



REGIONAL NATURAL ENVIRONMENT

STRATEGY 2020-2032

JULY 2020



DOCUMENT INFORMATION

Report to: AlburyCity and Wodonga Council

Prepared by: Renée Woodward, AlburyCity and Wodonga Council

Biosis project no.: 28553

Citation: Biosis 2020. AlburyCity and Wodonga Council
Regional Natural Environment Strategy.
Author: R Woodward, Biosis Pty Ltd.
Project no. 28553 & 30130

DOCUMENT CONTROL

Version	Internal reviewer	Date issued
Draft version 01	Matt Looby	05/12/2019
Final version 01	Renée Woodward	15/01/2020
Final version 02	Matt Looby	22/01/2020
Final version 03 for consultation	AlburyCity and Wodonga Council	March 2020
Final version 04 for adoption	AlburyCity and Wodonga Council	July 2020
Final version	AlburyCity and Wodonga Council	August 2020

ACKNOWLEDGEMENTS

Biosis acknowledges the Aboriginal and Torres Strait Islander people as Traditional Custodians of the country on which we live and work. We pay our respects to the Traditional Custodians and Elders past, present and future, and honour their connection to the land and ongoing contribution to society.

Biosis acknowledges the contribution of the following people and organisations in undertaking this study:

- Wodonga Council: Claire Coulson and Andrew Griffiths.
- AlburyCity: Rachel Clancy, Matthew Lincoln, Rebecca Redman and Matthew Dudley.

The development of this strategy involved the engagement and support of key regional stakeholders and our community to identify threats, values, regional corridors, and recommended actions. The contribution of all those people is greatly acknowledged.

Biosis staff involved in this project were:

- Lachlan Milne and Lucy Wilson (GIS analysis and mapping)
- Matilda Terry (background research)

Front cover photo of *Thelymitra* orchid, and back cover photo of Tawny Frogmouths by Claire Coulson



CONTENTS

1 Foreword.....	2
2 Development of the RNES	3
3 Strategic context.....	4
4 Councils' role	7
5 Regional snapshot	8
6 Challenges for the natural environment.....	13
7 Vision, themes and strategies	14
7.1 Our vision.....	14
7.2 Themes and objectives	14
7.2.1 Natural Places	14
7.2.2 Waterways and wetlands.....	15
7.2.3 Connectivity.....	15
7.2.4 Addressing threats	15
7.2.5 Working together.....	18
7.2.6 Liveability	18
7.2.7 Leadership.....	18
8 Implementation, reporting and review.....	19
References	20

Tables

Table 1 Key strategies informing RNES development.....	4
--	---

Figures

Figure 1. Regional conservation status of vegetation.....	11
Figure 2. Regional land tenure	12
Figure 3. Landscape units.....	16
Figure 4. Connectivity of woodland habitats in the Albury – Wodonga region	17

1 FOREWORD

The cities of Albury and Wodonga are located by the waterways of the Murray and Kiewa Rivers, a picturesque landscape surrounded by an amphitheatre of vegetated hills. Waterways, creeks and gullies provide connections across the more fertile rural foothills and through our urban centres.

For Aboriginal people, the Murray River - as a massive water system in a huge dry land - was a powerful source of life that remains today. It was considered the giver of life, not a divider of communities. As such, the area has a rich Aboriginal heritage which stretches from present day back many thousands of years.

Wiradjuri territory is to the north of the Murray River, while Dhudhuroa and Waveroo territory is south of the river through to the high country. The present day Aboriginal heritage of the area, as in the past, continues to benefit from the bringing together of people from diverse regions and tribal backgrounds due, in part, to Albury's selection in 1972 to be part of the Families Resettlement Scheme (which aimed to support Aboriginal people to move to urban centres). The exchange of ideas, coupled with acknowledgment of local traditional owners has seen increased visibility of cultural traditions in the wider community.

These cultural, visual and natural values underpin community pride in the local area. They provide ongoing connections to nature when walking and relaxing by the river, enjoying the vistas and nature-based recreation on the hills or traversing the cities via creek lines and vegetated pathways. They connect our urban communities to larger reserves and parklands. These interactions are enjoyed by residents and visitors alike, and concurrently improve the liveability of the region and health of the community.

Nationally, biodiversity values are in overall decline due to cumulative impacts (CoA 2017). The Albury-Wodonga region is home to important environmental values (see Section 5) and the ongoing urbanisation of Albury-Wodonga will put increasing pressure on these values. Since European colonisation, about 60 per cent of original vegetation has been lost through land clearing and management practices. Remaining vegetation is predominantly in less productive and hilly areas. The region is also vulnerable to the impacts of climate change across our built and natural environments (CSIRO 2015).

Of great advantage is a history of a strategic approach to development in the region. From its establishment in the 1970s, the Albury Wodonga Development Corporation (AWDC) set new standards of environmental planning and management. Subsequently, planning over the past 40 years

has undertaken to protect key environmental assets in a regional growth centre, using the best available knowledge at a given point in time.

The corporation also implemented large tracts of forward tree plantings with more than three million trees and shrubs planted and a total cover of more than 2000 hectares. This represented one of the biggest urban revegetation programs undertaken in Australia.

The combination of large woodland remnants and extensive plantings support a diverse community of native plants and animals. They provide important habitat for threatened woodland birds and species such as squirrel glider and brush-tailed phascogale. Waterways and dams in these corridors also provide critical habitat for the nationally endangered Sloane's froglet.

In more recent times the Albury and Wodonga councils have taken on the responsibility of managing this legacy, primarily through the management of almost 3000 hectares of environmental reserves and growth area planning. As a growing regional centre, the councils and land managers need to continually strive to implement best practice to ensure these assets are protected, maintained and enhanced for future generations.

In talking with communities while developing the Albury 2030 community strategic plan and Wodonga 2033 vision, there was a clear message that the councils should work more closely together to achieve community aspirations and ambitions. The Two Cities One Community approach presents an opportunity to renew regional strategic planning and approaches for managing the local environment.

The region is rich with assets and opportunity when it comes to the natural environment. By recognising these, and the threats to these assets, the Regional Natural Environment Strategy (RNES) will provide a framework to protect and enhance the natural environments throughout the Albury-Wodonga region.

Through our unique legacy of strategic planning, the environment and lifestyle are inextricably linked for our informed and engaged community. The strategy establishes a long-term vision of a growing region that is leading the way in planning for and protecting a healthy natural environment and connected community.

2 DEVELOPMENT OF THE REGIONAL NATURAL ENVIRONMENT STRATEGY

The **Regional Natural Environment Strategy** (RNES) has been developed by the cities of Albury and Wodonga - interdependent, functioning separately but working together. The two councils are collaborating through the Two Cities One Community partnership to achieve a regional approach, aiming to avoid duplication, deliver value for money, allow for a greater consistency in dealing with the same issues, create a stronger voice for advocacy and create opportunities for new and broader initiatives (2C1C 2017).

The community does not necessarily see a border between the two cities, crossing the Murray River to share facilities, venues and services. Similarly, in the natural environment, the Murray River is simply a part of a continuous ecosystem, not a boundary between separate systems. As a result, many of the issues and opportunities relating to the environment are common across the river (2C1C 2019a).

The RNES has been developed to address two goals within the Environment theme of the Two Cities One Community Strategic Plan (2C1C 2017):

- Goal 2.3 We are a leader in natural resource management.
 - Action 2.3.1 Develop a joint Natural Resource Management Strategy.
- Goal 2.4 We are acting to ensure the sustainability of our environment.
 - Action 2.4.2 Develop a regional Biodiversity Strategy.

Underpinned by a comprehensive audit and analysis of biodiversity data in the Albury-Wodonga region and review of relevant government legislation, policies and strategies (**Technical Background Report**, Biosis 2020). The RNES has been advised by community (2C1C 2019b) and local expert input followed by review and refinement with the councils. The strategy is supported by numerous spatial datasets to be used by council staff.

Finally, a four-year **Action Plan** is included to deliver on these goals with the support of our community, key stakeholders and partners (2C1C & Biosis 2020).

Overall, the RNES documents provide a cross-border regional vision for the protection, management and enhancement of the natural environment. It outlines council's role to protect, maintain and improve priority natural areas under council care and control, improve the integration of biodiversity conservation into planning instruments, improve our knowledge, increase collaboration with regional partners and improve information, resources and support available to volunteers and residents.



3 STRATEGIC CONTEXT

The cities of Albury-Wodonga have environmental management responsibilities under Commonwealth and state legislation as well as local planning policies. Each level of government has its own environmental department, each of which have produced their own policies and strategies that influence local environmental policy and management. Key strategies are outlined in Table 1.

Very clear themes arise from review of the range of Commonwealth, state and regional environmental strategies:

- Many quality natural assets exist and are in good to moderate condition (biodiversity, soil, water, community).
- Natural environmental assets and natural systems are broadly in decline.
- Co-ordinated approaches are required for natural resource management, including pest plant and animal control.
- Communities and relationships are considered key to improving natural environment outcomes.
- Limited incentives are currently available to private land managers to support the management of private natural assets that have 'public value' such as clean water, landscapes or habitat links.
- Recognition of the Aboriginal community's culture and their economic development are a priority.
- Economic opportunities associated with positive environmental management are yet to be explored.
- There is a significant community of engaged individuals and organisations in the region but resources are needed for people to be able to participate effectively in environmental management.





Table 1 Key strategies informing RNES development

2C1C PRIORITIES			
The environment		Our community	Partnering in leadership
Australia's Strategy for Nature 2019-2030			
<i>Australia's nature, now and into the future, is healthy and resilient to threats, understood, and valued both in its own right and for its essential contribution to our health, wellbeing, prosperity and quality of life.</i>			
Goals	Care for nature in all its diversity.	Connect all Australians with nature.	Share and build knowledge.
Protecting Victoria's Environment – Biodiversity 2037			
<i>Victoria's biodiversity is healthy, valued and actively cared for.</i>			
Principles	Living systems	Values	Decision-making Knowledge Sharing and collaborating
2C1C Community Strategic Plan			
<i>Our mission is to work together to achieve our community goals now and into the future. We understand that we are stronger together and can achieve more when working in collaboration. We will build on our current partnerships and shared values for the betterment of Albury and Wodonga.</i>			
Goals	2.1 We have a high level of awareness of sustainability and environmental issues. 2.2 We preserve and experience the beautiful and unique area we live in. 2.3 We are a leader in natural resource management. 2.4 We are acting to ensure the sustainability of our environment.	3.2 We are a liveable community, connected to our region and other cities. 3.3 Our community is healthy and has a strong sense of wellbeing	4.1 Regional priorities and cross-border issues are addressed by an integrated approach. 4.2 Our community is well-connected, informed and engaged.

2C1C PRIORITIES			
The environment		Our community	Partnering in leadership
Wodonga Council Plan 2017-2018 to 2020-2021			
<i>Protect, enhance and manage our unique natural and built environments, planning for growth, demonstrating leadership and stewardship now and into the future.</i>			
Strategic objectives	Protect, enhance and manage our unique natural and built environments, planning for growth, demonstrating leadership and stewardship now and into the future.	Create a city that is well connected, informed and engaged, which supports people to meet, participate and move safely and easily to access services and opportunities.	Provide strong leadership and governance, demonstrating excellence in the way we do business by being innovative, responsive and transparent. We will be accountable and steward the organisation with the highest regard.
Wodonga 2033			
<i>In 2033 Wodonga will be an accessible, connected, sustainable city with a vibrant economy which fosters a sense of belonging and welcomes residents and visitors.</i>			
Themes	<p>A city which protects its significant environmental assets including significant ones such as the hills, waterways and river floodplains, the Murray and Kiewa Rivers and Lake Hume. A city which maintains healthy ecosystems through the ongoing protection and enhancement of environmental values and reserves.</p> <p>A water smart city which is resilient to the increased risks of climate change induced events (drought, fire, storm, flood or heatwave) and ensures water security.</p>	<p>A city which maintains its distinct physical character through the protection of the natural amphitheatre of hills which frame the city.</p> <p>A connected, sustainable and accessible system of quality open spaces, community, cultural and recreation facilities valued and well used by the community.</p> <p>A city which improves health and wellbeing by improving access to its landscape and recreation resources including the hills and waterways, particularly the Murray and Kiewa Rivers and Lake Hume.</p> <p>A city which has a healthy built environment which encourages the integration of physical activity into daily routines.</p>	
Albury 2030			
<i>A nationally significant regional city that is vibrant, innovative, connected, and inspired by its culture, environment and location on the Murray River.</i>			
Themes	<p>An enhanced natural environment.</p> <p>This theme involves improving the health of the Murray River, being a leader in natural resource management and protecting local plants and animals.</p>	<p>A growing sustainable economy. A caring community.</p> <p>This theme involves establishing strong government and regional networks, empowering the community to contribute to the future direction of the city, developing future leaders and providing inclusive decision making processes.</p>	<p>A leading community.</p> <p>This theme involves establishing strong government and regional networks, empowering the community to contribute to the future direction of the city, developing future leaders and providing inclusive decision making processes.</p>

4 COUNCILS' ROLE

Councils are the interface where large-scale conservation goals can be translated into policy and action at the local scale. Summarised below are the five key approaches that councils will use to implement the RNES.



1. Leadership and advocacy

- Commit to cross-border collaboration and information sharing through the 2C1C partnership.
- Communicate the vision and objectives for the natural environment through the RNES.
- Demonstrate and facilitate leadership through implementing a long-term approach to environmental decision-making, land management and advocacy.
- Deliver and leverage additional resources for priority actions within associated action plans.



2. Planning and policy

- Natural assets and connectivity are appropriately considered in land use planning, particularly at the earliest strategic stage.
- Develop and implement policy to protect and enhance natural assets.
- Continue to provide quality open spaces and recreational areas.
- Comply with legislation and regulate where necessary.



3. Natural resource management

- Lead by example with best practice land management.
- Efficient and effective use of resources in the management of reserves.
- Meeting existing land management commitments.



4. Collaboration and engagement

- Reflect community values.
- Build strong relationships with community and stakeholders for a whole of region approach.
- Working together with private landholders to achieve on the ground environmental outcomes.
- Provide expertise and assistance in a range of voluntary and educational activities.
- The community is informed, engaged and supported to be stewards of the environment.



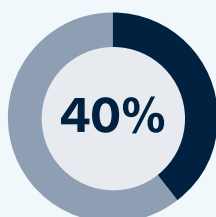
5. Knowledge

- Management of natural assets is informed by science, best available datasets, local and Aboriginal knowledge.
- Effectiveness of actions is monitored to underpin future refinement of the RNES and associated action planning.
- Identify knowledge gaps, promote and support research activities.

5 REGIONAL SNAPSHOT

**74,110
hectares**

Total area of the two
Local Government Areas



Approximately 40 per cent
of the region is vegetated
(FIGURE 1)



338
native animals



38
exotic animals



510
native plants



309
exotic plants

**THE MURRAY RIVER, ITS FLOODPLAIN
AND LOCAL TRIBUTARIES ARE A CRITICAL
ENVIRONMENTAL ASSET OF NATIONAL
SIGNIFICANCE.**

**SMALLER LOCAL WATERWAYS THAT
PROVIDE IMPORTANT LINKAGES AND
HABITAT IN URBAN AND RURAL AREAS.**

**281
kilometres**

Creeks and other larger local
'named' waterways extend across
281 kilometres

**1391
kilometres**

Small unnamed drainage lines and
gullies total 1391 kilometres

THREATENED ANIMALS



34
bird species



7
mammal species



4
fish species



3
frog species



2
reptile species



1
crustacean
species

THREATENED PLANTS

A HIGH PROPORTION, OVER 6000 HECTARES, OF NATIVE VEGETATION OCCURS IN OVER 620 LOCALLY MANAGED RESERVES, MANY OF WHICH ARE SMALL PARCELS OF LAND.

OVER 6000 hectares
(Figure 2)



8
forb species



4
orchid species



3
tree species



2
grass species



1
shrub species

THREATENED ECOLOGICAL COMMUNITIES THAT ARE FLAGSHIPS FOR REGIONAL CONSERVATION EFFORT INCLUDE:

12,200+ hectares

Box Gum grassy woodlands

It is estimated that 12,000+ hectares occurs across the two municipalities



Victorian temperate woodland bird community

The presence of this community underpinned the planning of conservation reserves in Wodonga (e.g. Wodonga Retained Environment Network)



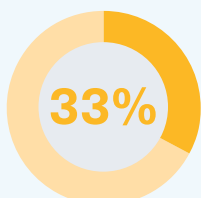
The NSW lower Murray River endangered ecological community



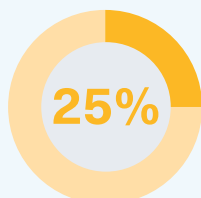
Seasonal herbaceous wetlands

When seasonally filled by rainfall, they are dominated by native grass-like plants and herbs that can be difficult to detect during dry phases

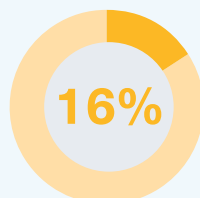
Based on an assessment of vegetation loss across the Albury-Wodonga region



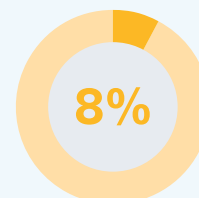
33 per cent of native vegetation types are **endangered** – these have been extensively cleared from the landscape, generally from flatter more fertile areas.



25% of native vegetation types are **vulnerable**



16% of native vegetation types are **depleted**



8% of native vegetation types are of **least concern** – this is generally vegetation that has been subjected to the least amount of clearing in landscape, it is usually in less productive and more sloping areas

UNDERSTANDING WHAT THREATENS THE HEALTH OF THE LOCAL ENVIRONMENT IS KEY TO PROTECTING IT. THREATS TO THE LOCAL NATURAL ENVIRONMENT IDENTIFIED INCLUDE:



Loss in quality and extent of native vegetation



Increasing pressures on reserves and the local environment from population growth



The challenges of a changing climate



Invasive plants and animals

COMMUNITY

35 groups

At least 35 community based groups actively engaged in the sustainability, management and improvement of the local environment.

4 organisations

Four major education organisations providing skills to local, regional and national communities in natural resource management, sustainability and agriculture, undertaking high quality research and providing local leadership in sustainability and land management.



Lead the way in environmental policy and planning



Involve the community in the challenge



Protect threatened species and natural assets



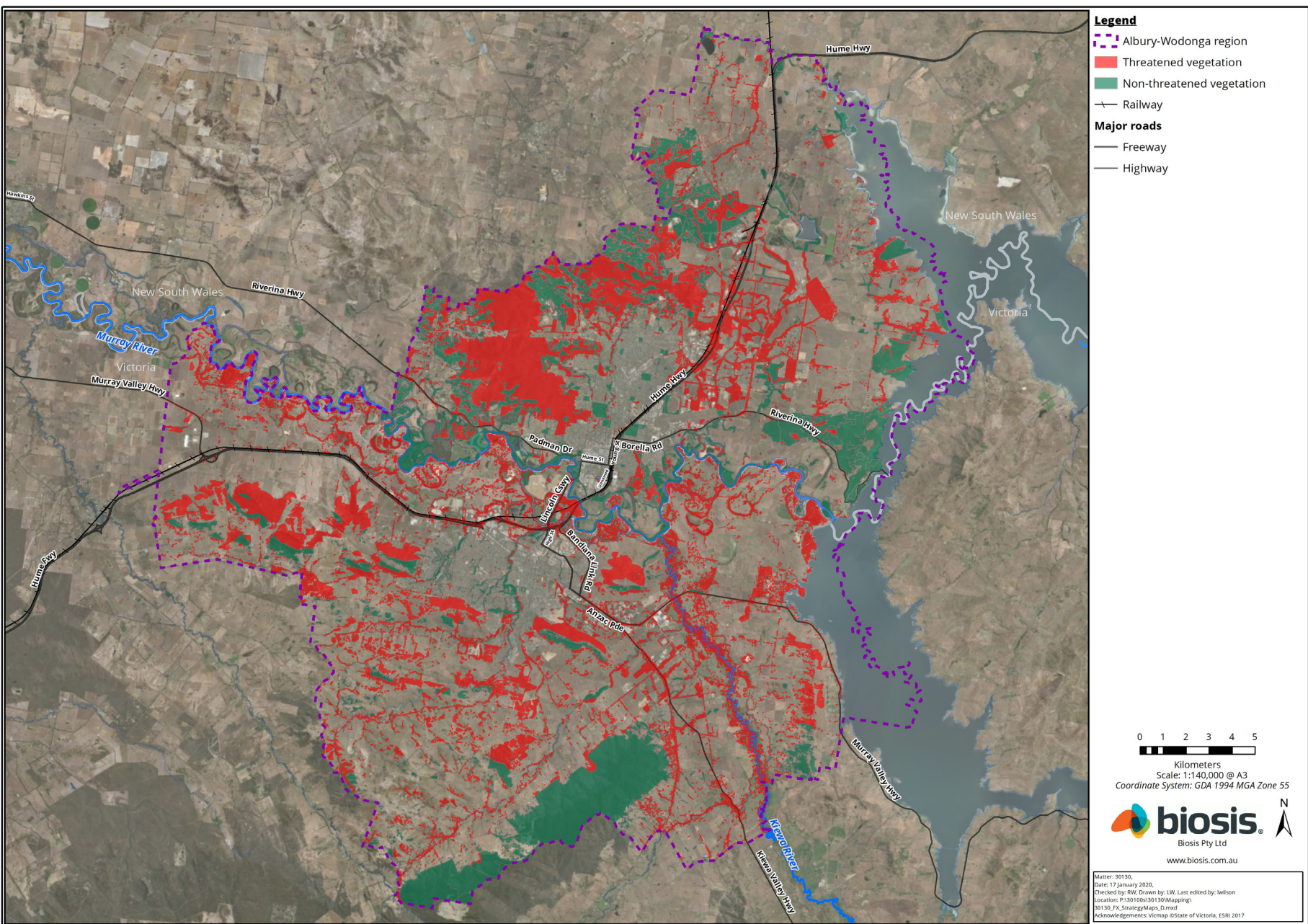
Balance protection of the environment with urban development.

Key themes in what the community is saying

WE HAVE PRIDE IN OUR REGION AND WE LOVE WHERE WE LIVE. OUR COMMUNITY WANTS TO PROTECT AND ENHANCE THESE VALUES IN THE LONG TERM THROUGH APPROPRIATE MANAGEMENT.

There is also a desire to demonstrate leadership as a growth area that maintains its environmental values.

Figure 1. Regional conservation status of vegetation



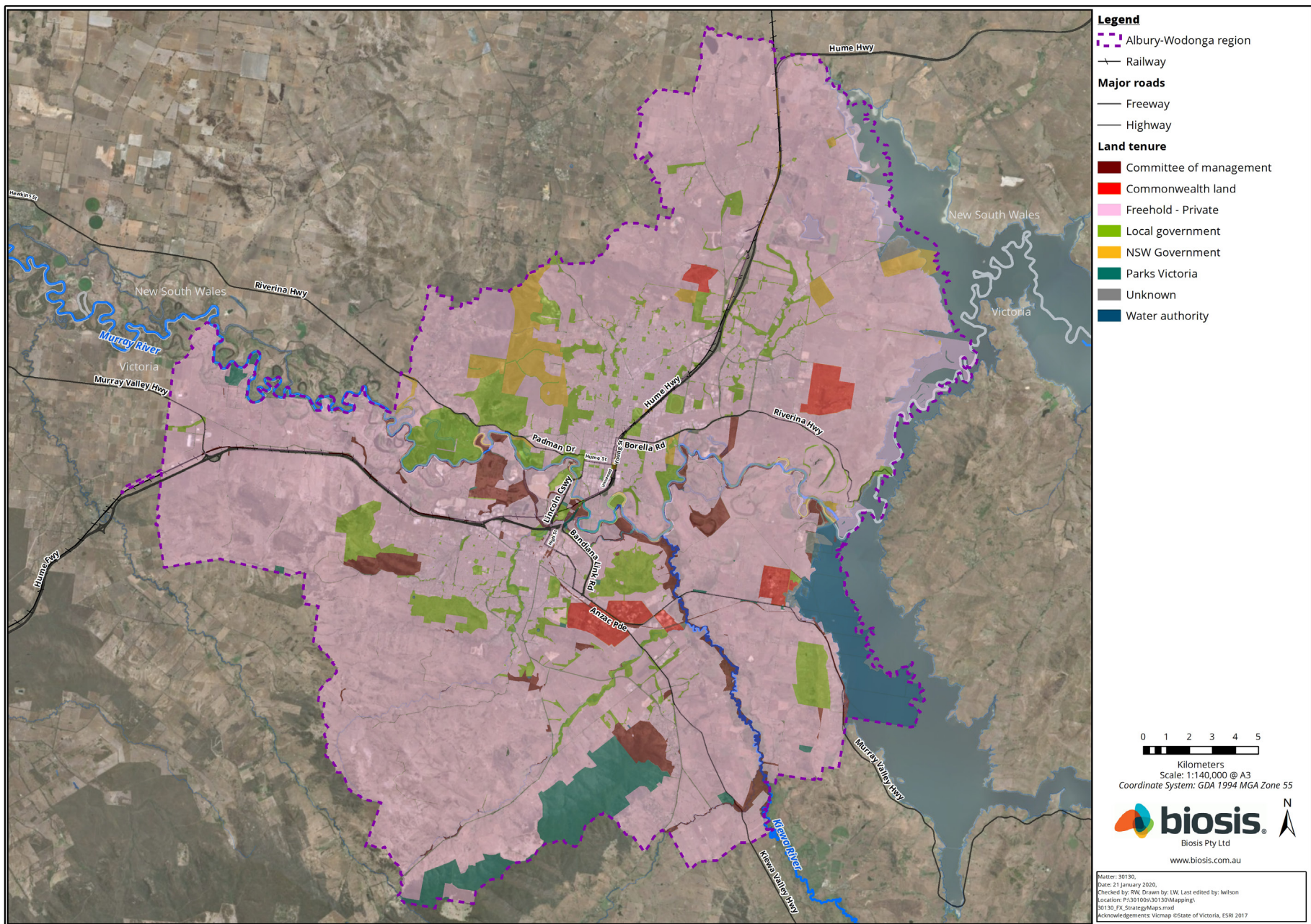


Figure 2. Regional land tenure

6 CHALLENGES FOR THE NATURAL ENVIRONMENT

Although the strategic growth of the Albury-Wodonga region aims to balance residential development with the protection of natural assets, ongoing urbanisation of Albury-Wodonga will put increasing pressure on these values.

Urban development and land use changes associated with the development of our region have resulted in significant impacts to our natural environment. Since European colonisation, 60 per cent of the original vegetation has been lost from our region. The remaining vegetation is threatened by ongoing reduction in extent and quality, particularly at the interfaces between settlements and bushland.

Current development and building practices continue to present challenges for the local environment, including increased fragmentation of retained vegetation, introduction of additional landscape barriers such as roads, modification of habitats through management, removal of key habitat such as hollows and fallen timber, spreading pest plants and animals, increased bushfire ignitions, increased stormwater loads in waterways and increased litter and pollution. Large old trees are a critical component of habitat that are being incrementally lost and are the hardest habitat components to replace.

Weed invasion is one of the greatest threats to the condition of native vegetation, reducing viable habitat and food sources for fauna and increasing competition with native flora species. Environmental weeds can include both exotic species as well as Australian native species not local to the Albury-Wodonga region. Many environmental weeds present within our region originated from suburban gardens, with seeds spreading by wind, water, birds and other animals, bikes, vehicles, earth moving equipment, illegal tracks or from dumped garden waste. Additionally, there are many pasture grasses and other weeds present due to agricultural land uses.

Invasive fauna species are a major threat to our native ecosystems due to their potential to remove native fauna through competition, predation and degradation of habitat. Predation by domestic and feral cats can have a major impact on bird, reptile, mammal and frog populations. Feral deer and goats can have substantial impacts on vegetation and habitat structure through overgrazing and trampling. New threats are constantly emerging, for example the invasion of the region by the highly aggressive Common Myna has the potential to threaten small native birds as well as bird and mammal species that nest in tree hollows (or nest boxes). Access to up-to-date research to understand social, economic and environmental impacts associated with new invaders is critical for informing effective management responses.

Fire is a natural part of the landscape and varied fire regimes are necessary for renewal of many ecosystems. However, since European colonisation, the frequency, timing, scale and intensity of fire has changed. These changed fire dynamics pose a risk if they are beyond what our native plants and animals can tolerate. Furthermore, the critical fire protection work needed to protect our communities can create direct conflicts with maintaining diverse natural vegetation and wildlife habitats.

The Albury-Wodonga region is vulnerable to the impacts of climate change across our built and natural environments. In the medium to long term, the Murray Basin region is predicted to be subject to temperatures rising in all seasons, increased temperatures on the hottest days, more hot days and warm spells and fewer frosts (CSIRO 2015). For the near future (2030), the annual average warming is projected to be around 0.6 to 1.3 degrees above the climate of 1986 to 2005.

Less rainfall is anticipated in the cool season but little change is predicated for the warm season and time spent in drought is predicted to increase. Although mean annual rainfall is projected to decline, it is likely to occur as less frequent but heavier events. Additionally, climate change is predicted to decrease humidity over winter and spring, increase evaporation rates and reduce soil moisture, conditions that will underpin harsher fire-weather (CSIRO 2015). These changes to temperature and rainfall are likely to modify function and viability of terrestrial and aquatic habitats and the plants and animals that utilise these. In particular, there is potential for the complete loss or major shift in the functioning of seasonal wetland habitats.

Additionally, we need to prepare for increases in frequency and intensity of extreme events including drought, flood and fire across our urban, agricultural and forested areas.

Refer to the **Technical Background Report** (Biosis 2020) for full analysis of challenges and opportunities for the local natural environment.

7 VISION, THEMES AND STRATEGIES

7.1 OUR VISION

Through consultation with our communities, Albury and Wodonga councils have developed a vision for the region that outlines the aim of the RNES.

ALBURY WODONGA HAS A THRIVING NATURAL ENVIRONMENT AND CONNECTED COMMUNITY THAT UNDERPINS THE LIVEABILITY AND PROSPERITY THAT MAKES US NATIONALLY SIGNIFICANT.

7.2 THEMES AND OBJECTIVES

This vision is underpinned by seven key themes, which are interconnected.

- **Natural places** – Protect and enhance our natural ecosystems and the plants and animals in our natural places. Prioritise planning and management for threatened species and communities.
- **Waterways and wetlands** – Preserve and improve our waterways, wetlands, aquatic habitats and water quality from local creeks down to the Murray River.
- **Connectivity** – Protect and enhance connectivity of our natural places across the region.
- **Addressing threats** – Direct actions to address the impact of overarching threats.
- **Working together** – Maximise council achievements through strong working relationships with others.
- **Liveability** – Our natural places are managed to enhance our well-being and provide connections to nature.
- **Leadership** – Provide leadership and advocacy to protect and promote the cultural, visual and natural values that underpin community pride in our local area.

7.2.1 NATURAL PLACES

Our natural places are identified as the remnant vegetation and large old trees that support natural ecosystems, including the plants, animals, invertebrates and fungi that live in these natural places. The viability of these natural places relies on maintaining and enhancing the integrity of larger bushland patches (core habitats), particularly for species that avoid urban environments (Geschke et al. 2018, Nimmo, Bambrick, & Geschke In prep). These core habitats need to be supported by the protection, restoration, connection and extension of small bushland patches, where many rare and threatened animals and plants survive (Wintle et al. 2019).

Our remnant vegetation within large woodland reserves, rural properties, waterways, roadsides and scattered large old trees in conjunction with extensive mature plantings supports biodiverse communities and provides important habitat for threatened and locally significant species.

Landscape units have been developed across the region to help differentiate areas with similar environmental management conditions (Figure 3. Landscape units). These units are aligned through their priorities for managing and improving natural assets as well as management challenges and opportunities.

Across public and private land we will:

1. Be strategic in the retention and protection of native vegetation;
2. Protect and enhance habitat;

3. Maintain and improve vegetation condition; and,
4. Prioritise planning and management for threatened species and communities to ensure protection of their habitat and maintain viable populations.

7.2.2 WATERWAYS AND WETLANDS

Our location on the upper reaches of the iconic Murray River provides strong connections to nature, enjoyed by residents and visitors alike. The Murray River floodplain and the local tributaries are an environmental asset of national significance, recognised through the listing of the lower Murray River as an endangered ecological community.

These waterways and wetlands support and connect our natural systems throughout the surrounding landscape, provide our potable water and sustain water flow through our cities. The River Red Gum forests of the floodplains contain large hollow-bearing trees and are associated with seasonal wetlands, billabongs and lagoons that are home to many of our threatened species. These habitats also provide important refuge for plants, animals and people during hot, dry weather.

We will:

1. Protect and restore riparian zones, wetlands and aquatic habitats; and,
2. Maintain and improve our water resource (quality and quantity).

7.2.3 CONNECTIVITY

Connectivity enables plants, animals, nutrients and water to move within our landscape, particularly for wildlife to breed, find food and shelter or migrate to new areas. Without sufficient connectivity, populations can decline or become locally extinct. Connections between larger bushland habitats are provided by creeks and waterways, roadside vegetation, areas of revegetation or understorey plantings. Additionally, stepping stones of habitat are provided by large old trees, urban parkland and backyard gardens.

Habitat connectivity using the CSIRO's 100m/1.1km/10ha rule for woodland birds (Doerr et al. 2014) is provided in Figure 4. Connectivity of woodland habitats in the Albury – Wodonga region. This provides a useful starting point to inform the management of the landscape to enhance bushland connections. This approach should benefit other wildlife, as well as threatened fauna.

We will:

1. Protect and enhance existing linkages in our landscape; and,
2. Strategically create additional linkages across tenures.

7.2.4 ADDRESSING THREATS

The vision of this strategy cannot be achieved without recognising and addressing the threats to the local environment. These threats and potential impacts are discussed in detail in the technical report (Biosis 2020).

Key overarching threats identified are:

- Impacts of urban development;
- Pest plants and animals;
- Climate change; and,
- Declining quality and extent of native vegetation.

We will:

1. Recognise the key threats to the local environment; and,
2. Proactively manage threats to reduce their impact.



Photo: Damian Michael

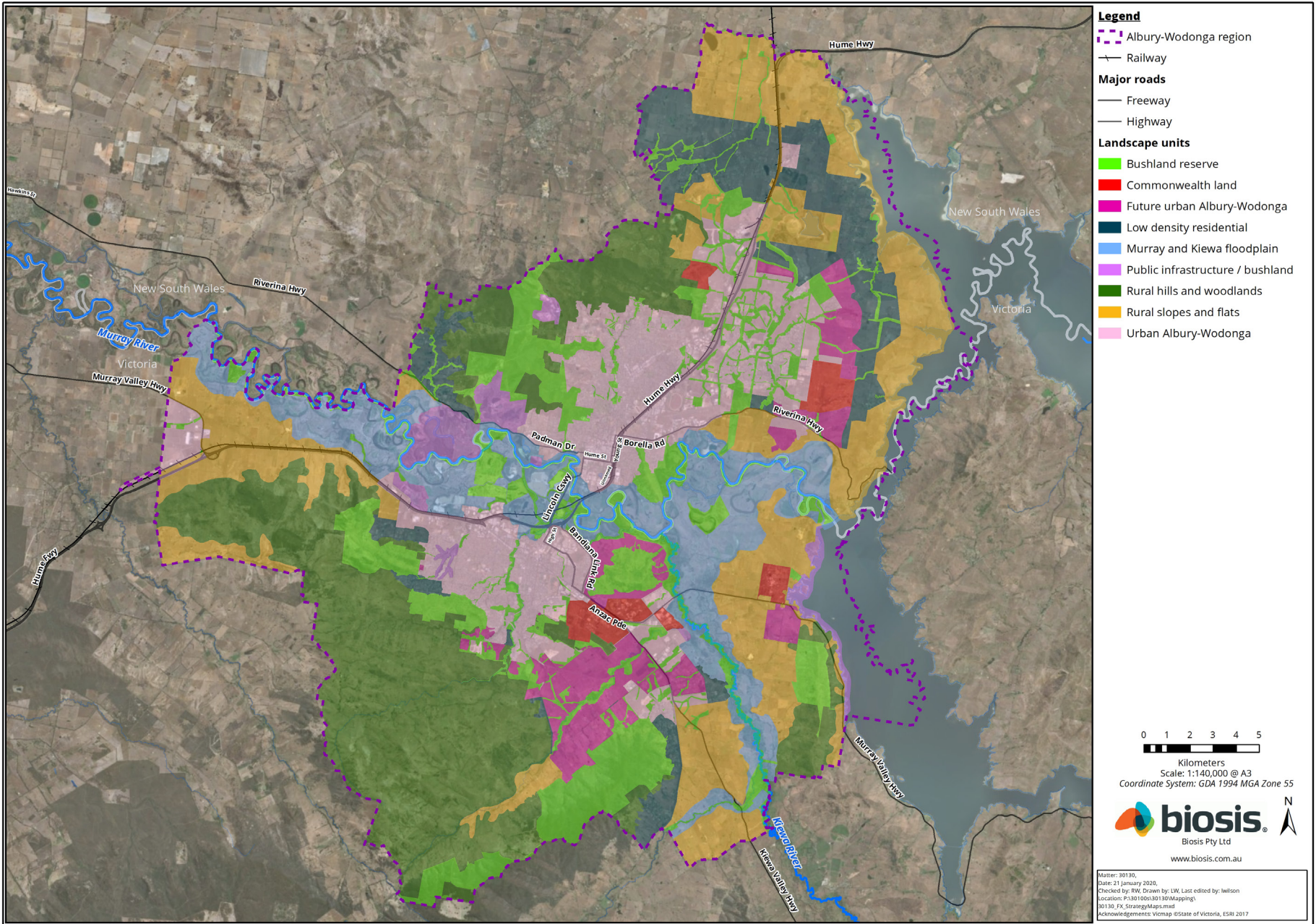
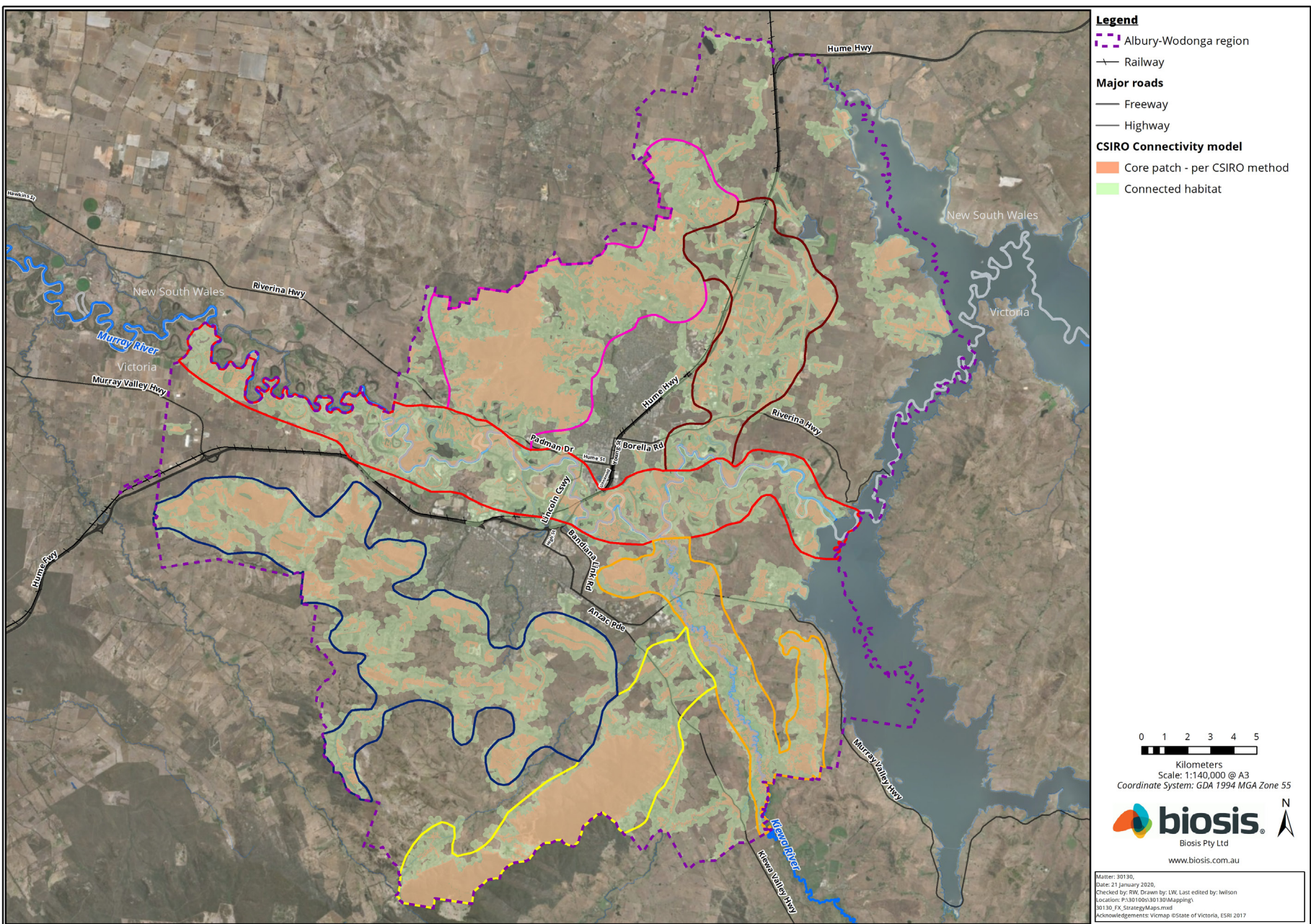


Figure 3. Landscape units

Figure 4. Connectivity of woodland habitats in the Albury – Wodonga region



7.2.5 WORKING TOGETHER

The opportunities identified in this strategy cannot be achieved in isolation. Council achievements will be maximised through strong working relationships with other land managers, state government agencies, nature-focused community organisations, education providers and interested local businesses or individuals. Working together, including across the border, will build a consistent approach and maximise opportunities to benefit the regional natural environment.

Importantly, there is a significant community of engaged individuals and organisations with extensive knowledge, experience and capacity in the ecology and management of our natural places. Many have been leading the way in managing our local environment for decades. To successfully deliver this strategy, the councils need to continue to collaborate with this community and build local knowledge and capacity. Through empowering and supporting community groups, actions may attract funds and goodwill not accessible to council and grow the resource base to care for the natural environment.

We should celebrate past and current success, and ensure our future direction uses this knowledge and experience. Building stronger connections within our landscape and between people fosters responsibility and respect for our natural places. Additionally, through working together we can continue to build our sense of place and increase our connections to nature, community and history.

We will:

1. Strengthen relationships and collaborate across the region;
2. Inform, engage and support the community to care for our environment; and,
3. Foster and celebrate environmental contributions and leadership.

7.2.6 LIVEABILITY

Connection to nature and place has been documented to benefit human health and well-being while providing environmental, ecological and economic benefits to communities (CoM 2017). Nature can be integrated throughout our cities, from private yards, local open space, streetscapes and bushland reserves, providing valued opportunities for community to interact with charismatic species (Soanes et al. 2019). Urban greenways of vegetation associated with walking and cycling tracks are an example of features that provide significant biodiversity benefits while contributing greatly to urban amenity (Ives & Kelly 2016) and are a common asset throughout Albury-Wodonga.

We will:

1. Provide opportunities for everyday connections with nature and waterways;
2. Increase the environmental amenity of our urban parks and streetscapes; and,
3. Plan strategically for appropriate recreational use of natural areas.

7.2.7 LEADERSHIP

Councils are the interface where large-scale conservation goals can be translated into policy and action at the local scale. Councils have the opportunity to demonstrate leadership through environmental decision-making, land management and encouraging leadership throughout the community.

Community consultation for both the 2C1C Community Strategic Plan (2C1C 2017) and this project clearly demonstrated the community want council leadership in natural resource management, to protect the highly valued setting we live in. The councils will lead by example by integrating the consideration of natural values across all council operations.

We will:

1. Lead by example in decision-making, land management and advocacy;
2. Plan and manage our natural assets with an evidence-based approach, informed by the best available datasets, local and Aboriginal knowledge; and,
3. Ensure appropriate resourcing for effective management of council-managed environmental land.

8 IMPLEMENTATION, MONITORING, REPORTING AND REVIEW

This strategy identifies the vision, themes and objectives for the Albury-Wodonga region for the next 12 years.

The implementation of this strategy will be through four-year action plans. An **Action Plan** (2C1C & Biosis 2020) has been developed for the initial four years to 2024. The action plan outlines the specific activities to achieve the intent of the strategy. It lists the actions that could be undertaken, where the priorities are, approximately timelines and a performance indicator.

We also acknowledge that there are many other stakeholders with an influence on these themes in the Albury-Wodonga region. The RNES intends to enhance and support the work being undertaken by these other stakeholders, while providing a framework for the councils' environmental program planning and decision making for the next twelve years.

Progress of this strategy will be reviewed and presented to councils and the community in an annual snapshot report. This will highlight the major achievements and activities against the strategic objectives and the associated action plan.

A full review of this strategy and development of a new strategy will commence in 2032 in alignment with a review of community vision timelines for both councils.

Photo: Claire Coulson



REFERENCES

- 2C1C 2017. Community Strategic Plan 2017-2021, Report prepared by Two Cities One Community for AlburyCity and Wodonga Council.
- 2C1C 2019a. Regional Natural Environment Strategy, Brief prepared by Two Cities One Community for AlburyCity and Wodonga Council.
- 2C1C 2019b. Regional Natural Environment Strategy: Feedback report, Report prepared by Two Cities One Community for AlburyCity and Wodonga Council.
- 2C1C & Biosis 2020. *Cities of Albury and Wodonga: Regional Natural Environment Strategy - Action Plan 2020-2024*, Albury, New South Wales.
- Biosis 2020. *Cities of Albury and Wodonga: Regional Natural Environment Strategy - Technical Background Report*, Prepared for the cities of Wodonga and Albury. Authors: R Woodward, L Milne, L Wilson, M Looby, M Terry, Biosis Pty Ltd, Albury, New South Wales.
- CoA 2017. Australia's Strategy for Nature 2019-2030, Prepared by the interjurisdictional Biodiversity Working Group for the Meeting of Environment Ministers, Commonwealth of Australia.
- CoM 2017. Nature in the City: Thriving Biodiversity and Healthy Ecosystems, City of Melbourne.
- CSIRO 2015. *Climate change and biodiversity in the Murray Basin NRM Cluster region – how will it affect your region*, Climate Change in Australia. Impacts & Adaptation Information for Australia's NRM Regions.
- Doerr ED, Doerr VA, Davies MJ, Davey C, & Allnutt J 2014. Flyways & Byways: Guiding restoration of wildlife corridors: Monitoring connectivity restoration in the Australian Capital Territory, A report prepared for the Australian Capital Territory Environment and Sustainable Development Directorate. CSIRO Climate Adaptation Flagship, Canberra.
- Geschke A, James S, Bennett AF, & Nimmo DG 2018. 'Compact cities or sprawling suburbs? Optimising the distribution of people in cities to maximise species diversity', *Journal of Applied Ecology*, 55, 5: 2320–2331.
- Ives CD & Kelly AH 2016. 'The coexistence of amenity and biodiversity in urban landscapes', *Landscape Research*, 41, 5: 495–509.
- Nimmo DG, Bambrick D, & Geschke A In prep. 'Impacts of Urbanisation on birds: land sparing or land sharing?', *tbc*.
- Soanes K, Sievers M, Chee YE, Williams NSG, Bhardwaj M, Marshall AJ, & Parris KM 2019. 'Correcting common misconceptions to inspire conservation action in urban environments', *Conservation Biology*, 33, 2: 300–306.
- Wintle BA, Kujala H, Whitehead A, Cameron A, Veloz S, Kukkala A, Moilanen A, Gordon A, Lentini PE, Cadenhead NCR, & Bekessy SA 2019. 'Global synthesis of conservation studies reveals the importance of small habitat patches for biodiversity', *Proceedings of the National Academy of Sciences*, 116, 3: 909–914.

