



River Murray Weekly Report

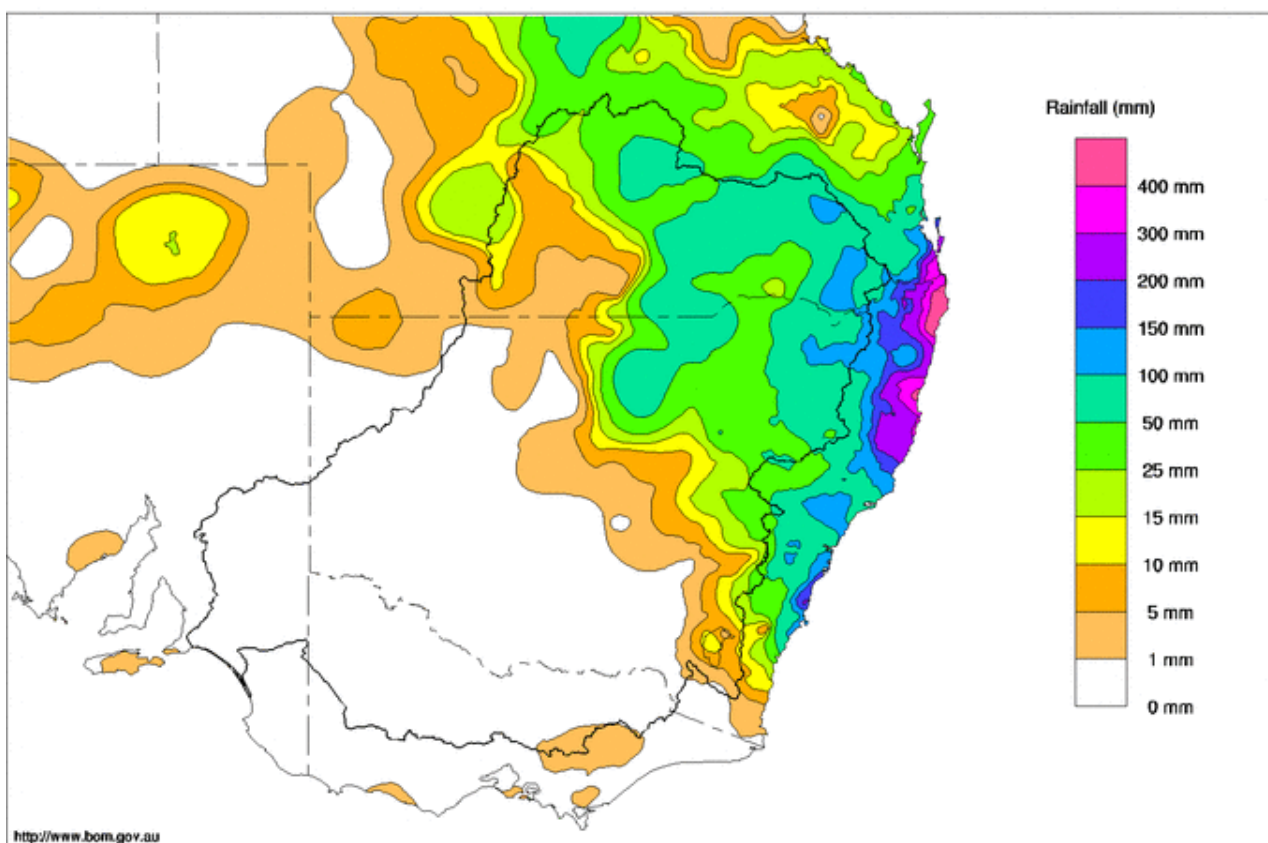
For the week ending Wednesday, 30 March 2022

Trim Ref: D22/6749

Rainfall and inflows

Minimal rainfall was recorded in the southern Murray-Darling Basin this week (Map 1). Whereas, across the northern Basin, extensive shower and thunderstorm activity brought heavy widespread rainfall totals across parts of southern Queensland and north-eastern New South Wales. In New South Wales, Inverell in the North Tablelands recorded 120 mm, whilst Collarenebri on the Barwon River recorded 52 mm. In Queensland, Toowoomba recorded 70 mm, whilst further west, St George received 83 mm.

Murray-Darling Rainfall Totals (mm) Week Ending 30th March 2022
Australian Bureau of Meteorology



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Issued: 30/03/2022

Map 1: Murray-Darling Basin rainfall for the week ending Wednesday 30 March 2022. Source: Bureau of Meteorology.

In the upper Murray catchment, streamflow's continued to ease as conditions remained dry. The BoM [8-day rainfall outlook](#) suggests the coming week may bring minor rainfall totals across the Upper Murray catchments.

Specific information about flows at key locations can be found at the MDBA's [River Murray data](#) webpage. Up-to-date river data for sites in the Basin can also be found on:

- BoM's [website](#)
- WaterNSW's WaterInsights [website](#)
- Victoria's DELWP water monitoring [website](#)
- South Australia's Water Data [website](#)
- Queensland's [Water Monitoring Information Portal](#)



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River operations

- Irrigation demands remain high as autumn watering continues
- Unregulated inflows from the Murrumbidgee River continue
- WaterNSW forecast renewed inflows to the Menindee Lakes
- Continued releases from the Menindee Lakes to manage airspace

Easter Flows

With the busy Easter and school holiday period approaching, river users are reminded that river levels will vary depending on where you are located during this Easter and school holiday period. With Easter falling late in the year, flows in the river are likely to be relatively low especially compared to last Easter, as irrigation demand is expected to taper off towards the end of April, prompting flows to be wound back to save water for next year. An update on the situation will be provided in the next weekly report.

In addition, wet conditions in recent months has meant that the Murrumbidgee and Darling rivers continue to flow unregulated into the River Murray. This is further reducing the water needed from Hume Dam to meet demands in the lower system, including flow to SA. Flows between Hume Dam and Murrumbidgee junction over Easter are therefore likely to be quite low compared to many years, and less than Easter last year. Without further rainfall, the Murrumbidgee River inflows are also expected to fall away in mid-April, coinciding with Easter and school holidays.

Despite fluctuating river levels, weir pools are expected to remain steady across Easter. More information on the expected flows around Easter will be provided in coming reports. River users can monitor Murray levels and flow forecasts at key locations on the MDBA's [River Murray data](#) webpage to assist in planning any river activities.

Hume Dam operations update

Over the last week, the volume of water in Hume Dam eased to 90% in response to reduced inflows and higher releases to meet irrigation demands for autumn watering.

With a drier outlook for the Basin over the coming week, Hume Dam storage is expected to continue decreasing as demands persist. However, with the upper Murray catchment relatively wet for this time of year and the storage not far from full, the potential for another spill remains. Looking further ahead, the MDBA is also considering the possible need to actively reduce the storage ahead of winter if wet conditions persist through autumn that provide additional inflow or suppress irrigation demands. Further updates on these plans will be provided to river communities in the coming months including via future weekly reports.

Unregulated flows

Unregulated flows in the River Murray are continuing downstream of the junction with the Murrumbidgee River in response to higher inflows from the Murrumbidgee and Darling Rivers. Upstream of the Murrumbidgee junction, releases from Hume Dam are being managed to deliver system requirements, including meeting minimum flow requirements at Swan Hill.

River operators will continue to monitor rainfall forecasts, tributary inflows and system demands and provide updated advice on unregulated flows. Information on access to Murray supplementary water licences in NSW is available from [WaterNSW Water insights](#). General information on River Murray unregulated flows can be accessed on the MDBA [webpage](#).

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Water demand

The MDBA is actively monitoring shortfall risks. A shortfall occurs when water cannot be delivered to users when and where it is needed. A delivery shortfall occurs when actual water use is higher than it was forecast to be when river water was released from storages, weeks earlier, to meet the forecast needs for irrigation and environmental water. A system shortfall occurs when the combined capacity of the system is unable to supply all downstream requirements over the full season. More information about shortfalls can be found at [Water demand \(shortfalls\) | Murray-Darling Basin Authority \(mdba.gov.au\)](https://www.mdba.gov.au/water-demand-shortfalls).

The risk of a **delivery shortfall** in the River Murray between Wakool Junction and the SA border over the coming week is negligible. The MDBA is continuing to monitor weather conditions and forecast demands and will continue to actively manage the risk of delivery shortfall across the high demand summer-autumn period as conditions evolve.

The risk of a **system shortfall** is currently negligible. With unregulated flows to South Australia continuing and the Menindee Lakes available as a shared resource, transfers from Hume to meet lower system demands are unlikely to be required until next water year.

The MDBA, Basin state governments and their agencies have different roles and responsibilities in managing delivery shortfalls. Read more information on [delivery shortfall risks for Victorian water licence holders](#).

Water quality impacts

WaterNSW has continued to declare several amber alerts for **blue-green algae** in the River Murray System. **Amber alerts** remain current for some areas of Hume Dam, the River Murray at Tocumwal and Picnic Point. In the lower River Murray amber alerts are current for the River Murray at Moama, Barham, Buronga, Merbein, Fort Courage (near Wentworth) and Lock 8. Along the Edward-Wakool River system an **amber alert** is current for Stoney Crossing. In the Murrumbidgee a **red alert** is current for Yanga Lake at Regatta Beach. **Amber** alerts remain current for various sites along the Lower Darling. This information is available through [Goulburn-Murray Water](#), [WaterNSW](#) and [Water quality | Murray-Darling Basin Authority \(mdba.gov.au\)](#).

River operations

Over the last week **active storage** decreased by 113 GL to 7,863 GL (91% capacity).

At **Dartmouth Reservoir**, the [storage](#) decreased by 2 GL to 3,590 GL (93% capacity). The release, measured at Colemans gauge, peaked earlier this week as flows increased to benefit water quality and ecosystem function in the Mitta Mitta River downstream of Dartmouth Dam. For more information, see the Mitta Mitta [flow advice](#) on the MDBA website. Flows are forecast to target the minimum rate of 500 ML/day over the coming week.

Hume Reservoir [storage](#) decreased by 59 GL to 2,693 GL (90% capacity). Continuing dry and warm conditions resulted in correspondingly higher demands, as such releases from Hume responded, with the release averaging 12,600 ML/day over the past week. Over the coming week, the release will be managed in response to downstream irrigation demands and weather conditions.

Since the 2019-20 bushfires, Hume Dam operations have, at times, needed to consider altered water quality within the reservoir to help manage its effect on water quality downstream. This has required changes to the release outlet configuration to improve dissolved oxygen levels and help aquatic animals downstream of the dam to breathe. In recent weeks, operators have trialled a variety of configurations to optimise the approach.

During the past week, use of the spillway gates was undertaken in response to water quality observations from monitoring downstream. Further adjustments will be considered in the days and weeks ahead, depending on the impacts of water storage chemistry and physical processes that are affecting a range of water quality indicators, including oxygen levels and other naturally dissolved compounds. While releases are currently being made through a combination of the power station, cone valve outlets and spillway gates, a change in approach may be considered depending on on-going monitoring results and how water quality responds to the current approach.

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Lake Mulwala is currently at 124.72 m AHD and within the normal operating range (124.6 to 124.9 m AHD). Diversions to Mulwala Canal increased towards the end of the week, reaching a peak of 5,250 ML/day. At Yarrawonga Main Channel, diversions remained steady averaging near 1,500 ML/day. The Lake Mulwala level is forecast to decrease slightly over the coming days in response to higher diversions, but remain within the normal range.

After extensive consultation with the local community, landholders and businesses, the Murray–Darling Basin Authority, in partnership with Goulburn-Murray Water, have scheduled a **lowering of the Lake Mulwala level** in early May to help reduce invasive waterweed. Lowering the lake provides the best means of controlling the highly invasive water weed *Egeria densa*, a practice that occurs every 3 to 5 years. More information will be available in future editions of the Weekly report and a media report can be [found here](#).



Photo 1: Yarrawonga Weir on the River Murray. Photo: Amber Craig (MDBA).

Downstream of Yarrawonga Weir, the release is targeting 7,500 ML/day. This is a relatively low flow rate compared with rates typically seen at this time of year during high allocation years. This autumn, high inflows from the Murrumbidgee and the lower Darling rivers are continuing to meet Murray system demands downstream of the junction with the Murrumbidgee. In response, to maximise water availability, operations are targeting a release downstream of Yarrawonga weir sufficient to meet system demands to the junction with the Murrumbidgee, including the minimum flow requirement at Swan Hill.

Flow through the **Kolety** (pronounced Kol-etch)/**Edward River** and **Gulpa Creek** offtakes have averaged around 1,310 ML/day and 240 ML/day respectively over the last week. Around 1,000 ML/day continued to be released from Edward Escape to the Kolety/Edward River to supply irrigation diversions to Wakool Canal. Flow downstream of **Stevens Weir** averaged 860 ML/day over the week. Further downstream, inflows from the Billabong Creek (measured at Darlot) have continued to rise well above the end of system target (50 ML/day) averaging 560 ML/day due to continuing wet conditions in the Murrumbidgee catchment (the Kolety/Edward River is connected to the Murrumbidgee River via the Yanco/Colombo/Billabong Creek system). These higher inflows are expected to continue into April.

On the **Goulburn River**, the flow measured at [McCoy's Bridge](#) fell to near 2,900 ML/day, down from a peak of 5,360 ML/day last Wednesday, as an autumn fresh was delivered on behalf of environmental water holders. The flow is forecast to continue falling over the coming week. The higher flow rates are targeting environmental outcomes in the lower Goulburn River and further downstream along the River Murray, including to entice golden and silver perch to move into the Goulburn River. For more information, see the Goulburn-Broken CMA [website](#). Information regarding opportunities for allocation trade between the Goulburn and Murray Valleys is available at the Victorian water register [website](#) and the [Goulburn-Murray Water website](#).



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At **Torrumbarry Weir**, the pool is at the full supply level. The [diversion](#) to **National Channel** remained steady at around 2,550 ML/day. Releases from Torrumbarry Weir increased to a peak of near 8,050 ML/day last Friday in response to the arrival of the autumn pulse from the Goulburn River and has since receded to the current flow of 6,300 ML/day. Releases are forecast to continuing falling over the coming week.

Inflow from the **Murrumbidgee River**, measured at [Balranald](#), averaged around 7,750 ML/day and are forecast to increase slightly over the coming week. This increase is in response to releases from Murrumbidgee storages by WaterNSW to manage airspace following rain and higher inflow from the upper catchments in recent weeks.

At **Menindee Lakes**, the storage is currently at 1,792 GL (104% capacity). Upstream of Menindee Lakes, heavy rainfall over the past month in southern Queensland has resulted in renewed high flows across the Barwon Darling River system. WaterNSW is forecasting a further 450 - 750 GL inflow to the Menindee lakes system by the end of May. More information is available from the WaterNSW WaterInsight [website](#).

Releases to the lower Darling River (measured at Weir 32) reduced to around 6,000 ML/day over the past week. With further inflows to the Lakes, WaterNSW are forecasting releases at Weir 32 will be held steady at about 6,000 ML/day for approximately 5-6 weeks until the first week of May. Releases from Lake Cawndilla (part of Menindee Lakes) into the Great Darling Anabranch remained around 1,750 ML/day this week and will do so for the next six weeks, for the purposes of managing airspace in response to forecast inflows. Downstream on the lower Darling at Burtundy, the flow has fallen to around 6,600 ML/day and is expected to reduce slightly over the coming week.

Over the coming months, the MDBA will continue to revise forecasts and operational plans for the volume and timing of operational water to be released from Menindee Lakes to support all water users along the River Murray System once unregulated flows cease. This process is on-going and will follow the practices agreed by the New South Wales, Victorian, South Australian and Commonwealth governments as stated in the Murray-Darling Basin Agreement and the [Objectives and Outcomes for River Operations in the River Murray System](#). These practices require State and Commonwealth agencies to provide ongoing advice on release decisions, and implications for water security, delivery efficiency, the community, and environmental outcomes.

The flow downstream of **Wentworth Weir** is currently 17,650 ML/day and expected to gradually rise over the coming weeks.



Photo 2: Lake Victoria.



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The [storage](#) at **Tar-ru/Lake Victoria** reduced by 20 GL this week to 68%. Inflows and outflows from Tar-ru/Lake Victoria are being managed to operate the storage volume in accordance with the Lake Victoria Operating Strategy (LVOS) as specified in the [Objectives and Outcomes for River Operations in the River Murray System](#). The LVOS aims to stabilize the lake foreshore and protect cultural heritage sites by encouraging the growth of native vegetation. To help achieve this, operations aim to reduce the length of time the foreshore vegetation is inundated. The storage level will be managed to maximise water availability by the end of the current unregulated flow event.

The flow to **South Australia** averaged 17,900 ML/day this week. Additional Dilution Flow (ADF) to South Australia continues to be triggered. The current unregulated flows into South Australia mean that no additional releases from storage are needed to meet ADF at the current point in time. For information on ADF and the ADF triggers please refer to [Objectives and Outcomes for River Operations in the River Murray System](#) (pages 79-80).

The **Lower Lakes** 5-day average water level is 0.64 m AHD. Barrage releases are continuing as unregulated flows reach the lower lakes. For further information on barrage releases and South Australia's Entitlement flow, see the South Australian Department for Environment and Water Weekly [Department for Environment and Water | Barrage flow data available at the click of a button.](#)

For media inquiries contact the Media Officer on 02 6279 0141

ANDREW KREMOR

A/g Executive Director, River Management



Australian Government



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Water in Storage

Week ending Wednesday 30 Mar 2022

MDBA Storages	Full Supply Level (m AHD)	Full Supply Volume (GL)	Current Storage Level (m AHD)	Current Storage		Dead Storage (GL)	Active Storage (GL)	Change in Total Storage for the Week (GL)
				(GL)	%			
Dartmouth Reservoir	486.00	3 856	481.86	3 590	93%	71	3 519	-2
Hume Reservoir	192.00	3 005	190.40	2 693	90%	23	2 670	-59
Lake Victoria	27.00	677	25.13	462	68%	100	362	-20
Menindee Lakes		1 731*		1 792	104%	(480 #)	1 312	-32
Total		9 269		8 537	92%	--	7 863	-113
Total Active MDBA Storage							91% ^	

Major State Storages

Burrinjuck Reservoir	1 026	920	90%	3	917	-16
Blowering Reservoir	1 631	1 512	93%	24	1 488	+2
Eildon Reservoir	3 334	2 649	79%	100	2 549	-36

* Menindee surcharge capacity – 2050 GL

** All Data is rounded to nearest GL **

NSW has sole access to water when the storage falls below 480 GL. MDBA regains access to water when the storage next reaches 640 GL.

^ % of total active MDBA storage

Snowy Mountains Scheme

Snowy diversions for week ending 29 Mar 2022

Storage	Active Storage (GL)	Weekly Change (GL)	Diversion (GL)	This Week	From 1 May 2021
Lake Eucumbene - Total	1 850	-3	Snowy-Murray	+15	583
Snowy-Murray Component	876	-10	Tooma-Tumut	-0	308
Target Storage	1 410		Net Diversion	15	274
			Murray 1 Release	+17	945

Major Diversions from Murray and Lower Darling (GL) *

New South Wales	This Week	From 1 July 2021	Victoria	This Week	From 1 July 2021
Murray Irrig. Ltd (Net)	33.4	733	Yarrowonga Main Channel (net)	10.2	162
Wakool Sys Allowance	2.2	18	Torrumbarry System + Nyah (net)	0.1	299
Western Murray Irrigation	0.6	24	Sunraysia Pumped Districts	2	98
Licensed Pumps	6.9	230	Licensed pumps - GMW (Nyah+u/s)	3.1	28
Lower Darling	12.3	276	Licensed pumps - LMW	10.6	405
TOTAL	55.4	1281	TOTAL	26	992

* Figures are derived from actual and estimates where data is unavailable. Please note that not all data may have been available at the time of creating this report. ** All data above is rounded to nearest 100 ML for weekly data and nearest GL for cumulative data

Flow to South Australia (GL)

* Flow to SA will be greater than normal entitlement for this month due to unregulated flows and delivery of water for the environment.

Entitlement this month	186.0 *	
Flow this week	125.3	(17 900 ML/day)
Flow so far this month	630.8	
Flow last month	766.3	

Salinity (EC) (microSiemens/cm at 25° C)

	Current	Average over the last week	Average since 1 August 2021
Swan Hill	100	100	80
Euston	-	-	-
Red Cliffs	140	150	140
Merbein	170	170	150
Burtundy (Darling)	390	400	340
Lock 9	280	290	190
Lake Victoria	200	200	150
Berri	310	320	200
Waikerie	340	310	220
Morgan	350	280	230
Mannum	320	330	230
Murray Bridge	340	350	240
Milang (Lake Alex.)	350	350	480
Poltalloch (Lake Alex.)	310	320	360
Meningie (Lake Alb.)	1 420	1 450	1 440
Goolwa Barrages	390	390	760



River Levels and Flows

Week ending Wednesday 30 Mar 2022

	Minor Flood Stage (m)	Gauge Height		Flow (ML/day)	Trend	Average Flow this Week (ML/day)	Average Flow last Week (ML/day)
		local (m)	(m AHD)				
River Murray							
Khancoban	-	-	-	1 170	F	2 180	3 700
Jingellic	4.0	1.83	208.35	5 400	F	4 060	5 840
Tallandoon (Mitta Mitta River)	4.2	2.05	218.94	2 450	R	1 310	860
Heywoods	5.5	3.17	156.80	14 350	R	12 630	9 610
Doctors Point	5.5	3.05	151.52	15 030	R	14 390	12 050
Albury	4.3	2.07	149.51	-	-	-	-
Corowa	4.6	2.70	128.72	12 730	F	13 570	11 890
Yarrowonga Weir (d/s)	6.4	1.26	116.30	7 500	S	7 500	7 520
Tocumwal	6.4	1.92	105.76	8 130	F	8 180	8 270
Torrumbarry Weir (d/s)	7.3	2.19	80.74	6 350	F	7 390	5 090
Swan Hill	4.5	1.36	64.28	7 090	F	6 170	3 550
Wakool Junction	8.8	3.15	52.27	8 730	R	7 380	5 770
Euston Weir (d/s)	9.1	2.32	44.16	13 700	R	12 400	10 830
Mildura Weir (d/s)	-	-	-	11 730	F	10 670	9 770
Wentworth Weir (d/s)	7.3	3.60	28.36	17 650	R	17 000	17 060
Rufus Junction	-	5.02	21.95	17 940	R	17 280	18 060
Blanchetown (Lock 1 d/s)	-	1.19	-	15 530	F	15 900	17 650
Tributaries							
Kiewa at Bandiana	2.8	1.07	154.30	600	F	520	790
Ovens at Wangaratta	11.9	7.99	145.67	580	F	660	850
Goulburn at McCoys Bridge	9.0	2.53	93.95	2 920	F	4 030	3 790
Edward at Stevens Weir (d/s)	5.5	1.31	81.08	1 050	F	870	930
Edward at Liewah	-	1.71	57.09	1 030	S	1 070	1 200
Wakool at Stoney Crossing	-	1.46	54.95	560	R	580	660
Murrumbidgee at Balranald	5.0	5.38	61.34	7 920	R	7 770	6 900
Barwon at Mungindi	6.1	4.02	-	2 700	R	2 280	6 550
Darling at Bourke	9.0	7.23	-	20 580	R	17 170	9 960
Darling at Burtundy Rocks	-	3.54	-	6 600	F	6 790	7 480

Natural Inflow to Hume	3 690	2 860
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(i.e. Pre Dartmouth & Snowy Mountains scheme)

Weirs and Locks Pool levels above or below Full Supply Level (FSL)

Murray	FSL (m AHD)	u/s	d/s		FSL (m AHD)	u/s	d/s
Yarrowonga	124.90	-0.17	-	No. 7 Rufus River	22.10	+0.28	+2.71
No. 26 Torrumbarry	86.05	-0.00	-	No. 6 Murtho	19.25	+0.03	+0.86
No. 15 Euston	47.60	+0.04	-	No. 5 Renmark	16.30	+0.01	+0.77
No. 11 Mildura	34.40	+0.03	+0.21	No. 4 Bookpurnong	13.20	+0.02	+1.63
No. 10 Wentworth	30.80	-0.02	+0.96	No. 3 Overland Corner	9.80	+0.01	+0.89
No. 9 Kulnine	27.40	+0.03	+0.59	No. 2 Waikerie	6.10	+0.00	+0.90
No. 8 Wangumma	24.60	+0.08	+1.02	No. 1 Blanchetown	3.20	-0.00	+0.44

Lower Lakes FSL = 0.75 m AHD

Lake Alexandrina average level for the past 5 days (m AHD)	0.64
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Barrages

Fishways at Barrages

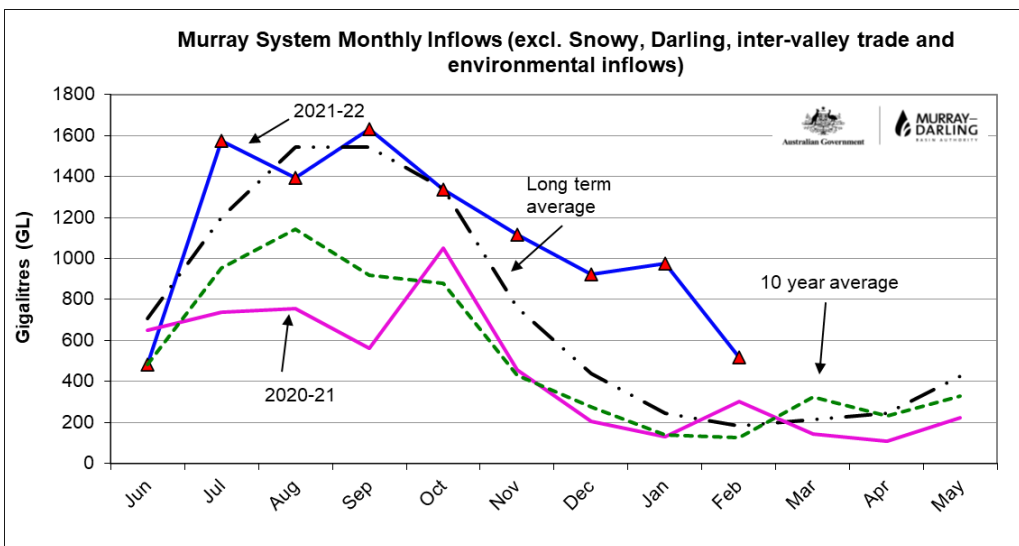
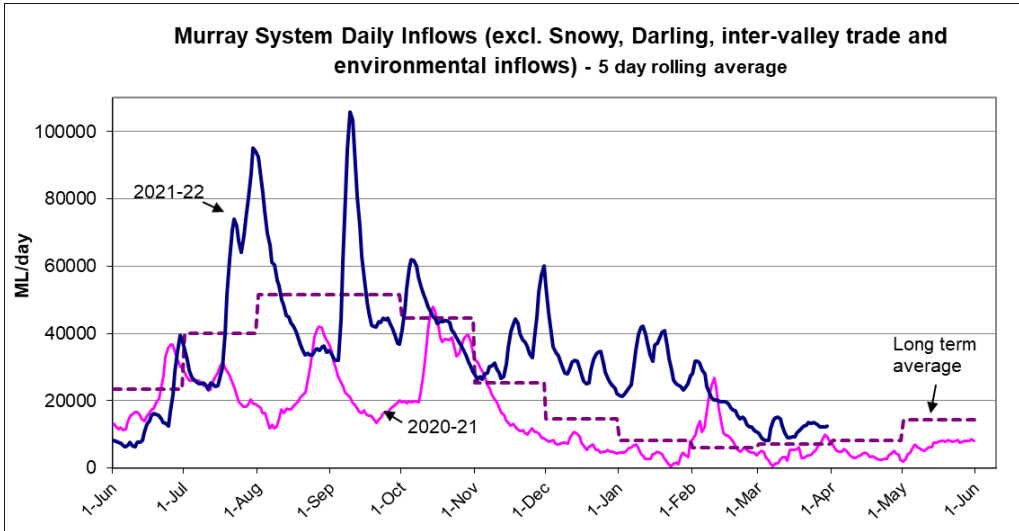
	Openings	Level (m AHD)	No. Open	Rock Ramp	Vertical Slot 1	Vertical Slot 2	Dual Vertical Slots
Goolwa	128 openings	0.64	5	-	Open	Open	-
Mundoo	26 openings	0.58	4	-	-	-	Open
Hunters Creek	-	-	-	-	Open	-	-
Boundary Creek	6 openings	-	1	-	Open	-	-
Ewe Island	111 gates	-	All closed	-	-	-	Open
Tauwichee	322 gates	0.61	30	Open	Open	Open	-

AHD = Level relative to Australian Height Datum, i.e. height above sea level





Week ending Wednesday 30 March 2022



State Allocations (as at 30 Mar 2022)

NSW - Murray Valley

High security	100%
General security	110%

Victorian - Murray Valley

High reliability	100%
Low reliability	100%

NSW - Murrumbidgee Valley

High security	100%
General security	100%

Victorian - Goulburn Valley

High reliability	100%
Low reliability	0%

NSW - Lower Darling

High security	100%
General security	100%

South Australia - Murray Valley

High security	100%
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NSW : <https://www.industry.nsw.gov.au/water/allocations-availability/allocations/summary>
 VIC : <http://nvrn.net.au/seasonal-determinations/current>
 SA : [Department for Environment and Water | Current allocations](http://www.environment.sa.gov.au/department-for-environment-and-water/current-allocations)

