

Urban ecology

Can cities play a role in protecting biodiversity?

We certainly don't imagine you will answer all these questions, but would love your feedback on any of the questions that mean something to you.

Moonee Valley - now and then

Only 200 years ago, our streets were home to temperate grasslands and she-oak and honey suckle woodlands, harbouring countless birds and animals including blue wrens, peregrines, wombats, swamp wallabies, legless lizards and echidnas.

Was our original ecology valuable? Is it still valuable in small, fragmented parts spread throughout our suburbs? Should we try and restore our original ecology? Or restore a new type of 'urban ecology'?



Urban ecology - valued in different ways

We all appreciate nature in our suburbs for different reasons:

- Valuing flora and fauna for its natural beauty.
- Connecting new generations to native ecosystems
- Protecting endangered species as a small contribution to global biodiversity. Global biodiversity supports ecosystem balance, food security, public health and business opportunities
- Valuing natural parks as a respite from urban life. This includes natural habitat areas along waterways and wetlands.

Why is nature important to you? Has this changed over the years? Or is it not at all important for you?

Biodiversity in all urban nooks and crannies

It's true that biodiversity in urban areas is limited, but at the same time it is everywhere, and there is still so much we don't know. Flora and fauna can be found in our parks, streets, buildings, backyards, waterways, air, soil, lichen, groundwater, and clouds.

Moonee Valley is home to, or frequented by, more than 93 native bird species, twelve mammal species, three frog species and numerous insects.

Valuable indigenous flora in Moonee Valley includes the spiny rice flower, pale swamp everlasting, common everlasting, weeping grass, bulbine lily, lemon beautyheads and Australian hollyhock. And valuable local fauna includes golden sun moth, marbled gecko, Rakali, echidna and red wattlebird.

Are you familiar with these species? Where do you see them? Would you like to learn more?

Stories of urban ecology

Research tells us the following about urban ecology:

- **Frogs:** the male pobblebonk's mating call, once heard for 800 metres, is now drowned out by Melbourne's traffic noise and limited to only 14 metres. Common songbird, the silvereve has simply raised its voice which is now 200Hz higher than their rural counterparts.

Can and should we help revive the romance and save the vocal chords?



- **Ibis:** sacred or scorned, ibis now arguably help reduce city landfills with their waste foraging habits. It seems they are only here because of the decline of the Murray-Darling Basin. *Do we consider the ibis as always a migrant, or does urban ecology have greater biodiversity value with a changing species mix?*

- **Bees:** global decline in bee populations, is resulting in lower crop productions, and increased production costs in some parts of the world. *Will urban efforts to support bees help beyond our own suburbs?*



- **Sparrows:** house sparrows have seemingly left our cities in the past few years. No reason is known, but possibilities include other birds or cats pushing them away, less nooks and crannies on modern buildings to house them, response to worldwide shortage of insects, an impact of unleaded petrol now used in cities, or an impact of mobile telephone tower radiation. *Sparrows are not so valued, but their lack of presence tells a story. Do you notice urban wildlife around you? Have you noticed changes? Would you like to learn more?*

- **Butterflies:** the common brown butterfly is an important part of the Melbourne ecosystem, and has recently started emerging 10 days earlier due to temperature increases from climate change. *Will our efforts to reduce global greenhouse emissions help prevent further ecosystem effects? Should we reduce the 'urban heat island effect' with more vegetation, less hard and dark surfaces and heat generating machinery?*

- **Exotic vs natives:** in urban parks and streets, the best environmental solution may not be the planting of native species. Some exotic plant species may survive better amongst infrastructure constraints to provide more effective shelter and habitat. *In highly urbanised environments, are we better to support new novel ecosystems?*

- **Endangered species:** to prevent extinction there needs to be 500 members of a species to prevent inbreeding, and 5000 to cope with environmental changes. *With this 500/5000 rule, is it better for us to focus our biodiversity efforts on larger landscapes beyond our own suburbs?*



- **Threatened ecological communities:** over 40% of Victoria's nationally listed threatened communities occurs in Melbourne's fringe areas. *Should we be active in protecting our fringe biodiversity by advocating for good planning and housing decisions across Melbourne?*

Management ideas for urban ecology

Some of the principles for managing urban ecology include:

- **Cohabitate:** enjoy the benefits of living together with local fauna and flora and reducing potential negative impacts in homes and gardens. Avoid potential health risks involved with some fauna. Enjoy watching instead of feeding and disrupting. *Consider rewards for community members supporting biodiversity in their gardens and local surroundings.*
- **Prevent:** prevent, eradicate, and contain invasive species. *Consider the need to change the definition of weeds and vermin to reflect changing environment.*
- **Protect:** prevent new land use activities that may impact on local biodiversity. Limit human disruption by keeping natural areas unlit at night/ *Consider better financially valuing ecosystem services.*
- **Restore:** identify priority areas and corridors for restoration of indigenous vegetation. *Consider where indigenous habitats are important, and where diversified habitats may be better given urban constraints.*
- **Adapt:** climatic zones, migration patterns, genetic compositions, and species lifecycles are all shifting under climate change and mass extinctions are predicted. *Consider the need to support new species in restoration areas to adapt to changing local climates.*
- **Pollinate:** recognise and help restore pollinator pathways. *Consider new places for vegetation in streetscapes, backyards and rooftops to help pollinators move between habitats.*
- **Monitor:** learn and map and network our urban ecosystems for both public and private land. *Consider community mapping and crowd-sourced data to draw on and build native wisdom.*
- **Design:** urban design for nature will bring beauty, a sense of place and build community. *Consider ways to connect, interweave and shape for, and around, our urban ecology.*
- **Compare:** compare local biodiversity impacts with regional and global impacts. *Consider local role in preventing urban expansion in order to protect biodiversity on fringe lands.*
- **Seek:** research more about urban ecology and use it to guide local management. Examples include microbat, black swan, turtle and spiny rice-flower investigations. *Consider ways to partner with research institutions to help fill knowledge gaps.*

- **Advocate:** to government for coordinated vermin control, ecosystem protection, education and research funding. *Consider advocating with other inner municipalities.*
- **Involve:** to achieve the above, draw on local community knowledge, goodwill and capacity to plan, restore, protect and celebrate local ecology. Develop school age education programs to learn about and investigate local biodiversity. *Consider greater opportunities to support, link and create forums for local community members.*

Are these principles the right ones to support urban ecology? What other principles are needed? Do you have other suggestions?

The natural assets of Moonee Valley

Biodiversity in Moonee Valley is predominantly located alongside waterways and on undevelopable land.

The valuable Ecological Vegetation Classes include Temperate Grasslands, Plains Grassy Woodlands, Escarpment Shrublands and Riparian Woodland.

Sites of **national significance** include:

- Strathnaver Grassland Reserve, Strathmore
- Afton Street Grassland Reserve, Aberfeldie
- Spring Gully Reserve, Avondale Heights
- JH Allen Grassland Reserve, Keilor East
- Arcade Way Reserve, Keilor East
- Boeing Reserve Rail Reserve, Strathmore

Sites of **state significance** include:

- Canning Street Escarpment Reserve, Avondale Heights
- Linear Links Corridor, Avondale Heights
- Napier Park Grassland, Strathmore

Sites of **local significance** include:

- Horseshoe Bend Reserve, Strathmore
- Five Mile Creek Reserve, Essendon,
- PA Kirchner Reserve, Niddrie.

This list will change and evolve as we learn more about our local ecology. And parks are not our only source of local urban ecology, backyards, roofs and walls play a growing role too.

Putting your interests into our City Sustainability Planning

*Where is your favourite natural area to visit locally?
What do you like about it? Would you like any changes?*

*Do you think it's good for our suburbs to improve local biodiversity in parks, gardens, yards and buildings?
Why or why not?*

Have you been involved in local tree planting, weeding and environmental initiatives? Do you feel you are making a difference? Would you like things to be done differently? How?

Do you think that more greenery in our streets will help with biodiversity and reducing urban heat? Do you feel that funding to maintain additional vegetation is justified? Would you like to know more?

Do you think we should invest in urban ecology, or instead invest in biodiversity in wider landscapes beyond the city? Why? Would you be involved in partnerships with the hinterlands, or instead keep being involved locally?

What are City Sustainability Conversation Starters?

City Sustainability is important to all of us. A *City Sustainability Strategy* for Moonee Valley must reflect the priorities and interests of the whole community.

Council is running an engagement program from August 2011 to August 2012 and we want to hear from people and community groups living and working across our City.

Conversation Starters have been developed to provide thoughts and inspiration. They basically get you thinking about your suburbs and how you want to live. Please feel free to expand your ideas and comments beyond the topic of this Conversation Starter. All of your input is valuable and we thank you for your contribution.

Please contact Penny Mueller on 9243 9165 or environment@mvcc.vic.gov.au if you would like to discuss your ideas for City Sustainability further.

Please tell us about yourself...

Answers are optional

Name:

Suburb:

Email address or phone number:

Would you like to be sent further information on this topic? Or do other sustainability topics interest you instead?

Which ones?