Murray Irrigation

ANNUAL COMPLIANCE REPORT

2024/25

31 October 2025

www.murrayirrigation.com.au

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All the data presented in the Annual Compliance Report is available in electronic format by contacting Vicki Beames, Sustainability, Compliance and Licensing Administrator

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1. Preface

The Annual Compliance Report 2024/25 is written to meet the reporting requirements of the licences Murray Irrigation holds with NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) and the NSW Environment Protection Authority (EPA). DCCEEW administers the two Combined Water Supply Work Approval and Water Use Approvals (50CA501687 and 50CA512282). The EPA administers the Environment Protection Licence (5014).

1.1. Statement of Compliance

Murray Irrigation considers it has complied with all the conditions in the following Water Access Licences:

- WAL8673 – Regulated River (high security)
- WAL8674 – Regulated River (high security) [Town Water Supply]
- WAL8676 – Regulated River (Conveyance)
- WAL8677 – Supplementary Water
- WAL9426 – Regulated River (General Security)
- WAL13833 – Regulated River (General Security)
- WAL36227 – Salinity and Water Table Management

Murray Irrigation considers it has complied with all the conditions of the following Combined Water Supply and Water Use Approvals:

- 50CA501687 (expires 20 February 2030)
  - Water Supply Works and Water Use Combined Approval
  - Monitoring and Reporting Plan for the Combined Approval – 50CA5016897, dated 16 March 2018.
- 50CA512282 (expires 30 March 2032) – tagged inactive in 2022/23
  - Water Supply Works and Water Use Combined Approval
  - For salinity and water table management tube wells

There were no significant events, planned or otherwise, which prevented, or are likely to prevent, the Approval Holder from meeting any requirements of these Approvals.

1.2. Request for review of the Monitoring and Reporting Plan

Murray Irrigation and DCCEEW are currently reviewing the Monitoring and Reporting Plan for 50CA501687, dated 16 March 2018. Murray Irrigation approached DCCEEW during 2023/24 regarding the request and DCCEEW have now commenced the review. Murray Irrigation is very keen to complete the review prior to the submission of the 2025/26 Annual Compliance Report. The aim of the review is to ensure the reporting requirements are fit for purpose for both Murray Irrigation and DCCEEW.

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2. Plan of operations and works

The Murray Irrigation Area of Operations Authorised Water Supply Works and supply system is presented in Figure 1. It also identifies the location of the supply channel escape discharge sites used to discharge water for river operations and the flood control works. Figure 2 presents the stormwater escape system and identifies the location of discharge monitoring sites from the stormwater escape system. It also identifies the location of the Wakool Tullakool Sub-Surface Drainage Scheme (WTSSDS).

2.1. Operational Background

Murray Irrigation extracts water from two Authorised Water Supply Works:

- Mulwala Canal Offtake from the Murray River at Lake Mulwala
- Wakool Canal Offtake from the Colligen Creek from the Edward River

The Mulwala Canal supplies water to the area east of the Edward River (formerly known as the Berriquin and Denimein Irrigation Districts) and the area west of the Edward River and south of the Wakool River (formerly known as the Deniboota Irrigation District). Lawson Syphon enables the Mulwala Canal to supply water to the area west of the Edward River. The Wakool Canal supplies water to the area north of the Wakool River and south of the Edward River (formerly known as the Wakool Irrigation District and Tullakool Irrigation Area).

Murray Irrigation has two agreements with WaterNSW:

1. Wakool Order Agreement outlines the arrangements for the delivery of water with respect to the Wakool Canal Orders via the Edward River Escape (Wakool Canal Agreement).
2. Escape Flows Agreement outlines the arrangement to convey water through the Murray Irrigation system for river operational purposes on behalf of WaterNSW (WaterNSW Agreement).

Finley Escape: BIFE (409077):

The Finley Escape (BIFE) has a dual role. The Finley Escape primarily acts as a supply channel escape discharge site, but it also has a role as a stormwater discharge site.

The Finley Escape is listed in the Approval as a supply channel escape discharge site in Schedule 1 – Attachment 2 and the Environment Protection Licence lists the Finley Escape as a licensed discharge point. The Finley Escape (BIFE) is identified on both the supply and drainage Area of Operations maps.

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Figure 1: Area of operations - supply

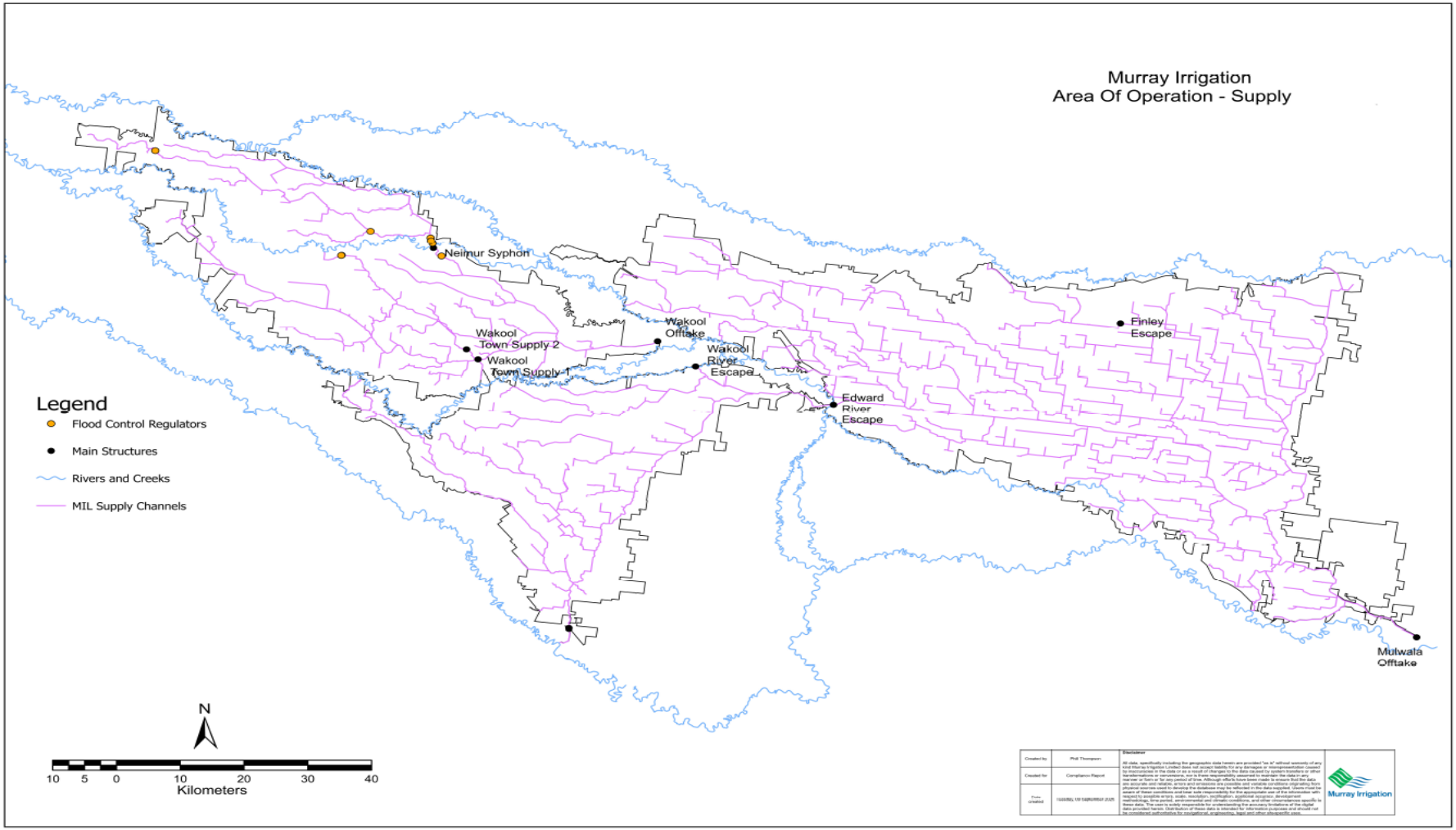

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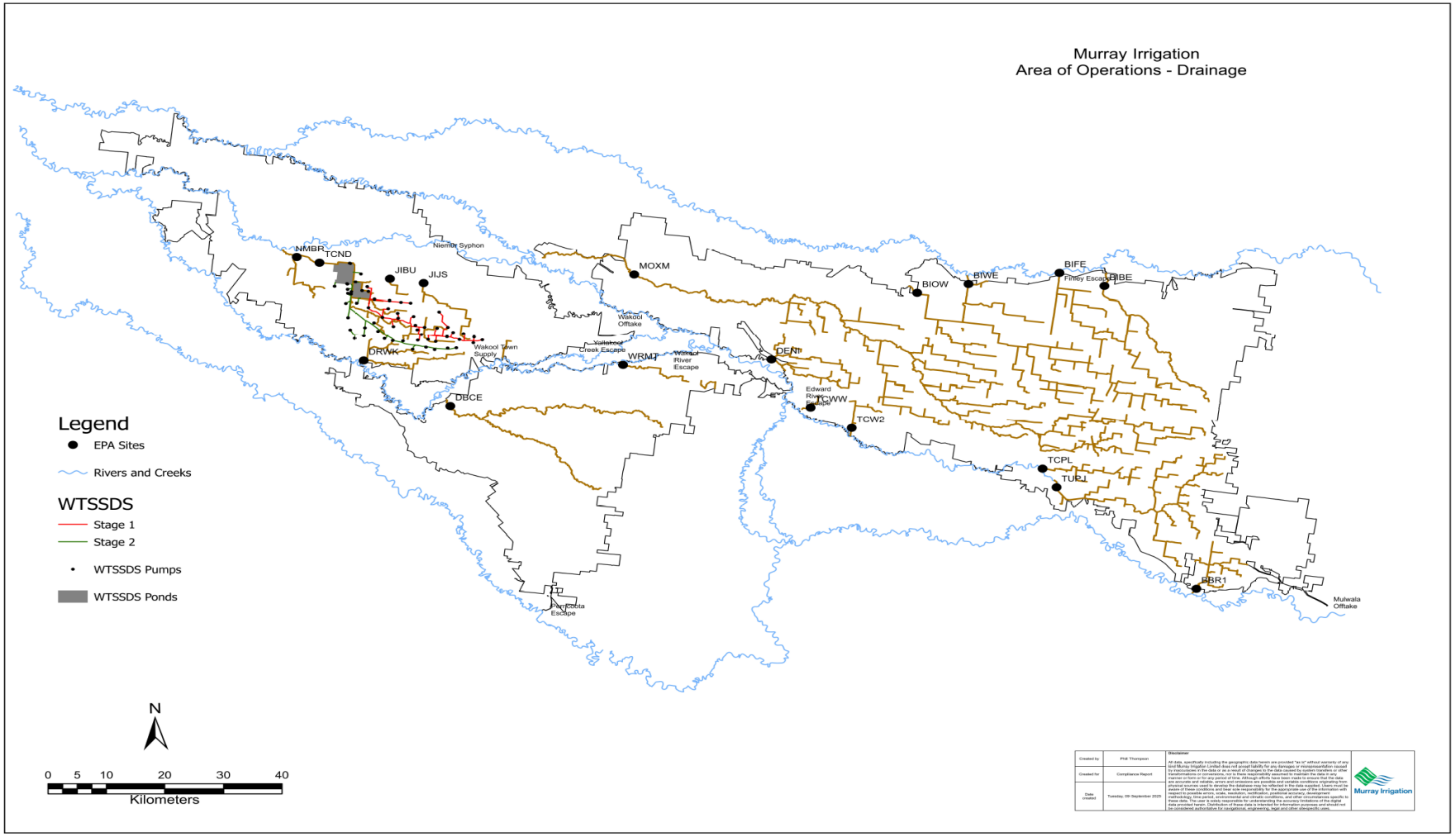
Figure 2: Area of operations - drainage



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2.2. Inclusion, Exclusion of lands from Area of Operations

The lands published in the NSW Government Gazette for exclusion or inclusion from Murray Irrigation's Area of Operations are presented in Table 1.

Table 1: Exclusions and inclusions of land from the area of operations

Date of NSW Government Gazette	Land details inclusions/exclusions
Inclusions – There were no Inclusions of Land into Murray Irrigation's Area of Operations	
NIL	
Exclusions – There were no exclusions of Land into Murray Irrigation's Area of Operations	
NIL	

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3. Summary

The climatic conditions in the area influence every aspect of this report. The climate determines the volume of water used for irrigation, the volume of water discharged from the area and the rate of evaporation.

With respect to the climate, the significant event was the overall well below average rainfall for 2024/25.

In 2024/25, water delivery on farm was 894,744ML, similar to the previous year's on-farm delivery (865,305ML). Delivery of environmental water for 2024/25 (36,617ML) was lower than the previous year (62,918ML). Delivery of water for operational purposes in 2024/25 (336,889ML) was significantly higher than the previous year (180,732ML).

Murray Irrigation's delivery efficiency was 96%.

Discharges from drainage system was 7,646ML in 2024/25. This reflects the below average rainfall during 2024/25.

In 2024/25, the highest water use by crop type was rice (29% of the water delivered), equal to winter crop (29% of the water delivered) and annual pasture (16% of the water delivered), compared to 2023/24, where rice was the highest water use by crop type (36% of the water delivered) followed by winter crop (23% of the water delivered) and annual pasture (17% of the water delivered). This reflects the seasonal conditions experienced in 2024/25 with well below average rainfall in spring 2024.

Murray Irrigation was a net importer of salt (30,550 tonnes). The extracted amount of salt in 2024/25 (46,225 tonnes) was slightly lower than previous year (51,229 tonnes). The discharged amount of salt from the supply channel system in 2024/25 (12,811 tonnes) was higher than the previous year (9,428 tonnes).

The area impacted by watertable within two meters of the surface in August 2024 (884ha) is similar to the previous year (768ha). The area with watertable within two to four meters of the surface in 2024/25 (113,091ha), lower than compared to the previous year (126,696ha).

There was no request to measure the salinity of groundwater during 2024/25.

The Wakool Tullakool Sub-Surface Drainage Scheme (WTSSDS) was not operational during 2024/25. The new non-urban metering requirements could not be met at the bores listed in the Approval 50CA512282, and accordingly, the bores have been tagged 'inactive'.

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4. Climatic Conditions

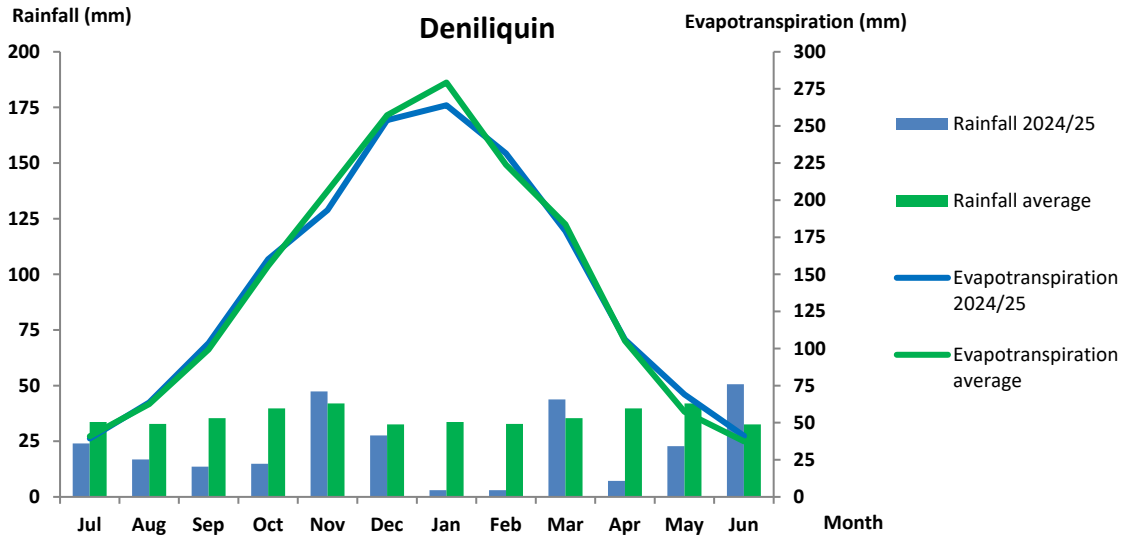
The climatic data for the Murray Irrigation Area of Operations has been sourced for the Deniliquin Airport, site number 74258 from the SILO Australian Climate data website https://www.longpaddock.qld.gov.au/silo/point-data/

A summary of the yearly data for July 2024 to June 2025 is presented in Table 2. The monthly data is presented in Figure 3.

Table 2 Summary of climatic conditions

	Total rainfall 2024/25 (mm)	Average rainfall (mm)	%	Total evapotranspiration 2024/25 (mm)	Average evapotranspiration (mm)	%	Long term data
Deniliquin	274.7	432.2	64	1,704.80	1,708.5	100	1986 onwards

Figure 3: Deniliquin climate data



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5. New measure to limit groundwater recharge and discharge of salt

In June 2018, Murray Irrigation replaced the Environment Policy with Land Sustainability Guidelines. The new guidelines include irrigation intensity guidelines, soil suitability guidelines for rice growing and guidelines for the use of the drainage system. These guidelines will continue Murray Irrigation's efforts to limit the groundwater recharge and discharge of salt downstream of the Murray Irrigation Area of Operations.

There were no new measures for the reduction of recharge and salt discharge implemented in 2024/25.

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6. Reporting on water management

6.1. Water allocation

The water allocation for the New South Wales Murray and Lower Darling Regulated Rivers Water Source is presented in Table 3.

Table 3: Water allocation (%)

Year	General Security Water Allocation (%)
2024/25	110
2023/24	110
2022/23	110
2018/19	0

6.2. Extraction

The volume of water extracted by Murray Irrigation under its Water Access Licences (WAL's) is summarised in Table 4.

Table 4: Water Access Licence (WAL) Extraction (ML)

Licence No.	WAL No	Water Access Licence (WAL) category	Volume extracted (ML)
50AL503817	9426	Regulated River – General Security	684,716
50AL503532	8676	Regulated River – Conveyance	279,786
50AL503529	8673	Regulated River – High Security	47
50AL503530	8674	Regulated River – High Security (town supply)	3,170
50AL503533	8677	Supplementary Water	0
50AL505902	13833	Regulated River – General Security	0
		TOTAL (2024/25)	**967,719**

The 'Works to assist passage of Flood Water across Supply Channels' were not utilised in 2024/2025.

The total monthly volume of water extracted at the Authorised Water Supply Works under WAL's are summarised in Table 5.

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Table 5: Extraction at Authorised Water Supply Works under WAL's

	Mulwala Canal Offtake extractions (under WAL's) (ML)	Wakool Canal Offtake extractions (under WAL's) (ML)	Total Extraction (under WAL's) (ML)
Jul 24	11,688	0	11,688
Aug-24	67,077	16,150	83,227
Sep-24	100,814	17,588	118,402
Oct-24	74,312	20,482	94,794
Nov-24	54,986	13,456	68,442
Dec-24	79,678	31,599	111,277
Jan-25	91,336	35,800	127,136
Feb-25	76,498	24,463	100,961
Mar-25	82,942	33,608	116,550
Apr-25	74,613	31,048	105,661
May-25	26,080	3,529	29,609
Jun-25	-28	0	-28
Total 24-25	**739,996**	**227,723**	**967,719**

A comparison of the total volume extracted at the Authorised Water Supply Works under WAL's are presented in Table 6.

Table 6: Extractions compared to previous years (ML) - under WAL's

Year	Extracted under WAL's (ML)
2024/25	967,719
2023/24	964,445
2022/23	822,180
2018/19	344,359

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6.2.1. Extraction for river operations

The monthly volume of water extracted for river operational purposes under agreement with WaterNSW is presented in Table 7.

Table 7: Extraction at Authorised Water supply Works for river operational purposes

	Mulwala Canal Offtake extractions for river operations (WaterNSW) (ML)	Wakool Canal Offtake extractions for river operations (WaterNSW) (ML)	Total Extraction for river operations (WaterNSW) (ML)
Jul 24	0	0	0
Aug-24	9,796	0	9,796
Sep-24	20,631	0	20,631
Oct-24	36,470	0	36,470
Nov-24	15,974	0	15,974
Dec-24	32,024	0	32,024
Jan-25	71,668	0	71,668
Feb-25	31,144	0	31,144
Mar-25	66,024	0	66,024
Apr-25	52,855	0	52,855
May-25	303	0	303
Jun-25	0	0	0
Total 24-25	**336,889**	**0**	336,889

A comparison of the total volume extracted at the Authorised Water Supply Works for river operations under agreement with WaterNSW is presented in Table 8.

Table 8: Extractions compared to previous years (ML) - river operations WaterNSW Agreement

Year	Extracted for river operations (WaterNSW Agreement) (ML)
2024/25	336,889
2023/24	180,732
2022/23	102,673
2018/19	288,676

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6.2.2. Extraction for environmental purposes

The monthly volume of water extracted for environmental purposes is presented in Table 9.

Table 9: Environmental water

	Mulwala Canal Offtake extractions Environmental purposes (ML)	Wakool Canal Offtake extractions Environmental purposes (ML)	Total Extraction Environmental purposes (ML)
Jul 24	0	0	0
Aug-24	494	0	494
Sep-24	5,438	889	6,327
Oct-24	727	639	1,365
Nov-24	894	754	1,648
Dec-24	732	685	1,417
Jan-25	765	558	1,323
Feb-25	770	898	1,668
Mar-25	3,594	6,023	9,617
Apr-25	2,568	9,255	11,823
May-25	173	762	935
Jun-25	0	0	0
Total 24-25	**16,154**	**20,464**	**36,617**

A comparison of the extractions compared to previous years is presented in Table 10.

Table 10: Environmental water compared to previous years (ML) - environmental purposes.

Year	Extracted for Environmental purposes (ML)
2024/25	36,617
2023/24	62,918
2022/23	190,164
2018/19	8,602

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6.2.3. Deliveries to customers on -farm

The volume of water delivered to Murray Irrigation customers on-farm is summarised in Table11.

Table 11: Deliveries to customers on-farm (ML)

	Mulwala Canal Offtake deliveries on-farm (ML)	Wakool Canal Offtake deliveries on-farm (ML)	Total deliveries on-farm (ML)
Jul 24	22	7	28
Aug-24	47,216	10,293	57,509
Sep-24	99,654	21,050	120,704
Oct-24	69,045	20,956	90,001
Nov-24	48,862	14,118	62,980
Dec-24	71,802	27,196	98,998
Jan-25	97,878	33,772	131,650
Feb-25	72,589	22,268	94,856
Mar-25	83,831	26,004	109,834
Apr-25	60,074	20,729	80,803
May-25	40,294	5,475	45,768
Jun-25	1,369	243	1,611
Total 24-25	**692,635**	**202,110**	**894,744**

A comparison of the total volume delivered on-farm compared to previous years is presented in Table 12.

Table 12: On-farm deliveries to previous years (ML)

Year	On-farm deliveries (ML)
2024/25	894,744
2023/24	865,305
2022/23	588,730
2018/19	287,541

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6.3. Discharges

6.3.1. Discharges for river operations from the channel escape discharge sites

The monthly volume of water discharged for river operational purposes, under agreement with WaterNSW, from the channel escape discharge sites is presented in Table 13.

Table 13: Discharges for river operational purposes from the channel escape discharge sites - WaterNSW Agreements (ML)

	Edward River Escape	Finley Escape	Wakool River Escape*	Yallakool Creek Escape*	Perricoota Escape	Wakool Town Escape	Niemur Syphon Escape*	TOTAL
Jul 24	0	0	0		0			0
Aug-24	9,796	0	0		0			9,796
Sep-24	13,392	3,750	3,000		489			20,631
Oct-24	22,088	5,664	7,616		1,102			36,470
Nov-24	1,189	6,317	7,500		968			15,974
Dec-24	26,019	3,557	1,742		706			32,024
Jan-25	62,336	6,060	2,248		1,024			71,668
Feb-25	28,475	2,434	235		0			31,144
Mar-25	61,147	4,347	0		530			66,024
Apr-25	52,631	146	0		78			52,855
May-25	56	247	0		0			303
Jun-25	0	0	0		0			0
Total 24/25	**277,129**	**32,522**	**22,341**		**4,897**			**336,889**

*: Wakool Town Escape, Yallakool Creek Escape and Neimur Syphon Escape have been decommissioned

A comparison of the discharges compared to previous years is presented in Table 14.

Table 14: Discharges channel escape discharge sited compared to previous years (ML) – river operations WaterNSW Agreement

Year	River operations discharges from the channel escape discharge sites (WaterNSW Agreement) (ML)
2024/25	336,889
2023/24	180,732
2022/23	102,673
2018/19	288,676

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The monthly volume of additional water discharged for river operational purposes from the channel escape discharge sites is presented in Table 15. These discharges are additional to the water discharges under the WaterNSW Agreement.

Table 15:Discharges for river operational purposes from channel escape discharge sites - additional (ML)

	Edward River Escape	Finley Escape	Wakool River Escape	Yallakool Creek Escape*	Perricoota Escape	Wakool Town Escape*	Niemur Syphon Escape*	TOTAL
Jul 24	0	17	40		13			**70**
Aug-24	450	0	308		64			**822**
Sep-24	633	158	401		72			**1,264**
Oct-24	580	280	689		176			**1,725**
Nov-24	178	126	371		122			**797**
Dec-24	516	376	463		61			**1,416**
Jan-25	957	972	329		136			**2,394**
Feb-25	1,022	411	230		42			**1,705**
Mar-25	2,735	533	653		93			**4,014**
Apr-25	1,737	812	397		24			**2,970**
May-25	4,292	703	1,501		0			**6,496**
Jun-25	0	22	0		99			**121**
Total 24/25	**13,100**	**4,412**	**5,832**		**902**			**23,796**

*: Wakool Town Escape, Yallakool Creek Escape and Neimur Syphon Escape have been decommissioned

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6.3.2. Discharges for environmental purposes from the channel escape discharge sites

The monthly volume of water discharged for environmental purposes from the channel escape discharge sites is presented in Table 16.

Table 16: Discharges for environmental purposes from the channel escape discharge sites (ML)

	Edward River Escape	Finley Escape	Wakool River Escape	Yallakool Creek Escape*	Perricoota Escape	Wakool Town Escape*	Niemur Syphon Escape*	TOTAL
Jul 24	0	0	0		0			**0**
Aug-24	0	0	3,645		0			**3,645**
Sep-24	0	0	1,577		0			**1,577**
Oct-24	0	0	0		0			**0**
Nov-24	0	0	0		0			**0**
Dec-24	0	0	0		0			**0**
Jan-25	0	0	0		0			**0**
Feb-25	0	0			0			**0**
Mar-25	0	0	2,467		0			**2,467**
Apr-25	0	818	190		0			**1,008**
May-25	0	0	0		0			**0**
Jun-25	0	0	0		0			**0**
Total 24/25	**0**	**818**	**7,879**		**0**			**8,697**

*: Wakool River Escape, Yallakool Creek Escape and Neimur Syphon Escape have been decommissioned

Note 1: Other Environmental deliveries not listed above = 27,920 ML

Note 2: Total environmental deliveries 2024/25 = 36,617 ML

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6.3.3. Discharges from the stormwater escape channels.

The volume of water discharged from stormwater escape channel discharge sites is presented in Table 18.

A comparison of the discharges from stormwater escape channels compared to previous years is presented in Table 17.

Table 17:Total discharges from the stormwater escape discharges sites compared to previous years.

Year	Discharges from the stormwater escape discharge sites (ML)
2024/25	7,646
2023/24	17,527
2022/23	8,493
2018/19	126

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Table 18: Discharges from the stormwater escape discharge sites (ML)

	Back Barooga SEC: BBR1 EPA 8 (409092)	Berrigan Creek Escape: BIBE EPA 9 (41010396)	Box Creek: MOXM EPA 3 (409090)	Burraboi SEC: JIBU EPA 15 (40910125)	Burragorrimma SEC: NMBR EPA 12 (40910026)	DC 2500 East: JIJS EPA 14 (40910117)	Deniboota Canal Escape: DBCE EPA 2 (409067)
Jul 24	75.68	79.97	161.1	0.025	47.57	0	0
Aug-24	168.6	23.76	32.47	0.007	47.27	0	0
Sep-24	154.9	39.99	63.96	0	45.85	0	0
Oct-24	98.22	74.46	46.86	0	18.30	0	0
Nov-24	23.89	2.050	70.43	0	0	3.114	0
Dec-24	138.1	114.4	13.69	0	19	1.761	0
Jan-25	1.511	3.472	19.28	0	35.52	0	17.24
Feb-25	91.90	0	0.19	0	32.05	13.96	0
Mar-25	164.0	27.15	0.17	0	35.94	16.85	40.95
Apr-25	183.6	21.41	1.479	4.240	38.13	8.069	21.48
May-25	43.71	29.27	0	3.360	46.48	2.460	0
Jun-25	13.63	5.59	0	0.020	27.68	1.272	20.56
Total 24/-25	**1158**	**421.5**	**409.6**	**7.652**	**393.8**	**47.48**	**100.2**
	Lalalty SEC: TUPJ EPA 10 (40910007)	**Murphys Timber SEC: WRMT EPA 16 (40910131)**	**Neimur SEC: TCND EPA 13 (40910116)**	**North Deniliquin SEC: DENI EPA 5 (409060)**	**Pinelea SEC: TCPL EPA 11 (40910011)**	**Wakool SEC: DRWK EPA 1 (409073)**	**West Warragoon SEC: TCWW EPA 17 (40910130)**
Jul 24	0	0	11.79	0.013	0	84.63	69.20
Aug-24	0	0	0.969	137.5	0	57.86	106.8
Sep-24	0	0	15.76	189.3	0	80.31	176.2
Oct-24	0	0	134.8	162.2	6.626	68.70	174.5
Nov-24	0	0	133.3	59.67	2.377	28.60	0.968
Dec-24	684.5	0	131.8	96.43	0	12.11	0.099
Jan-25	0	0	44.23	117.5	0	0	0.020
Feb-25	0	0	22.69	71.01	0	0	6.416
Mar-25	0	0	37.01	153.1	0	0	43.42
Apr-25	0	0	21.13	112	2.182	33.82	2.080
May-25	0	0	0	28.28	0	11.54	23.50
Jun-25	0	0	10.98	6.978	0	3.450	1.609
Total 24-25	**684.5**	**0**	**564.4**	**1134**	**11.18**	**381**	**604.7**
	Warragoon Stage: TCW2 EPA 18 (41000253)	**Wollamai East Escape: BIWE EPA 7 (409089)**	**Wollamai Escape: BIOW EPA 6 (409076B)**				
Jul 24	0	64.18	99.42				
Aug-24	0	52.03	112.4				
Sep-24	0.067	166.5	307.2				
Oct-24	34.19	138.1	202.8				
Nov-24	4.946	22.56	9.489				
Dec-24	0	4.568	124.2				
Jan-25	0.004	4.349	11.77				
Feb-25	0	3.388	10.48				
Mar-25	11.69	56.09	0	T: probe out of water/instrument threshold			
Apr-25	0.085	45.10	0	M: equipment malfunction			
May-25	0.800	25.96	34.88	0 (B): backed up from receiving waters, no flow			
Jun-25	0.598	89.50	90.64	N/A: debris impacting sensor			
Total 24-25	**52.37**	**672.3**	**1003**	**Total stormwater escape discharges (2024/25): 7,646ML**			

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6.4. Water balance

A water balance for the Murray Irrigation Area of Operations is presented in Table 19.

Table 19: Water Balance for 2024/25 (ML)

	Mulwala Canal Offtake (ML)	Wakool Canal Offtake (ML)	Total (ML)
Total available for delivery			
Extraction	1,117,592	227,723	**1,344,817**
Total available	**1,117,592**	**227,723**	**1,344,817**
Deliveries			
On-farm Deliveries	692,635	202,110	**894,744**
Environmental deliveries	16,154	20,464	**36,618**
River operations deliveries - WaterNSW agreements	336,889	0	**336,889**
River operations deliveries – additional	23,796	0	**23,796**
Total Deliveries	**1,069,474**	**222,574**	**1,292,048**
Losses			
Net Evaporation	23,822	4,712	**28,534**
Seepage	13,286	2,628	**15,914**
Unattributed losses[2]	11,010	-2,689	**8,322**
Total Losses	**48,118**	**4,651**	**52,770**
Delivery Efficiency	**96%**	**98%**	**96%**

[2]: Note: The measurement of the extraction volumes has an uncertainty of +/- 5%.

Mulwala Canal extraction +/- 55,880ML

Wakool Canal extraction +/- 11,361ML

Total extraction +/- 67,241ML

Murray Irrigation does not have an offline storage

The unattributed losses include unintentional flows from operational margins and errors not accounted for elsewhere.

6.5. Water use

Proposed water use data is recorded each time customers order water using the water ordering system. The customer is required to allocate the water order to a particular crop type for every order. The data presented in Table 20 is a summary of the data recorded for 2024/25. Meter readings are then recorded against the water order.

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Murray Irrigation considers the data presented for the total area of crop reported in Table 21 as indicative only and will be impacted by timing of rainfall and customers' irrigation practices. The crop water usage figures provided by the NSW DPI are based on seasons of 'normal' allocation. For instance, the crop water usage figure of 2 ML/ha for winter crops is based on two irrigations, one prior to sowing and a second irrigation in spring.

Table 20: Crop water usage (ML)

	Mulwala Canal Offtake (ML)	Wakool Canal Offtake (ML)	Total (ML)	*Total area (ha)* [1]
Annual Pasture	117,007	29,502	146,509	117,007
Cotton	44,660	0	44,660	44,660
Horticulture and other	19,063	1,612	20,675	19,063
Permanent Pasture	31,404	1,824	33,228	31,404
Rice	155,035	107,034	262,069	155,035
Stock and domestic	8,288	1,800	10,088	8,288
Storage	4,483	2,490	6,974	4,483
Summer crops	100,164	7,605	107,770	100,164
Winter crops	210,504	49,868	260,372	210,504
Not defined	2,026	374	2,400	2,026
Total delivered (on-farm)	**692,635**	**202,110**	**894,744**	**692,635**

[1]: *Calculated from crop usage figures obtained from the NSW DPI Farm Enterprise Budgets:*

2ML/ha for annual pasture
2ML/ha for winter crops
9ML/ha for cotton
8ML/ha for summer crop (maize)
13ML/ha for rice

A comparison of the crop water use compared to previous years is presented in Table 23.

Table 21: Comparison of crop type water use compared to previous years (ML)

	2024/25	2023/24	2022/23		2018/2019
Annual Pasture	146,509 (16%)	150,207 (17%)	113,455. (19%)		69,898 (24%)
Cotton	44,660 (5%)	34,272 (4%)	14,647 (2%)		10,139 (3%)
Horticulture, other, undefined	20,675 (3%)	15,574 (2%)	10,622 (2%)		15,432.7 (5%)
Permanent Pasture	33,228 (4%)	34,713 (4%)	31,403 (5%)		18,730 (7%)
Rice	262,069 (29%)	313,738 (36%)	195,709 (33%)		12,258 (4%)
Stock & Domestic	10,088 (1%)	9,686 (5%)	6,761 (1%)		6,272 (2%)
Storage	6,974 (1%)	16,965 (2%)	13,851 (2%)		4,823 (2%)
Summer Crops	107,770 (12%)	90,178 (10%)	58,912 (10%)		57,569 (20%)
Winter crops	260,372 (29%)	199,978 (23%)	132,242 (22%)		92,420 (33%)
Total delivered (on-farm)	**692,635 (100%)**	**865,305 (100%)**	**587,940 (100%)**		**287,541**

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6.6. Irrigation intensity

The distribution of irrigation intensity above 4ML/ha is reported in Figure 4. This map identifies the location of the landholdings using between 4ML/ha and 6ML/ha, 6ML/ha and 8ML/ha and over 8ML/ha.

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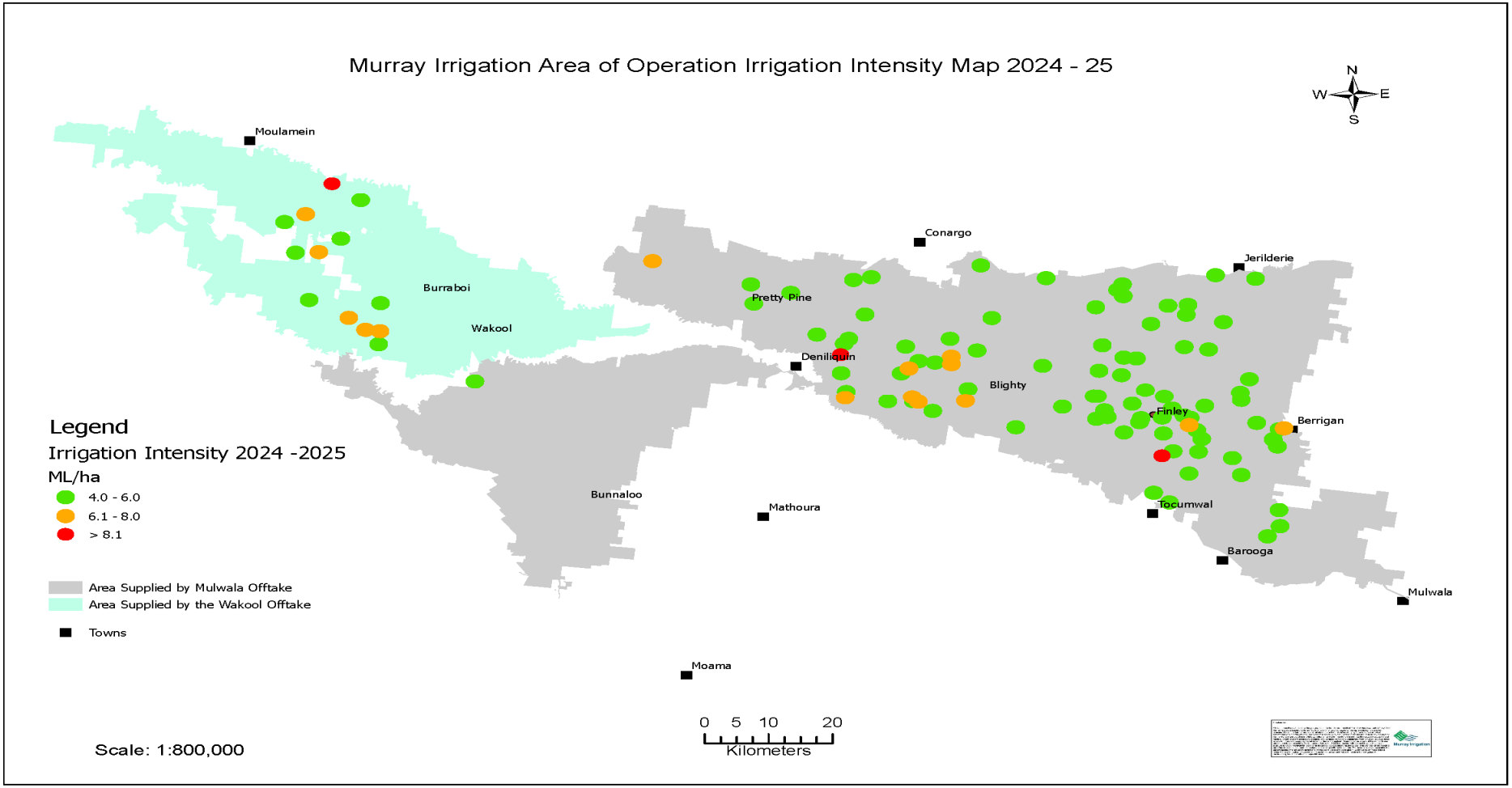
Figure 4: Irrigation Intensity (ML/ha)



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7. Reporting on salinity and saltload

7.1. Extracted salt load

The salt load for the Mulwala Canal Offtake is calculated using the salinity data from the monitoring site on the Murray River downstream of Yarrawonga Weir (409025).

The salt load for the Wakool Canal Offtake is calculated using the salinity data from the monitoring site on the Edwards River downstream of Stevens Weir (409023).

Both sets of salinity data were downloaded from the WaterNSW Real Time Water Data site (https://realtimedata.waternsw.com.au).

The extracted salt load is presented in Table 22.

Table 22: Extracted salt load (t)

	Mulwala Canal Offtake (t)	Wakool Canal Offtake (t)	Total salt load extracted (t)
Jul 24	446	0	**446**
Aug-24	2,579	663	**3,243**
Sep-24	4,039	665	**4,704**
Oct-24	3,684	751	**4,435**
Nov-24	2,370	510	**2,880**
Dec-24	3,757	1,197	**4,954**
Jan-25	5,949	1,315	**7,263**
Feb-25	3,845	1,005	**4,850**
Mar-25	5,282	1,217	**6,499**
Apr-25	4,526	1,096	**5,622**
May-25	1,169	159	**1,327**
Jun-25	0	0	**0**
Total 24-25	**37,647**	**8,578**	**46,225**

A comparison of the total salt load extracted compared to previous years is presented in Table 23.

Table 23: Extracted salt load compared to previous years (t)

Year	Extracted salt load(t)
2024/25	46,225
2023/24	51,329
2022/23	43,063
2018/19	21,708

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7.2. Discharged salt load

7.2.1. Discharged salt load from supply channel escapes

The discharged salt load from the supply channel escapes is presented in Table 24.

Table 24: Discharges salt load from the supply channel escapes

	Edward River Escape (t)	Finley Escape (t)	Wakool River Escape (t)	Yallakool Creek Escape* (t)	Perricoota Escape (t)	Wakool Town Escape* (t)	Niemur Syphon Escape* (t)	TOTAL (t)
Jul 24	0	1	2		1			**4**
Aug-24	339	0	173		3			**515**
Sep-24	458	128	183		21			**790**
Oct-24	729	191	304		47			**1,272**
Nov-24	44	208	298		41			**592**
Dec-24	871	129	84		29			**1,112**
Jan-25	2,227	247	95		43			**2,611**
Feb-25	1,030	99	19		2			**1,150**
Mar-25	2,157	165	105		23			**2,450**
Apr-25	1,853	60	20		4			**1,937**
May-25	155	34	68		0			**256**
Jun-25	0	1	0		5			**6**
Total 24-25	**9,864**	**1,263**	**1,350**		**217**			**12,694**

*: Wakool Town Escape, Yallakool Creek Escape and Neimur Syphon Escape have been decommissioned

A comparison of the salt load discharged from the supply channel escapes compared to previous years is presented in Table 25.

Table 25: Discharges salt load from the supply channel escapes compared to previous years

Year	Discharged salt load from supply channel escapes (t)
2024/25	12,694
2023/24	9,324
2022/23	12,086
2018/19	5

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7.2.2. Discharged salinity and salt load from the stormwater escape channels

The salinity and discharged salt load from the stormwater escape channel is presented in Table 27.

A comparison of the salt load discharged from the stormwater escape channels compared to previous years is presented in Table 26.

Table 26: Total salt load from the stormwater escape discharge sites compared to previous years (t)

Year	Discharges salt load from the stormwater escape discharge sites (t)
2024/25	1,721
2023/24	5,752
2022/23	1,706
2018/19	19

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Table 27: Stormwater escape channels salinity (µS/cm) and salt load (t)

	Back Barooga SEC: BBR1 EPA 8 (409092)				Berrigan Creek Escape: BIBE EPA 9 (41010396)			
	Min. daily EC (µS/cm)	Max. daily EC (µS/cm)	Mean daily EC (µS/cm)	Salt load (t)	Min. daily EC (µS/cm)	Max. daily EC (µS/cm)	Mean daily EC (µS/cm)	Salt load (t)
Jul 24	284	304	296	13	20.2	256	156	3
Aug-24	128	278	162	16	98	253	167	2
Sep-2	137	221	176	16	155	322	251	6
Oct-24	152	237	186	11	119	319	207	8
Nov-24	200	453	288	6	475	536	511	0
Dec-24	420	578	486	39	68.4	414	297	24
Jan-25	523	644	581	0	41.6	132	71.2	0
Feb-25	119	176	145	8	0	0	0	0
Mar-25	138	313	210	17	142	650	300	7
Apr-25	213	323	285	27	178	334	220	3
May-25	145	341	302	6	125	230	175	3
Jun-25	144	150	148	1	209	264	236	1
Total 24-25				**161**				**58**
	Box Creek: MOXM EPA 3 (409090)				**Burraboi SEC: JIBU EPA 15 (40910125)**			
	Min. daily EC (µS/cm)	**Max. daily EC (µS/cm)**	**Mean daily EC (µS/cm)**	**Salt load (t)**	**Min. daily EC (µS/cm)**	**Max. daily EC (µS/cm)**	**Mean daily EC (µS/cm)**	**Salt load (t)**
Jul 24	386	889	614	49	290	345	318	0
Aug-24	851	1630	1110	21	346	404	375	0
Sep-24	627	3680	1690	72	406	415	411	0
Oct-24	329	1340	780	19	414	471	446	0
Nov-24	331	1130	636	27	471	493	485	0
Dec-24	324	2340	694	7	470	493	482	0
Jan-25	237	1030	343	5	464	480	473	0
Feb-25	0	0	0	0	474	882	637	0
Mar-25	0	0	0	0	554	734	618	0
Apr-25	0	0	0	0	162	162	162	0
May-25	0	0	0	0	126	263	205	0
Jun-25	0	0	0	0	265	340	297	0
Total 24-25				**201**				**0**
	Burragorrimma SEC: NMBR EPA 12 (409010026)				**DC 2500 East: JIJS EPA 14 (40910117)**			
	Min. daily EC (µS/cm)	**Max. daily EC (µS/cm)**	**Mean daily EC (µS/cm)**	**Salt load (t)**	**Min. daily EC (µS/cm)**	**Max. daily EC (µS/cm)**	**Mean daily EC (µS/cm)**	**Salt load (t)**
Jul 24	0	0	0	2	0	0	0	0
Aug-24	0	0	0	0	0	0	0	0
Sep-24	0	0	0	0	0	0	0	0
Oct-24	6.3	497	217	1	0	0	0	0
Nov-24	39.4	577	310	0	0	0	0	0
Dec-24	257	362	321	1	0	442	337	0
Jan-25	0	0	0	0	0	0	0	0
Feb-25	0	0	0	0	0	0	0	0
Mar-25	0	0	0	0	0	0	0	0
Apr-25	270	320	300	1	372	393	380	0
May-25	286	465	360	10	408	422	416	0
Jun-25	314	397	352	6	0	0	0	0
Total 24-25				**21**				**0**

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	Deniboota Canal Escape: DBCE EPA 2 (409067)				Lalalty SEC: TUPJ EPA 10 (40910007)			
	Min. daily EC (µS/cm)	Max. daily EC (µS/cm)	Mean daily EC (µS/cm)	Salt load (t)	Min. daily EC (µS/cm)	Max. daily EC (µS/cm)	Mean daily EC (µS/cm)	Salt load (t)
Jul 24	0	0	0	0	2190	2380	2270	0
Aug-24	0	0	0	0	1600	6210	4130	0
Sep-24	0	0	0	0	818	4600	2120	0
Oct-24	0	0	0	0	558	1940	1240	0
Nov-24	0	0	0	0	403	2200	1550	0
Dec-24	0	0	0	0	436	2270	1150	545
Jan-25	0	0	0	0	1390	3100	2100	0
Feb-25	0	0	0	0	3220	4050	3680	0
Mar-25	0	0	0	0	808	1400	926	0
Apr-25	0	0	0	0	893	1020	965	0
May-25	0	0	0	0	0	0	0	0
Jun-25	0	0	0	0	2060	3110	2390	0
Total 24-25	0			**0**				**545**

	Murphys Timber SEC: WRMT EPA 16 (40910131)				Neimur SEC: TCND EPA 13 (40910116)			
	Min. daily EC (µS/cm)	Max. daily EC (µS/cm)	Mean daily EC (µS/cm)	Salt load (t)	Min. daily EC (µS/cm)	Max. daily EC (µS/cm)	Mean daily EC (µS/cm)	Salt load (t)
Jul 24	914	984	942	0	316	345	332	2
Aug-24	987	1010	1010	0	204	460	312	0
Sep-24	1010	1010	1010	0	154	335	280	3
Oct-24	988	1010	1000	0	123	288	216	17
Nov-24	976	1010	992	0	140	253	185	12
Dec-24	1010	1040	1020	0	157	246	191	13
Jan-25	1040	1070	1050	0	149	203	172	3
Feb-25	1070	1130	1090	0	157	332	239	2
Mar-25	1120	1150	1140	0	162	345	256	5
Apr-25	1120	1180	1150	0	83.7	521	290	5
May-25	1170	1200	1190	0	158	351	228	0
Jun-25	1200	1200	1200	0	187	340	287	2
Total 24-25				**0**				**64**

	North Deniliquin SEC: DENI EPA 5 (409060)				Pinelea SEC: TCPL EPA 11 (40910011)			
	Min. daily EC (µS/cm)	Max. daily EC (µS/cm)	Mean daily EC (µS/cm)	Salt load (t)	Min. daily EC (µS/cm)	Max. daily EC (µS/cm)	Mean daily EC (µS/cm)	Salt load (t)
Jul 24	0	0	0	0	276	308	291	0
Aug-24	0	0	0	0	285	336	310	0
Sep-24	93.5	284	149	16	0	0	0	0
Oct-24	89.2	226	138	14	380	412	394	2
Nov-24	80.9	285	154	6	427	520	475	1
Dec-24	198	306	243	14	351	469	442	0
`Jan-25	98.5	201	145	11	0	0	0	0
Feb-25	97.3	134	108	5	0	0	0	0
Mar-25	29.7	165	92.6	10	0	0	0	0
Apr-25	73.5	156	108	8	382	433	413	1
May-25	77.4	250	174	3	430	459	445	0
Jun-25	179	210	199	0	0	0	0	0
Total 24-25				**85**				**4**

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	Wakool SEC: DRWK EPA 1 (409073)				West Warragoon SEC: TCWW EPA 17 (40910130)			
	Min. daily EC (µS/cm)	Max. daily EC (µS/cm)	Mean daily EC (µS/cm)	Salt load (t)	Min. daily EC (µS/cm)	Max. daily EC (µS/cm)	Mean daily EC (µS/cm)	Salt load (t)
Jul 24	178	223	202	10	474	488	479	20
Aug-24	167	230	198	7	230	601	480	29
Sep-24	162	326	231	10	256	675	443	43
Oct-24	194	547	290	13	245	613	419	42
Nov-24	226	896	463	6	559	675	625	0
Dec-24	236	435	336	2	673	763	716	0
Jan-25	453	501	481	0	770	837	805	0
Feb-25	0	0	0	0	836	886	865	3
Mar-25	0	0	0	0	428	1030	861	23
Apr-25	212	274	247	5	219	1070	508	1
May-25	262	366	343	2	73	382	299	1
Jun-25	354	390	371	1	198	257	230	0
Total 24-25				**57**				**163**

	Warragoon Stage 2: TCW2 EPA 18 (41000253)				Wollamai East Escape: BIWE EPA 7 (409089)			
	Min. daily EC (µS/cm)	Max. daily EC (µS/cm)	Mean daily EC (µS/cm)	Salt load (t)	Min. daily EC (µS/cm)	Max. daily EC (µS/cm)	Mean daily EC (µS/cm)	Salt load (t)
Jul 24	0	0	0	0	210	290	245	9
Aug-24	616	677	648	0	289	733	546	15
Sep-24	493	696	657	0	234	522	293	30
Oct-24	210	509	383	8	235	833	481	48
Nov-24	161	550	316	1	137	599	354	6
Dec-24	577	661	623	0	383	492	452	0
Jan-25	173	658	459	0	0	0	0	0
Feb-25	295	474	391	0	0	0	0	0
Mar-25	466	920	598	5	234	288	264	9
Apr-25	260	863	475	0	207	313	271	7
May-25	221	953	542	0	256	304	270	0
Jun-25	185	592	276	0	0	0	0	0
Total 24-25				**15**				**125**

	Wollamai Escape: BIOW EPA 6 (409076B)			
	Min. daily EC (µS/cm)	Max. daily EC (µS/cm)	Mean daily EC (µS/cm)	Salt load (t)
Jul 24	278	883	547	26
Aug-24	286	2170	891	45
Sep-24	215	439	282	54
Oct-2	118	304	221	28
Nov-24	121	506	301	2
Dec-24	143	871	490	37
Jan-25	475	614	539	4
Feb-25	896	984	940	0
Mar-25	0	0	0	0
Apr-25	0	0	0	0
May-25	105	1430	646	13
Jun-25	149	433	262	14
Total 24-25				**222**

Note: Sites with ponded water show salinity measurement with zero salt load calculated due to no flow
T: dry or probe out of water
M: equipment malfunction
B: backed up from receiving waters, no flow
N/A: debris impacting sensors

Total stormwater escape salt load 2024/25: 1,721t

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7.3. Salt balance

A salt balance for the Murray Irrigation Area of Operations is presented in Table 28.

Table 28: Salt balance (t)

	Salt load (t)
Total extraction	**46,225**
Discharges	
Supply channel escapes	12,811
Environmental water deliveries (other)	1,143
Stormwater Escapes	1,721
Total discharged	**15,675**
Balance (2024/25)	**30,550**

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8. Reporting on groundwater conditions

A review of the piezometer network was undertaken during 2018/19 to rationalise the number of piezometers to be measured each year. The review was undertaken in consultation with the Natural Resource Access Regulator. In May 2019, a list of 656 piezometers was approved by the Natural Resource Access Regulator. The rationalised list of piezometers commenced being survey of the depth to watertable within the area of operations in August 2019 In August 2024 93% of the piezometers were monitored and the data used in the depth to watertable analysis.

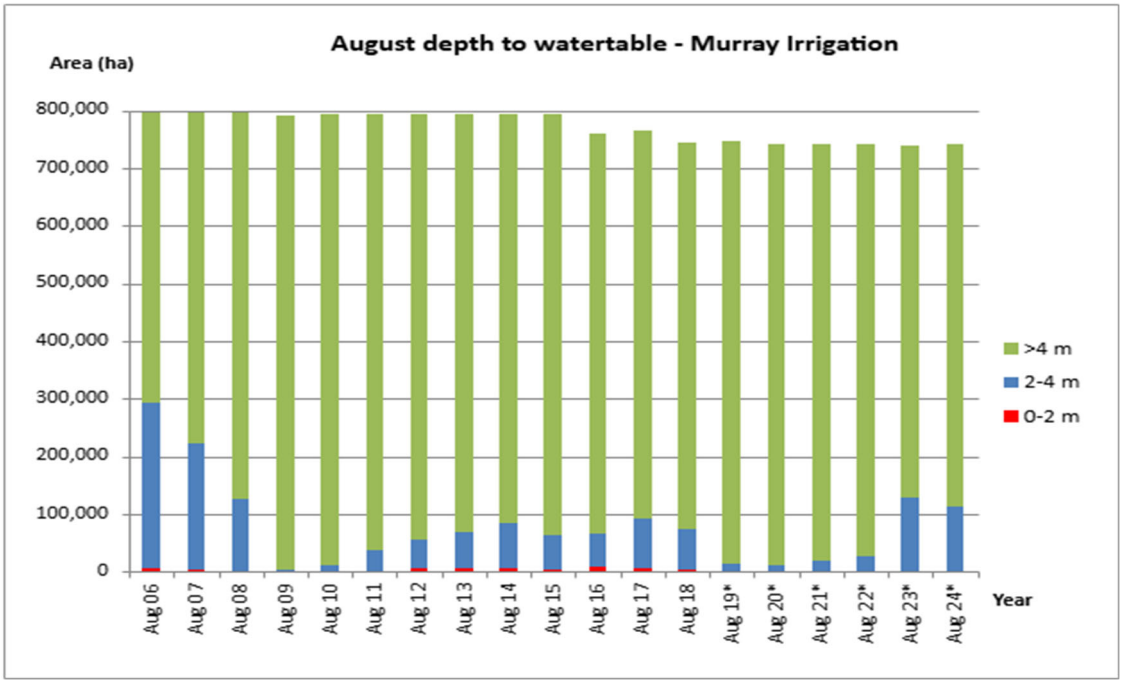
The depth to watertable data is presented in Table 29. The map of the depth to watertable is presented in Figure 6. The Area of Operations affected by watertable within 2m remains low.

Table 29: Depth to watertable (ha)

	0-2 m (ha)	2-4 m (ha)	>4 m (ha)	Total Boundary (ha)	
Aug 24	883	113,091	626,613	740,588	Rationalised list
Aug 23	768	126,969	612,514	740,251	Rationalised list
Aug 22	2,080	25,171	715,052	742,303	Rationalised list
Aug 18	62	85,853	672,198	758,114	

The historic depth to watertable data is presented in Figure 5.

Figure 5: Historic depth to watertable



*: rationalised list of piezometers

Groundwater salinity monitoring was not required during 2024/25.

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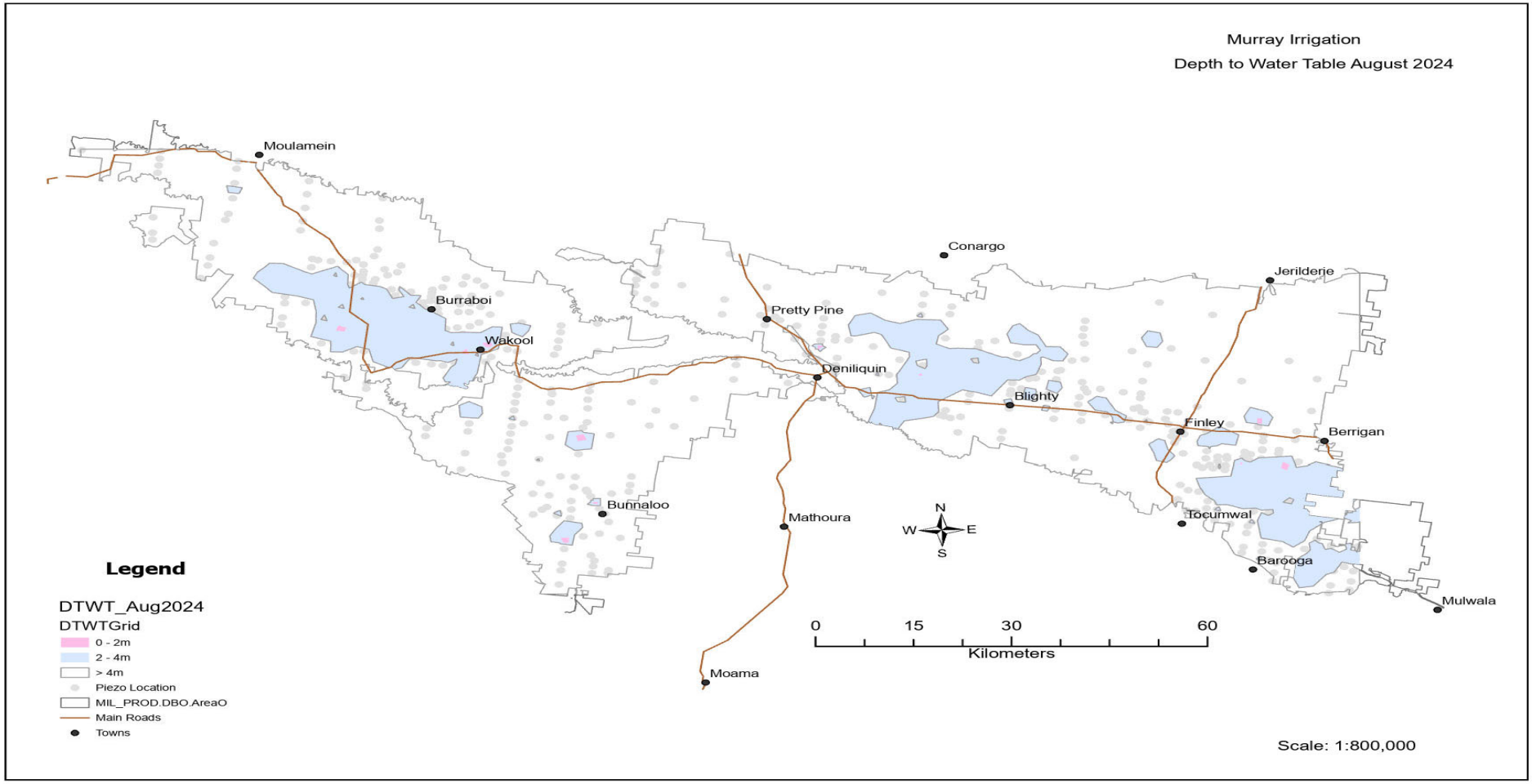
Figure 6: Depth to watertable (August 2024)



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9. Reporting on salinity and watertable management tubewells

This section covers the reporting requirements for the Combined Water Supply Work Approval and Water Use Approval for salinity and watertable management tubewells, Approval Number 50CA512282. During 2022/23 approval was given by DPI to tag the bores in the WTSSDS as 'inactive'. The bores do not meet the non-urban water metering requirements. The bores cannot be used to extract groundwater until an application is made to reactivate the bores and the works are undertaken to ensure the bores meet the non-urban metering requirements.

The total volume pumped from the WTSSDS scheme is presented in Table 30.

Table 30: Volume pumped monthly into WTSSDS basins (ML)

	Stage 1	Stage 2
Jul 24	inactive	inactive
Aug-24	inactive	inactive
Sep-24	inactive	inactive
Oct-24	inactive	inactive
Nov-24	inactive	inactive
Dec-24	inactive	inactive
Jan-25	inactive	inactive
Feb-25	inactive	inactive
Mar-25	inactive	inactive
Apr-25	inactive	inactive
May-25	inactive	inactive
Jun-25	inactive	inactive

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10. Data report

10.1. Calibration report for the Mulwala Canal and Wakool Canal AFFRA units

The calibration report for the Mulwala Canal and Wakool Canal AFFRA units have been provided by the Ventia Hydrographic Services as part of the contract with Murray Irrigation to provide qualified hydrographic services. Refer to Table 31 for the Wakool Canal AFFRA calibration report and Table 32 for the Mulwala Canal AFFRA calibration report.

Table 31: Wakool Main Channel @ offtake (409022) calibration report

Measure number	Date	Time	Calibration Measurements: Q, Measured Discharge (ML/day)	AFFRA Sensor: Q, (ML/day)	Deviation (%)
166	03/09/2024	08:46	945.886	799.200	18.36% #*
167	02/10/2024	10:50	515.144	487.296	5.80% *
168	04/10/2024	11:07	521.236	461.981	12.88% ^*
169	04/10/2024	12:29	531.468	465.955	14.05% ^*
170	07/11/2024	07:24	532.372	457.920	16.29% ^*
171	05/12/2024	06:52	410.169	350.136	17.15%*
172	11/12/2024	11:06	964.936	1075.948	-10.32% ^*
173	11/12/2024	11:45	948.834	1075.118	-11.74%*
174	15/01/2025	06:05	1204.245	1386.029	-13.15%*
175	15/01/2025	07:48	1227.998	1385.856	-11.40%*
176	03/02/2025	11:20	1180.566	1041.120	13.39% #*
177	05/03/2025	07:17	832.620	849.312	-1.38% ^*
178	02/04/2025	07:27	1016.580	1034.208	-1.70%*

Gauging affected by weed presence.

^ Gauging affected by wind

* Gauging affected by transducer malfunction

Note: Gaugings have been affected by faulty transducers this year.

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Table 32: Mulwala Main Channel @ Offtake (409026) calibration report

Measure number	Date	Time	Calibration Measurements: Q, Measured Discharge (ML/day)	AFFRA Sensor: Q, (ML/day)	Deviation (%)
132	7/08/2024	10:37	1153.253	1160.9568	-0.713%
133	4/09/2024	12:41	6019.000	6018.624	-0.88%
134	3/10/2024	11:51	3274.835	3225.312	1.49%^
135	8/11/2024	11:41	2061.348	2306.88	-10.60% ^
136	6/12/2024	08:15	825.964	878.688	-5.70%
137	16/01/2025	09:13	5271.635	5321.376	-0.90% ^
138	6/02/2025	10:48	4333.205	4197.312	3.24%
139	6/03/2025	09:12	5304.350	5461.344	-2.87% *
140	3/04/2025	14:30	4046.889	4333.824	-6.62% #

Gauging affected by weed presence.

^ Gauging affected by wind

* High flows

Note: Significant winds and weed presence have had an adverse effect on several gaugings this year.

10.2. Stormwater discharge sites

A summary of the data omissions due to equipment issues are presented in Table 33.

Table 33: Data omissions for the stormwater discharge sites

Site	Parameter	Description
DC 1000 Wakool Drain EPA 1 (409073)	Discharge	4 Dec 24 – 6 Nov 24 - Debris impacting sensor.
	Electrical conductivity	4 Nov 24 -6 Nov 24 – Debris effecting Sensor.
Deniboota Canal Escape EPA 2 (409067)	Discharge	2 Nov 24 – 24 Nov 24 - Rating table exceeded. 1 Feb 25 - 3 Feb 25 - Rating table exceeded.
	Electrical conductivity	1 Jul 24 - 30 Jun 25 – Equipment malfunction.
Box Creek EPA 3 (409090)	Electrical conductivity	6 Mar 25 – 15 Mar 25 – Equipment malfunction.
Finley Escape EPA 4 (409077)	Discharge	7 Jul – 3 Sep 24 – Equipment malfunction

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Site	Parameter	Description
	Electrical conductivity	31 Jul 24 – 4 Dec 24 – Equipment malfunction 7 Feb25 – 15 Feb 25 – Debris impact sensor 3 Apr 25 – 1 May 25 – Equipment malfunction
North Deniliquin Drain EPA 5 (409060)	Electrical conductivity	1 Jul 24 – 2 Sep 24 – Equipment malfunction.
Wollamai Escape EPA 6 (409076B)	Electrical conductivity	5 Feb 25 – 3 Apr 25 – Equipment malfunction.
Back Barooga Drain EPA 8 (409092)	Discharge	5 Jun 25 - 30 Jun 25 – Debris effecting sensor.
	Electrical conductivity	5 Jun 25 - 30 Jun 25 – Debris effecting sensor.
Berrigan Creek Escape EPA 9 (41010396)	Electrical conductivity	28 Jul 24 – Debris effecting sensor. 30 Jul 24- 1 Aug 2024 – Debris effecting sensor. 4 Aug 24 – Debris effecting sensor.
Burragorimma Drain EPA 12 (40910026)	Discharge	12 Oct 24 - 16 Dec 24 – Rating table exceeded 12 Jun 25 - 19 Jun 25 – Rating table exceeded.
	Electrical conductivity	3 Jul 24 – 6 Jul 24 – Debris effecting sensor.
Niemur Drain EPA 13 (40910116)	Discharge	29 Apr 25 - 3 Jun 25 – Equipment malfunction.
	Electrical conductivity	8 Nov 24 – 11 Nov 24 – Equipment malfunction. 15 Nov 24 – 16 Nov 24 – Equipment malfunction. 21 Nov 24 – 25 Nov 24 – Equipment malfunction. 18 Dec 24 – Equipment malfunction. 21 Dec 24 - 28 Dec 24 – Equipment malfunction. 31 Dec 24 – 3 Jan 25 – Equipment malfunction. 5 Jan 25 – 10 Jan 15 – Equipment malfunction. 17 Jan 15 – Equipment malfunction. 20 Jan 25 - 23 Jan 25 – Equipment malfunction. 27 Jan 25 – Equipment malfunction. 29 Jan 25 - 8 Feb 25 – Equipment malfunction. 12 Feb 25 – Equipment malfunction. 16 Feb 25 – Equipment malfunction. 18 Feb 25 – 19 Feb 25 – Equipment malfunction. 21 Feb 25 – 22 Feb 25 – Equipment malfunction 1 Mar 25 - 2 Mar 25 – Equipment malfunction. 6 Mar 25 – Equipment malfunction. 12 Mar 25 – 14 Mar 25 – Equipment malfunction. 19 Mar 25 – 20 Mar 25 – Equipment malfunction. 22 Mar 25 - 25 Mar 25 – Equipment malfunction. 30 Mar – 1 Apr 25 – Equipment malfunction. 3 May 25 – 5 May 25 – Equipment malfunction. 11 May 25 – 12 May 25 – Equipment malfunction. 14 May 25 – 15 May 25 – Equipment malfunction. 28 May 25 – 30 May 25 – Equipment malfunction.

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Site	Parameter	Description
DC2500 East EPA 14 (40910117)	Discharge	4 Dec 24 – 4 Feb 24 – Equipment malfunction.
Burraboi Drain EPA 15 (40910125)	Discharge	2 Apr -10 Apr 25 – Equipment malfunction 21 Apr – 19 Apr 25 – Equipment malfunction
Murphy's Timber EPA 16 (40910131)	Discharge	4 June to 30 June 2025 – no data
	Electrical conductivity	4 June to 30 June 2025 – no data
West Warragoon EPA 17 (40910130)	Discharge	7 Oct 24 – 8 Oct 24 – Rating table exceeded.
	Electrical conductivity	23 Jul 24 – 25 Jul 24 – Debris effecting sensor.
Warragoon Drain Stage 2 EPA 18 (41000253)	Electrical conductivity	1 Jul 24 – 6 Aug 24 – Equipment malfunction. 26 Nov – 5 Dec 24 - Equipment malfunction.

10.3. Piezometers

A summary of the piezometers that are no longer operational are listed in Table 34.

Table 34: Piezometers no longer functional August 2023

Site number	Comment
DB62	No access for 2 years
BQ3140	Not found for 2 years
DB75	Not found or no access for 2 years
WAK1314	Destroyed by new fence
BQ3321	Destroyed
DB186	Not found for 2 years

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11. Environment Protection Licence Reporting

This report is based on the Environment Protection Licence (EPL) number 5014 issued by the Environment Protection Authority (EPA).

Murray Irrigation's EPA Annual Return declared that some water samples had not been collected in accordance with clause M2.2 of the EPL.

Murray Irrigation intends to implement more rigorous protocols for the real-time monitoring of discharge at the monitoring sites, erring on the side of collecting water samples when the mean monthly discharge may exceed 5ML/day.

The list of sites when a water sample was not collected in accordance with clause M2.2 of the EPL are presented in table 35.

Table 35: Water samples not collected.

Site	Month	Mean monthly flow (ML/day)	Comment
North Deniliquin Drain EPA 5 (409060)	Oct 24	5.2	Special Frequency 1 Staff monitoring the monthly flows missed requesting a water sample be collected.
North Deniliquin Drain EPA 5 (409060)	Dec 24		Special Frequency 3 Fri 26 Dec 24 – 5.3ML/day Mon 30 Dec 24 – 5.1ML/day Staff monitoring the flows missed requesting a water sample be collected. (Christmas break).
Wollamai Creek Outfall EPA 6 (409076)	Sep 24	10.6	Special Frequency 1 Staff monitoring the monthly flows missed requesting a water sample be collected.
Wollamai Creek Outfall EPA 6 (409076)	Oct 24	6.5	Special Frequency 1 Staff monitoring the monthly flows missed requesting a water sample be collected.
Wollamai East Outfall EPA 7 (409089)	Sep 24	5.6	Special Frequency 1 Technical issues with equipment for the determination of flow.
Back Barooga Drain EPA 8 (409092)	Aug 24	5.4	Special Frequency 1 Staff monitoring the monthly flows missed requesting a water sample be collected.
Lalalty Main Drain EPA 10 (40910007)	Dec 24	22.1	Special Frequency 1 Staff monitoring the monthly flows missed requesting a water sample be collected.

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Site	Month	Mean monthly flow (ML/day)	Comment
Neimur Drain EPA 13 (40910116)	Oct 24		Special Frequency 2 and 3 Thu 3 Oct 24 - 3.8 ML/day Fri 4 Oct 24 - 6.7ML/day Sat 5 Oct 24 – 3.1ML/day Staff monitoring the flows missed requesting a water sample be collected. The flow was >5ML/day for a single day.
West Warragoon EPA 17 (40910130)	Oct 24	6.0	Special Frequency 1 Staff monitoring the monthly flows missed requesting a water sample be collected.
Warragoon Stage 2 EPA 18 (41000253)	Oct 24		Special Frequency 2 and 3 Fri 18 Oct 24 - 1.9ML/day Sat 19 Oct 24 - 9.3ML/day Sun 20 Oct 24 - 7.2ML/day Mon 21 Oct 24 - 4.6ML/day Staff monitoring the flows missed requesting a water sample be collected

11.1. Nutrient monitoring

Nutrient monitoring is undertaken in accordance with clause M2.2 in the EPL. The results are reported in Table 36.

Table 36: Nutrient monitoring

Site	Date Sample	Turbidity (NTU)	Total Nitrogen (mg/L)	Total Phosphorus (mg/L)
DC1000 outfall EPA 1 (409073)	21 Oct 24	40	1.4	0.16
DC1000 outfall EPA 1 (409073)	29 Nov 24	42	1.2	0.50
Box Creek Escape EPA 3 (409090)	29 July 24	41	0.21	<0.050
Box Creek Escape EPA 3 (409090)	26 Aug 24	13	1.9	<0.050
Box Creek Escape EPA 3 (409090)	22 Oct 24	70	1.2	0.078
Box Creek Escape EPA 3 (409090)	02 Nov 24	11	2.5	0.12
Box Creek Escape EPA 3 (409090)	25 Nov 24	51	1.4	0.1
Box Creek Escape EPA 3 (409090)	1 Dec 24	26	1.1	0.077
North Deniliquin Drain EPA 5 (409060)	29 Sep 24	61	1	0.28
North Deniliquin Drain EPA 5 (409060)	22 Oct 24	71	1.1	0.37
North Deniliquin Drain EPA 5 (409060)	30 Mar 25	97	1.2	0.24

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Site	Date Sample	Turbidity (NTU)	Total Nitrogen (mg/L)	Total Phosphorus (mg/L)
North Deniliquin Drain EPA 5 (409060)	28 Apr 25	140	0.6	0.098
Wollamai Creek Outfall EPA 6 (409076)	22 Oct 24	76	2	1.7
Wollamai East Outfall EPA 7 (409089)	26 Aug 24	110	3.9	0.12
Back Barooga Drain EPA 8 (409092)	29 Sep 24	130	1.3	0.12
Back Barooga Drain EPA 8 (409092)	21 Oct 24	24	1.2	0.16
Back Barooga Drain EPA 8 (409092)	28 Mar 25	250	1.9	0.24
Back Barooga Drain EPA 8 (409092)	28 Apr 25	70	0.95	<0.050
Berrigan Creek Escape EPA 9 (41010396)	26 Oct 24	0.58	200	2.1
Lalalty Main Drain EPA 10 (40910007)	22 Oct 24	14	1.8	0.16
Lalalty Main Drain EPA 10 (40910007)	02 Nov 24	250	2.6	0.35
Lalalty Main Drain EPA 10 (40910007)	25 Nov 24	16	1.5	0.2
Burragorimma Drain EPA 12 (40910026)	6 Dec 24	100	4.4	0.52
Neimur Drain EPA 13 (40910116)	25 Oct 24	210	3.4	0.33
Neimur Drain EPA 13 (40910116)	25 Nov 24	620	2.4	0.31
Neimur Drain EPA 13 (40910116)	29 Nov 24	560	4.6	0.48
Burraboi Drain EPA 15 (40910125)	31 Mar 24	42	0.99	0.18
Burraboi Drain EPA 15 (40910125)	27 Apr 25	2.7	1	0.33
West Warragoon EPA 17 (40910130)	29 Sep 24	33	2.3	0.4
West Warragoon EPA 17 (40910130)	22 Oct 24	1600	3	1.3

11.2. Pesticide monitoring

Pesticide monitoring is undertaken in accordance with clause M2.2 in the EPL. The results are reported in Table 37.

There were no sites in 2024-25 that required Murray Irrigation Limited to report to the EPA due to Notification or Alert levels being exceeded for Atrazine, Thiobencarb or Molinate.

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Table 37: Pesticide monitoring

Site	Date sample	Atrazine (µg/L)	Thiobencarb (µg/L)	Molinate (µg/L)
DC1000 outfall EPA 1 (409073)	21 Oct 24	<0.2	<0.2	<0.2
DC1000 outfall EPA 1 (409073)	2 Nov 24	<0.2	<0.2	<0.2
DC1000 outfall EPA 1 (409073)	29 Nov 24	<0.2	<0.2	<0.2
Box Creek EPA 3 (409090)	22 Oct 24	0.4	<0.2	<0.2
Box Creek EPA 3 (409090)	25 Oct 24	0.8	<0.2	<0.2
Box Creek EPA 3 (409090)	2 Nov 24	<0.2	<0.2	<0.2
Box Creek EPA 3 (409090)	10 Nov 24	<0.2	<0.2	<0.2
Box Creek EPA 3 (409090)	16 Nov 24	<0.2	<0.2	<0.2
Box Creek EPA 3 (409090)	25 Nov 24	<0.2	<0.2	<0.2
Box Creek EPA 3 (409090)	01 Dec 24	<0.2	<0.2	<0.2
North Deniliquin Drain EPA 5 (409060)	20 Oct 24	<0.2	<0.2	<0.2
North Deniliquin Drain EPA 5 (409060)	22 Oct 24	<0.2	<0.2	<0.2
North Deniliquin Drain EPA 5 (409060)	26 Oct 24	<0.2	<0.2	<0.2
Wollamai East Outfall EPA 6 (409076)	20 Oct 24	<0.2	<0.2	<0.2
Wollamai East Outfall EPA 6 (409076)	22 Oct 24	<0.2	<0.2	<0.2
Wollamai East Outfall EPA 6 (409076)	18 Dec 24	10	Not required	Not required
Back Barooga Drain EPA 8 (409092)	21 Oct 24	<0.2	<0.2	<0.2
Back Barooga Drain EPA 8 (409092)	03 Dec 24	<0.2	Not required	Not required
Back Barooga Drain EPA 8 (409092)	11 Dec 24	0.5	Not required	Not required
Berrigan Creek Escape EPA 9 (41010396)	26 Oct 24	5.8	<0.2	<0.2
Berrigan Creek Escape EPA 9 (41010396)	03 Dec 24	1.4	Not required	Not required
Lalalty Main Drain EPA 10 (40910007)	20 Oct 24	<0.2	<0.2	<0.2
Lalalty Main Drain EPA 10 (40910007)	22 Oct 24	<0.2	<0.2	<0.2
Lalalty Main Drain EPA 10 (40910007)	25 Oct 24	<0.2	<0.2	<0.2
Lalalty Main Drain EPA 10 (40910007)	02 Nov 24	<0.2	<0.2	<0.2
Lalalty Main Drain EPA 10 (40910007)	09 Nov 24	<0.2	<0.2	<0.2
Lalalty Main Drain EPA 10 (40910007)	25 Nov 24	<0.2	<0.2	<0.2
Lalalty Main Drain EPA 10 (40910007)	03 Dec 24	<0.2	<0.2	<0.2

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Site	Date sample	Atrazine (µg/L)	Thiobencarb (µg/L)	Molinate (µg/L)
Neimur Drain EPA 13 (10910116)	20 Oct 24	<0.2	<0.2	<0.2
Neimur Drain EPA 13 (10910116)	25 Oct 24	<0.2	<0.2	<0.2
Neimur Drain EPA 13 (10910116)	07 Nov 24	<0.2	<0.2	<0.2
Neimur Drain EPA 13 (10910116)	15 Nov 24	<0.2	<0.2	<0.2
Neimur Drain EPA 13 (10910116)	25 Nov 24	<0.2	<0.2	<0.2
Neimur Drain EPA 13 (10910116)	29 Nov 24	<0.2	<0.2	<0.2
West Warragoon EPA 17 (40910130)	20 Oct 24	<0.2	<0.2	<0.2
West Warragoon EPA 17 (40910130)	25 Oct 24	<0.2	<0.2	<0.2

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