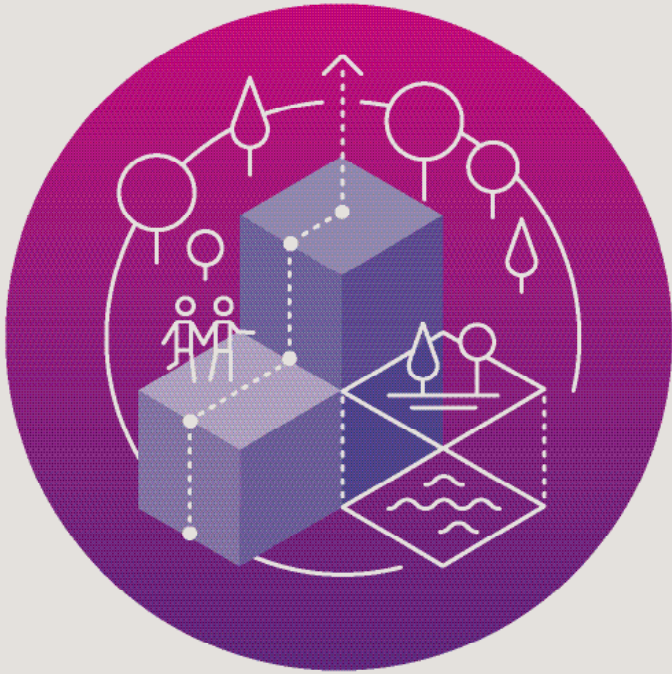


YARRA RIVER – BIRRARUNG STRATEGY

FUTURE ASPIRATIONS FOR
MELBOURNE'S INNER CITY RIVER



CITY OF MELBOURNE



A CITY PLANNING FOR GROWTH

Melbourne will be a leader in planning for growth and technological advancement. We will guide and influence the future development of the city for the benefit of all city users and in a way that values and celebrates its historical and cultural identity.

Acknowledgement of Traditional Owners

The City of Melbourne respectfully acknowledges the Traditional Owners of the land, the Boon Wurrung and Woiwurrung (Wurundjeri) people of the Kulin Nation and pays respect to their Elders, past and present.

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Issue for Future Melbourne Committee - 3 December 2019

Cover Image: Yarra River Birrarung aerial view looking east. Photo Credit: City of Melbourne

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FOREWORD FROM THE LORD MAYOR OF MELBOURNE AND COUNCILLOR REECE



The Yarra River, Birrarung, has played a pivotal role in the Aboriginal history and modern development of Melbourne. The river continues to be critical to Melbourne's identity, appeal to tourists and liveability.

Yarra River - Birrarung Strategy

Many cities around the world embrace their rivers and in Melbourne we have an exciting opportunity to transform our waterfront.

This strategy focuses on the city's relationship with the Birrarung, our Yarra River, to reveal the layers of history, particularly the Aboriginal significance, and to guide our approach to improving the river environment.

The Yarra River is one of our most important assets and we are at a pivotal point for its future. We want to turn our focus to our waterfront areas. How do we enhance them and create more inviting spaces for people to gather?

We can begin with pilot projects to transform the hard edges of the river to improve habitat and biodiversity. We're also investigating how best to reflect the importance of the river in Aboriginal culture. During our recent community consultation, many ideas were posed, from more launching points for kayaking and boating to connecting up some of our city's most attractive walking routes along the river and creating safe routes for commuter cyclists.

However, our draft strategy identified some challenges that need to be overcome. Habitat for native species has been degraded along sections of the Yarra River and areas have flooding risks. These challenges are shared ones as the City of Melbourne does not own or independently manage the waterway. We need to work closely with other authorities to ensure we coordinate our actions to improve the health of the Yarra River.

The City of Melbourne recognises areas for improvement and this strategy helps guide the long term future of our urban river.

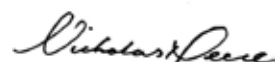
To protect and improve the Yarra River for the future, we have identified opportunities to:

- Improve the natural environment along the river;
- Learn more about the history of the river; and
- Make it easier for people to move around and enjoy the river.

Melbourne people want to know the story of the river and this strategy ensures we value the river's cultural and ecological significance in all that we do. We look forward to working with all in the community who enjoy our river in the city's heart.

A handwritten signature in black ink, reading 'Sally Capp'.

Lord Mayor
Sally Capp

A handwritten signature in black ink, reading 'Nicholas Reece'.

Portfolio Chair, Planning
Cr Nicholas Reece

In this strategy, the Yarra River is also called by its traditional name Birrarung meaning 'river of mists' in the Boon Wurrung and Woiwurrung languages.

INTRODUCTION

The Yarra River, Birrarung, is one of the defining features of central Melbourne, providing both a recreational area and destination for many of the activities that contribute to the life of the City. As Melbourne continues to experience significant growth and change, it is increasingly important to preserve and celebrate our city's greatest natural asset.

The Yarra River, Birrarung, corridor has strong ecological, cultural, economic and social significance to Melbourne. Over recent decades, the inner-city reaches of the river have evolved markedly, however the substantial potential of this asset as a living ecological entity remains to be fully realised.

Areas from Punt Road to Princes Bridge have long recognised the recreational benefits of the Yarra River, Birrarung, however to the west, particularly along the northbank, surrounding uses have little relationship with the waterways and there is limited expression of cultural heritage. The complex land ownership and governance arrangements also challenge decision making and the delivery of change.

As Australia's fastest growing city, Melbourne has a great opportunity to broaden the way we use our river and its edges. Increasing worker, residential and visitor populations will also put additional demands on the public space, recreation and movement uses of the river and create challenges to the river health. Sustaining and improving the, Yarra River, Birrarung has never been so important.

There is a need to rehabilitate and improve the natural spaces along the river corridor, not only to benefit the growing population but as a commitment to restoring the ecology of the river. An opportunity to improve reconciliation with the traditional owners is a key ambition of this strategy and also a key challenge for a rapidly growing city. Ultimately, the goal is to significantly raise the health and quality of the Yarra River, Birrarung, environs in the city to be central to Melbourne's economy, culture and liveability.

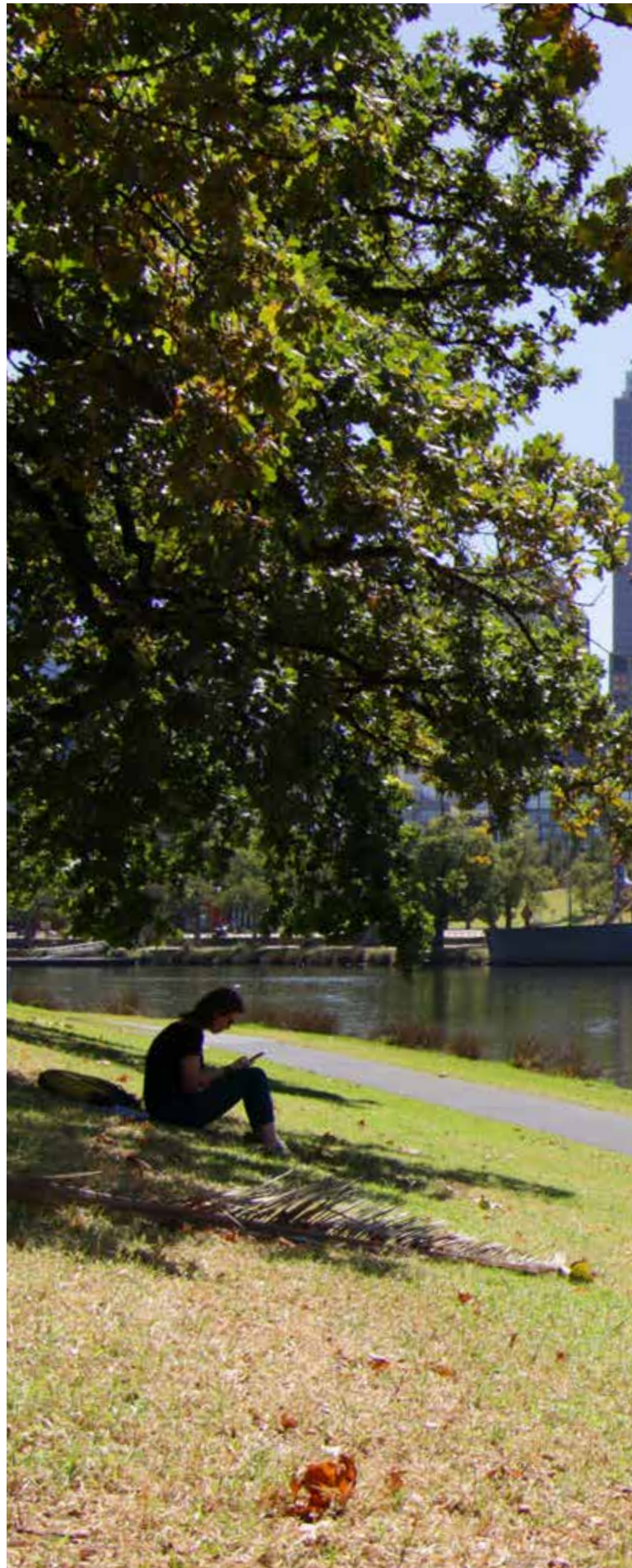




Image 2. City views from Domain Parklands river's edge



Image 3. Queens Bridge from Enterprise Wharf

Purpose

This strategy defines City of Melbourne's vision and direction for the inner-city reaches of the Yarra River, Birrarung. It will direct policy decisions and inform all future capital works project planning within the City of Melbourne's river corridor. The strategy also provides an advocacy tool to guide the City of Melbourne, adjoining landowners and investors, in preserving and evolving the Yarra River Birrarung's character and liveability and offer a planned response to avoid ad hoc decisions and holistically shape future proposals.

The overall management of the river is highly complex and fragmented. Many of the opportunities for the river corridor are outside of direct City of Melbourne control and within the jurisdiction of other government agencies or the private sector. Many of the issues and inconsistencies along the river, including challenges from activation proposals, come from organisations operating independently and with different remits. This strategy provides an agreed City of Melbourne direction for the Yarra River, Birrarung, and seeks to create alignment and identify mutually beneficial outcomes where possible.

Strategy development

A 'place based' approach has been taken for this strategy to provide a multi-layered understanding of the complex urban waterways environment; the physical, cultural, economic and social aspects of place. The approach is informed by an understanding of how natural systems have been adapted by the presence of people, and how the built environment has impacted on natural systems.

The development of this Strategy was based on the following approach:

- A review of relevant plans, strategies and policies that influence the planning and design of the waterways across the City of Melbourne municipality.
- Site visits involving observing user activity and behaviour and the influence of the physical environment on their behaviour.
- Reference to the City of Melbourne's pedestrian counting data at key locations across the corridor and to previous speed and volume surveys undertaken through recent studies.
- Pre-contact historical research of vegetation and landscape conditions and understanding of the process of change.
- Recognition of post-contact maritime heritage aspects like wharves, vaults and warehouses along the river.
- Multi-layered analysis of: biodiversity and urban forest; topography and flooding; place and urban design; access and movement; and activation and uses.
- A review of international best practice in urban waterfront developments and their relevance in the Melbourne context.
- Key internal and external stakeholder engagement, including discussions with the Traditional Owner groups.



Image 4. A 'place based' strategy

Community feedback

A draft strategy was endorsed by the Future Melbourne Committee on 16 April 2019 for community engagement. The public consultation process on the draft strategy involved online and face-to-face engagement activities including pop-ups along the river, an online survey, stakeholder meetings, displays in community facilities, social media posts and an ideas forum.

There was significant interest in the draft strategy:

- 42,000 people alerted to the project via social media
- 5,000 visits to the Strategy web page
- 79 Participate Melbourne survey responses
- 128 Participate Melbourne online Ideas Forum posts
- 100 face-to-face engagement responses
- 13 formal detailed stakeholder submissions

Overall, respondents supported the draft strategy. Participant feedback indicated that 90% of respondents 'strongly agreed' or 'agreed' with strategic directions outlined under the four themes.

The ecology directions received the most enthusiastic support from survey respondents with aspirations for the river to be 'more natural' and healthy. There was also broad agreement that Aboriginal heritage be acknowledged via a visible presence in any changes to the river or its banks. Other themes included greater recognition of the maritime history of the river.

A Yarra River Big Ideas Forum including Government, business and community stakeholders was held on 15 August 2019 by Yarra River Business Association. Key ideas from this have informed this Strategy.

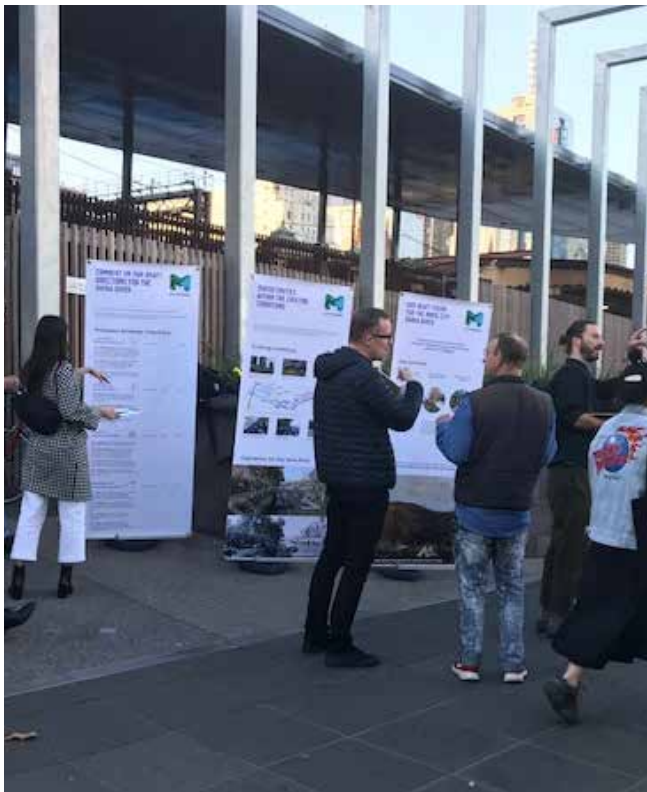


Image 5. Engagement pop-ups along the river - Flinders Walk.

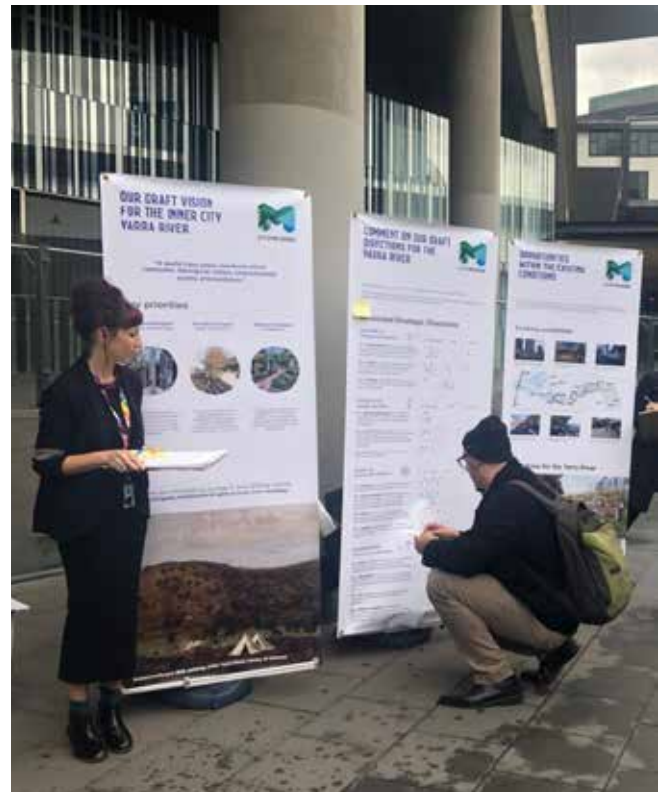


Image 6. Engagement pop-ups along the river - South Wharf.

Strategic context

The Yarra River - Birrarung Strategy has been informed by key policies and legislation:

- Yarra River Protection (Wilip-gin Birrarung murrnong) Act 2017
- Melbourne Water – Yarra Strategic Plan (Draft in development)
- Yarra River 50 year Community Vision
- Wurundjeri Water policy Nhanbu narrun ba ngargunin twarn Birrarung, (Ancient Spirit and Lore of the Yarra)
- Lower Yarra River Management Advisory Committee Report
- Protecting Victoria's Environment – Biodiversity 2037
- Water for Victoria (2016)
- Melbourne Water's Healthy Waterways Strategy 2018

City of Melbourne

- Open Space Strategy 2012
- Transport Strategy 2030
- Bicycle Plan
- Total Watermark – City as a Catchment 2014
- Urban Forest Strategy 2012–2032
- Moonee Ponds Creek Strategic Opportunities Plan
- Elizabeth Street Strategic Opportunities plan
- City Road Masterplan
- Docklands Public Realm Plan
- Domains Parklands Masterplan 2019–2034
- City of Melbourne Design Standards
- Nature in the City Strategy 2017
- Integrated Water Management Plan 2014

“Our Yarra River, Birrarung, is recognised around the world as an iconic example of a nurturing relationship between a river and its community...”

– 50 yr Community Vision, Draft Yarra Strategic Plan

Melbourne Water Yarra Strategic Plan

In parallel with development of this Strategy, Melbourne Water has been leading delivery of the Yarra Strategic Plan. Melbourne Water's first step in devising The Plan involved inviting the broader community to contribute to the development of the Yarra River 50 Year Community Vision. Capturing the entire 200km expanse of the river, the Vision is that “Our Yarra River, Birrarung, is recognised around the world as an iconic example of a nurturing relationship between a river and its community.”

The City of Melbourne supports this direction and looks to apply these values of a positive, prosperous and healthy connection with our waterways to focus on the unique characteristics of our municipal area of the Yarra River, Birrarung. This strategy will inform and guide Council's input to the Yarra Strategic Plan and will be complementary in terms of offering more place specific discussion for the Yarra River, Birrarung. Melbourne Water is working towards a public draft by late 2019 and a final, Ministerial approved plan in late 2020.

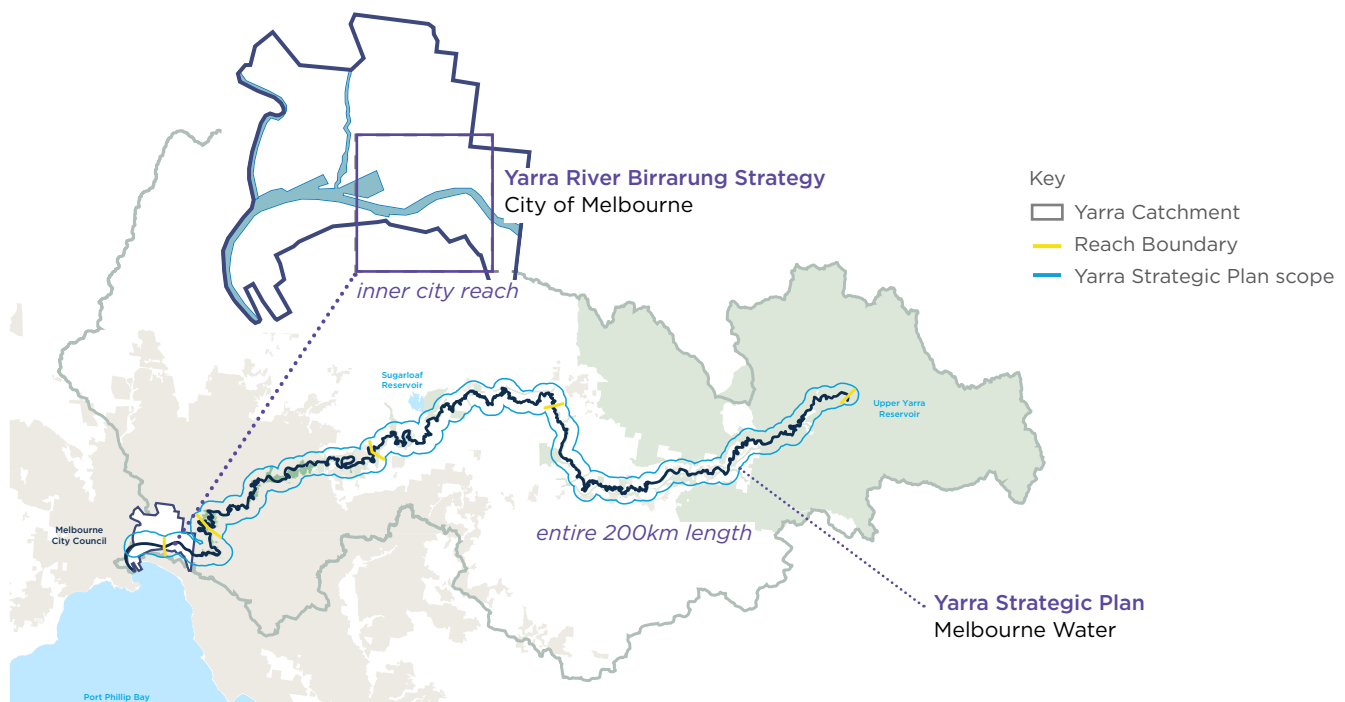


Image 7. Yarra Strategic Plan area and Yarra River - Birrarung Strategy scope

Study area and conditions today

The focus of the Strategy is the inner city reaches of the Yarra River, Birrarung, covering the area of river from Punt Road to Bolte Bridge, as indicated in the map below. The Port of Melbourne land is not included, due to the long term lease arrangement to 2066 providing limited scope to influence change in this area.



Image 8. Wharf structures and hard edges along the river provide limited greening or habitat for animals.

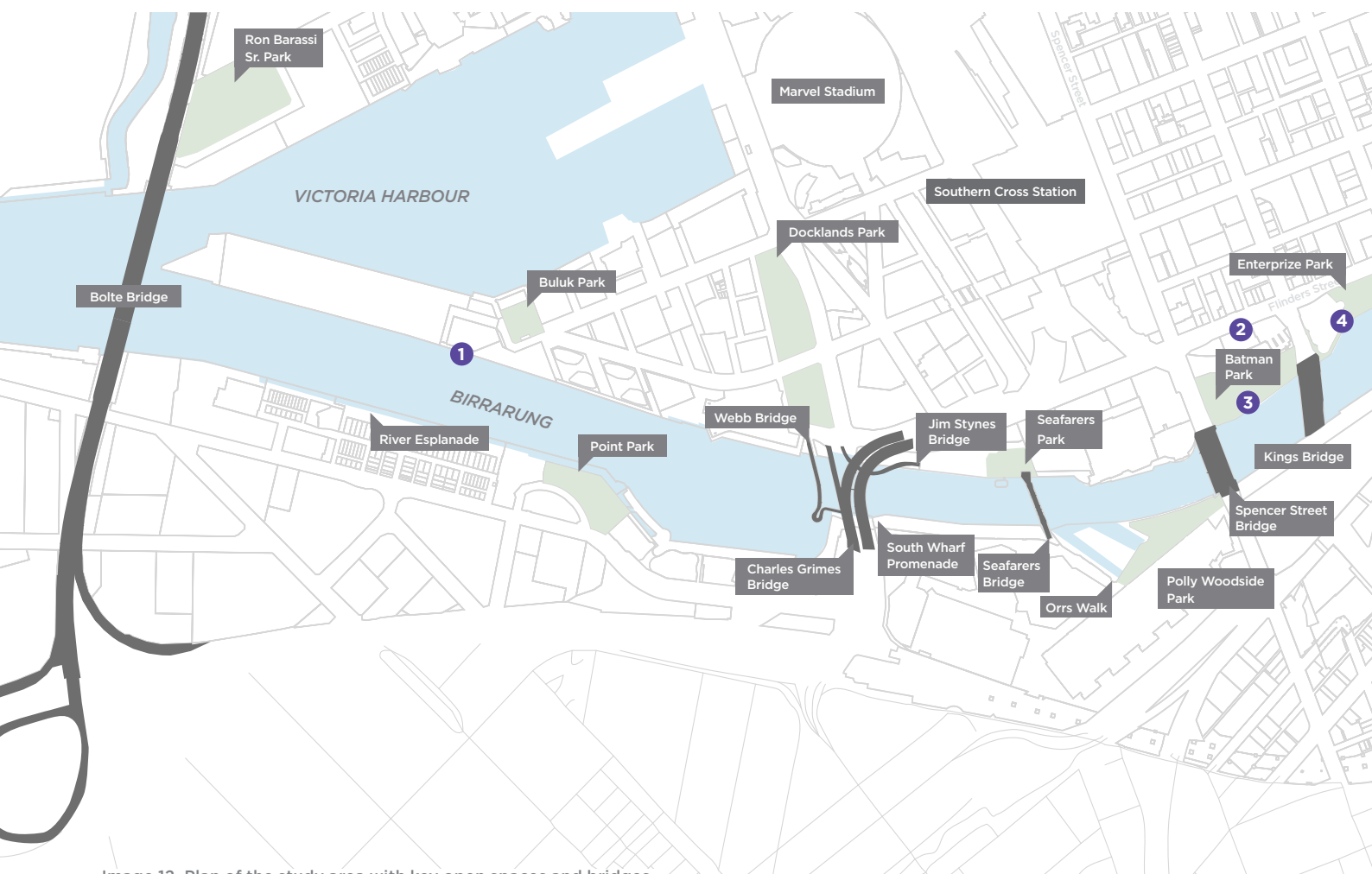


Image 12. Plan of the study area with key open spaces and bridges and images illustrating some of the key challenges.



Image 13. Vehicular oriented infrastructure. A barrier to movement.



Image 14. Large expanses of 'hard' open space without ecological value.



Image 15. Banana Alley area constrained by clutter of car parking, furniture, and uneven paving.



Image 9. The area beneath the viaducts is overshadowed, noisy and feels unsafe.



Image 10. Activation strategies have not succeeded in enhancing Batman Park.



Image 11. Inactive, closed and hard edges to the river and unprogrammed public spaces.



Image 16. Limited space and overshadowing at the river edge.



Image 17. Conflicts between commuter cyclists and pedestrians along Southbank Promenade.



Image 18. No cross river connection between Domain Parklands and Birrarung Marr.

VISION

The Yarra River, Birrarung, will be an inspiring public waterfront that celebrates the rich Aboriginal culture and offers a green sanctuary, loved by Melbournians.

Evoking the richness of the pre-contact landscape and enhancing the ecological values, the River immerses people in nature. The Yarra River, Birrarung, is restored as a healthy water landscape experience.

The significant Aboriginal and maritime history and cultural values of the Yarra River Birrarung are celebrated. The sites, stories and memories offer a place of reflection, education and enrichment.

Melbourne's river is celebrated as a defining feature of the city's identity. The Yarra River, Birrarung, and its banks are an attractive complement to the central area, offering important open space amenity, a diversity of uses and new economies and destinations that are welcoming to all.

Spacious public spaces connect the river creating an important destination and place to enjoy the journey away from the intensity and rush of the urban centre. Through improved access to and along the waterfront, the river provides the natural complement to the fast pace of the City and Southbank.

Image 19. Artist's impression of possible long term improvements to the Yarra River, Birrarung.



Batman Park



Banana Alley



Flinders Walk



Enterprise Park

Illustrative for discussion purposes only.

STRATEGIC DIRECTIONS

Organised around four key themes of Ecology, Culture, Place and Movement, the following strategic directions are to guide appropriate actions and future development of the inner Yarra River, Birrarung corridor, bringing the vision to life.



Theme 1.

Ecology

1. Riparian greening

Transform the hard edges of the river banks with vegetation to promote a healthy river ecosystem.

2. Ecologically connected

Prioritise an Indigenous planting palette and increase greening to improve local biodiversity and ecological networks.

3. Resilient

Address flood risk and improve water quality.



Theme 2.

Culture

4. Collaborative

Collaborate with Traditional Owner groups to help tell the living cultural story of the Aboriginal connection to the Yarra River, Birrarung.

5. Visible

Increase the public visibility of Aboriginal intangible heritage of the Yarra River, Birrarung, through interpretation and information.

6. Maritime

Recognise the historical and contemporary importance of the maritime uses of the Yarra River, Birrarung.



Theme 3.

Place

7. Inviting

Prioritise Northbank renewal to create an inviting destination adjacent to the City.

8. Multi-functional

Celebrate character areas and encourage new economies: a range of high quality civic, educational, cultural, hospitality and water dependant uses.

9. Public

Sustain the civic focus by encouraging activation that supports an inclusive, public waterfront.

10. Legible

Rationalise clutter and on-water infrastructure to ensure unobstructed views and vistas.



Theme 4.

Movement

11. Slow

Distinguish the river as a slower paced environment by creating safe, alternative north and south bicycle routes.

12. Integrated

Better integrate pathways along and leading to the riverfront, particularly to the north-west.

13. Accessible

Raise the quality and universal accessibility of riverfront pathways and crossings.

ECOLOGY

Evoking the richness of the pre-contact landscape and enhancing the ecological values, the river immerses people in nature. The Yarra River, Birrarung, is restored as a healthy water landscape experience.

The City of Melbourne is increasingly facing significant challenges: climate change, flooding, urban heating and population growth. These will place pressure on the urban fabric, services and people of the city. We need to respond to these challenges by proactively building healthy resilient landscapes for future generations. The Yarra River, Birrarung, plays a critical environmental role in this context.

The Yarra River, Birrarung, has the potential to be the major biodiversity connector in the Melbourne municipality. It could connect biodiversity hotspots in the city and become a key link for flora and fauna, forming unique urban ecosystems. These ecosystems are also crucial for maintaining health and wellbeing by filtrating air and water and providing shade and places for recreation.

The delta landscape of Melbourne has many low lying and flood prone areas along the waterways. Effects of flooding and impacts on water quality are particularly damaging in the lower reaches of the river being the outlet of the entire Yarra River, Birrarung, catchment.

Key ecology and water challenges are:

- The ecological values and biodiversity of the original landscape in the wider delta region have been removed or significantly modified. High biodiversity values are now limited to 'hotspots' (Royal Park, Domain, Westgate Park).
- There is little or no riparian habitat available for fauna in the city reach of the river. River edges are primarily made up of hard materials and surfaces reducing the ability of riparian land to act as a corridor for wildlife.
- There is limited opportunity to be close to the water and be immersed in an experience of urban nature away from the bustling city.
- There is risk of flooding through significant rain events with water levels in the river rising and main storm water drains being affected at Elizabeth Street, King Street, Spencer Street and Clarendon Street.
- Flooding levels will be further exacerbated through expected sea level rise in the coming decades. This will particularly affect the western part of the city.
- The health of the river is poor and unsafe with high levels of pollution. Water quality is an issue along with sewage and stormwater discharges.
- Other threats to river health are litter, pollution, urban development and invasive species.



Image 20. Flinders Walk, Birrarung Marr

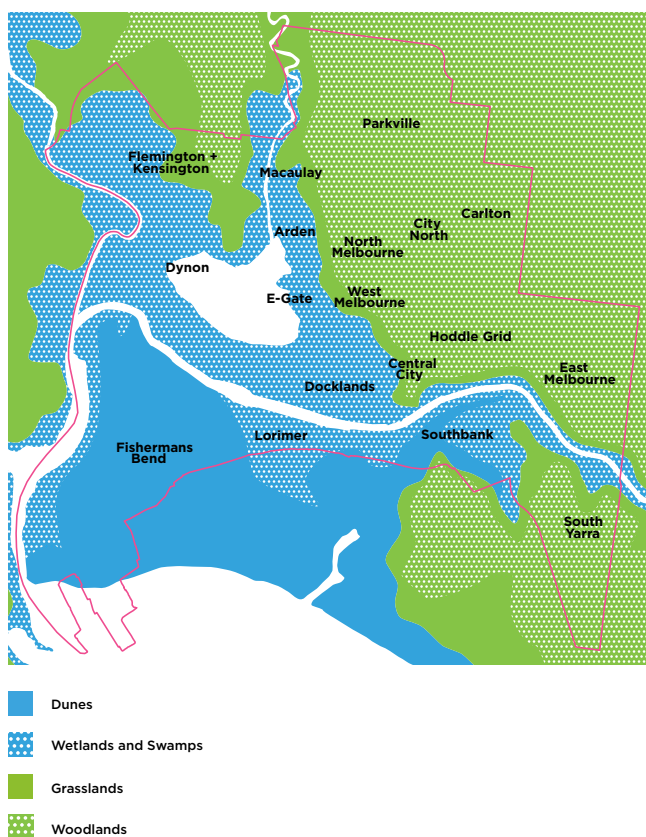


Image 21. Melbourne's pre-European landscape types and present day suburbs



Image 22. Royal Botanic Gardens Victoria Melbourne, Ornamental Lake

STRATEGIC DIRECTIONS



Image 23. A floating wetland in Maastricht, Netherland increasing biodiversity and connectivity for Maas river species (publication: *'Making Urban Nature'*, Vink J., Volvaard P. and de Zwarte N., nai010publishers Rotterdam, photo: Remco Andeweg, courtesy of the authors)



Image 24. Chicago River floating wetland creating habitat for fauna (photo courtesy of Moss Design, Chicago)



Image 25. Banana Alley, indicative concept of long term aspiration for the riverfront, City of Melbourne

1. RIPARIAN GREENING

Transform the hard edges of the river banks with vegetation to create a healthy river ecosystem.

Pre-settlement, the riparian zone along the Yarra River, Birrarung, provided wildlife habitat and movement corridors, enabling river fauna and flora to migrate between habitats along the river system. The vegetation on the river's edge reduced soil erosion and minimised flood damage.

Today, the river is mostly channelised through stone or concrete application on its banks. Most of the original wetlands have been removed and the smaller streams have been culverted. The landscapes edging the river have been urbanised and habitat values have diminished.

A key strategic direction for the future of the river is for new initiatives and projects in the public and private realm to contribute to a restoration of and return to riparian qualities. Internationally, there are many river cities that have reintroduced and partly revived their river edges through inspiring projects. Examples of this are:

- Chicago River 'Wild Mile' river rejuvenation project with new floating habitat
- San Antonio River Improvements Project with urban riparian restoration
- Paris river Seine floating green barges with activation of the river's edge and creation of ecological habitat
- New York 'Swale' project is a mobile foodforest on a barge moving between river edge communities.

Riparian revegetation

Riparian vegetation has a prominent role in supporting a diversity of species and improving water quality. A primary strategic direction for the Yarra River, Birrarung, is to transform the hard edges of the river banks with vegetation with the aim to reintroduce and improve the ecological riparian condition in the city. The river includes many shallow sections that could potentially be transformed to incorporate riparian vegetation.

Four different types of riparian vegetation have been identified as opportunities in the tidal environment of the Yarra River, Birrarung. These are:

- Dry riparian zones
- Wet riparian zones
- Floating structures with vegetation
- Tidal wetlands (inundated at high tide).

Prominent potential locations for riparian greening are the park interfaces with Birrarung Marr, Batman Park and Enterprize Park. The Domain Parklands Masterplan specifically indicates opportunities for native planting at the river edge, particularly with new understorey planting adjacent to the river.

The City of Stonnington has been developing the Yarra River Biodiversity Project since 2010 to increase habitat connectivity along the river. There is an opportunity for the river edge along Domain and Birrarung Marr to align with the indigenous riparian revegetation works in the adjoining local government area and optimise connectivity for biodiversity.

Some areas of the river including Southbank and Docklands have an urbanised edge and limited opportunity to incorporate riparian planting within the edge. In these locations there are opportunities to improve biodiversity within the river environs through floating structures with vegetation at the water's edge. The Chicago Riverwalk is an example of a successful floating landscape on an urban scale that provides riparian regeneration, positive biodiversity outcomes and recreational areas of respite that inform visitors of the local ecological context.

Technical aspects, marine transport, intensive people use and rubbish collection need to be considered with the type of solution and the type of planting. Trials and pilot planting programs are required to test species selection and technical solutions along various sections of the river to test success of planting, wildlife attraction and maintenance.

Policy 1: Encourage riparian greening along the Yarra River, Birrarung, including existing river banks

Action 1: Deliver a trial project of riparian vegetation on the river bank in collaboration with State Government

Action 2: Deliver a trial project for floating vegetation in the river in collaboration with State Government



Image 26. Artist's impression of possible long term improvements to Enterprize Park, City of Melbourne 2019



Image 27. Cheonggyecheon Stream, Seoul with reinstated riparian vegetation (photo courtesy of Seo-Ahn RnD DESIGN Seoul)



Image 28. Riparian vegetation Rotterdam, Netherlands creating a movement corridor for biodiversity (publication: *'Making Urban Nature'*, Vink J., Vollaard P. and de Zwarte N. nai010publishers Rotterdam, photo: Remco Andeweg, courtesy of the authors)

2. ECOLOGICALLY CONNECTED

Prioritise an Indigenous planting palette and increase greening to improve local biodiversity and ecological networks.

The pre-contact landscape of Melbourne incorporated a rich variety of vegetation types along the river with reed swamps, brackish wetlands, swamp scrub and mangroves. The landscape character of the original vegetation has completely disappeared and is mostly replaced with exotic vegetation, consisting of lawn and introduced trees.

Today, larger open spaces and reserves like Westgate Park in Fishermans Bend and the Royal Botanic Gardens have re-established biodiversity hotspots in the city. Waterways act as a connector for wildlife and the spread of vegetation through a connected habitat framework for water and land based species particularly birds, reptiles and frogs.

The benefits of a more connected habitat framework with restored and improved biodiversity values for the city are wide ranging. This is articulated in the City of Melbourne Nature in the City Strategy 2017 with 'The city as an ecosystem' philosophy.

The City of Melbourne Urban Forest Strategy 2012-2022 and both the Central City and Southbank Urban Forest Precinct Plans indicate that many trees in the river corridor have a limited 'useful life expectancy'. The Urban Forest Strategy proposes that many European tree types in the city should be replaced by other species, including native and indigenous ones. This will improve tree diversity, tree health and decrease vulnerability to diseases and pests.

A native planting palette

Through tree diversity and the introduction of more understorey planting, the river precinct will regain some of its original characteristic vegetation including riparian plant communities, where possible. This will provide a clear river landscape identity and distinction from the city street landscape character. The use of native and indigenous species will provide a greater link to place and the Aboriginal history, establishing a characteristic Yarra River, Birrarung, experience in the heart of Melbourne.

In selecting species, the specific soil conditions, local climatic constraints and future climate change effects must also be considered. More extreme weather events including drought and flooding will require resilient species. The growing conditions along the river corridor are highly modified from presettlement conditions and in some instances quite challenging for native species. Therefore a mix of exotics and natives will continue to be part of the river landscape.

Connecting with nature

Introducing new trees and vegetation along the river, including mid height plants and ground cover, will re-establish a movement corridor for urban wildlife and increase the areas for fauna habitat. It will encourage people to engage with the natural environment in the city and be immersed in a riverine experience.

Masterplanning for both the Royal Botanical Gardens and the Domain are highlighting the opportunities for physical connections with nature for the community. The Yarra River - Birrarung Strategy aligns with this principle and interpretive signage and other forms of education about the river landscape should be provided to encourage more interest and engagement.

Consider additional green infrastructure in parallel streets like Flinders Street, Siddeley Street and Whiteman Street as opportunities to strengthen the movement corridor for biodiversity along the river corridor. Improvement of a river biodiversity corridor is being complemented by individual initiatives like the proposed Melbourne Sky Farm and its offering for learnings across sustainable food production, biodiversity and urban cooling.

Saltmarsh habitat

Recreating riparian habitat conditions will likely attract wading birds like White-faced heron, Nankeen night heron, Great egret and Royal spoonbill. These species are now increasingly found in urban environments (like Royal Botanical Gardens and Carlton Gardens) and are likely to use the Yarra River, Birrarung, if appropriate habitat conditions are being reinstated. Creating the right conditions for wetland birds will increase the likelihood of other fauna establishing itself in the river corridor and in general aid in the connectivity for species.

Policy 2: Encourage a native and resilient planting palette along the Yarra River, Birrarung, promoting nature in the city.

Policy 3: Encourage riparian habitats in urban parks edging the Yarra River, Birrarung.

Action 3: Develop a plan for interpretive signage highlighting the natural river environment in collaboration with Parks Victoria and Royal Botanic Gardens.



Image 29. Rainwater detention area (temporary ponding)
Redgum Gully, Birrarung Marr



Image 30. Docklands Park wetland



Image 31. Raingardens Darling Street, East Melbourne

3. RESILIENT

Address flood risk and improve water quality.

Flooding is an increased risk for the city as a result of sea level rise and changes in intensity of rain events. Both Southbank and Northbank will increasingly be affected by flooding from rain events. More intense storm events will also result in poorer water quality, increased sediment and nutrient loads, reduced oxygen, rapid alteration of habitats, and reduced amenity and access for communities.

Historically, the river was part of a dynamic delta landscape where flooding was a regular event where the river would expand over the floodplain. In the urban context, there is no space for the river to expand and water is being channelled through the city in order to clear the urban space from storm water as quickly as possible. As a result, the riparian condition of the waterways has been degraded and minimal amounts of vegetation remain or have been partly replanted more recently. This has significantly reduced the ability of riparian land to act as a natural bio filter, to stabilise the river banks and to dampen flood peaks.

Sponge City

An approach that some cities take to address flooding and water quality is to think of the city as a sponge. In order to minimise the effects of flooding, stormwater is captured, retained, filtered and slowed down as much as possible. The 'Sponge City' concept promotes the idea of a managed urban floodplain.

This strategic direction is intended to explore opportunities to physically combine stormwater management measures with new approaches to public realm spaces at the river edge. These could be designed to retain water volumes in a peak rain event and slow down runoff significantly. Measures could include retention tanks, wetlands, raingardens and permeable pavements. Open spaces could also be utilised to partly accommodate excess rain water volumes during storm events.

The Sponge City concept will allow the riverfront to be an attractive and inviting area that isn't constrained by its relationship to water, but instead is enhanced by it. It will generate opportunities to shape environmental quality and local identity in different sections of the river. It will also make water more visible in places where people interact with it.

River water quality

To enhance the health and biodiversity of our waterways, we need to reduce stormwater pollutants and improve water quality. The City of Melbourne Total Watermark Strategy (updated 2014) and Integrated Water Management Plan (2014) highlight water quality for liveability and for the environment. A water quality target for stormwater is set for 2030 as a 30% reduction in Total Nitrogen contributed to the waterways from the municipality of Melbourne's catchment (baseline year 2000). Melbourne Water recently finalised the Healthy Waterways Strategy 2018 which sets out targets for water quality, supporting community health and wellbeing.

Internationally there are many river cities that have introduced projects that bring people back to the river by advocating for a swimmable and healthy waterway. The Copenhagen 'Havnebadet' is an iconic example of urban river swimming that has promoted a clean harbour and has transformed the harbourfront use. The Yarra River, Birrarung has a proud recreational history pre and post contact, including swimming races. Recent community led ideas like the Yarra Pools focus on the idea of swimming to raise water quality issues and provide new recreational opportunities.

Sunlight on the river

The living quality of the river is being affected negatively by the lack of sunlight due to development overshadowing. Sunlight for people in public spaces on the riverbank is also less available, particularly on the Northbank. The remaining areas that do receive sunlight along the river need better planning protection.

Policy 4: Encourage Sponge City strategies in the public realm and private development adjacent to the river.

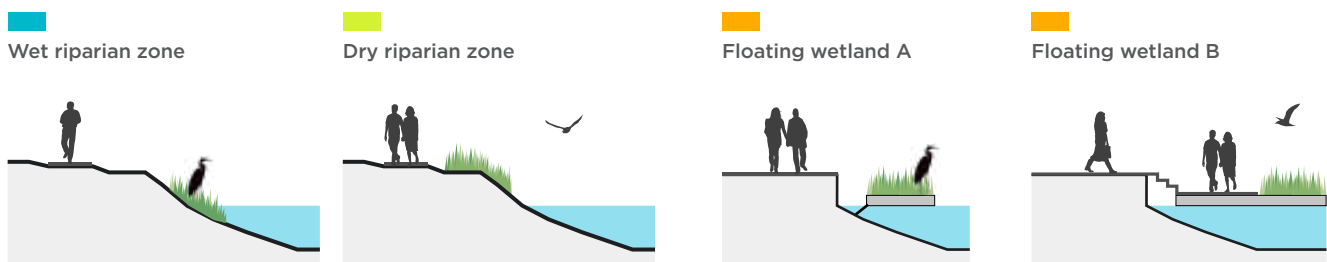
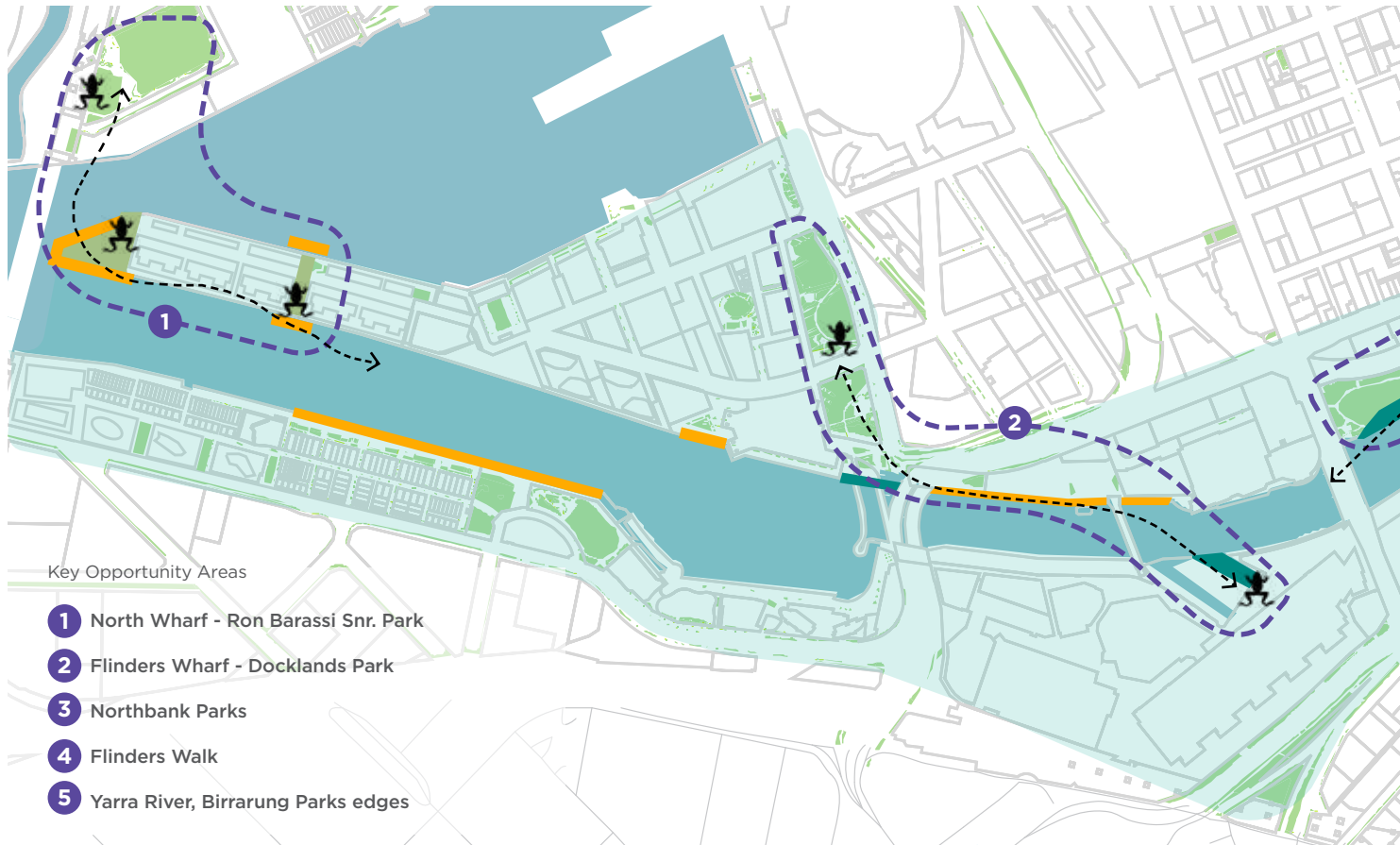
Policy 5: Encourage initiatives in the city reach of the river to improve water quality in collaboration with Melbourne Water including filtration of water runoff.

Action 4: Address planning scheme gaps in sunlight protection to the river and adjacent public spaces (outside the Capital City Zone).

Action 5: Develop urban design guidelines for flood prone areas across the municipality in the public and private realm.

HABITAT PLAN

Illustrative plan of the preferred spatial distribution and priorities for future riparian zones along the central city area of the Yarra River, Birrarung.

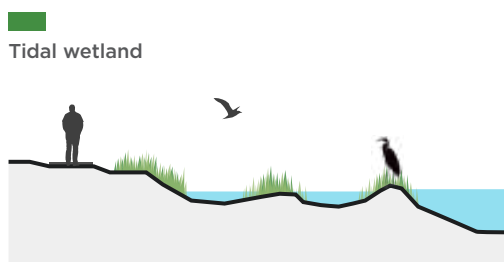
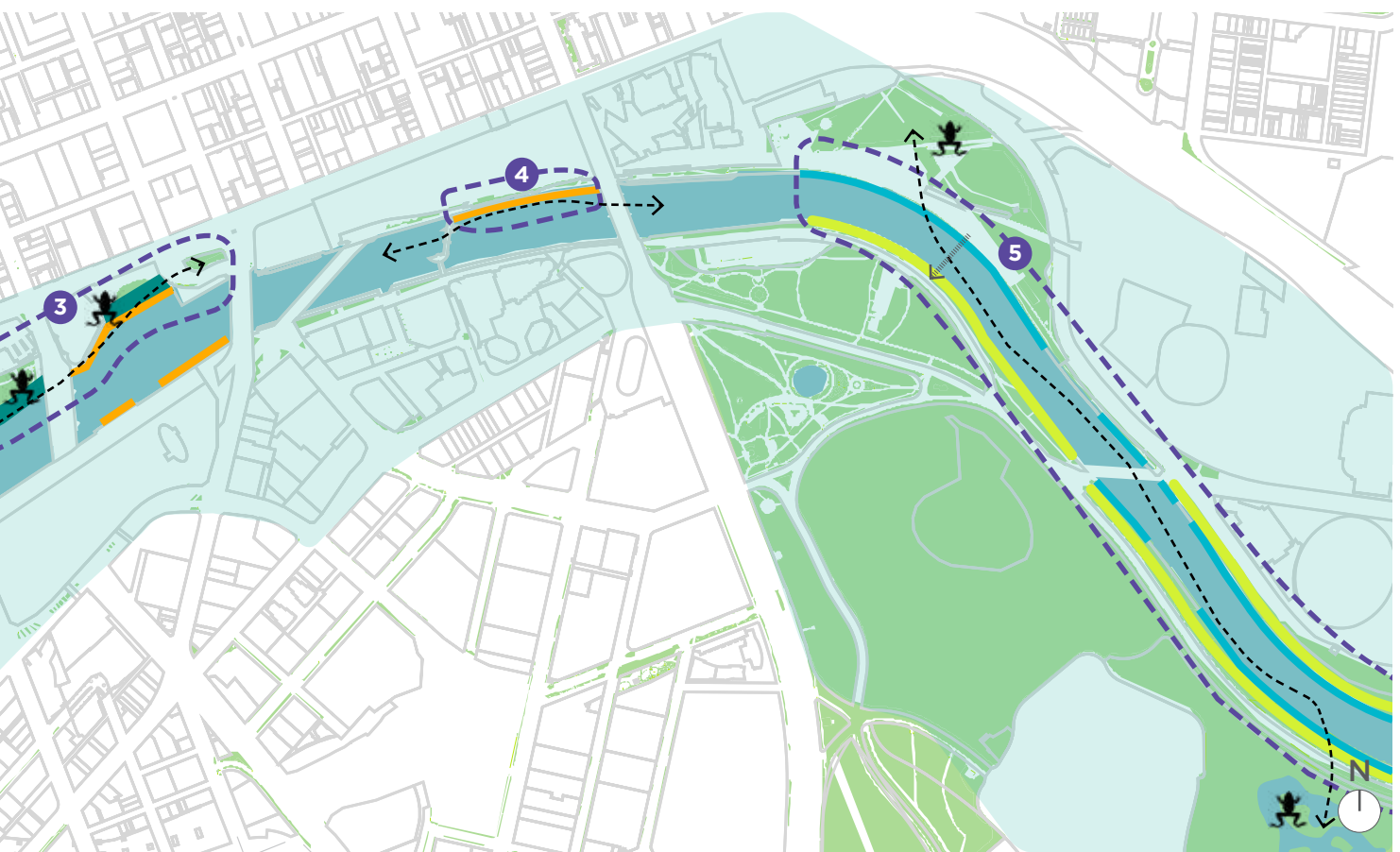


Riparian Zone

The section of the Yarra River, Birrarung with basalt rock beaching has the potential to be revegetated, softening the edges of the river and creating habitat in the city. This approach is constructible and cost effective given there are no significant changes to the existing assets.

Floating Zone

The floating zones have been identified at sections of the river with a hard edge that are not already occupied by berthing areas. Two types have been considered that move with the tides, floating wetlands (tethered) and floating garden beds (both with roots in contact with the river below).



Tidal Zone

The aim of a tidal wetland is to attract wading birds that feed in brackish tidal environments and to create opportunities for education and engagement. This wetland type will be in open connection to the river and will require protection from floating debris and bow waves from river traffic. A previous trial at the Jim Stynes Bridge with mangrove planting has partly failed because it was too exposed to the river.

Key

- Parks and gardens
- Wet Riparian Zones
- Dry Riparian Zones
- Floating Wetland Zones
- Tidal Wetland Zones
- 'Sponge City' approach encouraged in the public realm
- > Indicative connectivity for aquatic and amphibian species
- > Potential footbridge (location, purpose, need, impact to be investigated)

Limitations

Any physical additions to the rivers edge should not create any conflicts with the boating on the river. Boating and berthing require navigable waters in the river with a minimum of 41m for commercial and recreational vessels (2 way traffic) and 50m wide for rowing (4-lane rowing course. For access to the various wharves and landings, dredging is required to occur and maintain the min 50m navigable width. Boat berthing zones are excluded from any additional riparian vegetation.

CULTURE

The significant Aboriginal and maritime history and cultural values of the Yarra River, Birrarung, are elevated and celebrated. The sites, stories and memories offer a place of reflection, education and enrichment.

There are many cultural values and spatial characters within the Yarra River, Birrarung, urban landscape. The area has evolved over time, people have settled, places have been established, and the river has been a constant presence throughout that history. The river is a place of shared Aboriginal and non-Aboriginal history and cultural heritage values. The existing parks and gardens along the Yarra River, Birrarung, are a physical expression of our European cultural heritage. The challenge is to continue to value this heritage and combine it through reconciliation into something that is new and resilient to climate change.

Before European settlement the river was a rich and fertile landscape. The river followed a different course, with extensive wetlands along much of the lower parts of the area. It provided food supplies and was an important meeting place.

The river landscape is a place of great spiritual importance for Aboriginal people. The Aboriginal cultural narrative for the Yarra River, Birrarung, provides an opportunity to reconnect to heritage, landscape and ecology in the urban context.

The Yarra River, Birrarung, played a central role in the Aboriginal communities who lived in harmony with their environment. This is reflected in the creation stories that provide insight into the importance of water and the river in the delta landscape.

The Yarra River, Birrarung, is also tightly connected to the story of European colonisation and the very location of Melbourne city itself. The Falls in the river at Queensbridge Square was the location where fresh water could be obtained by the settlers and ship access from Port Phillip Bay was possible at this point in the turning basin. The city was founded on the river banks and a strong and vibrant connection between the settlement and the river was established.

The State Government of Victoria introduced the Yarra River Protection (Wilip-gin Birrarung murrnong) Act 2017. The Act recognises the Yarra River, Birrarung, as part of our first people's rich story and our celebrated history.

Key aspects of culture, narrative and heritage:

- Many stories from Melbourne's history are intertwined with the Yarra River, Birrarung, making the river a very rich and layered source of cultural narrative from both pre and post contact eras.
- The Aboriginal cultural heritage is an underrepresented layer in the contemporary river landscape and is lacking visibility in the city.
- Significant elements of the pre contact river landscape have been largely removed. Examples of this are the Falls, the wetlands and Batmans Hill.
- The Aboriginal cultural narrative connected to Yarra River, Birrarung, is often embedded in intangible records such as stories and practices like song, dance and ritual.
- The Yarra River, Birrarung, has a rich and diverse maritime history that reflects the settlement, development, growth and change of Melbourne.
- The Yarra River, Birrarung, is of cultural and historic interest to the people of Victoria as evidenced by various separate listings on the Victorian Heritage Register, National Heritage List and Victorian Aboriginal Heritage Register.

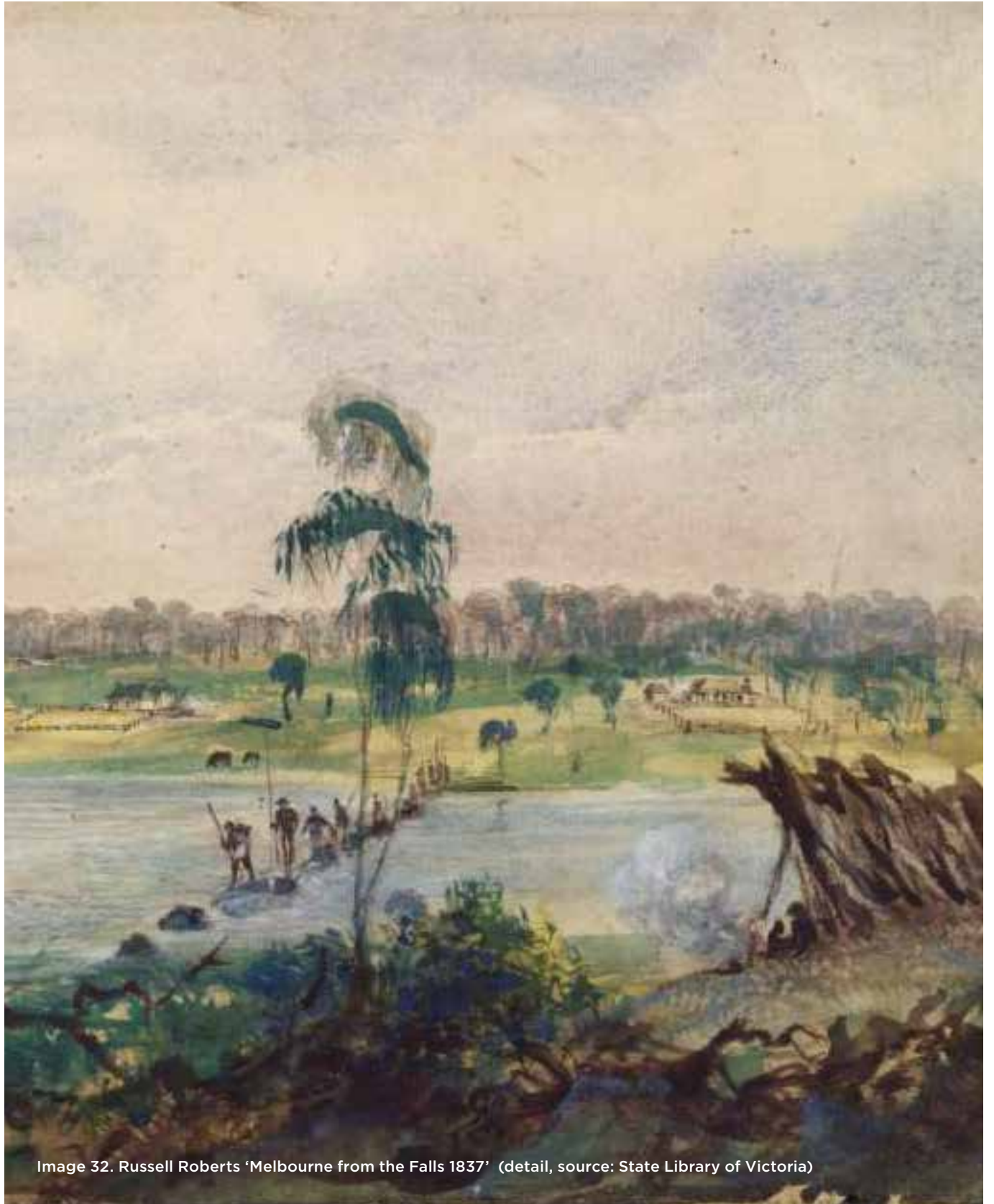


Image 32. Russell Roberts 'Melbourne from the Falls 1837' (detail, source: State Library of Victoria)

STRATEGIC DIRECTIONS



Image 33. Establish a Memorandum of Understanding for on-going collaboration with Traditional Owner groups.



Image 34. Planting at Ngarara Place RMIT Campus courtyard. Design Greenaway Architects.

4. COLLABORATIVE

Collaborate with Traditional Owner groups to help tell the living culture story of the Aboriginal connection to the Yarra River, Birrarung.

The Yarra River, Birrarung, is significant to Aboriginal People. It is a place of shared Aboriginal and non-Aboriginal history and cultural heritage values. The river is also a place of living culture, not just one reflecting the past. This strategy acknowledges the Aboriginal history of the Yarra River, Birrarung, while also creating a platform to celebrate Aboriginal culture in Melbourne in the 21st century. People want to know the Aboriginal story of the river.

Traditional Owner groups

There are three distinct Aboriginal communities associated with the City of Melbourne reach of the Yarra River, Birrarung. At the same time, the river is important for all the Aboriginal Nations in Victoria. In light of future engagement with the Traditional Owner groups a Memorandum of Understanding is proposed to be established with all groups to:

- ensure there is meaningful engagement with Traditional Owner groups;
- be respectful of Traditional Owner knowledge;
- avoid miscommunication and/or misappropriation of Traditional Owner intellectual property; and
- ensure that engagement assists Traditional Owner groups in their capacity building.

Meaningful collaboration should ensure that Traditional Owners prior and informed consent is prioritised and that Traditional Owner groups views are sought from the outset and ongoing throughout the project.

Aboriginal Cultural Narrative

An Aboriginal Cultural Narrative is to capture tangible and intangible aspects of history and culture, highlighting opportunities to incorporate these in the public realm in an integrated, contemporary way and in the management of the public domain.

The pre-contact landscape

Cataloguing vegetation that would have historically been present in the pre-contact landscape and of importance for Aboriginal people's livelihood is an important task. This research conducted with the Traditional Owner groups should include the Aboriginal names of plants, the use of the plants, the landscapes they were in, the management of the landscape and the seasons associated with plant growth, flowering and fruiting.

The pre-contact landscape of the Yarra River, Birrarung, was a sustainably managed landscape by Aboriginal groups. The landscape was considered part of the tribe or the family and was referred to and cared for accordingly. Such knowledge of landscape management is an important part of the Aboriginal cultural narrative, as it highlights the unique Aboriginal approach to living in and with nature.

The research could be shared widely and undertaken with partners such as the University of Melbourne's research on indigenous plants and learnings from the 'Living Pavilion' project. This knowledge would inform plant species selection for any future planting along the riverfront.

Action 6: Establish a Memorandum of Understanding for future engagement with each of the Traditional Owner groups.

Action 7: Develop an Aboriginal Cultural Narrative of the city section of the Yarra River, Birrarung, in collaboration with all Traditional Owner groups.

Action 8: Research the pre-contact landscape character and botanical aspects of the Yarra River, Birrarung, including the landscape management aspects to establish a reference planting guide.



Image 35. Early drawn impression of the Falls with riparian vegetation (source: State Library of Victoria)



Image 36. Photo of the Falls removal works in 1883 (source: State Library of Victoria)



Image 37. Ngarara Place RMIT Campus courtyard. Design Greenaway Architects.



Image 38. William Barak Building Melbourne, ARM Architecture

5. VISIBLE

Increase the visibility and understanding of Aboriginal intangible heritage, culture and the history of the Yarra River, Birrarung, through interpretation, design, information and management.

For the Traditional Owners, water bodies such as rivers were and are inextricably connected to life's meaning and have powerful cultural associations. Many Aboriginal groups told stories about special places, and believed that beings from the Dreaming occupied particular water sites. These beliefs are sometimes recorded in tangible artworks but are more often embedded in intangible records such as stories, dance, song and ritual.

The Falls (Yarro Yarro) were a key factor in the founding of the City of Melbourne. They were a point of crossing in the Yarra River, Birrarung, and the location where fresh water was accessible for settlers. The cultural significance of the Falls is of great importance for the Traditional Owners and also for the history of Melbourne post-contact. The Falls were removed in 1883 in response to significant floods in the preceding years.

Other elements of the river's ancient landscape are no longer visible in the city, such as the Williams Creek (now under Elizabeth Street), the Botanic Gardens lagoon which was once a part of the river, and the large wetlands that existed within the Docklands area.

The river's natural heritage significance with its relationship to Melbourne's lost swamps, billabongs and lagoons can add to the cultural narrative. Furthermore, there is great authentic tourism potential of bringing greater visibility to Melbourne's Indigenous culture.

Aboriginal history of the Yarra River, Birrarung

Public visibility of Aboriginal history and narrative needs to be increased because of the historic significance and unique local qualities of the river. The way to improve visibility will be through information, but opportunities must also be sought to integrate interpretation and give more inclusive meaning to specific places along the Yarra River, Birrarung. Aboriginal values will be more holistically expressed by means of physical projects, integrated in capital works initiatives and interpretations through street art or creative installations.

However telling the story of the river does not end with the realisation of physical projects. River management and care of landscape are an integral part of Traditional Owner groups' knowledge. Engagement with Aboriginal management principles can also assist in raising the understanding of Aboriginal culture.

Other aspects of the living river and Aboriginal cultural narrative are the potential return of culturally significant species to the river, including ravens (Waa is the keeper of waterways) in visible and recognizable populations. This opportunity aligns with the ecology strategic directions.

Sites of significance

The river landscape has a number of sites of significance with opportunities to reference the history and cultural importance of the pre contact landscape in the public domain of the river.

The Falls are an example of a site of significance which is currently not recognised. Although full physical reinstatement of the Falls is unachievable due to flood risk, partial reinstatement of the Falls or interpretation through urban design treatments, landscape architecture or art is strongly encouraged.

Action 9: Identify sites of significance and culturally significant species for the Yarra River, Birrarung, in collaboration with Traditional Owner groups and explore opportunities to reintroduce these to the river.

Action 10: Develop an interpretation strategy including storytelling and signage for the Yarra River, Birrarung, on the basis of the Aboriginal cultural narrative, maritime trading heritage and shared post contact history.

Action 11: Explore opportunities for creative installations that position the river as an environmental educator, elevating understanding of aboriginal culture in the past, present and into the future.



Image 39. The Enterprize on the Yarra River, Birrarung 1835
(source: State Library of Victoria)



Image 40. Yarra River, Birrarung 1930s with Spencer Street bridge
(source: State Library of Victoria)



Image 41. Heritage fleet at Victoria Harbour Promenade

6. MARITIME

Recognise the historical and contemporary importance of maritime uses of the Yarra River, Birrarung.

In the early European settler days, ships could reach Melbourne from Port Phillip Bay by sailing to dock or anchor at what is now Enterprize Park, just below the Falls. Development of trade and commerce took place along the river from early settlement and has particularly influenced urban planning in the city downstream of Queens Bridge. Many built structures of this early era have been removed over time. Some historic maritime elements from the period, like sheds and wharves, are still in place and have been, more or less, integrated in more recent development.

Many of the European cultural heritage assets related to the Yarra River, Birrarung, are engineering works that assisted in, and improved shipping access to Melbourne. These works, initiated by the Melbourne Harbour Trust, have modified the original course of the river (through the Coode Canal) and have widened the waterway. Many modifications were carried out to relieve congestion and increase accessibility and efficiency for shipping. Another driver for works was to mitigate the recurrent flooding that took place, affecting the city significantly.

The river's role changed quickly from being the focus of life and source of food, to a trading corridor serving the city. The ecological values and biodiversity of the river declined as a result of shipping and industrial development.

The building of Spencer Street (Batman) Bridge in 1927 cut off the river wharves upstream and subsequent bridges like Charles Grimes Bridge have gradually pushed port activities westward. The city gradually lost the intrinsic maritime trading connection with the river over time and industry replaced the active and vibrant wharves.

Beyond the maritime trading history, the Yarra River, Birrarung, is a place of rich social history. It was a popular place to swim and to gather for public events such as Henley on the Yarra. The rowing continues along the river to this day. More recently there have also been new traditions such as the dragon boating.

Maritime trading history

The Melbourne maritime history is a significant aspect of the Yarra River, Birrarung, sense of place. It gives shape to the iconic qualities of the river. There are opportunities to reference key aspects of Melbourne maritime history, integrated in built form, in the public domain, in art, signage and in urban landscapes. Seafarers Rest Park is an example of a current opportunity for public realm renewal and inclusion of maritime heritage and contemporary uses in a key location along North Wharf.

A Maritime network

Recognising the importance of Melbourne's Maritime history is particularly relevant to the river west of Queens Bridge (from the turning basin) given the heritage components of sheds, restored wharves, and heritage port features like wharf cranes. There is a rich potential for the public realm around these sites to be part of a distributed Maritime Network extending from the inner city out to Bolte Bridge and potentially beyond. Such a maritime network would link sites of significance and provide a cohesive experience to better appreciate history of the Yarra River, Birrarung. The Mission to Seafarers precinct, together with the future Seafarer's Rest Park could potentially play a central role in this network being a place of historical and contemporary significance.

Policy 6: Advocate for Maritime Heritage to be considered in planning and design for key opportunity areas. Encourage interpretation and a connected network between heritage precincts through a city wide strategy (refer action 10).