Recommendations for enhancing superb fairy-wren habitat within the City of Port Phillip

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Executive summary

- The City of Port Phillip are working to increase the habitat value of existing greenspaces in line with biodiversity and vegetation management targets.

- The superb fairy-wren was identified as a focal species for these works, based on its capacity to act as an umbrella species for invertebrate and small bird diversity more broadly, and to engage the community in local nature action.

- This report provides an overview of habitat requirements for the superb fairy-wren in urban environments and recommends a suite of actions to enhance the habitat value of two sites within the City of Port Phillip: Danks Street Biolink and Sandridge Beach (including Fred Jackson Reserve).

- On-site assessments revealed these sites provide a promising base structure for superb fairy-wrens; however, several improvements were suggested. Of particular note was the sparse nature of complex ground covers in many areas (e.g. lack of leaf litter, fallen wood, and native grasses), and the lack of structural vegetation within the 0.5–2 m height range. These elements support foraging for superb fairy-wrens and provide refuge and cover from predators or aggressive species such as the noisy miner.

- Future revegetation works should aim to increase the diversity of vegetation through infill plantings that include a range of structural forms, flowers and fruiting bodies, textures, and heights.

Male superb fairy-wren (Photo: Andrew Silcocks, Birdlife Australia)

Introduction

Scope

The Greening Port Phillip program led by the City of Port Phillip recognised a need to review existing greenspaces and identify opportunities to improve their value to local biodiversity. Two sites prioritised for works were the Danks Street Biolink and the Sandridge Beach native vegetation area (including Fred Jackson Reserve). The goals of future plantings are to increase shade and amenity for the community, and to increase the habitat value for small bird species. To guide this work, Council sought advice from the Urban Biodiversity research cluster at the University of Melbourne, Melbourne Centre for Cities.

Superb fairy-wrens were selected as a target species as the actions required to enhance habitat for superb fairy-wrens also directly benefit a range of other species, such as small birds, invertebrates, and reptiles. The advice presented here was developed in alignment with the Biodiversity Action Plan (2020) and the Foreshore and Hinterland Vegetation Management Plan (2023), on-ground assessments of the vegetation at each site, and consultation with the local community and council staff.

We present broad principles to guide habitat enhancement for superb fairy-wrens in urban spaces and make specific recommendations for improving the habitat value of Danks Street Biolink and Sandridge Beach.

Principles for habitat creation in urban environments

When thinking about habitat enhancement, it is important to remember that 'habitat' is not a general term used to describe natural areas or greenspaces. Habitat is specific to a species – what is habitat for one may not be habitat for another. Not all greenspaces and nature reserves in their current state provide habitat for a given species, as they may be missing important resources. Similarly, the presence of unnatural and human-made features does not necessarily mean that an area is non-habitat, as many species are known to tolerate, adapt to, or even exploit these elements as a novel resource.

Habitat creation (or enhancement) is different to ecosystem restoration. Ecosystem restoration typically aims to recreate a suite of species and ecological processes in line with a baseline. In contrast, the focus of habitat creation in urban environments is to modify existing green or grey spaces so that they provide resources for a given species (or group of species) – transforming urban spaces from non-habitat to habitat. These urban spaces are not traditional conservation reserves and often perform multiple other functions (e.g. as public space, hosting utilities or services, or other urban infrastructure), but their role as habitat for biodiversity can often be enhanced (Soanes et al., 2023).

To guide this approach, we outline five principles for habitat creation in urban environments:

1) **Deliver the resources that the target species needs to survive**: Identify critical resources needed to support the target species, including novel and artificial resources.
2) **Champion locally native plants:** Capitalise on opportunities to showcase the beauty and wonder of Australia's native plants and share stories that reflect the local natural history.
3) **Balance with other functions of the space:** The goal is a shared urban habitat, for people and nature, ensuring that actions do not impede on critical urban functions such as transport, utilities, or public use of space. Find solutions to minimise conflict and enable multi-use.
4) **Recognise and respond to constraints of the urban context:** Site conditions can limit the planting choices available. For example, shade, wind forces, available soil volume, hydrology and soil condition may narrow planting options for a given site. In circumstances where locally native plants may be incompatible, species that deliver analogous resources or habitat function should be selected.
5) **Do no harm:** While the focus is on a specific target species, care should be taken to minimise the risk of unintended, negative consequences on other species or processes.

This way of thinking means more spaces can be transformed to suitable habitats than if we considered only the reserves, remnants, and intact ecosystems.

Enhancing habitats for superb fairy-wrens in City of Port Philip

In this case, we are considering habitat from the perspective of the superb fairy-wren – how can we modify existing greenspaces within the City of Port Phillip so that they support superb fairy-wrens?

Why superb fairy-wrens?

Superb fairy-wrens are an excellent target for habitat creation in urban environments. Key reasons include:

- **Achievable conservation opportunity**: Superb fairy-wrens are known to thrive in urban environments where the right conditions are present and threats are minimised. In many areas of south-eastern Australia they are common backyard birds and readily share urban parks and gardens with people. However, many urban areas do not currently support superb fairy-wrens and recent data from Birdlife Australia suggests that the species may be declining.
- **Associated with diverse habitat structure:** Superb fairy-wrens require vegetation structure that is typically more complex than that found in urban green spaces, including complex ground cover (leaf litter, rocks and fallen wood), native grasses and ground-level plantings, and mid-storey shrubs. This is an opportunity to diversify the structure of urban parks and gardens, creating interest for people and habitat for nature.
- **An umbrella for biodiversity**: Because superb fairy-wrens depend on diverse habitat structure and an abundance of available invertebrates, the actions required to support this species also benefit biodiversity more broadly. Typically, this includes terrestrial insects (e.g. grasshoppers, beetles), flying insects and pollinators (e.g. butterflies, flies), other small bush birds (e.g. white-browed scrub-wren, willie wagtail), small reptiles, and echidnas.
- **Engaging and charming:** Superb fairy-wrens are a popular bird amongst the wider community and are rarely a source of human-wildlife conflict. Their bright colour and busy habits make them easy to identify and engage with, and as such the species is an excellent candidate for citizen-science monitoring programs and enhancing human-nature connection.

These benefits align strongly with the ambitions of the Biodiversity Action Plan, particularly Theme 2 “Connect people with nature” and Theme 3 “Understand the biodiversity values present, improve protection and management”.

Current superb fairy-wren distribution in City of Port Phillip

Recent records of superb fairy-wrens obtained from the Atlas of Living Australia (verified records made after the year 2000) were corroborated with reports from local birders and Council staff. Within the City of Port Phillip, superb fairy-wrens are largely constrained to Elwood, including the foreshore and canal, and Perce White Reserve in Sandridge, with scattered sightings elsewhere. There are notable populations in neighbouring areas, including Westgate Park, and recent sightings in the Royal Botanic Gardens. These, combined with the strongholds within City of Port Phillip, could serve as source populations from which superb fairy-wrens could spread. Recent data from the Superb City Wrens project found superb fairy-wrens capable of travelling more than 5 km through urban corridors to establish new breeding territories. This suggests that under the right conditions, superb fairy-wrens could expand their range through the City of Port Phillip.

Superb fairy-wren habitat in urban environments

We have broken the habitat requirements of superb fairy-wrens down into six overarching elements based on the scientific literature (Carrabs et al., in review; Crates et al., 2011; Heggarty, 2023; Humphrey et al., 2024; Kirk et al., 2018; Mo et al., 2021; Parsons et al., 2008; Trollope et al., 2009).

Table 1. Habitat requirements of superb fairy-wrens.

Habitat element	Detail
Food	• Often observed foraging in open grassed areas (including lawn) that are near to shrubs. • "Perch and pounce" foragers, using logs, rocks or fence posts to perch and find food. • Prey typically includes ground-dwelling invertebrates e.g. grasshoppers, woodlice, grubs, beetles, ants. • Invertebrate prey species depend on complex ground covers, including leaf litter and fallen wood, and native plantings such as grasses and low shrubs.
Water	• Often found near fresh water bodies, including creeks and artificial ponds. • Respond well to bird baths and other artificial water sources.
Nest	• Constructed from grasses and spiderwebs. • Low to ground, usually <1m high. • Typically hidden in a thicket of dense, inaccessible vegetation. • Will use invasive plants (e.g. blackberry thickets) or artificial structures (e.g. tangled wire).
Rest and refuge	• Retreat to nearby higher perches (>1m) or shrubs when disturbed while foraging. • Rest in dense vegetation that provides shade and cover from potential predators.
Access	• Will cross short gaps in vegetation cover, including roads (10–20m wide) • Can cross larger gaps (50–100m) though these movements are infrequent and should not be considered part of daily movement pattern. • Low flying habit makes them vulnerable to cars when crossing narrow roads.
Safety	• Small size makes them vulnerable to aggression and exclusion by noisy miner, though can adapt and co-occur. • Vulnerable to predation by cats and invasive predators. Rats may predate nests.

Assessment of sites

We used the above principles to assess opportunities for Danks Street Biolink and Sandridge Beach (including Fred Jackson Reserve) to provide habitat for superb fairy-wrens.

On-site habitat assessments

Sites were visited in late-January and early-February, 2025. A single observer conducted an inspection of each site, focusing on the arrangement and content of shrub beds and intervening open space in alignment with the zones identified within the Foreshore and Hinterland Vegetation Management Plan (2023). Printed aerial maps were annotated with detailed observations of ground-level conditions likely to impact superb fairy-wrens (e.g. type of ground cover, vegetation composition under large canopy trees, other site features). Site visits were conducted in the heat of summer during a prolonged dry period and as such many observations reflect on sparse lawn and the dry condition of vegetation. Throughout this document, location codes align with vegetation management zones used within Foreshore and Hinterland Vegetation Management Plan.

Results

Both sites showed elements of good fairy-wren habitat. These included diverse native garden beds with multi-level vegetation structure, intervening open patches to support foraging, rocks and logs as perching sites, and conditions supporting invertebrate prey (e.g. S5, DS12). Several stretches of well-connected, dense shrubs provide opportunities for safe movement. The quality and configuration of vegetation at Sandridge Beach overall appeared to provide better superb fairy-wren habitat than at Danks Street Biolink. Superb fairy-wrens were detected at Sandridge Beach during the on-site assessments.

However, the habitat value for superb fairy-wrens was patchy within both sites. Key habitat elements were often missing, meaning that sites rarely provided all the resources required within a usable space (e.g. DS1). While the current layout provides a promising base, many garden beds are underperforming in terms of habitat provision, with clear opportunities for supplementary planting or other actions to enhance their value. These include infill and supplementary plantings, expansion or the addition of grassy buffers and structural elements.

Superb fairy-wrens were detected in this vegetation at Sandridge Beach

Recommendations for enhancing superb fairy-wren habitat in City of Port Phillip

We apply the principles above, in combination with results from habitat assessment surveys, to provide recommendations to enhance the habitat value of the Danks Street Biolink and Sandridge Beach (including Fred Jackson Reserve) sites.

Overview of recommendations

We make seven recommendations for enhancing habitat for superb fairy-wrens at Danks Street Biolink and Sandridge Beach:

1. Enhance the diversity and year-round abundance of invertebrate prey
2. Provide more opportunities for fresh water on site
3. Ensure multiple suitable nesting locations are available within each site
4. Provide off-ground perching sites and dense shrubs to allow refuge from threats
5. Facilitate safe movement within and between sites
6. Select plants that enhance the floristic, structural, and textural diversity of garden beds
7. Ensure garden beds work together to create a 'neighbourhood' of habitat within each site

These recommendations focus on on-site vegetation management and structural habitat elements. Additional factors that could affect the success of efforts to restore and protect superb fairy-wrens at Danks Street Biolink and Sandridge Beach are discussed on page 21. For each recommendation, we provide a one-page summary, including a 'palette' of habitat elements, specifications, and images to guide habitat design. Note that the specifications used are based on the best available evidence and are indicative only – research to support specific rules about the height of vegetation, depth of mulch, or spacing of shrubs, for example, does not exist. However, the specifications are intended to provide reasonable guiding principles for habitat design.

Many sites provide a promising base structure for superb-fairy wren habitat that could be improved with targeted vegetation.

Recommendation 1: Enhance the diversity and year-round abundance of invertebrate prey

Enhance the diversity and year-round abundance of invertebrate prey, by adding native grasses and other ground covers to existing garden beds, creating invertebrate-friendly buffers around existing garden beds, and enhancing the complexity of ground cover through mulch, fallen wood, and rocks. Better ground cover vegetation will also increase and retain soil moisture during the warmer months, improving the available biomass of invertebrates. Increase the prevalence of native grasses, rushes and flax lilies as infill plantings on the edges of existing garden beds, or by adding grassy meadow buffers to extend the size of garden beds and create a soft habitat edge.

Habitat elements to support a diversity of invertebrate fauna and provide perching opportunities

Mulch	Fallen wood	Perching structures	Invertebrate-supporting plants
			
• Native mulch • Aged • Mix of sized pieces • 30-50 mm thick • Encourage accumulation of natural leaf litter	• Natural logs and sticks (mimic dead fallen woody from trees) • May incorporate 'insect hotel' structures	• Woody shrubs that form an open branching structure • Height range 20–150 cm • Rocks and logs that provide height above ground • Artificial structures, such as fence posts	• Understorey and ground-covers • Variety of floral, foliage, seed and fruit resources • Combination of leaf structures • Woody vegetation and bark • Host and food plants

Recommendation 2: Provide more opportunities for fresh water on site

The existing mud rocks along Danks Street Biolink are an excellent initiative and align with common advice and recent science regarding wildlife-friendly gardening in urban environments (Van Helden et al., 2024). However without opportunities to refill water regularly, they are more often dry and underutilised, particularly during the times they would be most beneficial to wildlife.

More opportunities for fresh water on site could be provided by linking to existing infrastructure (e.g. drinking fountain run off or children's nature play equipment) and using signage that invites residents to add water. Providing these at varying heights, including artificial structures higher than 1m, will provide a broader suite of options to local birdlife. Bird waterers developed by the Town of Victoria Park ('CockiTrough', Western Australia), use battery powered automated irrigation, allowing for evaporation to prevent pest and disease build up. Alternatively, push-button operated methods invite the community to 'fill up for wildlife' and promote connection to, and care for, local nature.

During the summer months when water is most scarce, supplementary irrigation could be considered to provide greater habitat value and refuge for wildlife.

Ephemeral water sources for drinking and bathing, and supplementary irrigation to support plant and insect survival during extended dry periods

Indented rocks	Artificial bird baths	Environmental watering
		
• Existing rocks within Danks Street are appropriate size • Water should be present frequently, particularly in dry, hot weather • Intermittent dry periods reduce risk of pest or disease build up • Replenished through irrigation or public invitation	• Shallow dish or trough(<10 cm deep) • Minimum 1 m off ground (maximum 2 m) • Close to existing foraging zones, perches and shelter • The Cocki-trough™ model from Western Australia could be modified to suit small bush birds	• Supplementary irrigation applied specifically to designated habitat sites • Focus on plantings designed to support invertebrate prey

Further reading

- Town of Victoria Park bird waterers https://www.victoriapark.wa.gov.au/residents/environment/supporting-our-environment/bird-waterers.aspx

Recommendation 3: Ensure multiple suitable nesting locations are available within each site

Ensuring that there are multiple nesting opportunities within both Danks Street Biolink and the Sandridge Beach sites will increase the likelihood that these sites can support resident populations of superb fairy-wrens and other small bush birds in future. Within each of the two sites, approximately 4–6 garden beds could be designated as 'nesting' zones, where patches of dense, thicket forming, or prickly shrubs up to 1.5-2 m high create safe locations for nest building.

Novel habitat analogues and artificial structures could be trialled if paired with appropriate evaluation. For example, Yedabila Habitat Pods, designed by Habitat Warriors and the Citizen Science Crew, are constructed using traditional Indigenous weaving techniques to create complex shelter structures out of lignum and rushes (Habitat Warriors and Citizen Science Crew, (2025)). The novel method has been trialled as an aquatic refuge, however could be adapted to terrestrial habitats with Traditional Owner collaboration.

Vegetation is the preferred choice wherever possible, as it performs multiple ecological functions when compared to artificial structures.

Dense shrubs and thicket-forming vegetation support safe nesting

Dense shrubs	Thicket forming plants	Artificial structures
		
• Dense foliage from ground level to 1.5–2 m • Spiny or prickly vegetation provides additional protection • Clustering of shrubs to gaps that reduce access points for predators or aggressors • Avoid large, nectar-producing flowers that may attract noisy miners	• Climbing species (e.g. *Clematis*) provide thicker coverage over existing plants • Thicket-forming species such as lignum • Dense grasses or rushes at the base of shrubs provide additional cover	• Superb fairy-wrens have been observed nesting in novel sites, such as tangled wire or blackberries • Suitable nesting structures could be replicated artificially using natural materials • For example, Yedabila Habitat Pods (pictured) could be adapted for superb fairy-wrens

Recommendation 4: Provide off-ground perching sites and dense shrubs to allow refuge from threats

Where garden beds already provide adequate food and water resources, the absence of features that allow rest and refuge may cause them to be underutilised by small bush birds such as the superb fairy-wren. Off-ground perching sites (e.g. logs, woody shrubs with open branching structure, fence posts) and dense or thorny shrubs provide spaces that allow superb fairy-wrens to rest, or take refuge in response to perceived threats, such as dogs, cats or noisy miners.

Of particular importance to superb fairy-wrens and other small bush birds is complex, diverse, structural vegetation within the 0.5–2 m height range. This is typically absent in traditional urban garden plantings, characterised by canopy forming trees (>2 m) and a ground cover of turf or flower beds (<0.5 m). Filling this gap with a diverse range of plant forms, growth habits, floral and seed-forming resources, can be the missing link required to activate urban greenspace as suitable habitat.

Easy access to shelter and refuge to promote safe foraging, movement, and rest

Low to mid-storey perches	Dense shelter shrubs	Ground-level perching
		
• 0.5–2 m height • Shrubs with open branching structure • Woody plants without dense foliage • Dead wood • Urban infrastructure, such as fence posts, can also fill this role	• Dense foliage from ground level to 1.5–2 m • Spiny or prickly vegetation provides additional protection • Avoid large, nectar-producing flowers that may attract noisy miners	• On-ground habitat structures • Rocks and fallen wood • Tussock forming grasses

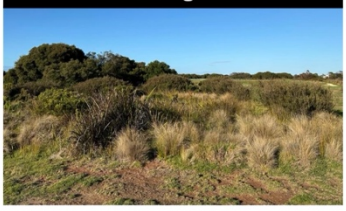
Recommendation 5: Facilitate safe movement within and between sites

Considering how the configuration of habitat supports the safe movement of superb-fairy wrens is critical to ensure the ongoing persistence and future recolonisation of sites within the City of Port Phillip. Safe movement for superb fairy-wrens along and within these linear sites can be enhanced through continuous or near-continuous shrub cover within a height range of 0.5–2 m and a maximum gap of 10 m to facilitate daily movement. These should be designed using the principles outlined in Recommendation 4.

Safe movement could be further improved by reducing other threats. For example, options for cat containment should be considered for residents adjacent to priority habitat sites (see Additional considerations, page 21), while the careful design of roadside vegetation may help reduce the risk of roadkill where superb fairy-wrens cross busier roads, encouraging crossing at a height above traffic.

Large open spaces between nectar-providing canopy trees provide clear sight lines that allow noisy miners to easily detect other bird species and rally the colony to attack and displace them. Visual screening, whether through vegetation or artificial structures, could be trialled to reduce the capacity for noisy miners to aggressively dominate and exclude other species from suitable habitats.

Supporting daily movements among garden beds and reducing gaps that facilitate access by noisy miners

Corridors and stepping stones	Terraced or layered garden bed design	Visual screening elements	High perches for safe road crosssing
			
• Continuous or near continuous shrub cover • Maximum gap of 10 m to facilitate daily movements	• Layering plant heights, stratified to create a terraced effect up to 2 m • Tallest shrubs located in the centre of the garden bed to provide shelter • Arranged to reduce open thoroughfares between central shelter shrubs • Lower height plantings taper out to edges to provide more open vegetation structure	• "Walls" of mid-level vegetation (0.5–2 m) block sightlines used by noisy miners • Dense, prickly, or hedged clusters of plants that disrupt views • Could also be achieved with infrastructure such as walls or murals	• Where habitat patches separated by roads • Tall roadside vegetation to encourage perching at >1.5 m • May help reduce crossing in the path of traffic

Recommendation 6: Select plants that enhance the floristic, structural, and textural diversity of garden beds

In general, the goal of infill plantings and additional revegetation works should be to increase the diversity of plants available – not just the species diversity, but the diversity of forms and functions that plants provide as habitat. In some locations, dense thicket-forming shrubs are present, but an array of structurally and floristically diverse ground covers that would support invertebrate prey is missing. In others, valuable habitat structures such as rocks, logs and mulch are present, with no nearby vegetation that would support perching or refuge. There is no one-size fits all species to suit supplementary plantings.

Plant choice should reflect the local needs of the site, the structure and function required to support superb fairy-wrens (in line with previous recommendations), and the constraints of site context (soil condition, shade, safety). Locally indigenous plants should be prioritised, however other native species may fulfill the required habitat functions provided that potential adverse effects are low (e.g. environmental weeds, hybridisation). Diversifying the available branching structures, foliage size shape and composition, presence of flowering or fruiting bodies or seeds, and growth habits will in turn support biodiversity. Including specific invertebrate host plants will also encourage local native species.

Some examples include:

- Spreading or erect prickly woody shrubs – *Acacia verticlliata*, *Hakea nodosa*, *Leptospermum continentale*, and other small wattles, hakeas and tea trees
- Looser leaved shrubs that produce flowers or berries – *Coprosma quadrifida*, *Correa alba*
- Creepers like *Clematis* and *Hardenbergia* sp. provide denser, tangled vegetation
- Rushes, flax lillies, and grasses, such as *Lomandra*, *Dianella*, *Poa* and *Austrostipa* sp.
- Ground-level flowers and plants, including salt bush, everlastings, and *Goodenia* sp.

Example resource
Woody meadow project
The University of Melbourne

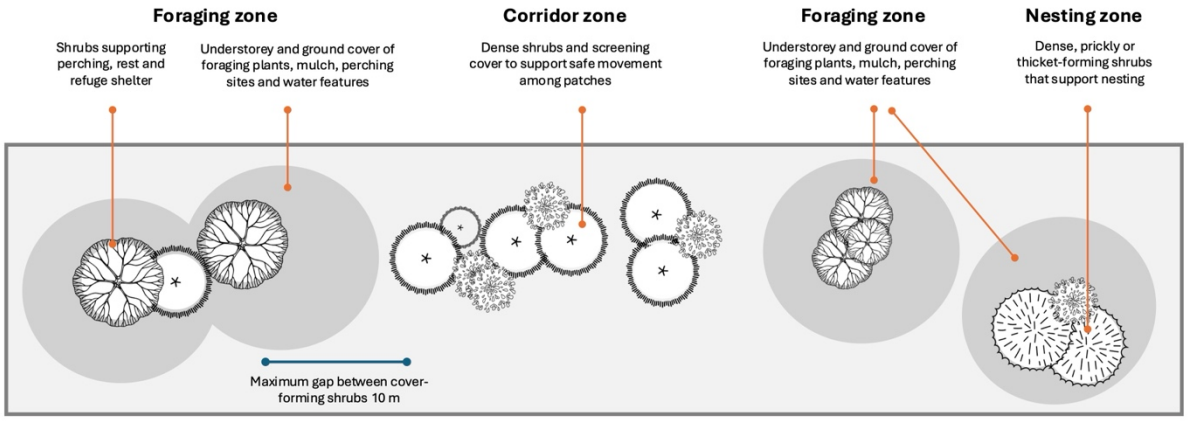
Diverse native plantings that are aesthetically pleasing, can withstand urban contexts, and support biodiversity
https://woodymeadow.unimelb.edu.au

Recommendation 7: Ensure garden beds work together to create a 'neighbourhood' of habitat within each site

While the actions will be taken at the level of individual garden beds, assessing the role of that garden bed in the context of the broader landscape is also critical. For example, the enhancement of single, small garden bed is unlikely to have a significant impact on the capacity of the broader site to support superb fairy-wrens. Conversely, each individual garden bed within a site does not necessarily have to provide every habitat element for the broader site to support superb fairy-wrens. Instead, we can consider how garden beds and actions work collectively to create a 'neighbourhood' of habitat resources at the site level.

A neighbourhood of habitat would contain:

- Foraging zones – supporting safe foraging through food resources, water resources, and rest and refuge resources (Recommendations 1, 2, and 4)
- A nesting zone – supporting safe nesting through nesting resources, buffered by rest and refuge resources (Recommendations 3 and 4)
- Corridor zones – supporting safe movement among zones within a neighbourhood, as well as safe movement between neighbourhoods (Recommendation 5)
- All should support a wide diversity of plant structure and functions (Recommendation 6)



Simplified diagram showing how four shrub beds work together to create a 'neighbourhood' of superb fairy-wren habitat

Site photographs illustrating potential sites for action within the City of Port Phillip

Danks Street Biolink

Canopy forming trees form an ‘avenue’ of visibility above low ground cover with no opportunity for rest and refuge. Adding lower-level vegetation with complex branching structure at 1–1.5 m will provide refuge sites and strategic screening vegetation up to 2 m may interfere with noisy miner capacity for competitive exclusion.

Danks Street Biolink

Exposed sections of mulched ground cover under more established canopy forming trees would benefit from the addition of structural complexity within 1 m from ground. A diversity of ground covers, including grasses and flowering plants, would better support invertebrate prey species while providing refuge perching sites. Focusing these efforts around existing habitat structures, like habitat logs and rocks, will maximise value.

Photo credits: Jacinta Humphrey

Sandridge Beach

Clumps of dense vegetation could be enhanced through buffers of lower lying vegetation such as native grasses and complex ground cover, creating a 'terraced' garden bed that provides refuge and supports a diversity of invertebrate prey.

Sandridge Beach

Consider corridors or 'stepping stone' shrub beds to break up large sections of turf. Linear garden beds provide opportunity to support safe movement along site, and would be improved by including a diversity of ground covers and native grasses that support native invertebrates, as well as structurally complex vegetation that provides refuge at heights of up to 1.5 m.

Photo credits: Jacinta Humphrey

Exemplar habitat structure within City of Port Phillip sites

Danks Street Biolink

Diverse ground level plantings, complex groundcovers, supporting habitat structures such as logs and rocks, and dense refuge vegetation (right).

Sandridge Beach

Complex vegetation structure, including erect branching shrubs, grasses, and denser vegetation. Terraced style design of lower plants close to edge of garden bed, with taller, thicker vegetation in the centre.

Photo credits: Jacinta Humphrey

Additional considerations

This report focuses on the assessment of existing habitat structure (e.g. vegetation and other structural features) and recommendations for upcoming greening works to enhance this structure within two sites. However, some factors affecting the success of future habitat enhancement works are generated by the broader urban context. While addressing these is beyond the scope of site-level vegetation management, we have noted them here to enable Council to be aware of their potential influence and identify broader opportunities for action.

- Superb fairy-wrens are not currently present within the Danks Street Biolink and the success of this site as habitat is therefore dependent on the ability of birds to colonise this site from elsewhere in the landscape. Strategically improving connectivity in the wider landscape (e.g. through stepping zones, corridors leading to the Biolink) should be considered.
- The presence of free-roaming domestic cats poses a well-known threat to native wildlife. While the current cat curfew likely limits the nocturnal impact of cats on wildlife, day-active species such as superb fairy-wrens remain vulnerable. In the absence of a cat containment policy, opportunities to engage locals living near designated conservation sites in voluntary cat containment should be explored.
- Existing presence of noisy miners could compromise the value of these spaces as habitat, regardless of the habitat modifications suggested (Heggarty, 2023). Interspecific aggression by noisy miners in urban areas remains a wicked problem in urban ecology and one without an evidence-based solution. However, manipulating the configuration of urban greenspaces may provide opportunities to reduce their competitive advantage. Ongoing monitoring of these sites post-habitat enhancement should include reporting on noisy miner abundance and interspecific aggression to guide future management actions.
- Requirements to maintain certain areas of open green space and right-to-views may limit the degree to which shrub beds can be expanded with complex, mid-storey vegetation, particularly near traffic zones. Given that superb fairy-wrens can thrive when both dense shelter sites and open foraging sites are present, ensuring the habitat design aligns these elements with public use of space should help minimise these potential conflicts.
- We have refrained from making specific recommendations or prescriptions about the choice of plant species, noting that the City of Port Phillip have extensive experience and existing guidelines. While the selection of locally indigenous species is preferable, this must be balanced against site conditions, climate futures, availability and aesthetics in a public space. Structural form and diversity are the critical factors, particularly within the 0.5–2 m height range.
- The presence of roads within both sites may affect the capacity of superb fairy-wrens to access some areas of vegetation, or introduce a roadkill risk where birds attempt to cross. Some suggestions for vegetation designs that could reduce this risk have been made in Recommendation 3, however if roadkill is noted at these locations following habitat enhancement, additional measures may be required.
- We have included several suggestions for the trial of novel actions – elevated bird waterers, artificial habitat pods for nesting, visual screening (through vegetation or structures) to reduce noisy miner attacks, and roadside vegetation structured to encourage road-crossing at height. These are logical responses to address gaps in habitat provision and some offer promising opportunities for community and cultural engagement, however they are untested. Any implementation must be paired with evaluation through proof-of-concept trials.

Conclusion

There is a clear opportunity to improve the value of existing greenspaces for superb fairy-wrens across the City of Port Phillip. Danks Street Biolink and Sandridge Beach serve as promising starting points, and the actions required here are likely to be applicable to greenspaces across the municipality more broadly. Monitoring the sites after habitat enhancement works have been completed will be help determine whether superb fairy-wrens have been able to increase their abundance within Sandridge Beach, or colonise the currently vacant site of Danks Street Biolink. A monitoring framework will be developed in future.

The actions recommended here involve adding complexity to the existing sites, with the aim of improving the habitat value for invertebrates and other small bird species beyond superb fairy-wrens. These works align with the actions identified in the Biodiversity Action Plan and the Foreshore and Hinterland Vegetation Management Plan. They include opportunities for the City of Port Phillip to provide habitat benefits by focusing on the function and structure of plants, rather than association with particular species, allowing for the selection of plants that align with other greening and management goals. They also include opportunities for the City of Port Philip to explore and trial novel approaches to deal with the challenges of habitat creation in a constrained environment.

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