

Water quality update, Meeting No.7 – 21 November 2022

Northern Basin

Barwon River

Discharge is slowly decreasing in the Barwon River at Mungindi, Collarenebri and Walgett. Flooding at Brewarrina has peaked at around 128,000 ML/day (Figure 1).

Dissolved oxygen in the Barwon River at Walgett and Geera had declined to less than 0.5 mg/L but have improved slowly with the cooler air temperatures this week. Levels at Collarenebri have recovered above 4 mg/L, while Brewarrina is above 3 mg/L (Figure 2). There have been no reports of fish deaths or fish gassing at the surface.

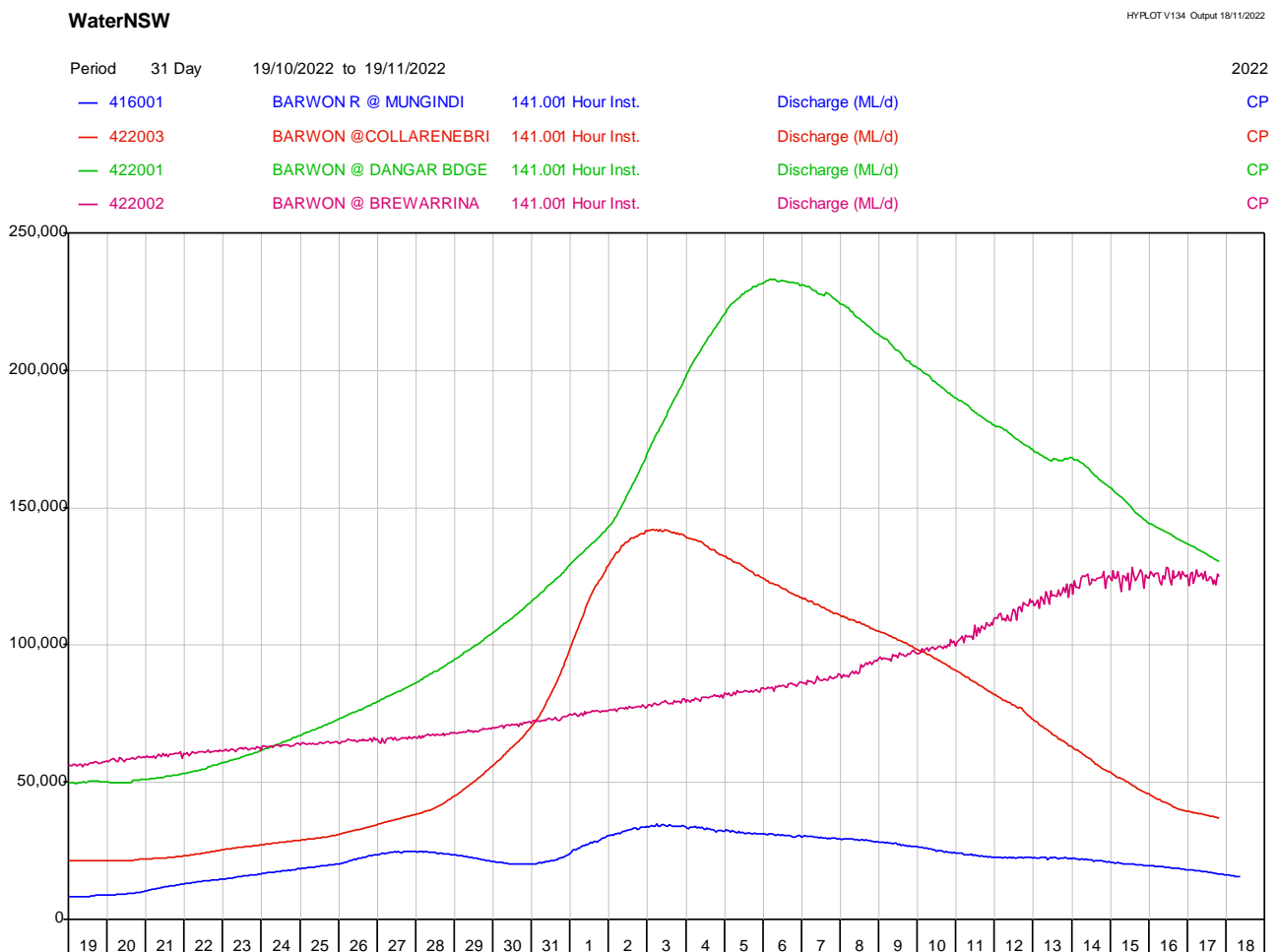


Figure 1: Discharge (ML/day) in the Barwon River

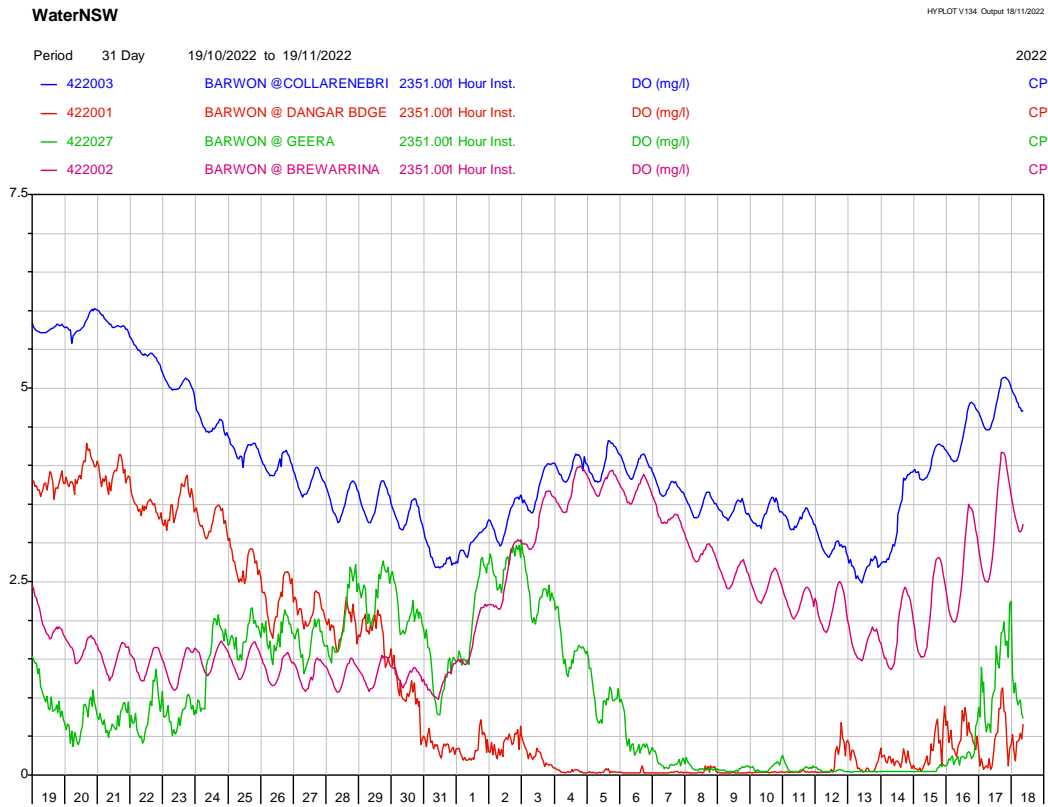


Figure 2: Continuous dissolved oxygen (mg/L) in the Barwon River

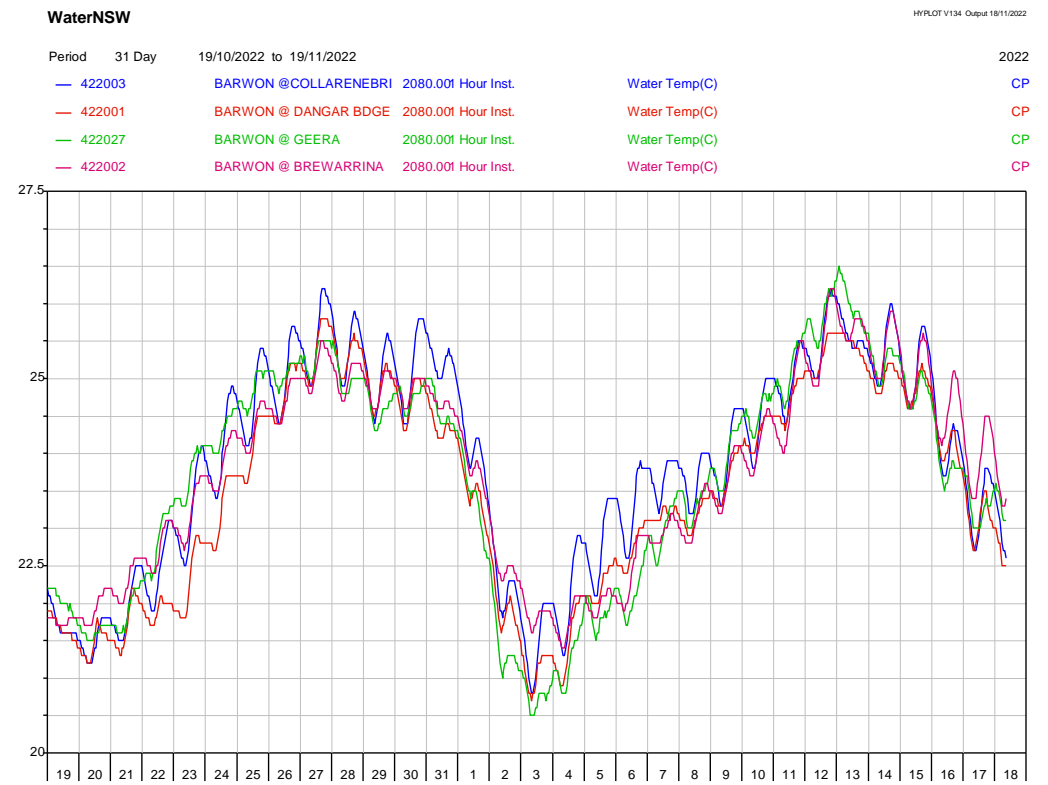


Figure 3: Continuous water temperature (°C) in the Barwon River

Darling River

Discharge is continuing to increase at Bourke (170,000 ML/day) and Louth (120,000 ML/day) and is over 31,000 ML/day at Wilcannia (Figure 4). Discharge at Weir 32 is around 31,000 ML/day and over 17,000 ML/day at Burtundy.

Dissolved oxygen at all sites has been improving with the cooler water temperatures this week. In the Darling River at Bourke and Wilcannia dissolved oxygen had dropped below 3 mg/L and below 4.5 mg/L at Burtundy. The readings from Bourke are now fluctuating around 4 mg/L (Figures 5 and 6).

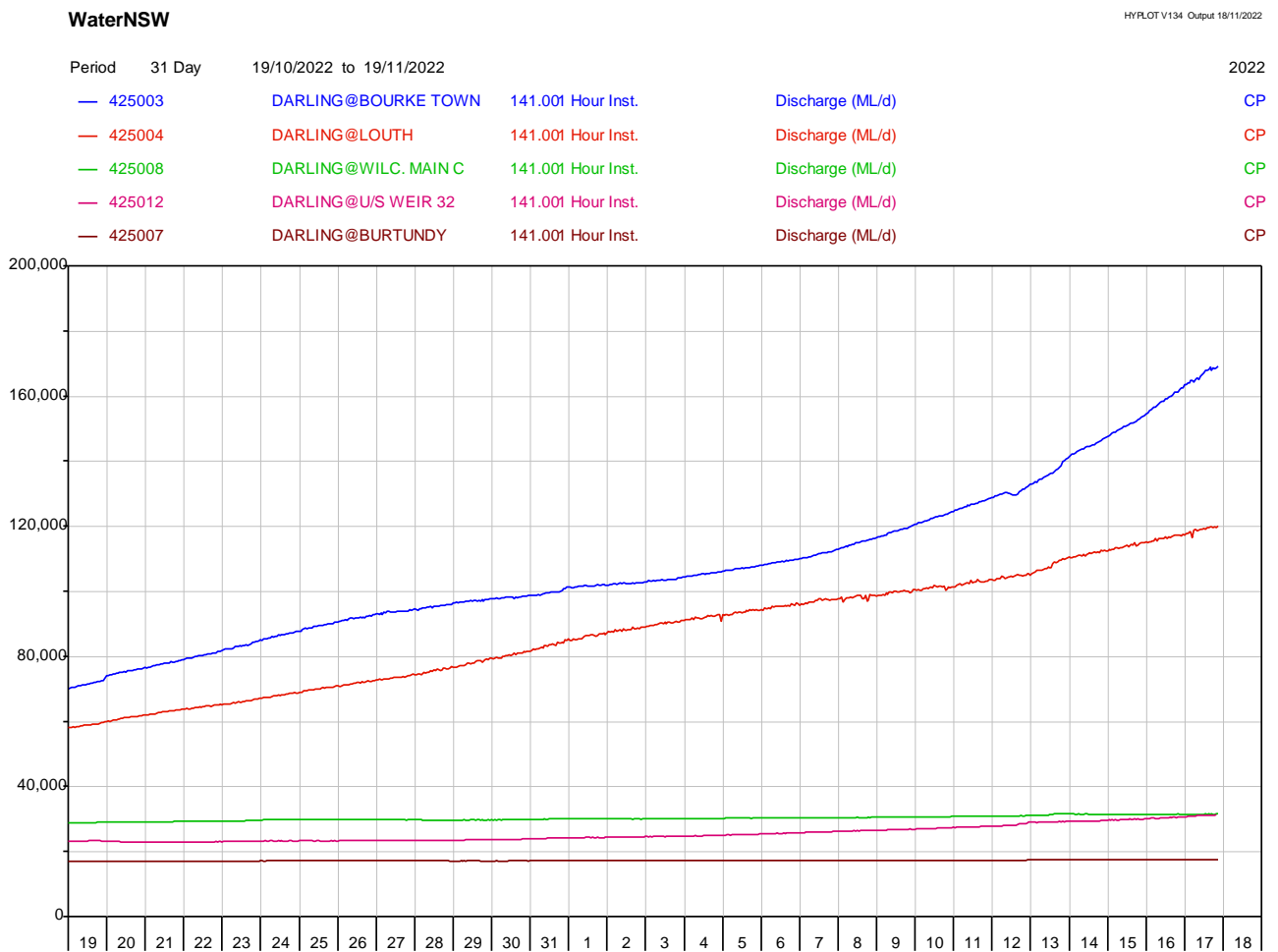


Figure 4: Discharge (ML/day) in the upper Darling River

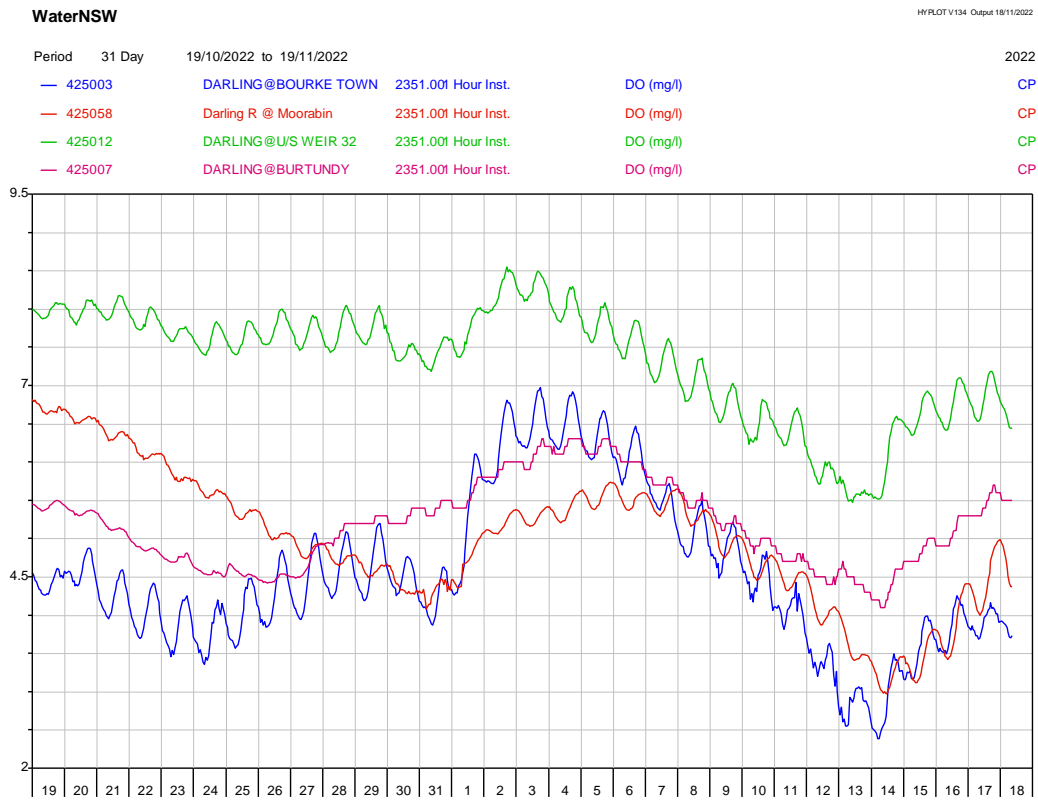


Figure 5: Continuous dissolved oxygen (mg/L) in the Darling River

Handheld result from the Darling River at Burtundy 14/11/22 11:19 was 4.22 mg/L.

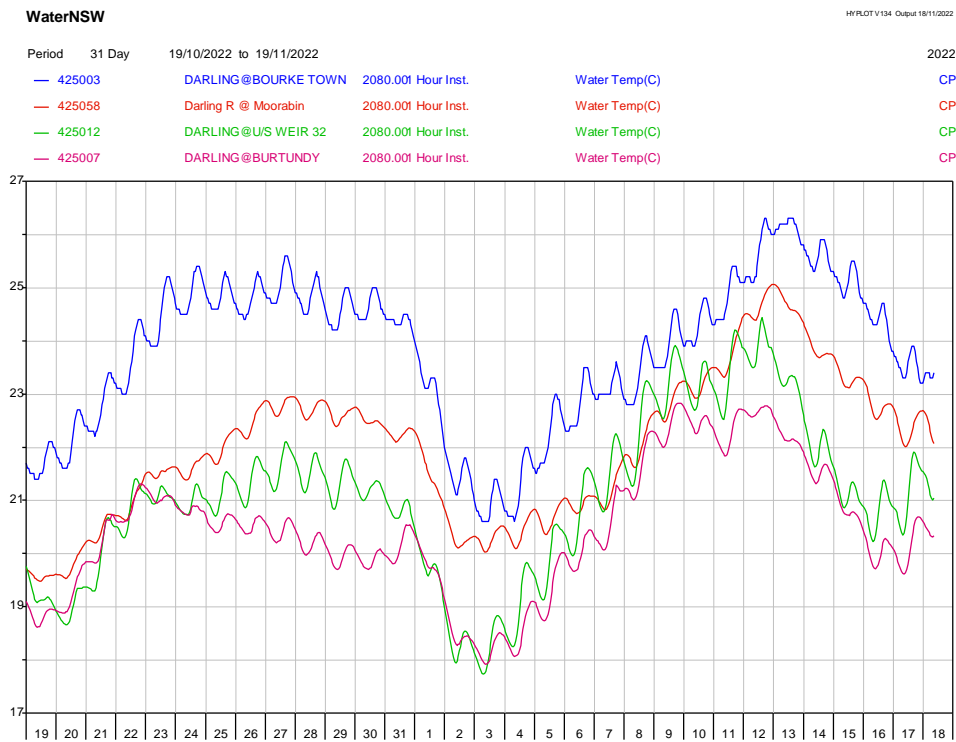


Figure 6: Continuous water temperature (°C) in the Darling River

Southern Basin

Lachlan River

Flooding continues in the Lachlan River. The latest flood peaked at Forbes during the week at over 104,000 ML/day (Figure 7). Flooding at Condobolin is expected to continue for some weeks.

Despite the major flooding, dissolved oxygen readings at Forbes remained above 4 mg/L. Dissolved oxygen at other sites have been showing large diurnal fluctuations. The Lachlan River at Condobolin is the only site recording results less than 4 mg/L (Figure 8).

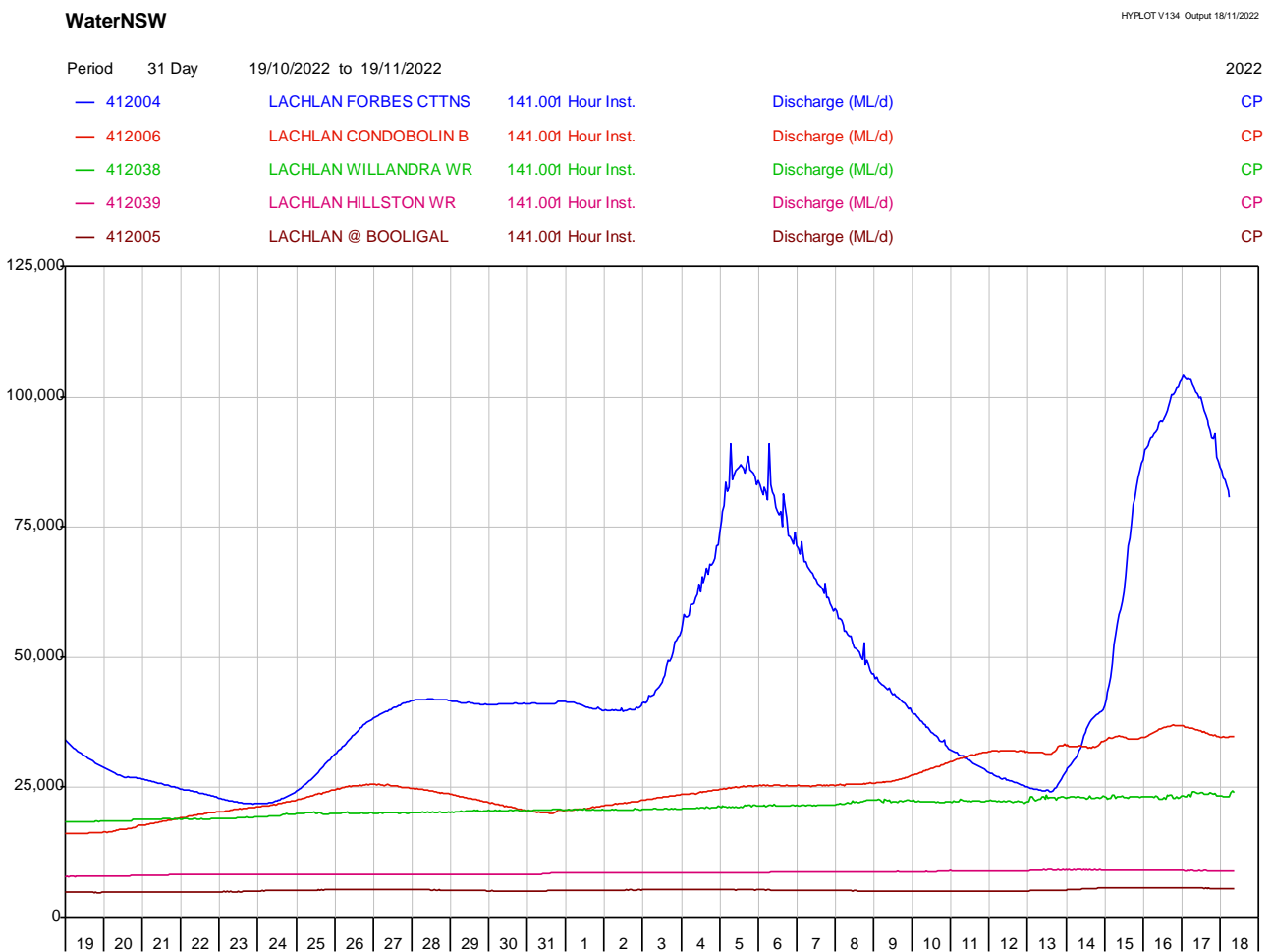


Figure 7: Discharge (ML/day) in the Lachlan River

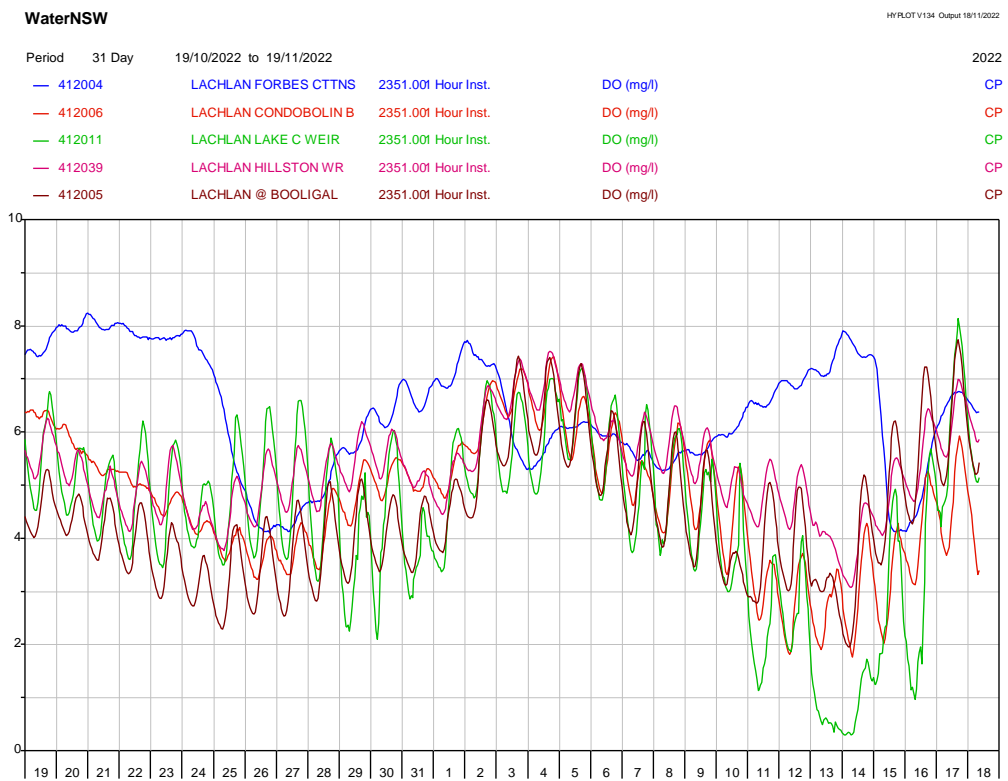


Figure 8: Continuous dissolved oxygen (mg/L) in the Lachlan River

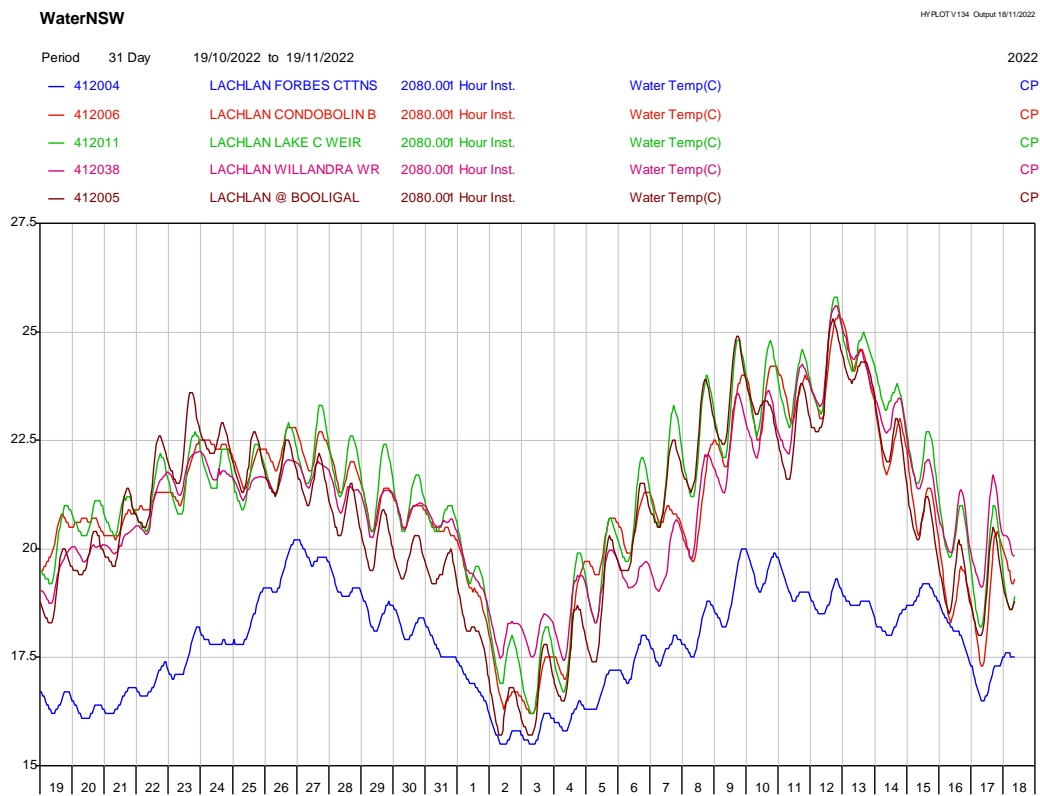


Figure 9: Continuous water temperature (°C) in the Lachlan River

Murrumbidgee River

River levels in the Murrumbidgee River at Wagga Wagga, Gogeldrie Weir and Hay are falling. Flows are slowly increasing in the lower Murrumbidgee with over 38,000 ML/day at Balranald (Figure 10).

Dissolved oxygen improved at all three monitoring sites in response to the cooler temperatures during the week. The Murrumbidgee River at Redbank and Balranald are both fluctuating around the 4 mg/L threshold (Figure 11).

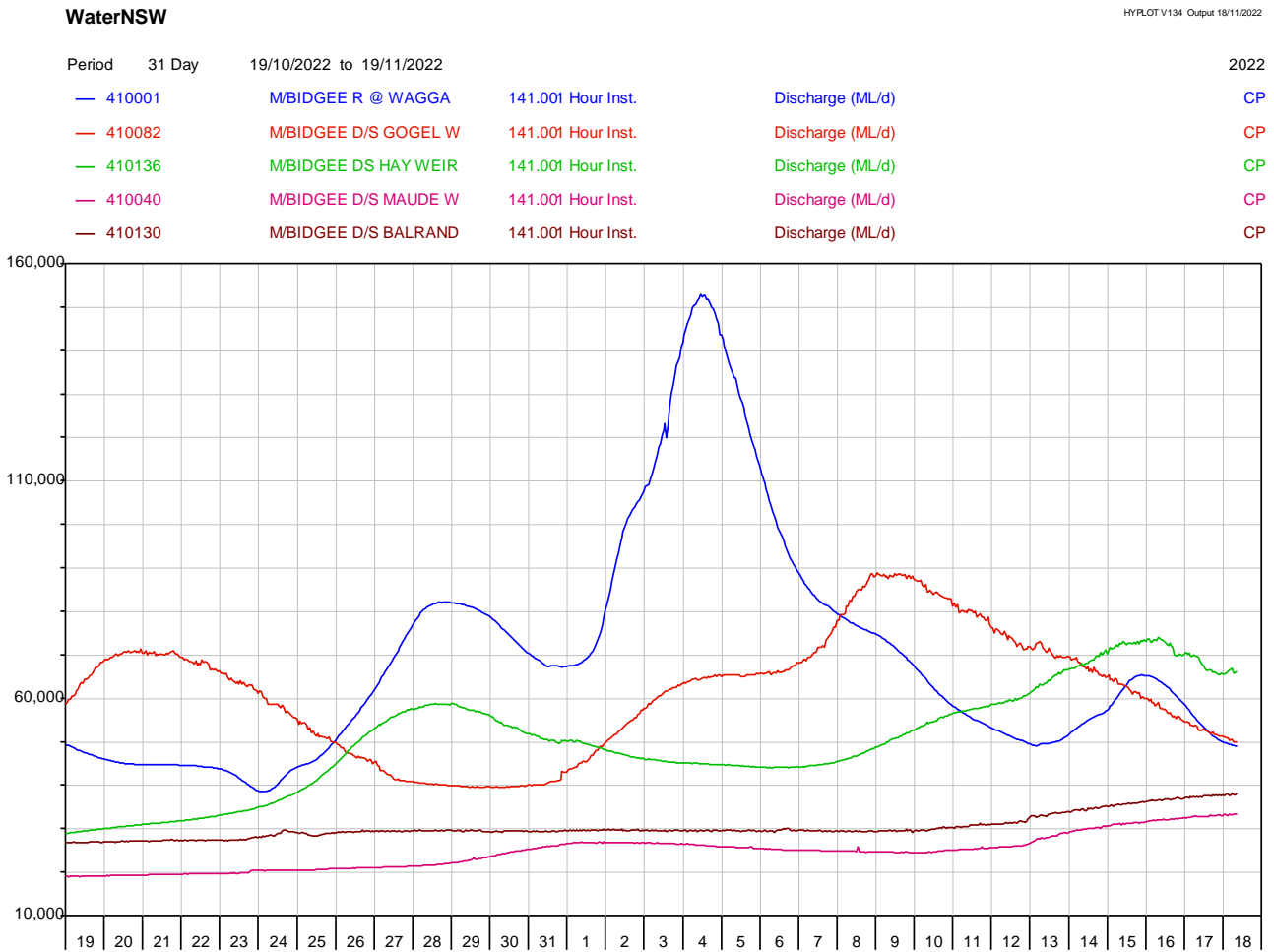


Figure 10: Discharge (ML/day) in the Murrumbidgee River

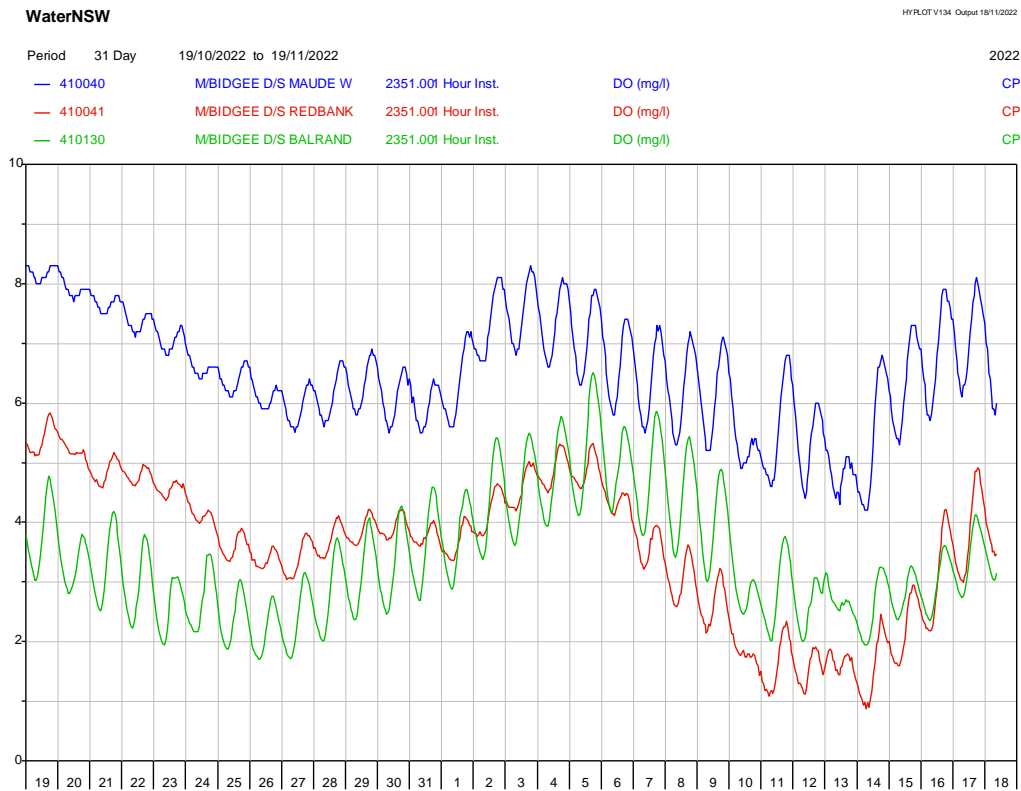


Figure 11: Continuous dissolved oxygen (mg/L) in the Murrumbidgee River

Handheld result from the Murrumbidgee River at Balranald 14/11/22 13:20 was 2.11 mg/L.

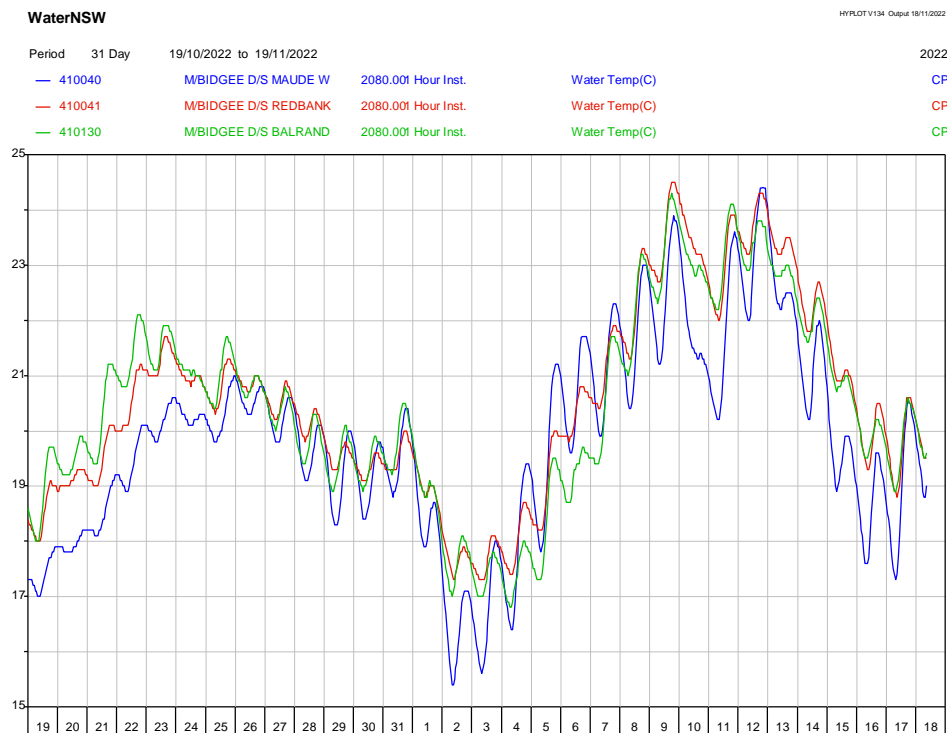


Figure 12: Continuous water temperature (°C) in the Murrumbidgee River

Kolety/Edward River

Discharge in the Kolety/Edward River at Deniliquin is continuing to increase above 81,000 ML/day (Figure 13). The cooler temperatures allowed dissolved oxygen at Deniliquin and Moulamein to improve up to around 1 mg/L (Figure 14). The Toonlook dissolved sensor had been reading 0 mg/L, but has ceased recording, suggesting a sensor malfunction.

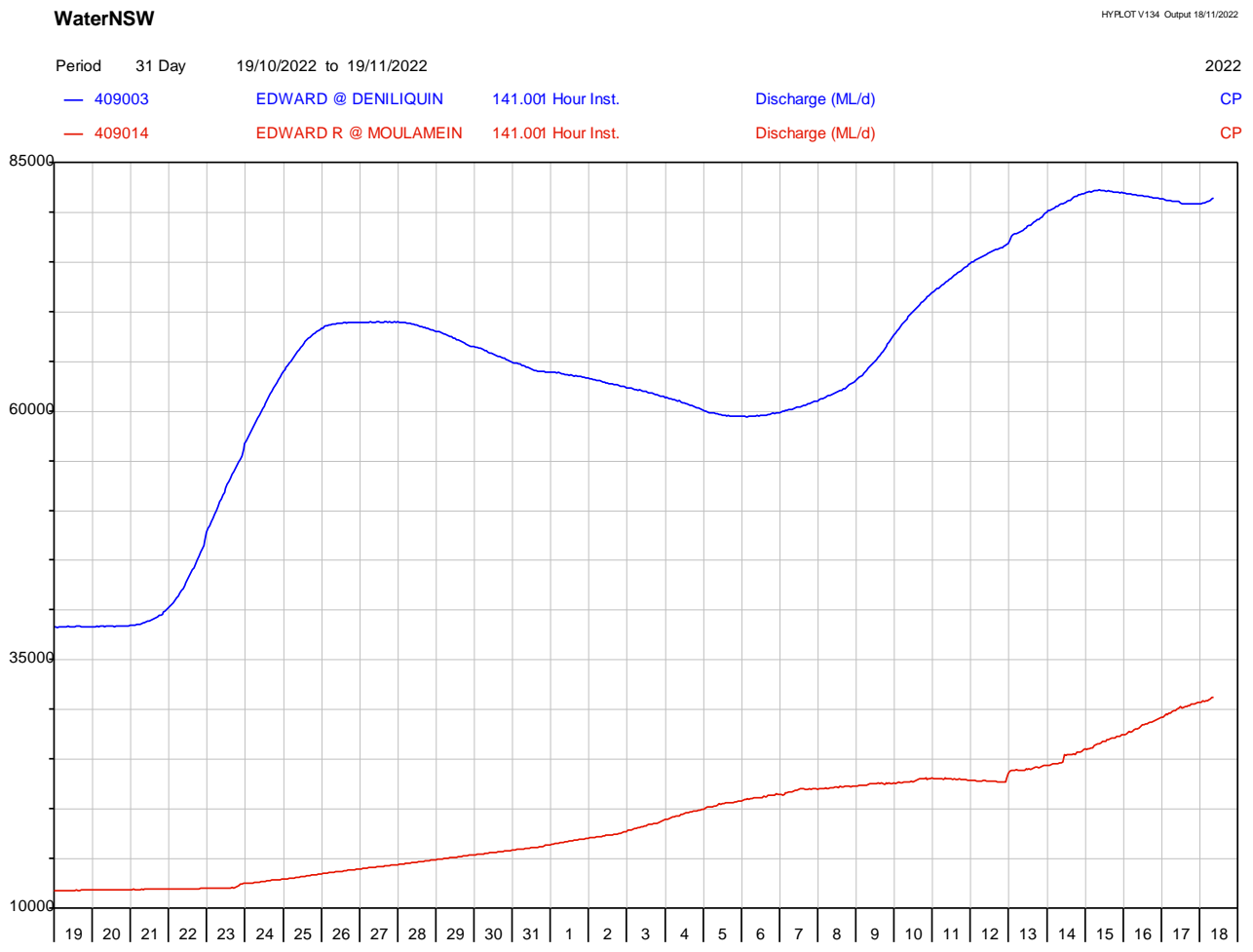


Figure 13: Discharge (ML/day) in the Kolety/Edward River

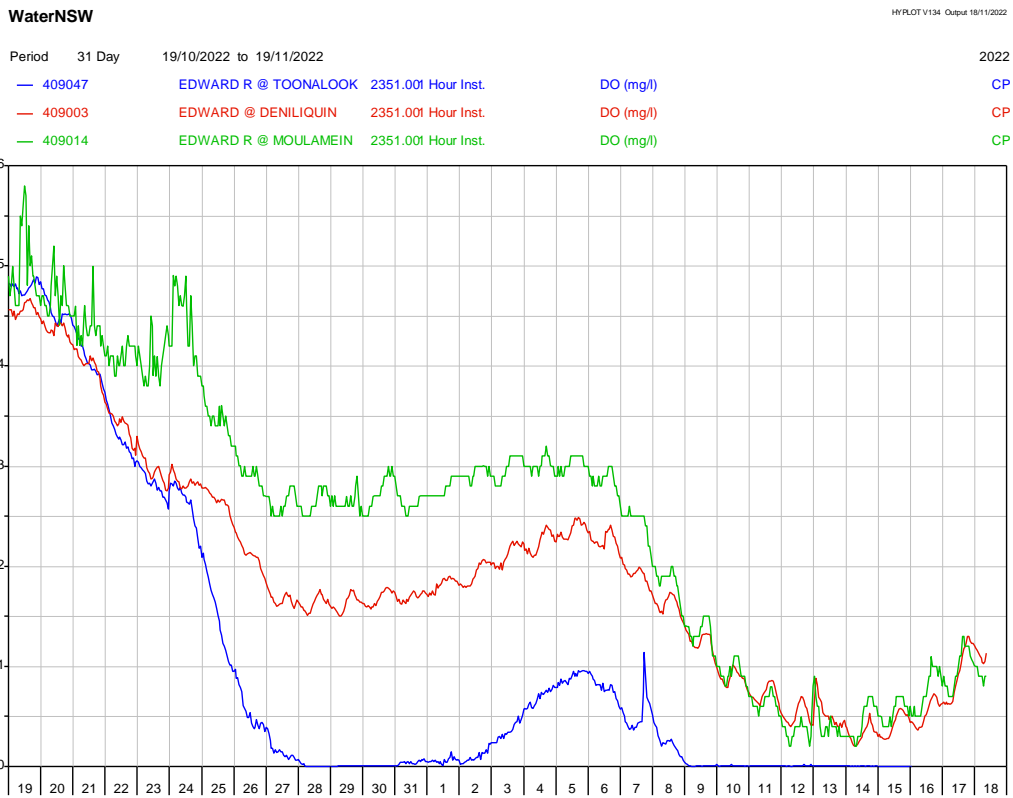


Figure 14: Continuous dissolved oxygen (mg/L) in the Kolety/Edward River

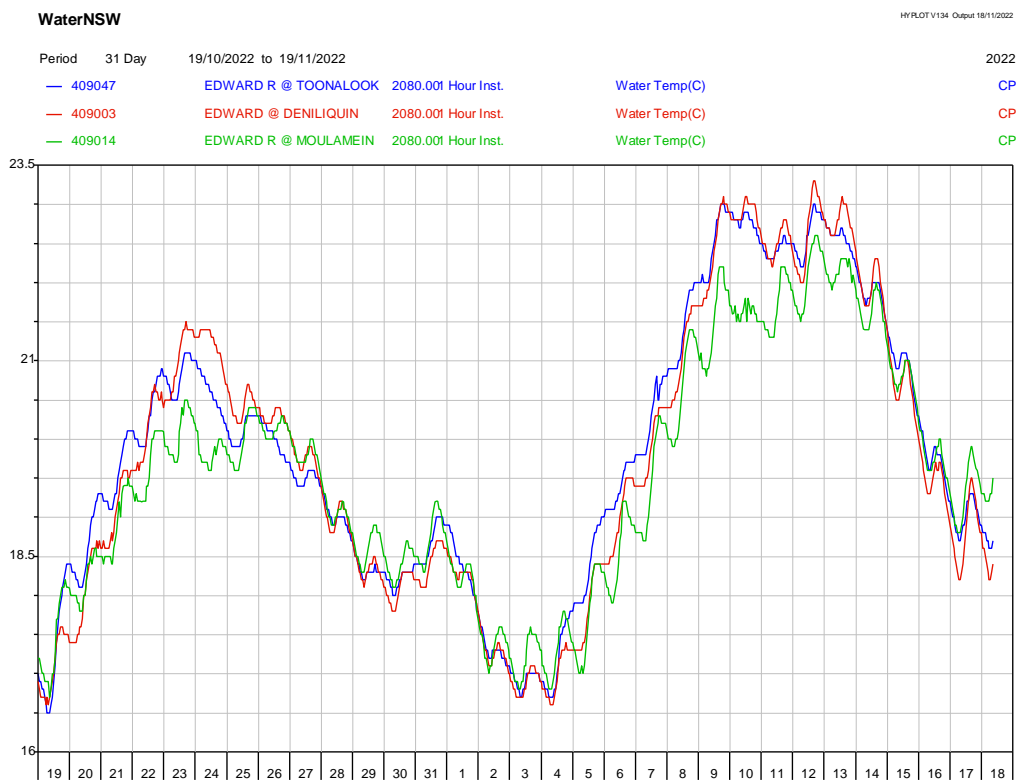


Figure 15: Continuous water temperature (°C) in the Kolety/Edward River

Wakool and Niemur rivers

Discharge in the Wakool River at Coonambit Bridge has peaked and starting to decline. The Niemur River at Barham-Moulamein Road is flowing at over 31,000 ML/day (Figure 16). Dissolved oxygen levels improved during the week, at all last week, but the Wakool River has now declined to less than 1 mg/L again (Figure 17). Oxygen levels in the Niemur River have also been declining as air temperatures increase with the Mallan school site reading less than 3 mg/L.

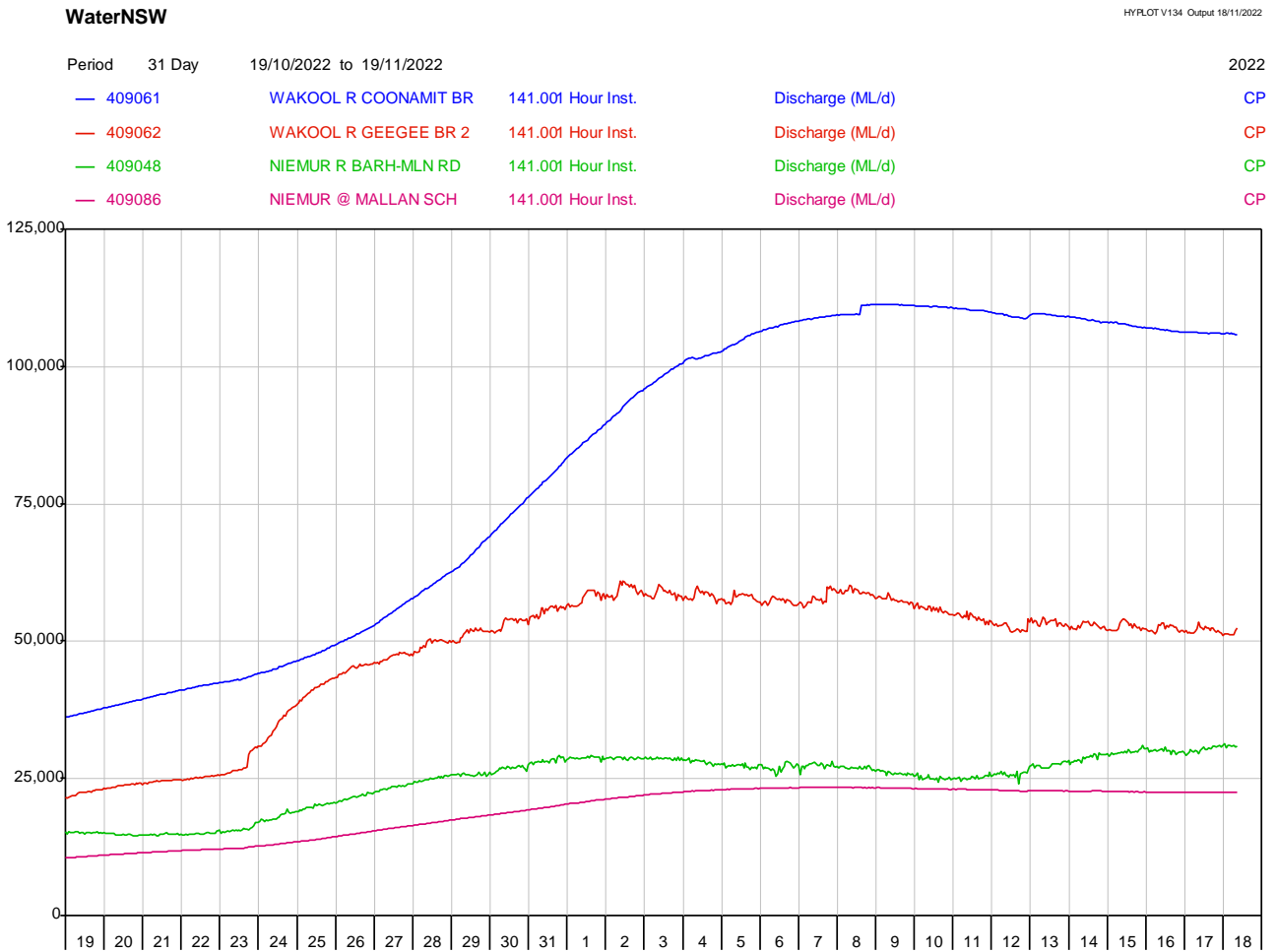


Figure 16: Discharge (ML/day) in the Wakool and Niemur rivers

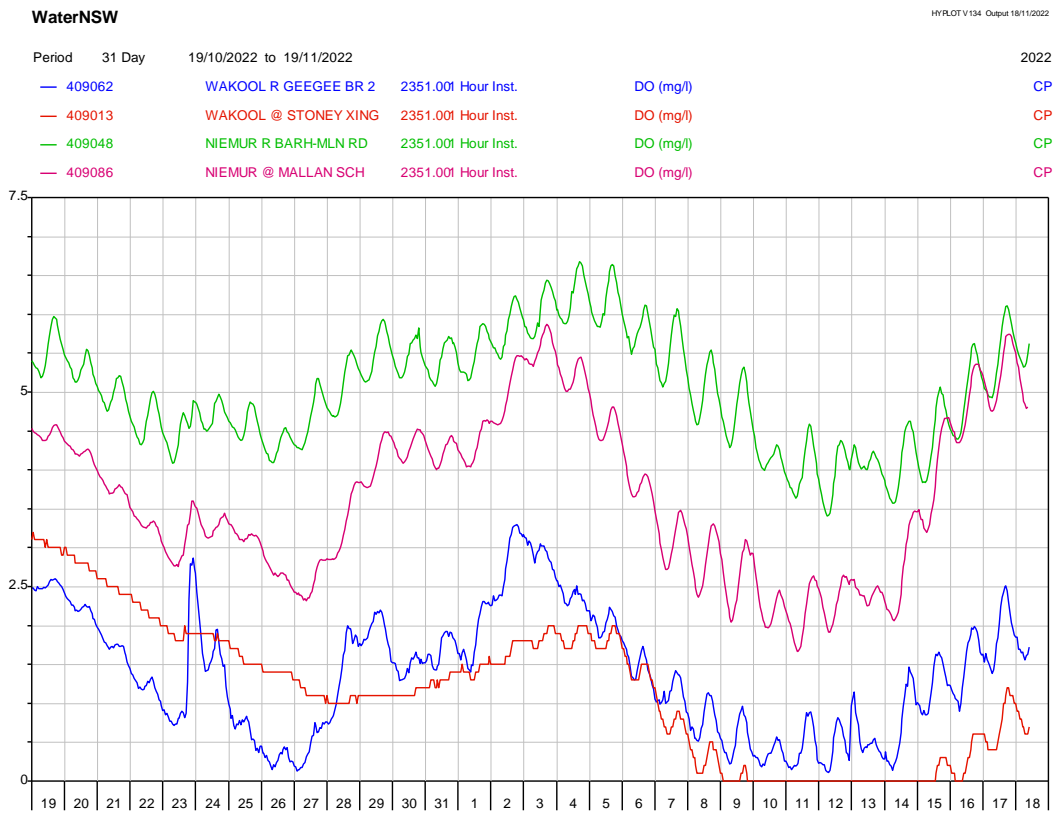


Figure 17: Continuous dissolved oxygen (mg/L) in the Wakool and Niemur rivers

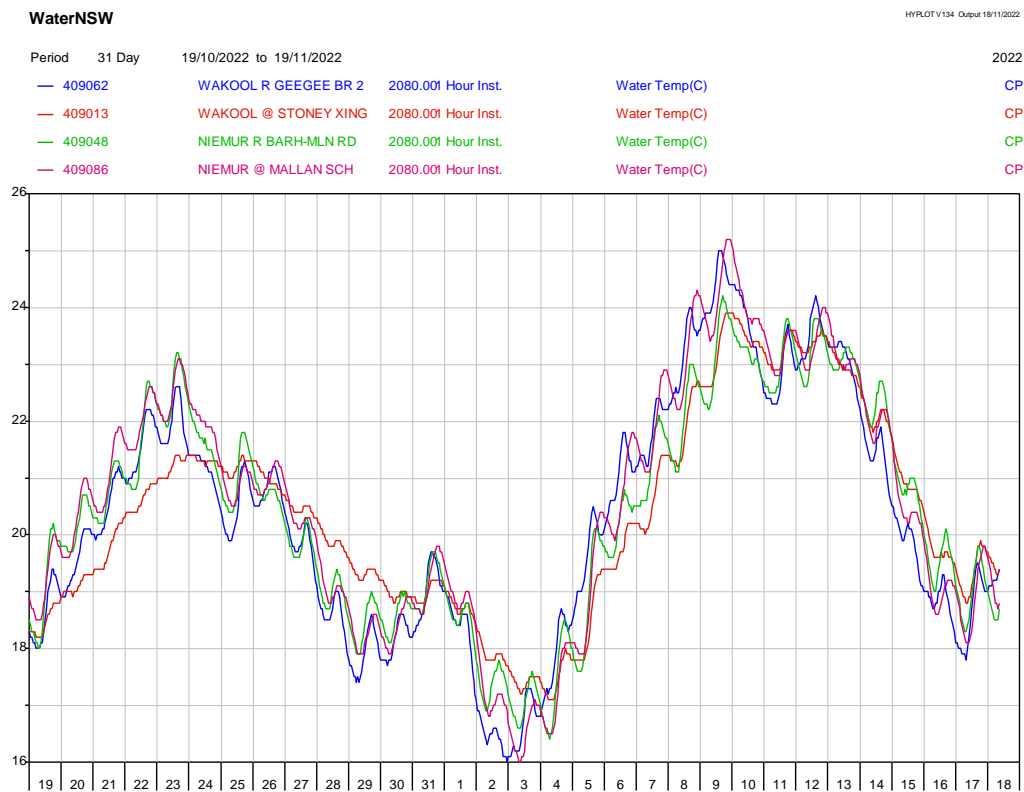


Figure 18: Continuous water temperature (°C) in the Wakool and Niemur rivers

Merran, Thule and Barber creeks

Figure 19 shows dissolved oxygen levels in Little Merran, Barbers and Thule creeks had all dropped to around 0 mg/L but improved with the cooler air temperatures last week (Figure 20). The dissolved oxygen levels at all sites are between 1 and 2.5 mg/L.

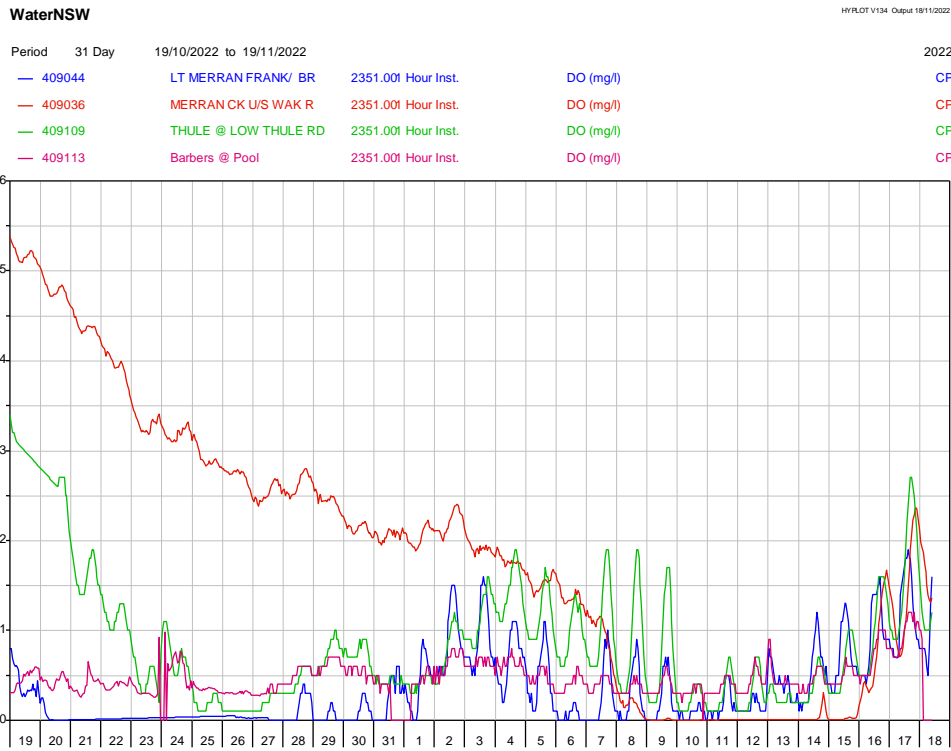


Figure 19: Continuous dissolved oxygen (mg/L) in the Merran, Little Merran, Thule and Barber creeks

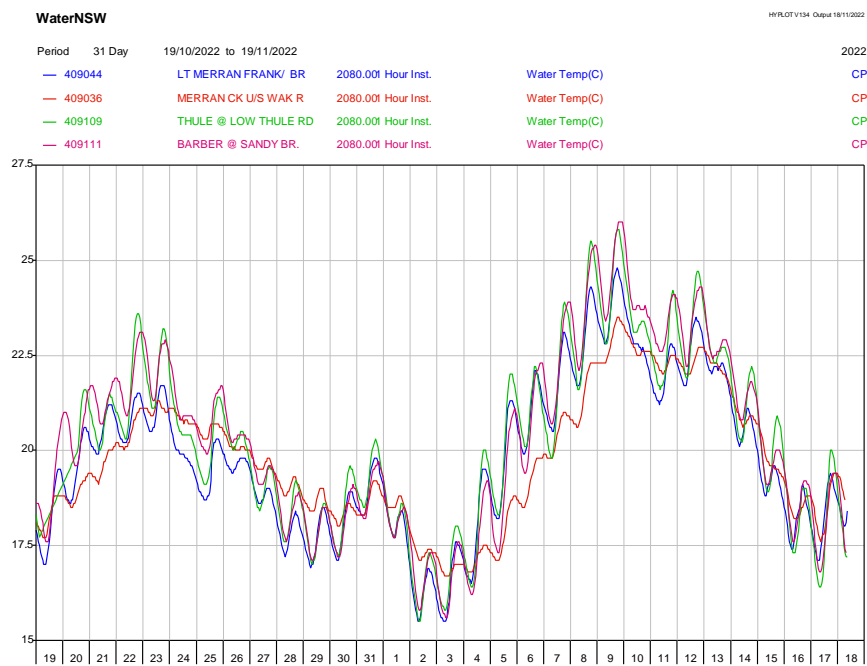


Figure 20: Continuous water temperature (°C) in the Merran, Little Merran, Thule and Barber creeks

Murray River

The Bureau of Meteorology has predicted flooding in the Murray River at Euston to peak over the weekend and to peak near the major flood level at Mildura late next week (25-27 November). River levels will continue to rise at Wentworth into early December.

Monitoring by DELWP is showing the Murray River at Tocumwal, upstream of the Barmah/Millewa Forest, is oxygenated (Figure 21). In the Murray River downstream of the forest at Barmah, dissolved oxygen levels have been the same for all of November (~0.5 mg/L).

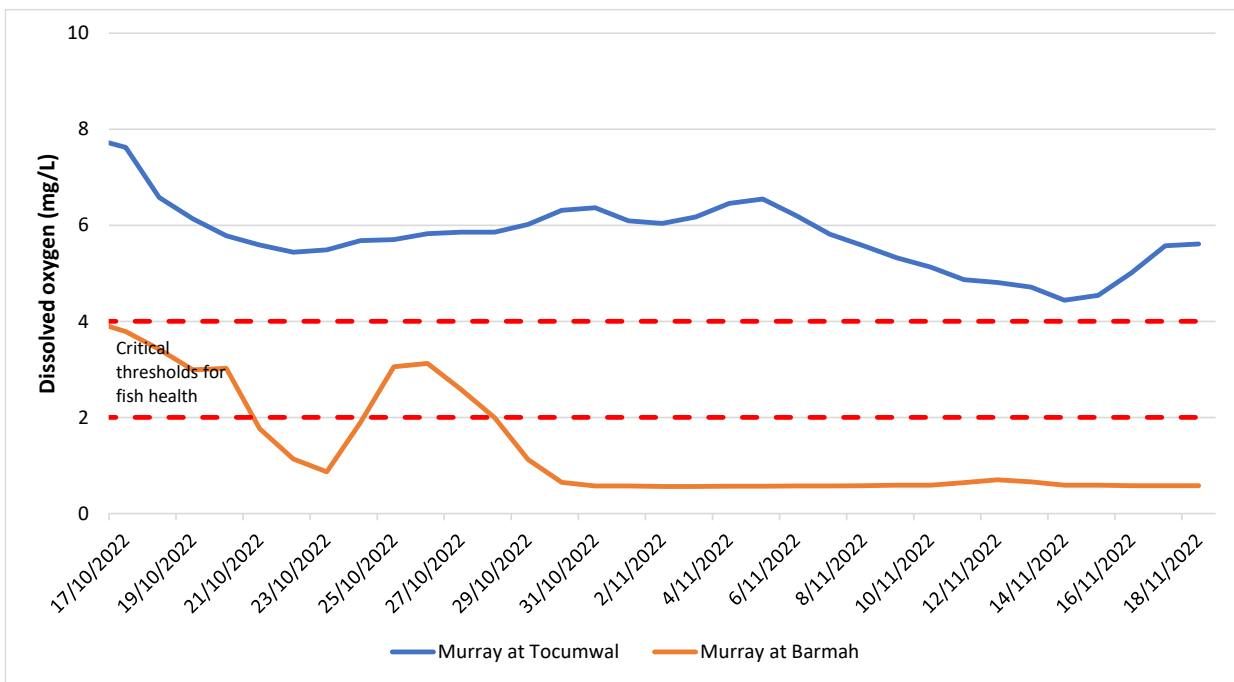


Figure 21: Continuous dissolved oxygen (mg/L) in the Murray River at Tocumwal and Barmah (data courtesy of DELWP)

Dissolved oxygen in the Goulburn River at McCoys Bridge has improved above 4 mg/L and the Campaspe River at Fehring's Lane to over 6 mg/L. The Murray River at Barham had dropped below 1 mg/L but has improved slightly, while further downstream at the Wakool Junction and Colignan levels are less than 2 mg/L (Figure 22). The results from the temporary monitoring site installed in the Murray River downstream of Wentworth have been slowly declining and dropped below the 1 mg/L. Water temperatures have decreased again after the warmer temperatures last week (Figure 23).

Three dissolved oxygen monitoring sites have been added to the DELWP real time data web page. They are on the Murray River at Pental Island pumps 409214 (downstream of Barham), Boundary Bend 414201 (Murrumbidgee junction) and Wemen 414219 (between Boundary Bend and Colignan). On 18 November they were reading 0.06 mg/L, 1.3 mg/L and 2.1 mg/L respectively.

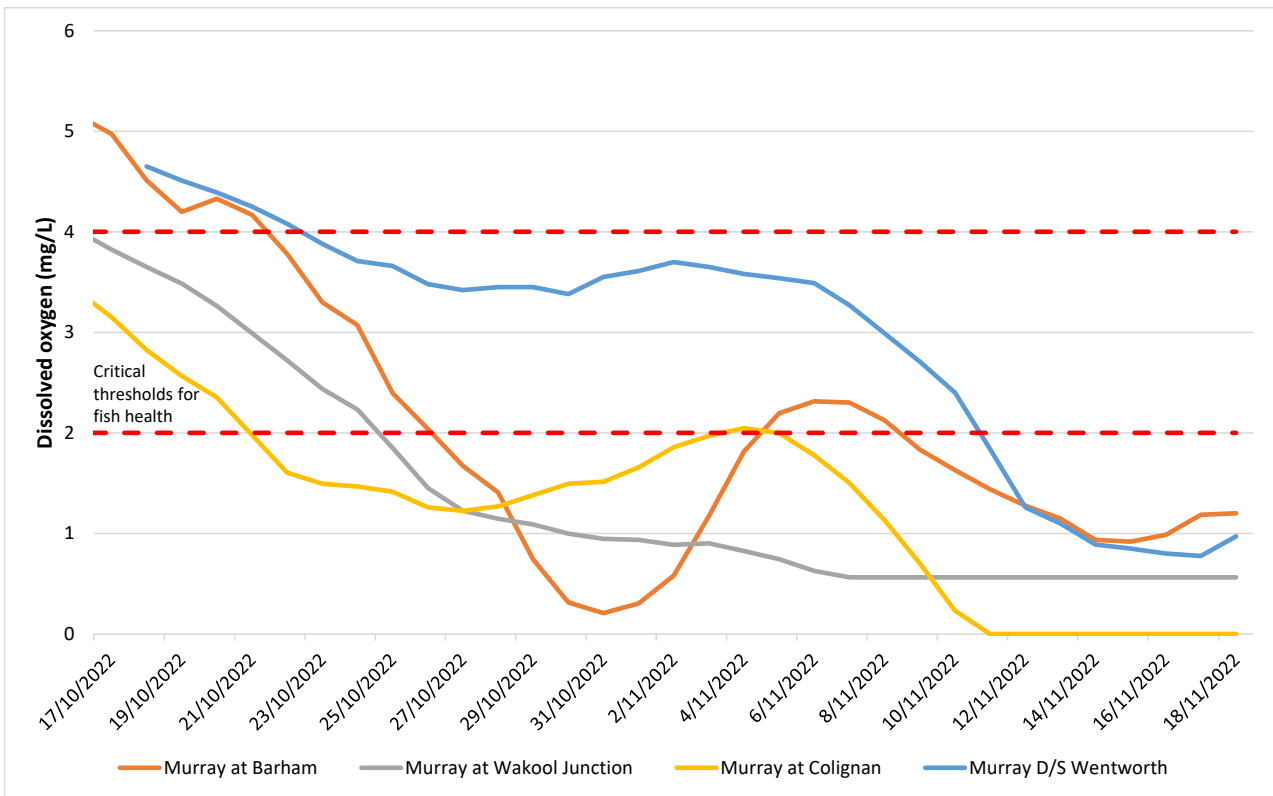


Figure 22: Continuous dissolved oxygen (mg/L) in the Murray River at Barham, below Wakool junction, Colignan and downstream of Wentworth

Handheld reading from Murray River at Merbein 14/11/2022 9:08 was 1.19 mg/L

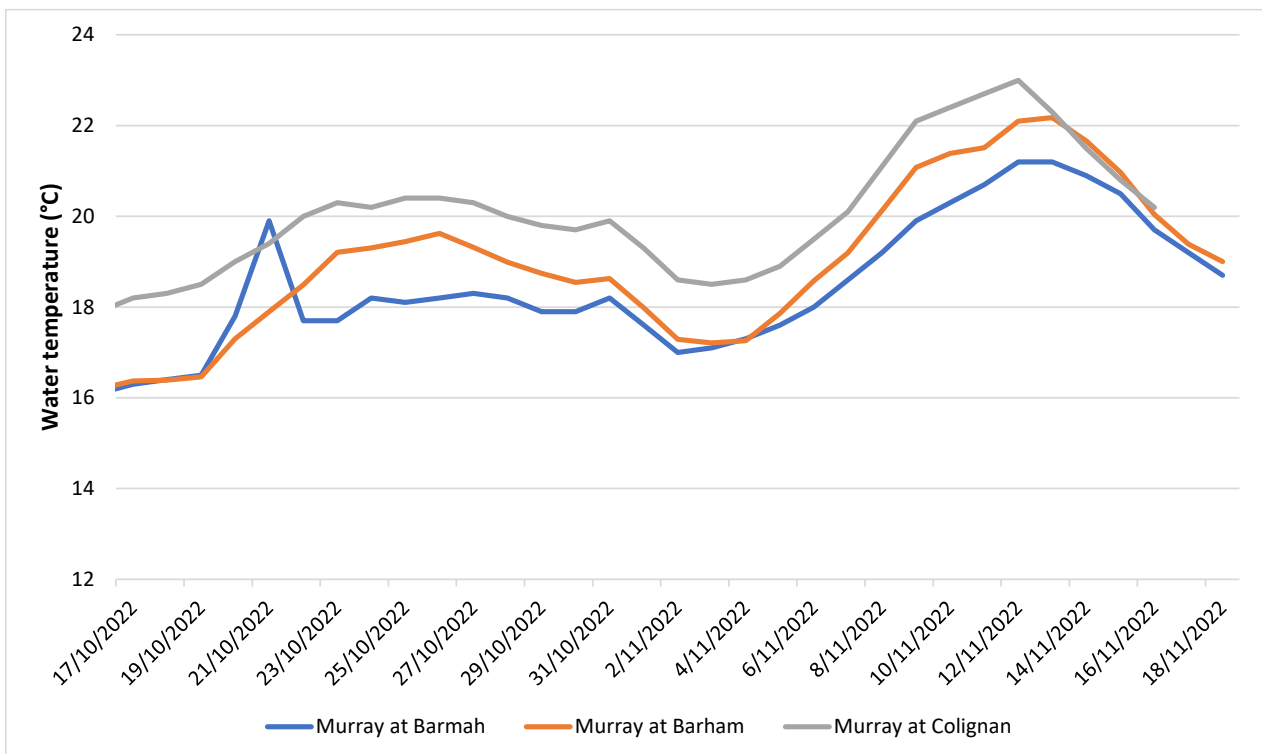


Figure 23: Continuous water temperature (°C) in the Murray River

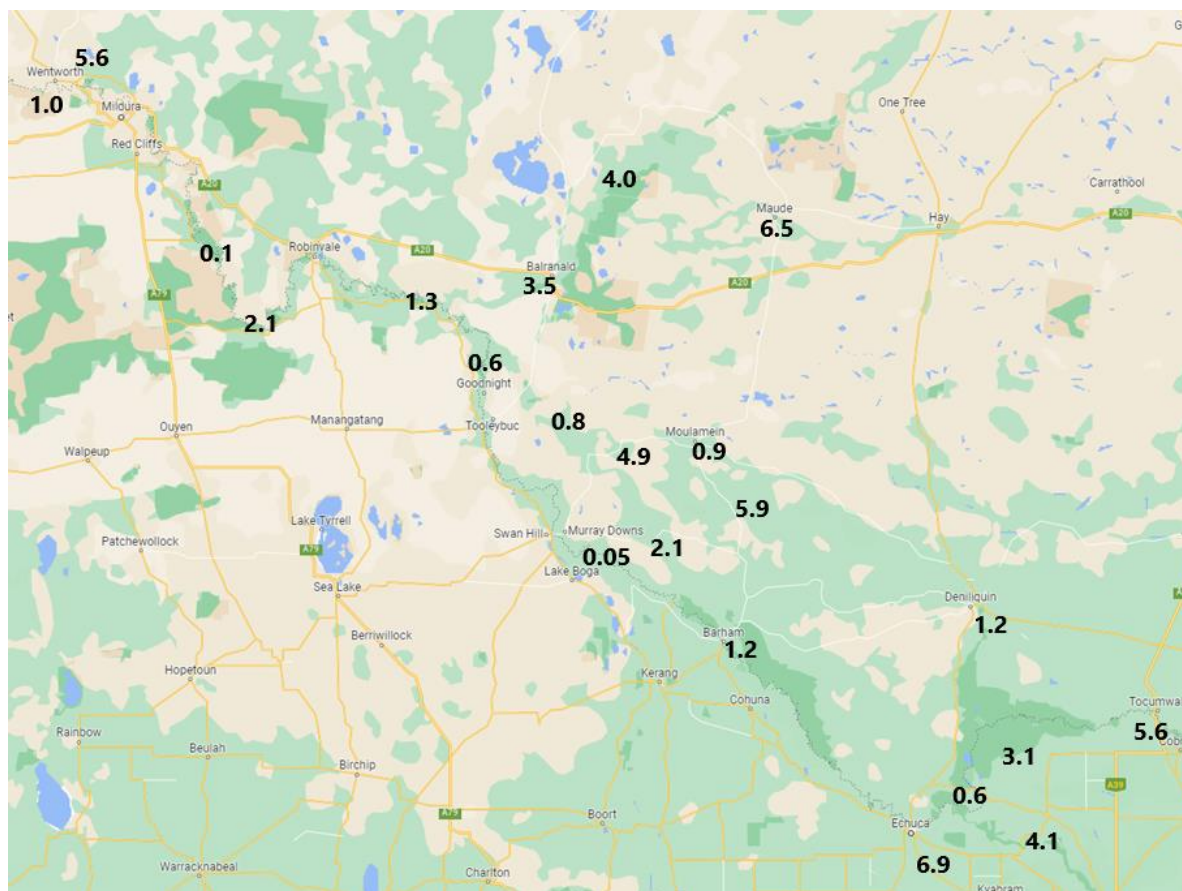


Figure 24: Summary of Southern Basin dissolved oxygen results - 18 November 2022

Weather Outlook

The Bureau of Meteorology 8-day total rain forecast (18 to 25 November) indicates light falls across the north of the state and heavier falls along the NSW/Victorian border and the Southern Alps (Figure 25). The rain will mostly fall over the weekend. Forecast is for warmer air temperatures for Echuca and Mildura over the weekend before another low and cold front brings showers and cooler air temperatures during the week (Figures 26 and 27).

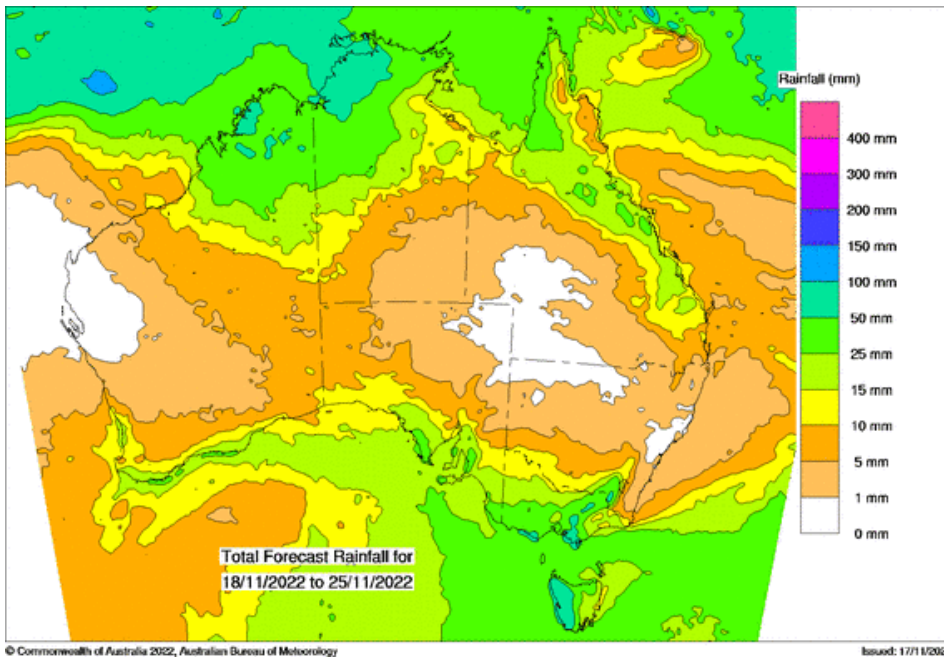


Figure 25: Bureau of Meteorology 8-day total rain forecast (18 to 25 November)

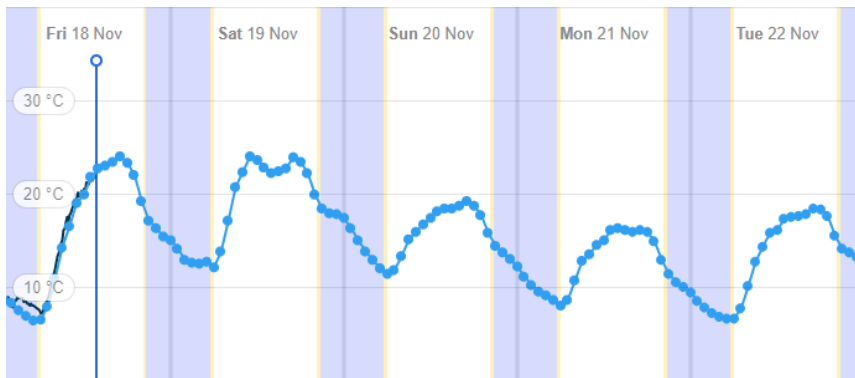


Figure 26: Forecast air temperatures for Echuca 18 to 22 November

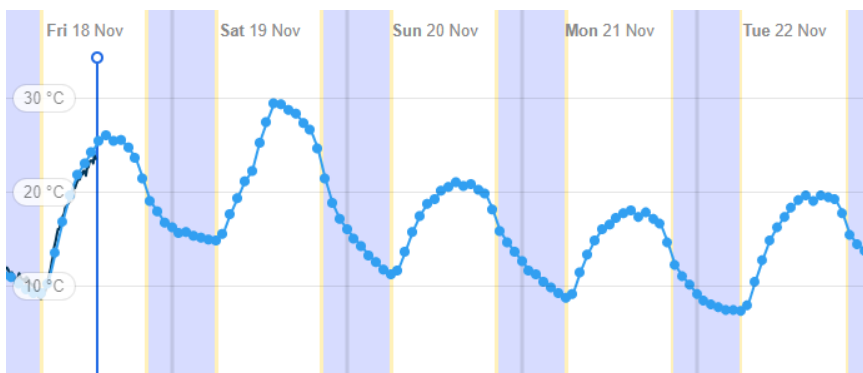


Figure 27: Forecast air temperatures for Mildura 18 to 22 November