

Managing Urban Landscapes for Biodiversity Conservation and Human Health

Report of a workshop held in Hobart, November 2019

The Healthy Landscapes Research Group

Workshop report

December 2019

(revised June 2020)



Department of Primary Industries,
Parks, Water and Environment



Dave Kendal¹, Emily Flies¹, Pauline Marsh¹, Penelope Jones¹, Caragh Threlfall², Monika Egerer³, Menna Jones¹, Rob Anders¹, Nicole Collie¹, Haylee Kaplan¹, Hanh (Claudia) Nguyen¹, Gabriella Allegretto¹, Bill Harvey⁴, Helen Burnett⁴, Bree Hunter⁴, Elise Jeffery⁴, Melanie Conomikes⁴, Jill Hickey⁴, Anna Wilson⁵, Barbara Curran⁵, David Allingham⁵, Allison Coombe⁶, Marina Campbell⁶, Liz Quinn⁷, Melinda Reed⁸, Iona Mitchell⁹, Renae Riviere¹⁰

¹University of Tasmania, ²The University of Melbourne, ³Technical University of Berlin, ⁴City of Hobart, ⁵Brighton Council, ⁶Glenorchy City Council, ⁷Kingborough Council, ⁸Sorell Council, ⁹Department Of Primary Industries, Parks, Water and Environment, Tasmanian Government, ¹⁰Conservation Volunteers Australia

Acknowledgement and copyright

This report is copyright of the University of Tasmania. It may be reproduced in whole or in part for study or training purposes subject to an acknowledgement of the source and no commercial use or sale.

Reproduction for other purposes or by other organisations requires the written permission of the copyright holders.

The Healthy Landscape Research Group
University of Tasmania
TAS 7000 AUSTRALIA

Suggested citation:

Kendal, D. et al, 2019, *Managing Urban Landscapes for Biodiversity Conservation and Human Health*. Report for the Healthy Landscapes Research Group. University of Tasmania, Tasmania.

About the Healthy Landscapes Research Group

The goal of the Healthy Landscapes Research Group is to conduct and communicate research that explores the interconnectedness of human and non-human nature, for the purposes of positive outcomes for human and environmental health.

Key Findings

- A diverse range of actors are involved in created policy and management of green spaces (researchers, practitioners and community groups) in the greater Hobart area
- Leadership usually occurs at local council level
- The presence of infrastructure in green spaces can encourage use by people, but reduce biodiversity conservation for wildlife
- The greatest barriers for green space management and engagement were due to lack of resources (especially in smaller councils), language barriers and 'biophobia' (fear of nature)
- Enablers for improving green space management include public education and community engagement
- Better connections are needed between different councils in the greater Hobart area, and between practitioners and researchers

Background

Cities and towns are increasingly important for biodiversity conservation. They are critical to the survival of species (including threatened ones) that live in them, the way people think about biodiversity, and the effects on natural areas of supplying human settlements with resources such as food, clean water and timber. At the same time, the importance of urban nature for improving the lives of people is increasingly recognised for health promotion, active living, improved health outcomes and to reduce health inequalities.

Yet the things we need to do to improve biodiversity (perhaps planting native trees or dense understorey vegetation) are not necessarily the same things we need to do to improve health (providing accessible and connected shared paths, shade trees in summer). So, how can we manage nature where people live to support both biodiversity conservation and the health and wellbeing of people? And how can we do this in the context of a changing climate, increasing risks from bushfire, and a rapidly growing population?

Workshop Design

This workshop was held on Monday the 18th November, 2019 in the Banksia room at the Royal Tasmanian Botanical Gardens. The workshop was organised by the Healthy Landscapes Research Group at the University of Tasmania, led by Dr Dave Kendal, Dr Emily Flies, Dr Pauline Marsh and Dr Penelope Jones, in conjunction with visiting scholars Dr Caragh Threlfall (University of Melbourne) and Dr Monika Egerer (Technical University of Berlin). Ethics approval for this workshop was granted by The Tasmanian Health and Medical Human Research Ethics Committee (HMHREC). Approval number: H0017691.

The objectives of the workshop were to identify how landscapes in and around Greater Hobart can be managed to improve both nature conservation and human health and wellbeing outcomes. Also, to build partnerships between research and practice to achieve this.

There were 27 attendees at the workshop, this included researchers, urban planners and engineers, city councillors, and practitioners from city councils (Hobart, Brighton, Glenorchy, Kingborough, Sorell) and community groups.

Tasmanian Aboriginal man, Rob Anders started the workshop with a *Welcome to Country*, where he highlighted the need for a diversity of natural and cultural heritage values to be considered and the importance of these when managing Tasmania's unique landscapes. The workshop was split into three sessions. Each session started with an entire group discussion, then broke off into smaller group discussions, and ended with an entire group discussion where different groups summarised their discussions.

During session one participants were asked to discuss current policy and management of green spaces in Greater Hobart for biodiversity and health. In session two participants discussed synergies and trade-offs, as well as barriers and enablers for landscape management for biodiversity and health. Finally, in session three participants discussed how research and practice can better work together to achieve improved biodiversity and health in and around Greater Hobart.



Session 1: Current policy and management of green spaces in Greater Hobart for biodiversity and health

Actors involved in this area:

- The University of Tasmania
- Tasmanian Aboriginal representative
- Greater Hobart city councils (Hobart, Brighton, Glenorchy, Kingborough, Sorell)
- Department of Primary Industries, Parks, Water and Environment (DPIPWE)
- Greening Australia
- Bonorong Wildlife Park
- Conservation Volunteers Australia (CVA)
- Healthy Urban Microbiome Initiative (HUMI)

Policies:

- City of Hobart draft of the Healthy Tasmania five-year Strategic Plan (https://www.dhhs.tas.gov.au/data/assets/pdf_file/0018/222417/53._Hobart_City_Council.pdf)
- City of Hobart Biodiversity Action Plan (<https://www.hobartcity.com.au/City-services/Environment/Protecting-our-wild-heart>)
- Kingborough Biodiversity Offset Policy (<https://www.kingborough.tas.gov.au/wp-content/uploads/2017/05/Biodiversity-Offset-Policy.pdf>)
- Bridgewater Parkland Master Plan (<https://www.healthyactivebydesign.com.au/case-studies/bridgewater-parkland>)
- Greater Hobart Mountain Bike Masterplan (<https://www.wellingtonpark.org.au/greater-hobart-mtb-masterplan-endorsed/>)
- Cat Management Plan (<https://dPIPWE.tas.gov.au/invasive-species/cat-management-in-tasmania/cat-management-amendment-bill>)
- Southern Tasmania Regional Planning Project (<http://stca.tas.gov.au/rpp/southern-tasmania-regional-land-use-strategy/>)
- Open Space Strategy (Brighton Council, Glenorchy City Council, Hobart City Council Kingborough Council and Sorell Council)
- Street Tree Strategy (Brighton Council and Hobart City Council)

Session 2: Synergies and trade-offs in managing green spaces for biodiversity conservation and human health

Management of urban green spaces can sometimes lead to better outcomes for biodiversity and human health, but often lead to better outcomes for one of these at the expense of others.

- “**Trade-offs**” occur where we gain one thing at the expense of another thing
- “**Synergies**” occur when a decision or management action improves multiple outcomes

Recreational Infrastructure

- Encourages use by people eg. walking paths and mountain biking paths
- Increased use may lead to increased care about conserving these spaces

Trade-offs:

- Infrastructure can make the space less “natural” and can create vegetation fragmentation
- Can bring in too many people, which can degrade the landscape and walking tracks
- Concrete paths are often implemented to avoid being degraded and they are low maintenance, however they reduce biodiversity
- Increased damage and destruction to irreplaceable Aboriginal heritage sites and cultural landscapes, which further imposes colonisation and impacts on the health of Aboriginal people.

Domestic dogs

- Gets people outdoors and there is a big dog walking community in Hobart

Trade-off:

- Can reduce biodiversity of native wildlife from disturbance and competition

Artificial night lighting

- Can encourage use of green spaces in the evening
- Pressure on councils to light paths in green spaces at night to comply with the Australian standards of lighting

Trade-off:

- Disturbs wildlife, often from sleeping and makes them more vulnerable for predation

Street trees

- Reduces storm water runoff, improves air quality, reduces summer temperatures (and cooling costs)
- Creates habitat and resources for wildlife (particularly native trees)
- Improves health and wellbeing

Trade-off:

- Best tree for safety and low maintenance isn't always the best for biodiversity

- Exotic trees don't block out sunlight in winter and therefore can be favoured by some community members (arguably to maintain a colonial atmosphere)
- Branch removal is time consuming and expensive
- Certain species of trees can trigger allergies
- Loss of amenity and view as trees are (illegally) removed in some areas to improve views.

Understory vegetation

- Dense understory creates structural complexity which can be beneficial for wildlife conservation
- Can provide a 'natural' barrier to control the movement of people without the need for unsightly and expensive built infrastructure.

Trade-off:

- Restricts access for people due to safety concerns eg. fear of snakes
- Can become a bushfire risk

Session 3: Barriers and enablers of better landscape management for biodiversity and health

Barriers are the things get in the way of being able to take effective actions, even when they are known and desirable. Enablers are the things that can help overcome these barriers, or other things that increase the likelihood of desirable actions being taken.

Barriers:

- Lack of infrastructure in several bushland reserves discourages use by people
- Lack of state and federal support for biodiversity conservation actions
- Leadership usually at a council level
- Some councils aren't as well-resourced as others
- 'Biophobia' (where people are living in fear of nature) resulting in residents wanting trees in their yards to be cut down to reduce bushfire risk
- Language barriers- outdoor programs organised by councils are often advertised in English and fire risk instructions are published in English
- Planning scheme in Brighton Council 'rural resource' needs to be updated to allow people to build on land for revegetation
- Complex administration and policy frameworks; a variety of different cadastral land title boundaries definitions (e.g. tidal boundaries), legal and physical access issues, planning schemes, and responsible agency.
- Lack of consistency and poor design of land developments (subdivisions) for the creation of functional public open spaces for biodiversity and health
- Disposal by local and state government of public lands for private and commercial developments to reduce budget deficit and liabilities

Enablers:

- Educating the community on bushfire hazards to reduce 'biophobia' eg. community information sessions
- Co-designer programs with local residents and encourage grassroot projects to increase community engagement and community pride eg. mountain bike project in Hobart City Council
- Make programs and information sessions more inclusive by providing a translator or translating material from sessions
- Community projects at a landscape scale that engages councils and NRM South e.g. weed eradication and restoration of native environments on River Derwent
- Tackling illegal encroachment in public spaces
- Improved long-term planning with visions into the future e.g. 50, 100 years.

Programs mentioned during the workshop that encourage the community to interact with nature:

- <https://www.hobartcity.com.au/Community/Events-and-activities/Bush-Adventures>
- <https://www.hobartcity.com.au/Community/Events-and-activities/Bushcare/Bushcare-groups>
- <https://www.utas.edu.au/rural-health/news-all/news-items/dignity-supported-community-gardening>
- http://www.getmoving.tas.gov.au/whats_on/community_physical_activity_programs
- https://www.dhhs.tas.gov.au/service_information/services_files/get_active_program
- <https://naturebeinit.com/natureschool>
- <https://www.hobartcity.com.au/Community/Healthy-Hobart>
- <https://bookings.conservationvolunteers.org/project/cross-cultural-volunteer-program>

Session 4: How can researchers and practitioners work together to achieve improved biodiversity and health in and around Greater Hobart?

Opportunities:

- Become involved in programs planned by the city councils
- Contact big organisations that have signed onto the UN sustainability development goals
- Engagement and joint management with local Aboriginal community organisations and people
- Add an urban chapter in NRM South
- Communicate more with the public through organised events, such as Science in the Pub and Sustainability in the Pub
- Establish stronger relationships between researchers and practitioners by holding more workshops in the future
- Organise informal meetings where researchers and practitioners could give speed talks about their current projects

- Local councils could put together a repository of projects which researchers and students could access when choosing projects (could be available on the Healthy Landscapes Research Group website)

Challenges:

- The university needs a website where they have all the topics that researchers are working on so interested parties can contact researchers working in their field of interest
- There should be a knowledge broker to connect the university with local governments

Next steps

Attendees expressed interest in participating in another workshop in the future. The Healthy Landscapes Research Group plan on hosting another workshop in February 2020 at the University of Tasmania, Sandy Bay campus. An invitation to attend this workshop will also be extended to public health practitioners.

- Australian Therapeutic Landscapes Conference will be held in Hobart during October 2020

Conclusion

This workshop helped create connections between researchers and practitioners that shared a common goal. It also created opportunities for further collaboration.

Some key findings from this workshop were there are several actors involved in creating policy and management for urban green spaces, but the collaboration between these actors could be improved. Also, urban green space management for wildlife conservation and human health is complex; therefore, trade-offs and barriers need to be considered and addressed to maximise the usability and benefits that these space provide.

Reflections

“The strongest message that came through to me was that as academics, we need to get better at getting what we are doing out there - to the community, to practitioners and to politicians. We need to do what we can to support and advocate for better resourcing of biodiversity and health related projects, and that will require conversations at all of those levels.” Penelope Jones (Junior Research Fellow, University of Tasmania)

“A lovely gathering of people from a few different councils: Hobart, Kingborough, Sorell, Brighton and Glenorchy... Those that came were representing land management streams, rather than health and wellbeing. I think this reflects a general societal trend: that people in conservation/land management/gardening understand the health benefits that flow from green space engagement and want to articulate these.” Pauline Marsh (Lecturer and Researcher, University of Tasmania)

“The workshop worked well, particularly in terms of engagement and interaction between the representatives of different councils. I would say this was one of the most positive outcomes of the event. Issues around social inequity were highlighted by these cross-council discussions and relationships.” Nicole Collie (Research Assistant, University of Tasmania)

“Tasmanian Aboriginal people with their light footprint sustainably managed this landscape and surrounds for biodiversity and health for many thousands of generations. We see reminders of our Old People etched into this place and are the foundations which many of us call 'home'. It saddens me to think of how much damage has been done in so little time and how the ancestors must feel after their thoughtful and careful management. To be healthy we need to prioritise *Caring for Country*, not only for our next generation but for the tens, hundreds and thousands of generations to come, just as the Old People did.” Rob Anders (Traditional Owner and Custodian/University of Tasmania)

Further reading

- Davern, M., Farrar, A., Kendal, D., Giles-Corti, B. (2017) Quality Green Space Supporting Health, Wellbeing and Biodiversity. SA Health & Heart Foundation, Clean Air and Urban Landscapes hub of the National Environmental Science programme
- Egerer, M., Ordóñez, C., Lin, B. B., & Kendal, D. (2019). Multicultural gardeners and park users benefit from and attach diverse values to urban nature spaces. *Urban Forestry & Urban Greening*, 46
- Flies, E. J., *et al.* (2019). Urban-associated diseases: Candidate diseases, environmental risk factors, and a path forward. *Environment International*, 133, 105187. doi:10.1016/j.envint.2019.105187
- Flies, E. J., *et al.* (2017). Biodiverse green spaces: a prescription for global urban health. *Frontiers in Ecology and the Environment*, 15(9), 510-516. doi:10.1002/fee.1630
- Flies, E. J., Skelly, C., Lovell, R., Breed, M. F., Phillips, D., & Weinstein, P. (2018). Cities, biodiversity and health: we need healthy urban microbiome initiatives. *Cities & Health*, 1-8. doi:10.1080/23748834.2018.1546641
- Frantzeskaki, N., *et al.* (2019). Nature-based solutions for urban climate change adaptation : linking science, policy, and practice communities for evidence-based decision-making. *BioScience*, 69(6), 455–466.
- Kendal, D., Lee, K., Ramalho, C., Bowen, K., & Bush, J. (2016) Benefits of Urban Green Space in the Australian Context. The Clean Air and Urban Landscapes hub of the National Environmental Science programme
- Marsh, P. Sebrina, B. Miriam, V. (2018). ‘It’s not therapy, it’s gardening’: community gardens as sites of comprehensive primary healthcare. *Australian Journal of Primary Health*, 24, 337-342. doi:10.1071/PY17149
- Threlfall, C.G., Soanes, K., Ramalho, C.E., Aiyer, A., Parris, K., Maller, C. (2019) Conservation of urban biodiversity: a national summary of local actions. Report prepared by the Clean Air and Urban Landscapes Hub
- Threlfall, C., Kendal, D. (2018) The distinct ecological and social roles that wild spaces play in urban ecosystems, *Urban Forestry & Urban Greening* 29 (1), 348-356

Additional resources

www.nesurban.edu.au

www.greenspacesbetterplaces.com.au

<https://sustainabledevelopment.un.org/?menu=1300> (Goal 3: Good Health and Wellbeing, Goal 11: Sustainable Cities and Communities, Goal 15: Life on Land)

Contact details for the Healthy Landscapes Research Group

Dr Dave Kendal Dave.Kendal@utas.edu.au

Dr Emily Flies Emily.Flies@utas.edu.au

Dr Pauline Marsh Pauline.Marsh@utas.edu.au

Dr Penelope Jones Penelope.Jones@utas.edu.au