Waterwatch Program

Monitoring Plan

Monitoring Plan

Monitoring Group Name: Merri Birdies (near De Chene Bridge, between Connolly Avenue & De Chene Reserve, Coburg)

Waterway Name: Merri Creek

This Plan will be reviewed yearly and adapted and amended as necessary.

General details

Information about our Waterwatch group

Name of monitoring group	Merri Birdies
Name of group leader	Ruby Hotchin
Waterway(s) to be monitored	Merri Creek
Local Government Area	Merri Bek City Council
Commencement date of monitoring	2 July 2023; this site plan developed July 2025 & August 2026 (previous group conducted monitoring at this site early 2020-2022)

Our Members

Group members are registered on the Waterwatch database.

Full name	Email	Phone / Mobile
Ruby Hotchin	Ruby.h121@hotmail.com	0493 138 099

Training Schedule

Your Waterwatch Coordinator will guide you through the first steps of monitoring water quality and assessing the environment.

Event	Proposed date	Complete
Waterwatch Training	see spreadsheet for info for each group member	yes (for most members)
First site visit: site selection and monitoring plan	Taking over from pre-existing group; first monitoring plan developed July 2025	July 2025
Second site visit: first water testing and equipment delivery	2 July 2023	2 July 2023
Third site visit: second water testing	6 August 2023	6 August 2023
Annual field visit and shadow testing	Members to participate in next SS scheduled for Oct 2026	2023 Completed

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Data Confidence Schedule

Waterwatch Network meetings are designed to guide you through maintaining your equipment and testing the accuracy of your data. You will also meet other Waterwatch participants.

Event	Proposed date	Complete
Waterwatch Melbourne Data Confidence Exercise: Shadow Testing In-Field	2024 2025 Oct 2026	2024 Completed 2025 Completed
Waterwatch Melbourne Data Confidence Exercise: Shadow Testing at Network Meeting	2024 2025	2024 Completed 2025 Completed
Waterwatch Victoria Data Confidence Exercise: 'Mystery Sampling' Event	see spreadsheet for QAQC completed by group members	April 2025 and May 2026

A schedule of monitoring is included at the end of this document.

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History of the Site

The entire Merri Creek lies within the lands of the Wurundjeri People. Prior to colonisation the creek, like much of the Yarra Catchment, was important Country for Wurundjeri people, providing bountiful food sources, shelter and sites to live, care for Country and otherwise practice culture, in and around the water, especially the riparian zone, wide floodplains and adjacent grasslands. Wurundjeri people continue to practice their culture along the creek. Each year in spring the Merri Murnong Gathering is held, a collaboration between the local community and Wurundjeri, at which yam daisies grown in the local Merri Murnong garden are harvested and roasted, and Wurundjeri culture is practiced, and reinvigorated. Interpretive boards about Wurundjeri murnong gardens, eel farming, stone tools and tree scarring can be found along the eastern side of the creek, close to our testing site.

The Merri Creek in North Coburg is towards the top of the creek's Lower Catchment. To the south it flows through the suburbs of Thornbury, Brunswick, Fitzroy and Clifton Hill, before flowing into the Yarra River at Dights Falls, a significant Wurundjeri meeting place. The Merri Creek drains a very large area, but due to lower rainfall in the northern suburbs, contributes a relatively smaller volume of flow to the Yarra, though it is a significant source of litter.

To the north, the creek originates close to Wallan, and flows through Kalkallo and Craigieburn (to name a few): predominantly grazing, agricultural lands with old country towns that are fast becoming new suburbs at Melbourne's northern urban growth boundary. This changing land use poses a threat to the creek's health along its length, adding significant sediment during the development phase, increased stormwater, and decreased filtration in the longer term. Planning controls on developers and efforts by local community groups including the Merri Creek Management Committee are working to offset these issues, using Water Sensitive Urban Design strategies, such as constructed wetlands.

Closer to our site, as the creek flows through established parts of Melbourne's outer northern suburbs such as Somerton, Campbellfield, Fawkner and even parts of North Coburg, land use along the creek has historically been mostly industrial, in fact the creek was viewed as a useful way to dispose of industrial waste. There are still significant industrial sites both directly along the creek, and within its catchment. This includes quarries in Campbellfield, significant areas of car mechanics in North Coburg, and factories throughout all these suburbs, particularly in the pocket of land between the Merri and Edgars Creeks (itself a tributary just to the north of our testing site). These land uses pose the threat of occasional, accidental pollution events.

Along its length, the Merri Creek was significantly altered from its pre-colonisation shape, in particular quarrying for basalt and to make bricks, straightening to remove obstacles to rail and roads and the damming of the creek at Coburg Lake. The creek's riparian zone was also largely cleared along most of its length, and invasive weeds are widely spread, though many remnant large trees survived in the upper catchment.

Increased stormwater, and decreased filtration in the Upper Catchment, and urban infill in the Lower Catchment (especially subdivisions for townhouses) are both likely to contribute to the 'Urban Stream Syndrome' (USS) already threatening the health of the Lower Catchment. USS is a worldwide problem in urban waterways, the result of paved urban surfaces leading to flash floods of stormwater hitting the creek, followed by longer periods with low input of surface water.

This contributes to high concentrations of pollutants, nutrients and litter, and changes the creek's shape: eroding stream banks and straightening meanders. These impacts also reduce biodiversity in and around the creek, and increase the extent of invasive species.

However, there are also good news stories. Efforts by the Merri Creek Management Committee (MCMC), and its volunteer arm, the Friends of Merri Creek (FoMC), with support from local councils and Melbourne Water, have led to very significant revegetation and restoration of the riparian zone, in particular. Parts of the creek close to our testing site have lush indigenous vegetation in a wide band along the creek, and tens of native bird species have returned to the area, including occasional sightings of the Sacred Kingfisher. As we test the water each month we are often serenaded by wattle birds, currawongs and magpies, ducks and moorhens swim by, and we sometimes see a cormorant fishing. Not far to the north of the site, in North Coburg and Fawkner, swamp wallabies are often seen along the creek's banks, rakali swim in the creek and in the newly constructed (stormwater filtering) wetlands at the Edgars Creek confluence, there are 5 different frog species. The creek is well loved by the local Fawkner, North Coburg and Coburg communities, and the bike path that runs alongside the creek, and our testing site, is busy with cyclists, dog walkers, prams and joggers. Local schools and kinders use this section of the creek for bush kinder and nature play, and within Outdoor Ed, Science and Geography lessons. Litter collections at our site are frequent, mostly organised via MCMC and FoMC, and engaging many schools, kinders and community groups, and whilst large volumes of litter enter the creek via drains, the area is relatively free of litter, except after heavy rains.

The water monitoring site at De Chene Bridge has been monitored by a Water Watch group, the Merri Birdies, since 2020, with over 65 site reports registered on the Water Watch portal. One group wound up in early 2023, and a new group of volunteers took over from July 2023.

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Monitoring Plan and Objectives

The following **land uses** are present within the catchment:

- Residential (main land use)
- Industrial (including multiple factories close to the creek)
- Recreation (including multiple sporting reserves along the creek)
- Agriculture (much further to the north of our site)
- Transition from agricultural to residential at urban growth boundary
- Narrow, mostly degraded riparian zone (conservation land use?)

The **possible concerns** for water quality, habitat and biodiversity are:

- Urban Stream Syndrome issues:
    - Stormwater volume and quality
    - Extremes of high and low flow due to stormwater volume and increased urbanisation of the area, decrease in permeability: lack of control (eg. 2022 1% AEP)
    - Petrol, oil and other chemical pollutants coming with stormwater (increased during large rainfall events)
    - Large amounts of litter transported with stormwater
    - Changed shape of the creek, including impact on habitat
    - Impact on biodiversity within the creek especially macroinvertebrates and their predators
- Potential poor management of waste at mechanics, commercial car washes, carpet cleaners, building sites including paint, concrete and plaster and restaurants (cooking oil)
- Detergent from car washing, and historically poorly plumbed garages across northern suburbs
- Phosphate from agricultural, backyard fertiliser and sporting ovals
- Dog poo
- Dumping of rubbish including tyres
- Sediment coming from new developments
- Risk of occasional Industrial pollution events
- Feral animals predating on native fauna
- Extensive weediness in riparian zone with a lack of understorey indigenous vegetation

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The following **positive changes** in the area may be measured through Waterwatch monitoring:

- improved water quality
- increased habitat
- increased macro invertebrate diversity and populations (including sensitive species)
- decrease of litter, especially soft plastics, bottles and cans
- decrease of surface water pollution (eg. detergents, oils, residues, turbidity)

Reflecting on the above questions, **the group wants to know about:**

- if the creek water quality is getting better or worse
- whether there are households or businesses in our local area that are impacting the water quality poorly through their activities
- whether we are catching water quality issues with the testing we're doing
- whether urban growth boundary development is negatively impacting the creek water quality
- what's happening in the sediment of the creek - are there heavy metals or other pollutants, especially due to the history of industrial land use along the creek to the north of us?
- Current status of macro-invertebrate diversity and populations

To tell us the answers to these questions **we will measure**:

- Temperature.
- pH
- Dissolved oxygen
- Phosphorus – (reactive phosphorus)
- Turbidity
- Electrical conductivity
- Ammonium.
- Photo-point monitoring monthly: Upload images with brief text onto the Waterwatch database on the dates taken.
- River level, rainfall and flow: data taken from a Melbourne Water metre close downstream (just north of Bell Street), and added to our data entry. This will allow us to make comparisons/look for correlations with the phys/chem parameters that we measure.
- Macro-invertebrates twice a year in optimum times, (Spring and Autumn) in selected habitats immediately to the north of the De Chene foot bridge, such as pools, riffles and bends. [The last ALT waterbug assessments done at our site were on 12/4/23 and then 31/4/2024. Previous Waterbug assessments]
- An annual habitat survey

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Additional Medium-Longer term plans:

1. Establish a routine of discussing and interpreting our water quality data at the end of each monitoring session using the Waterwatch Victoria guidelines developed for urban streams in the Yarra Catchment.

2. In the event of highly unusual results in our phys/chem tests, we would plan if possible (pending peoples' availability) to retest the parameter upstream of the drain close to Manna Gum Ct. which is our closest upstream drain.

   To plan for this we need to:

   - make a guide sheet for our testing kit that specifies the expected range for each parameter
   - communicate with monitoring groups upstream to find out their testing schedule
   - identify the sites upstream where we might test above drains and creeks, risk assessments at these sites
   - we would alert EPA in the first instance, with a report to Julia

3. Doing some research to find out whether Melbourne Water or others are completing other measurements along the creek that we can add to make it a more comprehensive picture of what's going on

4. When local community members approach us during water monitoring, encourage them to be observant and Snap Send Solve/EPA alert when there are visible pollution events, and encourage them to participate in litter clean ups. Think about how we can best engage local community members with measures they can take to contribute to caring for the creek's health.

5. Conduct a community event at our site to communicate our findings to the local community and raise awareness of what people can do to reduce their impact (eg. not washing cars in streets, not having overflowing bins).

6. Annually we will complete a summary report on the current WQ at our site with the parameters we are measuring.

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Our Sites (Waterwatch group to receive a copy)

Monitoring at the site specified below will help us to answer our questions about the health of the area (after the first year of testing additional sites may be added).

Site code (Waterwatch Coordinator to provide)	ME_YMR141	
Site description	Merri Creek at De Chene Bridge, close to 57 Connolly Avenue, and De Chene Reserve	
Suburb/town	Coburg VIC 3058	
Melways reference	De Chene Bridge	
Local Government area	Merri Bek City Council	
Catchment	Yarra River	
Management unit	Merri Creek	
Sub-management unit	Merri Creek Lower Sub Catchment	
Type of waterway	Creek	
Type of land use	Public Park and Recreation Zone (PPRZ) Land Subject to Inundation (LSIO) (floodplain)	
Access to site	Via foot from Connolly Avenue	
Risks to be aware of at this monitoring site	Potential presence of snakes (Spring-Autumn), falling branches from overhead eucalypts during or after high winds, flooding after heavy rain	
GPS reading	37.739698, 144.979285	

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Monitoring Parameters (Waterwatch group to receive a copy)

Please tick which parameters you will monitor, including the frequency of monitoring.

Parameters	Monitoring Frequency			
	Monthly	Seasonally	Spring and Autumn	Annually (date)
Temperature	●			
Dissolved Oxygen	●			
Turbidity	●			
pH	●			
Electrical Conductivity (salts)	●			
Phosphate	●			
Ammonium	●			
Macro-invertebrates			●	
Habitat assessment				●
Photo point monitoring		●		

Data Management

We plan to keep a copy of all data collected in the following location

Entered on the Victorian Waterwatch database

Data we collect will be forwarded to the Waterwatch Coordinator in the following way

Via the Victorian Waterwatch database

We will share the data with our community in the following ways:

Via the Victorian Waterwatch database

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Our Data Collection Schedule (Waterwatch group to receive a copy)

Include in the calendar below the planned dates of water quality data collection, habitat survey, macro-invertebrate surveys and Waterwatch Network meetings.

January Phys-chem testing Photo point monitoring	**February** Phys-chem testing Photo point monitoring	**March** Phys-chem testing Photo point monitoring
April Phys-chem testing Photo point monitoring Macroinvertebrate sampling	**May** Phys-chem testing Photo point monitoring Site safety assessment QAQC	**June** Phys-chem testing Photo point monitoring
July Phys-chem testing Photo point monitoring	**August** Phys-chem testing Photo point monitoring	**September** Phys-chem testing Photo point monitoring Habitat assessment Shadow testing
October Phys-chem testing Photo point monitoring Macroinvertebrate sampling	**November** Phys-chem testing Photo point monitoring	**December** Phys-chem testing Photo point monitoring

How to report pollution incidents

If you notice pollution incidents in the waterway (e.g. coloured water, sewage, bad smell, etc), please call:

EPA Pollution Watch Line

Melbourne metropolitan area – 9695 2777 (24 hours)

Outside metropolitan Melbourne – 1800 444 004 (24 hours)

Please also notify your Waterwatch Coordinator of the incident.