A red and blue flower with blue text

Description automatically generated

Darling-Baaka River Health Project

Quarterly results from October to December 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 October and December 2024. Monthly water samples were collected from 35 sites (see map below) and measured for:

* Temperature
* Dissolved oxygen
* Nutrients
* PH
* Chlorophyll-a
* Algae
* Metals
* Pesticides

Five smart buoys recorded water quality every 30 minutes.

* [View the real-time data](https://sss.tago.run/dashboards/info/6574473bc8b74d0008344b05?anonymousToken=00000000-5ee2-f600-e0f3-6100270c936d)

**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 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 ~4.3 and 8.1 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 water samples were below guideline values. Concentrations of zinc exceeded guideline values at sites S6, S12, and S20. Concentrations of copper exceeded guidelines at sites S7, S15, S17, S21, S22, S23, S25, S26, S28, S32 (Table 1).

**Algae**

Algal levels were very high in the study area, with all chlorophyll-a concentrations exceeding the 5 µg/L guideline value, ranging from ~8 to 160 µg/L.

**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 nutrients and metals. A summary of results is provided in the table below, with full results available for download.

Contact [enquiries.waterscience@environment.nsw.gov.au](mailto:enquiries.waterscience@environment.nsw.gov.au) for more information

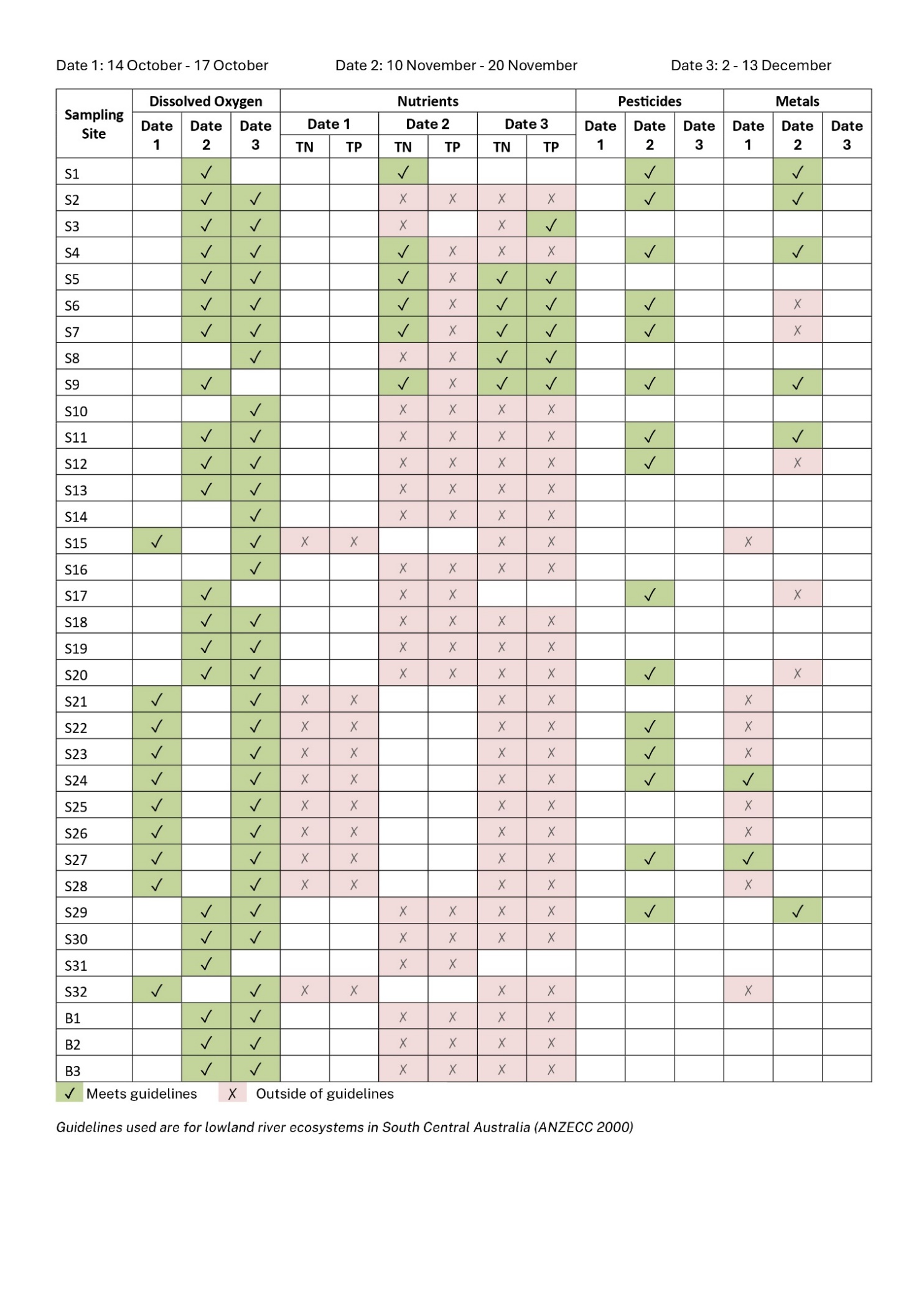
|  |  |
| --- | --- |
| ***Toxicant*** | ***95% species protection guideline value*** |
| Copper | 1.4 µg/L |
| Zinc | 8 µg/L |

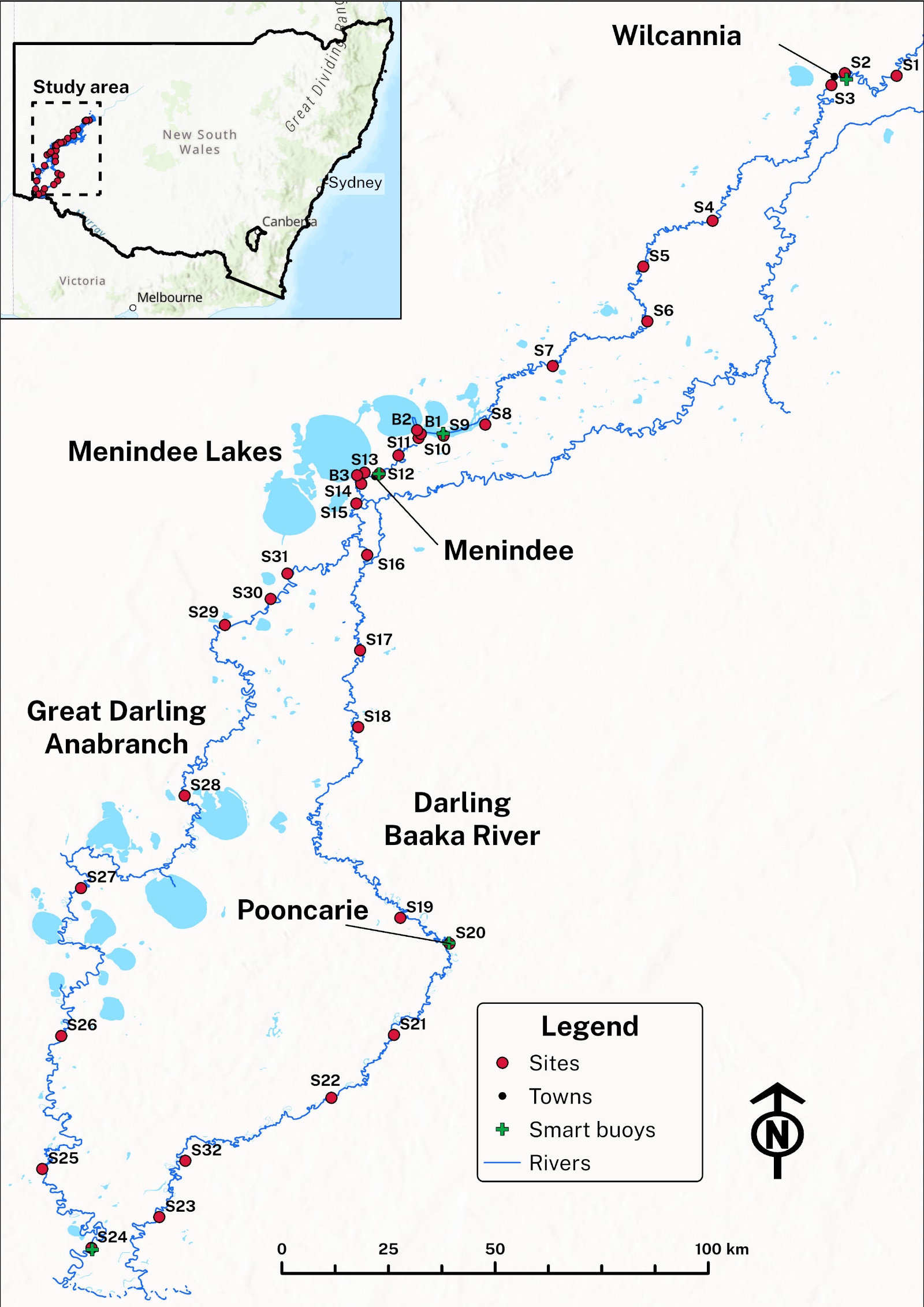
*Table 1. Default guideline values for a 95% level of species protection for toxicants in freshwater ecosystems* [(ANZG,](https://www.waterquality.gov.au/anz-guidelines/guideline-values/default/water-quality-toxicants/search) 2020)*.*

**Raw data available**

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

Water quality results October - December 2024



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**Map 1: Sample sites for the Darling-Baaka River health project October 2024 - December 2024**