ANNUAL 2021 COMPLIANCE REPORT

Coleambally IRRIGATION

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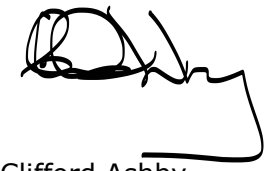
The Annual Compliance Report 2020/21 is provided to meet the reporting requirements of Coleambally Irrigation Co-operative Limited (CICL) against operating licences:

1. Combined Water Supply Work Approval and Water Use Approval 40CA401473 (Murrumbidgee regulated river water source) and Combined Water Supply Work Approval and Water Use Approvals for Groundwater extraction 40CA403808 and 40WA404593; and
2. Environment Protection Licence No 4652.

I am pleased to advise that from 1 July 2020 to 30 June 2021, CICL has complied with all monitoring and reporting requirements of the:

- Combined Water Supply Work Approval and Water Use Approval 40CA401473, including the CICL Monitoring and Reporting Plan dated 16 March 2018;
- Groundwater Works Approvals 40CA403808, 40WA404593 and
- Environment Protection Licence No 4652.

To the best of my knowledge the information presented in this report is certified as being complete, true and accurate.



Clifford Ashby

Chief Executive Officer

5. Executive Summary

The 2020/21 irrigation season was a welcome reprieve from two years of the worst drought conditions the Coleambally Irrigation Area has faced in recent memory. Recorded rainfall for the irrigation season met the long-term average, however for the 2020 calendar year Coleambally recorded 504.1 mm of rainfall, far above the long-term average.

The season commenced with a general security allocation of 10% that reached 100% by mid-January. The key water statistics for the preceding two seasons are provided in the following table:

Table 5.1: Water usage in Coleambally Irrigation Area of Operations

Key Statistics	2020/21	2019/20	2018/19
Final Allocation	100 %	11%	7%
Metered usage to customers	258,881 ML	26,948 ML	104,040 ML

Rainfall totals in the district met the seasonal average with 395.1 mm recorded for the water year compared to the Long Term Average (LTA) of 396.7 mm.

The total evaporation for the 2020/21 water year was 1,634.3 mm which was lower than the LTA of 1,744.0 mm. The area under supplied irrigation water was 52,760 ha, compared to 9,272 ha in the 2019/20 water year.

Table 5.2: Crop areas and total metered usage (ML)

Crop	Area (Ha)	Total metered usage (ML)
Rice	4,944	80,271
Horticulture	1,678	3,765
Other Summer Crops	15,328	98,478
Winter Crops	30,810	57,079
Stock and Garden	N/A	2,252
Undefined	N/A	17,036
Total	**52,760**	**258,881**

Note: The above cropped areas are based on customer supplied crop estimates. The quality of this data is assessed and controlled by CICL; however, the figures presented should only be viewed as an estimate.

The high rainfall rate recorded in the 2020 calendar year coupled with the highest metered usage to customers since 2017/18 has led to an increase in average watertable heights for the first season since 2018. The area of land with the water table within 2 m of the surface has increased to 61 ha, from 40 ha in the previous season.

There was one reportable water quality incident in the 2020/21 season at a licenced discharge point where pollutants exceeded Notifiable levels as part of routine monitoring.

6. Plans of the Area of Operations, Authorised Works and Monitoring Sites

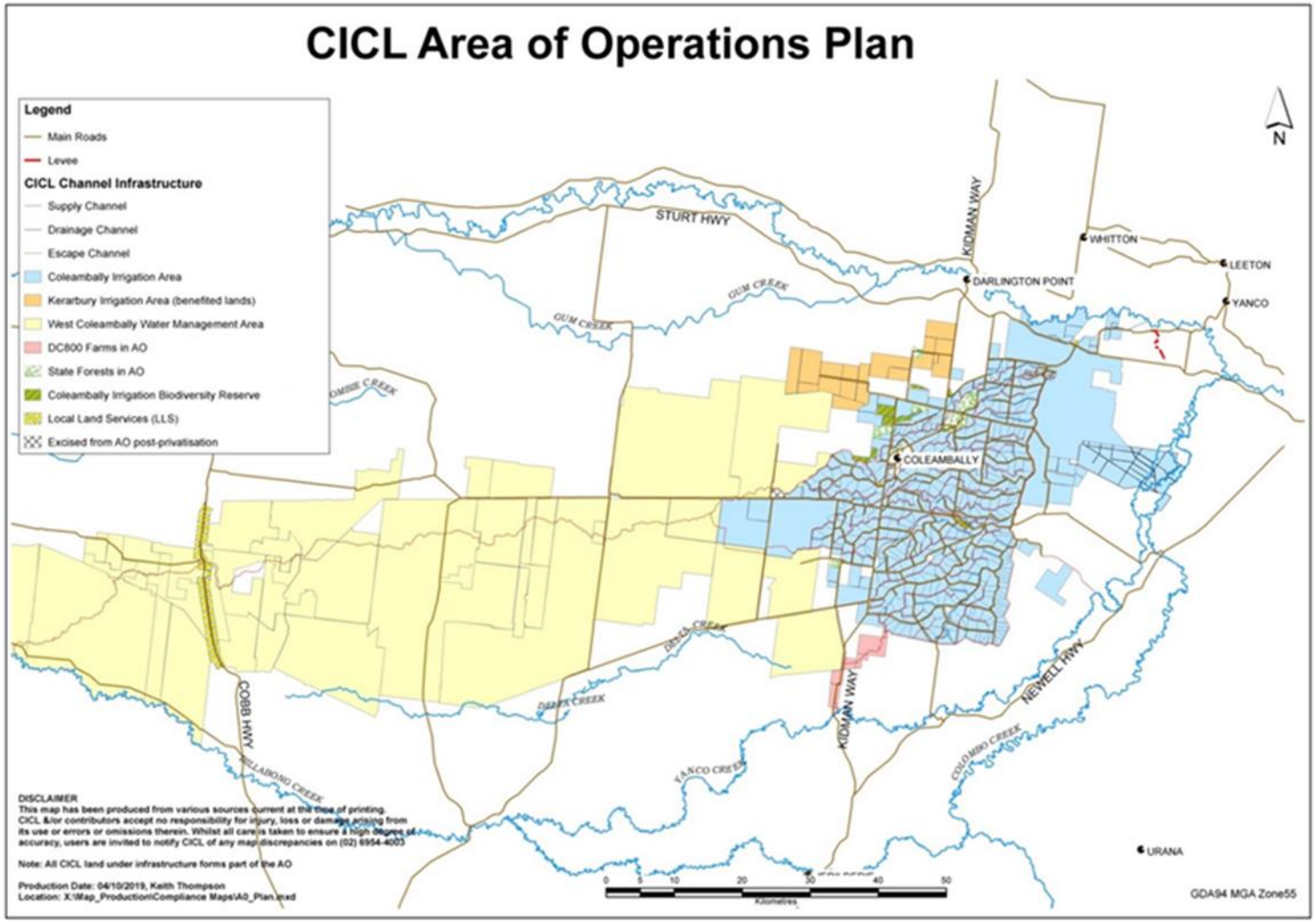
6.1 Coleambally Irrigation Area of Operations

The following section is provided to satisfy condition 2.1 of the CICL Monitoring and Reporting Plan, which requires a plan to be presented of the Area of Operations as existing at 30 June including any amendments made by the inclusion and exclusion of lands.

The Coleambally Irrigation Area of Operations is located between the towns of Darlington Point and Jerilderie, New South Wales, in the southern Murray-Darling Basin of Australia as depicted in Figure 6.1.

From the 1 July 2020 to 30 June 2021 there were no requests made to the Minister to include or exclude land from the Area of Operations.

Figure 6.1: Current Area of Operations of CICL including benefited lands[1]



[1]*The term "benefited lands" is given to land that receives a benefit from our licence and/or licenced works but which are not defined as being within the Area of Operations.*

6.2 Plans of Works and Monitoring Sites

The following section is provided to satisfy condition 2.2 of the CICL Monitoring and Reporting Plan, which requires a plan (or plans) to be presented showing the current location of works listed in Schedule 1 of the CICL Monitoring and Reporting Plan and all monitoring sites listed in Attachments 1 and 2 of the Plan as at 30 June, including the location and extent of areas that are permanently or temporarily inundated to store or dispose of water, the boundary of the Area of Operations, the major supply and drainage channels and the major watercourses located within and adjacent to the Area of Operations.

The Combined Approval 40CA401473 and the Groundwater Work Approvals 40CA403808 and 40WA404593 include three water extraction works, namely: Coleambally Main Canal Off-take, Col Bore and Hort Bore.

The CICL Monitoring and Reporting Plan also includes four drainage discharge points; Coleambally Catchment Drain (CCD), Drainage Canal DC800 (DC800A), Coleambally Outfall Drain A (CODA) and Coleambally Outfall Drain D (CODD).

Figure 6.2 illustrates the location of all authorised water supply works and discharge monitoring sites as well as the location of the Kerarbury Channel Off-take Regulator, which supplies water to the benefited lands of the Kerarbury Irrigation Area. This map also includes the location and extent of the Coleambally Main Canal Off-stream Storage, the boundary of the Area of Operations, the channel and drainage network and the location of adjacent watercourses.

A total of 737 piezometers are located across the Area of Operations to monitor groundwater conditions in the shallow Shepparton Formation aquifer. The distribution of piezometers across the Area of Operations is shown in Figure 6.3.

6. Plans of the Area of Operations, Authorised Works and Monitoring Sites

Figure 6.2: CICL Works Plan

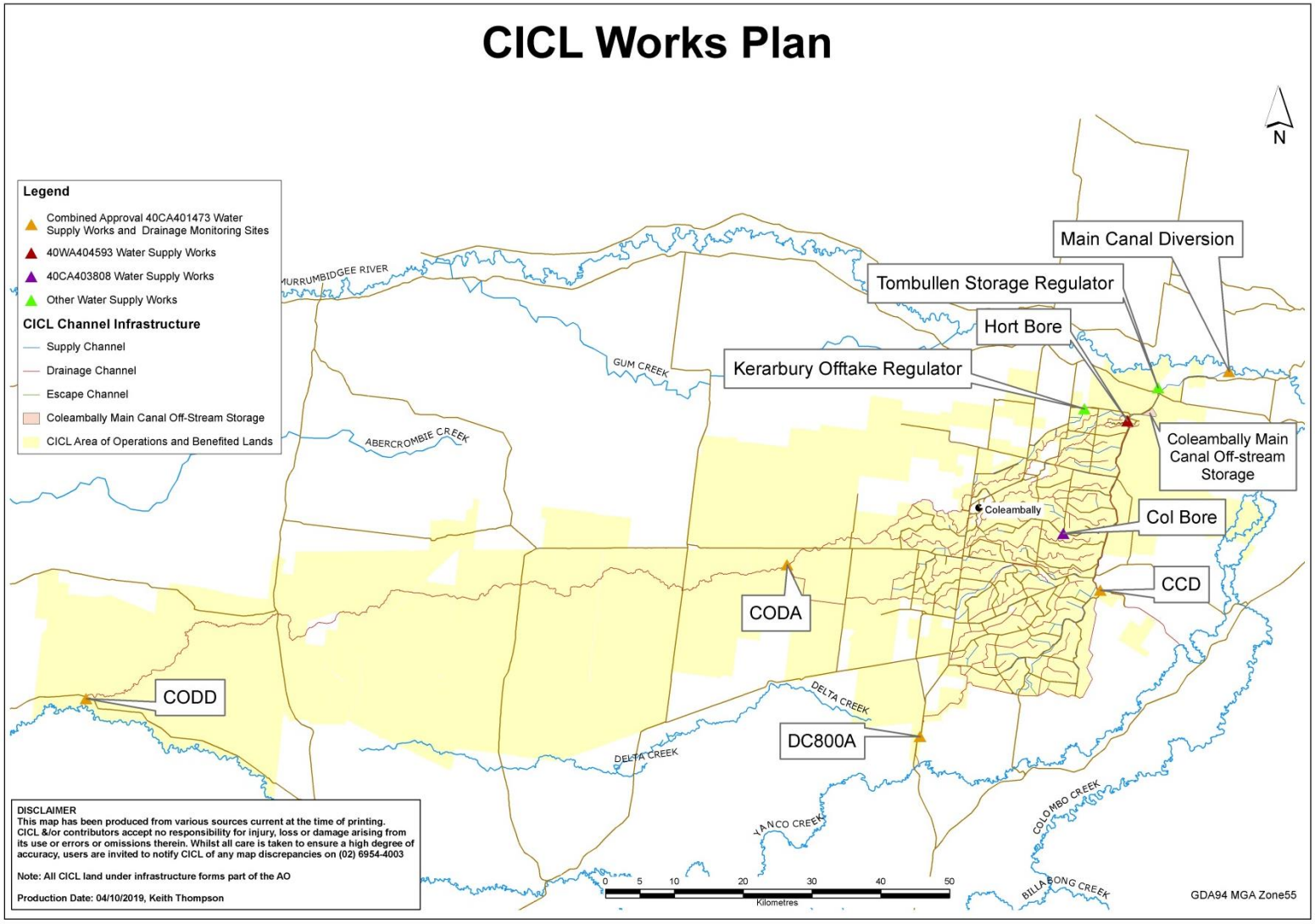
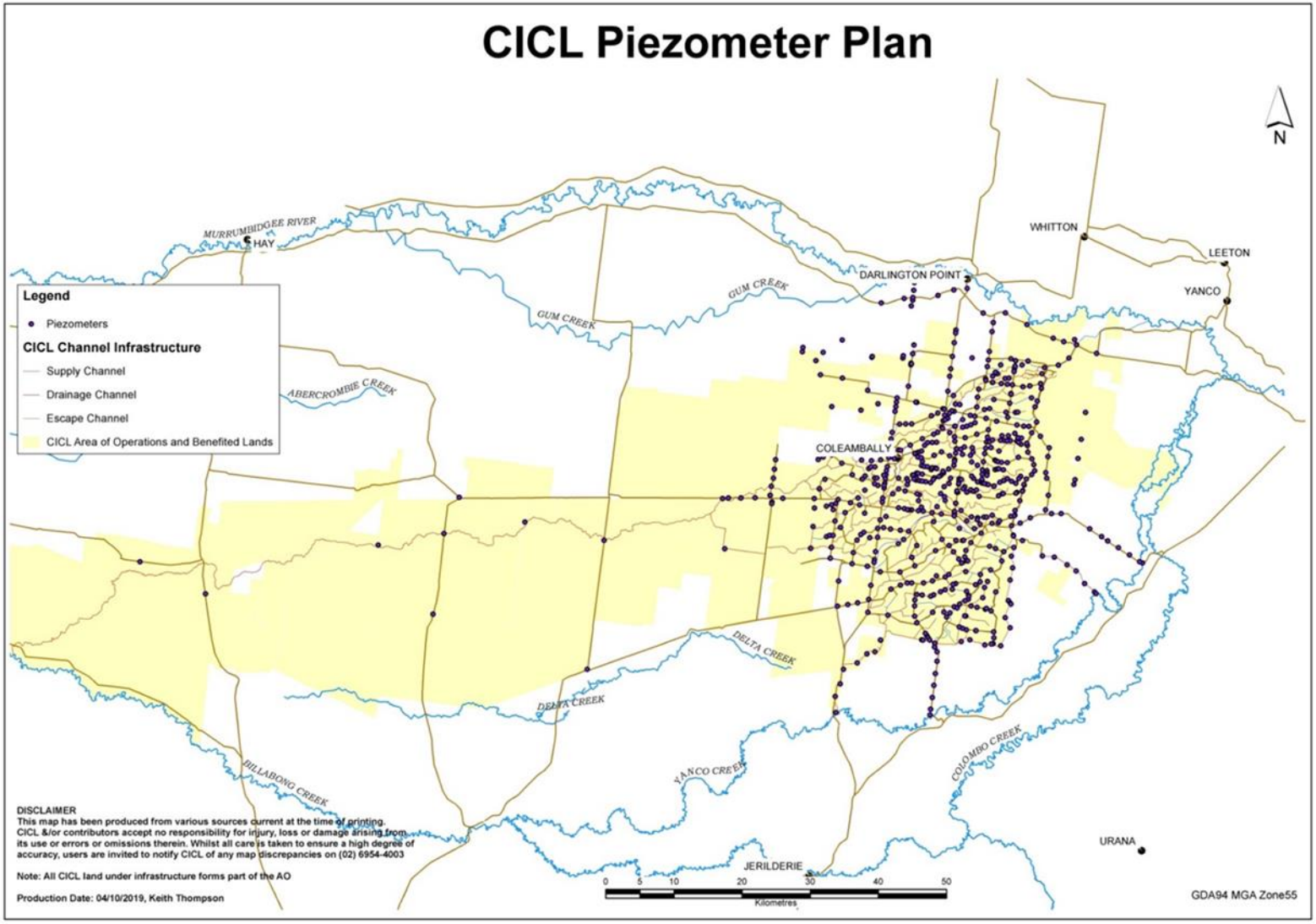


Figure 6.3: Piezometer (monitoring sites) plan

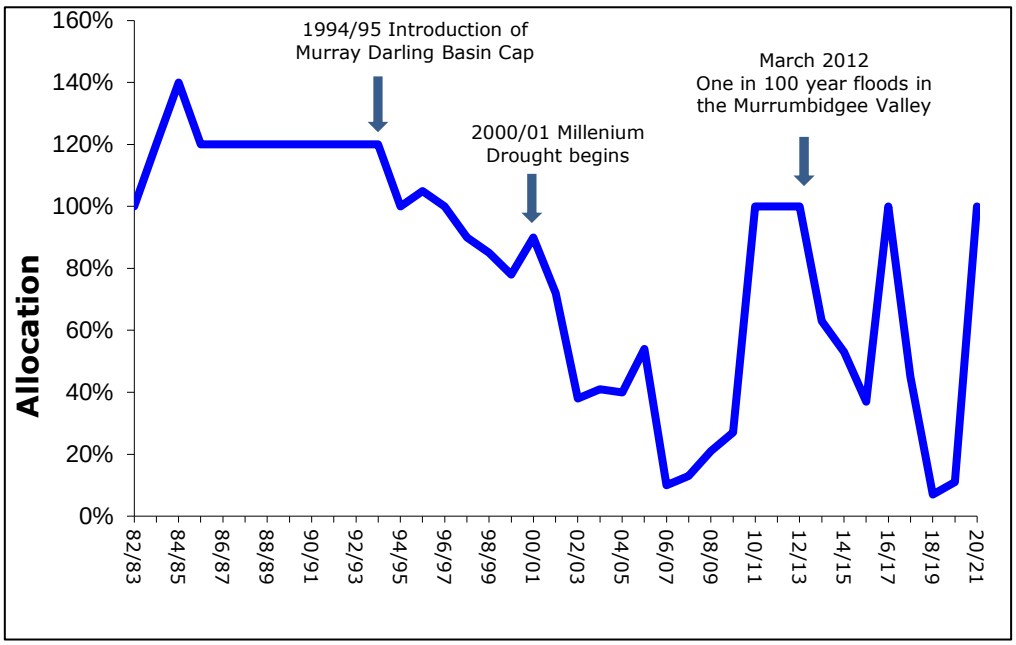


7.1 Water Allocation

The following section is provided to satisfy condition 2.5 of the CICL Monitoring and Reporting Plan, which requires commentary on the trends evident from the discharge, groundwater, extraction and water use monitoring data in the context of climate and water allocation conditions.

The 2020/21 irrigation season saw a closing allocation of 100%, which was the first such season since 2016/17. This 100% allocation followed three years of low allocations and drought conditions in the catchment areas of the Murrumbidgee River. The season's starting general security water allocation was 10% but carryover (Valley average 18%) was available. The prior season's opening allocation was 0% plus carryover (Valley average 8%). The final allocation for the year of 100%, announced in January 2021, compared to 11% in the previous year.

Figure 7.1: Annual general security allocations in the Murrumbidgee Valley since 1982/83



7.2 Surface and Groundwater Extraction

The following section is provided to satisfy condition 2.10 of the CICL Monitoring and Reporting Plan, which requires reconciled monthly water volumes in megalitres extracted under licences held by CICL or any other licences nominating CICL authorised water supply works and deliveries to customers.

Table 7.1: 2020/21 Water (ML) taken through Water Supply Works against Water Access Licences

Surface Water Licences (Works Approval 40CA401473)	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total (ML)
High Security Access Licence **40AL401469**	0	1,893	136	0	0	0	99	0	0	0	0	0	2,128
High Security Access Licence **40AL417488**	0	0	6,003	0	0	0	316	0	0	0	0	0	6,319
General Security Access Licence **40AL401471**	0	0	5,547	0	0	18,557	45,655	37,268	26,335	13,101	10,307	0	156,770
General Security Access Licence **40AL405267**	0	0	0	0	0	0	0	0	0	0	1,730	0	1,730
High Security Access Licence **40AL401470**	0	70	0	0	0	0	0	0	0	0	0	0	70
High Security S & T Access Licence **40AL418050**	0	3,269	0	0	0	0	0	0	0	0	0	0	3,269
Conveyance Access Licence **40AL402990**	0	0	5,138	17,579	36,857	25,533	0	0	0	0	0	0	85,107
Supplementary Access Licence **40AL402991**	0	10,856	0	0	0	0	0	0	0	0	0	0	10,856
Total	0	16,088	16,824	17,579	36,857	44,090	46,070	37,268	26,335	13,101	12,037	0	266,249
Aquifer Access Licence 40AL403806	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Total (ML)**
Col Bore (Works Approval **40CA403808**)	0	0	0	0	30	437	83	251	10	0	0	0	811
Hort Bore (Works Approval **40WA404593**)	0	2	3	44	88	57	37	276	102	0	0	11	620
Total	0	2	3	44	118	494	120	527	112	0	0	11	1,431
Authorised Credits													910
Environmental/River Operational	0	12,249	10,522	7,923	12,934	15,798	16,178	6,657	15,885	1,935	1,889	0	101,970
Combined Total	0	28,339	27,349	25,546	49,909	60,382	62,368	44,452	42,332	15,036	13,926	11	370,560

Note: Monthly water volumes for surface water licences are reported in calendar month and aquifer access licence monthly volumes are reported in mid-month.

Tables 7.2 to 7.4 are provided to satisfy condition 2.5 of the CICL Monitoring and Reporting Plan, which requires discussion of the trends evident from extraction data in the context of comparable data for at least the two previous years and a year at least five years prior.

For all three extraction points 2020/21 data is compared with the previous two seasons' data and with the 2015/16 season. Table 7.2 shows monthly extraction at the Coleambally Main Canal Off-take.

Table 7.2: Monthly extractions (ML) at Main Canal Off-take (calendar month)

Month	2020/21	2019/20	2018/19	2015/16
July	0	0	0	9,702
August	28,362	7,231	19,901	21,519
September	27,429	5,938	20,533	28,766
October	25,571	6,765	27,226	46,097
November	49,860	11,259	18,050	23,409
December	60,112	8,670	34,168	52,397
January	62,369	9,840	30,380	47,695
February	44,015	3,986	12,580	35,315
March	42,353	6,930	18,449	27,313
April	15,084	14,183	10,727	16,132
May	13,974	7,288	16	1,467
June	0	0	0	0
Total	**369,129**	**82,090**	**192,030**	**309,812**

Tables 7.3 and 7.4 show monthly extractions from both Col Bore and Hort Bore. The Hort Bore is primarily used to supply high security water on demand outside of the normal CICL irrigation supply period.

The Col Bore was constructed by a qualified driller as indicated by the construction log and in accordance with conditions (MW7040-00001) as confirmed during the NRAR Compliance Audit and Inspection: Col Bore and Hort Bore undertaken July 2020.

The Hort Bore was constructed in accordance with conditions (MW7040-00001) as confirmed during the NRAR Compliance Audit and Inspection: Col Bore and Hort Bore undertaken July 2020.

Due to the inconsistency between WaterNSW and CICL's timing of reading the meters, there are immaterial differences between invoiced and reported figures.

Groundwater bore usage is largely influenced by the value of temporary surface water relative to pumping costs.

Table 7.3: Monthly extractions (ML) at Col Bore (mid-month)

Month	2020/21	2019/20	2018/19	2015/16
July	0	0	0	0
August	0	0	23	0
September	0	0	57	0
October	0	0	223	0
November	30	0	97	2
December	437	0	219	481
January	83	0	271	364
February	251	0	221	363
March	10	0	74	476
April	0	177	34	0
May	0	97	0	0
June	0	0	0	95
Total	**811**	**274**	**1,219**	**1,781**

Table 7.4: Monthly extractions (ML) at Hort Bore (mid-month)

Month	2020/21	2019/20	2018/19	2015/16
July	0	7	0	0
August	2	4	47	0
September	3	7	50	0
October	44	0	248	559
November	88	432	55	120
December	57	129	415	1
January	37	109	257	0
February	276	264	234	0
March	102	141	298	744
April	0	32	203	404
May	0	4	0	0
June	11	18	0	0
Total	**620**	**1,147**	**1,807**	**1,828**

7.3 Estimated Annual Evaporation and Rainfall

The following section is provided to satisfy condition 2.13 a) and b) of the CICL Monitoring and Reporting Plan, which requires estimated annual volumes for rainfall and evapo-transpiration.

CICL records both rainfall and evaporation at the CICL Depot. Table 7.5 shows annual rainfall and evaporation was recorded as 395.1 mm and 1,634.3 mm respectively, this represents 100% and 94% of the long-term average (LTA).

Table 7.5: Rainfall and evaporation recorded at CICL Depot weather station in 2020/21 (calendar month)

Month	Rain (mm)	LTA Rain (mm)	Evap (mm)	LTA Evap (mm)
July	25.0	32.5	39.9	39.1
August	42.7	34.4	54.9	64.9
September	25.4	32.6	103.9	102.2
October	63.3	38.6	137.2	164.4
November	7.1	31.4	241.6	213.3
December	20.5	30.9	260.4	262.1
January	58.1	33.9	227.4	275.4
February	9.6	28.5	205.6	224.7
March	62.6	30.2	146.9	184.5
April	0.5	31.3	111.9	112.0
May	18.4	34.9	71.5	63.6
June	61.9	37.6	33.1	37.8
Total	**395.1**	**396.7**	**1,634.3**	**1,744.0**

7.4 Water Discharge

The following section is provided to satisfy condition 2.11 of the CICL Monitoring and Reporting Plan, which requires a report on the monthly water volumes in megalitres from discharge monitoring sites. This section is also provided to satisfy condition 2.5 which requires a discussion of the trends evident from discharge monitoring sites from at least the two previous years and a year at least five years prior.

Tables 7.6 to 7.9 show monthly average drainage flows at four discharge monitoring points. For all four discharge monitoring points 2020/21 data is compared with the previous two seasons' data and with the 2015/16 season.

The licenced discharge monitoring points have WaterNSW gauge sites present, however, the flow data obtained from the sites is generally not considered to be accurate. In addition to backwater impacts from downstream creek levels, weed growth and backwater from downstream structures may impact the accuracy of the stage-discharge rating curves particularly at CODA (410110), CCD (410191) and CODD (410133). At each of these sites the flow volumes are substituted with data from adjacent Rubicon FlumeGate™ regulators.

Table 7.10 shows the monthly total volume of water supplied through the Boona and Argoon escapes which supply planned releases of water through CODA and CODWonga. This table is provided to satisfy condition M2.5 of EPL 4652, which requires samples of irrigation wastewater for the months specified under condition M2.3 except when water discharged through the drainage system is comprised entirely of supply water.

Table 7.11 shows the monthly total volume of water released without credit, released from drains and released to customers to satisfy condition 2.11 of the CICL Monitoring and Reporting Plan.

Table 7.6: Monthly flow readings (ML) at CCD FlumeGate™ escape on the Coleambally Catchment Drain (substituted for CCD (410191)) (calendar month)

Month	2020/21	2019/20	2018/19	2015/16
July	0	0	0	0
August	0	0	1,940	5,710
September	1,959	0	3,134	587
October	2,161	0	1,008	2,333
November	1,677	0	622	782
December	4,554	1,527	1,346	3,102
January	1,439	3,711	3,346	2,952
February	1,638	945	1,647	2,101
March	2,522	1,251	1,248	4,856
April	1,592	11	2,012	2,752
May	1,889	0	284	70
June	0	0	69	86
Total	**19,431**	**7,445**	**16,655**	**25,331**
Average	**1,619**	**620**	**1,388**	**2,111**
Median	**1,658**	**0**	**1,297**	**2,217**

Note: The Coleambally Catchment Drain is used to deliver water into Yanco Creek for WaterNSW

Table 7.7: Monthly flow readings (ML) at DC800A (410108) on the Drainage Channel DC800 (calendar month)

Month	2020/21	2019/20	2018/19	2015/16
July	28	72	1	105
August	694	22	545	192
September	1,099	1,099	440	475
October	657	2,058	209	770
November	893	862	407	315
December	2,850	1,953	1,322	984
January	2,432	2,249	1,043	1,463
February	1,215	398	453	945
March	2,250	617	1,351	2,333
April	567	316	491	579
May	140	712	319	317
June	687	319	236	2,652
Total	**13,512**	**10,677**	**6,817**	**11,128**
Average	**1,126**	**890**	**568**	**927**
Median	**793**	**664**	**447**	**674**

Note: DC800 is also used to deliver water into Yanco Creek for WaterNSW

Table 7.8: Monthly flow readings (ML) at CODWonga FlumeGate™ on the Coleambally Outfall Drain (substituted for CODA (410110)) (calendar month)

Month	2020/21	2019/20	2018/19	2015/16
July	32	0	164	116
August	184	0	11	471
September	542	0	1,362	1,095
October	0	291	785	558
November	1,288	2,122	1,631	1,142
December	2,052	0	2,091	1,426
January	0	452	316	741
February	2,829	0	0	742
March	3,824	1,720	1,872	2,557
April	1,342	1,055	179	3,652
May	323	0	1,399	268
June	642	1,752	1,878	3,982
Total	**13,058**	**7,392**	**11,688**	**16,749**
Average	**1,088**	**616**	**974**	**1,396**
Median	**592**	**146**	**1,074**	**918**

Note: The Coleambally Outfall Drain is also used to supply customers with water

Table 7.9: Monthly flow readings (ML) at CODOaklands FlumeGate™ on the Coleambally Outfall Drain (substituted for CODD (410133)) (calendar month)

Month	2020/21	2019/20	2018/19	2015/16
July	0	0	0	3
August	0	0	0	0
September	0	0	0	0
October	0	0	0	0
November	0	0	152	4
December	72	0	23	147
January	2	0	0	0
February	0	0	0	0
March	112	0	26	181
April	0	72	99	8
May	0	0	21	0
June	74	7	189	247
Total	**260**	**79**	**510**	**590**
Average	**22**	**7**	**43**	**49**
Median	**0**	**0**	**11**	**1**

Note: The CODOaklands FlumeGate™ is also used to supply customers with water

Table 7.10: Monthly flow (ML) at Boona and Argoon FlumeGate™ escapes 2020/21

Month	Boona FlumeGate™ Escape	Argoon FlumeGate™ Escape
July	0	18
August	0	310
September	33	215
October	2	0
November	1	1,843
December	0	1,991
January	0	33
February	509	2,684
March	257	3,424
April	0	1,500
May	0	144
June	10	213
Total	**812**	**12,375**

Table 7.11: 2020/21 Volumes (ML) released without credit, released from drain and released to customers

Month	Released without credit from escapes (calendar month)	Discharged for environmental or river operational purposes (calendar month)	Delivered to CICL Customers (mid-month)
July	0	0	0
August	0	12,249	4
September	0	10,522	23,820
October	0	7,923	12,040
November	0	12,934	21,487
December	0	15,798	41,972
January	0	16,178	47,807
February	0	6,657	40,949
March	0	15,885	36,721
April	0	1,935	9,573
May	0	1,889	14,938
June	876	0	9,570
Total	**876**	**101,970**	**258,881**

7.5 Distribution of Irrigation Intensity

The following section is provided to satisfy condition 2.13 i) of the CICL Monitoring and Reporting Plan, which requires a report on the distribution of irrigation intensity in at least three intensity ranges for the main supply sub-divisions.

The irrigation intensity for the main supply per region is represented in Table 7.12. The regions listed below align with common irrigation practices within the Area of Operations.

The Coleambally Irrigation Area consists of all farms with access to the CICL drainage network and is comprised of farmland that has historically been the most intensively irrigated farmland within the Area of Operations.

The West Coleambally Water Management Area is comprised of landholdings that have access to the supply network from the Coleambally Outfall Drain and has historically been the least intensively irrigated farmland within the Area of Operations.

Coleambally External refers to those landholders that are situated adjacent to the Coleambally Irrigation Area but do not have access to the CICL drainage network.

Table 7.12: Regional distribution of irrigation intensity (ML/ha)

Region	Use (ML)	Area (ha)	Intensity (ML/ha)	% of use
Coleambally Irrigation Area	210,164	79,495	>1ML	81
West Coleambally Water Management Area	12,204	313,578	<0.1ML	5
Coleambally External	36,513	71,129	>0.1ML<1ML	14
Total	**258,881**	**464,202**		

Note: The intensity ranges used in the above table are <0.1ML/ha, >0.1ML/ha to <1ML/ha, >1ML/ha.

7.6 Crop Water Use

The following section is provided to satisfy conditions 2.5 and 2.13 c) through to h) of the CICL Monitoring and Reporting Plan, which requires discussion of the trends evident in the estimated annual water deliveries for rice, horticulture, other summer crops, winter crops, domestic and stock uses, and their estimated annual crop area.

Table 7.13 shows the estimated annual values for water deliveries for crop types, with the applicable areas for the water uses estimated from locally relevant crop water use factors.

Table 7.13: 2020/21 crop area, total crop use

Crop	Area (Ha)	Total ML
Rice	4,944	80,271
Horticulture	1,678	3,765
Other Summer Crops (including pasture)	15,328	98,478
Winter Crops	30,810	57,079
Stock and Garden	N/A	2,252
Undefined	N/A	17,036
Total	**52,760**	**258,881**

The crop area data is supplied by CICL's customers at the beginning of the irrigation season and is independently verified by various means, however, the data serves only as an approximation of the area irrigated.

The irrigated crop area within the Coleambally Area of Operations for the 2020/21 season increased fivefold over the previous season, with wheat and rice comprising the largest proportional change in crop area between the two seasons. At 16,875 ha the wheat crop in the 2020/21 season was the largest wheat crop in size since 2004/05. All other major crops were the largest crop areas planted since either 2016/17 or 2017/18 except for canola, which at 3,064 ha was the largest canola crop in size since the 2012/13 season.

Table 7.14 on the following page indicates the change in area of seven major crops in the Coleambally Irrigation Area over the last 24 years.

Table 7.14: Crop areas and relative water usage over time

Season	Rice		Corn/Maize		Soybeans		Cotton		Wheat		Pasture		Canola		
	Area (ha)	Proportion of delivery (%)	Area (ha)	Proportion of delivery (%)	Area (ha)	Proportion of delivery (%)	Area (ha)	Proportion of delivery (%)	Area (ha)	Proportion of delivery (%)	Area (ha)	Proportion of delivery (%)	Area (ha)	Proportion of delivery (%)	Total (%)
2020/21	4,944	31.0	4,654	13.9	380	0.9	6,269	18.9	16,875	13.9	5,269	5.2	3,064	2.5	86.3
2019/20	320	3.4	856	9.2	0	0	934	10.0	2,147	23.0	2,285	24.4	566	6.1	76.1
2018/19	236	3.2	2,252	24.1	0	0	3,641	39.8	7,541	11.0	3,945	9.1	1,115	2.2	89.4
2017/18	6,869	35.0	4,442	14.0	2,393	1.0	5,796	21.0	6,387	6.0	3,921	5.0	2,323	2.0	88.0
2016/17	11,484	53.6	5,105	13.5	892	1.9	6,623	17.9	8,462	3.5	10,679	4.1	1,512	1.2	95.7
2015/16	3,603	34.6	8,462	13.5	1,883	3.0	5,105	20.6	11,484	14.8	6,623	7.0	892	0.1	94.0
2014/15	9,103	44.0	6,757	13.0	1,666	2.0	2,602	7.0	14,226	18.0	4,737	4.0	1,716	1.0	91.0
2013/14	12,500	43.6	4,358	8.4	1,734	2.4	5,587	6.9	15,071	9.8	5,264	2.8	2,540	1.5	75.4
2012/13	19,071	52.7	4,872	7.7	2,583	3.9	2,089	3.0	13,698	7.2	6,545	3.6	4,182	1.3	79.4
2011/12	16,745	62.1	4,767	8.2	2,238	2.7	5,280	7.9	15,989	8.7	7,472	4.0	5,244	1.6	91.2
2010/11	14,512	68.3	4,367	7.2	1,240	1.5	885	1.4	11,334	5.1	8,119	4.2	3,381	1.5	89.2
2009/10	3,668	46.0	311	2.0	495	1.0	0	0	10,635	10.0	6,903	12.0	2,523	2.0	73.0
2008/09	2,135	33.1	2,472	3.4	308	1.4	0	0	4,215	9.5	4,481	16.3	1,471	4.9	68.7
2007/08	90	1.4	941	1.2	152	0.7	0	0	6,575	20.0	5,004	20.0	1,584	6.1	49.4
2006/07	8,518	54.3	1,863	7.6	478	0.8	0	0	12,509	15.9	9,958	7.8	1,602	1.0	87.4
2005/06	18,025	62.8	3,306	7.0	2,106	2.9	0	0	13,610	8.4	15,440	8.7	1,748	0.9	90.6
2004/05	8,142	44.0	3,671	7.2	1,495	2.2	0	0	20,287	18.8	12,865	10.8	2,681	1.3	84.3
2003/04	12,597	55.8	3,545	5.7	1,938	3.5	0	0	21,192	15.0	12,131	7.5	1,763	0.7	88.0
2002/03	11,395	46.0	4,788	9.3	1,788	1.0	0	0	21,346	20.4	10,183	7.4	2,095	1.7	85.8
2001/02	27,493	67.5	3,808	4.2	3,297	3.4	0	0	21,103	9.2	11,581	6.1	2,191	0.6	91.0
2000/01	30,440	73.9	4,074	5.7	4,551	5.9	0	0	14,276	4.6	11,998	4.7	2,153	0.4	95.2
1999/00	24,138	77.7	1,178	3.1	2,185	3.9	0	0	12,649	6.1	7,485	4.4	2,152	0.7	95.9
1998/99	24,491	73.8	1,059	1.3	4,339	5.7	0	0	13,963	1.7	13,879	8.1	2,184	1.7	92.3
1997/98	24,624	70.4	1,059	1.3	4,998	7.5	0	0	14,943	7.4	9,964	6.1	2,053	0.4	94.2

7.7 Water Balance for the Area of Operations

The following section is provided to satisfy condition 2.12 of the CICL Monitoring and Reporting Plan, which requires an annual water balance estimate for the supply system taking into account deliveries, net channel losses and changes in the volume of water held in offline storages. This section is also provided to satisfy condition R4.3 (a), which requires the volume of all inflows of water to the premises, the volume of all surface water discharges from the premises and an estimate of all accessions of water to groundwater in or outside of the premises.

Table 7.15 indicates the estimated annual volumes of net channel losses, including evaporation, rainfall and seepage for the 2020/21 irrigation season.

Table 7.15: 2020/21 annual water balance for each water supply work

Source	Volume (ML)
River	369,129
Groundwater	1,431
Total Extractions	**370,560**
Customers	258,881
River Operational & Environmental	101,970
Total Deliveries	**360,851**
Evaporation	5,603
Seepage	6,015
Rainfall	-3,486
Discharged without credit	876
Offline storage loss	701
Change in storage volume	0
Total Losses	**9,709**

Sections 8.1 and 8.2 are provided to comply with condition 2.5 of the CICL Monitoring and Reporting Plan, which requires a discussion of the trends evident from the salinity monitoring data for at least the two previous years and a year at least five years prior.

8.1 Extraction Salinity

Salinity data was omitted from all sites during periods where no flow was detected. Where flow was present with no salinity reported the monthly average was used.

The data in tables 8.1, 8.2 and 8.3 illustrates that monthly average salinity in the last three years at the Main Canal Off-take, Col Bore and Hort Bore has remained relatively stable. The monthly average salinity readings for the Main Canal Off-take were generally lower in the 2020/21 season compared to the previous season, particularly for the months of December and January. This may be due to the high volume of water extracted from the Main Canal Off-take during December and January (60,112 ML and 62,369 ML respectively) compared to the months of December and January the previous season (8,670 ML and 9,840 ML respectively).

Table 8.1: Monthly average salinity (µS/cm) at Main Canal Off-take

Month	2020/21	2019/20	2018/19	2015/16
July	No Flow	No Flow	No Flow	141
August	227	219	141	148
September	176	209	144	195
October	162	195	189	227
November	156	189	198	142
December	95	187	200	163
January	90	188	202	116
February	144	197	229	125
March	128	208	209	146
April	214	235	218	145
May	138	219	224	155
June	No Flow	No Flow	No Flow	No Flow
Average	**153**	**205**	**196**	**155**
Median	**150**	**203**	**201**	**146**

Table 8.2: Monthly average salinity (µS/cm) at Col Bore

Month	2020/21	2019/20	2018/19	2015/16
July	No Flow	No Flow	No Flow	No Flow
August	No Flow	No Flow	595	No Flow
September	No Flow	No Flow	595	No Flow
October	No Flow	No Flow	595	No Flow
November	760	No Flow	595	620
December	760	No Flow	610	620
January	760	No Flow	610	620
February	767	No Flow	610	620
March	767	No Flow	610	620
April	No Flow	624	610	No Flow
May	No Flow	624	No Flow	No Flow
June	No Flow	No Flow	No Flow	620
Average	**763**	**624**	**603**	**620**
Median	**760**	**624**	**610**	**620**

Table 8.3: Monthly average salinity (µS/cm) at Hort Bore

Month	2020/21	2019/20	2018/19	2015/16
July	No Flow	347	No Flow	No Flow
August	189	347	262	320
September	189	347	262	No Flow
October	189	No Flow	262	320
November	199	347	256	No Flow
December	194	347	256	No Flow
January	199	347	256	No Flow
February	198	347	256	No Flow
March	198	347	256	No Flow
April	No Flow	347	256	No Flow
May	No Flow	347	No Flow	No Flow
June	198	347	No Flow	320
Average	**195**	**347**	**258**	**320**
Median	**198**	**347**	**256**	**320**

8.2 Discharge Salinity

Salinity data was omitted from all sites during periods where no flow was detected. Where flow was present with no salinity reported the monthly average was used.

Tables 8.4 to 8.7 show monthly average salinity readings at three discharge points and one monitoring point. Electrical Conductivity (EC) data is provided from WaterNSW gauging stations. However, to obtain more accurate readings, data without flow from a metered site are omitted and likewise metered flows without salinity are given monthly corrected average EC. In these tables, 2020/21 data is compared with data from the previous two seasons and with the 2015/16 season.

The data illustrates that the monthly average salinity in the last three seasons has remained relatively constant in comparison to the benchmark year. This can be primarily attributed to the regular supply of water through these discharge points to customers and WaterNSW in addition to lower farm drainage, with ordered supplies constituting most of the flows exiting the system.

Table 8.4: Monthly average salinity readings at Discharge Point CCD (410191) on the Coleambally Catchment Drain (µS/cm)

Month	2020/21	2019/20	2018/19	2015/16
July	No Flow	No Flow	No Flow	No Flow
August	No Flow	No Flow	195	176
September	269	No Flow	99	190
October	222	No Flow	71	286
November	236	No Flow	378	228
December	125	291	586	135
January	167	177	521	219
February	154	205	139	143
March	131	164	150	217
April	274	152	130	194
May	132	No Flow	285	192
June	No Flow	No Flow	286	145
Average	**190**	**198**	**258**	**193**
Median	**167**	**177**	**195**	**192**

Table 8.5: Monthly average salinity readings at Discharge Point DC800A (410108) on the Drainage Channel DC800 (µS/cm)

Month	2020/21	2019/20	2018/19	2015/16
July	121	174	No Flow	151
August	196	184	270	168
September	239	202	226	202
October	253	189	245	351
November	303	181	167	261
December	238	165	180	122
January	238	178	156	138
February	239	191	157	153
March	197	204	188	190
April	227	211	176	162
May	369	259	173	168
June	265	286	181	145
Average	**240**	**202**	**193**	**184**
Median	**239**	**190**	**180**	**165**

Table 8.6: Monthly average salinity readings at Discharge Point CODA (410110) on the Coleambally Outfall Drain (µS/cm)

Month	2020/21	2019/20	2018/19	2015/16
July	196	No Flow	213	168
August	223	No Flow	266	190
September	158	No Flow	293	201
October	No Flow	424	321	369
November	213	353	322	211
December	325	No Flow	298	179
January	No Flow	344	261	158
February	506	No Flow	No Flow	168
March	541	286	215	151
April	501	339	302	190
May	147	No Flow	239	221
June	87	211	194	244
Average	**290**	**326**	**266**	**204**
Median	**218**	**342**	**266**	**190**

Table 8.7: Monthly average salinity readings at Discharge Point CODD (410133) on the Coleambally Outfall Drain (µS/cm)

Month	2020/21	2019/20	2018/19	2015/16
July	No Flow	No Flow	No Flow	227
August	No Flow	No Flow	No Flow	No Flow
September	No Flow	No Flow	No Flow	No Flow
October	No Flow	No Flow	No Flow	No Flow
November	No Flow	No Flow	136	227
December	157	No Flow	136	227
January	157	No Flow	No Flow	No Flow
February	No Flow	No Flow	No Flow	No Flow
March	157	No Flow	136	227
April	No Flow	152	136	227
May	No Flow	No Flow	81	No Flow
June	157	152	190	227
Average	**157**	**152**	**136**	**227**
Median	**157**	**152**	**136**	**227**

8.3 Simple Salt Balance

The following section is provided to satisfy conditions 2.14, 2.15 and 2.16 of the CICL Monitoring and Reporting Plan, which requires a report on the volume, salinity and salt load of extractions and discharges with a simple annual salt balance representing the imported, exported and retained salt load for the area.

The salt load is calculated using a daily average EC and total daily salt load. Where daily salinity was not available the monthly average salinity (µS/cm) was used to calculate salt load.

The following tables depict exact numbers for flow (megalitres) and salt load (tonnes) however the salinity (µS/cm) is displayed as a monthly average.

Table 8.8: Salinity (µS/cm) and salt load (Tonnes) entering CICL's Area of Operations in 2020/21

2020/21	Main Canal			Col Bore			Hort Bore		
Month	**ML**	**µS/cm**	**Salt (T)**	**ML**	**µS/cm**	**Salt (T)**	**ML**	**µS/cm**	**Salt (T)**
July	0	No Flow	0	0	No Flow	0	0	No Flow	0
August	28,362	227	4,117	0	No Flow	0	2	189	0
September	27,429	176	3,171	0	No Flow	0	3	189	1
October	25,571	162	2,649	0	No Flow	0	44	189	5
November	49,860	156	4,654	30	760	15	88	199	11
December	60,112	95	3,635	437	760	213	57	194	7
January	62,369	90	3,620	83	760	40	37	199	5
February	44,015	144	4,142	251	767	123	276	198	35
March	42,353	128	3,097	10	767	5	102	198	13
April	15,084	214	1,909	0	No Flow	0	0	No Flow	0
May	13,974	138	1,230	0	No Flow	0	0	No Flow	0
June	0	No Flow	0	0	No Flow	0	11	198	1
Sub Total	**369,129**		**32,224**	**811**		**396**	**620**		**78**
Salt Total	**32,698**	**ML Total**	**370,560**						

8. Salinity and Salt Load

Tombullen is an in-line storage used by WaterNSW to buffer Murrumbidgee downstream demand. It is located off the main canal at the start of CICL's supply system. Whilst it is not a discharge monitoring site under the CICL Monitoring and Reporting Plan it does, however, account for a significant volume of water (and hence, salt) delivered by CICL through our main extraction site each season. For the salt load tables actual volume (ML) and actual total salt (Tonnes) are used however salinity (EC) is displayed as a monthly average.

Table 8.9: Salinity (µS/cm) and salt load (Tonnes) exiting Coleambally Irrigation Area in 2020/21

	Drainage Canal DC800A			Coleambally Outfall Drain A (CODA)			Coleambally Catchment Drain (CCD)			Tombullen		
Month	**ML**	**µS/cm**	**Salt (T)**	**ML**	**µS/cm**	**Salt (T)**	**ML**	**µS/cm**	**Salt (T)**	**ML**	**µS/cm**	**Salt (T)**
July	28	121	2	32	196	4	0	No Flow	0	0	No Flow	0
August	694	196	97	184	223	30	0	No Flow	0	11,280	227	1,637
September	1,099	239	168	542	158	78	1,959	269	335	7,195	176	713
October	657	253	106	0	No Flow	0	2,161	222	303	5,142	162	548
November	893	303	175	1,288	213	182	1,677	236	264	10,179	156	851
December	2,850	238	429	2,052	325	476	4,554	125	358	6,826	95	409
January	2,432	238	369	0	No Flow	0	1,439	167	151	11,332	90	699
February	1,215	239	183	2,829	506	905	1,638	154	151	3,061	144	191
March	2,250	197	278	3,824	541	1,368	2,522	131	188	10,571	111	766
April	567	227	75	1,342	501	337	1,592	274	277	0	No Flow	0
May	140	369	31	323	147	40	1,889	132	157	0	No Flow	0
June	687	265	113	642	87	51	0	No Flow	0	0	No Flow	0
Sub Total	**13,512**		**2,026**	**13,058**		**3,471**	**19,431**		**2,184**	**65,586**		**5,814**
Salt Total	**13,495**	**ML Total**	**111,587**									

The seasonal flow, salinity and salt load for the CODD is displayed separately in Table 8.10 as it is situated directly downstream from the site CODA. Including both sites in the same table would lead to double counting of the salt and flow data.

Table 8.10: Volume of water exiting CICL's Operational Area at CODOaklands, salinity (µS/cm) at CODD (410133) and calculated salt load (Tonnes) in 2020/21

2020/21	Coleambally Outfall Drain D (CODD)		
Month	**ML**	**µS/cm**	**Salt (T)**
July	0	No Flow	0
August	0	No Flow	0
September	0	No Flow	0
October	0	No Flow	0
November	0	No Flow	0
December	72	157	7
January	2	157	1
February	0	No Flow	11
March	112	157	0
April	0	No Flow	0
May	0	No Flow	0
June	74	157	7
Total	**260**		**26**

Table 8.11 represents a simple annual salt balance comprising the imported, exported and retained salt load for the area associated with each separate water supply work.

Table 8.11: Simple salt balance (Tonnes) in 2020/21

Inflow Sites	Imported Salt (T)	Outflow Sites	Exported Salt (T)
Main Canal Off-take	32,224	Drainage Canal DC800 (DC800A)	2,026
Col Bore	396	Coleambally Outfall Drain (CODA)	3,471
Hort Bore	78	Coleambally Catchment Drain (CCD)	2,184
		Tombullen	5,814
Total	**32,698**		**13,495**
Balance	**19,203**		

9. Groundwater Conditions within the Area of Operations

The following section is provided to satisfy condition 2.17 of CICL Monitoring and Reporting Plan, which requires a report on monitoring of groundwater conditions by means of piezometers in accordance with monitoring and reporting requirements.

CICL has a network of piezometers throughout its Area of Operations which is used to monitor groundwater conditions. Attachment 2 of the CICL Monitoring and Reporting Plan requires that piezometers be read annually in August (+/- 2 weeks). It is CICL's practice to read them again in March to have a more complete understanding of groundwater conditions affecting our area. The related data is analysed using Arc Map GIS and MS Excel software.

In August 2021, 667 of CICL's 737 licensed piezometers were read of which 93 were recorded as being dry, 17 were recorded as destroyed and 45 were recorded as blocked. A total of 91% of piezometers were read.

Piezometers are read to an accuracy of +/- 5 cm with the data obtained presented as per the Licence monitoring requirements. Data analysis and mapping is based on a split set of data being: pressure levels from the upper Shepparton aquifer via piezometers < 12 m deep; and pressure levels from the lower Shepparton aquifer via piezometers 12 m – 60 m deep.

Readings from the upper Shepparton aquifer represent the water table, while readings from the lower Shepparton aquifer represent the piezometric level of the lower confined aquifer.

All piezometers with a recorded depth are mapped, except those recorded as dry, blocked, buried or otherwise damaged.

For comparative purposes, piezometric levels in the previous two years and in the baseline year of 1998 are presented along with the current year. The inclusion of the previous two years highlights the change in conditions from the last season to the present, whilst the inclusion of the baseline year allows a comparison with groundwater conditions in 1998.

Figure 9.1 is a contour map of the piezometric levels below natural surface for August 2021. A 3D surface of piezometric levels was created from point measurements (depth to piezometric level below natural surface at each piezometer) by using the Inverse Distance Weighted (IDW) method of interpolation. This method requires inputs of XY locational coordinates and a Z coordinate for the piezometric level.

Tables 9.1 and 9.2 are tabular representations of Figure 9.1. From Table 9.1 for 0-12 m depth piezometers 10,176 ha or 11% of the mapped groundwater area were located in the 0-4 m zone in 2021, which in Figure 9.1 is represented in red, orange and yellow combined. This compares to 3% in 2020. For the same period there was also an increase in piezometric level, known as standing water level, within 2 metres of the surface from 40 ha to 61 ha.

In 2019/20 CICL improved the reporting practices for piezometric levels resulting in portions of land within the Coleambally Irrigation Area denoted by the label 'no data'. This area equates to 2,480 ha or 2.6% of the Coleambally Irrigation Area for the 0-12 m piezometric level. These results are due in part to improved reporting practices. 65 piezometers within the 0-12 m range were recorded as dry in August 2021, compared to 56 in August 2020.

9. Groundwater Conditions within the Area of Operations

Table 9.1: Piezometric level below natural surface; 0-12 m piezometers; August 2021 comparison of areas 1998, 2019 & 2020

Piezometric Level Below Natural Surface (m)	Years and Area of Piezometric Level (ha)				Change in Area of Piezometric Level (ha) [+ = increasing][- = decreasing]	
	2021	2020	2019	1998	2021 vs 1998	2021 vs 2020
Less than 2 metres	61	40	101	36,041	-35,980	21
Between 2 and 4 metres	10,115	2,933	8,139	41,559	-31,444	7,182
Greater than 4 metres	83,146	91,432	87,562	18,202	64,944	-8,286
No data	2,480	1,397	0	0	2,480	1,083
Total	**95,802**	**95,802**	**95,802**	**95,802**		

Table 9.2: Piezometric level below natural surface; 12-60 m piezometers; August 2021 comparison of areas 1998, 2019 & 2020

Piezometric Level Below Natural Surface (m)	Years and Area of Piezometric Level (ha)				Change in Area of Piezometric Level (ha) [+ = increasing][- = decreasing]	
	2021	2020	2019	1998	2021 vs 1998	2021 vs 2020
Less than 2 metres	59	0	6	23,024	-22,965	59
Between 2 and 4 metres	2,900	353	2,155	33,481	-30,581	2,547
Greater than 4 metres	92,843	95,399	93,641	39,297	53,546	-2,556
No data	0	50	0	0	0	-50
Total	**95,802**	**95,802**	**95,802**	**95,802**		

Table 9.2 Compares the 12–60 m range in 2021 and demonstrates that the watertable has risen from previous readings which is assumed to be in response to the higher rainfall experienced and increased irrigation practices. In 2020 there was 0 ha with a piezometric level within 2 metres of the surface, and in 2021 that figure has increased to 59 ha.

2,959 ha or 3% of mapped standing water level area existed in the 0-4 m zone in 2021. This area is significantly higher than the 0.4% in 2020.

Figure 9.1: Piezometric level below natural surface; 0-12 m and 12-60 m piezometers August 2021

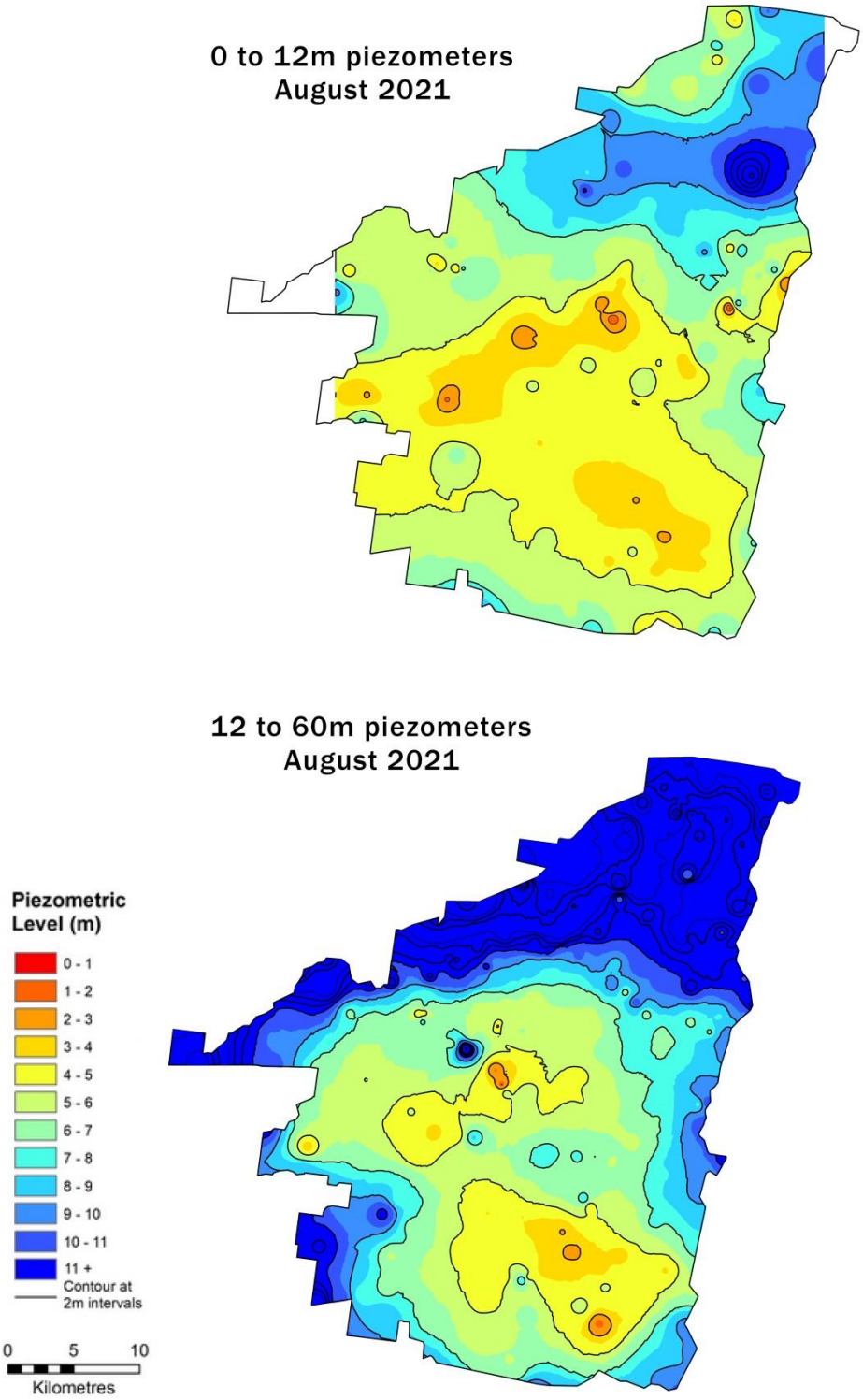


Figure 9.2 depicts the piezometric level as converted to the Australian Height Datum (AHD) and mapped for all the 0-12 m and 12-60 m piezometers. These are the upper and lower parts of the Shepparton Aquifer, respectively. These levels represent the piezometric level height above sea level and can be used to identify the direction of groundwater flow. In general, the direction of groundwater flow is West-South-West.

Tables 9.3 and 9.4 are tabular representations of Figure 9.2.

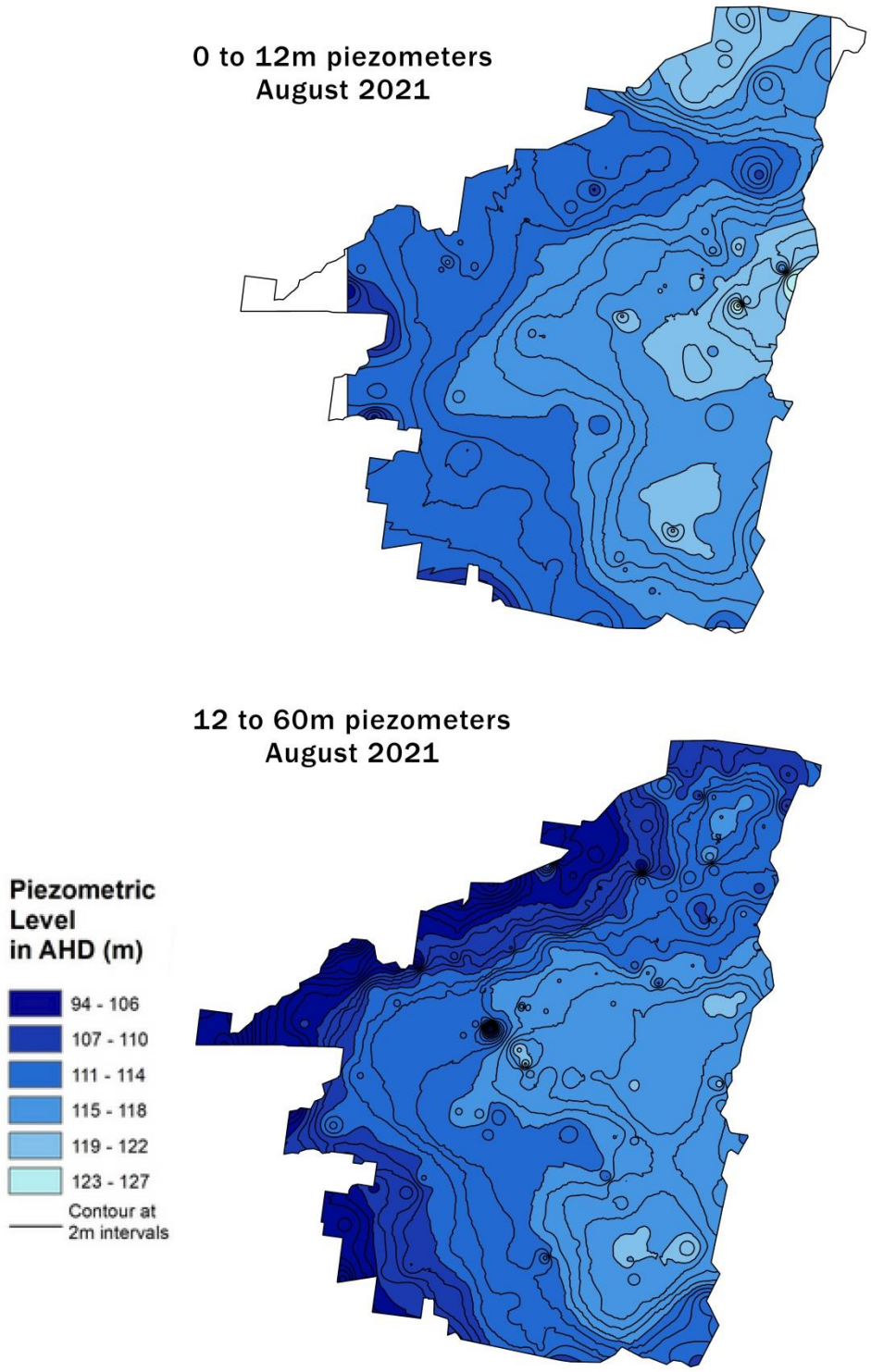
Table 9.3: Piezometric level (mAHD); 0-12 m piezometers; August 2021 versus September 1998

Piezometric Level (AHD)	2021 Area (Ha)	1998 Area (Ha)
123 – 127 (higher)	183	4,151
119 - 122	12,979	39,182
115 - 118	40,013	31,548
111 - 114	39,523	11,211
107 - 110	624	5,724
94 – 106 (lower)	0	3,986
No Data	2,480	0
Total	**95,802**	**95,802**

Table 9.4: Piezometric level (mAHD); 12-60 m piezometers; August 2021 versus September 1998

Piezometric Level (AHD)	2021 Area (Ha)	1998 Area (Ha)
123 – 127 (higher)	0	6,381
119 - 122	1,387	42,337
115 - 118	32,722	34,921
111 - 114	41,230	11,432
107 - 110	13,464	731
94 – 106 (lower)	6,999	0
No Data	0	0
Total	**95,802**	**95,802**

Figure 9.2: Piezometric level (mAHD); 0-12 m and 12-60 m piezometers August 2021



10.1 Data Omissions and Discrepancies

This section identifies the variations, discrepancies, data omissions and details of any actions undertaken or proposed to remedy any monitoring or reporting deficiencies in satisfying condition 2.6 of the CICL Monitoring and Reporting Plan.

The Coleambally Catchment Drain (CCD) is a supply point for WaterNSW customers and these flows are measured at the adjacent CICL delivery point rather than the WaterNSW gauging station. Under condition 3 of the CICL Monitoring and Reporting Plan it is understood that CICL may include data of acceptable quality from other sources to meet the monitoring and reporting requirements of the Plan. As with the CODA site, the flow data from the CCD delivery system is used in conjunction with the continuous EC data from the WaterNSW gauge to compute salt load. Table 10.1 indicates where data is sourced. The WaterNSW CCD and CODD gauges are impacted by backwater during periods of high flow in the Yanco and Billabong creeks and are considered unreliable.

To provide the most accurate data possible CICL uses data sources as detailed in Table 10.1.

Table 10.1: Data sources for licence sites

NSW DPI-Hydrometrics site number	NSW DPI-Water Licenced Site	NSW EPA Licenced Site	ACR Comment
410110	CODA	1. CODWonga	Salinity from CODA (410110) Flow from CICL FlumeGate™ CODWonga
410108	DC800A	2. DC800A	Salinity and Flow from DC800A (410108)
410191	CCD	3. CCD	Salinity from CCD (410191) Flow from CICL FlumeGate™ CCD Escape
410133	CODD	4. CODOaklands	Salinity from CODD (410133) Flow from CICL FlumeGate™ CODOaklands

The CICL Rubicon Demand Management System was rolled over on the 8th of June 2021, with the flow volumes recorded on that day not accurately reflecting actual volumes. This has only materially affected the CODWonga FlumeGate™ data, with all other extraction and discharge points either recording no flow during that period or the data isn't used in our reporting. The flow volume for CODWonga for the 8th of June was calculated by averaging the flow rates of the preceding and proceeding days.

Salinity at the Main Canal Off-take was recorded at weekly intervals using a handheld YSI Pro2030 Dissolved Oxygen and Conductivity meter. It was initially planned to replace the existing faulty salinity sensor located at the Main Canal Off-take, however, this was delayed due to COVID-19 restrictions. Similarly due to COVID-19 restrictions staff were not able to take salinity readings at the Main Canal Off-take every week, recording a total of 28 weeks out of the 40 weeks in which water was extracted through the Off-take.

CICL applied for and received a Groundwater Works Approval (40WA418096) for a bore in 2020. This bore has not yet been constructed and as such no data for the Works Approval has been provided in this report.

The discharge and specific conductivity data supplied from the WaterNSW gauging station at DC800A (410108) is largely missing or uncorrected. Where specific conductivity was missing it was substituted with uncorrected conductivity readings. For discharge flow rates the reported rates are likely underestimating the actual flow rate (based off releases from CICL escapes) however as CICL does not operate an in-line FlumeGate ™ we cannot substitute it with any other data.

11. New Measures to Limit Groundwater Recharge and Salinity Discharge

The following section is provided to satisfy condition 2.9 of the CICL Monitoring and Reporting Plan, which requires a discussion of any new measures implemented during the year and results of measures commenced in the previous year to reduce recharge of groundwater and discharge of salt from the Area of Operations.

11.1 Water Use Policy

Coleambally Irrigation has a Water Use Policy in place which is intended to limit the environmental impacts of irrigation recharge on the water table. This policy imposes a water use intensity limit and limitations on the approved areas to farm rice on all farms with access to CICL drainage.

11.2 Salinity Discharge

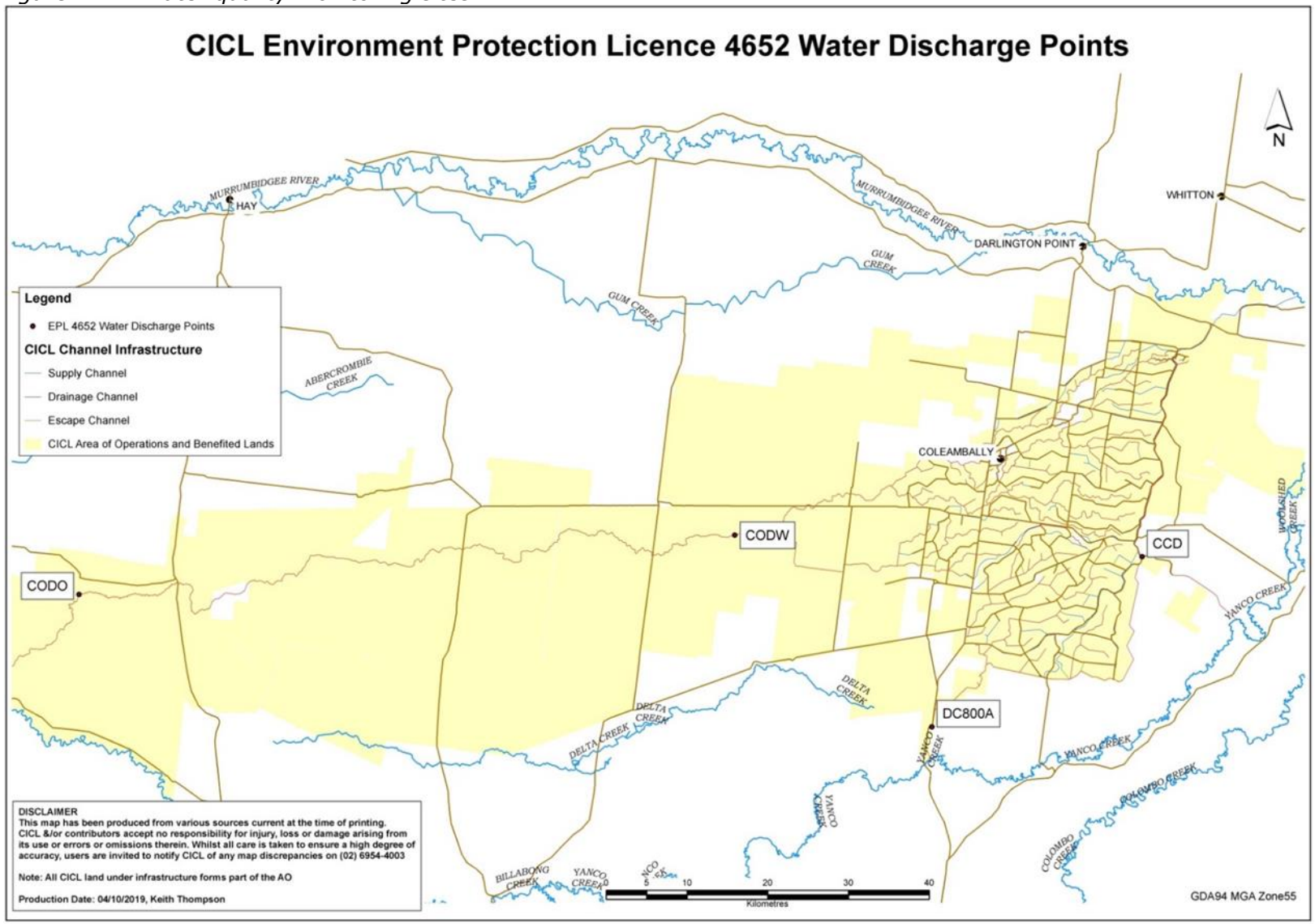
There were no new measures proposed or implemented in the 2020/21 season.

12.1 Water Quality

CICL's surface water quality program is aimed at monitoring supply and drainage water quality within CICL's operational area, including at the licensed discharge points. The program monitors flow, turbidity, dissolved oxygen, pH, EC, chemical and nutrient levels at various points to comply with licence conditions. CICL's water quality monitoring sites are shown in Figure 12.1.

At the licensed sites, flow, salinity and the temperature of drainage water are monitored continuously. Monthly water samples are collected from these sites and are analysed for the presence of chemicals as required by CICL's EPL. Water samples are also collected and analysed from one supply site at the Main Canal Off-take when flowing. An EC sensor is installed at the Main Canal Off-take to provide data used to calculate the salt load.

Figure 12.1: Water quality monitoring sites



12.2 Environmental Monitoring

The following section is provided to satisfy condition M4 of our Environment Protection Licence, which requires irrigation wastewater sampling for Molinate for a period of 9 weeks from mid-October at licenced discharge sites.

There were no detections of Molinate exceeding either the Notification Level or Action Level (see Table 12.1). However as part of the weekly testing Metolachlor and Chlorpyrifos were detected at concentration levels above Notification Level and Action Level respectively in week 2 of the Environmental Monitoring Program.

Table 12.1 Environmental monitoring licence point results in 2020/21

Date	CODWonga Molinate (µg/L)	DC800A Molinate (µg/L)	CCD Molinate (µg/L)	Report No.
Week 1	No Flow	<0.005	Not Sampled	ES2035991
Week 2	No Flow	<0.005	Not Sampled	ES2036859
Week 3	No Flow	<0.005	Not Sampled	ES2038236
Week 4	No Flow	<0.005	Not Sampled	ES2038788
Week 5	No Flow	<0.005	Not Sampled	ES2039754
Week 6	No Flow	<0.005	Not Sampled	ES2040755
Week 7	<0.005	<0.005	Not Sampled	ES2041741
Week 8	<0.005	<0.005	Not Sampled	ES2042621
Week 9	<0.005	<0.005	Not Sampled	ES2043654

12.3 Chemical Use

The following section is provided to satisfy condition O3.9 of the Environment Protection Licence, which requires a record to be kept of all chemical applications greater than 10 litres of chemical concentrate directly to or within close proximity to any water within the infrastructure owned or controlled by CICL.

In absolute terms chemical usage by CICL is down this season compared to last season.

Table 12.2: CICL chemical usage in 2020/21

Product	Active Constituent	Litres or Kg	Application
Access	Triclopyr, Picloram	67	Boxthorns
Amitrole T	Amitrole, Ammonium thiocyanate water	116	Weed control
Bowlem	Canola Oil, Ammonia Sulphate	1,224	Spray adjuvant
Cutlass	Dicamba	581	Weed grass control
Dalapon	2-2-DPA	10	Cumbungi, water couch
Diesel		4,020	Spray adjuvant
Kamba	MCPA	48	Weed control
Roundup	Glyphosate	2,100	Weed control
VC700	Propionic Acid, Soyal Phospholipids	44	Spray adjuvant

12.4 Reportable Incidents

The following section is provided to satisfy condition R4.3 (c) of the Environment Protection Licence, which requires a summary of all pollution events which have been reported under the conditions of the licence.

There was a single reportable incident in 2020/21 where pollutants exceeded notifiable levels as part of routine monitoring.

As part of the Environmental Monitoring program Metolachlor and Chlorpyrifos were detected at concentration levels above Notification Level and Action Level respectively in week 2 (28th October 2020) of the Environmental Monitoring Program at DC800A. CICL was supplying water through an escape into the DC800 for the duration of the event at a rate of 20ML/day, with the WaterNSW gauge site recording daily flows between 25ML and 30ML the week of the 28th of October 2020. In undertaking a site inspection on the 4th of November it was determined that there were two possible sources for the pollution event – DC830 and DC840. Both drains had small volumes of stagnant water present and may have contributed flows into DC800. As both drains had only stagnant water present at the time of inspection it is difficult to determine the exact source of the pollutant.