

# Ecological connectivity in the densifying city – strategies for enhancement

By Mollie Keaney

[Download full thesis](#)



This thesis assesses ecological connectivity within Hobsonville Point and the Tāmaki redevelopment, and with the wider environment.

An inventory of green space at both sites was created which identified areas for connectivity enhancement at three scales: the block scale (including verges and private gardens), the development scale, and the wider surrounds scale. Connectivity was assessed based on natal dispersal distances or maximum dispersal distances of four indigenous bird species, the Kererū, Tūi, Grey Warbler, and Silvereye.

Fragmentation of green space occurred within blocks and a lack of connectivity between larger spaces, emphasising the need for more greening strategies such as corridors, indigenous vegetation planting, and green infrastructure.

In urban landscapes the spatial distribution and maintenance of habitat fragments are essential in determining survival and persistence. Green space was defined as partially and completely vegetated land surfaces and waterways within urban areas, including both public and private land.



University of Otago  
School of Geography  
Master of Planning  
2024

## SUPERVISORS

[Claire Freeman](#)

[Yolanda van Heezik](#)

## SCHOLARSHIP

[People, Cities, Nature](#)  
Masters Scholarship for  
[Aotearoa BiodiverCity](#), 2024

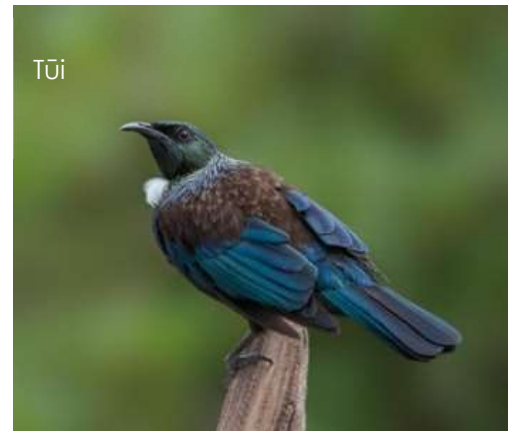


Aotearoa  
BiodiverCity

Connectivity was assessed on the natal or maximum dispersal distances of four indigenous bird species, the Kererū, Tūi, Grey Warbler, and Silvereye.

Assessing ecological connectivity through species. There is a need for future research on species-specific movement characteristics and habitat requirements, and the impact that barriers, habitat quality, habitat size, and habitat maturity may have on the extent of ecological connectivity.

Lessons can be learnt from international best practice examples including Melbourne's Nature in the City Strategy (City of Melbourne, 2017) and the South Gloucestershire model strategy (South Gloucestershire Council, 2022b), which gives statutory power to goals, actions, and policies, and would ensure development design would conserve or enhance the ecological connectivity within that environment.



## Key recommendations

- Pursue future ecological connectivity research.
- Set goals and targets at the national level.
- Establish design guidelines and specifications.
- Councils should employ ecologists within planning departments. This would also ensure that councils can effectively and critically assess the ecological value of the strategies produced by developers.
- Require developers to produce a 'biodiversity and ecological connectivity enhancement strategy that should meet the goals and targets set by district councils.
- Integrate ecological corridors and greening strategies into development design.
- Develop green spaces as habitats.
- Ensure collaborative approaches to enhance ecological connectivity.

