VICTORIA State Government | Department of Transport and Planning

Planning Controls for Waterways

Technical Summary Report

November 2025

Authorised

Authorised by the Victorian Government,
Melbourne, December 2025

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Language Statement

Language is important and can change over time, and words can have different meanings for different people. We recognise the diversity of First Peoples, their communities and cultures throughout Victoria. We have used the term 'First Peoples' to refer to all Aboriginal and Torres Strait Islander people who live in Victoria.

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Document Information

Date of approval December 2025
ISBN : 978-0-7311-9377-6 **(pdf/online/MS word)**

Acknowledgment of Country

When Traditional Owners exercise their rights over Country, outcomes improve for First Peoples and all Victorians. The Victorian Government proudly acknowledges the Wurundjeri Woi-wurrung, Wadawarrung and Bunurong, as the Traditional Owners of the Waterways featured in this report, and pays respect to their Elders past and present.

We acknowledge Traditional Owner's ongoing connection to land, waters and sky, and acknowledge the ongoing contribution their custodianship has made to Victoria's Waterways.

We recognise Waterways as living and integrated natural entities, forming dynamic networks that connect and sustain life. Their surrounding lands, wetlands, plants, animals, groundwater, and people all form integral parts of these systems, working together to maintain the health and balance of our waterways. By looking after the waterways, we look after ourselves.

We support the need for genuine and lasting partnerships with Traditional Owners to support self-determination, reflect Treaty and to better protect Country. We also acknowledge First Peoples' self-determination is a right enshrined in the United Nations Declaration on the Rights of Indigenous Peoples. We recognise the hard work of many generations of First Peoples who have fought for these rights to be recognised.

Merri Creek - Heathcote Junction

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Merri Creek - Coburg lake

1.Overview

The Victorian Government has introduced new planning controls to protect 17 waterways as integrated landscape corridors. This report explains the technical work and methodology used to develop and implement these controls.

The significance of waterway landscapes

Waterways are vital to the health and identity of Victorian communities. They support ecosystems and biodiversity, provide natural cooling, and offer spaces for recreation and connection to nature. They also hold deep cultural significance for Traditional Owners, whose knowledge and values must be acknowledged through active involvement in waterway planning and management.

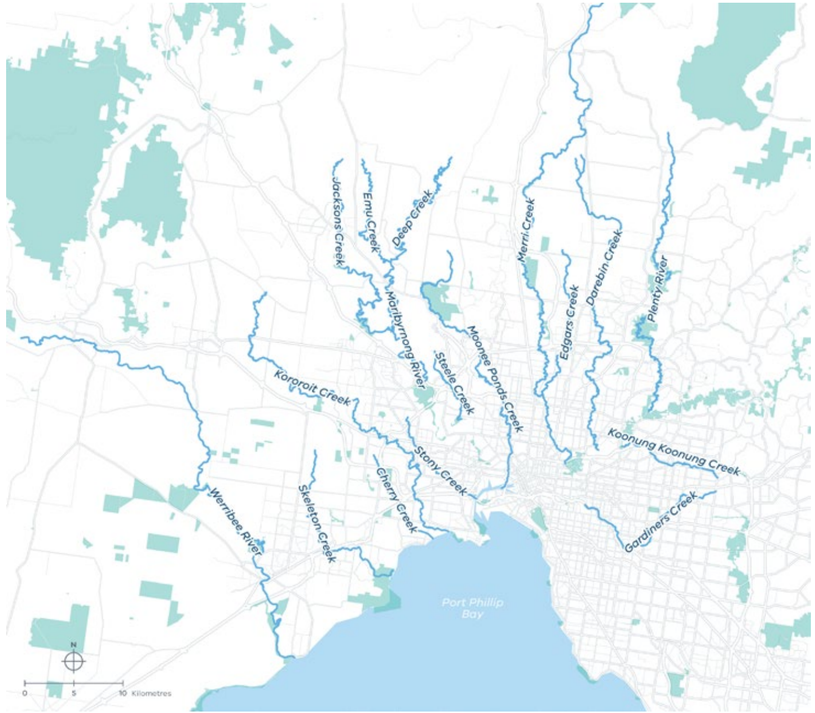
Victoria is experiencing a warmer, drier climate and is the fastest-growing state in Australia. Climate change is intensifying, and most water resources have reached or exceeded sustainable limits.

In Metropolitan Melbourne, waterways and their adjoining parklands contribute significantly to urban ecology and community wellbeing. As the city continues to grow, protecting these interconnected systems is essential to maintaining liveability and environmental resilience for future generations.

Purpose

This document provides an overview of the strategic, technical and engagement work behind the implementation of new Significant Landscape Overlay (SLO) controls, which aim to protect the amenity, as well as cultural and environmental values of the following 17 waterways:

1. Cherry Creek
2. Darebin Creek
3. Deep Creek
4. Edgars Creek
5. Emu Creek
6. Gardiners Creek (Kooyongkoot)
7. Jacksons Creek (biik wurrdha)
8. Koonung Creek (Koonung Koonung)
9. Kororoit Creek
10. Maribyrnong River
11. Merri Creek (Merri Merri)
12. Moonee Ponds Creek (Moonee Moonee)
13. Plenty River (kurrum)
14. Skeleton Creek
15. Steele Creek
16. Stony Creek
17. Werribee River (Wirribi Yaluk)



Map 1 - Overview map of waterways where the new SLOs apply

How this project started

The Planning Controls for Waterways project was initiated in response to an election commitment made in 2022:

"Victoria's natural environment is precious and needs to be protected from overdevelopment. A re-elected Andrews Labor Government will introduce planning controls on [14] key rivers and creeks in Melbourne to create wildlife corridors, protect waterways and restore the natural environment. It'll mean Edgars Creek, Darebin Creek, Gardiners Creek, Jacksons Creek, Koonung Creek, Kororoit Creek, the Maribyrnong River, Cherry Creek, Merri Creek, Moonee Ponds Creek, [Plenty River], Steele Creek, Stony Creek and [Werribee River] are safeguarded from any future inappropriate development – protecting these creeks for local wildlife, families and communities for generations to come."

The Minister for Planning since further approved the inclusion of Deep, Emu and Skeleton Creeks as well as the expansion and revision of existing planning controls for Werribee River, Maribyrnong River and Moonee Ponds Creek.

The SLO controls for the waterways identified in the Victorian Government's 2022 commitment were implemented across the following planning schemes:

1. Hume
2. Brimbank
3. Maribyrnong
4. Merri-bek
5. Melbourne
6. Moonee Valley
7. Hobsons Bay
8. Melton
9. Wyndham
10. Whittlesea
11. Darebin
12. Banyule
13. Stonnington
14. Boroondara
15. Yarra
16. Manningham
17. Nillumbik
18. Whitehorse
19. Monash
20. Moorabool
21. Macedon Ranges
22. Mitchell

Progressive protection for waterways

This program built on over a decade of waterways planning in Victoria, beginning with the introduction of state-level river protection policies in 2015 for Birrarung (Yarra River). Since then, planning controls were expanded to better safeguard the environmental, cultural and landscape values of the state's waterways.

Following the Victorian Government's 2022 commitment to protect 14 metropolitan waterways, the New Planning Controls for Waterways project (2023-2025) was established. The project expanded planning protections to additional urban waterways around Melbourne, informed by technical assessments and engagement with Traditional Owners, councils, agencies and community stakeholders. The timeline on the following page outlines key milestones project, from conception in 2023 to completion in 2025.

2015
- New state policies 'Rivers' and 'Yarra River Protection' introduced via VC121

2017
- Planning Controls for the Yarra River introduced via GC48

2022
- Election commitment to protect 14 key metropolitan waterways
- Planning protections for Waterways of the West (Moonee Ponds Creek, Maribyrnong, and Werribee Rivers) introduced via VC201
- Planning protections for Rivers of the Barwon (Barwon, Leigh, Moorabool, and Yarrowee rivers) introduced via VC201
- Updates to state and regional waterway policy

2023
- New Planning Controls for Waterways Project commences
- Engagement undertaken with Traditional Owners, relevant councils, and government agencies commences
- Technical planning and landscape assessment commences

2024
- Ongoing engagement with key stakeholder groups and Traditional Owners
- Ongoing technical assessments (landscape, planning, and bushfire)

2025
- Public consultation on the proposed controls undertaken between February and March
- Ongoing engagement with key stakeholders
- Refinement of Controls
- Recommendations provided to the Minister for Planning
- Gazettal

Figure 1 - Diagram summary of work to date

2. Traditional Owners

The Bunurong, Wadawurrung and Wurundjeri Woi-wurrung Traditional Owners have cared for the 17 waterways in this report, and the landscapes they flow through, for over a thousand generations. Deeply connected to land, water and sky, the custodianship practiced is rooted in strong cultural, spiritual, and economic ties to these waterways and their surroundings.

The Planning Controls for Waterways Project recognised waterways as living and integrated natural entities, and Traditional Owners as the voice of these living entities. The project sought to embed Traditional Owner values in planning and decision-making processes related to waterway corridors. This includes recognising waterways and the biodiversity they support as vital components of Country that must be cared for and protected.

Planning mechanisms used to protect waterways should reflect and respect the knowledge systems and values of Traditional Owners, acknowledging rivers not just as environmental features but as living beings with inherent rights. Historically, these knowledge systems and management practices have been excluded from mainstream planning and policy.

This project represented a step towards restoring the rightful role of Traditional Owners in waterway planning, by ensuring that Traditional Owners' leadership, authority and ways of caring for Country were recognised and meaningfully incorporated into future planning for Victoria's waterways.

Most of the waterways fall within Wurundjeri Country, with other waterways (or portions of) falling within Wadawurrung and Bunurong Country. Throughout the program, DTP aimed to deliver a project which:

- Reflected Traditional Owners' voice, values and culture in the preparation of new planning controls for these 17 urban waterways
- Gave effect to Traditional Owners' aspirations for waterways, as articulated in Country Plans where possible
- Opened other opportunities for collaboration with Traditional Owners in planning for waterways more broadly
- Offered an opportunity to upskill Traditional Owner Corporations in the detailed aspects of waterways planning.

Statement from Wurundjeri Woi-wurrung

The Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation provided the following statement:

As Traditional Custodians, Wurundjeri Woi-wurrung people have a right to be involved in decisions that impact our Country. Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation welcomes this engagement by the Department of Transport and Planning to provide knowledge and advice.

Sixteen of the the seventeen waterways are within the traditional Country of the Woi-wurrung speaking clans: Baluk-willam, Gunung-willam-balluk, Kurang-jang-balluk, Marin-bulluk, Wurundjeri-balluk and Wurundjeri-willam. These clans are now represented by the Nevin, Terrick and Wandin family groups through the Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation, a Registered Aboriginal Party under the Aboriginal Heritage Act 2006.

The Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation prepared the following 'statement of significance' to share Wurundjeri Woi-wurrung people's deep and enduring connection to these waterways, and to all of Country (water, land and sky).

Baany (water) holds deeply embedded cultural significance for Wurundjeri Woi-wurrung people. Baany-biik (Water Country) is recognised and respected as a living, integrated, natural entity, and is integral to Wurundjeri Woi-wurrung caring for Biik (Country) and cultural practices. It is a fundamental part of Wurundjeri Woi-wurrung culture, community and spirituality.

Baany-biik of the Woi-wurrung-speaking people was (and still is) characterised by river catchments, volcanic plains, grasslands, mountain ranges, rainforest and alpine terrain. The rivers, floodplains, wetlands and billabong networks were the focal living areas of Woi-wurrung-speaking people. Waterways often formed a key part of the travelling pathways from which the grasslands, baany and forests were seasonally accessed and cultivated for food, medicines, resources and the production of material culture. The catchments provided a plethora of plant and animal resources: for food such murnong in spring and eels in summer; reeds and fibre for jewellery, baskets and nets; pelts and sinews for clothing; bark and timber for willams, canoes, tools and vessels; and silcrete, quartz, chert and greenstone for tool making.

Traditionally, items manufactured from localised sources and used by the community held economic value, being gifted, traded and exchanged with neighbouring and distant peoples at ceremonial gatherings and meetings. Eels, blackfish, mussels and other aquatic species were harvested from baany and supported large gatherings of Wurundjeri Woi-wurrung and other peoples. During eel harvest time from late summer to early autumn, cultural burning commenced to ensure the seasonal availability of food and resources from Baany-Biik.

Settler colonialism resulted in dispossession of Wurundjeri Woi-wurrung Country and disruption to Woi-wurrung song lines and cultural practices in caring for Biik. Flow regulation, water harvesting, damming, urbanisation, agriculture, drainage and other modifications to waterways have resulted in unprecedented damage to the condition of Baany-Biik, with corresponding impacts to the people and the lands it has always nourished.

Nevertheless, the cultural significance of Baany-Biik, and Woi-wurrung people's connection to Country, remains strong and highlights the importance of culturally appropriate, reciprocal and restorative practices in baany management. This is true not just for baany in-stream but also its lands - the streamsides, escarpments, floodplains, groundwater - and the people, plants and animals that rely on baany for life.

These natural waterscapes connect Wurundjeri Woi-wurrung people with their ancestral Baany-Biik. Wurundjeri Woi-wurrung people retain ongoing custodial and reciprocal responsibilities to care for Baany-biik. This is a lore to respect, protect and care for Country.

3. Introduction

Policy background

This project built on a long-standing and progressive approach to protecting Victoria's waterways. Over more than a decade, planning policy has evolved to strengthen protections for rivers and creeks across the state.

The policy foundations of this project were underpinned by the former metropolitan strategy *Plan Melbourne 2017 - 2050*, which highlighted the importance of safeguarding Melbourne's open space and waterway corridors from inappropriate development. More recently, *Plan for Victoria* (2025) reinforced this commitment, with specific actions to protect the natural landscape settings of urban waterways from overdevelopment (Actions 18, 20 and 21).

The controls developed as a part of this project were aligned to balanced ecological, cultural, and urban growth objectives, reconciling the complex pressures between protecting waterway amenity and supporting higher-density development in strategic locations along waterway corridors. This included incorporating exemptions for permit triggers in specific locations.

These state-level policy documents were further supported by strategic frameworks including the *Yarra River Action Plan* (2017), *Burndap Birrarung, burndap umarkoo* (Yarra Strategic Plan 2022), *Waterways of the West Action Plan* (2021), and *Rivers of the Barwon Action Plan* (2021).

Furthermore, this work built on the planning controls implemented through planning scheme amendments VC197 (2021), VC201 (2022) and VC281 (2025). These amendments introduced new controls to safeguard the environmental and landscape values of Birrarung (Yarra River), Waterways of the West and Rivers of the Barwon, as well as Victorian waterways more broadly at state level.

Figure 2 - Diagram summary of work to date

Approach to new controls

In exploring approaches to protect other urban waterway landscapes across Melbourne, a methodology consistent with that used for the Birrarung, Rivers of the Barwon, and Waterways of the West projects was applied.

Collaboration with Traditional Owners, together with engagement from stakeholders and the broader community has informed the development of new planning controls. These were further supported by technical studies, including assessments of planning scheme implementation options, landscape character, and bushfire risk.

Amendment VC278

New SLOs to protect 17 urban waterways were introduced through Planning Scheme Amendment VC278, alongside updated state policies in the Victoria Planning Provisions (VPPs) that recognise the significance and interconnectedness of Victorian waterways.

These controls complemented broader planning policies and on-ground actions across the government's Water, Environment and Climate Action portfolios, supporting an integrated approach to managing waterways as living systems. The information in this document outlines the technical analysis which informed the development of these controls.

Step 1

- Initiate Traditional Owner and stakeholder engagement
- Assess landscape character and values

Step 2

- Evaluate landscape sensitivity

Step 3

- Undertake policy, planning scheme, and bushfire assessment

Step 4

- Develop and implement planning scheme response

Figure 3 - Diagram summary of methodology approach

4. Methodology

The Planning Controls for Waterways project methodology comprised two parts. **Part A** included a landscape assessment to create a baseline analysis of existing conditions, while **Part B** comprised a planning analysis and implementation recommendations. Together, these assessments provided an evidence base to inform planning decisions that balance opportunities for development with protection of landscapes and community values across Victoria's waterway corridors.

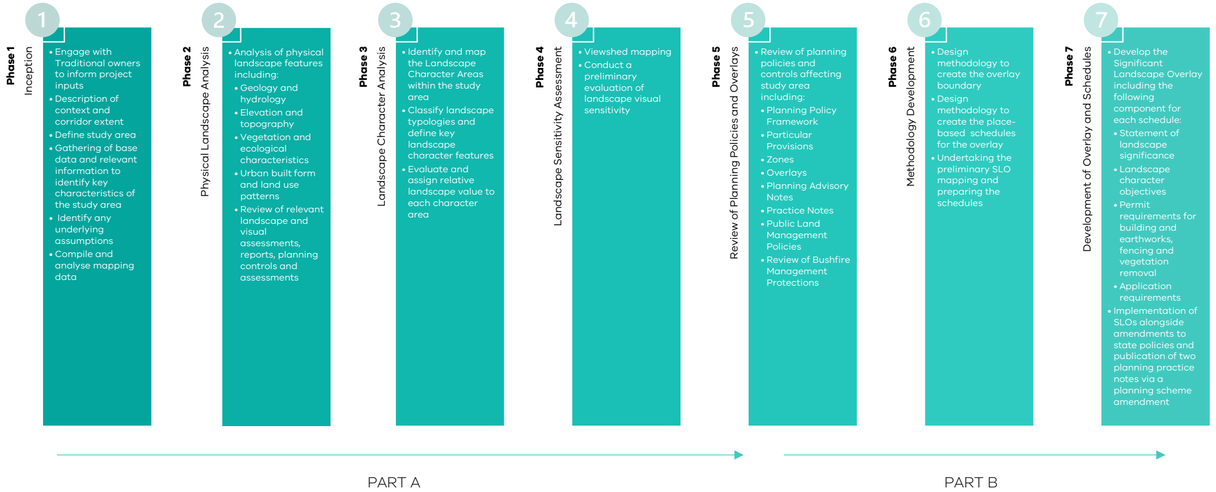


Figure 4 - Diagram summary of project methodology Part and Part B

Merri Creek - Merri Park Wetland

Landscape Assessment Part A

Part A of the landscape assessment involved a baseline analysis of the existing conditions for each waterway. This phase established the current landscape and visual conditions, forming the foundation for the identification and description of distinct landscape character areas within the study area. Key components included landscape character area mapping, evaluation of landscape values, and mapping of visual exposure and visual sensitivity.

Study area: urban waterway corridor landscape

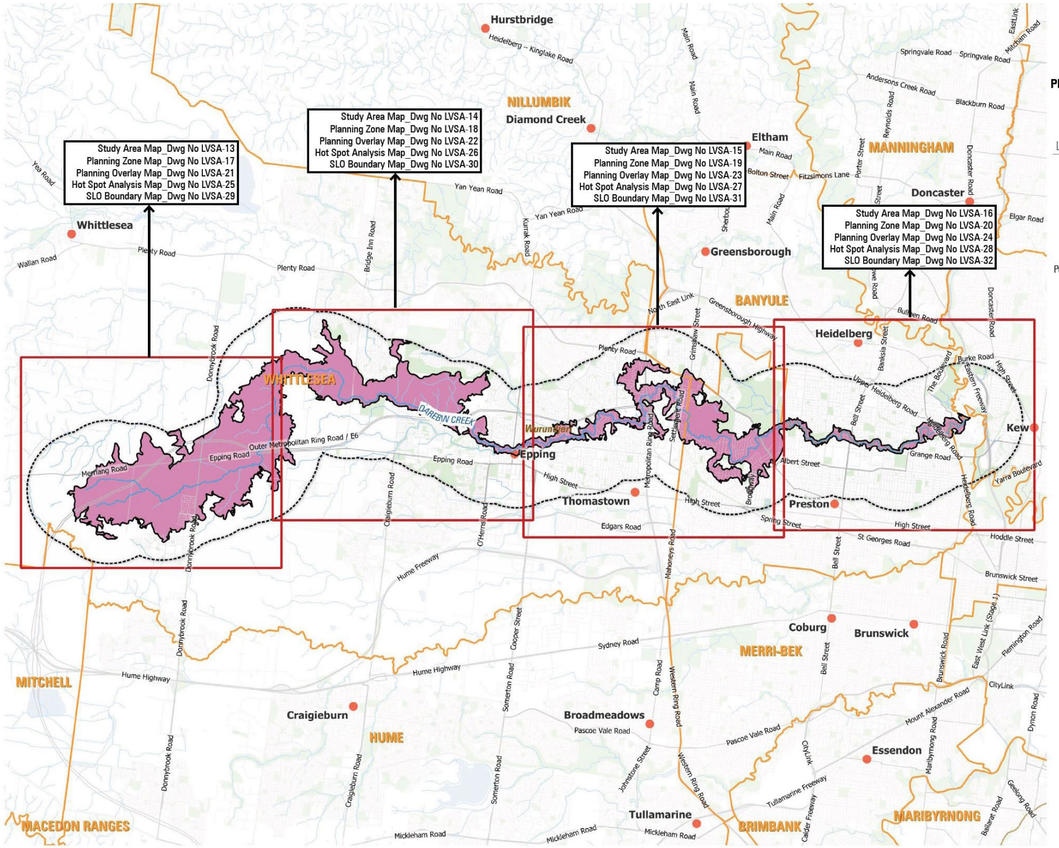
The study area focused on the urban corridors of the waterways, though it also included some rural and green wedge areas. Table 1 shows the approximate length of each waterway and the Registered Aboriginal Party and municipal council areas they flow through.

The study area was established by implementing an initial 2km buffer around each waterway. Viewshed mapping was then used to refine each buffer area, resulting in a more defined boundary which included all locations visible from the waterway centreline within the 2km radius.

The assessment process involved a desktop analysis supported by field studies to verify the findings. This included
establishing existing conditions such as regional context, land use, elevation, hydrology, geology, vegetation and cultural heritage
evaluating landscape characteristics, including visual exposure, sensitivity and overall landscape value.

Waterway	Approximate Length	Country	Municipal Councils
Cherry Creek	12km	Bunurong and Wurundjeri Woi-wurrung	Brimbank, Wyndham, Hobsons Bay
Darebin Creek	50km	Wurundjeri Woi-wurrung	Whittlesea, Darebin, Yarra, Banyule
Edgars Creek	17km	Wurundjeri Woi-wurrung	Whittlesea, Merri-Bek, Darebin
Emu Creek	12km	Wurundjeri Woi-wurrung	Hume
Gardiners Creek (Kooyongkoot)	30km	Wurundjeri Woi-wurrung	Whitehorse, Boroondara, Monash, Glen Eira, Stonnington
Jacksons Creek (biik wurrdha)	100km	Wurundjeri Woi-wurrung	Hume, Brimbank, Melton
Koonung Creek (Koonung Koonung)	12km	Wurundjeri Woi-wurrung	Manningham, Whitehorse, Boroondara
Kororoit Creek	57km	Bunurong and Wurundjeri Woi-wurrung	Melton, Brimbank, Hobsons Bay
Maribyrnong River	41km	Bunurong, and Wurundjeri Woi-wurrung	Hume, Brimbank, Moonee Valley, Maribyrnong, Melbourne
Deep Creek	150km	Wurundjeri Woi-wurrung	Hume, Macedon Ranges, Mitchel
Merri Creek (Merri Merri)	70km	Wurundjeri Woi-wurrung	Mitchell, Hume, Whittlesea, Darebin, Merri-Bek, Yarra
Moonee Ponds Creek (Moonee Moonee)	35km	Wurundjeri Woi-wurrung	Hume, Moonee Valley, Melbourne
Plenty River (kurrum)	47km	Wurundjeri Woi-wurrung	Mitchell, Whittlesea, Nillumbik, Banyule, Darebin
Skeleton Creek	20km	Bunurong	Wyndham, Hobsons Bay, Melton
Steele Creek	9km	Wurundjeri Woi-wurrung	Hume, Brimbank, Moonee Valley
Stony Creek	13km	Bunurong and Wurundjeri Woi-wurrung	Brimbank, Maribyrnong, Hobsons Bay
Werribee River	142km	Wadawurrung, Bunurong and Wurundjeri Woi-wurrung	Wyndham, Melton, Moorabool

▲ *Table 1 - Overview of Waterway Lanscape Assessment*



▲ *Map 2 - Example of Study Area map for Darebin Creek*

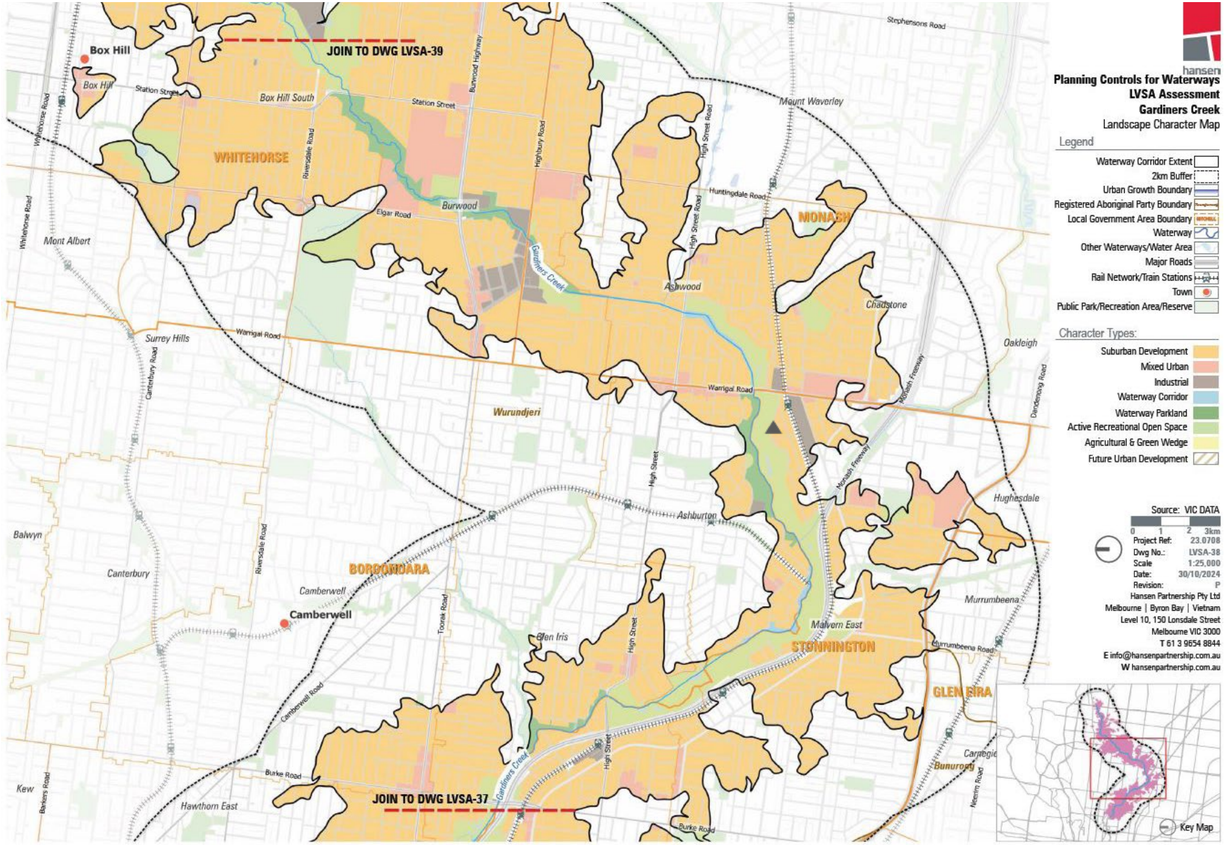
Landscape Character Assessment

This assessment examined the landscape character of waterway corridors within the study area through fieldwork and desktop analysis. It identified key Landscape Character Areas (LCAs) based on topography, land use and built form to determine sensitive landscapes and visual amenity values. The study categorised the area into eight LCAs.

Each LCA was mapped and described for individual waterways, considering internal and external viewpoints, land use and built features. This classification aided in planning and managing landscape sensitivity as well as visual integration. The LCAs are described in the Table 2 and an example of LCA mapping is shown in Map 3 on the following page.

Landscape Character Area	Description
Waterway Parkland	Characterised by dense vegetation along banks, walking trails and open grassland. It is publicly managed and includes estuaries. Built structures are minimal, consisting of park amenities.
Suburban Development	Predominantly residential with local institutions and public spaces. Older areas offer limited views, while newer developments enhance visual connections to waterways.
Future Urban Development	Zoned for growth, transitioning from rural to suburban. Characterised by agricultural remnants and emerging infrastructure.
Agricultural and Green Wedge	Includes rural land with pastoral activities, conservation areas and low-density development. Built form is minimal and views are typically expansive.
Industrial	Consists of large roadways, office buildings, warehouses and visible utility infrastructure. It is often located on flat terrain, sometimes near waterways. The contrast between industrial sites and natural landscapes can be stark.
Active Recreational Open space	Includes sporting fields and parks with pavilions, parking and public amenities. Often connected to Waterway Parkland.
Waterway Corridor (Non-Accessible)	Narrow and often channelised, with restricted public access. Views are limited due to topography or fencing.
Mixed Use Urban Area	Features multi-storey residential and commercial buildings with transportation infrastructure. Newer developments incorporate buffer parklands along waterways.

Table 2 - Summary of Landscape Character Area typologies



Map 3 - Example of Landscape Character map for Darebin Creek

Landscape Value

For this assessment, Landscape Value was broadly defined as the value assigned to a landscape feature, primarily based on its perceived visual quality.

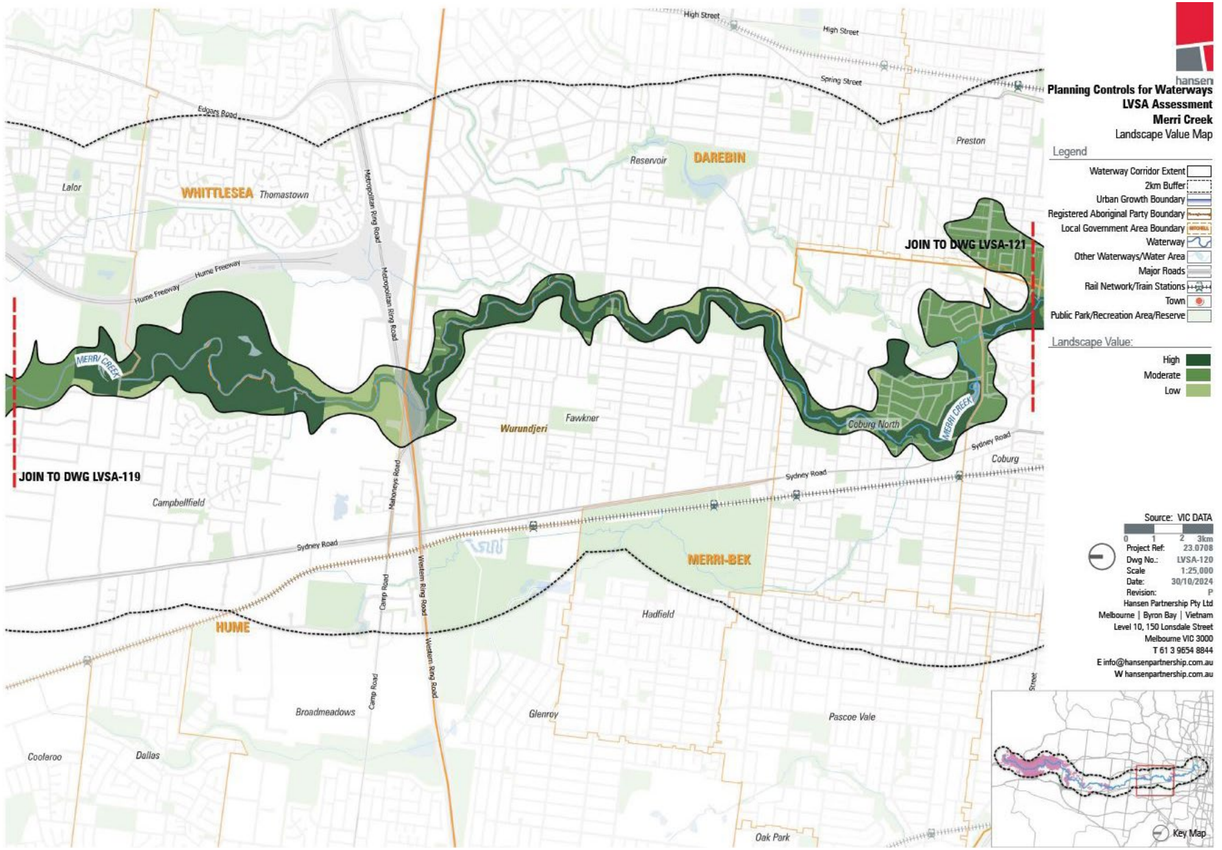
Assessment approach
This study objectively evaluated and assessed the Landscape Value of the area using fieldwork and the *Visual Landscape and Planning in Western Australia* (2007) manual. Landscape Value was determined by community perception of visual quality and statutory controls, including State Planning Policies, National Trust sites, and World Heritage or Ramsar designations.

Landscape Value Categories
Low: Few preferred features, many undesirable ones.
Moderate: More preferred than non-preferred features.
High: Predominantly preferred features, minimal undesirable ones.

Landscape Typologies
Landscape typologies were established to support the evaluation of landscape value, enabling clear differentiation between areas of high visual and environmental quality and those with less desirable attributes. Table 3 summarises the landscape typologies and their corresponding preferred characteristics.

Natural Landscape	✓	Preferred: Diverse agriculture, topographic variety, water bodies, historic features.
	✗	Least Preferred Soil salinity, erosion, abandoned structures
Rural Landscapes	✓	Preferred Native trees, well-maintained farms, unobtrusive infrastructure.
	✗	Least Preferred Industrial areas, degraded land, obtrusive signage
Built landscapes	✓	Preferred Green spaces, historic features, urban water management (water bodies that are well maintained, and open drains with a complementary appearance to the surrounding built form).
	✗	Least Preferred Derelict buildings, excessive advertising, degraded waterways. The assessment ensures an objective approach to planning and conservation based on landscape character preferences and statutory guidelines

Table 3 - Landscape Character Area typologies preferred characteristics



Map 4 - Example of Landscape Value map for Merri Creek

Visual Exposure

This assessment evaluated the visual exposure of the waterway by analysing its visibility within a two kilometre radius and developing a visual sensitivity map. Cumulative viewshed mapping was undertaken to identify areas within the surrounding landscape that are potentially visible from designated viewpoints along the creek's centreline.

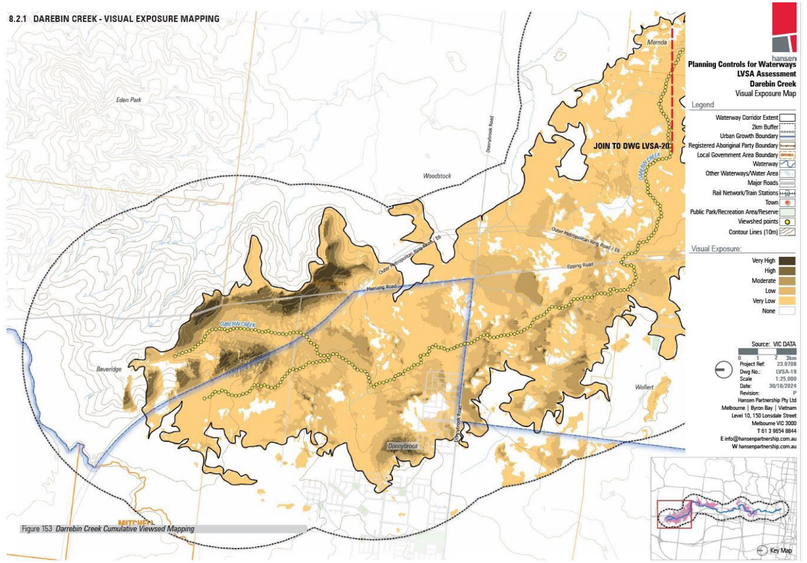
As the analysis was based solely on landform contours, the results represent a conservative estimate and do not account for visual obstructions such as vegetation or built structures.

To support planning and landscape management, the analysis categorised areas into six levels of visual exposure, ranging from very high to none. This helped to identify and prioritise areas of Landscape Value and Visual Sensitivity.

Based on the viewshed analysis, areas in the study area were assigned as having one of the following:

1. Very high visual exposure
2. High visual exposure
3. Moderate visual exposure
4. Low visual exposure
5. Very low visual exposure
6. No visual exposure

These insights informed the planning controls and contributed t a comprehensive Landscape Assessment for the waterways.

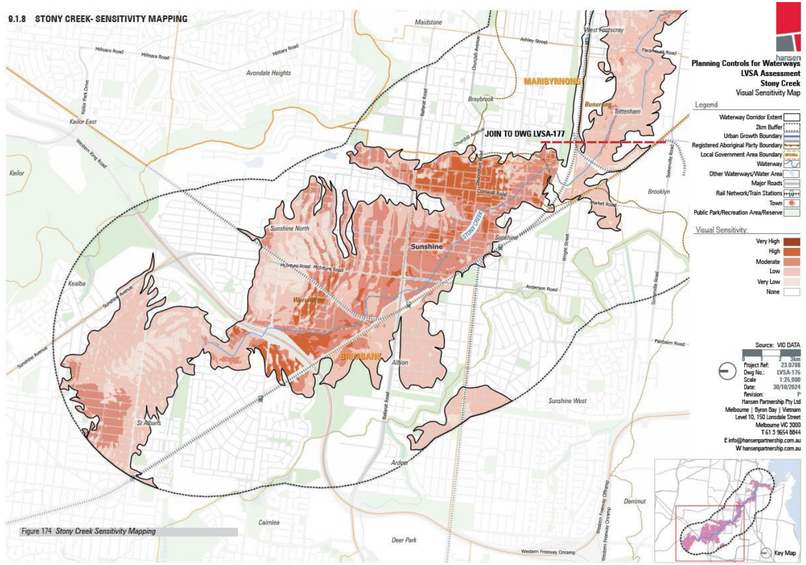


Map 5 - Example of Visual Exposure map for Darebin Creek

Landscape Visual Sensitivity

Varying levels of visual sensitivity across each waterway corridor were determined by reviewing landscape value and visual exposure cumulatively. Visual sensitivity refers to how easily a landscape can tolerate changes without negatively affecting its appearance or value.

Landscapes with higher visual sensitivity have a lower threshold for change, meaning that even minor alterations can have a noticeable impact on their overall significance or visual appeal.



Map 6- Example of Visual Sensitivity map for Stony Creek

Planning Analysis Part B

Part B of the landscape assessment comprises analysis of the planning and policy context for each waterway, and options for implementation of additional planning protection.

Key relevant studies overview

A range of relevant studies have guided the development of planning controls for riparian corridors across metropolitan Melbourne and have been reviewed for the purpose of this project.

Some examples of the documents include, but are not limited to:

- *The Kororoit Creek Strategy* (2006) which outlines biodiversity and recreation priorities for the corridor.
- The *Chain of Ponds-Moonee Ponds Creek Plan* (2018) and the *Moonee Ponds Creek Strategic Plan* (2011) which provide long-term planning frameworks.
- *The Maribyrnong River Valley Design Guidelines* (2010) and *Maribyrnong River Master Plan* (2011) which guide sustainable development along the river.
- *The Stony Creek Plans* (2010, 2011) which support environmental management for the creek.
- *The Merri and Darebin Creeks Discussion Papers* (2023) which also provide a review existing planning controls and recommend ways to strengthen protections for these urban waterways.

Planning Policy

State and local planning policies regulate development along waterways to protect environmental, cultural and recreational values. A comprehensive review of general planning policies and controls was conducted to better understand their current impact on waterway corridor planning and development.

Key policies include Clause 12.03-1S, which seeks to protect all Victorian waterway corridors, and Clause 14.02-1S which requires 50-metre vegetated buffers. Regional policies, such as Clause 12.03R Birrarung seek to provide specific guidance to Birrarung and implement *Burndap Birrarung burndap umarkoo* (*Yarra Strategic Plan 2022-2032*).

In summary, state policies encourage holistic decision making and collaborative planning by the many organisations with caring responsibilities for the waterways and their lands.

Other relevant provisions include Clause 52.08 (resource extraction), Clause 52.12 (bushfire protection), Clause 52.17 (native vegetation preservation), and Clause 53.18 (stormwater management). These policies ensure sustainable development while balancing urban growth, biodiversity, and waterway health across Victoria's riparian corridors.

Zones

Zones dictate the use of the land and permit requirements.

- **Public Zones:** The Public Park & Recreation Zone (PPRZ) and Public Conservation & Resource Zone (PCRZ) designate public land for recreation, conservation and environmental protection.
- **Residential Zones:** These include Housing Choice and Transport Zone (HCRZ), Residential Growth Zone (RGZ), General Residential Zone (GRZ), Neighbourhood Residential Zone (NRZ), and Low-Density Residential Zone (LDRZ), each providing for a different scale and intensity of development relevant to the context of the area.
- **Rural and Agricultural Zones:** The Rural Conservation Zone (RCZ) protects and enhances the natural environment and amenity values. The Rural Living Zone (RLZ) supports rural housing with some agricultural use. The Farming Zone (FZ) prioritises agricultural activities.
- **Urban Growth and Mixed Use Zones:** The Urban Growth Zone (UGZ) manages land transitioning to urban use, while the Mixed Use Zone (MUZ) allows a blend of residential, commercial and industrial activities.
- **Commercial and Industrial Zones:** The Commercial 1 and 2 Zones (C1Z, C2Z) support business and retail, while the Industrial Zones (INZ1, INZ2, INZ3) provide for varying intensities of industrial activities.
- **Special Zones:** These include the Capital City Zone (CCZ), Activity Centre Zone (ACZ), Transport Zone (TRZ), Docklands Zone (DZ) and Precinct Zones (PRZ), each designated for specific development priorities.

Overlays

Overlays provide more specific guidance for development by implementing policy directions and permit requirements

- **Environmental and Landscape:** The Environmental Significance Overlay (ESO) and Vegetation Protection Overlay (VPO) safeguard environmental assets.
- **Heritage and Built Form:** The Heritage Overlay (HO) safeguards cultural heritage, while the Built Form Overlay (BFO) and Design and Development Overlay (DDO) ensure coordinated urban development.
- **Land Management:** The Land Subject to Inundation Overlay (LSIO), Floodway Overlay (FO), and Erosion Management Overlay (EMO) mitigate flood and erosion risks.
- **Other:** The Infrastructure Contributions Overlay (ICO) and Public Acquisition Overlay (PAO) facilitate coordinated urban development.

These zoning and overlay controls play a crucial role in balancing development with environmental and community needs along riparian corridors.

Planning Practice Notes and Advisory Notes

Planning Advisory Notes (AN) and Practice Notes (PPN) provide guidance on Victoria Planning Provisions and planning processes.

For waterways, PPN topics such as vegetation protection, flood provisions, stormwater management, integrated water management and managing potentially contaminated land are relevant. These topics highlight the complexity of waterways and the variety of opportunities and constraints that must be considered when considering water quality and environmental values in land use and development proposals.

AN75 is also relevant as it focuses on stormwater management and introducing integrated water management policies. It emphasises the design, management, and performance of stormwater systems to prevent flooding and pollution.

Public Land Management

The extensive areas of public land and crown land within the study area are governed by individual management plans or legislation administered by relevant authorities, such as Parks Victoria, Melbourne Water or local councils.

In most instances, for development on public land which is consistent with the relevant management plan and the zone provisions, a permit is not required. Although public land is often subject to specific legislative requirements and management plans, there is still the potential for new infrastructure or development to impact its landscape values.

5. Understanding the need for regional waterway overlays

Victoria's post-colonial urban waterways have undergone significant changes due to urban development driven by Melbourne's growth. Historically, waterway management was primarily guided by municipal boundaries, leading to fragmented planning. Recent strategic work has shifted towards a regional-scale approach, resulting in the implementation of SLOs for key waterways like Birrarung, Maribyrnong, and Barwon Rivers.

Based on this previous work, it has been determined that the best way to address gaps in the protection of waterways as a single entity and across municipal boundaries is to apply regional-focused SLOs to waterways.

The SLO can be applied across both public and private land, enabling an integrated and holistic approach to protecting landscape values regardless of land tenure. It is the most appropriate planning tool to offer integrated protection for waterways' landscape values as it can be applied to the full extent of the waterway corridor to recognise it as a its holistic landscape.

The overlay crosses municipal boundaries, and can address issues such as development, vegetation removal and Traditional Owner values. The intent is to improve recognition and protection of waterways, safeguard landscape values, and enhance waterway health and community access.

A single waterway can encompass a diverse range of landscape settings along its length, and a Schedule to the Significant Landscape Overlay (SLO) can reflect this by identifying distinct reaches within that one continuous system. These reaches allow planners to respond to localised landscape values and conditions while still recognising the waterway as a unified, interconnected corridor.

Each waterway reach is assessed based on landscape character, with boundaries defined by factors such as topography and adjacent land use.

The SLO Schedule outlines landscape significance and recognises Traditional Owner cultural values as well as the waterway as a connected and integrated single entity.

The SLO schedule provides consistency across objectives, planning permit triggers and application requirements. While they are consistent, different contexts have been considered, allowing for variations across rural, suburban, and activity centre contexts.

The SLO is considered the preferred base layer across the full length of a waterway. Further localised strategic work is encouraged to explore additional tools best suited for localised issues.

For example, in some areas where additional protection for riparian vegetation is required, the application of the Environmental Significance Overlay (ESO) or the Vegetation Protection Overlay (VPO) may be appropriate for specific ecological communities.

In other contexts, where urban growth encroaches close to a waterway or has the potential to impact its visual, cultural or recreational amenity values, applying a Design and Development Overlay (DDO) could be considered. Through a layered approach to overlays, specific local values and pressures can be addressed.

Methodology informing the SLO extent

The following 'base principles' were used to guide the landscape assessment and mapping of the SLO boundary for each waterway. These principles were applied with the aim of achieving the most logical and consistent outcomes across the study area, given the variety and complexity of waterway interfaces:

- Focus on land identified through a visual sensitivity analysis, covering areas near the waterway corridor.
- Capture the entire waterway corridor reserve, adjacent parklands and public land.
- Include all lots adjoining the waterway corridor, or within 50 metres of the waterway.
- Extend the SLO to include areas of cultural or landscape significance to the waterway.
- Incorporate local roads and the first row of lots facing the waterway.
- Include escarpment tops where highly visible from the waterway, based on the visual sensitivity analysis.
- Include the entirety of vacant properties near the waterway corridor.
- Align the SLO with existing ESO/SLO boundaries where relevant.
- For waterways within growth areas where a Precinct Structure Plan (PSP) applies:
- Align the SLO with logical existing zone or overlay boundaries.
- Follow proposed parkland/reserve boundaries where possible.
- Apply a default 200m buffer on both sides of the waterway in PSP areas not yet commenced.

Development of proposed SLOs and schedules

The methodology for developing SLO schedules addressed the key components for effective waterway protection, set out in Table 4.

Each SLO schedule includeds a 'Statement of nature and key elements of landscape' (or statement of significance) to describe the characteristics and values of the waterway.

For longer waterways, landscape character is not uniform for the entire length, as such two or more reaches were identified. Designation of reaches was informed by assessment of common physical, ecological or land use characteristics, with reaches bounded by natural or built features such as confluences, bridges or changes in landscape. This allowed for a tailored and locally appropriate management approach to the specific conditions of that part of the waterway.

It is significant to note that the SLOs developed are not mandatory and do not necessarily trigger a planning permit in many instances. For example, a planning permit is not required for certain low-impact proposals.

These include development proposals that are under six metres in height, less than 50 square metres in area, and located more than 50 metres from a waterway. Open-style fencing with more than 50 percent transparency is also exempt, as are specified categories of vegetation removal and weed management. Minor earthworks, those under 600 millimetres in depth or undertaken by a public land manager do not require a permit. In addition, development within a Precinct Zone that has an approved masterplan under Clause 37.10 is exempt from permit requirements.

Bushfire planning along Waterways

While improving the natural landscape and vegetation setting of waterway corridors is encouraged, the increase of vegetation must be balanced with the understanding of potential bushfire risks.

As part of the technical assessment for the 17 waterways a bushfire planning review was undertaken on either side of the waterway with a one kilometre buffer. The assessment reviewed bushfire planning policy and controls applicable within the study area, including the extent of Bushfire Prone Areas. Landscape-scale bushfire risk data, historical fire patterns and other information was considered in the assessment.

Different landscape types were identified within the study area, in accordance with the *Planning Permit Applications Bushfire Management Overlay Technical Guide* (DELWP 2017), to evaluate the likely bushfire risk along each waterway.

Based on this assessment, specific provisions were included in the SLO schedules to align with the bushfire risk mitigation measures within the VPPs and ensure that no additional risk would result from the application of the SLO.

Merri Creek - Kalkallo

Merri Creek - Knotts Athletic Field Area

SLO components	Content	How the component protects the waterway
Statement of nature and key elements of landscape	Describes: • Key landscape features such as topography, vegetation, development patterns. • Cultural values, including naming the Traditional Owners, their Country and name for the waterway. • The location of the waterway, how it traverses across the landscape and defining features such as confluence. • Significant flora and fauna and key parks and open spaces. • Bushfire Prone Area status.	By outlining landscape values and significant elements of each waterway, the statement of significance guides assessment of planning permit applications by specifying what values or attributes are intended to be protected.
Landscape character objectives	Include five objectives relating to: • Enhancing the waterway as a continuous corridor. • Preserving indigenous riparian vegetation. • Minimising the visual impact of buildings and works. • Minimising the impact of earthworks. • Ensuring fencing is visually recessive.	The objectives specify the outcomes sought to be achieved by the SLO. A planning permit application must describe how it will meet each of the objectives in relation to the elements described in the statement of significance.
Permit requirements	Includes permit requirements for: • Buildings over 6m in height above natural ground level. • An increase to the existing floor area of a building by more than 50m^2. • Buildings or works within 50m of the top of bank of a waterway. • Earthworks changing the natural ground level by more than 600mm. • Visually impermeable fencing greater than 1.4m (rural post and wire) or 1.8m (other types of fencing) in height, less than 50m from the waterway. • To remove, destroy or lop native vegetation.	Manages encroachment of buildings or works into the sensitive waterway corridor. Assists with the management of sediment runoff by preserving the natural landform. Restrict solid fences within the corridor. Preserve riparian vegetation and canopy trees as landscape features.
	For land within the Housing Choice and Transport Zone (HCTZ), Activity Centre Zone (ACZ) or Precinct Zone (PRZ), or subject to a Built Form Overlay (BFO) permit requirements are varied. A permit is not required for: • Buildings over 6m in height above natural ground level. • An increase to the existing floor area of a building by more than 50m^2. • Building and works if a masterplan has been approved under Clause 37.10-4.	Acknowledges that a higher scale of built form is encouraged within areas designated for housing growth. However, in these locations, the waterways should still be protected and SLO objectives are to be met.
Application requirements	Specify the information that should accompany a planning permit application. Not all requirements will be relevant in every case, as they depend on the context. In general, an application should include plans of the proposed development as well as: • A response to the landscape values and how the proposal responds to the values and threats of the corridor. • A site survey showing the works and top of bank. • A landscape plan.	Ensures the right information is provided to decision makers so they can make informed decisions relating to how a proposal protects the landscape, ecological features, values and amenity of a waterway corridor.
Decision guidelines	Provide instructions to decision makers to enable balanced and informed decisions. Decision makers should consider: • If the built form response is appropriate to the location. • What, if any, is the visual impact. • Does the proposal maintain views or access to the waterway. • Impact of vegetation removal on the landscape setting and its biodiversity values. • Any potential bushfire hazards.	Protects public viewpoints and the amenity experience along waterways, parks, and ridges. Manages the visual impact of development on the natural landscape. Prevention of sedimentation. Protection of cultural and biodiversity values Environmental rehabilitation, balanced with bushfire risk mitigation.

▲ *Table 4 - Significant Landscape Components*

6. Analysis of waterways

This section summarises the key findings from the landscape and technical analysis of each waterway.

Merri Creek - Yarra Bend Park

Cherry Creek

Landscape character

Cherry Creek flows from the basalt plains of Derrimut through established industrial and residential areas before reaching Cherry Lake and emptying into Port Phillip Bay. For much of its length Cherry Creek has been realigned to enable industrial development and is channelised in places.

Defining features

Derrimut Grassland Nature Conservation Reserve has significant biodiversity values and supports various species of grasses which provide important habitat for endangered and vulnerable fauna species.

Cherry Lake offers public access and recreation, however the creek itself has limited access. The lake was established in the 1960s as a flood retention basin. It forms part of the historical coastal wetlands of Altona and features prominent high levee banks on its southern and eastern perimeters

Key values

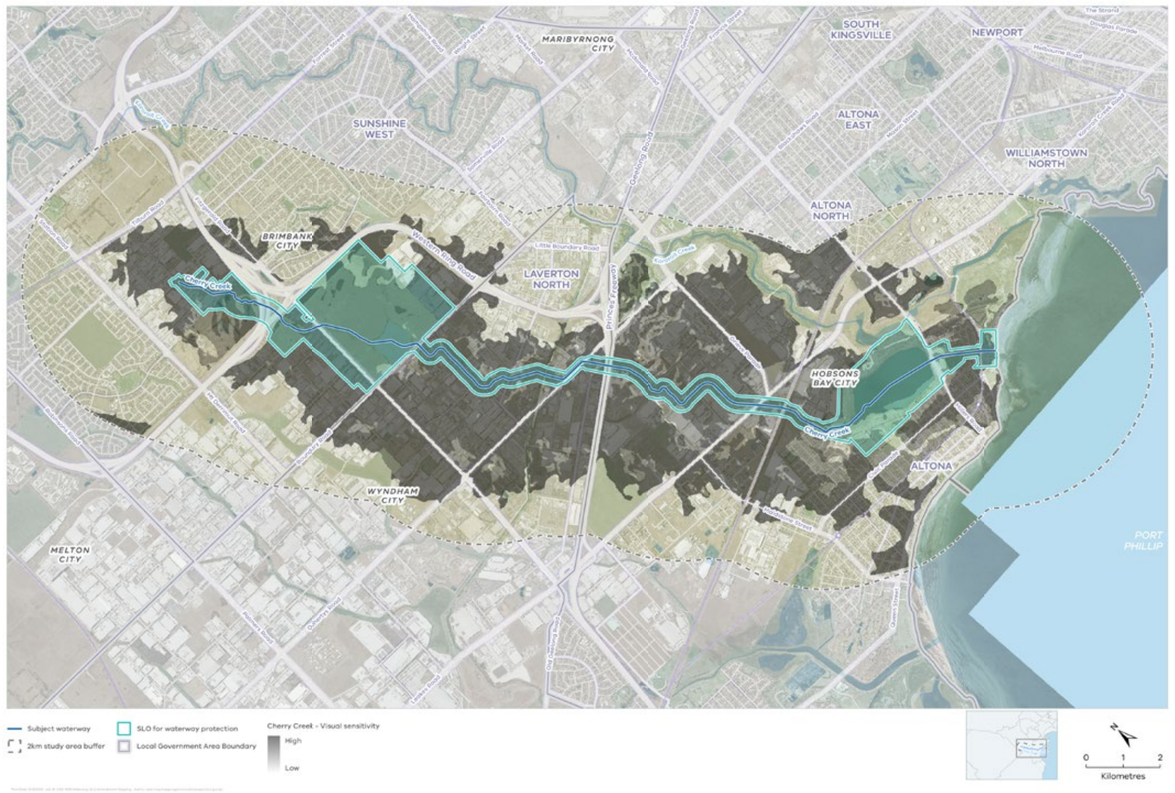
The creek begins in a heavily urbanised, industrial setting and gradually transitions into more natural and recreational landscapes, with ecological values including vegetation such as Chaffy Saw Sedge. This vegetation type supports endangered species like the Altona Skipper Butterfly, particularly upstream of Cherry Lake.

Traditional Owner values

Cherry Creek forms part of the connected system of rivers, wetlands and creeks within the Werribee catchment. Flowing through Bunurong and Wurundjeri Woi-wurrung Registered Aboriginal Party boundaries, Cherry Creek and its landscape hold deeply embedded cultural and spiritual significance for the Traditional Owners, and is recognised as a living and integrated natural entity. There are significant opportunities to work with Traditional Owners to revegetate or naturalise the corridor and re-establish it as an ecological, landscape and recreational link through Melbourne's inner western suburbs.

Figure 5 - Top to bottom: Cherry Creek at Dohertys Road, Cherry Creek Confluence, Cherry Creek at Cherry Lake

Cherry Creek



Map 7- Cherry Creek Landscape Analysis Overview

Darebin Creek

Landscape character

Darebin Creek flows from rural grasslands near Woodstock through farmland, residential suburbs and industrial areas to its confluence with Birrarung at Alphington. Its character transitions from open, cleared landscapes with scattered vegetation in the north to a more urbanised corridor with parklands and infrastructure in the south. The creek supports diverse vegetation, including Plains Grassland and River Red Gums, and follows a geological path shaped by ancient sedimentary and volcanic basalt formations.

Defining features

The creek has benefited from decades of community-led restoration and remains a focus for future ecological enhancement. Key recreational features include the marram bubba Merri Creek Regional Parklands, Darebin Creek Trail, Mt Cooper at Bundoora Park and Darebin Creek Parklands.

Key values

The waterway functions as a vital ecological corridor supporting a wide range of native wildlife including Growling Grass Frogs, Echidnas, Possums, Sugar Gliders, Rakali, Grey-headed Flying Foxes, turtles, eels, fish, and yabbies. Birdlife is abundant and includes Wood Ducks, Tawny Frogmouths, Spotted Pardalotes, Superb Fairy-wrens, Kingfishers and Yellow-tailed Black Cockatoos. Kangaroos are also commonly seen in the rural reaches.

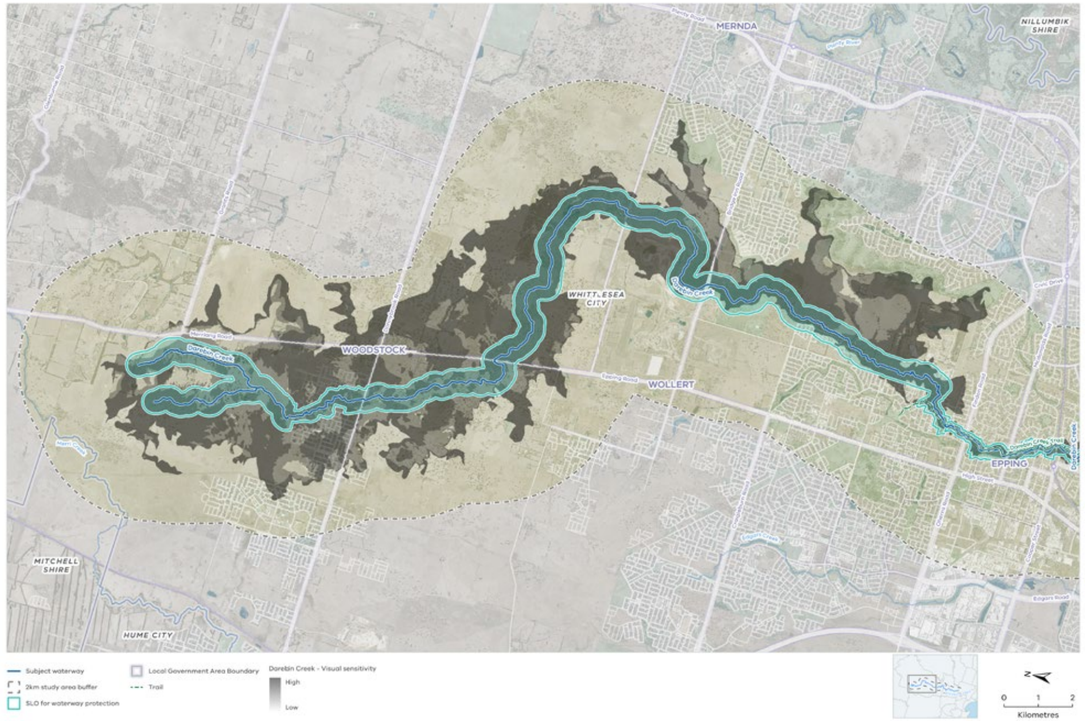
Traditional Owner values

Flowing through Wurundjeri Woi-wurrung Country, Darebin Creek and its landscape hold deeply embedded cultural and spiritual significance for Wurundjeri Woi-wurrung people. Darebin Creek is recognised and respected as a living, integrated, natural entity, with Wurundjeri Woi-wurrung people retaining ongoing custodial and reciprocal responsibilities to care for Baany-biik (Water Country), just as the waterway and its lands continue to support the lives of the people, plants and animals living on it.

Figure 6 - Top to bottom: Darebin Creek at Heidelberg Road Bridge, Darebin Creek Bridge at Ambercorn, Darebin Creek Confluence with Merri Creek

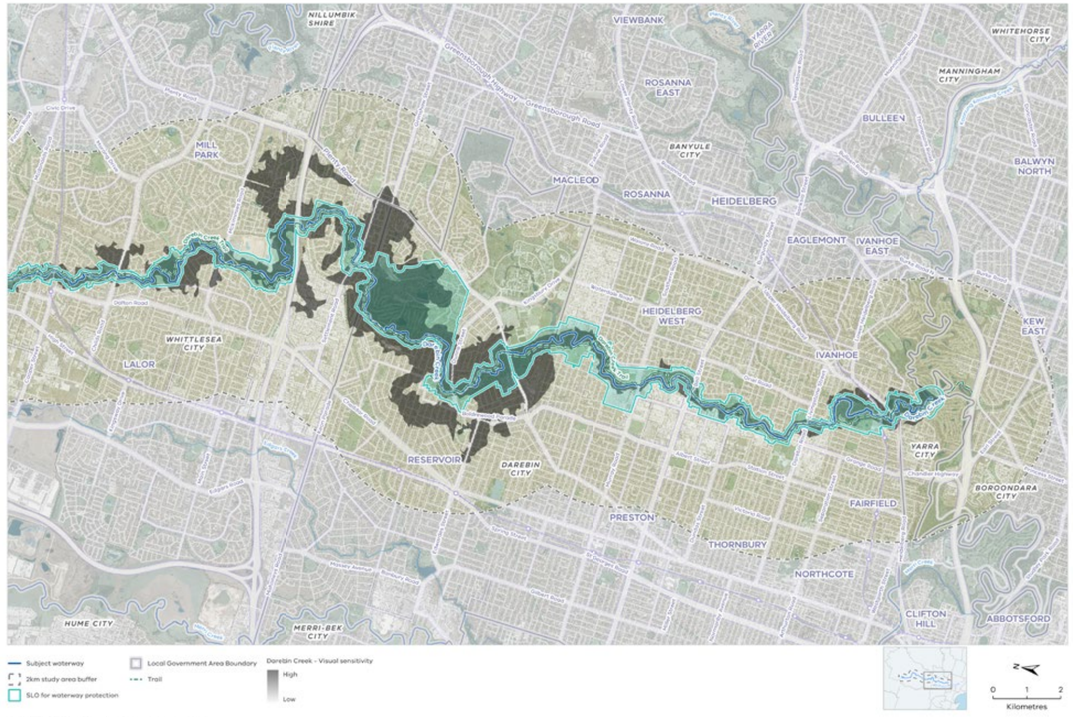
Figure 7 - Darebin Creek at Boral Quarries

Darebin Creek *Upper reaches*



▲ *Map 8 - Darebin Creek Upper Reaches Landcape Analysis overview*

Darebin Creek *Lower reaches*



▲ *Map 9 - Darebin Creek Lower Reaches Landcape Analysis Overview*

Deep Creek

Landscape character

Deep Creek begins in the Macedon Ranges, flowing through the rural areas of Lancefield, Romsey and Darraweit Guim. Deep Creek exhibits varying levels of channel incision, with certain areas characterised by steep escarpments and pronounced erosion. The land surrounding the waterway has been largely cleared for agriculture resulting in sparse native vegetation, though pockets of dense riparian vegetation remain in some areas. Further downstream, the creek becomes more deeply incised south of Bulla, as it merges with Jacksons Creek (biik wurrdha) to form the Maribyrnong River at Keilor North. The waterway can be accessed via Bulla Bulla Streamside Reserve and Martin Dillon Reserve in Wildwood, and from Trap Street Reserve in Bulla, situated below the historic bluestone Bulla Bridge.

Defining features

Melbourne Airport is located east of the Deep Creek and Jacksons Creek (biik wurrdha) confluence, on flat land above deep escarpments.

Key values

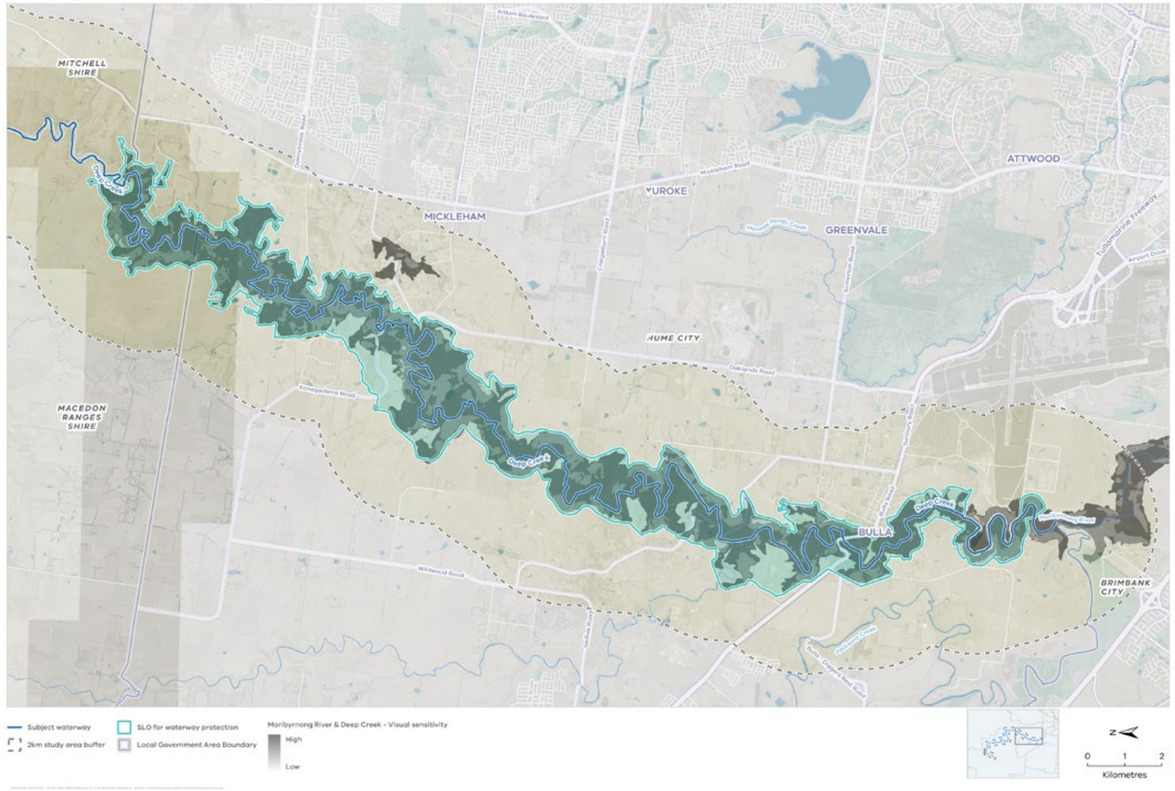
The landscape of Deep Creek is predominantly rural. Ecologically, Deep Creek supports the Peregrine Falcon, Wedge-Tailed Eagle, Powerful Owl, Growling Grass Frog, Yarra Pygmy Perch, Swift Parrot, Platypus, Southern Toadlet, Brown (Bibron's) Toadlet, and Large and Small Ant Blue Butterfly. The Plains Woody Grassland Ecological vegetation class adjacent to the creek are classified as threatened and form an important part of the region's remaining native ecosystems.

Traditional Owner values

Flowing through Wurundjeri Woi-wurrung Country, Deep Creek and its landscape hold deeply embedded cultural and spiritual significance for Wurundjeri Woi-wurrung people. Deep Creek is recognised and respected as a living, integrated, natural entity, with Wurundjeri Woi-wurrung people retaining ongoing custodial and reciprocal responsibilities to care for Baany-biik (Water Country), just as the waterway and its lands continue to support the lives of the people, plants and animals living on it. The confluence points of Deep Creek with Emu Creek, Jacksons Creek (biik wurrdha) and the Maribyrnong River are of high cultural significance for Wurundjeri Woi-wurrung people.

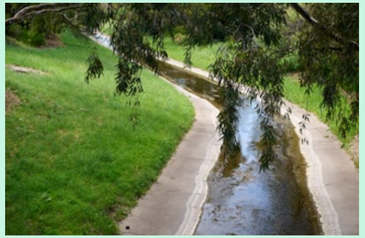
Figure 8 - Top to bottom: Upper Deep Creek

Deep Creek



Map 10- Deep Creek Landscape Analysis Overview

Edgars Creek



Landscape character

Edgars Creek flows south from newly developed areas in Wollert, where it meanders through parklands and native plantings. This upper reach retains elements of basalt plains grassland and provides important habitat links. As the creek enters Lalor it becomes highly urbanised, often confined to concrete channels and narrow corridors behind residential and industrial properties. In this section vegetation is mostly sparse, though parts of the Edgars Creek Trail provide connections to local open spaces.

Further south in Reservoir, the creek opens into broader parklands and wetlands where the landscape becomes more natural and features canopy trees, escarpments and a wide floodplain which supports both flood management and recreation.

Defining features

Key locations along its course include the Craigieburn grasslands, Huskisson Recreation Reserve, Ziebell's Farmhouse and Edwardes Lake (an artificial flood management lake). The creek also features Edgars Creek Wetlands next to Leamington and Jackson Reserve, with the Edgars Creek Trail linking these open spaces. Furthermore, its confluence with Merri Creek holds deep cultural significance for the Wurundjeri Woi-wurrung people.

Figure 8 - Top to bottom: Edgars Creek Reservoir, Edgars Creek O'hearns Road Epping, Edgars Creek confluence with Merri Creek

Key values

Edgars Creek supports a rich diversity of ecological and biodiversity values, with significant habitats such as the nationally important Craigieburn Grasslands and areas of remnant vegetation, including River Red Gums and Yellow Box. These habitats provide crucial support for a range of native species, including the Striped Legless Lizard, Golden Sun Moth, Growling Grass Frog, Pobblebonk Frog and Grey-headed Flying Fox.

The creek's ecosystems also sustain a variety of aquatic life, including fish, freshwater mussels, yabbies, and eels. Key wetland areas, such as Leamington Street Wetlands and Edwardes Lake, further enhance the biodiversity of the region, offering valuable habitats for both plant and animal species.

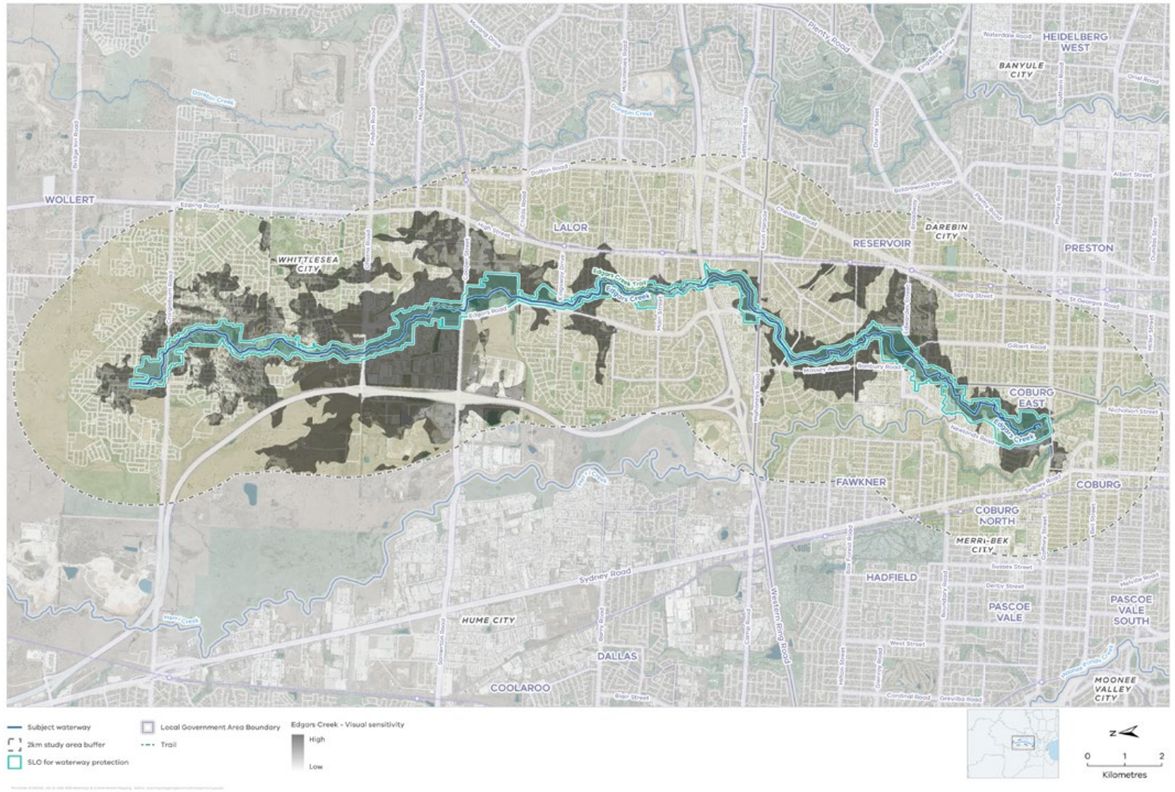
Traditional Owner values

Flowing through Wurundjeri Woi-wurrung Country, Edgars Creek and its landscape hold deeply embedded cultural and spiritual significance for Wurundjeri Woi-wurrung people. Edgars Creek is recognised and respected as a living, integrated, natural entity, with Wurundjeri Woi-wurrung people retaining ongoing custodial and reciprocal responsibilities to care for Baany-biik (Water Country), just as the waterway and its lands continue to support the lives of the people, plants and animals living on it.

Edgars Creek provided fresh water and a resource-rich environment that supported Wurundjeri Woi-wurrung life, with an abundance of fish, freshwater mussels, yabbies, eels, bird life and plant resources. Grasslands adjacent to the creek were periodically burnt to promote the growth of the Murnong (Yam Daisy), and to encourage emus, kangaroo and other mammals to graze fresh growth after fire.

Map 11 - Edgars Creek Landscape Analysis Overview

Edgars Creek



Emu Creek

Landscape character

Emu Creek flows through Melbourne's outer northwestern region, traversing a varied landscape of open rural areas, undulating plains and steep escarpments. The creek winds through a natural corridor lined with prominent River Red Gums and a diverse understorey, providing important habitat and playing a key role in ecological conservation.

The surrounding rural landscape is marked by cleared paddocks and scattered trees, reflecting a modified pastoral setting. As urban development expands around Sunbury, sections of the waterway corridor are increasingly integrated into residential areas through the creation of linear parklands. The landscape also includes areas affected by quarrying and landfill activities.

Defining features

The confluence of Emu Creek and Deep Creek is of high cultural value for the Wurundjeri Woi-wurrung people.

Key values

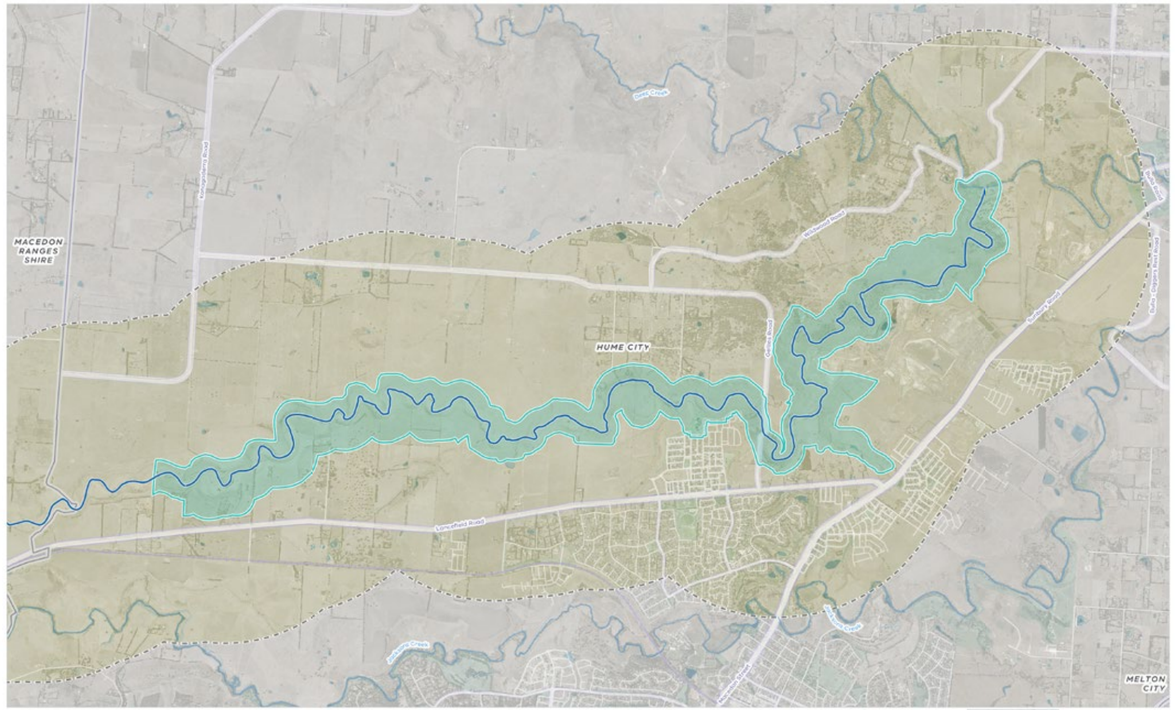
Though much of the landscape is heavily modified for agriculture, the creek provides critical habitat for a diverse range of flora and fauna, including River Red Gums, understorey plants, and species such as the Growling Grass Frog, which is of strategic conservation importance.

Traditional Owner values

Flowing through Wurundjeri Woi-wurrung Country, Emu Creek and its landscape hold deeply embedded cultural and spiritual significance for Wurundjeri Woi-wurrung people. Emu Creek is recognised and respected as a living, integrated, natural entity, with Wurundjeri Woi-wurrung people retaining ongoing custodial and reciprocal responsibilities to care for Baany-biik (Water Country), just as the waterway and its lands continue to support the lives of the people, plants and animals living on it. The confluence of Emu Creek and Deep Creek is of high cultural significance for Wurundjeri Woi-wurrung people.

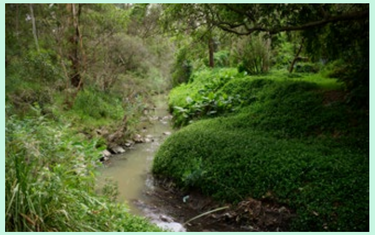
Figure 9 - Top to bottom: Upper Emu Creek

Emu Creek



Map 12 - Emu Creek Landscape Analysis Overview

Gardiners Creek (Kooyongkoot)



Landscape character

Gardiners Creek (Kooyongkoot) originates at Blackburn Lake, flowing southwest then northwest to its confluence with Birrarung at Hawthorn. It traverses a carved valley with floodplains shaped by sedimentary and alluvial processes though further downstream its natural form is highly modified by urbanisation, including concrete channels and infrastructure. The corridor includes tributaries like Scotchman's Creek and supports areas of remnant Floodplain Riparian and Plains Grassy Woodland vegetation. At points along the waterway there are significant pressures from stormwater runoff and weed infestation.

Defining features

The Gardiners Creek Trail, a 17 kilometre shared-use path, links a series of remnant wetlands and bushland reserves such as Blackburn Lake Sanctuary and Glen Iris Wetlands. The creek corridor offers extensive recreational access, with connected parklands from Nunawading to Birrarung, providing a continuous green corridor for walking, cycling and commuting across the eastern suburbs.

The creek also intersects with major transport infrastructure, including the Monash Freeway, where the shared path is suspended beneath the motorway. The corridor lies within the Burwood Precinct of the proposed Suburban Rail Loop East which will become a focus of future housing growth, presenting opportunities to naturalise a section of the waterway and enhance its adjoining public spaces.

Figure 10 - Top to bottom: Gardiners Creek Furness Park, Gardiners Creek Bourke Road area, Gardiners Creek at Malvern Valley Golf Course

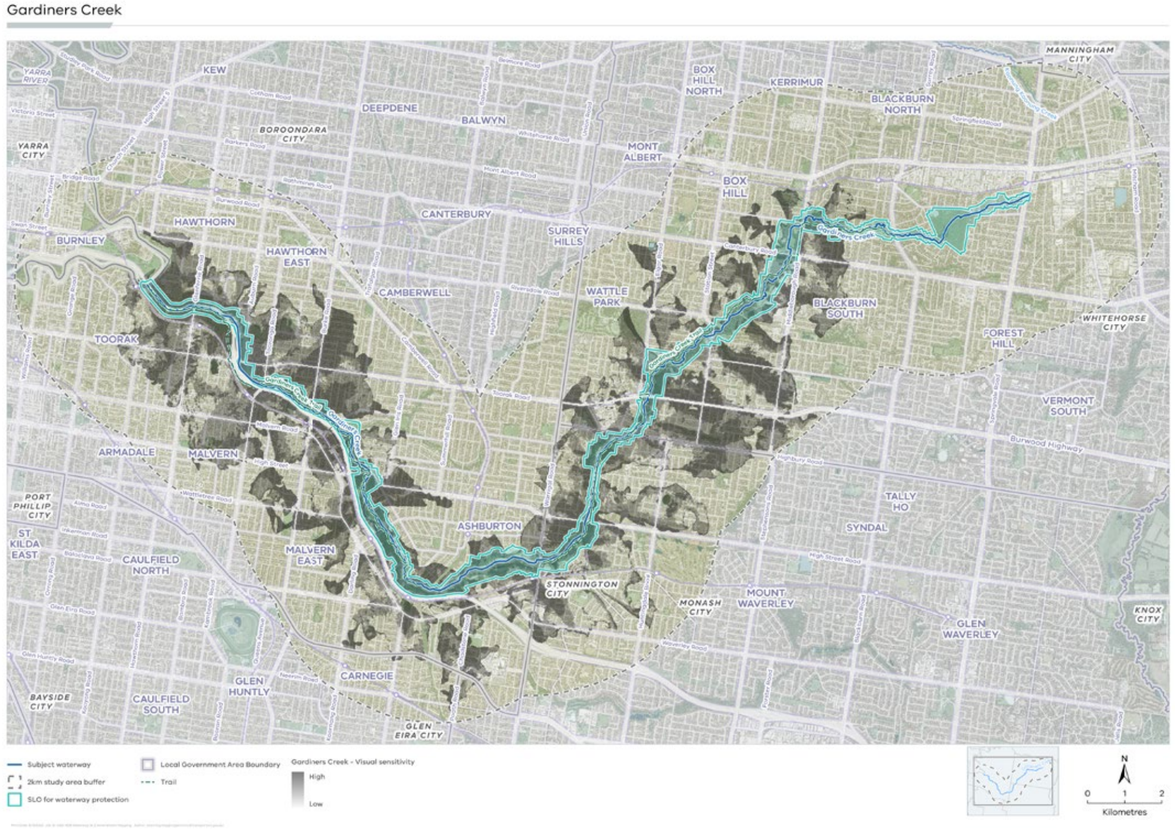
Key values

Despite urbanisation and channelisation, the creek remains a vital ecological corridor supporting diverse native species including Powerful Owls, Rakali, Growling Grass Frogs, and native fish like the Common and Climbing Galaxias. With increased development expected along its corridor, particularly around the Suburban Rail Loop precinct, there are key opportunities to enhance the creek's role as a natural, cultural, and recreational asset through revegetation, naturalisation and sensitively designed development interfaces.

Traditional Owner values

Gardiners Creek and its landscape hold deeply embedded cultural and spiritual significance for Wurundjeri Woi-wurrung people. It is recognised and respected as a living, integrated, natural entity, with Wurundjeri Woi-wurrung people retaining ongoing custodial and reciprocal responsibilities to care for Baany-biik (Water Country), just as the waterway and its lands continue to support the lives of the people, plants and animals living on it. Gardiners Creek was an environmentally rich area with a diversity of flora and fauna that sustained and were cared for by Wurundjeri Woi-wurrung people. The confluence of Gardiners Creek and Birrarung is of high cultural significance for Wurundjeri Woi-wurrung people.

Map 13 - Edgars Creek Landscape Analysis Overview



Jacksons Creek (biik wurrdha)

Landscape character

Jacksons Creek (biik wurrdha) originates east of Gisborne, and travels southeast to its confluence with Deep Creek near Sunbury. The upper catchment is defined by broad rural landscapes and linear vegetation corridors, while the lower reaches include rocky outcrops and escarpments, such as those at Organ Pipes National Park. The creek supports wetlands, grasslands and remnant vegetation providing habitat for a variety of flora and fauna. As urban development expands near Sunbury, the creek remains a valued natural and cultural corridor requiring sensitive management.

Defining features

The waterway is noted for the volcanic cones north of Sunbury to rocky outcrops, escarpments, and basalt formations such as those at Organ Pipes National Park. Key features include the Holden Flora and Fauna Reserve, Jacksons Hill, the culturally significant Emu Bottom Wetlands and the Sunbury Earth Rings.

Key values

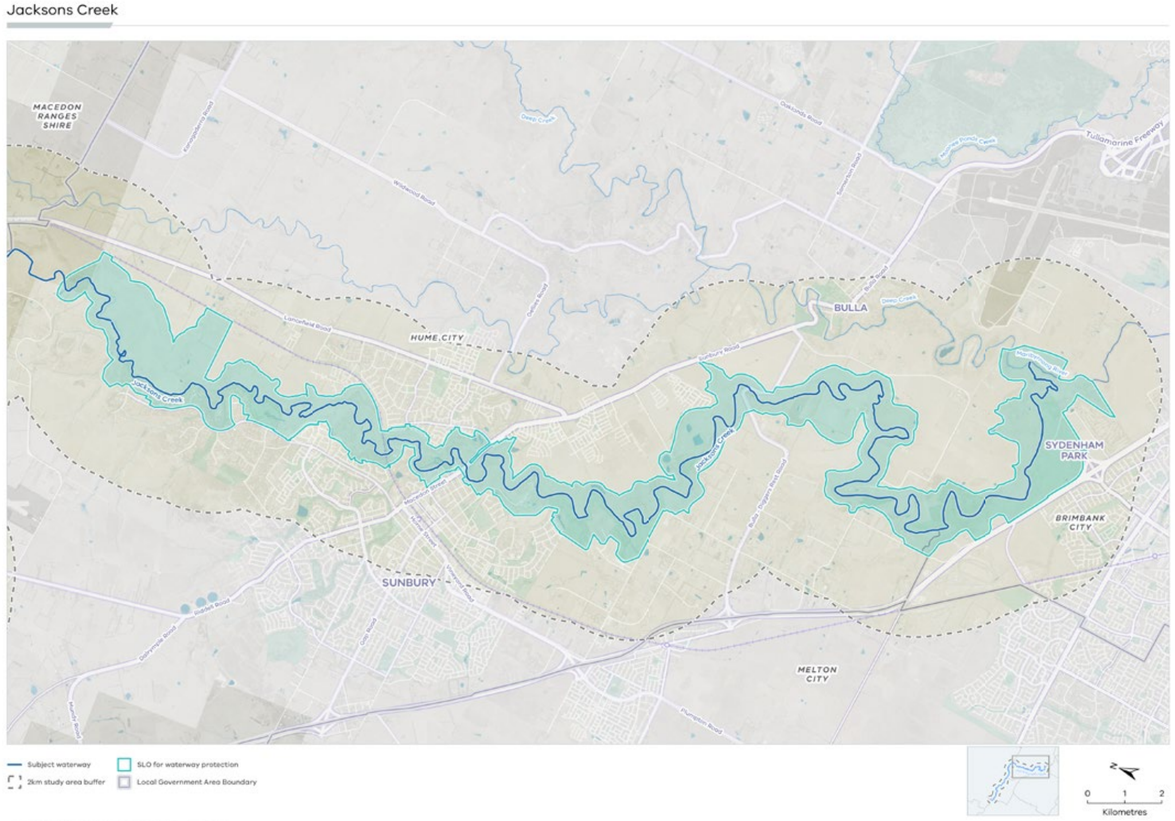
The corridor supports diverse species such as fish, including Spotted Galaxias, River Blackfish, Short-Finned Eel, Flat-Headed Gudgeon, Common Jolly Tail and Mountain Galaxia; frogs including the Growling Grass Frog and Brown (Biron's) Toadlet; as well as Platypus, Rakali and Kangaroo.

Traditional Owner values

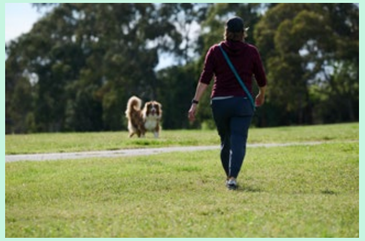
biik wurrdha, is the Woi-wurrung name for Jacksons Creek, means "big Country" or "land of plenty" in Woi-wurrung language. Jacksons Creek and its landscape hold deeply embedded cultural significance for Wurundjeri Woi-wurrung people. Jacksons Creek is recognised and respected as a living, integrated, natural entity, with Wurundjeri Woi-wurrung people retaining ongoing custodial and reciprocal responsibilities to care for Baany-biik (Water Country), just as the waterway and its lands continue to support the lives of the people, plants and animals living on it. The Sunbury Earth Rings, a feature of Marin balluk and Wurundjeri Woi-wurrung occupation, are an integral feature of the Jacksons Creek cultural landscape.

Figure 11 - Top to bottom: Jacksons Creek at Organs Pipe National Park, Jacksons Creek at Organs Pipe National Park, Jacksons Creek Sunbury

Map 14 - Jacksons Creek Landscape Analysis Overview



Koonung Creek (Koonung Koonung)



Landscape character

Koonung Creek (Koonung Koonung) flows through Melbourne's eastern suburbs, traversing a largely urbanised landscape shaped by residential development and major infrastructure. The creek originates in Nunawading and winds westward through Box Hill, Doncaster and North Balwyn before meeting Birrarung in Bulleen. Its corridor features gently incised banks, remnant wetlands and billabongs, and is lined with established vegetation including mature trees and native understorey. While the Eastern Freeway has been constructed along the creek, sections of the waterway retain a natural character and ecological value. Despite past modification, the landscape supports diverse wildlife and offers opportunities for restoration, contributing to a valued green spine.

Defining features

Though shaped by urban development and the Eastern Freeway, Koonung Creek remains a vital corridor with high ecological, recreational and cultural value. Key defining features along its length include the Koonung Creek Wetlands, Valda Wetlands, Boronia Grove Reserve Wetlands, and a series of connected open spaces such as Elgar Park and Yarra Flats Parkland. The Koonung Trail follows the creek, linking these reserves and enhancing public access. Its confluence with Birrarung holds deep cultural significance for the Wurundjeri Woi-wurrung people.

Key values

The remnant billabongs and wetlands of the Koonung Creek corridor provide habitat for a variety of native species. These include the Pobblebonk Frog, Common Eastern Froglet, Little Pied Cormorant and Purple Swamphen. The established vegetation along the creek, including mature trees and understorey plants, contributes to a connected habitat corridor through the eastern suburbs.

Traditional owner values

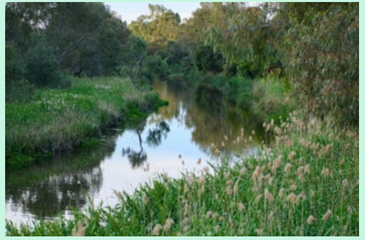
Flowing through Wurundjeri Woi-wurrung Country, Koonung Creek and its landscape hold deeply embedded cultural and spiritual significance for Wurundjeri Woi-wurrung people. Koonung Creek is recognised and respected as a living, integrated, natural entity, with Wurundjeri Woi-wurrung people retaining ongoing custodial and reciprocal responsibilities to care for Baany-Biik (Water Country), just as the waterway and its lands continue to support the lives of the people, plants and animals living on it.

Koonung Creek was once an environmentally rich area with a diversity of flora and fauna. Prior to and during colonial settlement the creek was a valuable source of food for Wurundjeri Woi-wurrung people. There is evidence of Aboriginal people farming yabbies, blackfish and mussels from its water and harvesting Myrnong (Yam Daisy), kangaroos, wallabies and emus from the surrounding land. Other species commonly found today are the Pobblebonk Frog, Common Eastern Froglet, Little Pied Cormorant and Purple Swamphen. The confluence of Koonung Creek and Birrarung is of high cultural significance for Wurundjeri Woi-wurrung people.

Figure 12 - Top to bottom: Koonung Creek at Jackson Road, Koonung Creek Reserve, Koonung Creek North East Link area

Map 15 - Koonung Creek Landscape Analysis Overview

Kororoit Creek



Landscape character

Kororoit Creek originates west of Mt Kororoit near Diggers Rest, before travelling southeast through rural areas, new and established residential suburbs, as well as industrial and commercial areas near Altona. Formed across the volcanic plains of western Melbourne, the waterway varies in its level of incision.

Near its source, Kororoit Creek features open grazing land with low volcanic hills nearby before the waterway becomes wider, deeper and more undulating as it flows south. In its middle southern urban area, the creek corridor further widens with various reserves and recreation areas which are connected by the Kororoit Creek trail. The southern most urban area includes industrial development, prior to reaching its estuary at Port Phillip Bay.

Defining features

Mt Kororoit, a volcanic hill is visible from multiple sections along the waterway. Kororoit Creek's southern reaches are known for large industrial and petrochemical complexes, including the Mobil oil refinery.

Key values

Linear open spaces along the corridor provide valuable recreational opportunities as well as important habitat for flora and fauna. Ecologically, the waterway is home to River Red Gums, White Butterfly, Striped Legless Lizard, Growling Grass Frog, Bibron's Toadlet, Rakali, Powerful Owls, and Shorebird Egrets.

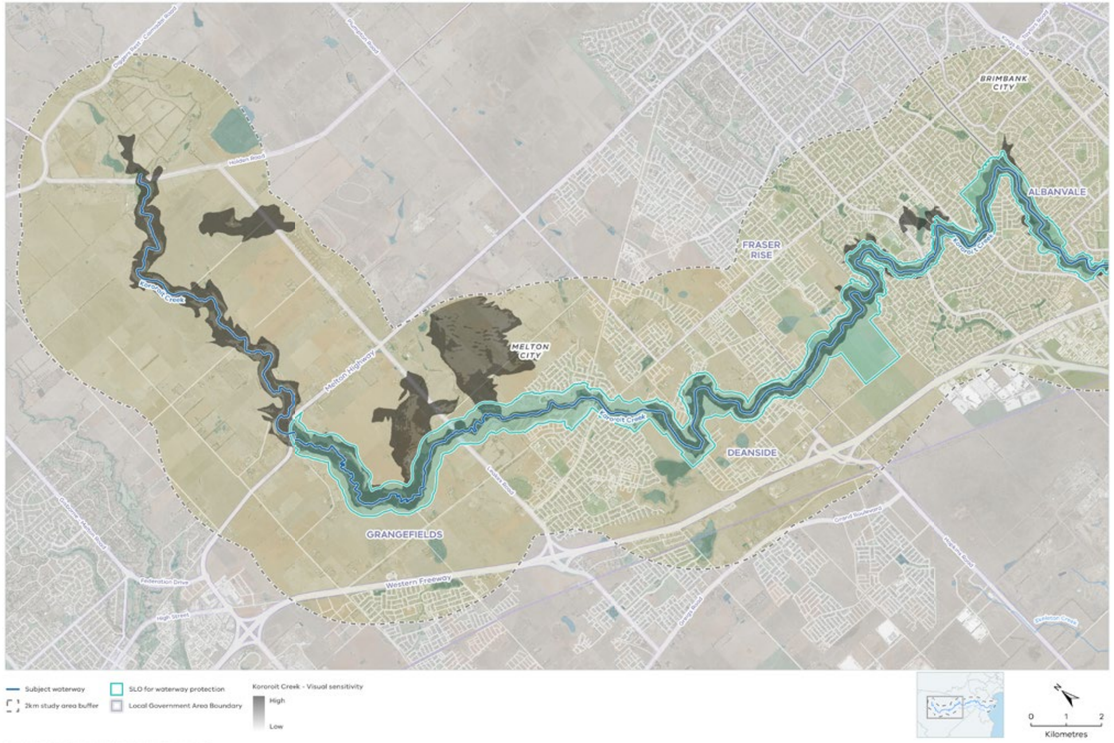
Traditional Owner values

Flowing through Wurundjeri Woi-wurrung and Bunurong Registered Aboriginal Party boundaries, Kororoit Creek and its landscape hold deeply embedded cultural and spiritual significance for the Traditional Owners and are recognised as a living and integrated natural entity.

Figure 14 - Top to bottom: Kororoit Creek Westwood Drive Bridge, Kororoit Creek Bonniebrook Road, Kororoit Creek Nature Reserve Altona

Figure 15 - Kororoit Creek Melton Highway

Kororoit Creek *Upper reaches*



▲ *Map 16 - Kororoit Creek Upper Reaches Landcape Analysis Overview*

Kororoit Creek *Lower reaches*

▲ *Map 17 - Kororoit Creek Lower Reaches Landcape Analysis Overview*

Maribyrnong River (Mirrangbamurn)

Landscape character

The Maribyrnong River (Mirrangbamurn) flows from Melbourne's outer northwest at Keilor Park through to Footscray, carving a diverse landscape that transitions from rural and peri-urban settings to dense urban and industrial areas. The river is deeply incised in its upper reaches, winding through steep escarpments and open, sparsely vegetated rural land.

Further downstream the river corridor broadens and features sloping riverbanks, remnant riparian vegetation and extensive parklands. As the river approaches the city, its floodplains become more prominent, accommodating wetlands, shared trails and recreational spaces. In the lower reaches, the landscape becomes increasingly industrial with modified banks and limited green space near the confluence with Birrarung.

Defining features

The Maribyrnong River corridor includes a range of distinctive places, reflecting its varied landscape character. These include the steep escarpments and cultural as well as archaeological significance of Murrup Tamboore in Keilor, the expansive parklands and river valley at Brimbank Park, and the sloping vegetated banks of Afton Street Conservation Reserve.

Canning Reserve and Pipemakers Park provide key urban parkland interfaces, while Newells Paddock and Frogs Hollow Wetlands support important floodplain and wetland habitats. In the lower reaches, sites like Footscray Park and Riverside Park offer valued open space, while the industrial areas around Coode Island denote a highly modified and constrained river edge near the confluence with Birrarung.

Key values

Although a considerable amount of the surrounding landscape has been cleared, the river corridor retains patches of remnant riparian vegetation which include species such as the River Red Gum and Manna Gum, providing critical habitat and ecological connectivity. The waterway supports a diversity of native fauna, including the Growling Grass Frog, which relies on the river and its associated wetlands and billabongs for breeding and foraging.

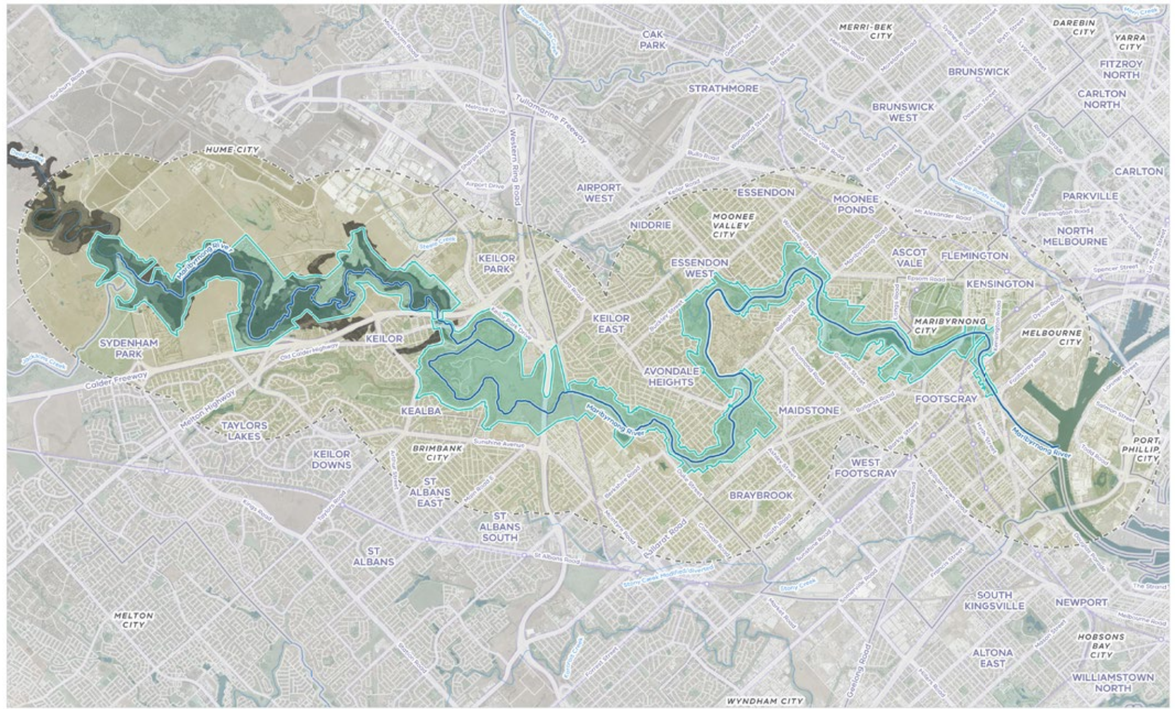
The area also provides habitat for bird species such as the Pacific Black Duck, White-faced Heron, and the Common Bronzewing. As part of the broader Maribyrnong catchment, the river presents opportunities for ecological restoration and cultural landscape connections, alongside ongoing bushfire risk management in fire-prone sections of the corridor.

Traditional Owner values

Flowing through Wurundjeri Woi-wurrung and Bunurong Registered Aboriginal Party boundaries, the Maribyrnong River and its landscape hold deeply embedded cultural and spiritual significance for Traditional Owners and are recognised as a living and integrated natural entity. Murrup Tamboore (formerly Keilor Archaeological Site) has significant cultural, community and environmental value for Wurundjeri Woi-wurrung people. Remnant billabongs, wetlands and water crossings have cultural significance to Traditional Owners. These areas, including Solomon's Ford and Brimbank Park, have high cultural, scientific, and archaeological significance, and Aboriginal heritage values.

Figure 15 - Top to bottom: Maribyrnong River Solomons Ford Urban Develeopment, Maribyrnong River Footscray Road area, Maribyrnong River Canning Reserve area

Maribyrnong River



Map 18 - Maribyrnong River Landscape Analysis Overview

Merri Creek (Merri Merri)

Landscape character

Beginning near the foothills of the Great Dividing Range at Heathcote Junction, Merri Creek (Merri Merri) flows south through rural, residential, and industrial landscapes before meeting Birrarung at Dight's Falls. In its upper reaches, the creek traverses a broad riparian rural landscape with scattered low-density development built on basalt plains shaped by past volcanic activity. As it flows through Craigieburn to Broadmeadows, the creek narrows and becomes more incised, flanked by suburban, industrial, and commercial areas, as well as important ecological reserves like the marram baba Merri Creek Parklands.

In its lower reaches, the creek winds through dense urban environments, with steep escarpments, exposed basalt and recreational trails bordering remnants of riparian vegetation. Despite significant urban pressures, the landscape retains ecological and geological value, owing in a large part to ongoing restoration by local communities.

Defining features

Merri Creek features a range of defining natural and recreational assets along its length. Notable places include the dramatic basalt gorge at Galada Tamboore in Campbellfield, the culturally and ecologically significant grasslands at bababi marning and galgi ngarrk near Craigieburn, and the Merri Creek Trail, which follows the waterway from Mahoneys Road through to its confluence with Birrarung at Dight's Falls. Key public spaces include the marram baba Merri Creek Parklands, Coburg Lake Reserve, and CERES Community Environment Park in Brunswick East.

Key values

Key habitat areas along Merri Creek support a wide range of native species. The endangered grasslands of galgi ngarrk and bababi marning in the Craigieburn area provide important habitat for species such as the Golden Sun Moth, Striped Legless Lizard, Growling Grass Frog, and the Eastern Grey Kangaroo. The basalt gorge and wetlands of Galada Tamboore support species including Rakali, Long-necked Turtles, Sacred and Azure Kingfishers, as well as various frog species. In the lower reaches, urban reserves like Bababi Djinanang and Moomba Park support diverse birdlife including Fairy-wrens, Spotted Pardalotes, Tawny Frogmouths, and Royal Spoonbills, as well as possums and other small mammals.

Traditional Owner values

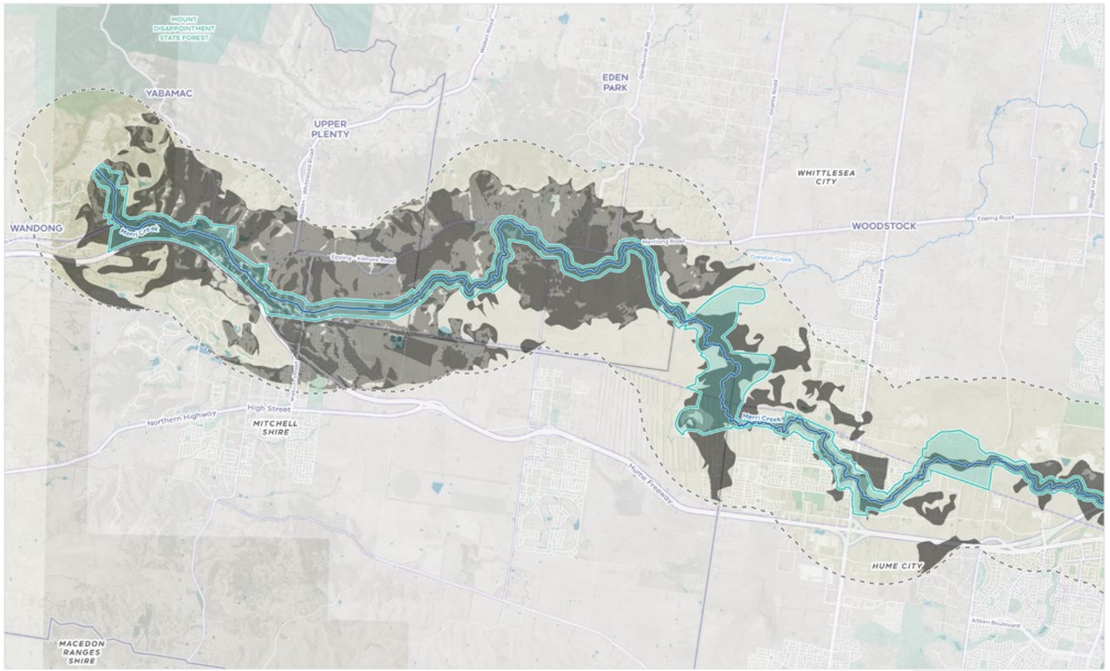
Flowing through Wurundjeri Woi-wurrung Country, Merri Creek and its landscape hold deeply embedded cultural and spiritual significance for Wurundjeri Woi-wurrung people. Merri Creek is recognised and respected as a living, integrated, natural entity, with Wurundjeri Woi-wurrung people retaining ongoing custodial and reciprocal responsibilities to care for Baany-biik (Water Country), just as the waterway and its lands continue to support the lives of the people, plants and animals living on it.

Merri Creek and its surrounds were a rich source of food, medicines and resources harvested by Wurundjeri Woi-wurrung people prior to and during early colonial settlement. Food sources along the creek included fish and shellfish, short-finned eels and various species of birds and waterfowl. The wider environment yielded an abundance of other animal species including emu, Eastern Grey Kangaroo and possum. The grassland and grassy woodland landscape around Merri creek was dominated by Kangaroo Grass and River Red Gums, as well as the Murnong (Yam Daisy) tuber, and maintained by Wurundjeri Woi-wurrung people through regular burning.

Figure 16 - Top to bottom: Merri Creek at Beverage, Merri Creek at Coburg Lake area, Merri Creek Kalkallo

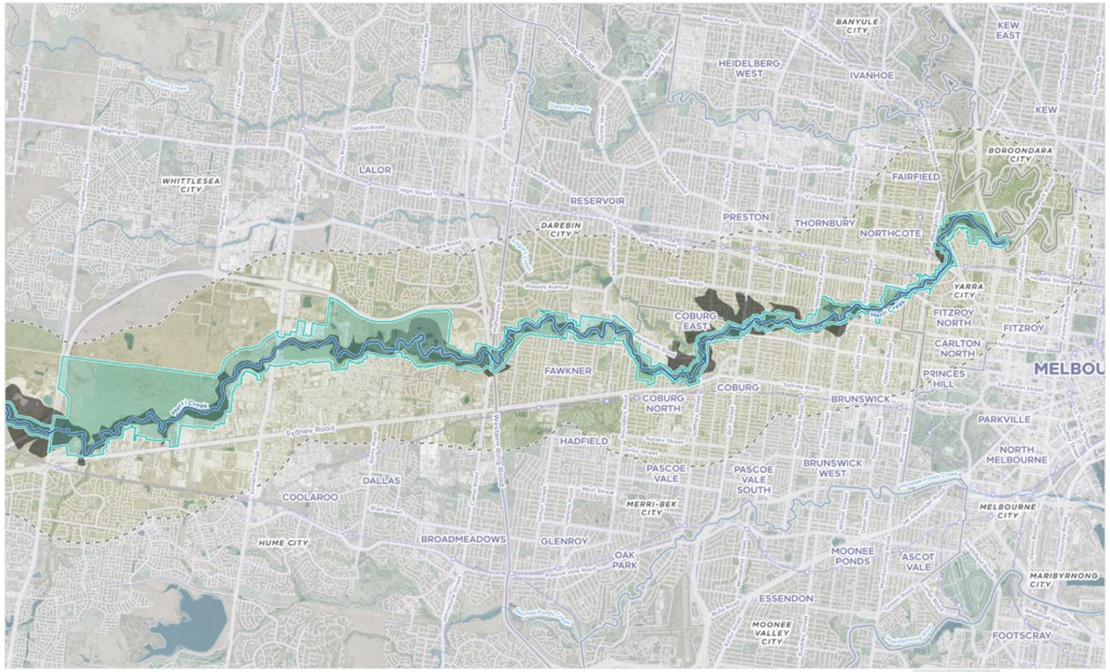
Figure 17 - Merri Creek Coburg Lake

Merri Creek *Upper reaches*



▲ *Map 19 - Merri Creek Upper Reaches Landcape Analysis Overview*

Merri Creek *Lower reaches*



▲ *Map 20 - Merri Creek Lower Reaches Landcape Analysis Overview*

Moonee Ponds Creek (Moonee Moonee)

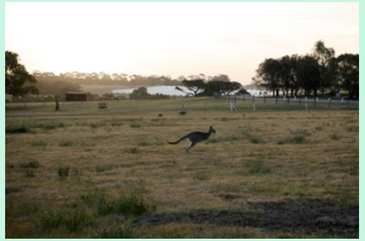


Figure 18 - Top to bottom: Moonee Ponds Creek Jacana Reserve Bridge, Upper Moonee Ponds Creek, Moonee Ponds Creek Woodlands Historic Park

Landscape character

Moonee Ponds Creek (Moonee Moonee) originates in the rural grasslands of Yuroke near Craigieburn, flowing south through diverse landscapes before reaching its confluence with Birrarung at Docklands. In its upper reaches, the creek winds through gently rolling plains shaped by volcanic basalt and scattered patches of native grassland. As it moves into the northern suburbs, the landscape becomes increasingly urbanised, with the creek confined to narrow engineered channels, particularly through Strathmore and Moonee Ponds.

Further downstream, near the city, the corridor opens up slightly but remains highly modified, dominated by stormwater infrastructure, road crossings and limited riparian vegetation. However, decades of community-led restoration efforts have begun to transform sections of the creek corridor, reintroducing native vegetation and creating habitat. This has transformed harsh, engineered edges into more naturalised creek banks and re-established the creek's identity as a living waterway within the urban landscape.

Defining features

Key features along the creek include the Woodlands Historic Park in Greenvale, the Jacana Wetlands through Strathmore, and the remnant billabongs near Flemington. These sites provide important habitat, recreational opportunities, and connections to Wurundjeri Woi-wurrung Country within a highly urbanised landscape. Gellibrand Hill within Woodlands Historic Park is a place of note which offers scenic panoramic viewpoints. The Moonee Ponds Creek Trail follows the waterway for most of its course, connecting its various parklands and reserves.

Key values

The waterway functions as a vital ecological corridor supporting a wide range of native wildlife including echidnas and kangaroos in the rural upper reaches near Yuroke, Sugar Gliders, Possums, and Rakali around Woodlands Historic Park and mid-reaches, and Nankeen Night-Herons and Pobblebonk Frogs in the lower reaches near Flemington and Docklands. Birdlife is abundant throughout, with Tawny Frogmouths, Superb Fairy-wrens, and Kingfishers common in the vegetated sections of the mid to lower reaches. The creek also supports turtles, eels, fish, and yabbies along its length.

Traditional Owner values

Flowing through Wurundjeri Woi-wurrung Country, Moonee Ponds Creek and its landscape hold deeply embedded cultural and spiritual significance for Wurundjeri Woi-wurrung people. Moonee Ponds Creek is recognised and respected as a living, integrated, natural entity, with Wurundjeri Woi-wurrung people retaining ongoing custodial and reciprocal responsibilities to care for Baany-biik (Water Country), just as the waterway and its lands continue to support the lives of the people, plants and animals living on it.

Originally, Moonee Ponds Creek comprised shallow ponds of water that formed a chain along the length of the watercourse, isolated in drier times of the year and flowing in the wetter months after heavy rains.

Moonee Ponds Creek and its surrounds were a rich source of food, medicines and resources harvested by Wurundjeri Woi-wurrung people prior to and during early colonial settlement. Food sources along the creek included fish and shellfish, short-finned eels and various species of birds and waterfowl. The wider environment yielded an abundance of other animal species including Emu, Eastern Grey Kangaroo and Possum. The grassland and grassy woodland landscape around Moonee Ponds Creek would have been dominated by Kangaroo Grass and River Red Gums, as well as the Murnong (Yam Daisy) tuber, and maintained by Wurundjeri Woi-wurrung people through regular burning .

Map 21 - Moonee Ponds Creek Landscape Analysis Overview

Moonee Ponds Creek

Plenty River (kurrum)

Landscape character

Plenty River (kurrum) begins near Mount Disappointment on the southern edge of the Great Dividing Range and flows 69 kilometres to its confluence with Birrarung at Rosanna. Shaped by ancient volcanic and sedimentary processes, the river moves through varied terrain. From mountain streams and broad basins to the dramatic Plenty Gorge, it crosses rural, suburban, and urban landscapes.

In its upper reaches near Whittlesea, Plenty River is shallow and meandering, lined with scattered River Red Gums. The nearby Yan Yean Reservoir provides water supply and recreational value. Whittlesea and Doreen are the key residential areas in this section, with Doreen also retaining agricultural uses. Below Doreen, the river cuts deeper into the land, forming Plenty Gorge. This section is framed by rural and suburban development and the expansive Plenty Gorge Parklands.

Further south, through Greensborough and Montmorency, Plenty River flows as an incised corridor bordered by connected parklands and low-rise housing, with a small industrial area in Greensborough. The Plenty River Trail links a series of reserves including Partingtons Flat, Whatmough Park, and Yallambie Park, offering continuous green space along the river's lower reach.

Defining features

Plenty Gorge Parklands extends along the waterway between Mernda and Greensborough and includes Morang Wetlands, Tanunda Wetlands and the Blue Lake. Plenty Gorge is a striking divide between basalt plains to the west and sedimentary ridges to the east, creating distinct ecosystems. The Plenty River Trail runs adjacent to the waterway from Doreen in the north to Birrarung in the south, connecting secondary trails and adjoining suburbs.

Figure 19 - Top to bottom: Plenty River at Plenty Gorge, Plenty River Cades Road, Upper Plenty River

Key values

Ecologically, Plenty River's woodlands and forests support a rich diversity of species, including the Grey-headed Flying Fox, Blue-billed Duck, Swift Parrot, Latham's Snipe, White-throated Needletail, Fork-tailed Swift, and Powerful Owl. The river is also known for sightings of the Eastern Great Egret, Little Egret, and River Blackfish.

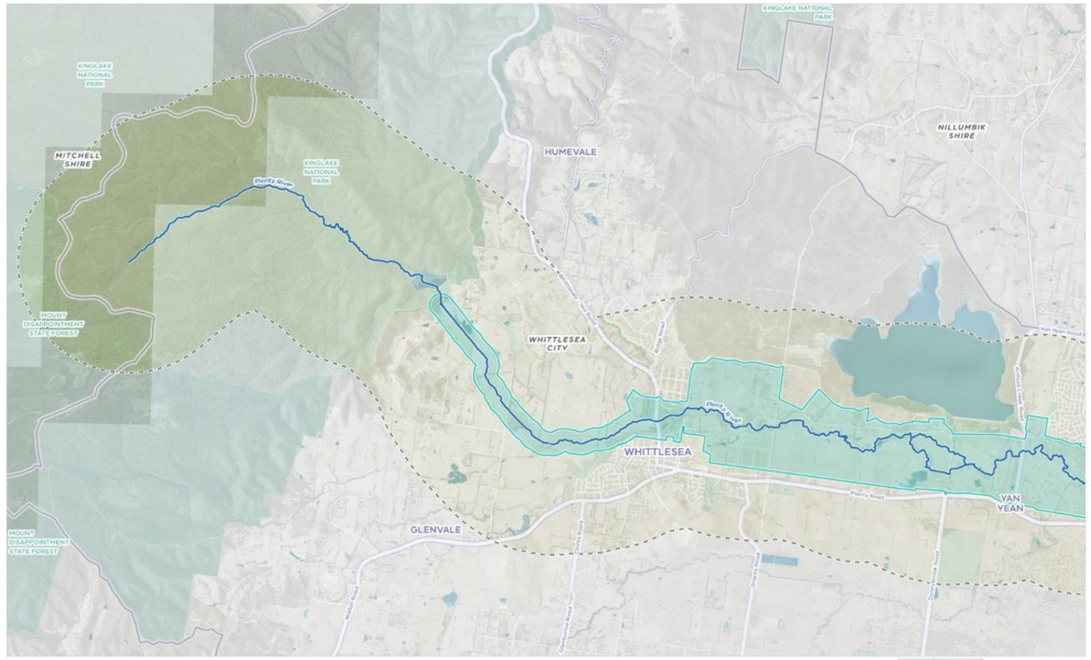
Traditional Owner values

Plenty River and its landscape hold deeply embedded cultural and spiritual significance for Wurundjeri Woi-wurrung people. Plenty River is recognised and respected as a living, integrated, natural entity, with Wurundjeri Woi-wurrung people retaining ongoing custodial and reciprocal responsibilities to care for Baany-biik (Water Country), just as the waterway and its lands continue to support the lives of the people, plants and animals living on it.

Plenty River provided a resource-rich environment for Wurundjeri Woi-wurrung people, with an abundance of raw materials, food and perennially fresh water. It was a major source of fish and eels, and an important place for gathering, recreation, trade and transportation prior to and during the early colonial period. Plenty River and its landscape represent the continuous connection of ancestral and present-day Woi-wurrung Country.

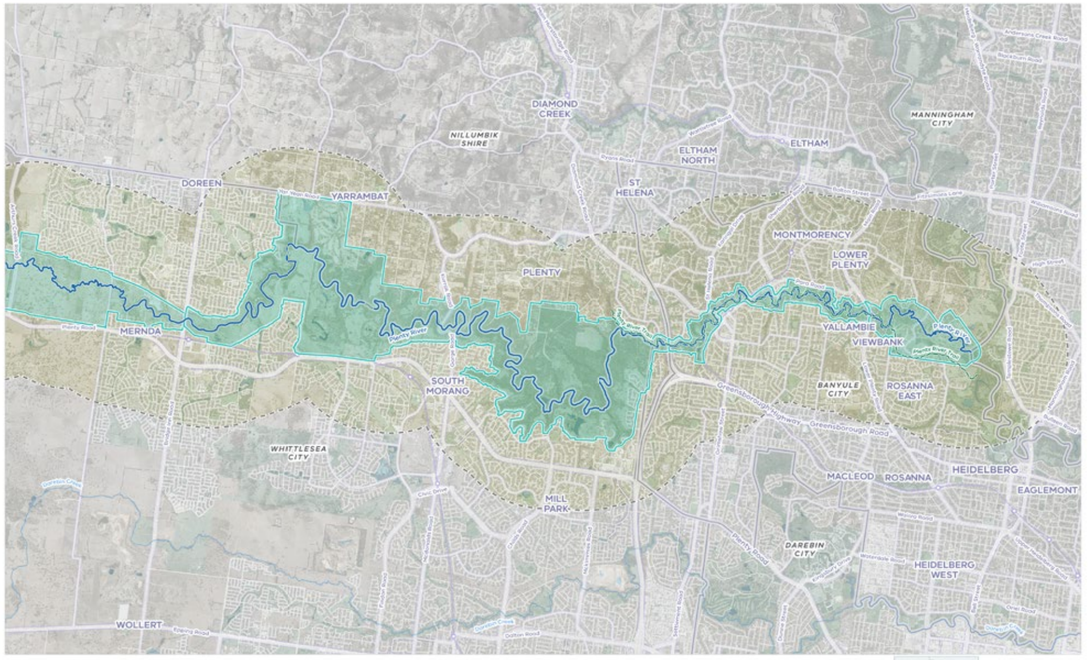
Figure 20 - Plenty River Yan Yean Reservoir

Plenty River *Upper reaches*



▲ *Map 22 - Plenty River Upper Reaches Landcape Analysis Overview*

Plenty River *Lower reaches*



▲ *Map 23 - Plenty River Lower Reaches Landcape Analysis Overview*

Skeleton Creek

Landscape character

Skeleton Creek flows southward from Tarneit to Port Phillip Bay, traversing Melbourne's western suburbs across the relatively flat volcanic plains of Bunurong Country. Originating near Mt Atkinson, the creek descends gradually through rural, industrial and suburban landscapes, reflecting the region's underlying basalt geology. The waterway retains a natural meandering form, often bordered by sparse vegetation and minimal canopy cover. While the corridor is generally narrow, it widens in sections where it flows through linear reserves and parklands.

At its southern extent, Skeleton Creek opens into the expansive Cheetham Wetlands and the Ramsar-listed coastal environment of Point Cook, where flat floodplains and estuarine landscapes dominate.

Defining features

Key landmarks include the linear reserves and shared trails in Truganina and Altona Meadows, and the expansive open spaces of Point Cook where the creek meets the Cheetham Wetlands within Point Cook Coastal Park. In Hoppers Crossing and Seabrook, residential development interfaces with the waterway, with newer subdivisions in Point Cook orienting towards the creek as a visual and recreational asset. The estuarine section near the Princes Freeway and the Ramsar-listed Cheetham Wetlands provides vital habitat for migratory birds and other wildlife, making it a key ecological and landscape feature of Melbourne's west.

Key values

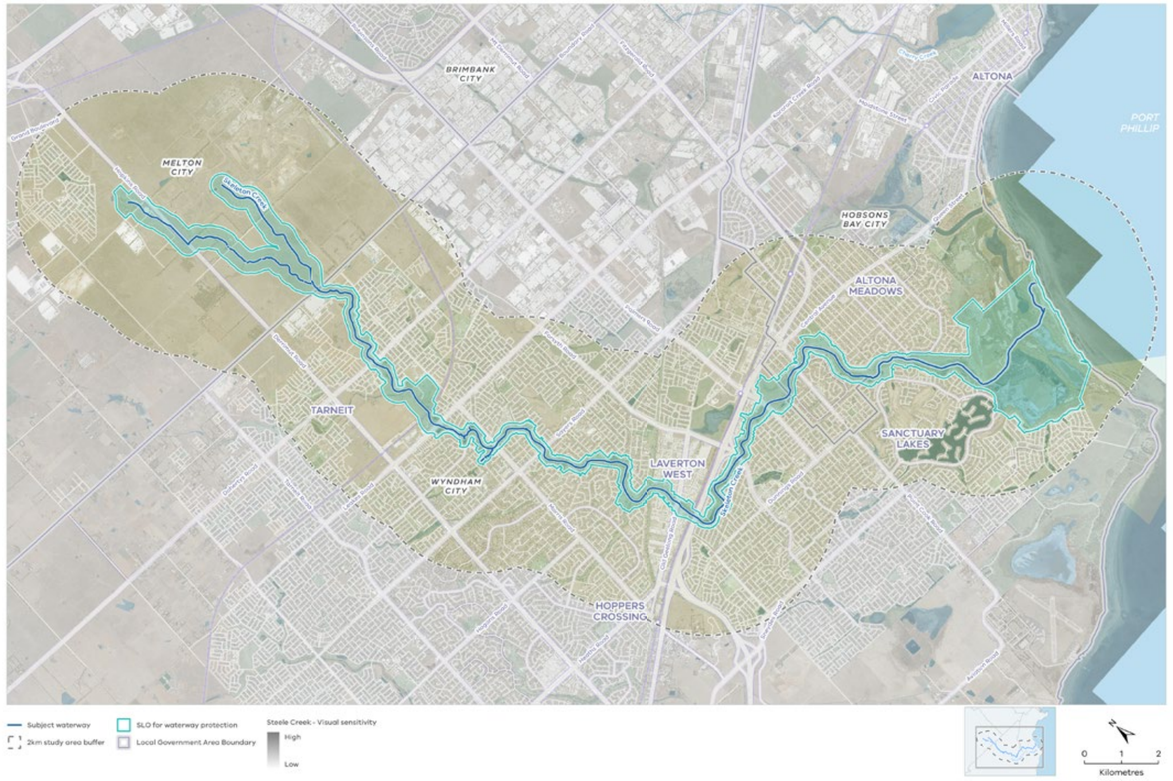
Skeleton Creek supports diverse native fauna across its rural, suburban, and estuarine landscapes. The creek provides critical habitat for threatened species such as the Growling Grass Frog and the Golden Sun Moth and passes through remnants of endangered Western Plains Grassland. Its wetlands and vegetated banks attract a variety of birdlife, including migratory waterbirds at the Cheetham Wetlands, as well as resident species like Superb Fairy-wrens, White-faced Herons, and Black-shouldered Kites. The corridor also supports frogs, lizards, and small mammals such as possums and bats, contributing to its role as a key biodiversity asset in Melbourne's west.

Traditional Owner values

Skeleton Creek forms part of the connected system of rivers, wetlands and creeks within the Werribee catchment. Flowing through Bunurong Country, Skelton Creek has intrinsic spiritual connections and living cultural heritage significance for Traditional Owners and is of high natural and landscape value. There are significant opportunities to work with Traditional Owners to revegetate or naturalise the corridor and re-establish it as an ecological, landscape and recreational link through Melbourne's inner western suburbs. Plenty Gorge, Yan Yean Reservoir and the confluence with Birrarung are places of particular cultural and spiritual significance for Wurundjeri Woi-wurrung people.

Figure 21 - Top to bottom: Skeleton Creek Talliver Terrace

Skeleton Creek



Map 24 - Skeleton Creek Landscape Analysis Overview

Steele Creek

Landscape character

Steele Creek originates near Melbourne Airport in Keilor Park and flows to its confluence with the Maribyrnong River at Avondale Heights. The landscape character of the creek varies significantly along its course. In its upper reaches near Tullamarine, the creek is shallow and narrow, with engineered modifications such as underground piping and retarding basins through industrial areas.

The landscape softens as the creek passes through Keilor Park, where the corridor widens into the Keilor Botanic Gardens, introducing more natural forms and vegetation. Further downstream, the creek flows through a continuous band of linear parklands.

Defining features

Notable open spaces and recreational assets places include the Keilor Botanic Gardens at Keilor Park, where the creek emerges into a wider, greener corridor, and a series of connected reserves downstream such as AJ Davis Reserve, Spring Gully Reserve, Rose Creek Reserve, Steele Creek Reserve, and Avondale Heights Parklands near the confluence with the Maribyrnong River.

The Steele Creek Trail runs through much of the corridor, linking these green spaces and providing a continuous recreational path through Tullamarine, Keilor Park, and Avondale Heights.

Key values

Steele Creek supports a range of native flora and fauna despite the impacts of urbanisation. The creek and its surrounding parklands provide habitat for species such as the Australian Mudfish and Striped Legless Lizard, along with other reptiles, small mammals, and amphibians.

Native birdlife is present throughout the corridor, particularly in naturalised areas like Spring Gully Reserve and Keilor Botanic Gardens, where increased vegetation cover and canopy trees offer foraging and nesting opportunities. The waterway and its green spine also support urban biodiversity by linking fragmented habitats across residential and industrial landscapes.

Traditional Owner values

Steele Creek and its landscape hold deeply embedded cultural and spiritual significance for Wurundjeri Woi-wurrung people. Steele Creek is recognised and respected as a living, integrated, natural entity, with Wurundjeri Woi-wurrung people retaining ongoing custodial and reciprocal responsibilities to care for Baany-biik (Water Country), just as the waterway and its lands continue to support the lives of the people, plants and animals living on it.

The confluence of Steele Creek and the Maribyrnong River holds cultural significance for Traditional Owners as a vital meeting place for Wurundjeri Woi-wurrung where silcrete was extensively quarried for manufacturing stone tools, and is a place that represents continuous connection of ancestral and present-day Woi-wurrung Country.

Figure 22 - Top to bottom: Steele Creek at Airport West

Steele Creek

Map 25 - Steele Creek Landscape Analysis Overview

Stony Creek

Figure 24 - Top to bottom: Stony Creek at Tottenham, Stony Creek Tottenham, Stony Creek at Cruikshank Park

Landscape Character

Stony Creek is a small suburban waterway flowing southeast from St Albans to its confluence with Birrarung at Spotswood, traversing a highly modified landscape shaped by residential and industrial development. The creek's natural alignment has been extensively altered, with long sections culverted or channelled in concrete, particularly through Sunshine where it is diverted underground.

Despite this, the creek corridor supports pockets of remnant vegetation and canopy trees, especially within linear reserves such as Matthews Hill Reserve and C.J. Cruickshank Park. The geology of the area, including historic silcrete quarries, underpins its cultural and physical landscape.

Near its lower reaches, the waterway opens into broader floodplain areas, featuring saltmarsh, mangroves and rehabilitated wetlands, such as the Upper Stony Creek Wetlands, which mark a gradual return to more naturalised and ecologically valuable landscapes.

Defining features

Stony Creek has been the focus of community and government-led revitalisation efforts, particularly in areas like the Upper Stony Creek Wetlands in Sunshine North, where a former retarding basin has been transformed into a thriving wetland system. Key features along the corridor include Matthews Hill Reserve and Braybrook Grasslands in Braybrook, McNish Reserve and C.J. Cruickshank Park in Yarraville.

The Stony Creek Backwash Park in Spotswood was created from a basalt quarry and is now a haven for waterbirds at the creek's estuarine confluence with Birrarung. Linear trails and parklands throughout these areas provide important recreational and ecological connections across Melbourne's inner west.

Key values

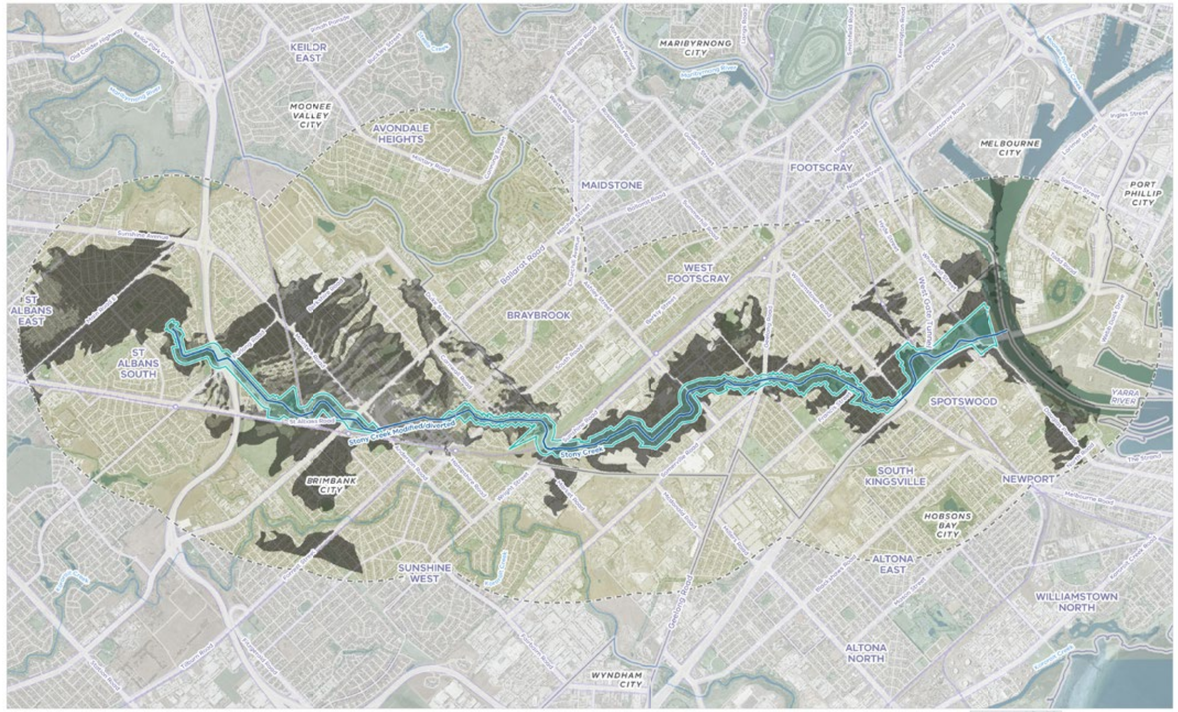
Stony Creek supports a variety of native flora and fauna despite its urban setting. Key species include the Eastern Great Egret, Intermediate Egret, Common Sandpiper, Superb Fairy-wren, and Eastern Froglet, along with native vegetation such as Black Wattle and Silver Wattle.

The lower reaches near Spotswood provide habitat for waterbirds within mangrove and saltmarsh environments, particularly around the Stony Creek Backwash. Restoration sites like the Upper Stony Creek Wetlands also contribute to habitat diversity.

Traditional Owner values

Areas of significance for the Traditional Owners, Wurundjeri Woi-wurrung and Bunurong, exist at various locations, and include stone tool sites, silcrete quarries, scar trees and burial places. Stony Creek and its landscape hold deeply embedded cultural and spiritual significance for the Traditional Owners and are recognised as a living and integrated natural entity.

Stony Creek



Map 26 - Stony Creek Landscape Analysis Overview

Werribee River (Wirribi Yaluk)

Landscape character

Werribee River (Wirribi Yaluk) flows southeast from the Wombat State Forest near Ballan to Port Phillip Bay, traversing a dynamic landscape shaped by expansive basalt plains, volcanic outcrops, bedrock formations, and steep gorges.

In its upper reaches, the river cuts through undulating rural terrain and deeply incised valleys, bordered by open agricultural land and pockets of native vegetation. As it flows through Melton South and Wyndham Vale, the waterway becomes moderately incised, forming a narrow green corridor across flat volcanic plains, with a largely open and sparsely vegetated landscape.

Near Werribee, the river corridor widens again, with steep banks, plateaued parklands, and a continuous spine of riparian vegetation that supports ecological connectivity through a transitioning urban environment.

Defining features

Key features along the river include the dramatic Werribee Gorge near Bacchus Marsh, the productive river flats of the Bacchus Marsh irrigation district, Melton Reservoir at Exford, and the growing urban interface at Wyndham Vale.

Further downstream, the river flows through Presidents Park and Wyndham Park in Werribee, where the Werribee River Trail links a series of reserves including Chirnside Park and the Werribee River Linear Reserve, providing valued open space and access to the waterway.

Key values

Serving as a critical ecological corridor through western Melbourne, the Werribee River (Wirribi Yaluk) supports diverse native flora and fauna. The river's riparian zones provide key habitat and refuge for species such as the threatened platypus, Spiny Rice-flower, and Button Wrinklewort.

The corridor also supports native mammals such as echidnas, possums, and Rakali, alongside a range of reptiles, amphibians, and aquatic life including eels, frogs, and native fish. Birdlife is abundant throughout the river's length, with frequent sightings of Kingfishers, Superb Fairy-wrens, Tawny Frogmouths, and Cockatoos. The connectivity of remnant vegetation and riparian canopy is vital for sustaining biodiversity and linking grassland and woodland habitats.

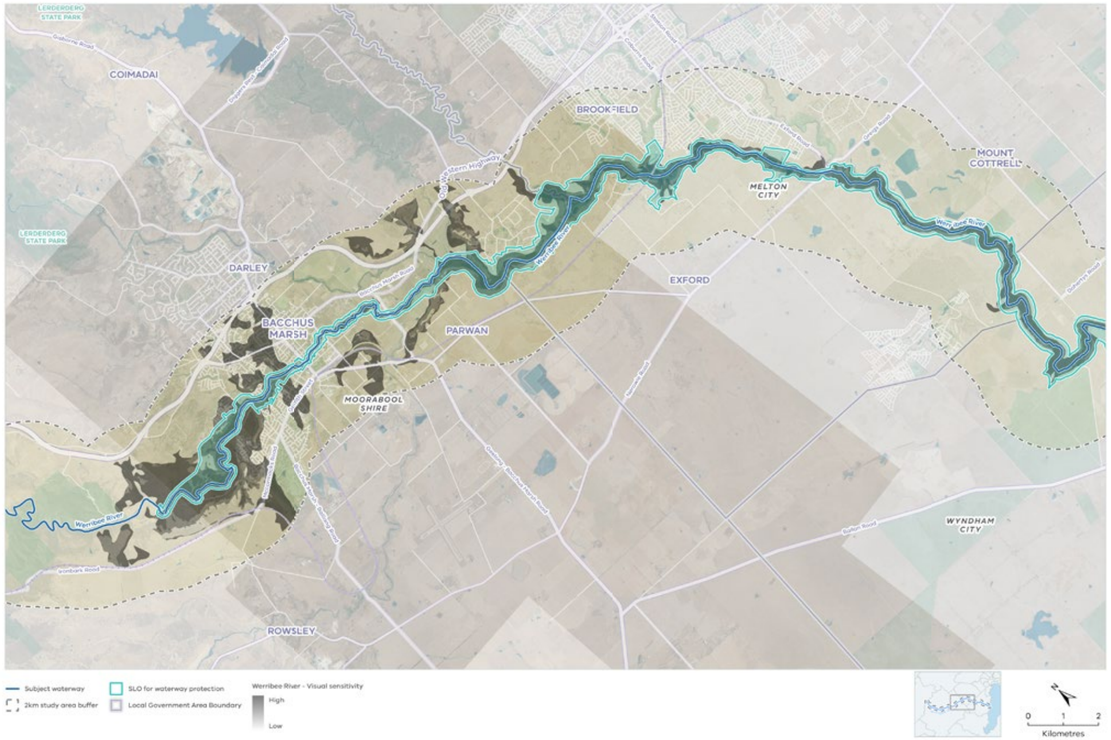
Traditional Owner values

The Werribee River (Wirribi Yaluk) forms part of the connected system of rivers, wetlands and creeks within the Werribee catchment and supports a range of cultural, ecological and recreational values. The Werribee River and its landscape hold deeply embedded cultural significance for Traditional Owners and are recognised as a living and integrated natural entity. The Werribee River intersects the boundary of three Registered Aboriginal Parties representing the Wadawurrung to the west, Wurundjeri Woi-wurrung to the east and Bunurong to the south.

Figure 25 - Top to bottom: Werribee River at at Wyndham Park, Werribee River at Melton Reservoir, Werribee River at Riverbend Historic Park

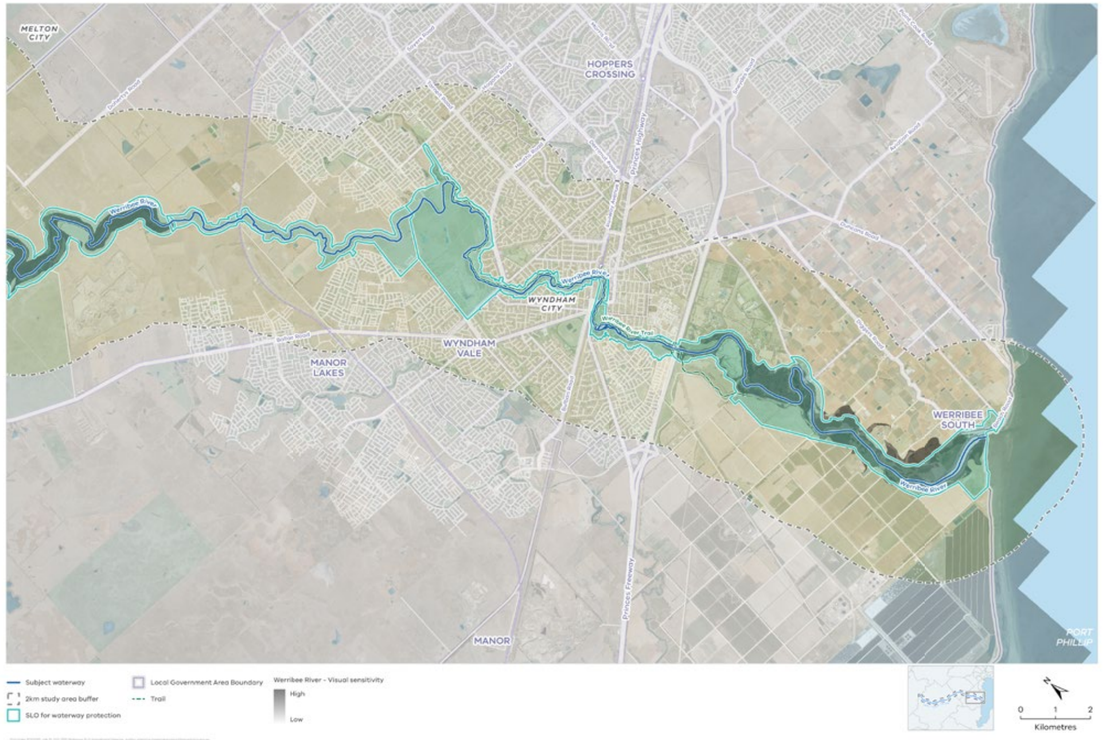
Figure 26 - Werribee River at Wyndham Park

Werribee River *Upper reaches*



▲ *Map 27 - Werribee River Upper Reaches Landcape Analysis Overview*

Werribee River *Lower reaches*



▲ *Map 28 - Werribee River Lower Reaches Landcape Analysis Overview*

7. Engagement

Prior to implementing changes to the provisions through a planning scheme amendment, a public engagement process was conducted via Engage Victoria from February to March 2025.

This consultation sought to:

1. understand how the community values Melbourne's waterways
2. assess support for enhanced waterway protections and specifically for the proposed permit triggers
3. identify local issues and concerns relating to waterway management.

The engagement program included an online survey with an opportunity for written submissions, a targeted social media strategy to reach users within the relevant catchments as well as Culturally and Linguistically Diverse (CALD) communities, and a letter drop to approximately 43,000 potentially affected properties.

The program also carried out in depth engagement with key stakeholders such as Traditional Owners, local councils, and government agencies through a series of presentations to gather feedback on the draft provisions.

Community and stakeholder feedback was instrumental in refining the final design of the program. It directly informed improvements to the SLOs and related planning provisions, making them clearer, more practical, and easier to implement.

Survey responses

From over 1,310 submissions, 90% of the submissions were of positive sentiment, supporting the introduction of stronger, more integrated controls to protect Victoria's waterways.

While the majority of responses were supportive of the program, some submissions (10%) raised concern over additional permit triggers for properties along waterways, especially for fences in urban verse rural areas. These submissions were considered along with the others, and resulted in greater clarity built into the controls and supporting material.

Examples of participants comments:

"That for too long our waterways have been given scant recognition and limited protection. The proposed changes/requirements are a positive step toward truly valuing the waterways in their own right as well as all the lifeforms that depend on them for food, reproduction and shelter."

"Our local waterways benefit the entire community not just those that have the good fortune to live next to the one. Planning protections like a Significant Landscape Overlay recognise the value of important natural spaces for everyone."

"I fully support the planning overlays. They are essential to protect our rivers and creeks and all the plants and wildlife associated with them. I volunteer along the waterways doing revegetation and believe that they belong to all of us"

Feedback from stakeholders

Theme	Key Concerns	How they were addressed
Vegetation Removal	The provisions would potentially lead to an increased risk of excessive clearing	The provision wording for native vegetation removal amended to reduce exemption thresholds
	Unclear definition of native vegetation	Provision wording amended to provide a consistent definition of native vegetation
Provision Wording	Ambiguities were noted in the wording of provisions	Provision wording amended for clarity
	Request made for stricter permit thresholds for native vegetation removal	Permit thresholds for native vegetation removal were revised
Guidance	Need for simpler, clearer guidance around assessment under the new provision	Definitions and additional guidance for key permit triggers added in PPN97 Strategic Planning for Waterways and PPN98 Permits in Waterway Corridors
Local Issues	Some provisions are not fit for purpose in rural areas	Provision wording amended to reflect different requirements for rural and metropolitan areas, particularly for fencing requirements
Exemption requests	Concern raised over potential permit requirements for maintenance and capital works for land managers	Exemptions for public land managers and public infrastructure works broadened to include maintenance works, utility and works associated with public infrastructure
Traditional Owner inclusion	Inclusion of Traditional Owner roles and more resourcing for waterway protection to be provided	State policy amended to include Traditional Owner values by expanding waterway policy to apply to 200m buffer zones in alignment with Aboriginal Heritage regulations and by acknowledging all waterways as living entities
Alignment with other controls	Concern raised over potential duplication of provisions in the planning scheme, with particular concern to native vegetation and bushfire management provisions	A whole-of-planning scheme review was undertaken, and conflicts and duplications were considered and minimised where possible

8. Conclusion

Project Deliverables

The project delivered 31 new SLO schedules and nine updated SLO schedules across 22 municipalities, adding additional protections for 17 metropolitan waterways. The SLOs apply consistent and holistic protection to each waterway as an integrated and interconnected landscape. They articulate the social, cultural, environmental and amenity benefits of waterways and include reference to Traditional Owner values.

Clause 12.03-1S River and riparian corridors, waterways, lakes, wetlands and billabongs and Clause 14.02-1S Catchment planning and management were updated to implement overlays and support overall waterway protection in line with project objectives.

The updates also recognise waterways as interconnected living entities and increase protection for the broader catchment of these waterways as well as all waterways in Victoria.

Furthermore, two Planning Practice Notes (PPN) were published to provide further detailed guidance on the operation of the controls for planners, land owners, developers and the community:

1. PPN97 - Strategic Planning for Waterways provides guidance for councils wishing to conduct local studies and implement more specific, place-based waterway controls in their local area. It articulates the significance of waterways, their recognition as living entities and the management issues that can be addressed through the planning scheme.

2. PPN98 - Permit Applications in Waterway Corridors summarises the regulatory context for waterways, including the various planning controls and policies. It includes information on planning permit application requirements, the decision-making process and the role of key stakeholders.

Looking into the future

The SLO is a 'base' overlay, applied to recognise and protect the entirety of the river corridor. It is largely general in nature and applied as a regional-level, consistent, waterway-focused control. Significantly, it allows for a statement of landscape significance to be included, which sets out the values of the landscape and can reference Traditional Owner values. The SLO is the preferred planning scheme tool for protecting the broad landscape values of waterway corridors.

Importantly, the SLO can be applied across both public and private land, enabling an integrated and holistic approach to protecting landscape values regardless of land tenure. While the introduction of the SLOs marks a significant step forward in recognising and protecting the character of Victoria's waterways, further work is needed.

In particular, there is an opportunity for local councils, government agencies, and community groups to undertake more detailed planning to address specific local values and pressures by developing strategic plans, community implementation projects and more. This program is another step forward for waterway protection, recognising that more strategic work is required into the future to protect these assets for future generations.

Merri Creek - CERES Park

Appendix A - Planning Context

Waterways and the Victorian Planning System

There are several existing policies that provide policy guidance in relation to planning for waterway corridors. Appendix A provides a summary of these policies.

Clause 12.03-1S – River and Riparian Corridors, Waterways, Lakes, Wetlands and Billabongs

The objective of this policy is:

- To protect and enhance waterway systems including river and riparian corridors, waterways, lakes, wetlands and billabongs

There are many associated strategies with a range of sub-strategies which, in summary, seek to:

- Protect environmental, cultural and landscape values of waterways
- Conserve waterway systems and the landscapes and environmental values surrounding them
- Ensure development is sensitively designed and sited to waterways
- Address impacts of use and development on drought and flooding events at a catchment and site scale
- Protect geomorphology, bank stability and flood management capacity to strengthen the environmental value and health of waterway systems
- Enhance a sense of place and landscape identity
- Retain and enhance the recreation and amenity values along waterway systems
- Design and site development to maintain and enhance the natural environment of waterway systems.

Clause 12.03-1R – Birrarung (Yarra River)

As part of the suite of changes to implement the Yarra Strategic Plan through Amendment VC281 in 2025, Clause 12.03-1R was substantially revised to improve the protection, recreational use, natural environment and setting and manage development and key viewing impacts on Birrarung (Yarra River).
The objective of this policy is:

- To enhance the natural beauty, biodiversity, environmental health, cultural values, and recreational opportunities of Birrarung (Yarra River) Corridor.

There are many associated strategies with a range of sub-strategies which, in summary, seek to:

- Strengthen the river's natural environment, overall health, and parkland and waterway systems
- Avoid detrimental cumulative impacts from land use and development on the natural and cultural values and overall health of the river and its tributaries
- Facilitate new and improved walking and cycling connections to key precincts and townships
- Facilitate community use and enjoyment of the river's parklands and tributaries
- Ensure the siting and design of new buildings and infrastructure complements the river corridor's natural landscape setting and key viewing locations
- Protect and maintain key views from and to the river corridor and its landscape setting at the key viewing locations.

Burndap Birrarung burndap umarkoo (Yarra Strategic Plan) 2022 is referenced as a policy document within the clause as well as four maps of the reaches with key views.

Other policies

There are other associated state planning policies in the Planning Policy Framework that have relevance to waterways planning, including:

- Clause 13.03-1S: Floodplain management policy
- Clause 14.02-1S: Catchment planning and management
- Clause 14.02-2S: Water quality
- Clause 19.03-3S: Integrated water management.

Appendix B - Glossary

The following key waterways terms and concepts are commonly used in legislation, policy, planning provisions and strategies. These terms articulate waterway issues from a land use planning perspective and should be applied consistently.

Areas of Aboriginal cultural heritage sensitivity: The Aboriginal Heritage Regulations give effect to the *Aboriginal Heritage Act* 2006. They define what are referred to as 'areas of cultural heritage sensitivity', which are places where Aboriginal cultural heritage is considered more likely to arise. This includes all land within 200 metres of named waterways and coastal land, all parks as defined under the *National Parks Act* 1975 (Vic), Ramsar wetlands and a range of specified landforms such as high plains, stony rises, dunes and caves.

Blue-green infrastructure: Involves deploying infrastructure through an integrated water management approach with recycled water systems, stormwater harvesting schemes for urban irrigation, vegetation features and constructed wetlands to treat stormwater runoff for improved environmental conditions and community benefits.

Catchment: An area where water falling as rain is collected by the landscape, eventually flowing to a body of water such as a creek, river, dam, lake, ocean or into a groundwater system.

Catchment management authorities: The *Catchment and Land Protection Act* 1994 established 10 catchment and land protection regions, each with a catchment management authority (CMA) responsible for the integrated planning and coordination of land, water and biodiversity management. CMAs have specific powers under Part 10 of the *Water Act* 1989.

Centreline: The midpoint along the length of the stream or river where the edges have been previously delineated. The centreline is commonly used to determine the 200-metre area of Aboriginal cultural heritage sensitivity, under the Aboriginal Heritage Regulations 2018.

Estuary: Where a river meets the sea, including the lower section of a river that experiences tidal flows where freshwater and saltwater mix. Usually, an estuary must be at least one kilometre in length or have a lagoon greater than 300 metres in length. The downstream extent of an estuary is where the banks of the river end and the waterway meets the bay or ocean.

Groundwater: All subsurface water, generally occupying the pores and crevices of rock and soil.

Instream: The component of a river within the river channel, including pools, riffles, woody debris, the riverbank and benches along the bank.

Integrated catchment management: The coordinated management of land, water and biodiversity resources based on catchment areas. It incorporates environmental, social, cultural and economic considerations. This approach seeks to ensure the long-term viability of natural resource systems and human needs across current and future generations.

Integrated water management (IWM): A collaborative approach to planning that brings together all elements of the water cycle including sewage management, water supply, stormwater management and water treatment, considering environmental, economic and social benefits.

Reach: Smaller sections of a waterway corridor where characteristics are similar.

Riparian land: Land a minimum of 50 metres either side of a waterway measured from the top of the bank with or without areas of vegetation.

River basin: The land into which a river and its tributaries drain.

River basin verses catchment: There are 46 river basins within Victoria which make up 10 catchment regions managed by the relevant Catchment Management Authority (CMA).

Rivers: Rivers, creeks and smaller tributaries, including the water, bed, banks and adjacent land (known as riparian land).

Sodic soil: Soil with a high proportion of sodium. This excess sodium disrupts the soil's structure, leading to problems like poor water infiltration, reduced plant growth and increased erosion risk.

Waterway corridor: The full extent of the waterway, from the headwaters to the sea with a minimum corridor width of 50 metres either side of the waterway measured from the top of the bank. The width of the corridor may extend up to or beyond 200 metres from the centreline of the waterway to define a broader waterway policy area, which will also include potential areas of Aboriginal cultural heritage sensitivity. The Birrarung corridor is defined differently to other waterway corridors in Victoria and includes all land (other than excluded land under the *Birrarung Act* 2017) located within one kilometre of a bank of Birrarung.

Top of bank: The point along the bank of a stream where an abrupt change in slope is evident, and where the stream is generally able to overflow the banks and enter the adjacent floodplain during a flood event. Unless otherwise stated, setbacks and buffer areas should be measured from this point. Top of bank is the preferred point of measurement, as waterways change and move overtime. The top of bank is considered more reliable and any change to it is likely to occur slowly over time.

Tributary: A stream or river that flows into a larger waterway.

Urban Heat Island Effect (UHIE): When the built environment absorbs, traps and in some cases directly emits heat, causing urban areas to be significantly warmer than surrounding non-urban areas.

Waterway amenity: People's experience of the naturalness, escape and safety of waterways. Amenity includes the character of the landscape, the vistas and views from and to the rivers, the level of overshadowing from development, the cultural values associated with the waterways, as well as the parklands and open spaces along them.

Waterway condition/waterway health: Umbrella terms for the overall state of key features and processes that underpin the functioning of waterway ecosystems.

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