

More than just the weather...

Janice Green

Bureau of Meteorology



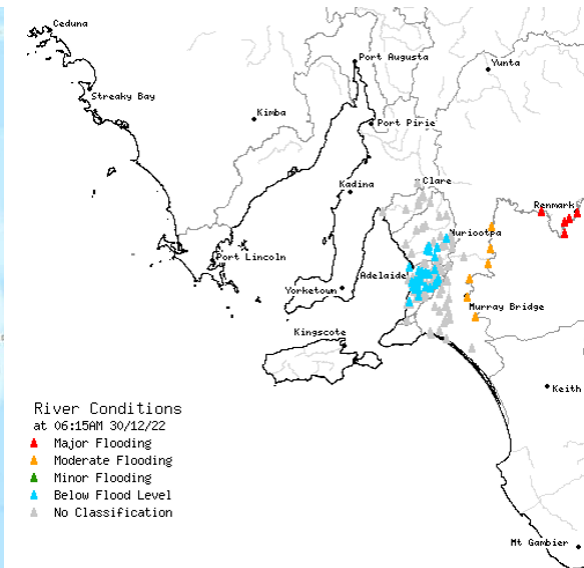
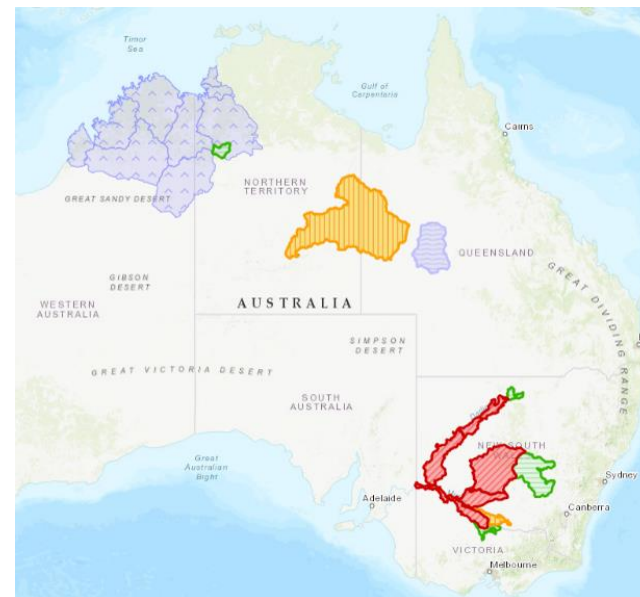
National Weather Forecasts

- Prior to Federation each colony had its own meteorological service.
- Bureau of Meteorology created on 1 January 1908 and state forecasting responsibilities transferred
- 115 years old
- Provides regular weather forecasts, warnings, monitoring and advice across the Australian region and Antarctic territory



National Flood Forecasting and Warning Service

- In 1957, in response to 1955 Hunter Valley floods, flood forecasting and warning services were added to the Bureau's responsibilities
- The Bureau provides flood forecasting and warning services for most major rivers in Australia. These services are provided with the cooperation of other government authorities, such as the State/Territory Emergency Services, water agencies and local councils.
- Information provided forms the basis for flood response by emergency services and other flood managers and is vital for water resource managers responding to large inflows of water into their dams and rivers.



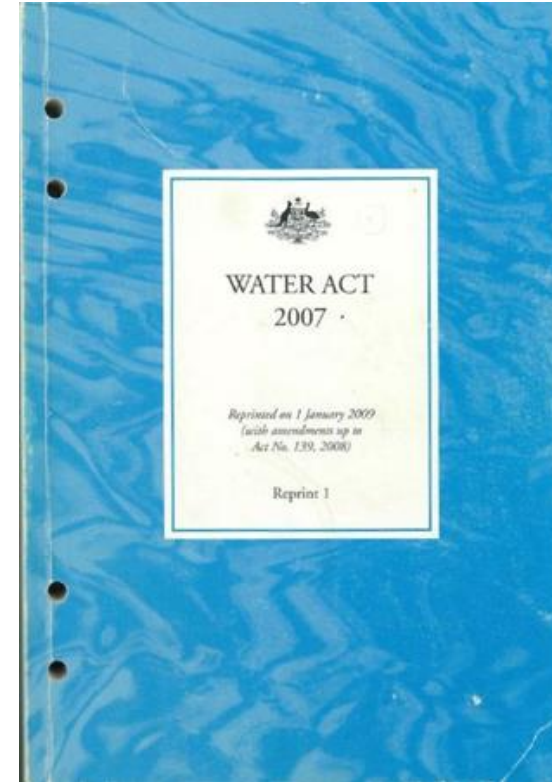
National Water Information Agency

Water Act 2007

Made the Bureau the National Water Information Agency with responsibility to:

- Collect, hold, manage, interpret, disseminate Australia's water information
- Publish data - through Water Data Online
- Prepare products and report including the National Water Account

Underpinned by Water Regulations 2008



Water Regulations 2008

Selected Legislative Instrument No. 106, 2008

made under the

Water Act 2007

Compilation No. 23

Compilation date: 28 March 2017

Includes amendments up to: F2017/00111

Registered: 1 April 2017

Prepared by the Office of Parliamentary Counsel, Canberra



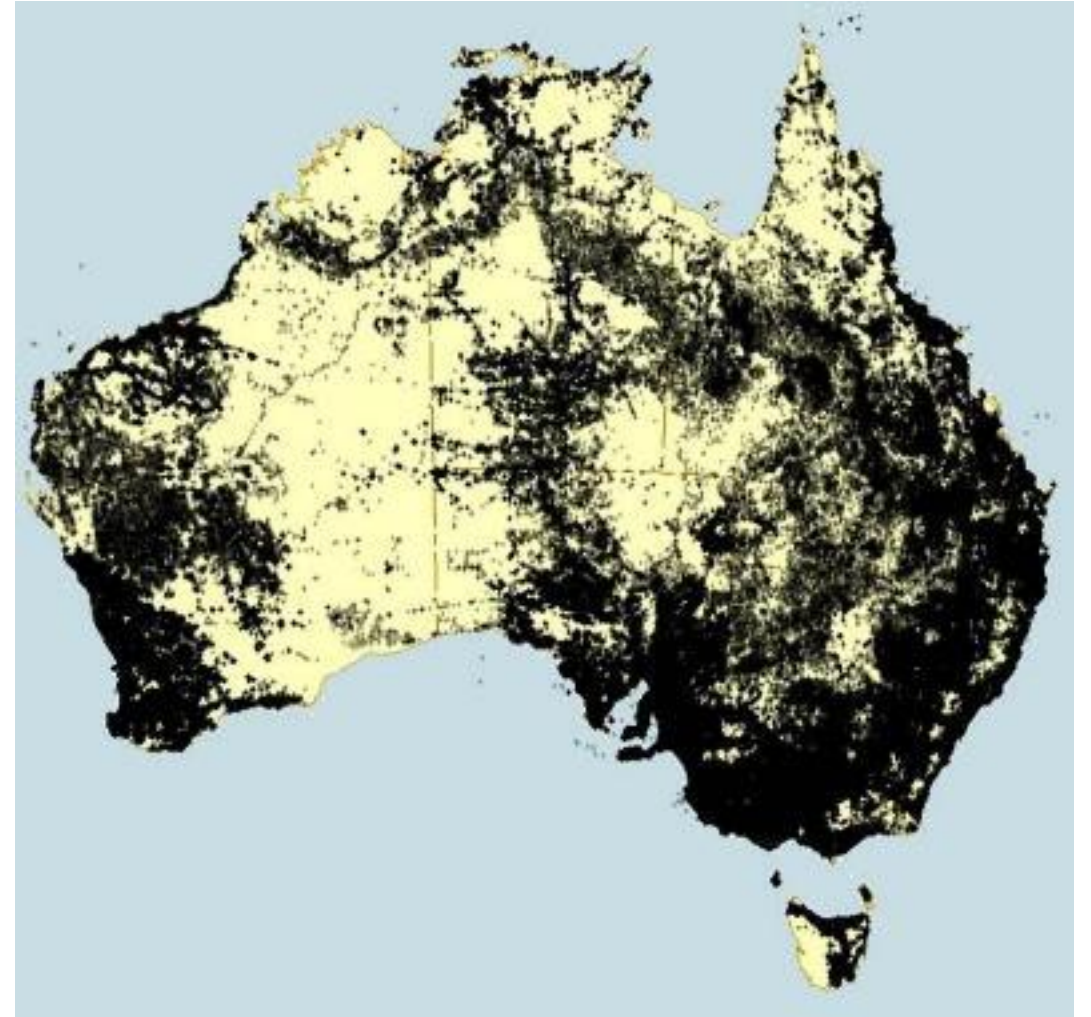
National Water Information Agency

Data supplied from

- 11 categories of person (~180 entities)
- 10 categories of water information (55 subcategories)
- entire historical archive provided first
- updated in real time: daily, weekly, monthly or yearly

To date

- > 42 million files
- ~15,000 files added each day
- 4+ billion observations
- (>850,000 groundwater bores)



National Water Information Agency

Time Series Data

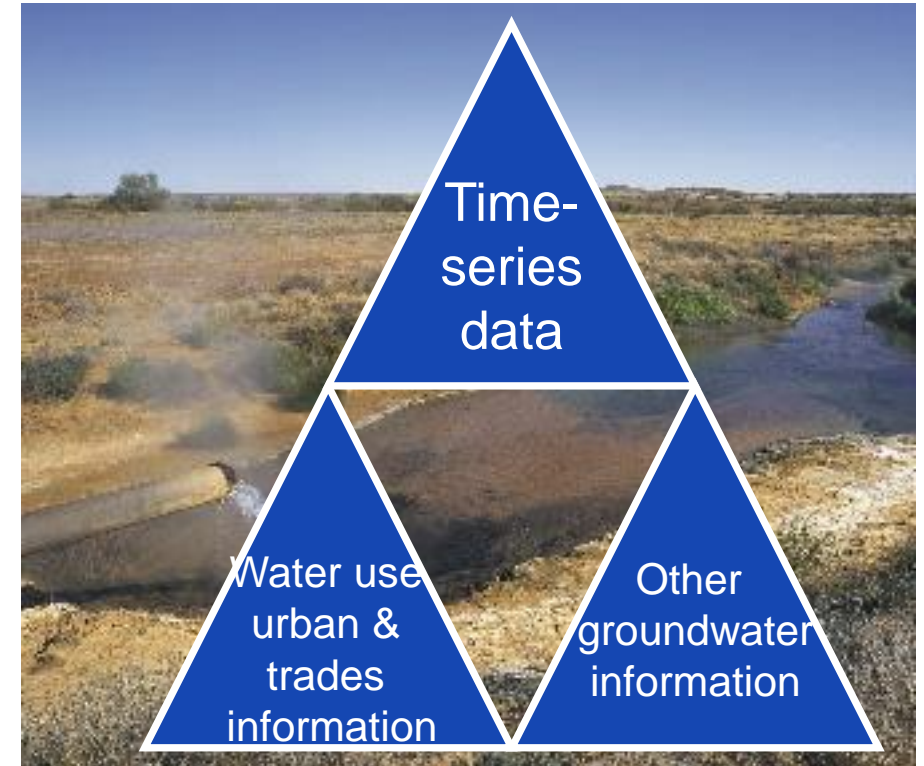
- Category 1 Watercourse - level and flow
- Category 2 Groundwater - level and pressure
- Category 3 Dam Storage - level and volume
- Category 4 Meteorological observations
- Category 9 Water quality- surface water, some groundwater
- Category 11 Flood warning data

Water Use, Urban & Trades

- Category 5 Water use - annual SW take, GW extractions
- Category 6 Rights, allocations and trades
- Category 7 Urban water supply, wastewater, recycled, stormwater
- Category 8 Water restriction announcements

Other Groundwater Information

- Aquifer boundaries & properties, geologic & hydrogeologic units
- Bore location, purpose, lithology, construction & hydrostratigraphy



National Water Information Agency

Australian Government
Bureau of Meteorology

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[Water data](#) | [Water status](#) | [Water forecasts](#)

Water information




Australian Water Outlook

We've expanded our hydrological services to enable the Australian community to better manage water resources and plan for potential hazards such as floods, drought, and fire. Visit the Australian Water Outlook [for](#) forecasts, hydrological projections and historic data on Australia's hydroclimate to support your climate, weather and water-sensitive decisions.


[» Australian Water Outlook](#)

1



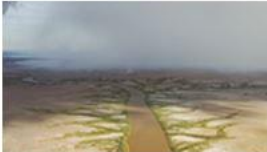
Water data

- [Australian Water Data Service](#)
- [Design Rainfalls](#)
- [Geofabric](#)
- [Groundwater Information](#)
- [Hydrologic Reference Stations](#)
- [Murray-Darling Basin Water Information](#)
- [Water Market Information](#)
- [Water Data Online](#)



Water status

- [Australian Water Outlook](#)
- [Water Assessments](#)
- [National Water Account](#)
- [Urban National Performance Report](#)
- [Urban Water Information](#)
- [Water Restrictions](#)
- [Water Storage](#)
- [Water Focus Reports](#)
- [Water Reporting Summaries MDB Catchments](#)



Water forecasts

- [Flood Knowledge Centre](#)
- [7-day Streamflow Forecasts](#)
- [Seasonal Streamflow Forecasts](#)

Water links

- [Murray Darling Basin water information](#)
- [Water Act 2007](#)
- [Water Regulations 2008](#)
- [Water market information](#)
- [Water Dictionary](#)
- [Publications](#)
- [Contact Us](#)

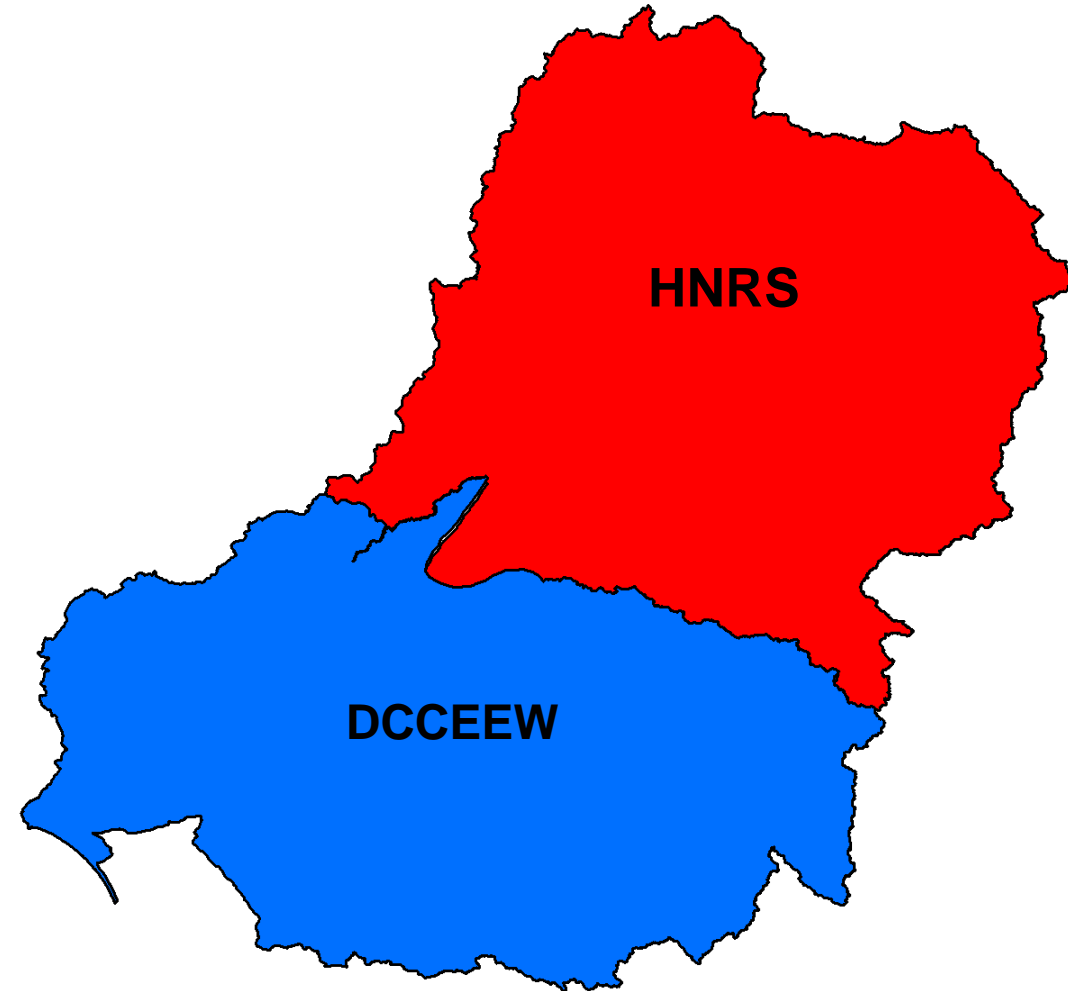
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www.bom.gov.au/water/



Murray-Darling Basin Water Information Portal (MDB WIP)

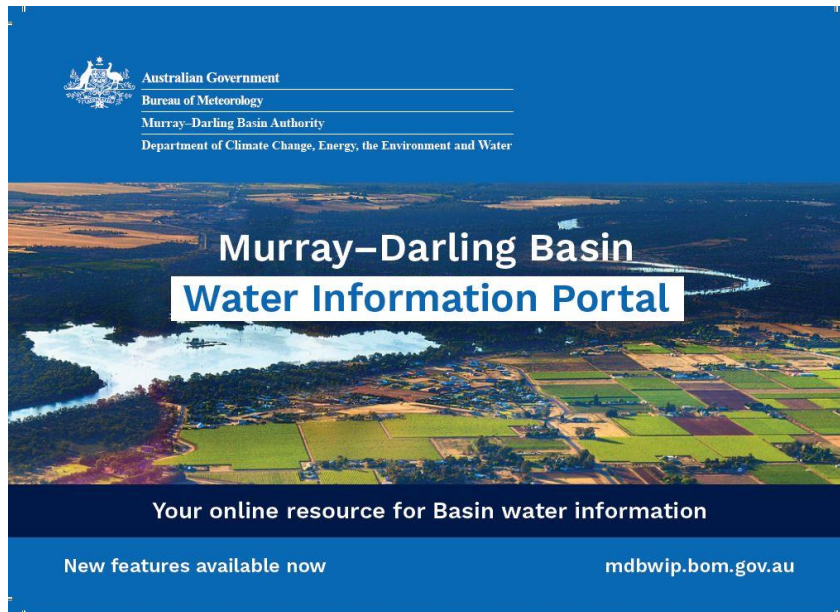
- MDB WIP being developed by the Bureau of Meteorology in its capacity as national water information agency
- Under engagement by:
 - Murray-Darling Basin Authority (MDBA) – as Project 2 of the Hydrometric Networks and Remote Sensing Funding Program (HNRS)
 - Department of Climate Change, Energy, the Environment and Water (DCCEEW) – under MOU for near-real time water reporting for the MDB
- In partnership with Basin State agencies



Murray-Darling Basin Water Information Portal

mdbwip.bom.gov.au

- Provides central location for water information across the whole of the MDB in near-real time – daily to weekly
- Presents water information not data (while still providing access to the source data for those who wish to dive a little deeper).



**Explore the Portal today
and have your say.**

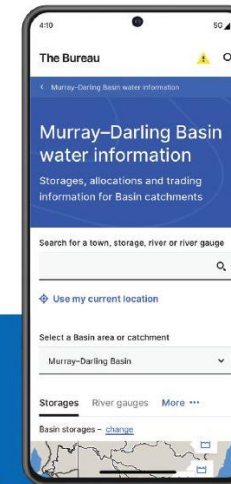
mdbwip.bom.gov.au

**Basin-wide information on water
markets, water in storages, groundwater,
streamflow, water quality and more.**



We want to hear your feedback to help shape future versions of the Portal, to provide the information you need in the way you want it.

Contact us at water@bom.gov.au

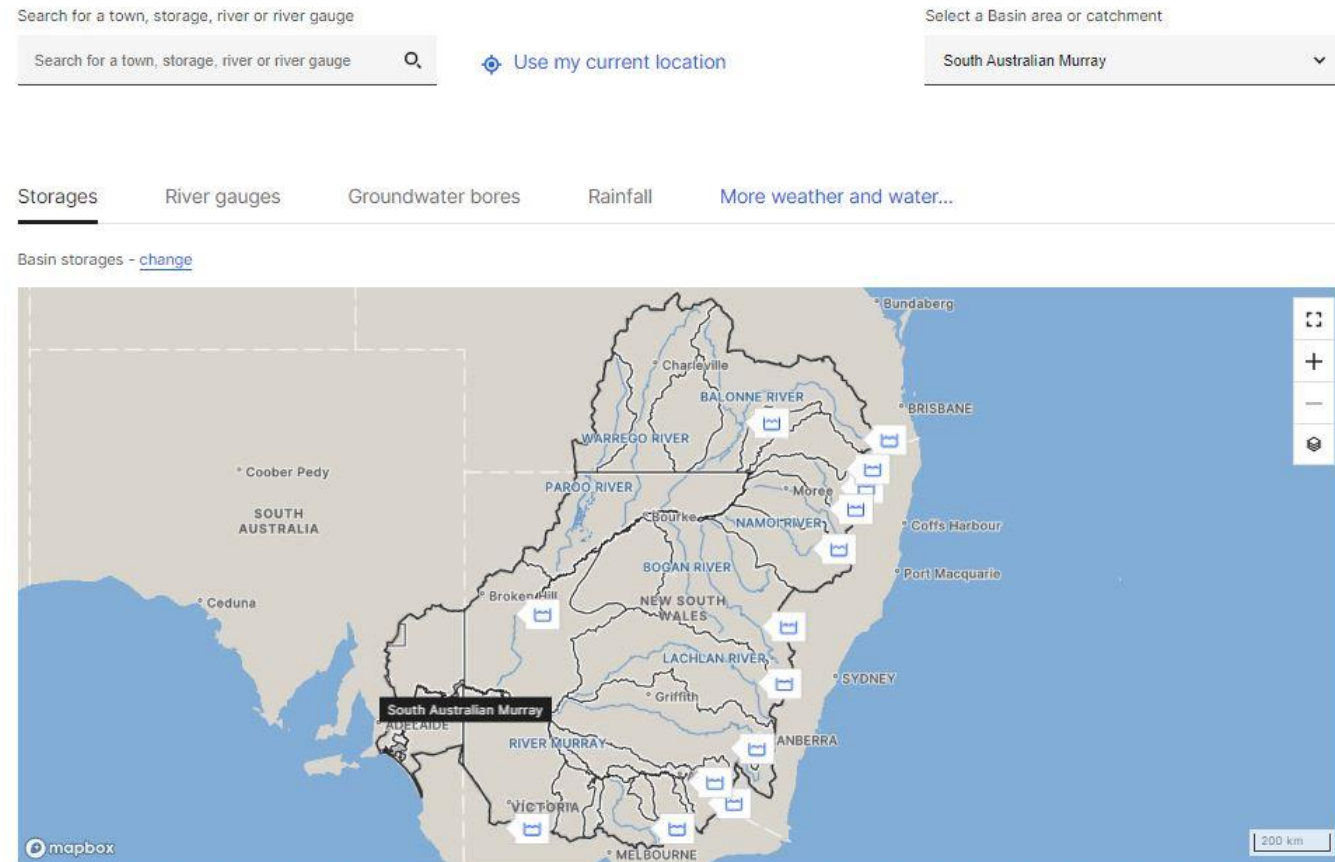


Murray-Darling Basin Water Information Portal

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- Information presented for **29 Basin 'catchments'** – MDBA's surface water Sustainable Diversion Limit resource units

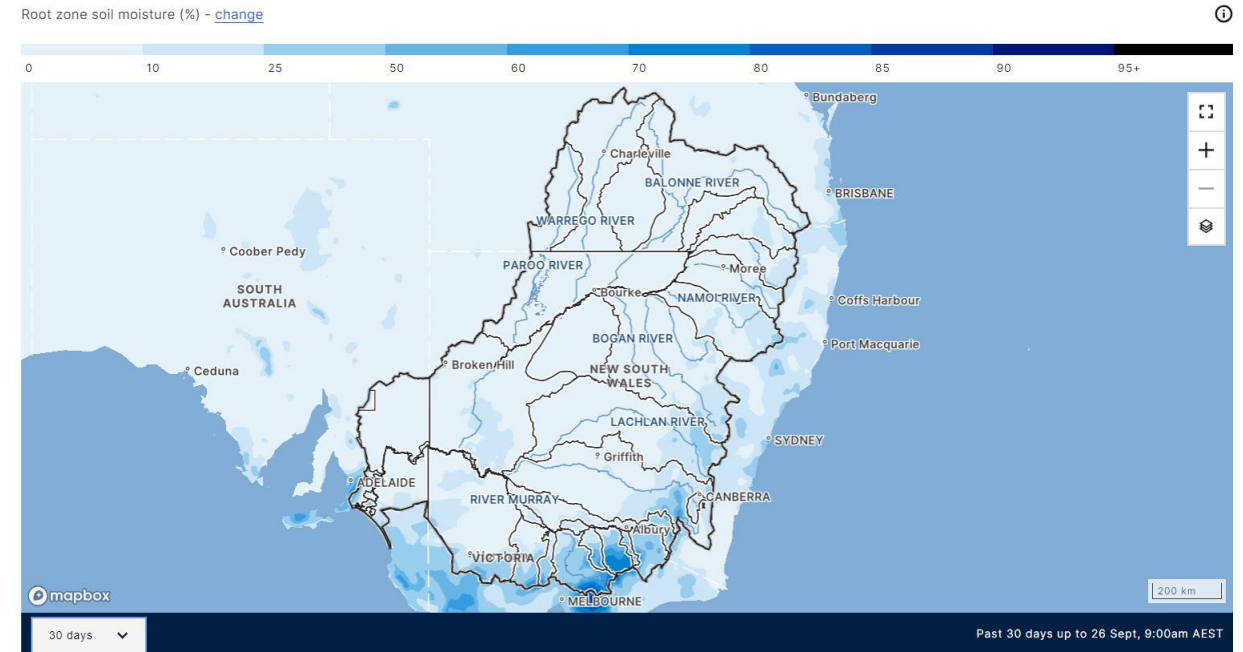
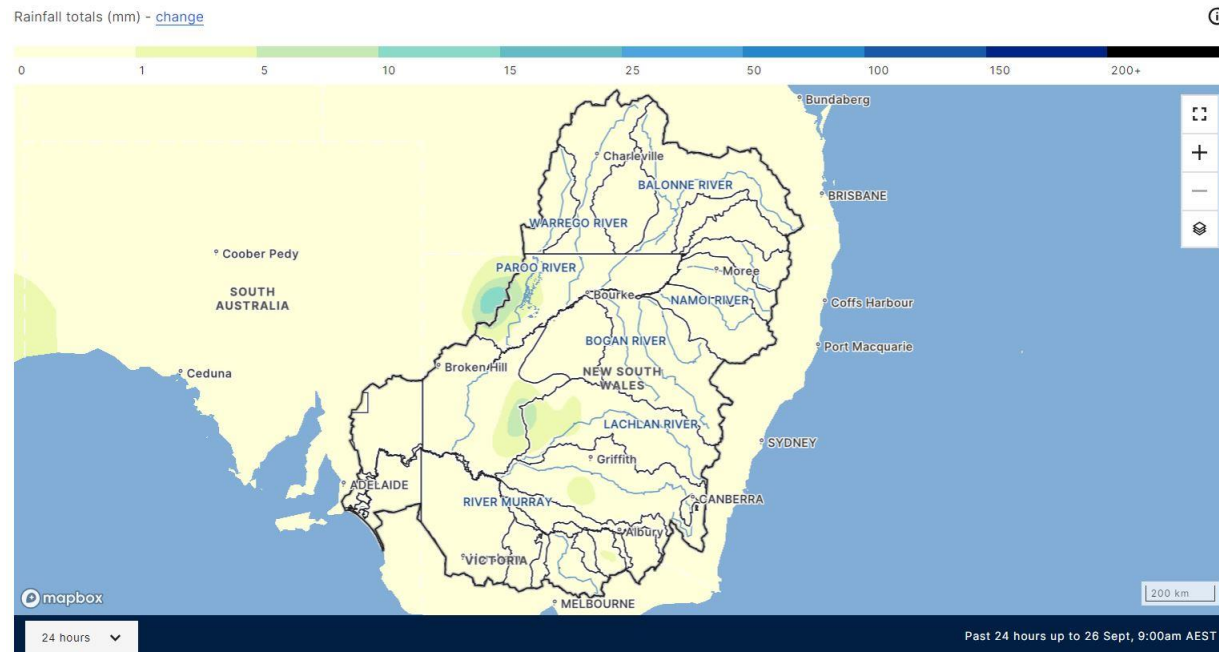
Water catchments in the Murray–Darling Basin



Murray-Darling Basin Water Information Portal

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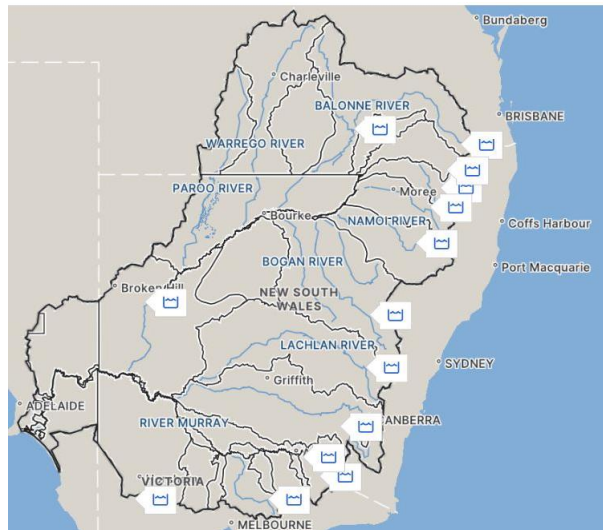
- **Rainfall data** as mm and percentiles displayed on the map for past day, month and year timeframes.
- **Soil moisture data** as percentage and percentiles displayed on the map for past day, month and year timeframes.



Murray-Darling Basin Water Information Portal

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- Key irrigation storages; other storages such as hydro-electric & urban storages; weirs & locks
- Volumes and % capacities, updated daily, going back to 10 years.



Hume

Volume

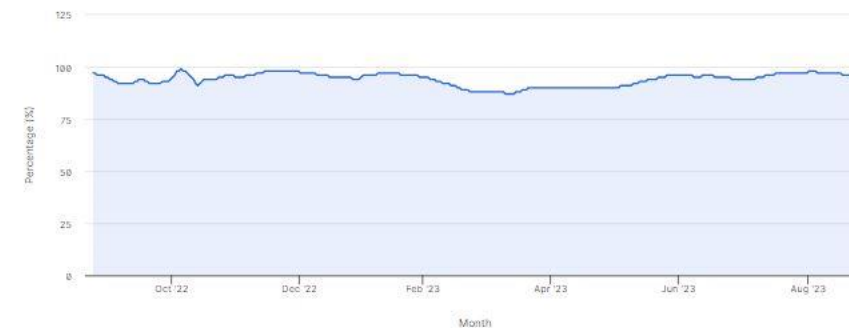
95 % of total capacity
97 % same time last year
2,886,272 ML current volume
2,884,483 ML accessible volume ⓘ

Recent and historical data ⓘ

% of total capacity Volume Accessible volume

Select time range

Past 12 months ▼



— Volume as a % of capacity

Current as at
24 September 2023

Hume % of total capacity last 12 months.csv



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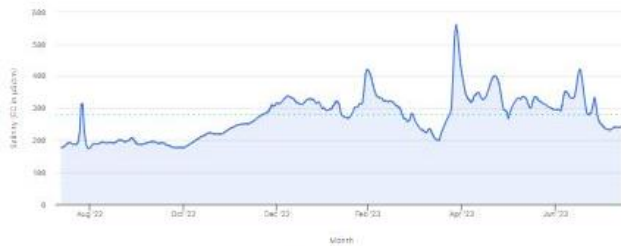
- **200 key river gauges** shown on map and **flow (MLD) and height** provided in the catchment information.
- **Water quality** information (salinity, water temperature, pH, turbidity) at over 100 sites

Past flow and water quality

Flow Height **Salinity** Temperature pH Turbidity

Select time range

Past 12 months



— Salinity — Medium — High — Very high — Extremely High

Current as at
13 August 2023

Billabong Ck - Darlot Salinity last 12 months.csv

About this gauge
River gauge number: 410134
Latitude: -35.0442
Longitude: 144.4464

Billabong Creek at Darlot

Latest flow

618 ML/d flow rate

2.31 m height

↓ falling since yesterday

Current as at
29 August 2023

Water quality

① Classifications

— salinity

— temperature

— pH

— turbidity

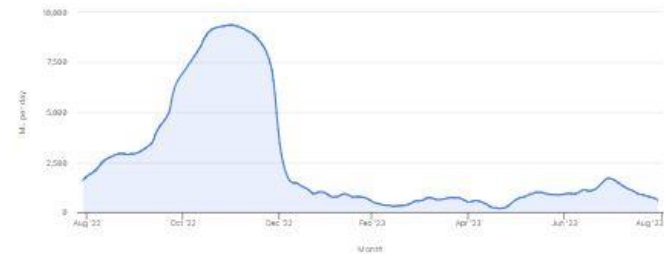
Current as at
13 August 2023

Past flow and water quality

Flow **Height** Salinity Temperature pH Turbidity

Select time range

Past 12 months



— Watercourse discharge

Current as at
29 August 2023

Billabong Ck - Darlot Flow last 12 months.csv



Murray-Darling Basin Water Information Portal

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- Stored water **allocation information**, broken down by category of use and most recent allocation announcements (with average monthly trade pricing).
- **Water taken (used)** and **water available** for each catchment for the current water year to date displayed

Category legend

We use descriptive names for licence categories. States and territories use different names for the same categories.

Terms we use

Towns and domestic Consumptive Environment Reserves Losses



State or territory	Name for this category
Queensland	Urban or industrial
NSW and ACT	Town, Stock and Domestic, and Essential supplies
Victoria	Water corporations
SA	Critical human water needs and town water supply

Water allocations

How the water is shared

This table shows the water is allocated or shared, how much water has been used and how much is still available for use. This is shown for each category of use and, if available, licences in each category.

Category ⓘ	Allocated			Used (ML)	Available	
	Carryover (ML)	Allocations to date (ML)	% of total volume (allocated and carryover)		Volume (ML)	As a % of available
Towns, domestic & stock	–	28,265	2%	938	27,327	4%
Consumptive	568,373	42,863	47%	29,699	488,562	78%
High security licence	–	24,952	2%	6,350	32,000	5%
General security licence	568,373	0	44%	17,000	445,000	71%
Conveyance	–	17,911	1%	6,349	11,562	2%
Environment	146,931	72,728	17%	0	114,000	18%
High security licence	–	2,728	0%	0	12,000	2%
General security licence	146,931	0	11%	0	102,000	16%
Planned	–	70,000	6%	–	–	–
Essential requirements	–	307,000	23%	–	–	–
Losses	–	140,000	11%	–	–	–

Hide Detail

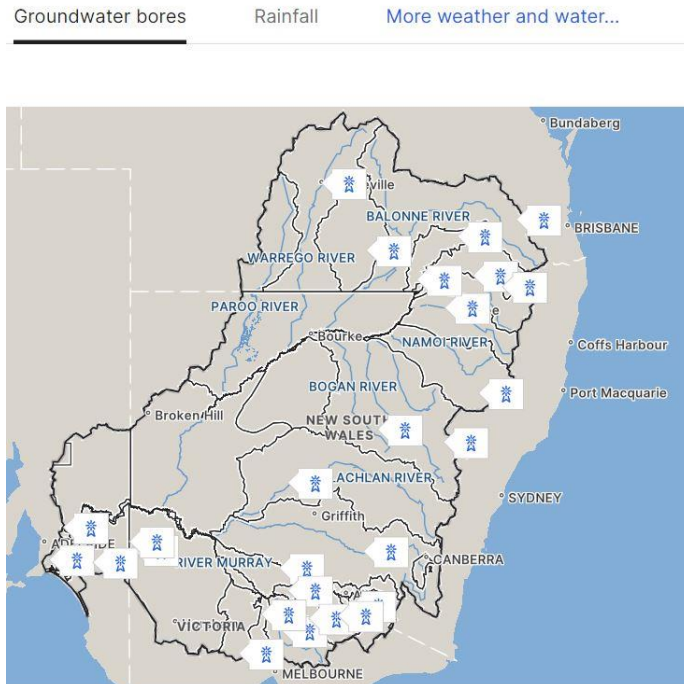
Total allocated volumes may not equal total water in storage as it does not include water traded or inflows into storages beyond minimum inflow assumptions.



Murray-Darling Basin Water Information Portal

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- Groundwater levels at nearly 80 representative bores



WRK053550

Latest information

-3.183 m depth to water
-3.123 m depth to water on 1 August 2023

↓ falling since 1 August 2023

Current as at
2 September 2023

About this bore

20191495 Groundwater Hydro ID

-36.106771 latitude

147.973187 longitude

Monitoring purpose

Alluvial aquifer

Goulburn-Murray Groundwater Resource Plan Area

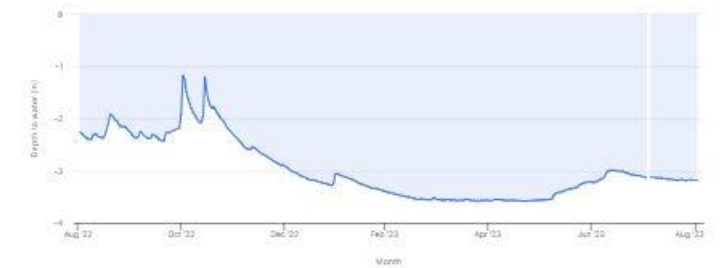
Goulburn-Murray: Highlands (GS8b) SDL resource unit

Current as at
2 September 2023

Past depth to water

Select time range

Past 12 months



— Depth to water

Current as at
1 September 2023

WRK053550 Depth to water last 12 months.csv



Murray-Darling Basin Water Information Portal

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- Data on **water markets** – post trade
- Both surface water and groundwater
 - **water price;**
 - **median price;**
 - **volume traded;**
 - **reason for trade;**
 - **strike date / application date**
- Both **current** and **historic** time periods.
- **Trading zone level information;**
- **Data downloads** at individual trade level

Overview Water availability Storages River gauges Groundwater bores **Water trade**

Surface water Groundwater

Select catchment, water trading zone or plan area

Murrumbidgee

Market prices for Murrumbidgee

Trade type	7 day median price (\$/ML)	This time last year (\$/ML)	Past 30 days			
			Median price (\$/ML)	Median price this time last year (\$/ML)	Number of trades	Volume traded (ML)
Allocation	\$200.00	\$42.00	\$170.00	\$45.00	340	113,581
Entitlement						
General			\$2,350.00	\$2,600.00	7	1,952
High			\$8,700.00	\$8,500.00	15	652
Undefined			No trades reported			
Other			No trades reported			
Domestic And Stock			\$1,000.00		3	790
Supplementary			No trades reported			
Unregulated River			\$1,000.00	\$935.00	3	106

Select catchment, water trading zone or plan area

Murrumbidgee

- Murrumbidgee
- Coleambally Irrigation
- Murrumbidgee Irrigation
- Murrumbidgee River regulated
- Murrumbidgee Central (Burrinjuck to Gogeldrie)
- Murrumbidgee River (Wagga Wagga to Berembid) regulated
- Murrumbidgee River (Berembid to Gogeldrie) regulated
- Murrumbidgee River below Gogeldrie regulated
- Murrumbidgee River (Billabong and Forest Creeks) regulated
- Murrumbidgee River (Yanco and Columbo Creeks) regulated
- Adelong Creek
- Adjungbilly/ Bombowlee/ Brungle
- Billabong
- Bredbo
- Burkes/ Bullenbung
- Gilmore/Sandy
- Goobarragandra
- Goodradigbee
- Hillas
- Jugiong



Murray-Darling Basin Water Information Portal

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- Both current and historic time periods.
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Market trends for Murrumbidgee

Median price

Reason for trade

Past reason for trade for Murrumbidgee

Select trade type

Allocation

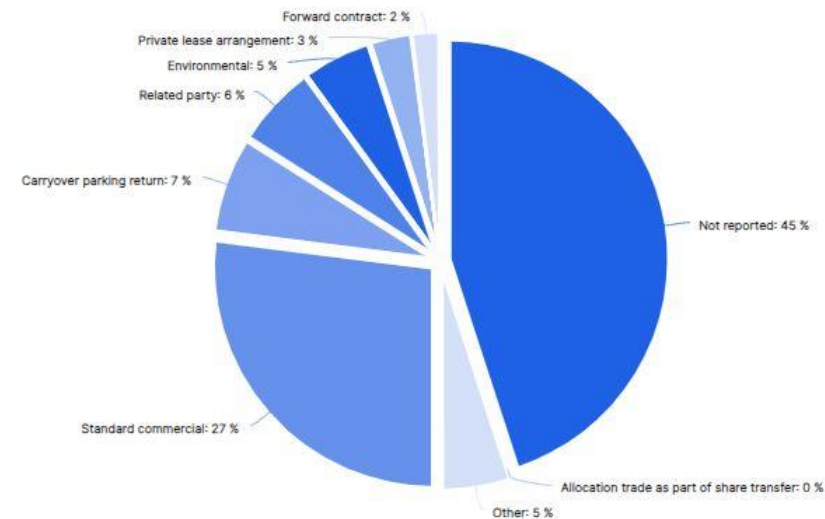
Select time range

July 2021

Select View

Pie chart

[Reason for trade definitions](#)



Reason for trade is for approved applications reported to the Bureau by trade approval authorities.

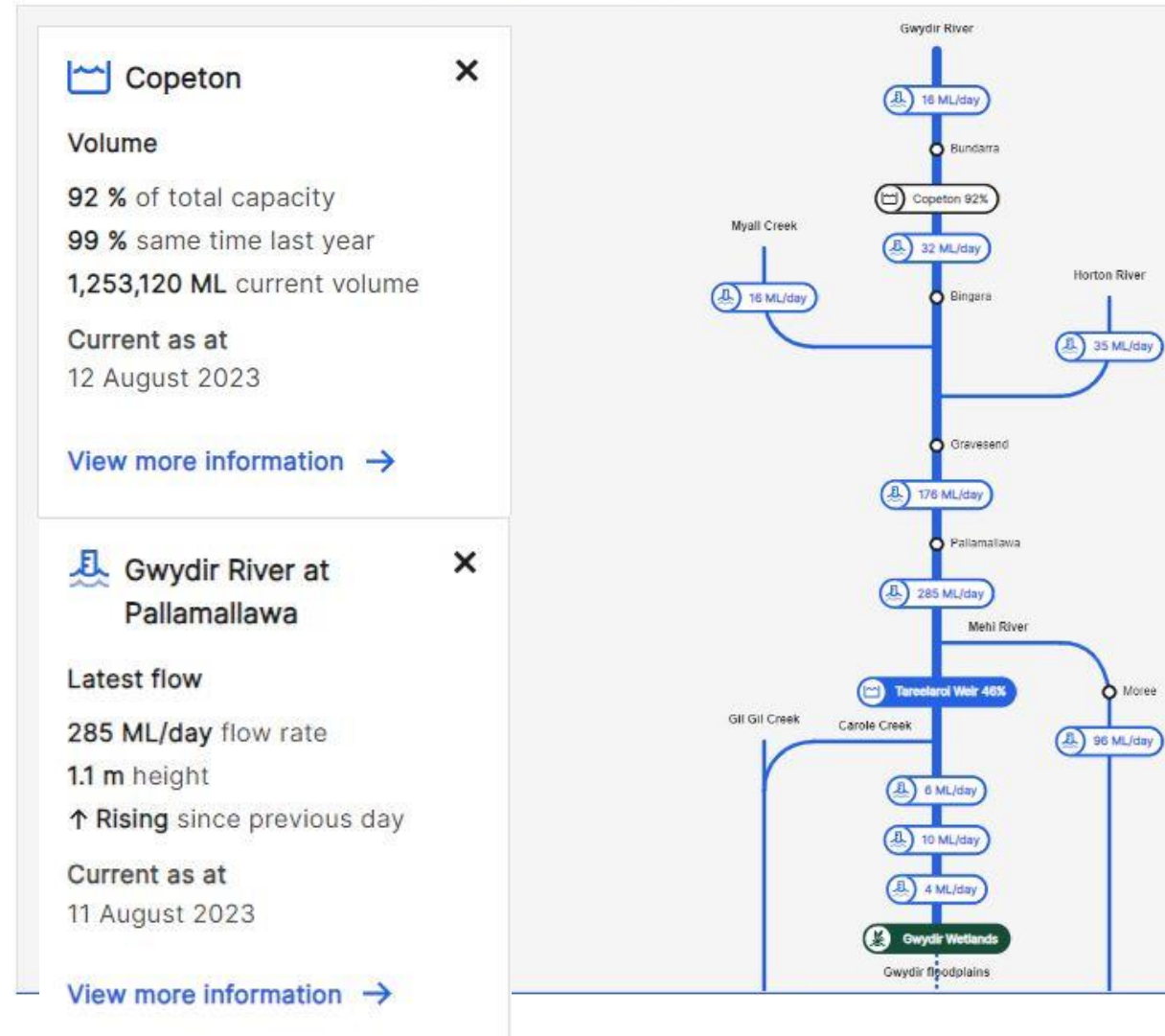


Murray-Darling Basin Water Information Portal

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- River **diagrams** for major catchments
 - Gwydir, Namoi, Macquarie-Castlereagh, Lachlan and Murrumbidgee
 - Border Rivers – NSW Border Rivers; Queensland Border Rivers & Moonie River
 - Norther Victoria – Ovens, Goulburn, Broken, Campaspe & Loddon
- Diagrams NOT maps
- Present catchments as a whole
- Show at a glance where water is coming from and where it's going to
- Show wetlands, irrigation areas, culturally significant sites

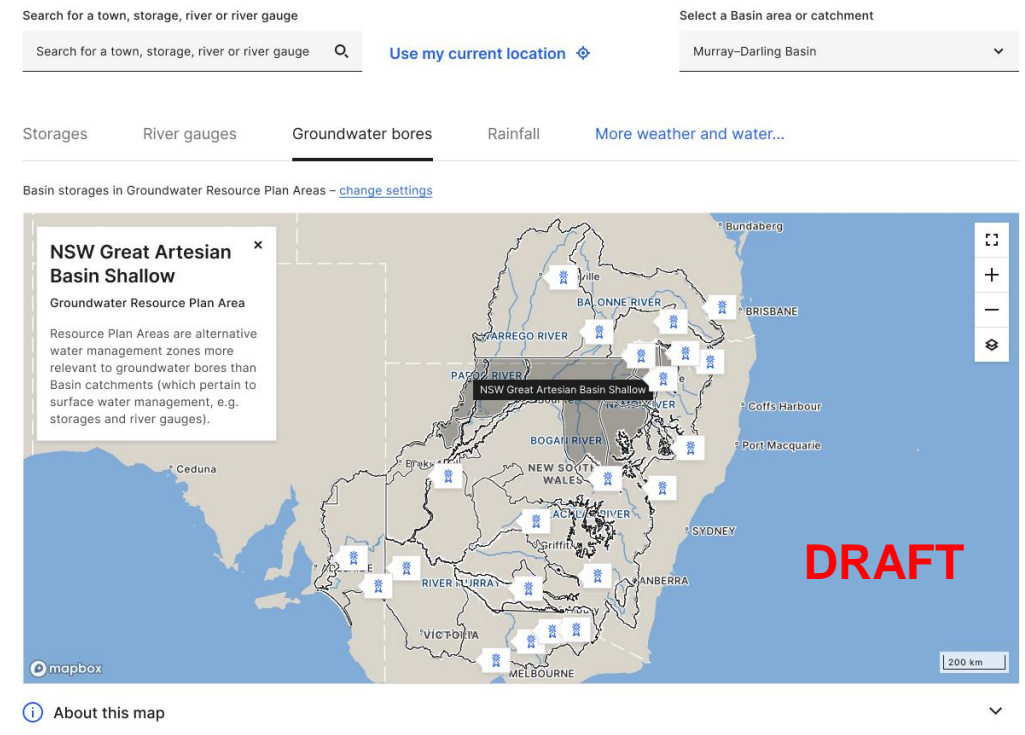
Flow rate and percentage full – [change settings](#)



Features and data planned for Version 5 (30 Nov 2023)

- **Diagrams** for the rest of the Basin
 - Information on wetlands, irrigation areas, culturally significant sites
- **Water for the environment** information
- **Dissolved oxygen** at nearly 30 sites
- **Cultural water** information
- Seasonal **streamflow outlooks**.
- **Groundwater** quality information
- **Groundwater** use/take information
- **Groundwater Water Resource Plan** units

Water catchments in the Murray–Darling Basin



Features and data planned for Version 5 (30 Nov 2023)

- **Improved design** – more intuitive user flows and inclusion of photos

Send your photos to MDBWIP

Your Murray–Darling Basin photos could feature on the MDBWIP site.

We are looking for:

- Natural attractions
- River gauges, dams, weirs and locks
- Significant sites

Landscape-oriented images preferred.

Send your photos to:

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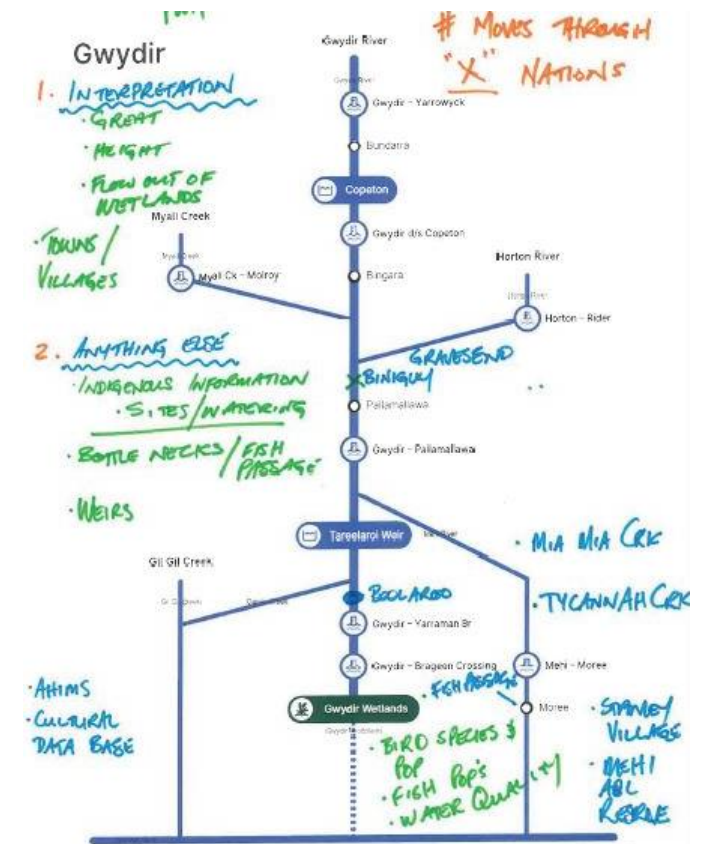


Murray-Darling Basin Water Information Portal

- MDB WIP being developed adopting a User Centred Design approach
- Keen to have your feedback and input into Version 5
- Visit us at the Bureau's exhibition booth



- Provide your feedback to water@bom.gov.au





Thank you