

Medium-density housing designed to conserve and regenerate native biodiversity in Auckland, Aotearoa New Zealand

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Residential design has historically distanced humans from nature, contributing to biodiversity loss. New human-centric developments often neglect nature, leading to ecosystem degradation. To address this, there is a need to design homes that reconnect people with nature and support biodiversity. This thesis explores designing medium-density housing that enhances human connection to ecosystems while promoting biodiversity, particularly focusing on birds in urban environments. The goal is to create homes that regenerate and conserve biodiversity while making residents aware of their role in ecological conservation.

This thesis analysed existing design frameworks and created strategies to aid designing for Aotearoa's native fauna and flora in residential developments. These strategies were tested through design. The proposed design aims to increase biodiversity by creating steppingstone habitats that link to regional ecosystems, helping to conserve native plant and bird



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populations. It emphasises removing private gardens to allow for larger areas of native plantings and creating communal spaces for residents. The buildings feature green roofs, internal plantings, and sustainable designs that improve residents' connection to nature and their wellbeing. The design also includes eco-friendly elements like passive heating, cross ventilation, and reduced building footprints. This approach encourages residents to care for biodiversity and recognise their role in its protection.

The research highlights frameworks like Biodiversity Sensitive Urban Design (BSUD) and the need for localised strategies considering regional species and ecosystems. It also emphasises the importance of mapping strategies for selecting sites, integrating ecological and cultural aspects. The study challenges traditional design methods and supports broader species conservation, advocating for a more comprehensive approach to urban biodiversity.



Key recommendations

- Rethink medium-density housing as an integrated socio-ecological system rather than a human-dominated built form.
- Address the disconnection between people and nature and the exclusion of biodiversity in current housing models.
- Embed habitat provision, support native species, and enable ecological processes within developments.
- Strengthen human-nature relationships through everyday interaction to foster awareness and stewardship.
- Position housing as a mechanism to regenerate biodiversity and support more ecologically responsible behaviour.

