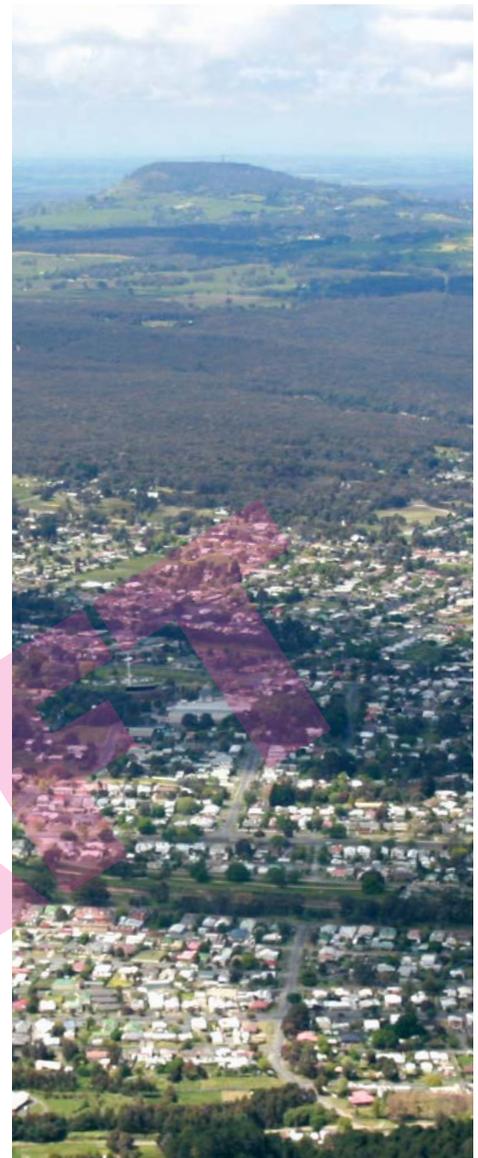
Turning 'wrong way' climate, 'right way' – Dja Dja Wurrung Climate Change Strategy 2023-2034



Dhelkunyangu Gatjin – Working together to heal water Djaara Gatjin Strategy



Galk-galk Dhelkunya – Forest Gardening Strategy 2022-2034



Looking across Canadian towards Mt Buninyong

## 'Yarrowee River Rehabilitation Project'

Restoration works along the Yarrowee River between Bridge Street Sebastopol and Docwra Street Magpie involved a partnership between the Wadawurrung Traditional Owners Aboriginal Corporation, Central Highlands Water and the City of Ballarat to see rehabilitation works and re-establishment of the river environment, reducing the potential for significant future erosion, and stabilising the riverbed and banks. The final stage of the project is the revegetation and restoration of the river verge to a condition similar to pre-European settlement which is being delivered by Wadawurrung<sup>8</sup>.

## 'Yarrowee River History: Peel to Prest'

A collaboration between the Wadawurrung Traditional Owners Aboriginal Corporation, Federation University, and the City of Ballarat overlays historical maps with Google Maps to illustrate how the waterways of the Yarrowee River and of Gnarr Creek were diverted into water courses to support the search for gold and growth of the City of Ballarat. The interactive map interrogates the long-term effects of this water diversion on community and Country and begins the truth telling that is fundamental to Caring for Country<sup>9</sup>.

8 The Conversation, *In the 1800s, colonial settlers moved Ballarat's Yarrowee River. The impacts are still felt today*, accessed 14/11/23, <https://theconversation.com/>

9 Central Highlands Water, *Yarrowee River Rehabilitation Project*, accessed 27/2/24, <https://www.chw.net.au/community/community-investment/projects/yarrowee-river-rehabilitation-project>

# City of Ballarat Responsibility

In 2015, Australia, along with 192 other countries, endorsed the 2030 Agenda for Sustainable Development, made up of 17 Sustainable Development Goals (SDGs)<sup>10</sup>.



The Sustainable Development Goals are reflected in the City of Ballarat Council Plan 2021 – 2025, underpinning the Goals that have led to the development of this Strategy.

Today, Tomorrow, Together: <b>The Ballarat Strategy</b> – Our Vision for 2040 Vision: <i>A greener, more vibrant and connected Ballarat</i>			
<b>Section 5:</b> Sustainable Ballarat – Manage Ballarat’s unique historic, cultural and natural values as an integrated landscape of high value to the community			
<b>Community Vision 2021 – 2031:</b> Vision: <i>Ballarat, Victoria’s heritage city: leading the way as a sustainable, innovative and inclusive community</i>			
<b>Principle:</b> Environmental sustainability – Our natural environment thrives and is home to a diverse range of plants and animals			
<b>Council Plan 2021 – 2025</b>			
<b>Principle:</b> Environmental Sustainability – We will seek to lead in sustainable practice. We will consider how our ideas and actions will impact the environment and work to reduce our impact on climate and promote sustainability			
<b>GOAL 1</b> An environmentally sustainable future	<b>GOAL 2</b> A healthy, connected and inclusive community	<b>GOAL 3</b> A city that fosters sustainable growth	<b>GOAL 4</b> A city that conserves and enhances our natural and built assets
<b>Biodiversity Vision and Commitment</b> Vision: <i>Championed by an actively engaged and informed community, the natural environment is protected, restored and connected for health and resilience</i>			
Urgency / Environmental Outcomes	Community	Development	Government
<b>Biodiversity Strategy</b>			

The City of Ballarat’s Plans and Strategies that support the Biodiversity Strategy

<sup>10</sup> United Nations, *Sustainable Development*, accessed 23 January 2024, <https://sdgs.un.org/goals/>

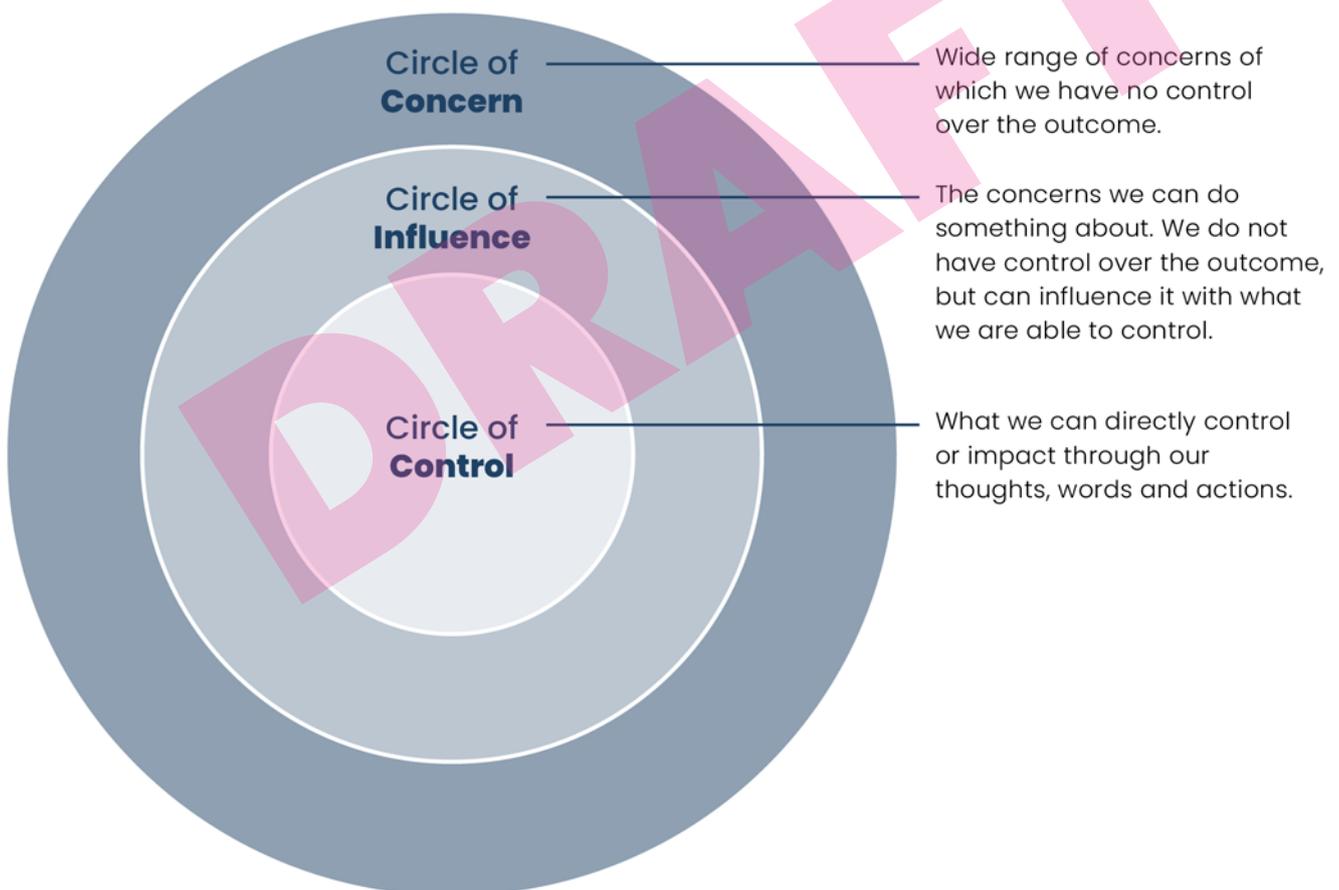
Local government is in a unique position to influence environmental outcomes through decisions and operational practices that are beyond legislative obligations. The community looks to the City of Ballarat to lead by example, and this is matched by a strong organisational desire to develop a culture to deliver environmentally sustainable outcomes. We recognise that there is room for improvement with regards to instilling sustainability practices into the organisation's overall employee consciousness. This will involve proactive engagement, executive and shared leadership, and overall increased education and ownership.

Biodiversity is impacted by everything we do. The physical things we do, the choices we make, the way we communicate, all our day-to-day activities have flow on effects to how we treat and value the environment, whether directly or indirectly as an organisation and as a community. Within the City of Ballarat, the Ballarat Biodiversity Strategy will touch on most areas of the organisation. However, while the Strategy sits with the

Sustainable Environment team, it will take the entire organisation, and community, to deliver the Biodiversity Strategy and Community Vision.

When interacting with and making decisions that impact the natural environment and biodiversity in Ballarat, the City of Ballarat will follow the "Precautionary Principle": take precautionary measures if there are threats of serious or irreversible environmental damage. A lack of full scientific certainty will not be used as a reason for postponing measures to prevent environmental degradation<sup>11</sup>.

As the regional capital of western Victoria, relative to its neighbours, Ballarat has a higher revenue source and smaller land area<sup>12</sup>. We have a responsibility and more resources to take care of the natural environment in our direct sphere of influence, and the region more broadly. We will act with intent and integrity towards our shared Vision relative to our level of influence, as per the below.



City of Ballarat's three circles of influence.<sup>13</sup>

<sup>11</sup> Australian Agricultural and Resource Economics Society 2006. *Precaution: principles and practice in Australian environmental and natural resource management*, Deborah C Peterson

<sup>12</sup> Ballarat Strategy 2015. *Today Tomorrow Together*, City of Ballarat

<sup>13</sup> Learning Loop, Circles of Influence, accessed 24 January 2024, <https://learningloop.io/>

## Related Legislation, Strategies and Plans

Biodiversity related Federal and State legislation applies to the City of Ballarat and influences its actions and priorities. Similarly, legislation also applies to private land holders and other government landholders and operators. There are also many regional and local strategies and plans that direct our actions and priorities as the image below demonstrates:



### FEDERAL

- Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)
- Australia's Strategy for Nature 2019-2030
- Native Title Act 1993
- Threatened Species Action Plan 2022-2032

### STATE

- Protecting Victoria's Environment – Biodiversity 2037
- Flora and Fauna Guarantee Act 1988 (FFG Act)
- Catchment and Land Protection Act 1994 (CaLP Act)
- Planning and Environment Act 1987 (P&E Act)
- Guidelines for the removal, destruction or lopping of native vegetation (the Guidelines)
- Traditional Owner Settlement Act 2010
- Aboriginal Heritage Act 2006
- Victorian Koala Management Strategy
- Climate Change Act 2017
- Environment Protection Act 2017
- Local Government Act 2020

### REGIONAL

- Palearit Tjaara Dja – Wadawurrung Country Plan 2020 – 2030
- Dhealkunya Dja – Dja Dja Wurrung Country Plan 2014 – 2034
- Galk-galk Dhealkunya – Djaara Forest Gardening Strategy 2022 – 2034
- Dhealkunyang Gajjin – Djaara Gajjin (Water) Strategy
- Turning 'wrong way' climate, 'right way' – Djaara Climate Change Strategy 2023-2034
- North Central Catchment Management Authority Regional Catchment Strategy 2021 – 2027
- Corangamite Catchment Management Authority Regional Catchment Strategy 2021 – 2027
- Glenelg Hopkins Catchment Management Authority Regional Catchment Strategy 2021 – 2027
- Grampians Region Climate Adaptation Strategy

### LOCAL

- Council Plan 2021 – 2025
- Biodiversity Vision and Commitment
- Ballarat Planning Scheme
- Comprehensive Koala Plan of Management
- Yarrowee River and Tributaries River Corridor Masterplan
- Urban Forest Action Plan
- Ballarat Open Space Strategy
- Ballarat East Local Area Plan
- Ballarat Rural Land Use Strategy
- Lake Wendouree Master Plan
- Sustainable Subdivision Framework (Guidelines)
- Tree Management Plan
- Victoria Park Master Plan

## Community Responsibility

While the City of Ballarat plays an important role in environmental stewardship, private land and the actions of private individuals is key to improving the health of biodiversity in Ballarat. Whether it is planting natives in your yard, keeping an old tree, or registering a conservation covenant on your title, individual landholders directly influence biodiversity.

At the 27th United Nations Climate Change Conference of the Parties (COP27) a Global Biodiversity Framework (GBF) was agreed, including target 3 calling for 30% of the earth's land and sea to be conserved through the establishment of protected areas<sup>14</sup>. Currently, only 22% of Australia's land area is protected through national and state parks, Indigenous protected areas and private reserves; in Victoria that number is even lower at just 17% (mostly in the east and north-west of the State). Given around two-thirds of Victoria is privately owned, private land will play a critical role in securing the future of our unique ecosystems and species and help meet global and local targets to protect biodiversity<sup>15</sup>.

There are general duties that apply to landowners, including those identified in s20 (1) of the Catchment and Land Protection Act 1994<sup>16</sup>.

In relation to his or her [or their] land (where land includes soil, water, vegetation and fauna on land) a landowner must take all reasonable steps to:

- avoid causing or contributing to land degradation which causes or may cause damage to land of another landowner; and
- conserve soil; and
- protect water resources; and
- eradicate regionally prohibited weeds; and
- prevent the growth and spread of regionally controlled weeds; and
- prevent the spread of, and as far as possible eradicate, established pest animals.

Individual actions like controlling weeds and pest animals on your property, keeping dogs on a leash or cats inside, volunteering or joining a Friends group, respecting the environment and advocating for better environmental protections, are all simple ways we as a community can better care for nature.

The creation of the Yarrowee River Trail, Woowookarung Regional Park and more recently the Bunny Trail, for example, were spearheaded by members of the public that wanted to protect the environment. The Ballarat community plays an important role in preserving biodiversity within the region and has a major role in advocating and setting public priorities for biodiversity.

### Hot Tip: 'Land for Wildlife'

Land for Wildlife is a voluntary wildlife conservation program which acknowledges and recognises private landowners who are managing and or restoring habitat for wildlife on their property. If you wish to create or protect wildlife habitats on your property, then the Land for Wildlife scheme can offer you advice and assistance.

[wildlife.vic.gov.au/protecting-wildlife/land-for-wildlife](https://wildlife.vic.gov.au/protecting-wildlife/land-for-wildlife)

### Hot Tip: 'My Property'

Corangamite Catchment Management Authority's 'My Property' tool on its NRM Portal is a great shared tool where you can make a plan and record restoration efforts and citizen science to help coordinate restoration efforts with other agencies and landholders across the region!

[nrmp.ccmaknowledgebase.vic.gov.au/](https://nrmp.ccmaknowledgebase.vic.gov.au/)

### Hot Tip: 'The Bradley Method for Bush Regeneration'

Joan and Eileen Bradley developed a series of weed control and native vegetation recovery techniques involving methodically clearing small weedy areas in and around healthy native vegetation so that each area was re-colonised by the regeneration of native plants, replacing the weeds. The Bradley Method follows three main principles:

1. Secure the best areas first. They are the core areas that can then be expanded for easier and better results.
2. Minimise disturbance to the natural conditions (e.g. minimise soil disturbance and off-target damage).
3. Don't over clear – let the regeneration of the bush set the pace of weed clearance.

<sup>14</sup> International Institute for Sustainable Development, Global biodiversity framework 30x30 target, accessed 31/1/24, <https://www.iisd.org/articles/insight/global-biodiversity-framework-30x30-target/>

<sup>15</sup> Trust for Nature, Land tax exemption for covenanted land in Victoria from 1 January 2024, accessed 10 January 2024, <https://trustfornature.org.au/>

<sup>16</sup> Victorian Current Acts, Catchment and Land Protection Act 1994, accessed 24 January 2024, [https://classic.austlii.edu.au/au/legis/vic/consol\\_act/calpa1994267/](https://classic.austlii.edu.au/au/legis/vic/consol_act/calpa1994267/)

## Ballarat Biodiversity Vision and Commitment

Developed and adopted in 2022, the Biodiversity Vision and Commitment for the City of Ballarat and the community is:

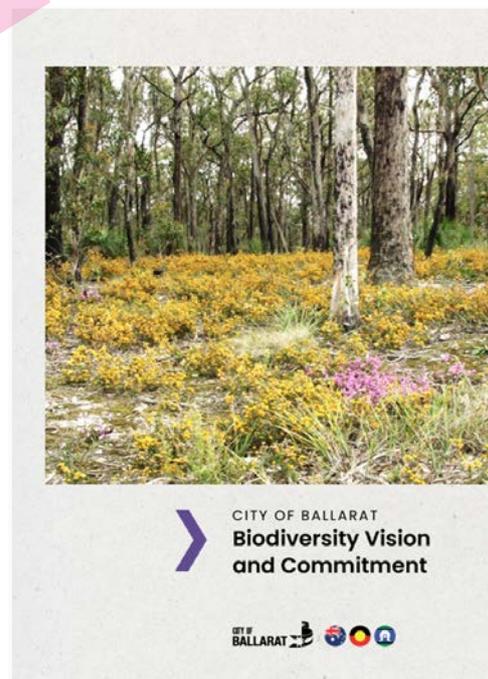
*Championed by an actively engaged and informed community, the natural environment is protected, restored and connected for health and resilience*

The City of Ballarat is committed to protecting and restoring the natural environment for the benefit of all plants, animals and people that inhabit and benefit from it. Council and the City of Ballarat acknowledges:

- The continuing connection of the Wadawurrung and Dja Dja Wurrung who have a deep understanding of the land, water and sky, and value their partnership in managing and determining their future.
- The community's role in protecting and restoring the natural environment and continued sharing of knowledge and experience through active engagement.
- The intrinsic and irreplaceable value of our forests, waterways, grasslands, large old trees and urban forestry, including street trees, that make up the mosaic of landscapes of Ballarat and region.
- Its role in supporting the invaluable services provided to us through the water cycle, nutrient cycle and other natural processes for the health of all.
- That biodiversity does not stop at borders, and it is our role as a regional centre to lead and facilitate responsible stewardship of the land.
- That biodiversity comes in many forms and that flora and fauna across all landscapes have inherent value worthy of protection and support.
- That flora and fauna have the right to exist and that it is our duty to live in harmony with, rather than external to, the natural environment.

Community consultation highlighted key focus areas to achieving a biodiverse Ballarat. These focus areas were adopted as part of the Biodiversity Vision and Commitment and forms the basis for the Ballarat Biodiversity Strategy. They are:

- 1. Urgency** – We take action now and continue following through with our commitments to create protected and resilient ecosystems.
- 2. Environmental outcomes** – Positively influence our efforts to protect, restore and connect environments across our region at a local to landscape scale.
- 3. Community** – Being informed, engaged, and collaborative in the pursuit of protecting and improving the natural environment.
- 4. Development** – Redirected away from valuable environmental assets and, where it occurs in sensitive areas, that development is done responsibly and ensuring those that detrimentally impact the environment through development are held accountable.
- 5. Government** – All levels are aligned to facilitate, fund and re-enforce efforts that protect and advance environmental stewardship.



The City of Ballarat Biodiversity Vision and Commitment strategy



Biodiversity and human health; it's black and white

## Biodiversity and Human Health

Biodiversity is fundamental to human well-being, a healthy planet, and economic prosperity for all people, including for living well in balance and in harmony with Mother Earth. We depend on it for food, medicine, energy, clean air and water, security from natural disasters as well as recreation and cultural inspiration, and it supports all systems of life on Earth<sup>17</sup>.

Western culture has viewed nature as an externality that can be measured, modified and used to suit human wants and needs. This approach has directly contributed to the global warming and biodiversity crises we currently face<sup>18</sup>. Australians currently use natural resources 4.5 times faster than Earth's biocapacity, the second highest in the world behind the USA at 5.1 times, and well above the world average of 1.75 times<sup>19</sup>. If we, as a society, do not learn to live within Earth's biocapacity, we will obliterate the fundamental Earth systems we rely on to survive. To address the issues we face, it is not simply a matter of 'fixing the environment' but rather, a matter of fixing the culture that degrades it.

We know that we cannot survive without the environment, so we need to focus on living with the environment, and this takes a shift in mentality, culture, and practice – a shift towards caring for Country.

A large body of research has convincingly shown that 'nature' in its many forms and contexts can have direct benefits on mental and physical health. Unfortunately, the extent and diversity of natural habitats are decreasing rapidly. Natural sounds and smells (birds and wildflowers for example) have well-documented beneficial effects on mental restoration, calm and creativity. Being physically in nature benefits our balance and equilibrium, keeps our brains cognitively healthy, our bodies physically healthier, and makes us happier.

There is also growing and compelling evidence that contact with diverse microbiomes in the soil and air has a profound effect on depression and anxiety. Increasing our interaction with natural elements through touch, literally getting dirt under our nails, is physically and mentally good for us. We also have increasing evidence that air, noise and soil pollution increase risk of mental health disorders. So, the more biodiverse and healthier the environment, the healthier we are, indicating biodiversity is a priority for human health<sup>20</sup>.

<sup>17</sup> Convention on Biological Diversity, 15/4. Kunming–Montreal Global Biodiversity Framework, UN Environment Program, Fifteenth Meeting – Part II, December 2022

<sup>18</sup> IPBES (2019): Global Assessment Report on Biodiversity and Ecosystem Services of the Intergovernmental Science–Policy Platform on Biodiversity and Ecosystem Services. IPBES secretariat, Bonn, Germany

<sup>19</sup> Earth Overshoot Day, How many Earths? How many countries?, accessed 17 January 2024, <http://overshoot.footprintnetwork.org/>

<sup>20</sup> The Conversation, Biodiversity and our brains: how ecology and mental health go together in our cities, accessed 30/1/24, <https://theconversation.com/biodiversity-and-our-brains-how-ecology-and-mental-health-go-together-in-our-cities-126760/>

*“We may not know it, but we need towering forests across one third of the land’s surface to lock away carbon and keep the climate stable. We need millions of pollinators, billions of soil organisms, and megatons of plankton to keep the food we eat in supply. Our planet’s biodiversity provides all the things we need for free. But it will only do so if there’s lots of it and at the moment it’s under attack. We talk about climate change a lot, but biodiversity loss is as important an issue. How do we stop this loss of life? How do we ensure that biodiversity begins to increase again? In fact, we already know exactly what to do.”*

– Sir David Attenborough, 2024



Community members enjoying the health benefits of nature

People depend on biodiversity in their daily lives, in ways that are not always apparent or appreciated. Human health ultimately depends upon ecosystem products and services (such as availability of fresh water, food and physical resources) which are vital for good human health and productive livelihoods. Biodiversity loss can have significant direct human health impacts if ecosystem services are no longer adequate to meet societal needs. Biodiversity provides many goods and services essential to life on Earth, for free. The management, or mismanagement, of natural resources significantly contributes to the baseline health status of Ballarat’s community.

Environmental stewardship contributes to secure livelihoods and improves the resilience of the community. Biodiversity loss (including loss of species and genetic diversity) can contribute to food and nutrition insecurity. For example, biodiversity loss makes plants and crops more vulnerable to disease and failure, increasing the need for chemical fertilizers and pesticides which in turn can also contribute to numerous public health threats including antibiotic resistance and noncommunicable diseases. Land use change through deforestation is the leading driver of disease emergence in humans and should be a key priority to abate<sup>21</sup>. As biodiversity declines, the ability for humans to survive on Earth declines.

21 Convention on Biological Diversity, *Connecting global priorities – biodiversity and human health*, World Health Organisation 2015

## Ballarat's Landscape

Stand at the roundabout at the intersection of Lydiard Street South and Dana Street in Ballarat Central, look east down the hill, and you are standing at the edge of ancient volcanic flows, looking at Mt Warrenheip, an extinct volcano, and Woookarung Regional Park, Ballarat's newest State reserve. The Yarrowee River ahead, channelised and built over, begins its life near White Swan Reservoir and follows the embankment south, punctuating the two main landscapes in Ballarat – Victorian Volcanic Plains (VVP) to the west, and Central Victorian Uplands (CVU) to the east.

These two bioregions are the foundations for the Ecological Vegetation Classes (EVCs) found in Ballarat – generally, Plains Grassy Woodland to the west, and Heathy Dry Forest to the east. In short, the underlying geology determines the soils, the soils and topography determine the plants that grow (along with rainfall and other factors). The grasslands grow in the west because of the underlying basalt creating fertile volcanic soils in the Victorian Volcanic Plains; the forest grows in the east because of the underlying shale, sandstone and mudstone creating low nutrient soils in the Central Victorian Uplands.

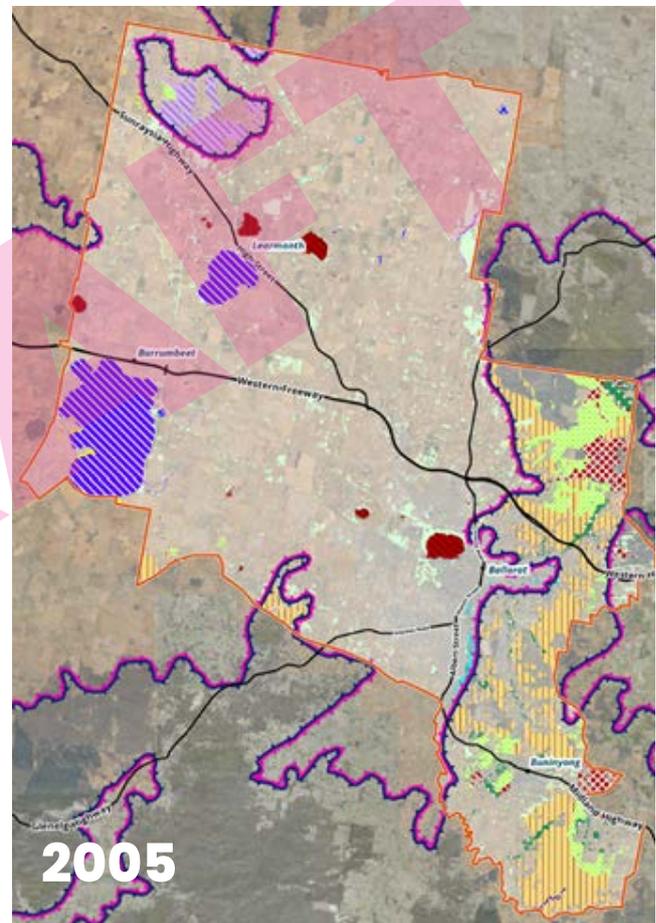
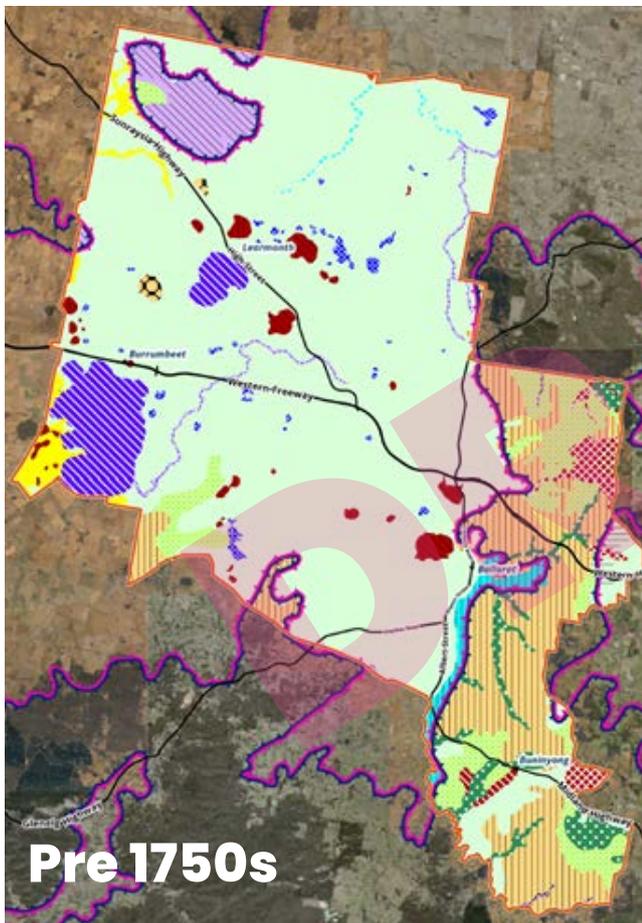


Mt Warrenheip on a brisk Ballarat morning

The Ballarat region has about 700 native species of plants. Common bushland of the region was open eucalyptus forest with combinations of Messmate and Peppermint, with an understorey of wattles and a great diversity of smaller shrubs, grasses and herbs<sup>22</sup>. Unsurprisingly, the animals that exist in these Ecological Vegetation Classes differ because the habitat is different in each.

Following colonisation of Ballarat in 1838, vast swathes of land was cleared for settlement, mining, agriculture, and other natural resource extraction. Fast forward 175 years and modelling and mapping of vegetation in the region in 2005 illustrates the extent of clearing with significant declines in the cover of all Ecological Vegetation Classes across the Ballarat region.

Ecological Vegetation Classes within the Central Victorian Uplands bioregion have reduced by 52 per cent of the pre-1750 extent, and by 91 per cent in the Victorian Volcanic Plains bioregion. The image below illustrates modelling of what the vegetation cover of Ballarat was pre-1750's (European settlement), and in 2005.



Pre-1750s and 2005 Ecological Vegetation Classes and bioregions of the City of Ballarat

22 City of Ballarat 2004, *Native Vegetation Conservation in the City of Ballarat*, City of Ballarat

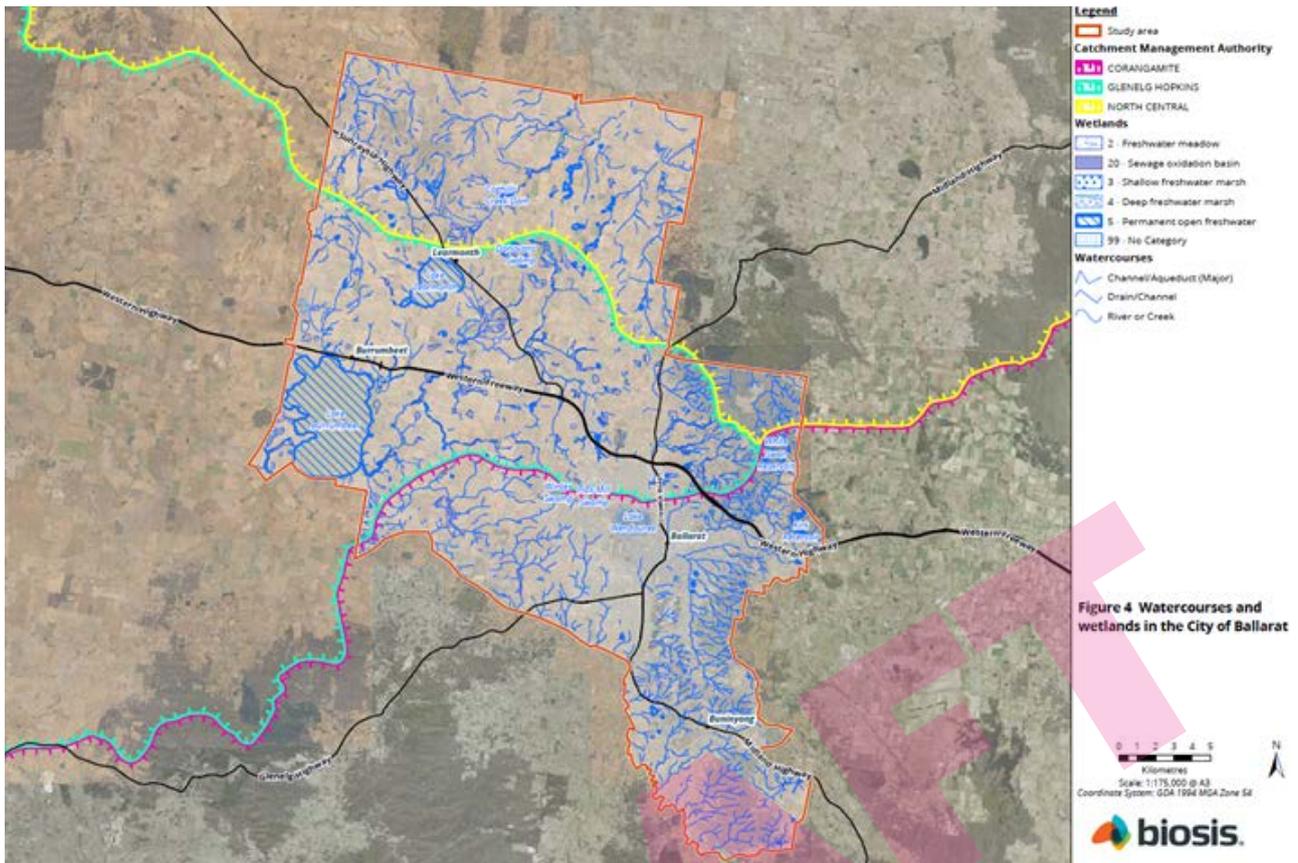


Figure 4 Watercourses and wetlands in the City of Ballarat

Watercourses, wetlands and Catchment Management Authorities in the City of Ballarat

Located at the southern end of the Great Dividing Range, Ballarat is situated at the junction of three Catchment Management Authorities (CMAs) – Corangamite CMA (CCMA), Glenelg Hopkins CMA (GHCMA) and North Central CMA (NCCMA).

The major river basins within each of the CMAs are:

- Corangamite CMA:
  - Barwon River, flowing to Barwon Heads
- Glenelg Hopkins CMA:
  - Hopkins River, flowing to Warrnambool
- North Central CMA:
  - Loddon River, flowing to the Murray River

Several major creeks and rivers occur within the Ballarat region including the Yarrowee River, Burrumbeet Creek, Creswick Creek, Slaty Creek and Canadian Creek. Lake Burrumbeet is the largest permanent freshwater body within the Ballarat region. It is located in the west and is directly fed by Burrumbeet Creek, which begins in the foothills around Invermay. Lake Learmonth also occurs in the west, along with many other ephemeral wetlands and creek lines.

Watercourses and waterbodies provide havens for wildlife through summer and droughts, and where native vegetation remains intact on their banks, creeks and waterways provide excellent opportunity for habitat connectivity across the landscape. However, from

mining and urban expansion, they have been heavily modified and are significantly degraded.

Each of the Catchment Management Authorities have Regional Catchment Strategies which offer opportunities for advice, partnerships and grant funding, something Ballarat should seek to capitalise on. Additionally, Ballarat’s position at the top of three catchments means how it manages its waterways has flow-on effects into the three catchments; restoration projects will send native seed downstream, whereas weed infestations will send weed seed downstream. Similarly, rubbish and pollution that enters waterways upstream, flow downstream ultimately ending up in our oceans.

Many flora and fauna species occur in Ballarat, however, there is much less space for them to live in. While some species have adapted and survive in human modified landscapes and built environments, many have not and require large and connected patches of healthy and core habitat to survive in the region. Without action, our list of threatened species will continue to grow:

- 22 threatened plant (flora) species
- 43 threatened animal (fauna) species
- 7 threatened ecological communities.

More detailed information is available in the supporting document – Background Science.

## Threats to Biodiversity

Ballarat's plants and animals are threatened by several cumulative and increasing threats such as invasive weeds and pest animals, climate change, fragmentation and habitat loss, and natural disasters<sup>23</sup>. A key threat facing threatened flora (plants) and fauna (animals) within the city of Ballarat is habitat loss and fragmentation<sup>24</sup>.

Expansive land clearance on the Victorian Volcanic Plains has resulted in the widespread loss of Grassy Woodland and Grassland habitats to intensive agriculture. As a result of this historical clearance, many flora and fauna species endemic to this habitat are listed as threatened, such as the Striped Legless Lizard *Delma impar* and Growling Grass Frog *Litoria raniformis*. Habitats for threatened species in these areas now persist as small, fragmented 'islands'. Connectivity between these islands is limited due to the inhospitable agricultural landscape. Even though there is a greater cover of native vegetation in the east of the region, it is still negatively impacted by pest plants and animals and fragmentation caused by large roads and housing developments<sup>3</sup>.



Native vegetation removal and fragmentation are major risks to biodiversity

Loss of large hollow-bearing trees through agricultural clearing and urban development reduces roosting and nesting habitat for a range of native birds, bats and arboreal mammals. Introduction of pest bird species, such as Common Myna *Acridotheres tristis*, has caused significant competition for hollows and other roosting and nesting habitat for natives.

Climate change also poses a risk to threatened species within the region. Ecosystems in the east of the region, including Riparian forests and Dry forests, will be adversely impacted by modelled reductions in rainfall and areas of suitable habitat<sup>25</sup>.



A heavily degraded waterway in Ballarat's East



Rubbish dumping highlights the disregard for the environment

23 DCCEEW 2022. Threatened species strategy action plan 2022–2032, Author: Department of Climate Change, Energy, the Environment and Water, Canberra, ACT.

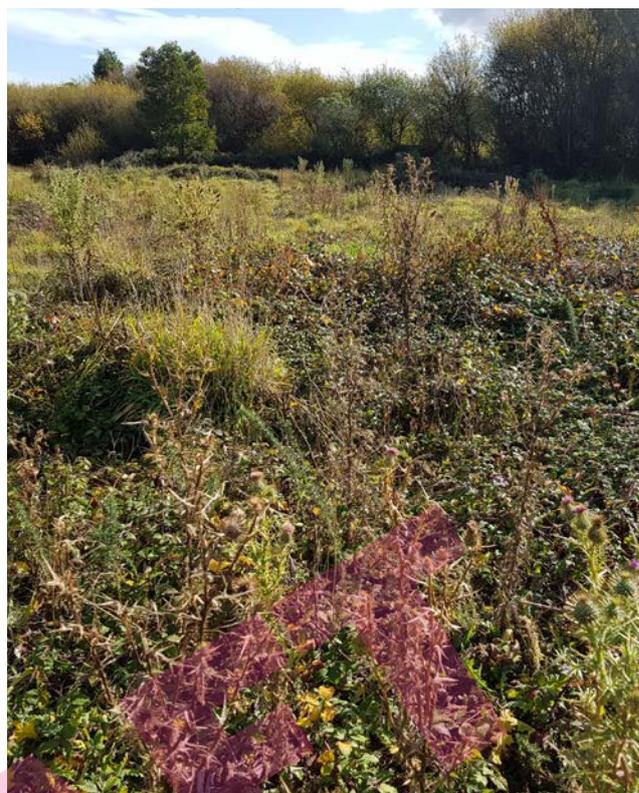
24 Biosis 2020. Living Corridors Action Plan: Draft Report, Biosis Pty Ltd, Melbourne, Victoria

25 Deakin University 2016. Ballarat Biodiversity Action Plan 2016 – Background report, Report prepared for The City of Ballarat. Authors: Cunningham. S, Hossain. H, Romeijn. H, Deakin University.

Degradation of waterways also threatens biodiversity and threatens aquatic plants and animals within Ballarat<sup>26</sup>. Weed invasions are often concentrated along watercourses where native species struggle to outcompete introduced species such as Blackberry *Rubus anglocandicans*. Aquatic pest animals such as European Carp *Cyprinus carpio* can significantly degrade water quality, outcompete or prey on native species. Degradation of the waterways and surrounding vegetation reduces the amount of land available to threatened species that occur in wetland and waterway habitats. Of the 38 threatened fauna species predicted to occur within the City of Ballarat, 24 rely on wetlands and waterways as key habitat.

The sixth report from the Intergovernmental Panel on Climate Change leaves no doubt that climate change is an inevitable and urgent global challenge with long-term implications for the sustainable development of all countries. The United Nations Development Programme has declared a climate, biodiversity loss, and pollution emergency. Worsening effects will lead to more extreme weather events in Ballarat, including dangerous heat waves, longer and more intense fire seasons, drought conditions from decreased rainfall, increased storm activity and flooding, and a transition to a more northerly climate. These effects will have social, economic, psychological, environmental, ecological and human health consequences for Ballarat's community.

The climate is an important driver of ecological cycles for both flora and fauna. The Ballarat region's climate is expected to change over the next 50 to 70 years, which will provide challenges for many of the local species<sup>27</sup>. With decreases in average rainfall and increases in average temperatures, the amount of land suitable for habitat within the region will shrink. This will increase the importance of retaining existing vegetation and capitalising opportunities for connectivity between remnant patches of vegetation. Impacts of climate change can also be complex. For example, many plant species rely on temperature and rainfall cues to grow, flower and set seed. Understanding how changes to the climate effect species in Ballarat is key to being able to effectively manage the risks and adapt to the changes.



Heavy weed infestation along a watercourse on private land

Connectivity plays a critical role in the preservation and enhancement of biodiversity and ecological values within Ballarat. Where native flora and fauna have opportunities to move freely through large patches of vegetation, either directly or indirectly (through seeds or pollen, for example) they have more of an opportunity to diversify genetic pools and seek refuge from threats such as climate change. Furthermore, climate models suggest less average rain but more intense rain events more often. Ballarat's channelised drainage can manage water from storm events, however there will be a growing need to keep water in the landscape for longer to allow it to penetrate the ground and be used by vegetation, hydrate soils and regenerate groundwater.

26 Biosis 2018c. East Ballarat Local Area Plan Background Paper. Natural Environment and Landform, Report prepared for City of Ballarat. Author: Gibson, M, Biosis Pty Ltd, Melbourne, VIC. Project no. 26930

27 Deakin University 2016. Ballarat Biodiversity Action Plan 2016 - Background report., Report prepared for The City of Ballarat. Authors: Cunningham, S, Hossain, H, Romeijn, H, Deakin University.

## Current State of Biodiversity within Ballarat

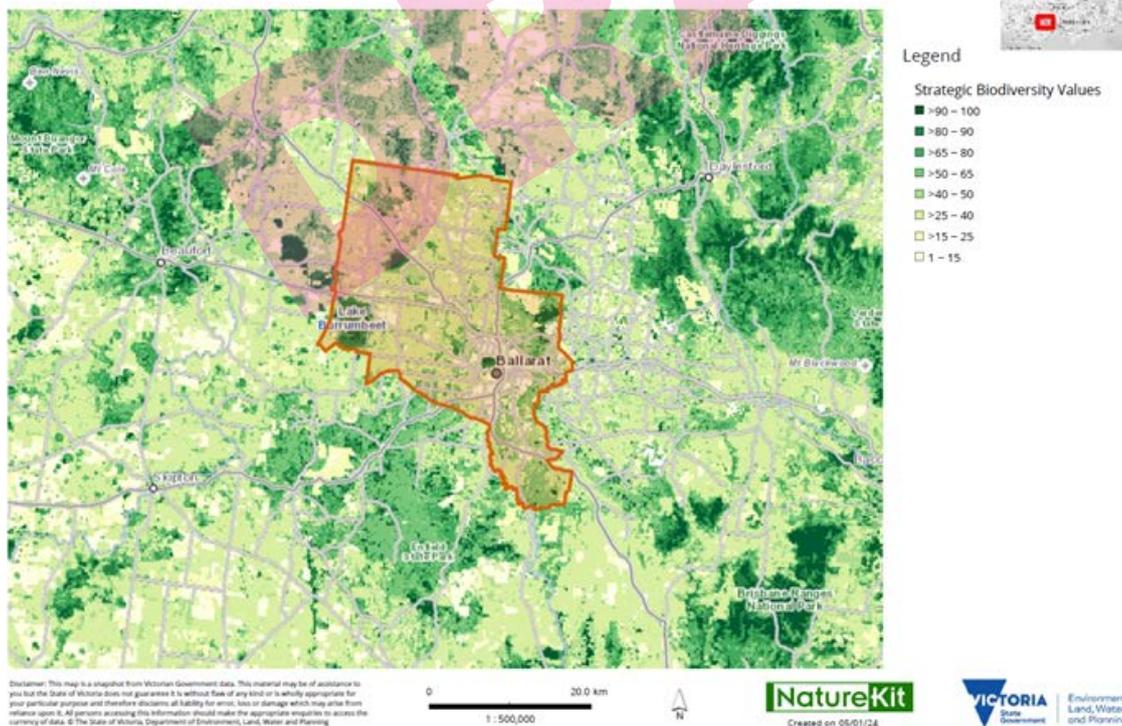
Many of the biodiversity reports reviewed discussed that much of the remaining ecological values within the City of Ballarat municipality predominantly occur to the east of the Yarrowee River, with the exception of lakes in the west. Large blocks of native vegetation occur in the east including the Nerrina Historic Area, Woowookarung Regional Park, Union Jack Reserve and Mt Buninyong. This area is considered a 'Living Corridor' as it connects state forests and other reserves lineally to the north (Creswick Regional Park) and south (Enfield State Park). These reserves play an important role in preserving biodiversity and providing habitat for threatened fauna and flora species<sup>28</sup>. The Living Corridor is interrupted by major roads and urban developments in some areas, providing opportunities for improvements. Connectivity in this corridor is vital for flora and fauna to be able to adapt to climate change to continue existing in the region.

The State Government's 2022 Strategic Biodiversity Value (SBV) mapping is landscape scale mapping

that combines information on biodiversity values with connectivity and fragmentation information to show the relative value of landscapes across Victoria. The mapping provides a strategic view of the ranked contribution of a location for the conservation of Victoria's biodiversity. A higher strategic biodiversity value score indicates a location that contains more, and less common biodiversity values relative to other locations with a lower score. Higher scores tend to be in contiguous areas of native vegetation<sup>29</sup>.

The below image illustrates Ballarat's Strategic Biodiversity Value relative to the surrounding region. It highlights that while we have some areas of higher value (such as Lake Burrumbeet, Lake Learmonth, Lake Wendouree and the southern reaches of Creswick Regional Park), the broader region has considerably higher Strategic Biodiversity Value (such as Enfield State Park, Brisbane Ranges, and Wombat State Forest), which demonstrates much more contiguous areas of native vegetation.

Ballarat Strategic Biodiversity Value



Strategic Biodiversity Values within and around the City of Ballarat

28 Biosis 2020. Living Corridors Action Plan: Draft Report, Biosis Pty Ltd, Melbourne, Victoria

29 DELWP 2017. Biodiversity information explanatory document, Victorian Government Department of Environment, Land, Water and Planning, Melbourne



Flowering native grassland at Dowling Forest Cemetery

The State Government's Biodiversity 2037, Victoria's plan to stop the decline of our native plants and animals and improve our natural environment, discusses a new approach to conservation management that moves away from planning for each species individually and from managing only the most highly threatened species first. Management of species that are highly threatened is high risk and high cost. Rather than managing species at the 'emergency end' of conservation, this new approach focusses primarily on preventing species from becoming threatened. Preventing species and communities from becoming threatened requires a landscape scale approach to conservation and will, as a result, target many species at once<sup>30</sup>.

If Ballarat is to increase its Strategic Biodiversity Values, it will be required to take a landscape scale approach that benefits the largest number of species. Ballarat's flagship species, the Koala and Growling Grass Frog (both specifically protected in the Ballarat Planning Scheme) will benefit from taking this landscape scale approach. These two unique species each represent our two unique landscapes; the koala is generally found in the Central Victorian Uplands, and the Growling Grass Frog is found in the Victorian Volcanic Plains. Outcomes of this Strategy will take this landscape scale approach, championed by our flagship species.

Areas of remnant native vegetation and habitats are much smaller in the west of the region due to extensive clearing for agriculture since 1838. While far less volume of the region's biodiversity is found in the west, what remains is incredibly important given its rarity and level of depletion across the state. Roadsides, rail reserves and other linear reserves may support the majority of the native flora and fauna remaining to the west of the Yarrowee River<sup>31</sup>. Linear reserves that have been spared from intense disturbances such as heavy grazing, may still support highly biodiverse ecosystems. As a result, several threatened flora and fauna species are predicted to occur in the west of the region, despite the extensive clearance and agricultural activities.

30 DELWP 2017. Protecting Victoria's Environment – Biodiversity 2037, Victorian Government Department of Environment, Land, Water and Planning. Melbourne

31 LINCS Committee 1995. Linear Network of Communal Spaces (L.I.N.C.S) plan, Report Prepared for the City of Ballarat. Authors: The LINCS Committee

## Consequences of inadequate action/management

The environmental assets within Victoria are commonly referred to as 'Natural Capital'. Natural capital is not only important for the health and cultural identity of all Victorians, but also for key sectors such as tourism and agriculture. If Victoria's natural capital is adequately protected and improved, by 2028 it could provide between \$15 billion and \$36 billion in economic benefits for Victoria. If environmental assets continue to decline, an economic loss of between \$16 billion and \$78 billion is projected<sup>32</sup>.

As discussed earlier, key threats to biodiversity within the region include land clearance and climate change. If these threats are not adequately managed, then Ballarat may lose the ecological values that make the region an important part of Victoria's ecological system. For example, allowing land clearance to continue within the priority areas identified in the 2016 Ballarat Biodiversity Action Plan<sup>33</sup> would directly impact the ability of the region to maintain (let alone improve) its biodiversity, particularly in the face of climate change.

As the land available for suitable habitat shrinks due to reduced average rainfall, increases in temperature, and increases in wildfire and storm events, landscape connectivity will become even more important. If actions are not taken to improve connectivity or to stop isolation and fragmentation (through further land clearance), native fauna and flora will have fewer options to relocate to more suitable habitat and will be substantially more at risk of being lost to disease and natural disasters. Furthermore, if we do not connect the landscape, the exchange of genetics will continue to diminish, making populations more susceptible to disease and climate events, accelerating the risk of extinctions.

Invasive environmental weeds pose a significant threat to remnant vegetation on the Victorian Volcanic Plains<sup>34</sup>. Environmental weeds can swiftly outcompete native species and reduce species diversity in patches of remnant vegetation. They often also reduce the suitability of habitat for native fauna. Without extensive and collaborative management of these invasive species, what remains of the biodiversity in the west of Ballarat is at risk of being lost.



Considering options for the European Carp *Cyprinus carpio* problem at Lake Burrumbeet

As shown when comparing vegetation coverage between 1750 and 2005 most of the vegetation that occurred across the Victorian Volcanic Plains has been cleared. Vegetation now remains as small, isolated pockets and corridors alongside roadsides and reserves such as the Dowling Forest Cemetery<sup>35</sup>. Without efforts to encourage landowners in these areas to conserve the patches of native vegetation that remain on their land and connect them to patches in neighbouring reserves, roadsides and properties, they will likely be lost from Ballarat.

Continued tree removal, particularly large old and hollow bearing trees in the east of Ballarat will put local species such as the Koala *Phascolarctos cinereus* and Brush-tailed Phascogale *Phascogale tapoatafa tapoatafa* at risk of local extinction. Similarly, land clearing, herbicide and pesticide use, pollution and uncontrolled cats and dogs threaten focal species such as the Growling Grass Frog *Litoria raniformis* and Platypus *Ornithorhynchus anatinus*.

A lack of public awareness or general disregard for the environment means that it likely will not be prioritised, and it will not receive the protection and funding needed to abate biodiversity loss. If the environment is not highly valued by the community, it may continue to be treated as it has for the last two centuries and it will continue to be degraded. Environmental degradation, for the most part, is caused by humans and human activities (post colonisation). Therefore, it is humans that can reverse that trend. The climate and biodiversity crises are human induced and will only be addressed when humans address it.

32 DELWP 2017. Protecting Victoria's Environment - Biodiversity 2037, Victorian Government Department of Environment, Land, Water and Planning. Melbourne

33 Deakin University 2016. Ballarat Biodiversity Action Plan 2016 - Background report., Report prepared for The City of Ballarat. Authors: Cunningham. S, Hossain. H, Romeijn. H, Deakin University

34 Greening Australia & Trust for Nature 2015. Conservation action plan for the Victorian Volcanic Plain. Summary report., Authors: Koch. R, J, Wong. N,

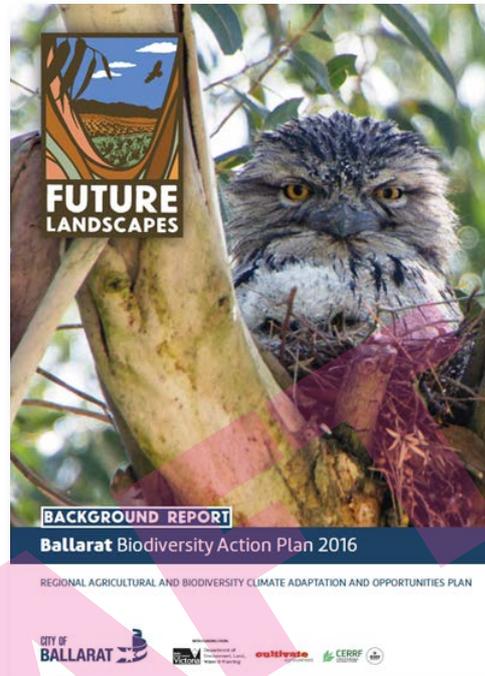
35 LINCS Committee 1995. Linear Network of Communal Spaces (L.I.N.C.S) plan., Report Prepared for the City of Ballarat. Authors: The LINCS Committee

## Improving biodiversity in Ballarat

The City of Ballarat has an important role to play in protecting and enhancing the biodiversity values of the region. The large reserves in the east of Ballarat provide an excellent opportunity to contribute to Victoria's biodiversity goals given the large amount of native vegetation and fauna habitat they support, and possible landscape connections they enable. Protecting and restoring habitat in Ballarat's east is critical to the continued survival of the koala and other species in Ballarat<sup>36</sup>.

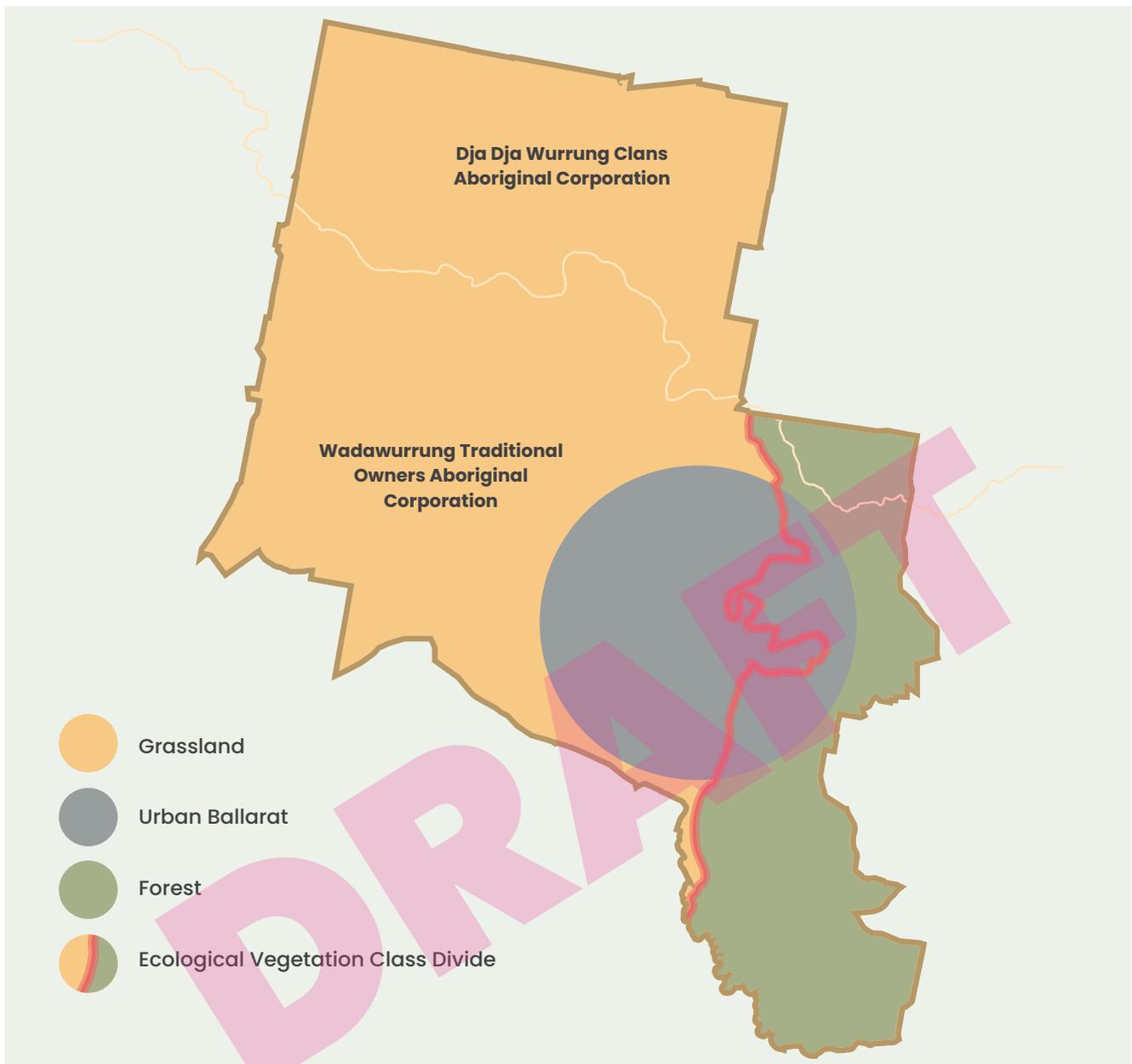
Several of the reviewed reports provide recommendations to protect and restore biodiversity within Ballarat. Key recommendations shared between these reports include raising public awareness and/or ownership over the reserves within Ballarat, effectively managing invasive weed species and connecting significant patches of vegetation. The Mullawallah Wetlands (Winter Swamp) are a great example of Traditional Owner, community and government partnership to restore and manage the natural environment in urban Ballarat. Partnerships and community awareness will be crucial to the successful restoration of biodiversity in Ballarat.

The importance of managing biodiversity in the face of climate change is also a common theme of these reports. The Ballarat Biodiversity Action Plan 2016 provides very specific guidelines for prioritising biodiversity management and restoration in modelled climate change, with a focus on the areas within the Ballarat region that will remain 'suitable habitat' as rainfall decreases and temperatures increase. These priorities need to be carefully implemented into all future biodiversity and strategic planning. As a result, effectively communicating the importance of the environment with the public can have immense benefits for biodiversity within Ballarat, much of which occurs and relies on private land.



The Future Landscapes project identifies priority areas for protection and restoration

36 DEECA 2023, Victorian Koala Management Strategy, Department of Energy, Environment and Climate Action, Melbourne



Visual representation of Caring for Country across Ballarat's three main regions

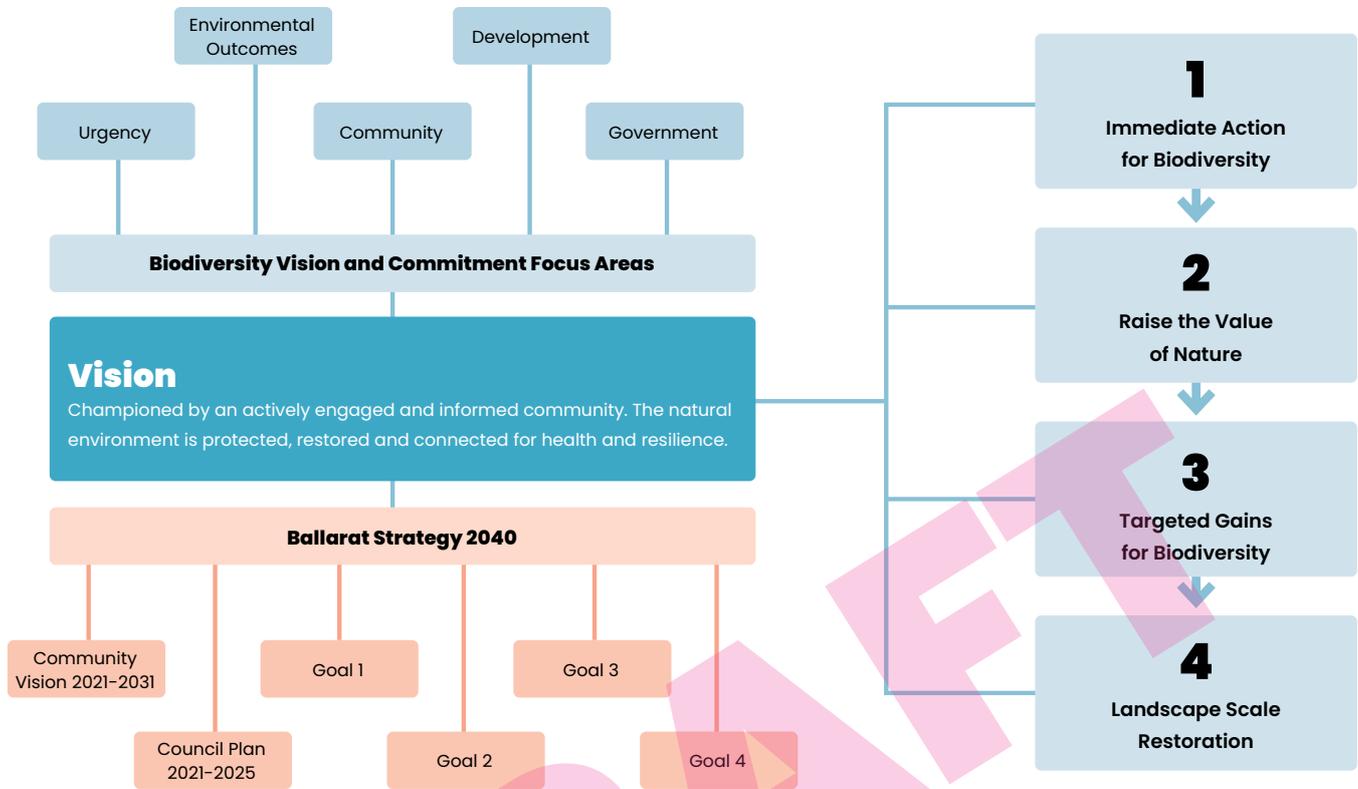
The municipality of Ballarat is 740 sq km:

- Approximately 60 per cent is farmland and wetlands on the Victorian Volcanic Plains to the west
- Approximately 20 per cent is bush, rural living and farmland on the Central Victorian Uplands to the east
- Approximately 20 per cent is urban Ballarat (including proposed growth areas, Miners Rest and Buninyong) located on both the Central Victorian Uplands and Victorian Volcanic Plains in the middle

Based on Ballarat's landscape, it can be grouped into three distinct regions: the Victorian Volcanic Plains (Grassland), the Central Victorian Uplands (Forest), and Urban Ballarat. The physical elements that make up these three regions are different; the Grassland is predominantly flat with ephemeral wetlands and waterways on larger agricultural properties, the Forest is hillier and characterised by a north-south bush through urban lifestyle blocks, and Urban Ballarat has channelised waterways, asphalt naturestrips and a landscape that prioritises humans. While biodiversity is a complex web of interactions, to be able to effectively communicate, manage and direct biodiversity efforts across the municipality, this simplified view will assist, as visualised above.

Based on the feedback received, the adopted Biodiversity Vision and Commitment, the background documents reviewed, and consideration of Ballarat's

unique landscape and current capacity, the strategy to improve Ballarat's biodiversity is based on the following:



### Immediate Actions for Biodiversity

These focus on keeping and putting more plants in the ground now and raising the capacity of the City of Ballarat and the community to support biodiversity in the short term.

### Raise the Value of Nature

Increasing everyone's value of the natural environment will help community groups, the City of Ballarat and Authorities improve biodiversity in the short to medium-term, helping to unlock appetite for bigger projects.

### Targeted Gains for Biodiversity

Work needs to be conducted to build capacity within the City of Ballarat and to determine priority areas for protection and investment to see larger biodiversity gains in the medium to long-term.

### Landscape Scale Restoration

To ensure biodiversity survives and thrives in the Ballarat region with climate change, landscape scale restoration has to be the long-term goal. This Strategy will lay the foundations for future strategies to achieve this goal (new hollow bearing trees are unable to be grown in a four year plan).



## Actions

Feedback was collated, categorized into the Biodiversity Vision and Commitment focus areas, and prioritised to identify actionable opportunities to progress towards our Vision. We asked:

- What is the action?
- What are the outcomes we hope to achieve?
- How will we know if this is successful?

Actions were selected based on their likely impact and the City of Ballarat's ability to implement or drive them. The Selected and refined Actions are as follows:

Strategic Direction	Goal	Action	Status	Start Year	Timeframe	Lead	Resources	Success
<b>1</b> Immediate Action for Biodiversity	Goal 1: Working with Wadawurrung and Djaara to Care for Country	Action 1: Partner with Wadawurrung and Djaara's Natural Resource Management Teams for on-ground works, plant supply and project advice, supporting financial independence and self-determination through a Collaboration Agreement	Increase	1	Now	Ops / TO's / SEB	PB	A Collaboration Agreement is signed with Wadawurrung and the relationships between Wadawurrung/Djaara and CoB is growing, constructive and based on honesty and trust
		Action 2: Enabling Wadawurrung and Djaara to conduct cultural burns to Care for Country inline with their Healthy Country Plans and strategies	Increase	1	Now	Ops / TO's / SEB	OT / PB	We have started an ongoing program of cultural burns and ecological monitoring
	Goal 2: Existing native vegetation is protected and prioritised	Action 3: Explore all options before removing native or significant trees and vegetation for both public and private proposals/activities and optimise use of trees that are felled	Increase	1	Now	SEB / DF / I&E	OT	Gather examples and develop standard approach, making BAU
		Action 4: Develop practice notes and Ballarat based case studies for considering proposals to remove, destroy or lop native vegetation and educate planners and developers of best practice application of 'the Guidelines'	New	1	6 months	SEB / DF	OT	Practice notes and case studies produced with uplift in tree retention in proposals
	Goal 3: More plants are in the ground to restore more habitat	Action 5: Seek funding for an Officer to help coordinate delivery of the Biodiversity Strategy and City of Ballarat and community revegetation efforts	New	1	Now	SEB	FTE	Biodiversity Officer recruited
		Action 6: Develop a Naturestrip Guideline to support gardens that provide habitat and ecological corridors through Urban Ballarat	New	1	6 months	SEB	OT	Guidelines are developed, approved and being promoted
		Action 7: Investigating options for more indigenous native plant sales by increasing support to City of Ballarat Indigenous Plant Nursery and Wadawurrung Traditional Owners Nursery, promoting Gardens for Wildlife Ballarat, Landcare and FoG's	Increase	1	1 year	SEB / Ops	OT / \$	Increase the amount of plants going in the ground by at least 50 per cent / 12,000
	Goal 4: Friends of Groups are supported to grow and do their amazing work	Action 8: Propose to Council the establishment of a Biodiversity Reference Group to provide advice on biodiversity matters in Ballarat, including advising on the Comprehensive Koala Plan of Management	New	1	1 year	SEB	OT / \$	Committee is established and operating
		Action 9: Facilitate or host 2 Friends Forums per year and participate in other community led events to support and promote FoG's to grow the environmental community	Increase	1	Now	SEB / FoG's	OT / \$	Two Friends Forums are hosted per year
		Action 10: Provide funding, training and materials (i.e. mulch, tools, etc.) to support FoG's with their volunteer and advocacy efforts, including training opportunities for community leaders to achieve constructive engagement with City of Ballarat processes	New	1	6 months	SEB	OT / \$	FoG's feel supported and better able to conduct their activities
		Action 11: Develop and adopt a process to enable and better coordinate volunteers to do works on City of Ballarat land	New	1	6 months	SEB / Ops / FoG's	OT	FoG's and CoB communicate efficiently and effectively with works occurring in a coordinated way

Strategic Direction	Goal	Action	Status	Start Year	Timeframe	Lead	Resources	Success
<p><b>2</b></p> <p><b>Raise the Value of Nature</b></p>	Goal 5: We all know more about the natural environment	Action 12: Seek funding for an Officer to develop and coordinate an environmental education and engagement program	New	2	6 months	W&E	FTE	Education and Engagement Officer recruited
		Action 13: Develop and refresh environmental education materials and make available online	Increase	1	6 months	SEB	OT	Environmental education materials are updated and online, easily accessible to the community
		Action 14: Develop corporate training on biodiversity and Caring for Country for all City of Ballarat staff and Councillors	New	2	1 year	SEB / P&C	OT / \$	Training is adopted and part of new starter and periodic refresher training
	Goal 6: We all engage with the natural environment more	Action 15: Encourage community engagement with the environment by running 2 x Nature Stewards Programs per year, sign three schools up to Resource Smart Schools program, and promote Green Scripts among health professionals	Increase	1	1 year +	SEB / CW	OT / \$\$	Programs are running and well attended
		Action 16: Support and increase environmental education and activities into existing community programs including for school holidays, and for priority groups such as for older people, culturally diverse and young people	Increase	2	2 years +	SEB / CW	OT / \$	Programs have more environmental material and activities, reaching members of the community that are not currently or have not traditionally been involved, with increasing community awareness, knowledge and stewardship
	Goal 7: We all actively care for and feel ownership of the natural environment	Action 17: Increase internal leadership and advocacy for the natural environment by including environmental stewardship in relevant City of Ballarat strategies and projects	Increase	1	2 years +	SEB / P&C	OT	Environmental/biodiversity impacts are considered at the start of projects with SEB consulted early for advice, with outcomes reflected throughout strategies and projects
		Action 18: Increase City of Ballarat presence in the community to discourage illegal vegetation removal, rubbish dumping and water contamination, while enforcing illegal actions when they occur	Increase	2	2 years +	SEB / I&E	OT	Decrease in illegal and environmentally damaging behaviours
	Action 19: Work with agencies and community to foster increased participation in citizen science (i.e. iNaturalist) to increase data capture around restoration efforts and wildlife sightings	Increase	2	2 years +	SEB / FoG's	OT / \$	100 per cent increase in data capture	

Strategic Direction	Goal	Action	Status	Start Year	Timeframe	Lead	Resources	Success
<b>3</b> <b>Targeted Gains for Biodiversity</b>	Goal 8: We have clear guidance on where to prioritise and direct investment in rehabilitation efforts	Action 20: Develop a baseline of what environmental assets Ballarat has through an Assets and Connections Study	New	1	1 year	SEB	OT / \$\$\$	Study is completed
		Action 21: Utilise local community, CoB Officer and Traditional Owner knowledge, expertise, skills and resources to identify priority locations for ecological restoration	Increase	2	2 years +	SEB / Ops	OT	Priority area mapping is produced and broadly agreed
		Action 22: Use citizen science and community knowledge to identify wildlife road crossings and invest resources to trial at least two pilot crossings in the next three years to improve safety for wildlife	New	2	2 years +	SEB / I&E	OT / \$\$	Two wildlife road crossings are installed and a notable reduction in incidents is observed
		Action 23: Utilise Public Open Space contributions and grants to acquire and purchase land of strategic environmental importance	New	2	1 year	SEB / D&G	OT / SS	Strategically important land is acquired contributing to an increase in the size and connection of ecological areas
	Goal 9: Strong working relationships with authorities and land managers	Action 24: Develop Officer-to-Officer relationships with authorities (and Federation University) by collaborating on projects together, sharing office space to foster active sharing of information and resources, and participate in forums to capitalise on program partnerships and grant opportunities	Increase	2	1 year	SEB / Ops	OT / PB	Officers are readily contactable, actively collaborating and working towards shared goals
	Goal 10: Pest animals and weeds are managed in an integrated manner	Action 25: Develop an Integrated Weed Management Strategy and take targeted action on weeds, acknowledging our position at the top of three catchments	Renew	2	1-2 years	Ops / SEB	OT / \$\$	New Integrated Weed Management Strategy is being implemented
		Action 26: Develop an Integrated Pest Animal Management Strategy and work with landholders to manage and control pest animals	Renew	3	1-2 years	Ops / SEB	OT / \$\$	New Integrated Pest Animal Management Strategy is being implemented
	Goal 11: Waterways and wetlands are prioritised for restoration	Action 27: Support community, authorities and industry partners to monitor water quality in Ballarat's waterways and report periodically in the City of Ballarat State of the Environment Report	Increase	1	1 year +	SEB / Ops	OT / \$	Water quality is reported and improving
		Action 28: Investigate resourcing models and partnerships that provide support and incentives to landholders who have waterways and wetlands on their property or adjacent leases to protect and restore sensitive riparian zones	New	2	2 years +	SEB / Ops	OT / \$ / Grants	Increase in the amount of land fenced and being restored along waterways and wetlands on private land

Strategic Direction	Goal	Action	Status	Start Year	Timeframe	Lead	Resources	Success
<b>4</b> <b>Landscape Scale Restoration</b>	Goal 12: Wildlife can travel between Ballarat Botanic Gardens, Lake Burrumbeet and Woookarung Regional Park via green corridors	Action 29: Support implementation of the Urban Forest Action Plan and Ballarat Open Space Strategy, including seeking opportunities to replace hard surfaces with vegetation to create habitat and support wildlife in Urban Ballarat	Increase	1	Now	D&G / I&E / SEB	OT	Increase in the amount of vegetated streetscapes in Urban Ballarat with greater variety of observed wildlife
		Action 30: Map priority wildlife corridors across urban Ballarat in City of Ballarat's digital mapping system to identify targeted land acquisitions and locations for incorporating wildlife corridors and crossings into design considerations	New	2	2 years	D&G / I&E / SEB	OT / \$\$	Mapping is utilised by CoB staff and influences day to day operation and projects withing CoB
	Goal 13: Biolinks in the municipality are protected, restored and connected to biolinks outside of the municipality	Action 31: Support strategies identified in Clause 21.03 (and elsewhere) in the Ballarat Planning Scheme, gathering information to bring forward the further strategic work identified at Clause 21.03-3	New	3	2-3 years	DF / SEB	OT / \$\$\$	Further strategic work identified at Clause 21.03-3 is commenced, including a Planning Scheme Amendment if deemed appropriate
		Action 32: Investigate options to partner with authorities, Federation University, Traditional Owners and neighbouring Councils to map and restore priority landscape level biolinks, and advocate for State and Federal Government support through legislative change and funding	New	4	2-3 years	CoB / DEECA / Hepburn / Golden Plains / Moorabool / Parks Victoria / CHW	OT / \$\$\$	Integrated landscape restoration approach is developed to direct efforts and funding

TO's = Traditional Owners

FoG's = Friends of Groups

SEB = Sustainable Environment Ballarat

I&E - Infrastructure and Environment

OT = Officer Time, as part of FTE's role

PB = Project Budget, incorporated in the cost of the project

FTE = Full-time Employee, Band 5, 6 or 7

SS = Site Specific, which includes Public Open Space monetary and land contributions, Grants, and \$-\$\$\$

Ops = Operations

D&G = Development and Growth

DF = Development Facilitation

CW = Community Wellbeing

P&C = People and Culture

Grants = Grant applications, which includes co-contributions \$-\$\$\$

\$ = <\$30k

\$\$ = \$30k - \$100k

\$\$\$ = >\$100k

## Monitoring, reporting and evaluation

Monitoring, reporting and evaluation of the Ballarat Biodiversity Strategy over time will help us build knowledge about the City of Ballarat's environment, remain accountable to our commitments, and assess our progress towards meeting our Vision. The City of Ballarat's approach for evaluating the success of this Strategy is outlined below:

### Monitoring:

Where possible, progress towards meeting objectives and completing actions will be measured in a quantitative manner. The City of Ballarat is working to determine baseline data related to the natural environment, either directly by compiling its own records or indirectly from sourcing external data. This is the first step in facilitating quantitative monitoring of progress implementation. Additionally, it is intended that quantitative measurements and environmental indicators will be explored and determined in the development of more specific plans proposed in this Strategy. Progress towards meeting objectives and completing actions will also be assessed in a qualitative manner, mostly through internal and external reviews and assessments.

### Evaluation:

#### ***How well is the City of Ballarat demonstrating leadership in environmental stewardship?***

Evaluation will be through an internal assessment process, and possibly through an annual survey.

#### ***How well is the City of Ballarat and the community working together towards our shared Vision?***

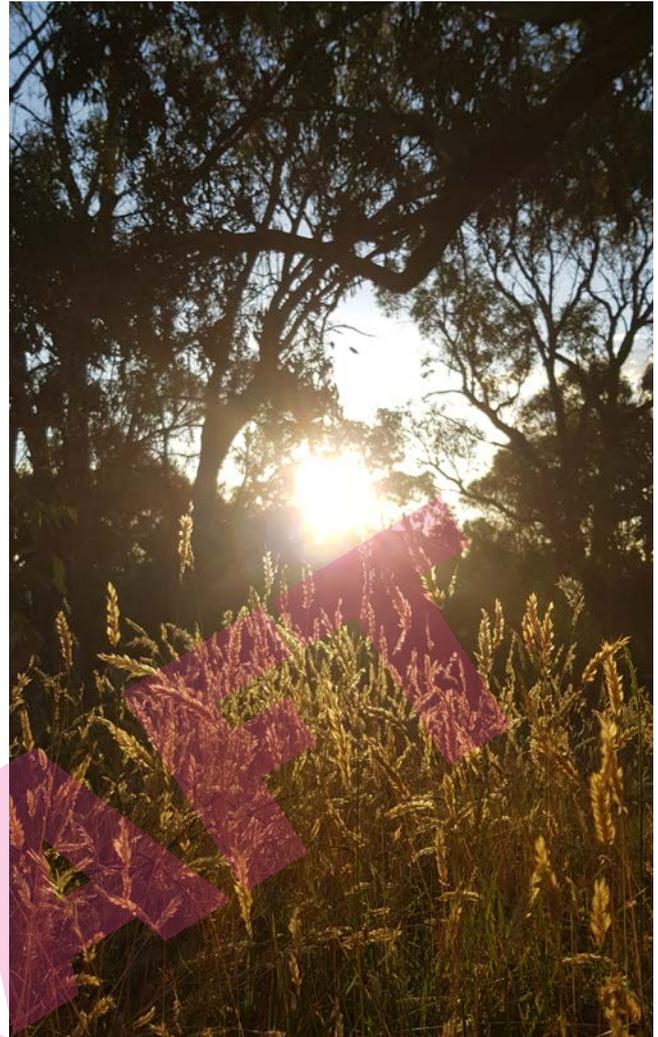
Evaluation will be through discussions with community networks or asking for feedback from the community, and possibly through an annual survey.

#### ***How well is the City of Ballarat and agencies collaborating to progress environmental outcomes?***

Evaluation will be through discussions with relevant staff in key stakeholder agencies (Department of Energy, Environment and Climate Action, Parks Victoria, Corangamite Catchment Management Authority and Central Highlands Water as a minimum).

#### ***How well is the City of Ballarat partnering with Traditional Owners to support their vision and aspirations for Healing Country?***

Evaluation will be through an internal assessment process and asking Wadawurrung and Djaara.



Summer afternoon in Ballarat

### Reporting:

The findings from the monitoring and evaluation, including a summary of actions completed/progressed, and an analysis of findings (for example why or why not a particular approach succeeded or failed in delivering the intended result) will be reported to Council on an annual basis, and be made publicly available. This annual report will also note any changes to the broader legislative and policy context governing the implementation of the Strategy.

### Improvement:

Recommendations for amending any aspects of the Strategy to maintain its currency and relevance and to improve its effectiveness in delivering environmental outcomes will be identified and included in the annual report to Council and implemented as soon as practical.



Mullawallah Wetlands in full inundation

## Background Documents

Several state, regional and local level reports have helped inform the current state of biodiversity within Ballarat and the surrounding region, with sound recommendations to address biodiversity loss. The following reports have been reviewed in preparation for writing this Strategy, although there are many more:

- Protecting Victoria's Environment – Biodiversity 2037
- Paleert Tjaara Dja – Wadawurrung Country Plan 2020 – 2030
- Dhelkunya Dja – Dja Dja Wurrung Country Plan 2014 – 2034
- Ballarat Biodiversity Action Plan 2016
- Threatened species action plan 2022 - 2032
- Grampians Region Climate Adaptation Strategy
- State of the Forests 2018
- State of the Environment Biodiversity Update 2021
- Conservation Action Plan for the VVP
- Living Corridors Action Plan 2020
- Comprehensive Koala Plan of Management
- Ballarat East Local Area Plan
- Woookarung Regional Park: Strategic Directions Plan September 2018
- Corangamite Regional Catchment Strategy
- Glenelg Hopkins Regional Catchment Strategy
- North Central Regional Catchment Strategy

More detailed information is available in the supporting document – *Background Documents*.

## Acknowledgements

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