

Rubbish Tip to Riparian Corridor: Transforming our degraded Yarra River Abbotsford riverbank

Strategic Project Plan

Abbotsford Riverbankers

Melbourne, June 2019

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Introduction

The Yarra River in Abbotsford has a complex legacy of pastoral, industrial and residential usage. Its banks, once rich escarpment scrublands, are now erosion-prone, weed-infested remnants. The project area is a patchwork of public and private land, leading to a lack of coordination of restoration efforts. Revegetation has been erratic and without long-term maintenance, resulting in a landscape of rank grass and half smothered saplings. Riverbank sections are eroded with every major rain event, exposing rubbish and potentially toxic materials.

Yet this stretch of riverbank is highly valued by our community. Daily, between 1000 and 2000 Abbotsford residents and visitors from across Melbourne, Victoria and internationally pass along the Capital City Trail, jogging, cycling and walking by the river.

This is one of the most highly traversed sections of the river and one of its least cared for.

Our group, Abbotsford Riverbankers, was formed to be advocates and guardians of this area. We aim to help transform this promising but degraded area into a healthy riparian corridor to benefit residents and wildlife alike.



Project location and land management

Project location

The project area is located 5 kilometres from Melbourne's CBD along the Yarra River in Abbotsford. The area is bordered by Dights Falls Reserve to the north, the Yarra River to the east, Johnson Street to the South and the rear of properties on Trenerry Crescent to the west.

Land management of project area

The Project area is managed under three separate jurisdictions:

- 1. **City of Yarra and Melbourne Water**: Approximately **60 percent** of the project area is Crown land managed jointly by the Yarra City Council and Melbourne Water.
- 2. **Parks Victoria**: Approximately **25 percent** is managed by Parks Victoria Waterways at Burnley Depot.
- 3. **88 Trenerry Crescent**: The remaining **15 percent** is managed by the body corporate of 88 Trenerry Crescent.



Project location: West bank of the Yarra River, Abbotsford Maps source: MapShareVic



Land management divisions of project are Maps source: MapShareVic)

Geological & ecological background of project area

The western bank of the Yarra River in Abbotsford is on the eastern edge of the Western basalt plains. Their volcanic basalt flows of 780,000 to one million years cap older sediments and they are naturally exposed along the Yarra River in Abbotsford and Merri Creek.

Along the Yarra riparian corridor at Abbotsford, carved by the Yarra between these basalt flows and silurian mudstone/sandstone sediment, nothing or extremely little remains of its original, rich riparian escarpment srcubland, which was essentially razed for grazing and then industry.

Eucalyptus camaldulensis, Eucalyptus melliodora, Eucalyptus leucoxylon, acacia mearnsii, allocasuarina verticillata, bursaria spinosa and Exocarpis Cupressiformis formed part of the natural upper story of the area's ecology of grasses and sedges, ferns, herbs, low bushes and trees which provided for hunting, gathering and some agricultural activity by the Wurundjeri-willam people prior to European settlement.

Some have regenerated naturally or been reinstated in vegetation projects along the corridor. In these areas, unchecked regrowth of nationally significant weeds such as madeira vine, kikuyu grass, morning glory, African Box Thorn, and blackberries has partially or fully smothered and destroyed many plants.

See Appendix 2 for full illustrated background description.



Project Overview

Our Birrarung Yarra River in Abbotsford has a complex legacy of pastoral, industrial and residential usage. Its banks – the rich escarpment scrublands of prehistoric lava flows – have shrunk to an erosion-prone, weed-infested ribbon of low biodiversity value.

Abbotsford's natural environment remains poorly understood and degraded. Replanting has been erratic, its purpose undermined by undermanagement.

Yet our community seeks healthy relationship with the Yarra. Abbotsford folk cherish our riverscape, from leisure-time walks and cycling commutes to water dragon spotting and silent litter crusades.

Local conservation group Abbotsford Riverbankers has boldly set out to harness this love and energetic but fragmented activity for strategic, powerful and lasting action that transforms this promising terrain into a healthy riparian corridor. Our core volunteer team is doing this through flexible planning and activities, supported by funding, supportive relationships and smart resource use.

This project is an important next phase in our core mission. It follows 14 months of exploratory weeding, planting and management across a series of embankment rehabilitation 'labs' between Johnston Street and Dight's Falls. It also starts 'joining the dots' with other Yarra River and Merri Creek rehabilitation projects.



1919 Yarra River flooding below Yarra Falls Mills (now an apartment complex with flood prevention overlays)

Projects goals

Stage One:

Gather data, experiment with weeding and erosion control, build connections with stakeholders (complete).

Stage Two:

Upskill committee members, implement weed control strategy for whole area, revegetation in high value areas, building community support and active engagement through working bees (current).

Stage Three:

Carry out mass planting in remaining areas, implement ongoing management of existing plantings (planned).

Stage Four:

Expand project area, sharing of knowledge and experience with other groups (future).

Stage One: April 2018 – June 2019

This first phase of the rehabilitation and management project took place over 14 months, providing a foundation for Stage 2 and long-term planning, action and management.

Project area sections where weeding, planting, erosion control and data gathering have taken place since April 2018



During this time, we:

- gathered data (including weed auditing, observing the effects of weeding and swaling on soil erosion and plant regeneration) to inform planning and activities, and contribute insights on highly degraded inner riparian corridors
- experimented with various approaches to weed control, focussing on areas
 of extremely high infestation of nationally significant weeds.
- built connections with stakeholders, using social media, participating in strategic planning events with statutory bodies and participation in conservation and other community events.

The project area, on the busy Capital City Trail, is an extraordinarily rich source of face-to-face community interaction. Chatting with people about our work, and sharing stories about caring for our local environment, has helped us build community understanding and 'buy-in' on our activities. This work, while complete for Stage 1, will continue indefinitely because it is core to community engagement with our riverscape.

Stage Two: August 2019 - December 2020

The project now builds on prior activities and learnings and moves its focus to:

- upskilling Abbotsford Riverbank Committee members
- implementing our weed control strategy for the whole area
- carrying out revegetation in high-value areas
- building community learning and involvement through working bees, continuing face-toface and social media outreach, and participating in key strategic events.

All components of Stage 2 take place in discrete phases and overlap with other project phases.

Weed control and project site management phased across Stages 1 & 2 and throughout the project.



Upskilling (August - December 2019)

Committee members will undertake training in:

- 1. WHS accredited training for 1 Committee member (AHCWHS3001 Contribute to Work Health and Safety Processes)
- 2. A customised non-accredited technical workshop for handling hand and power tools for committee members and up to 7 other people
- 3. One half-day 'In Safe Hands' mentoring workshop plus toolkit for 3 Committee members and up to 22 other people from local conservation organisations and the community.

Implementing weed control strategy (August 2019 - December 2020)

Members will continue work on a vegetation audit and analysis of the entire project area to determine a weed control strategy plan. One Committee member, who specialises in environmental management, will lead this activity, drawing on the knowledge and experience of other members and partner organisations. This will be undertaken in late winter-early spring to identify new weed growth.



Revegetation in high value areas (October 2019 – December 2020)

Revegetation activities will be carried out in the sites where activity has already commenced (see above map 'Weed control and project site management activities') and a number of new areas, including riverbank margins outlined in the map above.

Revegetation will be carried out with volunteers in two ways:

- under the direct guidance of Committee members. Initial events involving the general public will be run in cooperation with (and under the auspices of) Parks Victoria and following events run by Abbotsford Riverbankers itself. These events will draw on previous experience, learnings and the training outlined above. We will draw on our network as described in Question Five for additional advice and support.
- 2. in partnership with Conservation Volunteers Australia (CVA). CVA will contribute extensive resources, expertise and volunteer teams for 4 full weed-control and planting workdays. This will deliver at a scale of resources and expertise that Abbotsford Riverbankers does not currently have the capacity to provide.

This scale is also intended to stimulate greater community attention and 'buy-in'. It will provide a significant stimulus to follow-up project activities as well as rehabilitation outcomes overall.

Planting events will run through the winter and spring months. Watering will be scheduled for plantings over the dry summer months.

Revegetation species are based on indigenous riparian vegetation of the Yarra River's western basalt slope close to its convergence with Merri Creek. Some other species indigenous to nearby areas are included because they provide particular benefits to this degraded environment, such as their ability to grow around mature exotic trees.

See Appendix 2 for species list.

Stage Three: January 2021 – January 2023

Revegetation will be carried out in additional areas, with mass planting on steep slopes and ongoing management of existing plantings.

Building on the work done in Stages One and Two, intensively managed areas will be expanded to encompass all easily accessible land in the project area.

Areas with steep slopes, that are otherwise unsafe for volunteers to work on or are beyond our capabilities to provide resources, will be contracted out for revegetation through mass plantings.

Funding for these plantings will be sought from Melbourne Water or other statutory bodies with responsibility of waterway health. We believe that through demonstrating the success of our efforts at Stages One and Two, we will be able to secure funding in this manner.

Mass planting for Stage 3 and project site management intensity phased across Stages 1, 2 and 3 and throughout the project.



Stage Four: Feb 2023 onwards

The final phase of the project turns to ongoing maintenance and expansion of the project area. By this stage, we will have accumulated significant knowledge and experience for statutory bodies, other conservation groups and the general public to draw on.

Following the completion of restoration activities, ongoing management will be carried out to ensure the long-term health of the river. Large scale flood events, or redevelopment of land parcels along Trenerry crescent may require additional funds to be sought for remediation.



Other degraded areas abutting Crown land on the western bank of the Yarra River in Abbotsford

With the knowledge and expertise gained from this project, we aim to expand the project area to other degraded areas abutting Crown land (indicated in the map of greater Abbotsford above). Should other groups commence activities in these areas before the completion of our project, we will make ourselves available.

We also anticipate harmonising our activities with other conservation groups carrying out rehabilitation and management in the east bank of the Yarra opposite the project site, should there be sufficient volunteer availability to do so.

This project has been planned and implemented in anticipation of the Abbotsford River Strategy Plan (Action 20 of the Victorian Government <u>Yarra River Action Plan</u>).

We anticipate coordinating with the Plan and expanding our activities along the western bank of the Yarra in harmony with the plan.

We also anticipate that our own project will provide valuable intelligence for planning and implementing the Abbotsford River Strategy Plan.

Our key project partners and supporters

We have built and will continue to expand partnerships across our local community, statutory bodies and key conservation organisations. Below are key and emerging partners, with a description of support they provide.

City of Yarra (Land Managers)

in-principle support of project, promotion, safe disposal of weeds and rubbish, coordination with other groups, technical advice

Parks Vic (Land Managers)

in-principle support, co-management of working bees, technical support, advocacy with other groups

Melbourne Water (Land Managers)

funding, technical advice

Conservation Volunteers Australia (Conservation not-for-profit organisation)

Non-accredited technical training for hand and power-tool usage; accredited WHS training to Abbotsford Riverbankers, and delivery of 4 7-hour weed control and planting work-days on 4-high value sites

Yarra Riverkeeper

Promotional support, technical advice, resources, partnership opportunities

Friends of Andrews Reserve

Volunteers, technical advice, rehabilitation experience

Collingwood Children's Farm

Our closest neighbour along the Yarra corridor, dialogue on land usage, support for disposing vegetation waste

Members of the local and non-local community

Volunteers, financial support, ecological know-how.



Links to larger strategic plans

Linkages between this project and larger strategic plans include (but are not limited to):

Wilip-gin Birrarung murron Yarra River Action Plan 2017¹

In particular, Objectives 1 (A healthy river); 2 (The Great Yarra Parklands); 4 (Securing the Yarra Footprint); 5 (Modern Governance) (Yarra River Action Plan p. 7)

The Yarra Strategic Plan²

(Melbourne Water, under development – see attached Progress Report for the Yarra Strategic Report)

Yarra River 50-Year Community Vision³

(Abbotsford Riverbankers contributed to Melbourne Water 'Imagining the Yarra' community workshops in June 2018)

City of Yarra Biodiversity Strategy

(under development). Abbotsford Riverbankers participated by invitation in Consultation Workshops for Community Group Representatives), June 2018

Yarra River (Wilip-in Birrarung murron) Act October 2018⁴

Abbotsford River Structure Plan and Missing Abbotsford Link

(Actions 20 and 23 of the Yarra River Action Plan - to be developed, as at June 2019)

Yarra Riverkeeper Strategic Report⁵

Protecting the Yarra Corridor through Better Planning: Punt Road Bridge to the Urban Growth Boundary, 2018.



¹ Government of Victoria, Wilip-gin Birrarung murron Yarra River Action Plan, Melbourne 2017 available at

<https://www.planning.vic.gov.au/__data/assets/pdf_file/0024/27177/DELWP0032_YarraRiverActionPlan_v27_weba.pdf>

² Melbourne Water, *Progress Report for the Yarra Strategic Report*, Melbourne 2019, available at <file:///C:/Users/annar/Downloads/MW0017_Blueprint_YarraStrategicPlan_v16-WEB%20(1).pdf>

³ Melbourne Water, Yarra River 50-Year Community Vision, May 2018, available at <<u>file:///C:/Users/annar/Downloads/MW0010</u> A4VisionDocument v33B web.pdf>

⁴ Government of Victoria, *Yarra River (Wilip-gin Birrarung murron) Protection Act*, 2017, available at <<u>http://www.legislation.vic.gov.au/domino/Web_Notes/LDMS/LTObject_Store/Itobjst10.nsf/DDE300B846EED9C7CA25761</u> 6000A3571/DD5111DE573144AACA258306001928C4/\$FILE/17-49aa002%20authorised.pdf>

⁵ Yarra Riverkeeper Association, *Protecting the Yarra Corridor through Better Planning: Punt Road Bridge to the Urban Growth Boundary*, Melbourne 2018, available at <<u>http://yarrariver.org.au/wp-content/uploads/2018/09/Protecting-the-Yarra-River-Through-Better-Planning-Report-by-Ethos-Urban-1.pdf</u>>

Appendix 1

Project Area geological, ecological and cultural background

The western bank of the Yarra River in Abbotsford is on the eastern edge of the Western Basalt Plains, which stretch westwards to Portland covering about 20,000 square kilometres. Their volcanic basalt flows of 780,000 to one million years cap older sediments. These flows are naturally exposed along the Yarra River in Abbotsford and Merri Creek.

The Yarra riparian corridor at Abbotsford was carved by the Yarra between these basalt flows and silurian mudstone/sandstone sediment. At 2019, it is a remnant of what was rich riparian escarpment scrubland. Eucalyptus camaldulensis, Eucalyptus melliodora and Eucalyptus leucoxylon formed part of the natural upper story of the area's ecology of grasses and sedges, ferns, herbs, low bushes and trees which provided for hunting, gathering and agricultural. None survives as natural remnants from this pre-colonial time.



Wurundjeri-willam encampment, Yarra River around today's Abbotsford

The earliest known reference to the area's pre-colonialisation vegetation is in vegetation mapping and an 1803 survey by James Fleming, who camped with the Wurundjeri-willam below Dights Falls.

Seasonal weather, availability of food and changes to river flow determined the best times to visit the area. During winter river floods, the Wurundjeri-willam would camp in higher areas. In spring and summer, they moved frequently, hunting and gathering and visiting sacred sites. Spring and early summer yielded yam and other crop harvests, game, wildfowl and bird eggs. Later summer yielded fish and eel harvesting around important campsites.



Construction of Yarra Falls Mills (now an apartment complex), at the top of the Yarra River escarpment, 1918

With European settlement came dispossession and displacement of the Wurundjeri. As elsewhere across Victoria's Plains, its natural vegetation has been almost eliminated, first by agriculture and later by industrial expansion to the Yarra's edge. Land was subdivided and sold; and bush was cleared to create roads and buildings. Wetlands were drained and the course of the Yarra River was altered.

However, the area also represents the vital role the Yarra River has played in Melbourne's settlement and industrial development. In 1838, the area was subdivided and sold by proxy at auction in Sydney. One of these lots was purchased by John Dight, who harnessed the falls, a natural basalt rock barrier across the river close to Merri Creek, to power his flour mill. Dight further subdivided his land into 5 lots, which were bought by property developer Edwin Trenerry, who further subdivided it into a residential estate, setting an early residential precedent for the area.

The riverside location on the working outskirts of Melbourne soon afterwards became an industrial area of tanneries, woollen mills and other industries that used the river for industrial use, transport and as a dump for toxic waste discharge.



Austral Silk and Cotton Mills 1943, on the edge of the Yarra River escarpment which forms part of the project area.

Until the construction of sewerage and drainage systems and substantial retaining walls, the natural flooding cycles of the river continued to affect residents and businesses in the area.

The area has since largely de-industrialised. Its riverside factories ad mills have been converted to highly sought-after residential and business zones. However, its post-colonial and industrial legacy live on in a confusing complexity of land ownerships and management overlays, ageing drainage systems that discharge pollutants and waste directly into the river. Uneven revegetation efforts on the slope with inconsistent management have so-far failed to deliver on the significance and promise of this ecologically and historically important riparian corridor.

Today, this area forms part of one of the two most vegetation-cleared and alienated areas of Victoria's Port Phillip district. Nonetheless, its special geological and ecological qualities and its cultural significance for the Wurundjeri-willam people and our industrial legacy provide a remarkable opportunity to rehabilitate this precious strip of riparian corridor, and connect it to other biodiversity initiatives locally and along the Yarra River and Merri Creek.

Appendix 2

Plants list⁶

CANOPY AND CLIMBERS		Priority	Comments	EROSION PREVENTION			
Acacia implexa	Lightwood	Low-medium		✓			
Acacia mearnsii	Black Wattle	Medium	Naturally regenerating around Johnston St Bridge. Nitrogen fixing and soil binding	✓			
Acacia melanoxylon	Blackwood	Medium-high	Naturally regenerating around Johnston St Bridge	~			
Acacia paradoxa	Hedge Wattle	Medium		✓			
Acacia pycnantha	Golden Wattle	Low-medium					
Allocasuarina verticillata	Drooping Sheoke	Medium	Nitrogen fixing, soil binding				
Bursaria spinosa	Sweet Bursaria	High	Attracts butterflies & nectar-eating birds, shelters fauna				
Cassinia arcuata	Drooping Cassinia	Medium	Pioneer plant in disturbed soils, sun to part shade, under trees. Unlikely to become invasive				
Cassinia longifolia		Medium	Pioneer plant in disturbed soils, rocky terrain				
Clematis microphylla	Small-leaved Clematis	Medium	Low density planting				
Correa glabra	Rock correa	Medium-high		✓			
Eucalyptus camaldulensis	River Red Gum	Low					
Hymenanthera dentata	Tree Violet	Medium	Useful for establishing erosion control, esp. in rocky sites	~			
Low shrubs							
Indigofera australis	Austral indigo	High	Useful in difficult shady areas (e.g. near peppercorn/plane trees)	~			
Atriplex semibaccata	Berry Saltbush	High		~			
Chrysocephalum semipapposum	Clustered Everlasting	Low					
Callistemon sieberi	River Bottlebrush	High	Establishes itself well in tough conditions	1			
Myoporum	Sticky Boobialla	Medium					

⁶ Main source: Parks Victoria, *Vegetation of Yarra Bend Park*, Melbourne 2002, available at https://parkweb.vic.gov.au/__data/assets/pdf_file/0004/313465/Yarra-Bend-Park-Vegetation-of-Yarra-Bend-Park.pdf

^{*}Note: For practical purposes (e.g. because some are unavailable/difficult to purchase or require growing conditions that are not feasible in this area, such as Excocapos Cupressiformis) some plants indigenous to this riparian escarpment shrubland have been excluded from this list. In the future, some may be added to the list.

Rubus parvifolius	Small-leaf Bramble	Medium	Shade to semi shade under established trees				
num aviculare	Kangaroo Apple	Medium					
Ferns							
Cheilanthes sieberi	Narrow Rock- fern	Medium	Rocky areas, drier sites				
Pellaea falcata	Sickle Fern	Low	Prefers moist, well drained soils, shade-semi shade				
SEDGES, LILIES, RUSHES	GRASSES						
Austrodanthonia	Wallaby Grass	High	Useful to plant under trees and mix with other grasses. May form a 'mat' to prevent soil erosion.	√			
Austrostipa	Spear Grass	High	Excellent for mass planting, weed control and soil erosion.	✓			
Bothriochloa macra	Red-leg Grass	Low					
Chloris truncata	Windmill Grass	Medium		1			
Dichelachne crinite	Long-hair Plume-grass	Medium		1			
Lepidosperma laterale	Variable Sword-sedge	Medium		1			
Lomandra longifolia	Spiny-headed Mat-rush	High		✓			
Microlaena stipoides	Weeping Grass	High	Esp. effective establishing understory	1			
Poa rodwayi	Velvet Tussock-grass	Low-medium					
Poa sieberiana	Grey Tussock- grass	Low-medium					
Themeda triandra	Kangaroo Grass	Medium-high		✓			
Tricoryne elatior	Yellow Rush- lily	High	Erosion control in small areas	1			
HERBS							
Einadia nutans	Nodding saltbush	High	Useful for colonising bare areas & eroding soils.	1			



Natural regeneration of soil-binding, nitrogen-giving acacia mearnsii (black wattle) on highly-degraded slope beside Johnston St Bridge, following weeding and swaling. (*Photographs: @ 2019 Anna Ridgway, Abbotsford Riverbankers*)

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