



Understanding nature strip transformations: A Socio-Ecological Study

Background

Residential nature strips in Perth are being transformed into waterwise gardens of native plants. The 'nature strip' or 'street verge' is the area of land between the roadway and the front property boundary.

A multidisciplinary team from The University of Western Australia are conducting research with residents to understand the social benefits and ecological values of native verge gardens.

Data collection with residents engaged in verge gardening took place between September 2018 and March 2020, including interviews and biological surveys. Selected preliminary results are provided overleaf.

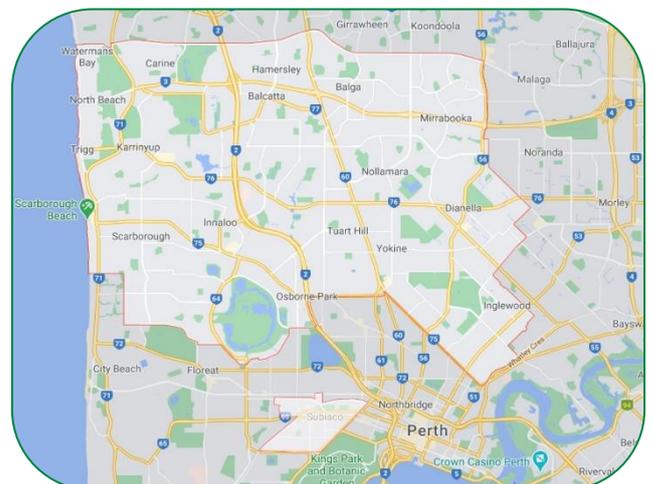
The residents' verge gardens ranged in maturity from newly installed, through to well-established. Some residents had been growing and evolving their verge gardens for over a decade.



Researchers map a diverse nature strip garden

The Location

- Two local government areas in Perth (City of Stirling and City of Subiaco)
- Perth population is about 2.14 million people
- Average of 2 people per household (ABS, 2016)
- Over 33% of people born overseas (ABS, 2016)
- Perth lies within one of 36 global biodiversity hotspots
- Rainfall has declined steadily since the 1970s



Ecological Findings

Biological surveys of resident's nature strip gardens, focusing on plants, birds and insects were conducted.

Plants

Plant species per verge garden: between 6 and 60+!

Most gardens were a mix of plants endemic to Perth and commercial 'hybrid' native plants from around Australia. Some gardeners incorporated feature plants from other parts of the state, or exotic species.

Birds and insect pollinators

Birds found: 7 native and 2 non-native.

The birds encountered during this study were cosmopolitan species common in urban environments. Birds interacted with street trees, with some feeding on insects at ground level or on flowering plants.

Insect pollinators found: At least 8 native bee species, plus several species of hoverflies and wasps. Native bees visited a range of native and non-native species. Native bees were more abundant where there were multiple individuals of bee-friendly plants in flower, providing a 'bee banquet'.



Leafcutter bee (*Megachile* sp.) visiting a flowering *Lechenaultia* in a nature strip garden

Social Science Findings

Semi-structured interviews were conducted with residents using a 'chronosequence' approach, where residents were interviewed who had been undertaking verge gardening for different lengths of time (between 0-15+ years, with most residents having transformed their garden between two and five years before being interviewed).



A typology of nature strip gardeners

Reasons for doing verge gardening

The interviews focused on the drivers, challenges and opportunities encountered during verge gardening.

The most common reasons for undertaking verge transformations reflected practical motivations to reduce time, expense, water use and maintenance on the nature strip. Unexpected benefits of verge gardening included more social interactions with neighbours.

Types of verge gardeners

Verge gardeners could be categorised into three major non-exclusive groups: 'early adopters', 'on the fence' and 'about time', based on rationale for transformations.

Decision makers could consider targeting incentives and waterwise verge programmes accordingly, such as: offering rebates with building permit applications, or giving awards to notable verge gardeners to improve visibility and community recognition.