

## 2 Introduction

The Cooks River to Iron Cove GreenWay is an urban green corridor in Sydney's Inner West, connecting the Cooks River to Iron Cove. The community's vision is for a "recognisable environmental, cultural and sustainable transport corridor linking to of Sydney's most important waterways" (GreenWay MasterPlan & Coordination Strategy 2009). The GreenWay began as a grass roots initiative in 2001 and is now a key partnership between four local Councils and their communities. The GreenWay follows the route of the disused Rozelle freight rail corridor, which is currently being converted to light rail, and also incorporates the Hawthorne Canal.

The GreenWay Biodiversity Strategy is a key activity of the GreenWay Sustainability Project, a partnership between Ashfield, Leichhardt, Marrickville and Canterbury Councils from 2009 – 2012. The Project was funded by the NSW Government through its Environmental Trust.

The Strategy has been developed in partnership with local Councils and the community to consolidate and confirm the vision and objectives for biodiversity in the GreenWay. It includes a range of short, medium and long-term actions to support the realisation of the biodiversity objectives and ultimately, the community's GreenWay vision of an indigenous flora and fauna habitat and movement corridor. It supports the Councils' goal '*to protect native biodiversity and maintain ecological systems and processes*'.

The GreenWay has significant biodiversity values in the context of a highly urbanised environment. The existing areas of native and weedy vegetation provide habitat for a range of native and locally significant flora and fauna species and there is significant potential for enhancement and expansion to improve habitat for urban biodiversity.

Sustainability of these core habitats is critical for the long-term viability of flora, fauna and ecosystems. In order to be ecologically sustainable, habitat systems require connectivity to allow species to forage, disperse and breed. Within an urbanised environment, connectivity can be achieved through a combination of maintaining existing corridors and the creation or enhancement of other 'bio-links' on both public and private land.

Biodiversity within the GreenWay is under pressure from threats including habitat loss, the effects of invasive species well as the potential threat of climate change. Management actions specifically tailored to the mitigation of these threats will enable the realisation of the potential of the GreenWay.

A key challenge for biodiversity in the GreenWay is to incorporate ecological needs into an urban setting and so requires not only an appreciation of ecological principles, but also practical, on-ground experience in the integration of ecology with urban design. The work undertaken to complete this strategy has included ecological design, ecological assessment, urban design and landscape architecture.

This strategy aims to inspire both Council and the community to facilitate outcomes, by focusing on opportunities to develop and enhance linkages within the heavily urbanised landscape of the GreenWay catchment.

The Biodiversity Strategy builds on the resources, strategies and planning documents already developed, including the GreenWay MasterPlan & Coordination Strategy 2009, the GreenWay Flora & Fauna Literature Review 2010 and the GreenWay Revegetation & Bushcare Plan 2011.

Through the coordination of the actions of GreenWay partner Councils: Ashfield, Canterbury, Leichhardt and Marrickville, the GreenWay Biodiversity Strategy provides an opportunity for the realisation of larger-scale biodiversity outcomes providing benefits on a regional scale.



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**Title:** Regional Context Plan  
**Project:** GreenWay Biodiversity Strategy  
**Client:** Ashfield Council  
**AWC Ref:** 3-11071  
**Date:** 20.10.12  
**SOURCE:** SMCMA

Figure 2-1 GreenWay Catchment in a regional context – Source CMA

## 2.1 Purpose of this Strategy

This strategy has been prepared to provide a framework and action plan developed through community and stakeholder participation for protecting and enhancing biodiversity on both public and private land within the GreenWay catchment (refer Figures 2-1 and 2-2).

This strategy provides a mechanism for the consolidation and realisation of agreed GreenWay biodiversity objectives established through stakeholder participation during its preparation. This will provide increased understanding of GreenWay biodiversity values and increased community and stakeholder participation in the protection and enhancement of biodiversity within the GreenWay catchment.

The strategy will provide strategic guidance for future Plans of Management, capital works and operational programs for community land within the GreenWay catchment. With the future management of the GreenWay requiring specific on ground management actions, there is a need for a strategic framework which ensures management actions are tailored to suit this unique urban biodiversity corridor. This framework will continue to be delivered as part of current biodiversity activities through community participation, changes to Council's planning and management framework and consultation with advisory agencies. The adoption of this strategy will assist GreenWay partner Councils in meeting their statutory obligations in relation to biodiversity protection.

## 2.2 GreenWay Biodiversity Vision

Through consultation with the wider community and a community working group consultation a vision for the GreenWay has been developed.

Biodiversity in our GreenWay is...

- an important wildlife corridor that is supported by a broader network of green streets and open space, linking habitat areas within and adjacent to the catchment.
- an urban refuge for a wide variety of native plants, animals and other organisms, where biodiversity can adapt and flourish in the face of current and emerging threats.
- supported by a community that feels connected to their local environment and has a sense of ownership of the GreenWay, actively protects the GreenWay and is educated about the importance of biodiversity.

## 2.3 Biodiversity Objectives

The content and actions for the GreenWay Biodiversity Strategy are structured according to the six biodiversity objectives, developed and agreed by community stakeholders to support the realization of the GreenWay Biodiversity vision.

1. Create a flora and fauna corridor which supports the original vegetation of the area, provides habitat, and facilitates movement and migration for a wide range of native plant and animal species throughout the GreenWay catchment;
2. Identify areas within and adjacent to the GreenWay catchment with high biodiversity values that require protection and improve the connectivity between these areas;
3. Protect and enhance the habitat and migration opportunities for locally significant or threatened native species, populations and communities (including the endangered population of Long-nosed Bandicoot), and allow for their continued evolution and survival in and beyond the GreenWay catchment;
4. Engage and educate residents and the broader community, including local businesses and visitors to the GreenWay, to encourage a sense of ownership and participation in protecting and restoring biodiversity in the GreenWay catchment;
5. Mitigate key threats to biodiversity to increase the survival and adaptive capacity of species, populations and ecological communities of plants and animals.
6. Provide strategic guidance to councils, private landowners and major stakeholders on how to coordinate biodiversity management across the four local government areas.





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Figure 2-2: Context Plan

## 3 Biodiversity values in the GreenWay

The GreenWay has unique biodiversity values in the context of a highly developed urban landscape because it comprises of a green space corridor linking two major waterways. The existing areas of vegetation provide habitat for a range of fauna species and there is significant potential for enhancement and expansion to improve habitat for urban biodiversity.

The biodiversity values of the GreenWay have been substantially reduced from historic clearing practices, vegetation fragmentation and weed invasion and hydrological modification. While little structurally intact and diverse vegetation remains and native fauna habitat has been significantly compromised, it is evident that the GreenWay retains biodiversity values for a (relatively limited) range of fauna and flora. The persistence of the Long-nosed Bandicoot population and other threatened fauna supports this, although the loss of naturally occurring high conservation vegetation (including Sydney Turpentine-Ironbark Forest) is unlikely to be replaced on any meaningful scale, given restrictions on available land and the loss of seed banks. Establishment of further bushcare sites will re-introduce native flora to the GreenWay and provide further resources for native fauna.

The Rozelle freight rail corridor (GreenWay corridor) has been maintained as a fully fenced active rail corridor for almost 100 years. As a result, the environment within the corridor has had minimal maintenance and public access is highly restricted. These conditions have resulted in undisturbed niche remnants with high habitat value within an urban setting due to the existing structural complexity of dense weedy vegetation. The unmaintained nature of the corridor actually attracts and supports a level of species diversity that likely to be comparatively high in an urban context (Crawshaw 2009).

Historical vegetation within the GreenWay included estuarine and dry sclerophyll forest communities. Estuarine environments are primarily limited to fringing mangroves along tidal waterways (Cooks River and Hawthorne Canal). Dry sclerophyll forest comprises two communities – sandstone derived vegetation dominated by species such as Smooth-barked Apple (*Angophora costata*), Blackbutt (*Eucalyptus pilularis*) and Red Bloodwood (*Corymbia gummifera*); and Turpentine-Ironbark forest on shale derived soils dominated by Turpentine (*Syncarpia glomulifera*) and ironbark (*Eucalyptus siderophloia*, *E. fibrosa*, *E. paniculata*). The latter is recognised as the Threatened Community, Sydney Turpentine-Ironbark Forest (STIF), and is listed under both the NSW *Threatened Species Conservation (TSC) Act 1995* and the Commonwealth *Environment Protection Biodiversity Conservation (EPBC) Act 1999*.

### 3.1 Fauna

Due to the significant removal and modification of habitat within the GreenWay, habitat for all vertebrate fauna has been substantially compromised. A study completed for Marrickville Council (Australian Museum Business Services 2008) recorded 87 fauna species in locations across the LGA. As noted during field assessment for this strategy, typical fauna include urban adapted bird species such as the Noisy Miner, Red Wattlebird, Pied Currawong and Australian Raven and several skink species, with native frog and mammal diversity expected to be relatively low.

A population of the Long-nosed Bandicoot (*Perameles nasuta*) has been recorded within the GreenWay, and is listed as an endangered population under the *TSC Act 1995*. Two threatened fauna species have also been recorded within the corridor – the Grey-headed Flying-fox (*Pteropus poliocephalus*) and Eastern Bentwing Bat (*Miniopterus orianae oceanensis*).

Due to the highly fragmented nature of the area, connectivity between areas of urban bushland and /or scattered native trees is relatively poor. While highly mobile species such as birds and bats may move freely between areas of habitat, less mobile species such as ground-dwelling mammals (including the Long-nosed Bandicoot) have reduced movement opportunities. The existing railway corridor provides a relatively uninterrupted movement corridor for some species, although the majority of the corridor is highly degraded by environmental weeds.

## 3.2 Flora

### 3.2.1 Remnant Vegetation

Examples of remnant and/or recolonised vegetation within the GreenWay include small and unconnected fragments of original vegetation. There are remnant and/or recolonised native plant species on the western side of the corridor along the cutting between New Canterbury Rd and Constitution Rd including *Acacia falcata*, *Acacia parramattensis*, *Cymbopogon refractus*, *Aristida sp.*, *Austrodanthonia sp.* and *Themeda australis* (GreenWay Sustainability Project 2010).

The railway corridor between Dulwich Hill and Hurlstone Park stations supports examples of native species such as *Acacia suaveolens* (Sweet-scented Wattle), *Syncarpia glomulifera* (Turpentine), *Acacia ulicifolia* (Prickly Moses) and *Acacia longifolia* (Sydney Golden Wattle) as well as grass species from the Turpentine-Ironbark forest such as Kangaroo Grass (*Themeda australis*) and Three-awned Speargrass (*Aristida vagans*) (Hirschfeld 1996).

There are also remnant trees representative of the Turpentine-Ironbark forest within Marrickville Golf Course, while Ashfield Park contains examples of Turpentine and Blackbutt. Red Mahogany (*Eucalyptus resinifera*) occurs within Victoria Square, Summer Hill as well as riparian vegetation along the foreshores of the Cooks River. Summer Hill Public School contains one specimen of Grey Gum (*Eucalyptus punctata*), while Robson Park contains mature examples of Swamp Mahogany (*Eucalyptus robusta*).

Remnants are found mainly where there is a pre-European soil profile present and a restriction in herbicide application or where the presence of skeletal soils have reduced the occurrence of weed infestation (Co-ordination Strategy 2009).

### 3.2.2 Revegetation

There are currently 10 bushcare sites in the GreenWay. These bushcare sites are managed by local Councils, residents, and community groups including the Inner West Environment Group (IWEG), the Cooks River Mudcrabs and Callan Park Bushcare, as well as activities hosted by the GreenWay Sustainability Project.

Revegetation efforts to date have been aimed at the reinstatement of pre-European



vegetation communities, namely Sydney Turpentine Iron-bark forest, Sydney Sandstone Forest and Sandstone Heath communities. Revegetation sites within the GreenWay corridor represent the majority of the native vegetation found along the GreenWay.

Areas of dense vegetation line the rail corridor and adjacent Hawthorne Canal, and while much of this vegetation is weedy, small patches of remnant vegetation remain and the entire area provides excellent habitat for native fauna such as small birds due to its multi-layer structure and inaccessibility to people. Detailed information on vegetation within the GreenWay is described within the Cooks River to Iron Cove Revegetation and Bushcare Plan (Ecological 2011).