Understanding local actions to conserve urban biodiversity

Urban environments provide the opportunity to conserve biodiversity whilst engaging people with urban nature. However, there is currently little guidance for land managers on how to implement conservation actions targeted to urban environments, with no coordinated evidence base documenting opportunities and indicators of success for urban conservation projects. To fill this gap we asked urban land managers from across Australia about their current approaches to urban biodiversity conservation and their perceptions of success. This is the first Australian assessment of its kind and can enable better practice in urban areas across the country.

Background

Conserving nature in the city has many benefits: cleaner air, reduced heat, increased workforce productivity, lower rates of heart disease, and improved mental health. But ongoing urban expansion and the needs of the growing human population mean urban biodiversity is in decline.

To overcome this, a greater understanding of the challenges and opportunities associated with urban conservation actions is needed. We also need to encourage meaningful collaboration with Indigenous communities, as Indigenous perspectives and knowledge are crucial for long-term, sustained biodiversity conservation and the management of land and water.

Based on interviews with land managers, conservation organisations and community groups, we evaluated the types of biodiversity conservation actions currently being undertaken. This helped us understand desired ecological outcomes, the current level of community engagement and opportunities for future biodiversity conservation. This research has:

• Developed a national inventory of local actions undertaken for urban biodiversity conservation in Australian cities
• Summarised common barriers to and enablers of urban biodiversity conservation
• Highlighted future opportunities to conserve urban biodiversity

Main types of action

Planting and bush restoration to improve habitat and restore or expand existing habitat was the main type of conservation project. The second most discussed action was the implementation of community programs to engage, educate and raise awareness for biodiversity conservation. Other common activities included collecting baseline data on biodiversity and enhancing the capacity of an organisation or its partnerships with community and outside agencies.

Common barriers and solutions

There were many barriers to implementing urban biodiversity conservation identified, including: the need to fight to gain support for conservation actions; a lack of capacity and resources; and the need to implement long-term approaches. To overcome these issues, practitioners discussed the benefits of celebrating small wins; sharing information among organisations and communities; and developing deep, strong relationships (especially for effective Indigenous engagement and collaboration).

Opportunities for Indigenous engagement

Recommended ways to enhance integration of Indigenous knowledge and practice in urban biodiversity conservation include:

1. Provision of guidance and support to improve processes that identify Indigenous protocols, including consulting Indigenous people at the concept stage of any project and considering them as key stakeholders.
2. Investing in summits, forums and networks that bring together Indigenous and non-Indigenous biodiversity experts to better understand ways of collaborating to mitigate global threats to biodiversity and ecosystem degradation.
3. Referring to the STREAMS Indigenous Peoples and Sustainable Development Guide when developing urban biodiversity and sustainable development policy.
4. Conducting further research to identify Indigenous biodiversity practices in urban areas.
5. Building trust, respect and reciprocity, to establish vital and long-lasting relationships.
Case studies

We compiled case studies of local actions to conserve biodiversity in different urban areas in Australia. Below is a summary from three case studies.

HABITAT EXPANSION: CREATION OF A FAIRY TERN BREEDING SANCTUARY

Breeding sites of the threatened Fairy Tern have declined in the Mandurah-Rockingham region in Western Australia due to coastal urban development and high estuary water levels.

This collaborative project implemented a Fairy Tern breeding sanctuary within the Mandurah Ocean Marina. It involved preparation and fencing of the site, as well as the deployment of decoys and recorded colony sounds to attract the terns. The project was a success, with the establishment of a colony of 140 breeding pairs. However, one stray cat over three nights killed several adults and chicks and dispersed the colony. The event sparked much discussion about feral cat management within the community and helped raised the terns’ conservation profile. Targeted feral cat control will be conducted before the next breeding season.

LAND CONVERSION: FROM A GOLF COURSE TO NATIVE HABITAT

When the town of Claremont, Perth closed a golf course located in the margins of Lake Claremont, a concept plan was put in place to safeguard 21 hectares as parkland and half of it to be revegetated back to native vegetation, including a narrow buffer strip around the wetland.

Since 2010, over 340,000 native seedlings have been planted with the help of more than 1,000 volunteers each year. Ten hectares of golf course and wetland margins have been successfully revegetated, and a small 3 ha degraded bushland, which was the only remnant vegetation left in Claremont, has been restored. Today the park is visited by hundreds of people daily, and several bird species have returned to the area, including habitat specialist species such as the variegated fairy-wren and spotted pardalote.

LOCAL FIELD GUIDES: PROVIDING RESOURCES TO RAISE AWARENESS ABOUT LOCAL FAUNA

Urban residents are often unaware of the native wildlife species they share their cities with. To combat this, Hume City Council in Melbourne created two local field guides “Birds of Hume” and “Fauna of Hume” – which are made available to residents as hard copies or online.

These guides include tips for bird and wildlife watching, and information about helping these species thrive in Hume. The aim is to “encourage residents to explore the amazing diversity of native birds, mammals, reptiles and frogs found in Hume’s waterways, woodlands and grasslands.” More than 9,000 fauna and 12,000 bird guides have been distributed to date, helping the community engage with urban nature in a positive way.

Future actions for urban biodiversity conservation

We asked interviewees if they had ‘dream’ projects for future urban biodiversity conservation. The project ideas they put forward often addressed key environmental or social concerns they held and provide a vision for future pathways to be explored in urban biodiversity conservation.

Suggested projects aimed to:

• Increase ecological connectivity in urban areas (e.g., through creation and restoration of habitat along transport routes, and conversion of drains into living streams)
• Create and enhance habitat in the urban matrix
• Promote multi-functionality in urban parks and reserves
• Enhance Human-Nature connection (e.g., by creating a wildlife sanctuary where people could camp overnight and experience the bush and wildlife)
• Re-introduce species to remnant ecosystems
• Understand how to manage and restore remnant ecosystems in a climate change context
• Buy land for conservation (e.g., through a State Conservation Trust Fund)
• Improve administrative processes (e.g., contracting and quality control) that have impacts on environmental deliverables.

Conclusions

Overall, our report demonstrates the large range of activities currently undertaken to conserve biodiversity in urban areas, including many novel and innovative solutions to overcome the challenges urban environments impose. There is a clear need and desire to facilitate improved connections with Indigenous communities and knowledge, and several promising suggestions for future activities that bring together ecological, social and cultural aims.

* For more information, visit www.streams-network.com/indigenous-peoples-and-the-sdgs/