Monitoring Plan

Monitoring Group Name: Darebin Darlings at Barling WW group

Waterway: Darebin Creek

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

General details

Information about our Waterwatch group

Name of monitoring group	Darebin Darlings Monitoring Group
Name of group leader	Patrizio Effendy and Peter Grenfell
Waterway(s) to be monitored	Darebin Creek
Local Government Area	City of Darebin
Commencement date of monitoring	27 April 2023

Our Members

Group Leaders will be registered on the Waterwatch portal database. All contact details of group members will be documented on the WaterWatch Coordinator's monitor contact list.

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	New members are encouraged to attend the introductory training sessions whenever possible	N/A
First site visit: site selection and monitoring plan	27th April 2023	Completed

Second site visit: first water testing and equipment delivery	7th July 2023	Completed
Third site visit: second water testing	26 October 2023	Completed
Annual field visit and shadow testing	24th March 2024	Completed

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	23rd February 2025	Completed
Waterwatch Melbourne Data Confidence Exercise: Shadow Testing at Network Meeting	23rd February 2025	Completed
Waterwatch Victoria Data Confidence Exercise: 'Mystery Sampling' Event	21st May 2026	Completed

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

Monitoring Plan and Objectives

A brief description of the history of this area

The sites are situated on the Darebin Creek. The Darebin Creek has a catchment area of 129km2 and spans nearly 30km in length and flows through four municipalities starting from the northern suburbs of Melbourne near Woodstock before forming a tributary with the Yarra River at Alphington eventually flowing into Port Phillip Bay. Half of the catchment flows through rural areas with the lower creek flowing through urban residential, commercial and industrial development. Most of the landscape geology is formed by basalt that was caused by volcanic activity around 1.6 million years ago during the Quaternary period that forms most of the bedrock today.

The Darebin Creek has faced numerous water quality issues in the past. Mainly stormwater flows from urban areas are the reason for decline in water quality. Such activities cause pollution to the creek which alters pH levels, dissolved oxygen, and increased nutrients such as phosphate. This also reduce the biodiversity in-stream.

Our sites are located southwest of Nangak Tamboree wetland (nan-nyack tam-bor-ee) which is a waterway corridor within the Darebin Creek catchment. Nangak Tamboree in the Wurundjeri Language means looking after and protecting our waterways. La Trobe University manages the pond system from the Bundoora campus north of Kingsbury Drive, several sports fields and a lake system, all the way down to the Darebin Creek. The bushland area down to the creek has generally been neglected and a lot of dumping occurred over time and weeds and exotic grasses dominated. With Stage 3 of the Sports Park development a large area of bushland has been fenced off as an offset and regeneration works have begun. A sediment filtration system was installed during the construction of the sports park when it was completed in 2025, as confirmed by Jess Kelley of La Trobe University. Though the filtration system is connected to a drainage pipe that goes into the creek, the filtration acts as a barrier that minimize or prevents sediments and/or pollutants from flowing into the creek.

The following land uses are present within the catchment

- The CT Barling Reserve: Sports ovals.
- La Trobe University Sports Park mainly the soccer fields.
- Preston Cemetery.
- Several residential housings.

The possible concerns for water quality, habitat and biodiversity are

Increasing stormwater inflows due to the impervious surfaces from the sports park into pipes and eventually into the creek (*Though the WSUD filtration system were installed to treat stormwater runoff, it is possible that slight amounts of it may go untreated)*

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- Plumes flowing from a stormwater pipe resulting in murkiness of water appearance.
- Rubbish and littering.
- Increased nutrients from stormwater pipe can lead to a proliferation of weed species.

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

- An increase in instream biodiversity including a greater number of macro-invertebrate and indigenous aquatic plant species. These will be measured using the following methods: 3 macro-surveys a year, fish hotels, monitoring of fish species via the Ozfish database

- It is hoped that major upstream planting projects involving DCMC, Melbourne Water, councils and the community will lead to beneficial changes including water retention and pollutant capture. This could lead to a reduction in the effects of flash flooding, including bank slumping, bank erosion and turbidity.

- It is hoped that stormwater education and regulations by EPA, councils, Melbourne Water etc. will lead to less nutrients getting into the creek and improved turbidity. We will measure this by looking at the main water quality parameters including but not limited to: Ammonium, phosphate, turbidity, etc.

- From the above actions, it is hoped that there will be improved levels of dissolved oxygen, pH and EC.

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

- Whether or not the downstream and upstream values are the same, where we will focus on the physical parameters such as Ammonium, Phosphate, turbidity, Dissolved Oxygen, electrical conductivity, pH etc. The site is separated by a drainage pipe that is connected to the WSUD system at the sports park that consisted of sediment and filtration traps. The results haven't been conclusive due to absent of extra nutrients flowing from the drainage site but the results we have obtained over the last 12 months have shown that water quality had fell into the 'good; category (except for the one in February) (please refer to the water quality report for further detail). If the water quality is similar for both sites, it may be only necessary to do one of them instead of both. Since we are aware of the filtration and sediment traps from the sports park, it may only be necessary to continue monitoring downstream in this case.

- If macro-invertebrate biodiversity is affected by the changes in water quality. Sudden changes in each parameter for water quality may render the site uninhabitable, especially for sensitive species.

- We would be looking for increases in turbidity due to rapid inflows after Greenfield construction in the upper catchment, as well as from ageing water infrastructure especially for worn down water pipes in the middle to lower catchment.

- Increases in nutrients associated with fertilisers by measuring reactive phosphate levels because of sports fields, domestic gardens, agriculture (upper catchment) etc.

- Pollutants associated with road traffic such as cars, trucks, or domestic use from residential households being washed into the creek.

To tell us the answers to these questions we will measure

Monthly testing of:
Turbidity
Water temperature
Conductivity
pH
Dissolved oxygen
Reactive Phosphate
Ammonium

Macro invertebrates - applying the Waterwatch method 2-3 times per year.

Our Sites (Waterwatch group to receive a copy)

Monitoring at the one or two sites 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_YDA418	ME_YDA419
Site description	215m upstream of pipe outfall	60m downstream of pipe outfall
Suburb/town	Bundoora	Bundoora
Melways reference		
Local Government area	Darebin	Darebin
Catchment	Darebin Creek	Darebin Creek
Management unit	Yarra	Yarra
Sub-management unit	Port Phillip	Port Phillip
Type of waterway	Creek	Creek
Type of land use	Recreational	Recreational
Access to site	SSA has been done	SSA has been done
Risks to be aware of at this monitoring site	Snakes, spider bites. Extreme weather. Relative isolation. Trips and falls.	Snakes, spider bites. Extreme weather. Relative isolation. Trips and falls.
GPS reading	37°43'22.67"S , 142°02'05.84"E	37°43'26.08"S, 145°02'11.10"E

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
We will share the data with our community in the following ways:
Via the Victorian Waterwatch database and annual water quality summary on the MCMC website www.mcmc.org.au
Social medias, articles, education sessions, newsletters etc. And passerbys

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 Not Held	**February** 13 February 2026	**March** 13 March 2026
April 10th April 2026	**May** 8th May 2026	**June** 12th June 2026
July 10th July 2026	**August** 14th August 2026	**September** 11th September 2026
October 9th October 2026	**November** 13th November 2026	**December** 11th December 2026

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.