



Quarterly results July to September 2024

In response to flooding events and fish deaths in March 2023, the NSW Environment Protection Authority (EPA), in partnership with the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW), is monitoring the health of the Darling-Baaka River.

This report provides the monitoring results between July and September 2024. Monthly water samples were collected from 34 sites (see map 1) and measured for:

- temperature
- dissolved oxygen
- nutrients
- PH
- chlorophyll a
- algae
- metals (from 9 sites)
- pesticides from sediment (15 sites)

Five smart buoys recorded water quality every 30 minutes.

[View the real-time data](#) .

Guidelines used in this report

The South Central Australia guidelines of ANZECC, 2000 are used for this project. In absence of chlorophyll a measurements in these guidelines, South East Australian guidelines (ANZECC 2000) have been used. For pesticides and metals, guidelines are the 95% species protection level (i.e. the level that protects 95% of species; ANZG, 2020).

Nutrients

Samples showed consistently high levels of total nitrogen (TN) and total phosphorous (TP). On average, TN and TP exceeded these guidelines by up to 1.5 and 3 times respectively (Table 1). High nutrients levels can lead to algal blooms and may be harmful to animals and humans.

Pesticides and Metals

All pesticide concentrations in sediment samples were below guideline values. Concentrations of zinc and copper exceeded guideline values at sites 2, 9, 11, 12, 20, 22 and 29 (Table 1), with site 29 exceeding guidelines for copper only.

Algae

Algal levels were very high in the study area, with chlorophyll-a concentrations ranging from 20 to 130 µg/L. Chlorophyll-a concentrations are very high during this study period, exceeding the 5 µg/L guidelines.

Dissolved Oxygen

All dissolved oxygen (DO) levels recorded were within the recommended concentrations for biota (>4mg/L).

Overall assessment

The areas of concern for the current sample period were elevated nutrient, metals and chlorophyll levels. A summary of results is provided in the table below, with full results available for download.

Contact enquiries.waterscience@environment.nsw.gov.au for more information.

Table 1

Default guideline values for a 95% level of species protection for toxicants in freshwater ecosystems ([ANZG, 2020](#)).

Toxicant	95% species protection guideline value
Copper	1.4 µg/L
Zinc	8 µg/L

Water quality summary

Date 1: 23 July – 1 August Date 2: 8 August – 28 August Date 3: 6 – 24 September

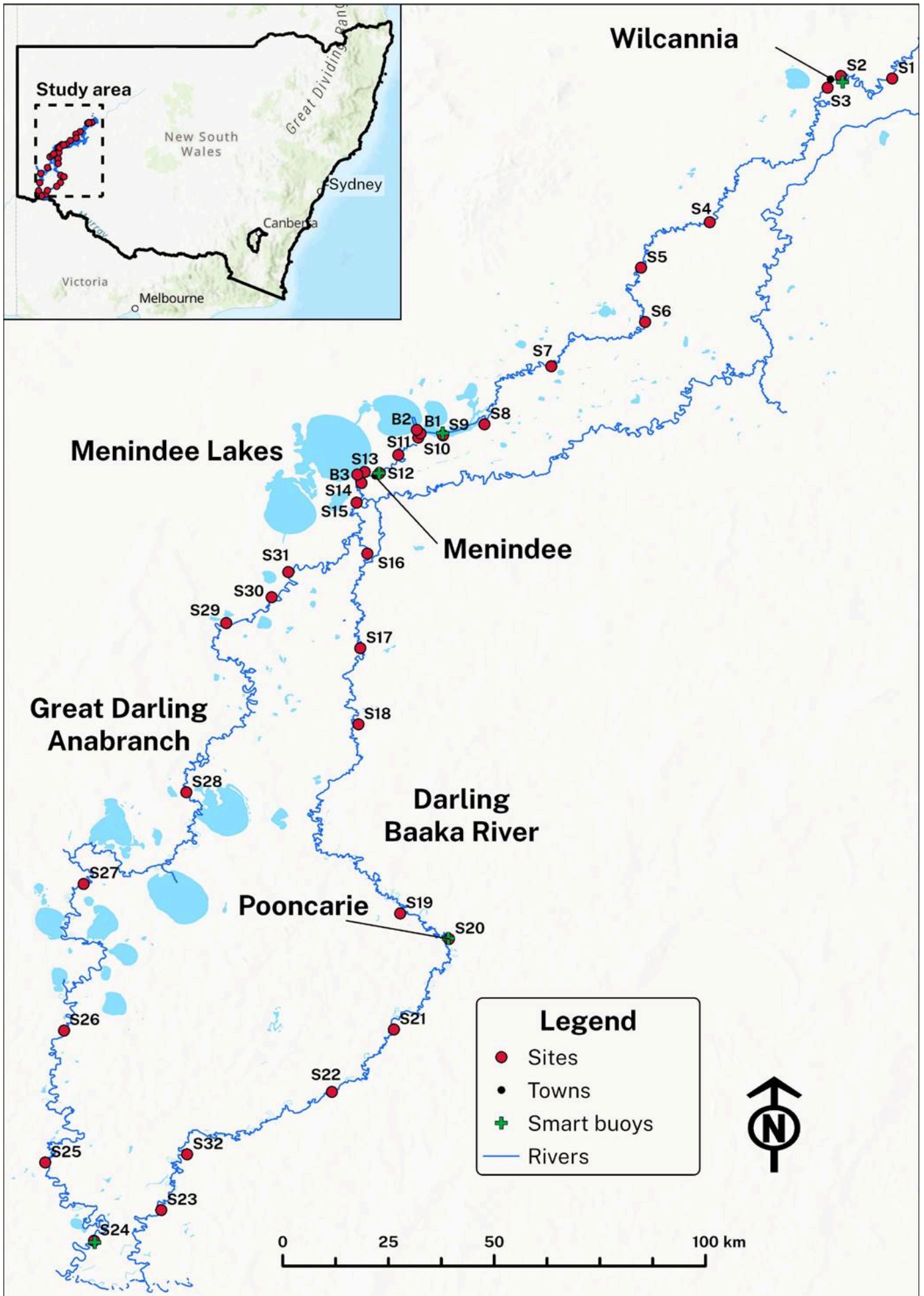
Sampling site	Dissolved oxygen			Nutrients						Pesticides*			Metals		
	Date 1	Date 2	Date 3	Date 1		Date 2		Date 3		Date 1	Date 2	Date 3	Date 1	Date 2	Date 3
				TN	TP	TN	TP	TN	TP						
S1	✓	✓	✓	✓	X	✓	X	✓	✓			✓			
S2	✓	✓	✓	X	X	✓	X	✓	✓			✓			X
S3		✓	✓			✓	X	✓	✓						
S4		✓	✓			X	X	✓	✓			✓			✓
S5		✓	✓			X	X	✓	✓						

S6		✓	✓			X	X	✓	X			✓		
S7			✓			X	X	✓	X			✓		
S8			✓			X	X	X	X					
S9	✓		✓	X	X	X	X	X	X			✓		X
S10	✓	✓	✓			X	X	X	X					
S11	✓	✓	✓	X	X	X	X	X	X			✓		X
S12	✓	✓	✓	X	X	X	X	X	X			✓		X
S13	✓	✓	✓	X	X	X	X	X	X					
S14	✓	✓	✓	X	X	X	X	X	X					
S15		✓				X	X							
S16	✓	✓		X	X	X	X							
S17		✓	✓			X	X	X	X			✓		
S18	✓	✓	✓	X	X	X	X	X	X					
S19		✓	✓			X	X	X	X					
S20			✓			X	X	X	X			✓		X
S21	✓	✓	✓	X	X	X	X	X	X					
S22		✓	✓			X	X	X	X			✓		X
S23	✓	✓	✓	X	X	X	X	X	X			✓		
S24	✓	✓	✓	X	X	X	X	X	X			✓		✓
S25	✓	✓	✓	X	X	X	✓	X	X					
S26		✓	✓			X	X	X	X					
S27			✓			X	X	X	X			✓		
S28		✓	✓			X	X	X	X					
S29		✓	✓			X	X	X	X			✓		X
S30		✓	✓			X	X	X	X					
S31		✓	✓			X	✓	X	X					
B1	✓	✓	✓	X	X	X	X	X	X					
B2	✓	✓	✓	✓	X	X	X	X	X					
B3	✓	✓	✓	X	X	X	X	X	X					

✓ Meets guidelines X Outside of guidelines

Guidelines used are for lowland river ecosystems in South Central Australia (ANZECC 2000)

* Pesticide results are reported from sediment samples



Map 1: Sample sites for the Darling-Baaka River health project July 2024 - September 2024

Raw data available

Scan this QR code to access the report's raw data online.



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