

**Submission from the NESP Hub for Clean Air and Urban Landscapes
on
Australia's Strategy for Nature 2018–2030: Australia's Biodiversity
Conservation Strategy and Action Inventory**

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Thank you for the opportunity to provide feedback on this document. The Clean Air and Urban Landscapes (CAUL) Hub is a consortium of four partner organisations (the University of Melbourne, RMIT University, the University of Wollongong and the University of Western Australia) with expertise in urban ecology, urban planning, urban design, public health, green infrastructure and air quality. The CAUL Hub is funded under the Australian Government's National Environmental Science Program, and tasked with taking a comprehensive view of the sustainability and liveability of urban environments.

In this submission, we make three key recommendations for the improvement of the Strategy. The first recommendation focuses broadly on its framing and detail. The second and third recommendations focus specifically on implementing this Strategy in urban areas, as this is the focus of the CAUL Hub's expertise.

1. Improve the Strategy's detail and framing

The importance of nature in urban Australia cannot be overemphasised. Urban nature provides ecosystem services that make our cities liveable and improve human health and wellbeing. We commend the consideration of urban environments in the document and the recognition that we must 'manage nature in both urban and non-urban settings'. The significance of urban nature, the role of cities and their citizens to foster it, and how this might be done, have been recognised by the Convention on Biological Diversity (CBD) and its associated policy and action statements (Secretariat of the Convention on Biological Diversity, 2012). We are concerned that the way the current Strategy is framed and the detail it contains is not sufficient to ensure that the goals of the Strategy can be met. Currently, the Strategy paints a potentially unrealistic picture of how to achieve biodiversity conservation in urban environments, without giving enough specific, practical guidance for how to do so.

The recognition of urban areas is clearest under the specific objective to "Enrich cities and towns with nature" (Objective 9) under the goal to "Care for nature in all its diversity". Whilst we agree that a specific Objective for actions directed at urban areas is needed, it must be noted that all goals and objectives under this Strategy are relevant for implementation in urban areas, and that the urban public are critical to the success of nature conservation across the entire country (Dunn et al. 2006, Puppim de Oliveira et al. 2011, Andersson et al. 2014). Indeed, Australian cities host a diversity of threatened species (Ives et al. 2016), and it would be a lost opportunity if a wide range of evidence-based conservation actions were not implemented within Australia's cities and towns.

A major theme of the Strategy is to connect people with nature and foster care for nature, which we highly commend. Yet, the text does not clearly define the values that underpin the human-nature connection or how humans connecting with nature can be transformed into humans caring for nature. The Strategy is strongly framed around a particular way of valuing nature (i.e. for the benefits it can provide), without adequately considering the broad range of ways that people may value and

experience nature (i.e. because it holds special meaning for their lives; Chan et al. 2016). Recognising such values will be crucial for understanding and encouraging human-nature connections and fostering stewardship.

2. Strengthen the suggested urban actions

The Strategy suggests actions for urban conservation and bringing nature back into cities under Objective 9 “Enrich cities and towns with nature”. However, the list is brief, excludes current understanding of best practice for urban habitat management, and does not take into account issues of scale, human-nature interactions or human-wildlife conflicts. While we appreciate not all possible actions can be listed in this Strategy, more guidance is needed to inform the types of actions undertaken, and inform ways to effectively monitor whether these actions successfully meet their objectives.

We support the current suggestions in the Strategy under Objective 9 (p. 13). These include to prioritise the design and planning of ecologically diverse green spaces, increase canopy cover, and promote vegetation on rooftops. These are common initiatives in many local government policies, and they are worthy objectives. However, we argue that for such initiatives to be effective – meeting conservation and social objectives – careful consideration must be given to their design and quality, as well as policies and programs to incentivise their uptake. Such guidance is lacking in the current Strategy. For example:

- Encouraging the use of green spaces by people has the potential to promote human health and wellbeing; however, this can sometimes conflict with biodiversity goals within the same space (e.g., trampling of threatened plants, requirement for mown, heavily maintained vegetation for recreation or amenity, increased prevalence of cats and dogs etc.).
- Increasing tree canopy in and of itself is likely to be insufficient to conserve biodiversity or attract associated species without appropriate consideration of which species to plant, habitat quality or the specific resources required to support certain target taxa. Furthermore, retention of existing large trees in urban areas is a high priority for biodiversity conservation, as well as the many other benefits that such trees provide. An increased focus on retaining existing biodiversity and habitat is required.
- Green roofs are often visible to people living and working in surrounding buildings, providing an opportunity to improve human wellbeing in addition to biodiversity and ecosystem services, if proper consideration is given to their design, location and quality. However, compared to many other developed countries, there are very few green roofs in Australian cities. They will not be able to play the biodiversity role envisaged in this strategy until policy incentives are implemented to significantly increase the number of green roofs constructed.

A key challenge for nature and biodiversity conservation is addressing the processes and drivers of landscape change and habitat destruction. Objective 7 acknowledges the need to reduce threats and build resilience; this is of particular importance in the context of urban landscape change, both through processes of urbanisation (including urban expansion, urban densification and infrastructure development) and climate change impacts. Objective 9 should be expanded to acknowledge and respond to these processes.

Including more detail in the Strategy to guide effective actions in urban (and non-urban) areas could help meet the dual goals of increasing the engagement of humans with nature and biodiversity conservation and bringing nature back into cities, while acknowledging the potential conflicts of this approach. Further, the Strategy must link specific, measurable targets to these actions to direct and drive effective and comprehensive implementation. Targets and actions need to be underpinned by evidence-based research, and linked to National State of Environment reporting.

3. Provide a framework to guide the design of urban spaces

A recent review by Ikin et al (2015) clearly set out four principles and 21 actions to ensure that biodiversity is protected and promoted in Australian cities and towns. This review is supported by recent empirical studies from Australia (Threlfall et al. 2015, Threlfall et al. 2016, Mata et al. 2017, Threlfall et al. 2017, Garrard et al. in press), in addition to a recent policy review of urban biodiversity

policy in NSW (Davies et al. 2017). These studies present principles and actions that need to be implemented in cities for effective biodiversity conservation, and should be considered for inclusion in the Biodiversity Conservation Strategy.

Here, we suggest the following practical guidelines for urban biodiversity conservation and for bringing nature back into cities at different levels of governance. The Strategy could also provide additional detail of the wider policy context (shown in the Strategy as Figure 1, p. 7) to indicate the relationships and hierarchies of the different strategies and actions.

Federal and state governments

- To change practice, the policies (including this Strategy) of the Australian Government must provide top-down support, guidance and incentives for protecting, restoring and promoting biodiversity in Australian cities.
- Recognise and reward initiatives and practices that promote urban nature for ecological and social benefit, for example via a grant, award, or prize that helps to build a community of practice and enhance capacity across the country. Examples include providing support for city governments to join global networks and alliances, or developing a best-practice award program for citizens, governments and practitioners.
- State Government Agencies must align urban ecology policies and practices, and provide support and guidance to local governments to implement effective on-ground actions (Davies et al 2017).
- Provide incentives or support for the acquisition and management of new urban green space for ecological and social benefit (Davies et al 2017) in conjunction with, or prior to, the planning of suburbs.
- Ensure that urban ecology and biodiversity policies are integrated and cross-referenced with land use planning, transport and other key urban policy and statutory planning requirements to ensure consistency and coherence across policy domains, and to strengthen regulatory protections available through the suite of urban land use policies (Bush 2017).
- Review the effectiveness of Strategic Impact Assessments under the EPBC Act in urban-growth areas, as evidence to date suggests conservation losses through urban SIAs significantly outweigh gains.

Local government

- Support the development of an environmental planning instrument that contains ecological design criteria, to assist the design of urban developments at multiple spatial scales.
- Create an urban planning instrument that has an objective to protect and improve ecological connectivity in cities and towns.
- Strategically improve habitat quality for biodiversity by increasing the structural complexity of urban green spaces and by using native plants (Threlfall et al. 2017).
- Protect all large trees on public and private land (Ikin et al. 2015).
- Support the development of biodiversity sensitive urban design guidelines (Garrard et al. in press), including considerations for ecologically sensitive urban lighting.
- Develop and implement engagement programs across all sectors, including built-environment professionals and city residents (Davies et al. 2017).
- Develop institutional mechanisms and organisational capacity for supporting local groups and stakeholders in conserving biodiversity and making collaboration with them effective (Secretariat of the Convention on Biological Diversity 2012).

Individuals and communities

- Encourage and provide resources for residential wildlife gardening programs, including ecological design guidelines to support habitat provision for specific taxa (Aronson et al. 2017), and information on effective ways to engage residents in wildlife gardening and meaningful landscape-scale conservation (Goddard et al. 2010, Mumaw and Bekessy 2017).
- Understand, monitor and facilitate the opportunities for social wellbeing and community capacity building that arise from engaging urban residents in biodiversity conservation (Tzoulas et al. 2007, Mumaw 2017).
- Identify the land managers of various urban green spaces (e.g., golf courses) as potential conservation actors, and link them into effective stewardship networks (Colding 2007, Ernstson et al. 2010).

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