Coleambally IRRIGATION

# 2015

# Annual Compliance Report

# Contents

# Overview

During the reporting year the Murrumbidgee region had significantly below average rainfall and inflows for the first nine months of the year, followed in the last three months by exceptionally high levels and flows into the major storages on which Coleambally Irrigation Co-Operative Limited (CICL) relies. As a consequence, the General Security water allocation was limited to 53%.

The area under cropping within our area of operations was 45,529 ha, in comparison to 50,725 ha for the preceding season. The predominant crops were rice, wheat, corn, cotton and canola with the most significant of these in terms of area and water use being rice (9,103 ha and 44% of water supplied by CICL respectively).

The key water statistics for the year were as follows. Figures for the previous year are also included for comparison.

| Key Statistics | 2014/15 | 2013/14 |
|---|---|---|
| Final Allocation | 53% | 63% |
| Metered net diversions into the Area of Operations | 327,780 ML | 336,916 ML |
| Metered usage to customers | 300,807 ML | 312,548 ML |
| Net channel losses | 26,973 ML | 24,368 ML |
| Groundwater usage within area of Operation | 104,848 ML | 86,160 ML |
| Groundwater usage in CIA | 19,666 ML | 17,066 ML |

Groundwater levels rose slightly during 2014/15 although unlike previous years many of the piezometers were measured when the channels were full and this may have impacted on the results. In September 2014, the water table was within 2m of ground level over an area of 2,729 ha but by September 2015 it was 3,295 ha. Both readings are well below the Land and Water Management Plan remediation trigger point of 10,000 ha at which the requirement for enhanced net recharge activity is activated.

There were four reportable water quality incidents in 2014/15 when Metolachlor was detected at CODW (Wonga Station) and at the DC800A Outfall into Yanco Creek.

CICL continues to manage the Coleambally Irrigation Biodiversity Reserve Trust (CIBRT) land as required for environmental protection. The reserve comprises 10 individual blocks and encompasses an area of approximately 1,700 ha. Most of the land, formerly Crown leasehold, was used for grazing stock and dry land cropping until its gazettal as a reserve in March 2007. The main purpose is to protect and wherever possible enhance the quality of remnant native vegetation communities, including woodland types such as weeping myall (boree), black box, white cypress pine, and yellow box. It is envisaged that by maintaining vegetation quality, many of the populations of existing fauna species will also remain stable. The reserve is also utilised as a resource for conducting science-based field days and student or public excursions. Maintenance work is regularly undertaken and includes weed control, feral animal control and upgrading of fire breaks.

At the time this ACR was compiled, the General Security allocation within the Murrumbidgee stood at 29% compared to 40% at the same time in the previous season. With Burrinjuck and Blowering Dams at 70% and 42% of capacity respectively, the outlook for the 2015/16 irrigation season is lower than in season 12/13 and lower than the historical average.

# 1. Introduction

## 1.1. General

This is the 17th Annual Compliance Report (ACR)[1] compiled by CICL. It is written in compliance with CICL's:

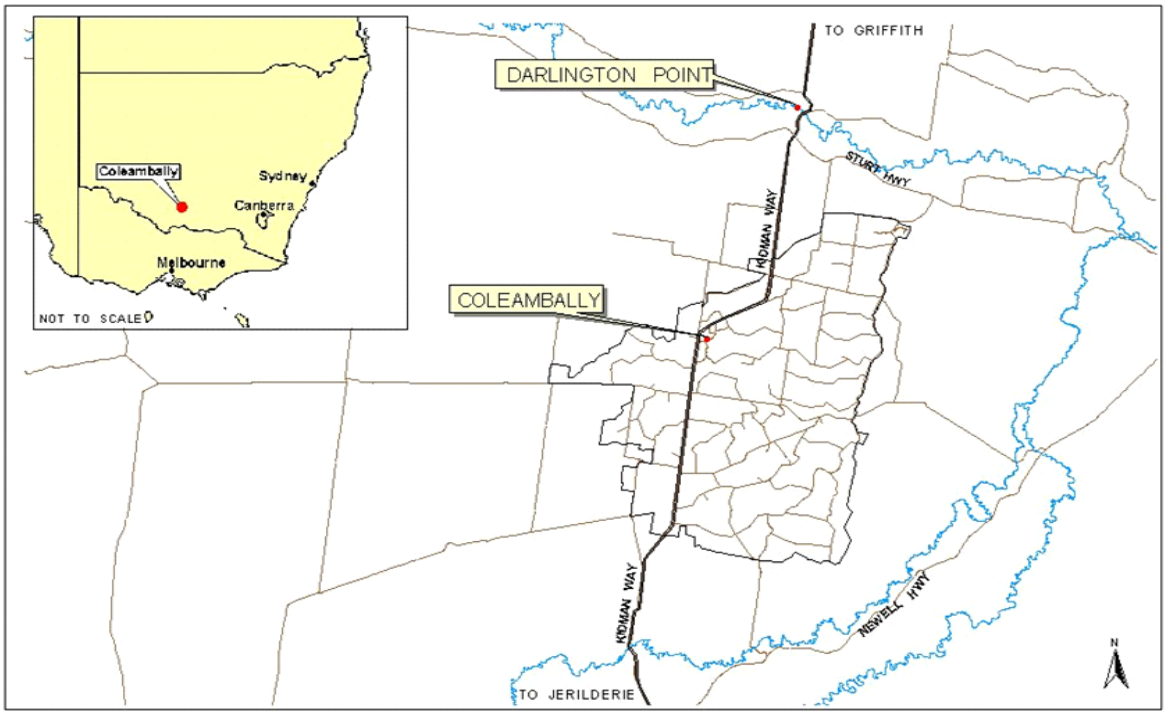
- Environment Protection Licence issued by the Department of Environment and Climate Change, under the Protection of Environment Operations Act 1995 (POEO Act before 1995); and
- Operating Licence, as issued by the NSW Office of Water's Water Access Licences (8 licences) and Nominated Works and Water Use Approvals issued under the Water Management Act 2000 – specifically, amended approval 40CA401473 of August 2012 (herein referred to as 'approval 2012')

The aim of this report is to demonstrate CICL's compliance with the conditions specified under the approval 2012 and Environment Protection Licence. The format of the report closely mirrors those conditions specified under Schedule 1, reporting conditions 12.1 to 12.2, of the approval 2012.

## 1.2. Coleambally Irrigation Area of Operations and Location

The Coleambally Irrigation District (CID) is located south of Griffith between the towns of Darlington Point and Jerilderie, New South Wales in the southern Murray-Darling Basin of Australia –refer to Figure 1.1

**Figure 1.1 CID Location Diagram**




[1] Known as Annual Environment Report (AER) prior to 2009/10

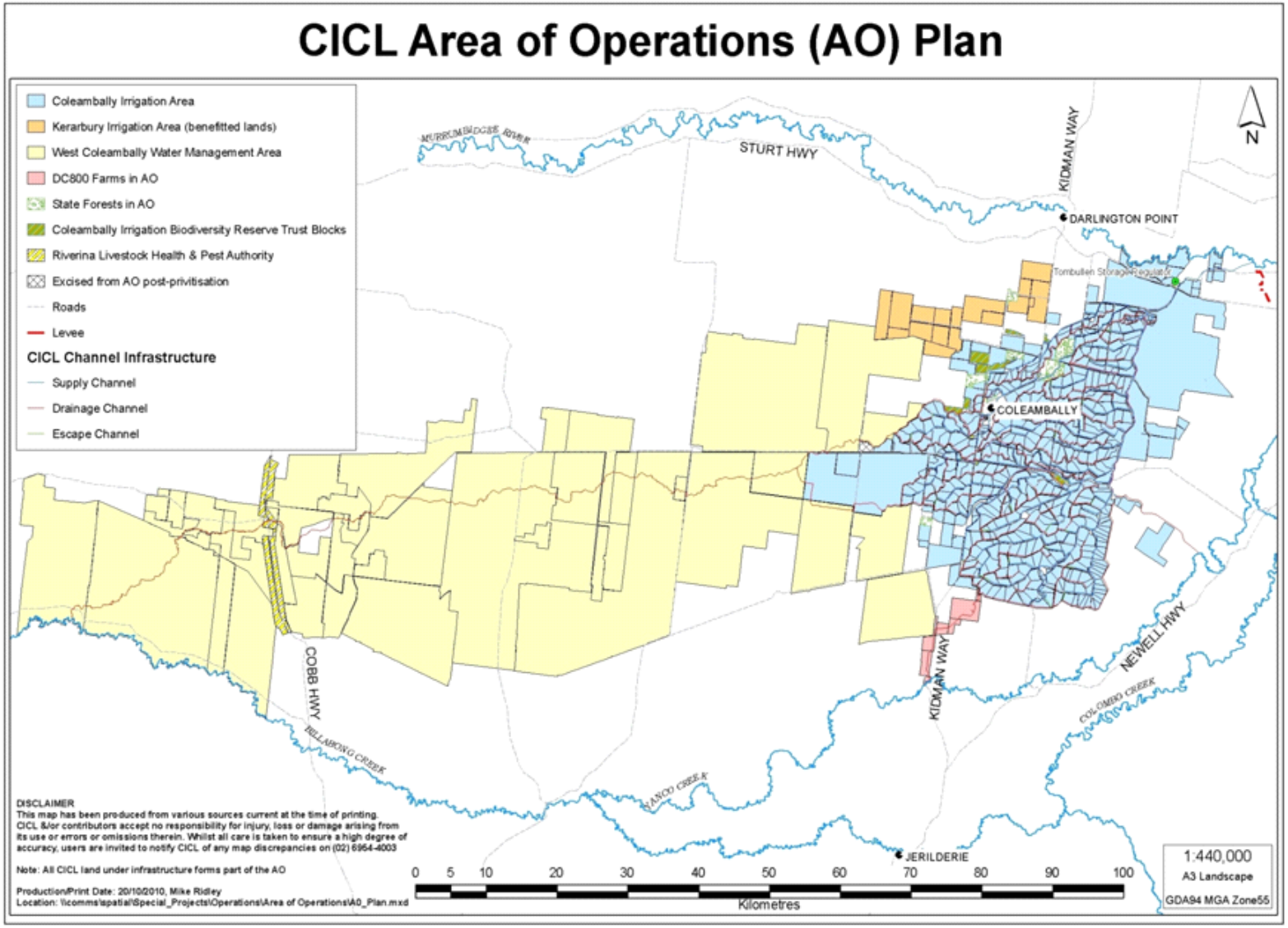
The CID comprises 495 irrigation farms containing 79,000 ha of irrigated land supplied through open earthen channels and approximately 325,000 ha of West Coleambally Channel District to which CICL supplies stock, tank and opportunistic irrigation water. In addition, CICL supplies water to a neighbouring irrigation company, Kerarbury Channel Proprietary Limited (KCPL) which is not physically connected to the Murrumbidgee River. CICL also operates and maintains KCPL's fully automated water regulating system – in that sense; CICL is delivering water across approximately a further 20,000 ha of irrigated land.

CICL's irrigation water is sourced from the Snowy Mountains via the Murrumbidgee River. The two major storages en route are Burrinjuck and Bowering dams with water being diverted into the Coleambally Main Canal upstream of Gogelderie Weir. CICL's delivery system is gravity fed and incorporates state of the art and solar-powered metering and flow regulation technologies which provide for fully automated water ordering and accounting.

CICL's irrigation system consists of 41 km of Main Canal from the Murrumbidgee River, 477 km of supply channels, and a further 734 km of drainage channels. CICL remains the most sophisticated and efficient open channel operator within Australia.

There were no changes to CICL's area of operation, which is depicted in Figure 1.2, during the reporting period.

**Figure 1.2 Current Area of Operation of CICL including the benefitted lands. (See attached Appendices A7 for higher level of detail)**



### 1.3. Plans of Works and Monitoring Sites (Piezometers)

Figure 1.3 shows the location of approved Works. The approval 2012 and the groundwater work approvals 40CA403808 and 40WA404593 issued by the NSW Office of Water include three water extraction works, namely: Coleambally Main Canal Off-take, Col Bore and Hort Bore. The approval 2012 also includes three drainage discharge points: CCD on the Coleambally Catchment Drain; DC 800A on Drainage Channel 800; and CODD at Bundy on the West Coleambally Channel. One additional monitoring point has also been approved: CODA, on the West Coleambally Channel. The CODA monitoring point is used in conjunction with CICL's Rice Chemical Monitoring Program in lieu of CODD due to CODA's closer proximity to Coleambally. Figure 1.3 also shows the location of the Kerarbury Channel Off-take Regulator, which supplies water to the benefitted lands of the Kerarbury District.

Furthermore, as agreed with NSW Office of Water in 2012 an additional map in A1 Format is provided in Appendix A7 to provide additional detail.

A total of 737 piezometers have been approved as monitoring works to measure groundwater pressure levels in the Upper and Lower Shepparton Aquifers. Their locations are shown in Figure 1.4.

**Figure 1.3 Works Plan**

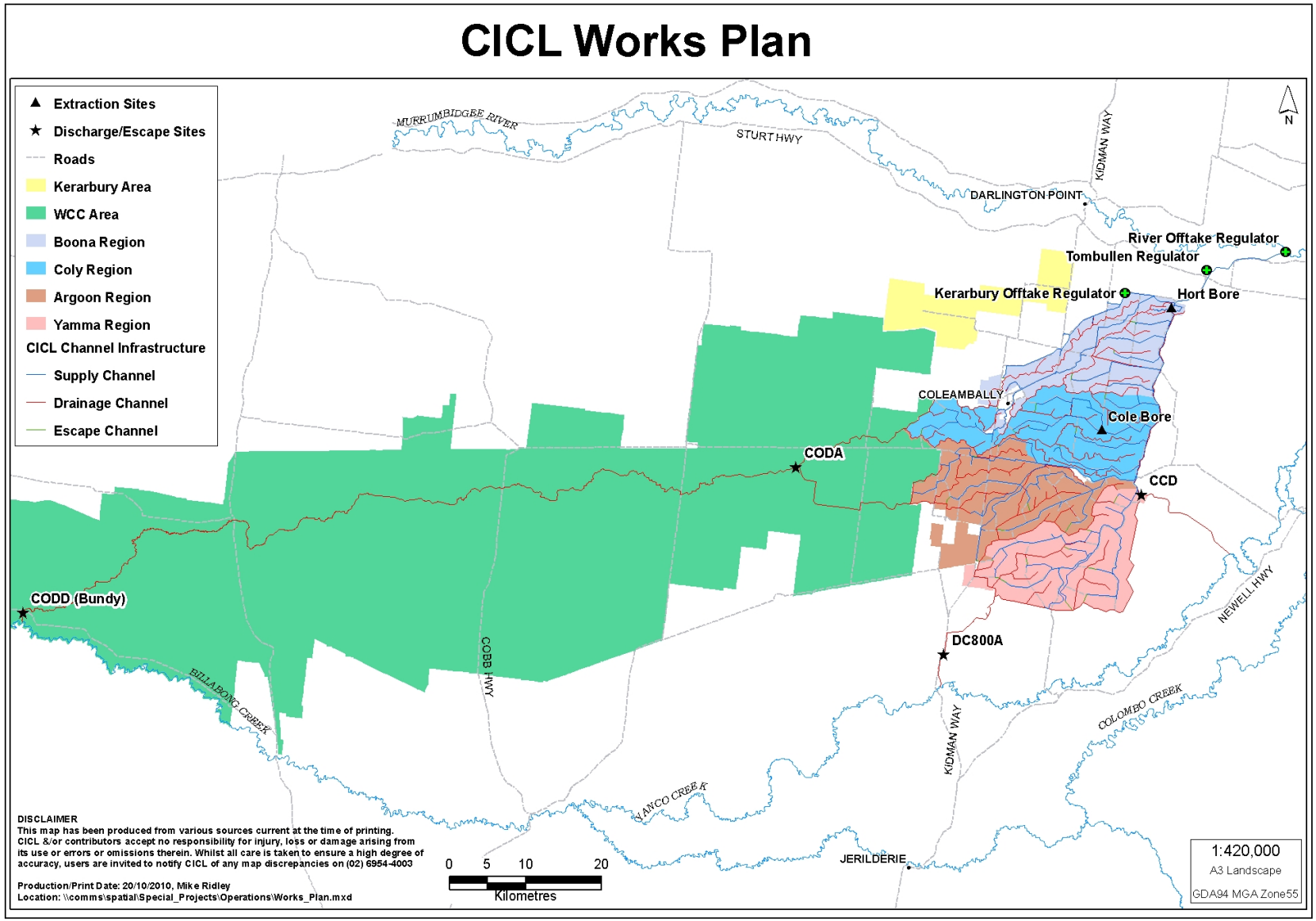
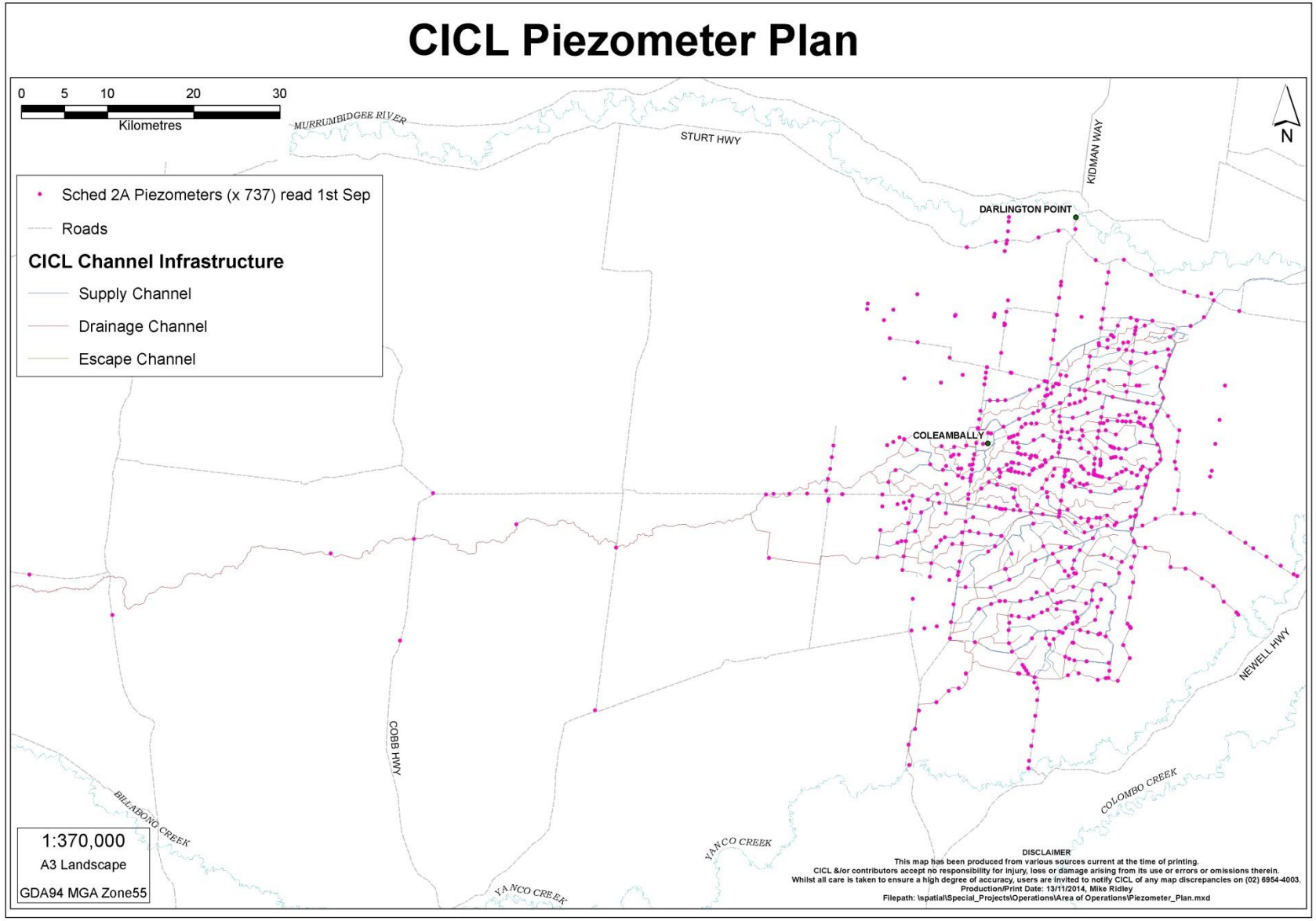
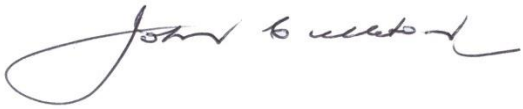


**Figure 1.4 Piezometer (Monitoring Sites) Plan**



## 2. Statement of Compliance

This is to certify that from 1st July 2014 to 30th June 2015, CICL has, with the exception of those matters explained in Section 3.4, complied with all monitoring and reporting requirements of the Water Access Licences, Water Supply Works, Approval 2012, groundwater works Approvals 40CA403808 and 40WA404593 and Environment Protection Licence (4652) issued to it by the NSW Government. The information presented in this report is also certified as being complete, true and accurate to the best of my knowledge.



John Culleton
Chief Executive Officer

# 3. Data and Analysis

## 3.1 Water Allocation

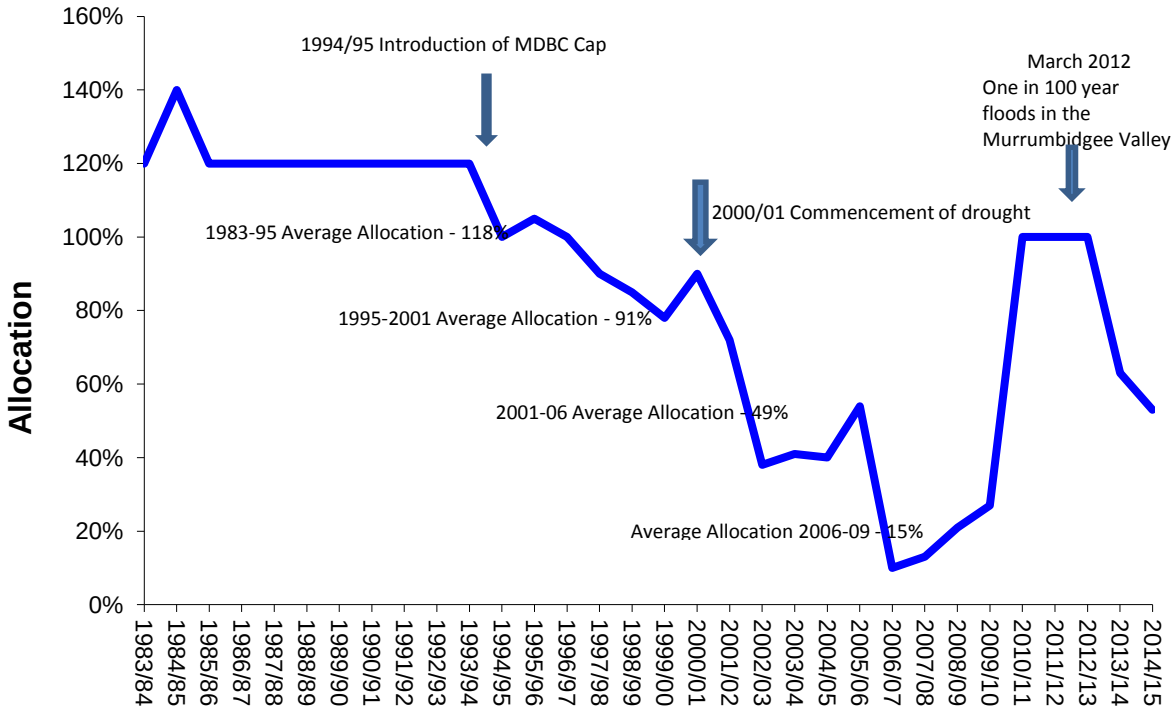
Table 3.1 shows the dates and announced General Security allocations in the Murrumbidgee Valley during 2014/15. The year commenced with an allocation of 10% and increased slowly to 40% by the time of summer crop planting, and to 53% by the end of the season.

**Table 3.1 Cumulative General Security Water Allocations for 2014/15**

| Date | Cumulative GS Allocation (%) |
|---|---|
| 1/07/2014 | 10% |
| 15/07/2014 | 17% |
| 1/08/2014 | 24% |
| 15/08/2014 | 26% |
| 1/09/2014 | 30% |
| 15/09/2014 | 34% |
| 1/10/2014 | 37% |
| 14/10/2014 | 40% |
| 15/01/2015 | 46% |
| 2/02/2015 | 49% |
| 16/02/2015 | 51% |
| 15/04/2015 | 53% |

Figure 3.1 shows annual General Security allocations in the Murrumbidgee Valley since 1982/83.

**Figure 3.1: Annual allocations for general security entitlement since 1982/83 in the Murrumbidgee Valley**



## 3.2 Monitoring Data

In compliance with condition 12.17 of the approval 2012, the following monitoring data is included:

1. Piezometer pressure level data, in Appendix A1
2. Surface Water Extraction and Salinity, in Appendix A2
3. Groundwater Extraction from CICL's Approved Works, Salinity and Salt Load, in Appendix A3
4. Groundwater Extraction from other Approved Works, in Appendix A4
5. Drainage Flow and Salinity data from three licensed discharge sites and one licensed monitoring site, in Appendix A3
6. Drainage Water quality data for pH, Nutrients, in Appendix A5
7. Drainage Water quality data for Chemicals, in Appendix A5
8. Crop Type, Crop Area and Water Usage data, in section 3.1.4
9. Rice Chemical Monitoring Program results in Appendix A6.
10. Additional Detailed Map Appendix A7

## 3.3 Trends

### 3.3.1 Salinity

Tables 3.2 to 3.5 show monthly average salinity readings at three licensed discharge points and one licensed monitoring point. In the tables, 2014/15 data is compared with data from the previous two years and with the benchmark data. The benchmark was set up through averaging the data of the three seasons immediately preceding the privatization of CICL in 2000. In the case of salinity data, a cell containing n/a (not applicable) indicates no flow.

**Table 3.2: MONTHLY SALINITY READINGS AT LICENSED DISCHARGE POINT CCD on the Coleambally Catchment Drain (µS/cm)**

| Month | 2014/2015 | 2013/2014 | 2012/2013 | Benchmark |
|---|---|---|---|---|
| July | 148 | 174 | n/a | 120 |
| August | 153 | 180 | n/a | 164 |
| September | n/a | 141 | n/a | 213 |
| October | n/a | 91 | 103 | 143 |
| November | n/a | 80 | 131 | 98 |
| December | 99 | 104 | 88 | 96 |
| January | 139 | 87 | 70 | 128 |
| February | 194 | 113 | 60 | 16 |
| March | 168 | 159 | 75 | 64 |
| April | 103 | 52 | n/a | 94 |
| May | 90 | n/a | n/a | 106 |
| June | 70 | n/a | n/a | 158 |
| **Average** | **129** | **118** | **86** | **117** |
| **Median** | **139** | **108** | **75** | **113** |

**Table 3.3: MONTHLY SALINITY READINGS AT LICENSED DISCHARGE POINT DC800A on the Drainage Channel DC800 (µS/cm)**

| Month | 2014/2015 | 2013/2014 | 2012/2013 | Benchmark |
|---|---|---|---|---|
| July | 411 | 647 | 329 | 1496 |
| August | 166 | 1166 | 272 | 1661 |
| September | 167 | 399 | 285 | 338 |
| October | 128 | 247 | 275 | 257 |
| November | 117 | 311 | 281 | 314 |
| December | 140 | 298 | 362 | 306 |
| January | 189 | 211 | 201 | 268 |
| February | 297 | 330 | 245 | 240 |
| March | 180 | 282 | 443 | 268 |
| April | 135 | 293 | 411 | 215 |
| May | 135 | 323 | 458 | 226 |
| June | 168 | 247 | 236 | 534 |
| **Average** | **186** | **396** | **317** | **510** |
| **Median** | **167** | **305** | **283** | **287** |

**Table 3.4: MONTHLY SALINITY READINGS AT LICENSED MONITORING POINT CODA on the West Coleambally Channel (µS/cm)**

| Month | 2014/2015 | 2013/2014 | 2012/2013 | Benchmark |
|---|---|---|---|---|
| July | n/a | 258 | 390 | 1359 |
| August | 407 | 199 | 385 | 1504 |
| September | 174 | 312 | 308 | 886 |
| October | 139 | 176 | 150 | 399 |
| November | 95 | 150 | 126 | 524 |
| December | 109 | 133 | 133 | 526 |
| January | 201 | 138 | 105 | 457 |
| February | 260 | 207 | 236 | 437 |
| March | 151 | 221 | 276 | 367 |
| April | 115 | 132 | 555 | 459 |
| May | 152 | 208 | 270 | 487 |
| June | 195 | 247 | 212 | 1133 |
| **Average** | **182** | **199** | **262** | **712** |
| **Median** | **152** | **203** | **253** | **506** |

**Table 3.5: MONTHLY SALINITY READINGS AT LICENSED DISCHARGE POINT CODD at BUNDY on the West Coleambally Channel (µS/cm)**

| Month | 2014/2015 | 2013/2014 | 2012/2013 | Benchmark |
|---|---|---|---|---|
| July | n/a | 235 | 231 | 1868 |
| August | n/a | n/a | 267 | 1829 |
| September | n/a | n/a | 344 | 536 |
| October | 256 | 216 | 201 | 415 |
| November | 256 | 192 | 279 | 450 |
| December | n/a | n/a | 392 | 531 |
| January | 256 | 193 | 290 | 416 |
| February | n/a | 162 | 178 | 409 |
| March | 256 | 259 | 172 | 374 |
| April | 186 | 296 | 238 | 362 |
| May | 196 | 307 | n/a | 330 |
| June | n/a | 272 | 172 | 406 |
| **Average** | **234** | **237** | **251** | **660** |
| Median | 256 | 235 | 238 | 415 |

The above data shows that the monthly average salinity in the last three years, including 2014/15, at CODA and DC800A has remained relatively low in comparison to benchmark years. However the result at CCD is less significant because of diversions on behalf of Water NSW.

The lower salinity at the drainage monitoring sites is due to the lowering of groundwater (and by association, water-tables) within the CID. Whilst groundwater levels have decreased slightly over 2014/15, there has also been a reduction in water-tables from the benchmark and therefore below the level of the bed (base) of the drainage channels; this means there is no salt intrusion from water-tables into drainage water.

Unfortunately, data obtained in previous years was inaccurate due to localised flood events on the Yanco and Billabong Creeks which resulted in creek levels being above 3m with flow gauging instrumentation at CCD and CODD being affected by backwater and inundation. After discussion between CICL, the NSW Office of Water and Water NSW (previously State Water) it was agreed that the related instrumentation needed to be updated and relocated. This work is due to be undertaken in 2015/16.

### *3.3.1.* Flow

Tables 3.6 to 3.9 show monthly average drainage flows at three licensed discharge points and one licensed monitoring point. In the tables, 2014/15 data is compared with the previous two years' data and with the benchmark data. The benchmark was established through averaging the data of three seasons immediately preceding the privatisation of CICL in 2000.

**Table 3.6: MONTHLY FLOW READINGS AT LICENSED DISCHARGE POINT CCD escape on the Coleambally Catchment Drain (ML) substituted for CCD**

| Month | 2014/2015 | 2013/2014 | 2012/2013 | Benchmark |
|---|---|---|---|---|
| July | 100 | 11 | 0 | 21 |
| August | 1 | 36 | 0 | 290 |
| September | 0 | 1526 | 0 | 887 |
| October | 0 | 1213 | 1688 | 1853 |
| November | 0 | 626 | 406 | 2073 |
| December | 80 | 1403 | 416 | 2305 |
| January | 214 | 3222 | 3725 | 3619 |
| February | 346 | 3155 | 3064 | 1843 |
| March | 2923 | 2853 | 356 | 2112 |
| April | 1194 | 30 | 3 | 1756 |
| May | 1 | 0 | 0 | 1430 |
| June | 252 | 0 | 0 | 279 |
| **Total** | **5112** | **14075** | **9659** | **18468** |
| **Average** | **426** | **1173** | **805** | **1539** |
| Median | 214 | 919 | 179 | 1800 |

**Table 3.7: MONTHLY FLOW READINGS AT LICENSED DISCHARGE POINT DC800A on the Drainage Channel DC800 (ML)**

| Month | 2014/2015 | 2013/2014 | 2012/2013 | Benchmark |
|---|---|---|---|---|
| July | 1 | 16 | 107 | 432 |
| August | 166 | 9 | 36 | 1197 |
| September | 1073 | 418 | 794 | 4455 |
| October | 1986 | 1012 | 1149 | 5962 |
| November | 814 | 240 | 1106 | 5119 |
| December | 718 | 474 | 617 | 5162 |
| January | 627 | 1084 | 2840 | 7660 |
| February | 516 | 545 | 1240 | 6795 |
| March | 1321 | 789 | 962 | 7816 |
| April | 255 | 712 | 518 | 3721 |
| May | 282 | 165 | 341 | 2961 |
| June | 1305 | 648 | 986 | 1675 |
| **Total** | **9064** | **6113** | **10696** | **52955** |
| **Average** | **755** | **509** | **891** | **4413** |
| Median | 673 | 510 | 878 | 4787 |

**Table 3.8: MONTHLY FLOW READINGS AT LICENSED MONITORING POINT CODW on the West Coleambally Channel (ML) substituted for CODA.**

| Month | 2014/2015 | 2013/2014 | 2012/2013 | Benchmark |
|---|---|---|---|---|
| July | 0 | 0 | 0 | 619 |
| August | 51 | 62 | 89 | 739 |
| September | 181 | 513 | 644 | 4983 |
| October | 1631 | 2027 | 2574 | 4494 |
| November | 897 | 664 | 1709 | 5014 |
| December | 987 | 846 | 2206 | 4041 |
| January | 1265 | 3358 | 2874 | 6806 |
| February | 710 | 894 | 1426 | 5540 |
| March | 2497 | 1934 | 2274 | 8438 |
| April | 1699 | 2095 | 229 | 4427 |
| May | 171 | 814 | 1143 | 4209 |
| June | 3488 | 1512 | 1863 | 2183 |
| **Total** | **13576** | **14719** | **17033** | **51493** |
| **Average** | 1131 | **1227** | **1419** | **4291** |
| Median | 987 | 870 | 1568 | 4460 |

**Table 3.9: MONTHLY FLOW READINGS AT LICENSED DISCHARGE POINT CODO on the West Coleambally Channel (ML) substituted for CODD at Bundy**

| Month | 2014/2015 | 2013/2014 | 2012/2013 | Benchmark |
|---|---|---|---|---|
| July | 8 | 82 | 36 | 282 |
| August | 0 | 0 | 0 | 2150 |
| September | 0 | 0 | 1 | 3327 |
| October | 0 | 7 | 26 | 1914 |
| November | 0 | 11 | 81 | 3187 |
| December | 0 | 0 | 11 | 1536 |
| January | 0 | 209 | 246 | 3523 |
| February | 0 | 30 | 28 | 4461 |
| March | 0 | 76 | 23 | 3517 |
| April | 41 | 469 | 23 | 1814 |
| May | 0 | 180 | 0 | 2511 |
| June | 0 | 242 | 77 | 3053 |
| **Total** | **49** | **1305** | **553** | **31275** |
| **Average** | **4** | **109** | **46** | **2606** |
| Median | 0 | 53 | 25 | 2782 |

The above data shows that whilst drainage in 2014/15 was stable, Water NSW is now making increased use of CICL drains (CCD and DC800) more regularly to divert water to the Yanco and Billabong Creeks.

Table 3.10 shows the amount of water supplied through the Boona and Argon escapes to provide clean water flows through CODA and CODW. This is reported in accordance with the requirements of section M2.5 of EPA licence 4652.

**Table 3.10: Monthly flow Readings at Boona and Argoon Escapes**

| Month | Boona | Argoon |
|---|---|---|
| July | 0 | 0 |
| August | 0 | 29.5 |
| September | 58.9 | 58 |
| October | 0 | 1446.3 |
| November | 0 | 1125.2 |
| December | 0 | 1695.4 |
| January | 186.2 | 1666.1 |
| February | 0 | 1218.6 |
| March | 323.6 | 2918.3 |
| April | 81.4 | 1383.2 |
| May | 81.6 | 0 |
| June | 179.3 | 615.4 |
| **Total** | **911** | **12156** |

### *3.3.2.* Extraction

Table 3.11 shows monthly average extraction at the Coleambally Main Canal Off-take. In the tables, 2014/15 data is compared with the previous two seasons' data and with the benchmark data. The benchmark was established through averaging the data of three seasons immediately preceding the privatisation of CICL in 2000.

**Table 3.11: MONTHLY EXTRACTIONS (ML) AT LICENCE POINT CCS (Main Canal Off-take)**

| Month | 2014/2015 | 2013/2014 | 2012/2013 | Benchmark |
|---|---|---|---|---|
| July | 0 | 0 | 0 | 0 |
| August | 3200 | 26665 | 23660 | 0 |
| September | 31988 | 34845 | 32947 | 42294 |
| October | 68385 | 56080 | 97331 | 38311 |
| November | 55235 | 41184 | 82664 | 57310 |
| December | 20480 | 73132 | 105557 | 66774 |
| January | 71120 | 74856 | 133102 | 95277 |
| February | 48830 | 64840 | 72389 | 61406 |
| March | 26930 | 35380 | 32426 | 105786 |
| April | 18305 | 4783 | 11445 | 54865 |
| May | 4475 | 3572 | 6625 | 33506 |
| June | 0 | 0 | 0 | 0 |
| **Total** | **348948** | **415337** | **598146** | **555533** |
| **Average** | **29079** | **34611** | **59815** | **46294** |
| Median | 23705 | 35113 | 52668 | 48580 |

The above data shows that below average allocations and the less-than-favourable outlook at planting resulted in 2014/15 extractions below the benchmark.

Tables 3.12 to 3.13 show monthly average extractions during 2014/15 from both Col Bore and Hort Bore compared to the previous two seasons and the benchmark.

**Table 3.12: MONTHLY EXTRACTIONS (ML) COL BORE**

| Month | 2014/2015 | 2013/2014 | 2012/2013 | Benchmark 2007/08 |
|---|---|---|---|---|
| July | 0 | 0 | 0 | 0 |
| August | 0 | 0 | 0 | 184 |
| September | 0 | 147 | 0 | 459 |
| October | 29 | 0 | 0 | 376 |
| November | 0 | 303 | 0 | 180 |
| December | 166 | 0 | 0 | 228 |
| January | 0 | 0 | 376 | 317 |
| February | 0 | 0 | 29 | 218 |
| March | 0 | 0 | 0 | 302 |
| April | 0 | 0 | 0 | 339 |
| May | 0 | 0 | 0 | 209 |
| June | 0 | 0 | 0 | 0.0 |
| **Total** | **195** | **450** | **405** | **2812** |

**Table 3.13: MONTHLY EXTRACTIONS (ML) HORT BORE**

| Month | 2014/2015 | 2013/2014 | 2012/2013 |
|---|---|---|---|
| July | 0 | 0 | 0 |
| August | 50 | 0 | 0 |
| September | 31 | 0 | 0 |
| October | 9 | 32 | 26 |
| November | 152 | 188 | 0 |
| December | 0 | 0 | 0 |
| January | 551 | 0 | 0 |
| February | 156 | 0 | 0 |
| March | 92 | 113 | 0 |
| April | 4 | 0 | 0 |
| May | 0 | 0 | 0 |
| June | 0 | 0 | 7 |
| **Total** | **1045** | **333** | **33** |

The above data depicts that, whilst Hort Bore extractions increased in order to supply high security water on demand outside of the normal CICL irrigation supply period, increased costs of temporary water relative to the pumping costs meant that overall groundwater extractions increased. Extractions from Col Bore were lower than usual due to the pump being unserviceable for a prolonged period.

It should be noted that the benchmark for the Col bore is from (2008/09). For the Hort bore we do not have monthly data, but we know that the total pumped in that year was 1,930 ML.

### *3.3.3.* Crop Water Use

Table 3.14 shows the crops grown by area within the CID, the quantity of irrigation water supplied by CICL, average crop water usage and the proportion of water supplied to each crop as a percentage of total water supplied by CICL.

**Table 3.14: Crop Area, Total Crop Use, Crop Water Use and Proportion of Total Deliveries**

| Crop | Area (Ha) | Intensity (ML/Ha) | % Total Use |
|---|---|---|---|
| Rice | 9,103 | 14.54 | 44 |
| Wheat | 14,225 | 3.81 | 18 |
| Corn | 6,757 | 5.79 | 13 |
| Cotton | 2,602 | 8.09 | 7 |
| Pasture | 4,737 | 2.54 | 4 |
| Barley | 3,912 | 1.54 | 2 |
| Soybeans | 1,666 | 8.0 | 2 |
| Canola | 1,716 | 1.75 | 1 |
| Oats | 811 | 1.10 | 1 |
| Other | n/a | | 8 |
| **TOTAL** | **45,529** | | **100** |

The data shows that rice, corn/maize and cotton were the main summer crops, with wheat, barley and pasture being the main winter crops. It must be noted that this data is grower derived and is usually an optimistic season opening forecast. The above intensity data excludes bore water usage because bore water data is collected by Water NSW.

Table 3.15 shows the change in area over the last 18 years of seven major crops in the CID. This shows that over time, irrigation water supplied by CICL has been primarily used to grow rice.

The cropping mix in the CID continues to be dynamic with the two major drivers being commodity prices (grower return) and the timing and size of water allocations.

**Table 3.15: Historical Comparison of Main Crop Areas and Proportion of Deliveries**

| 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 (%) |
| 2014/15 | 9103 | 44 | 6757 | 13 | 1666 | 2 | 2602 | 7 | 14226 | 18 | 4737 | 4.0 | 1716 | 1.0 | 91.0 |
| 2013/14 | 12500 | 43.6 | 4358 | 8.4 | 1734 | 2.4 | 5587 | 6.9 | 15071 | 9.8 | 5264 | 2.8 | 2540 | 1.5 | 75.4 |
| 2012/13 | 19071 | 52.7 | 4872 | 7.7 | 2583 | 3.9 | 2089 | 3.0 | 13698 | 7.2 | 6545 | 3.6 | 4182 | 1.3 | 79.4 |
| 2011/12 | 16745 | 62.1 | 4767 | 8.2 | 2238 | 2.7 | 5280 | 7.9 | 15989 | 8.7 | 7472 | 4 | 5244 | 1.6 | 91.2 |
| 2010/11 | 14512 | 68.3 | 4367 | 7.2 | 1240 | 1.5 | 885 | 1.4 | 11334 | 5.1 | 8119 | 4.2 | 3381 | 1.5 | 89.2 |
| 2009/10 | 3668 | 46 | 311 | 2 | 495 | 1 | 0 | 0 | 10635 | 10 | 6903 | 12 | 2523 | 2 | 73 |
| 2008/09 | 2135 | 33.1 | 2472 | 3.4 | 308 | 1.4 | 0 | 0 | 4215 | 9.5 | 4481 | 16.3 | 1471 | 4.9 | 68.7 |
| 2007/08 | 90 | 1.4 | 941 | 1.2 | 152 | 0.7 | 0 | 0 | 6575 | 20 | 5004 | 20 | 1584 | 6.1 | 49.4 |
| 2006/07 | 8518 | 54.3 | 1863 | 7.6 | 478 | 0.8 | 0 | 0 | 12509 | 15.9 | 9958 | 7.8 | 1602 | 1 | 87.4 |
| 2005/06 | 18025 | 62.8 | 3306 | 7 | 2106 | 2.9 | 0 | 0 | 13610 | 8.4 | 15440 | 8.7 | 1748 | 0.9 | 90.6 |
| 2004/05 | 8142 | 44 | 3671 | 7.2 | 1495 | 2.2 | 0 | 0 | 20287 | 18.8 | 12865 | 10.8 | 2681 | 1.3 | 84.3 |
| 2003/04 | 12597 | 55.8 | 3545 | 5.7 | 1938 | 3.5 | 0 | 0 | 21192 | 15 | 12131 | 7.5 | 1763 | 0.7 | 88 |
| 2002/03 | 11395 | 46 | 4788 | 9.3 | 1788 | 1 | 0 | 0 | 21346 | 20.4 | 10183 | 7.4 | 2095 | 1.7 | 85.8 |
| 2001/02 | 27493 | 67.5 | 3808 | 4.2 | 3297 | 3.4 | 0 | 0 | 21103 | 9.2 | 11581 | 6.1 | 2191 | 0.6 | 91 |
| 2000/01 | 30440 | 73.9 | 4074 | 5.7 | 4551 | 5.9 | 0 | 0 | 14276 | 4.6 | 11998 | 4.7 | 2153 | 0.4 | 95.2 |
| 1999/00 | 24138 | 77.7 | 1178 | 3.1 | 2185 | 3.9 | 0 | 0 | 12649 | 6.1 | 7485 | 4.4 | 2152 | 0.7 | 95.9 |
| 1998/99 | 24491 | 73.8 | 1059 | 1.3 | 4339 | 5.7 | 0 | 0 | 13963 | 1.7 | 13879 | 8.1 | 2184 | 1.7 | 92.3 |
| 1997/98 | 24624 | 70.4 | 1059 | 1.3 | 4998 | 7.5 | 0 | 0 | 14943 | 7.4 | 9964 | 6.1 | 2053 | 0.4 | 94.2 |

The table above shows that over time, irrigation water supplied by CICL has been primarily used to grow rice, and that rice is the predominant summer crop. As can be seen, the area committed to the production of soybeans, corn, wheat, pasture and canola has also varied greatly over the period in response to the availability of water and changing commodity prices.

## 3.4 Data Omissions and Discrepancies

This section identifies; the discrepancies and data omissions; and details of any action undertaken or proposed; to remedy any monitoring and/or reporting deficiencies in satisfying condition 12.4 of the approval 2012.

No data has been omitted in 2014/15. CICL has chosen to use flow figures for CODA from the Wonga Rubicon Flume regulator because the installation of this regulator has rendered the CODA gauging less accurate (backflow affects). This arrangement has been made in consultation with NSW Office of Water.

The previous flow and salinity monitoring site and CCD has been adjusted so that flow is recorded from a flume gate at the CCD escape. This is a supply point for Water NSW to supply the Yanco Creek. There are no irrigation farms draining into CCD. That salinity data is recorded at the CCD site.

COD Oaklands (CODO) has replaced CODD for flow data as it is more accurate metering than previous gauged data at CODD.

For the same reason, flow data from COD Wonga (CODW) has replaced CODA flow data.

CICL received no salinity data for flows from CODD over the following dates;

29 October 2014 – 19 November 2014
15 January 2015 – 19 January 2015
25 March 2015 – 22 April 2015

For the purpose of this report we have averaged the EC results at the start and end of these periods, and applied that average to these dates.

Data from site 410191 CCD @ outfall into Yanco Creek was significantly compromised by backflow and dry sensor issues, so salinity readings from Yanco Creek at Yanco Bridge have been used instead.

## 3.5 Monitoring and Testing Data

NSW Office of Water requires all monitoring, testing, salinity and volume for surface and groundwater extractions in an unrestricted electronic format. A hard copy of the data is included at Appendix A2 and A3. The electronic data required under Section 12.7 of the Combined Licence Package will be provided via email.

## 3.6 Quality Assurance and Control Standards

CICL maintained the quality standard ISO 9002 and environmental standard ISO 14001 until 2003. While it no longer formally does so, CICL continues to use the related procedures. The following section lists various parameters monitored in compliance with the licence conditions and explains the methodology used for data collection and analysis and for the calibration of measuring devices.

## 3.7 Flow Monitoring

### 3.7.1 Coleambally Main Canal Off-take

Water extractions from the Murrumbidgee River are monitored at the Off-take of the Coleambally Main Canal using an Accusonic meter containing eight sensors for flow velocity measurement. The meter is installed as per the guidelines of the supplier and is calibrated using professional hydrographers. The Main Off-take has been calibrated regularly during the season. During this process an error was detected in March and the usage data was subsequently adjusted in concert with WaterNSW.

### 3.7.2 Irrigators' Water Supply Points

Within the CICL Area of Operations there are 742 water supply points. Of these, 535 are Flume Gates and two are Slip Gates (all produced by Rubicon Water Australia); 26 are AgriFlo Doppler flow meters (a product of Measuring And Control Equipment (MACE) Pty Ltd); 49 are propeller meters on Horticulture Pump outlets, and 130 are Stock and Garden meters (small diameter propeller meters). CICL carries out calibration of Flume Gates at the time of installation as well as upon request by a landholder. A minimum of 10% are calibrated annually.

During 2014/15, CICL validated the calibration of all Flume Gates through which water was being supplied. The validation was carried out by CICL staff who had received training from the manufacturers. MACE meters were calibrated at the time of installation and are validated throughout the season.

### 3.7.3 Col Bore and Hort Bore

Apart from the Main Canal Off-take, CICL extracts water from Col Bore and Hort Bore deep groundwater bores. A Tempress propeller meter is installed at Col Bore and a Magflow meter at Hort Bore.

## 3.8 Salinity and Salt Load

### 3.8.1 Salinity at Water Extraction Works

CICL monitors monthly salinity levels at the Main Canal Off-take, Col Bore and Hort Bore using an YSI hand-held salinity meter. This is calibrated monthly using the standards supplied by NSW Office of Water. CICL uses two standard solutions for calibration purposes with salinities of 147 µS/cm and 1,413 µS/cm.

### 3.8.2 Salinity at Licensed Discharge Points

CICL uses data collected by NSW Office of Water at three licensed discharge points and one licensed monitoring point. This data is automatically collected continuously using salinity sensors and is communicated to NSW Office of Water using a radio telemetry system. The data is available on NSW Office of Water website. The instrumentation at these sites is calibrated and maintained by the hydrographic unit of NSW Office of Water.

### 3.8.3 Salt Load Calculation

The Salt Load is calculated by using the following formula:

Salinity (µS/cm) = Salt Load (T) / Flow (ML) x 640

## 3.9 Pesticides in Supply and Drainage Water

CICL monitors a range of pesticides and nutrients in both supply and drainage water.

## 3.10 Turbidity and pH

CICL monitor these parameters in both supply and drainage water using hand-held meters. These meters are calibrated annually by CICL staff.

## 3.11 Crop Type and Crop Area

This information is collected from landholders through summer and winter crop type/area forms. Satellite imagery was again used to verify that rice crops were grown on land classified as suitable.

## 3.12 Crop Water Usage

Crop water usage information is calculated on the water orders and crop information provided by landholders prior to the commencement of the irrigation season and as such does not necessarily reflect actual final plantings. The amount of water diverted onto crops is however measured very precisely.

## 3.13 Groundwater Levels and Groundwater Salinity

These parameters are measured by appropriately trained CICL staff. The methodology for groundwater levels and groundwater salinity monitoring was developed in conjunction with NSW Office of Water.

# 4 New Measures to Limit Groundwater Recharge and the Release of Salt

CICL did not adopt any new measures to limit groundwater recharge / release of salt. CICL's Water Use Policy was adjusted in 2012/13 to focus on all water usage rather than just rice water usage. The policy considers the overall cropping intensity of each farm against previously established sustainability limit benchmarks.

# 5 Water Management

The following report and Table 5.1 are intended to satisfy the conditions in 12.10 of the approval 2012. It must be noted however that the water management report refers to data obtained during an irrigation season which runs from September to June.

The following tables display reconciled monthly volumes of water:

- taken through each authorised water supply work against the Approval Holder's water access licences;
- taken through each authorised water supply work against other water access licences; and
- released from each escape as an authorised credit.

**Table 5.1: 2014/15 Water taken through Water Supply Works against Water Access Licences (All readings are taken mid-month.)**

| Surface Water Licences (Works Approval 40CA401473) | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Landholder High Security Access Licence 40AL401469 | 0 | 0 | 0 | 0 | 3,908 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3,908 |
| Converted High Security 40AL405230 | 0 | 0 | 0 | 967 | 4,612 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5,579 |
| 2nd Converted High Security 40AL405343 | 0 | 0 | 0 | 0 | 373 | 195 | 0 | 0 | 0 | 0 | 0 | 0 | 568 |
| General Security Access Licence 40 AL401471 | 0 | 0 | 0 | 0 | 8,207 | 42,623 | 54,995 | 52,046 | 4,693 | 32,352 | 7,386 | 0 | 202,302 |
| General Security Access Licence 40 AL405267 | 0 | 0 | 0 | 0 | 0 | 0 | 3,301 | 0 | 0 | 187 | 0 | 0 | 3,489 |
| Town Water Supply High Security Access Licence 40AL401470 | 0 | 0 | 0 | 0 | 0 | 70 | 0 | 0 | 0 | 0 | 0 | 0 | 70 |
| Outfall Drain High Security S & T Access Licence 40AL401472 | 0 | 0 | 0 | 0 | 0 | 0 | 3,217 | 0 | 0 | 0 | 0 | 0 | 3,217 |
| Conveyance Loss Allowance Access Licence 40AL402990 | 0 | 1,519 | 37,013 | 41,136 | 24,709 | 0 | 2,097 | 0 | 0 | 882 | 0 | 0 | 107,356 |
| Supplementary Access Licence 40AL202991 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - |
| | **0** | **1,518** | **37,013** | **42,103** | **41,809** | **42,888** | **63,611** | **52,046** | **4,693** | **33,421** | **7,386** | **0** | **326,489** |
| **Aquifer Access Licence 40AL403806 & Supp 40AL403807** | | | | | | | | | | | | | |
| Col Bore (Works Approval 40CA403808) | | 0 | 0 | 29 | 0 | 166 | 0 | 0 | 0 | 0 | 0 | 0 | 195 |
| Hort Bore (Works Approval 40WA404593) | | 0 | 50 | 31 | 9 | 151 | 272 | 279 | 156 | 92 | 4 | 52 | 1,097 |
| | | | | | | | | | | | | | |
| | | **1,518** | **37,064** | **42,163** | **41,818** | **43,205** | **63,883** | **52,325** | **4,849** | **33,513** | **7,390** | **52** | **327,782** |

The following information is provided to satisfy condition 12.11 of the approval 2012.

### 5.1 The monthly volumes of water released without credit from escapes

The amounts of water released without credit from escapes during the 2014/15 irrigation season is shown in table 5.2.

### 5.2 The monthly volumes of water released from each drain

The amounts of water released without credit from drains during the 2014/15 irrigation season is shown in table 5.2.

### 5.3 The monthly volumes of water delivered to customers and accounted by each water supply work

There was a total of 300,807 ML delivered to customers in 2014/15. Refer Table 5.2 for a monthly break-up of deliveries.

**Table 5.2: 2014/15 Volume Released without Credit, Released from Drain, and Volume Released to Customers (Ml)**

| 2014/15 | Released without credit from escapes | released from each drain | delivered to customers |
|---|---|---|---|
| **Jul** | 0 | 0 | 0 |
| **Aug** | 0 | 0 | 137 |
| **Sep** | 188 | 0 | 30,523 |
| **Oct** | 188 | 20 | 35,758 |
| **Nov** | 188 | 29 | 36,414 |
| **Dec** | 188 | 0 | 39,944 |
| **Jan** | 189 | 0 | 62,455 |
| **Feb** | 0 | 0 | 50,632 |
| **Mar** | 0 | 0 | 20,389 |
| **Apr** | 0 | 0 | 14,403 |
| **May** | 0 | 0 | 5,959 |
| **Jun** | 0 | 0 | 4,188 |
| **Total** | **942** | **49** | **300,807** |

The releases from drains are the result of dilution flows, and the releases without credit from escapes were taken up by WCC users with the exception of 49ML.

The following information is provided to satisfy condition 12.12 of the approval 2012.

### 5.4 The estimated annual volumes

The estimated annual volumes of net channel losses accounting for deliveries, escapes, recycling, evaporation, rainfall, change in storage and seepage

The channel losses through escape channels, evaporation, change in storage, seepage and gains in the channel system through rainfall, are shown in Table 5.3. The gains from rainfall and losses through evaporation have been calculated for the irrigation season only (2014/15 season). For the purpose of Table 5.3 the channel area has been estimated as 555 ha.

**Table 5.3: Net Channel Loss Accounting**

| Losses | Estimated volume (ML) |
|---|---|
| Escapes | 0 |
| Evaporation | -9,130 |
| Change in storage | 0 |
| Seepage | -19,660 |
| **Total Losses** | **-28,790** |
| Rainfall | 1,815 |
| **Net Channel Losses** | **-26,973** |

### 5.5 The estimated change in the volume of water held in off-line storages

There was no volume of water held in off-line storages for 2014/15.

### 5.6 Water balance for the entire area of operations

This water balance is presented together with data from conditions 12.10 and 12.11

Figure 5.1 indicates the water balance including the above data and conditions for 2014/15.

**Figure 5.1: Water Use - Year to Date**

**Water Use - Year to Date**

**Whole of CICL Licences**

| Source | Volume (ML) |
|---|---|
| Carried over | 111,336 |
| Allocation | 321,366 |
| Supplementary | 25,996 |
| Net Transfers | 21,803 |
| Colbore | 1,292 |

**Resource Available**
438186 ML

**Unused Resource**
110,406 ML

**Carryover**
(Limit - 30% of GS Entitlement)
110,406 ML

**Total Delivered**
300,807 ML

**Net Diversions**
327,780 ML

Remainder above Carryover Limit (distributed across Murrumbidgee Valley as part of following season general security allocation
0 ML

| State Water Credits | |
|---|---|
| Escape/Outlet | Volume (ML) |
| Tombullen | 76,821 |
| CCD | 4,861 |
| DC 800 | 7,350 |
| COD | - |
| Total | 89,032 |

**Gross Diversions**
416,812 ML

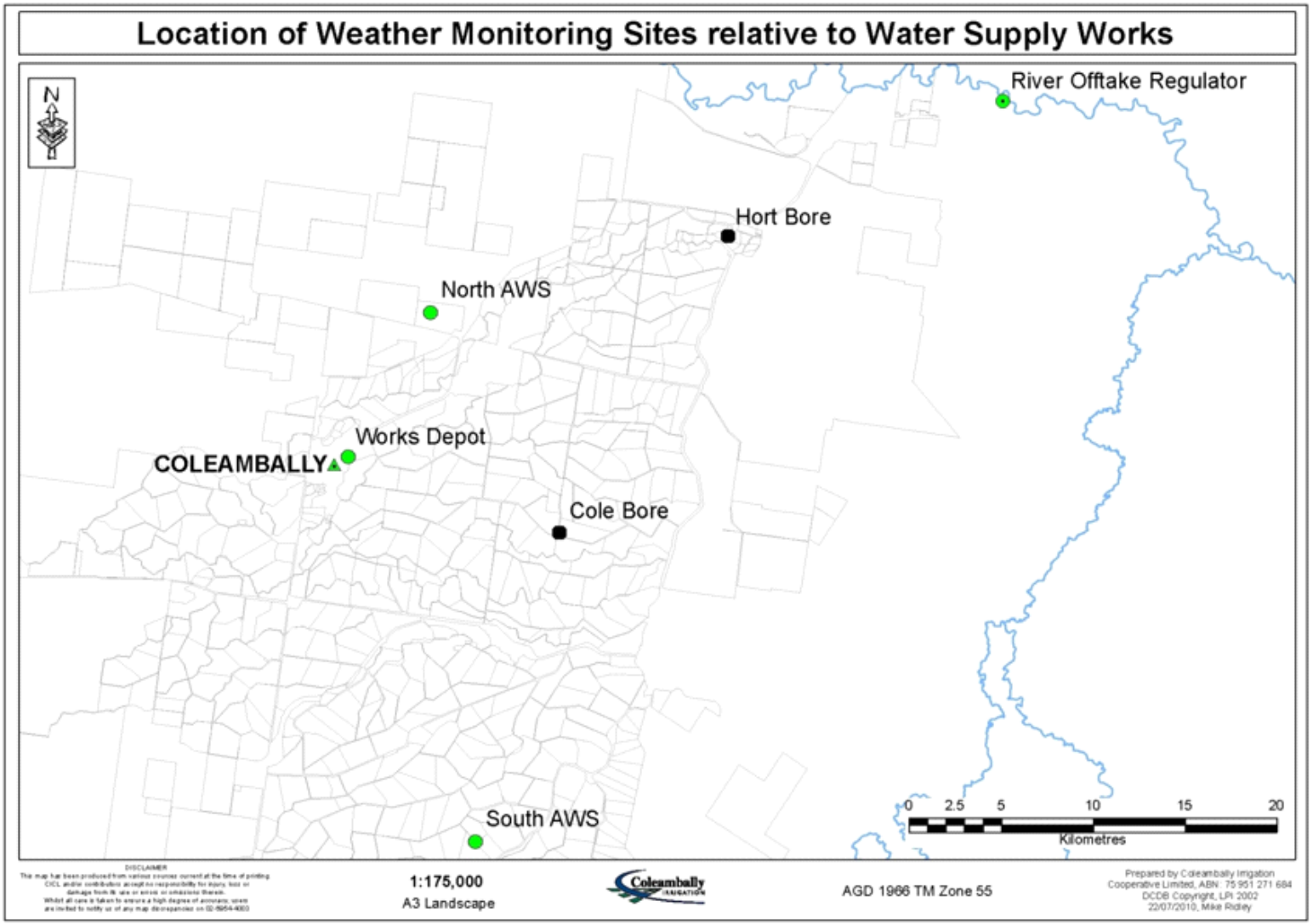
**Losses**
26,973 ML
8.23% of Net Diversion

**Main OT (River) Diversions**
415,520 ML

## 5.7 Estimated Annual Rainfall at each Water Supply Work

A map depicting the locations of all weather monitoring sites relative to all water supply works is shown in Figure 6.2 below.

**Figure 5.2: Location of Weather Monitoring Sites relative to Water Supply Works. (AWS = Automatic Weather Station)**



### 5.8 Estimated Annual Evapo-transpiration / Rainfall at each Water Supply Work

Both North and South Automatic Weather Stations (AWS) record many parameters—including Rainfall (logged as 'accumulative') and reference evapo-transpiration ($ET_o$). The equation used in the calculation of $ET_o$ is the established ASCE Penman-Monteith, otherwise known as the FAO-PM (Penman-Monteith).

Geographically the North-AWS is almost equidistant from both Hort Bore and Col Bore water supply works and is significantly closer to both than the South-AWS. Rainfall and $ET_o$ values from the North-AWS have consequently been used in this report. As such, for the 2014/15 period and in the general area encompassing all water supply works, the annual Rainfall and $ET_o$ is recorded as 342.7 mm and 1862.1 mm respectively.

**Table 5.4: Rainfall and Evaporation AWS/1 – 2014/15**

| AWS/1 (North AWS) | Rain (mm) | ETo (mm) |
|---|---|---|
| Jul | 12.2 | 40.3 |
| Aug | 5.7 | 72.5 |
| Sep | 24.3 | 100.2 |
| Oct | 18.7 | 209.4 |
| Nov | 16.5 | 247.3 |
| Dec | 16.0 | 295.8 |
| Jan | 45.5 | 244.4 |
| Feb | 52.2 | 222.8 |
| Mar | 0 | 216.3 |
| Apr | 44.7 | 104.6 |
| May | 6.2 | 72.4 |
| Jun | 100.7 | 36.1 |
| **2014/15 TOTAL** | **342.7** | **1862.1** |

### 5.9 Water deliveries

Table 5.5 describes water deliveries and associated land areas for irrigation purposes during the reporting year.

**Table 5.5: Water Deliveries and associated Land Areas for Irrigation Purposes 2014/15**

| | | | | |
|---|---|---|---|---|
| Water deliveries for rice | 134,677 | ML | 9,103 | ha |
| Water deliveries for horticulture | 1218 | ML | 486 | ha |
| Water deliveries for all other summer crops (including pasture) | 67,264 | ML | 81,105 | ha |
| Water deliveries for winter crops | 80,596 | ML | 65,490 | ha |
| Water deliveries for domestic and stock purposes | 4699 | ML | | |
| Water deliveries for all other purposes | 12,354 | ML | | |

### 5.10 Distribution of Irrigation Intensity

The irrigation intensity for the main supply sub-divisions/ areas is represented in Table 5.6.

**Table 5.6: Distribution of Irrigation Intensity (ML/ha)**

| REGION | USE (ML) | AREA (Ha) | INTENSITY ML/Ha | %of Use |
|---|---|---|---|---|
| Boona | 62,598 | 33,452 | 1.87 | 20.81% |
| Coly | 66,990 | 22,432 | 2.99 | 22.27% |
| Argoon | 80,225 | 35,427 | 2.26 | 26.67% |
| Yamma | 68,239 | 23,313 | 2.93 | 24.68% |
| Kerarbury | 9,265 | 13,335 | 0.69 | 3.08% |
| WCC | 13,460 | 317,218 | 0.04 | 2.48% |
| **Total** | **300,807** | **445,177** | | **100.00%** |

# 6 Salinity and Salt Load

.
Table 6.1 is provided in satisfaction of requirement 12.14 of approval 2012. For further elaboration refer to attachment A2

**Table 6.1: Volume of Water Entering CICL's Operational Area (ML), Salinity (µS/cm) and Salt Load (Tonnes) in 2014/15**

| Month | MAIN CANAL | | | COL BORE | | | HORT BORE | | |
|---|---|---|---|---|---|---|---|---|---|
| | ML | µS/cm | Salt (T) | ML | µS/cm | Salt (T) | ML | µS/cm | Salt (T) |
| July | 0 | 31.1 | n/a | 0 | n/a | 0 | 0 | n/a | 0 |
| August | 38,110 | 27.4 | 3399 | 0 | n/a | 0 | 50 | 320 | 10 |
| September | 31,926 | 31.4 | 1893 | 0 | n/a | 0 | 31 | 320 | 6 |
| October | 67,229 | 40.6 | 4990 | 29 | 620 | 12 | 9 | 320 | 2 |
| November | 56,171 | 34.3 | 2959 | 0 | n/a | 0 | 152 | 320 | 31 |
| December | 68,030 | 42.8 | 3607 | 166 | 620 | 66 | 0 | n/a | 0 |
| January | 64,262 | 66.3 | 4389 | 0 | n/a | 0 | 551 | 320 | 113 |
| February | 40,263 | 72.2 | 3572 | 0 | n/a | 0 | 156 | 320 | 32 |
| March | 27,070 | 50.8 | 2427 | 0 | n/a | 0 | 92 | 320 | 19 |
| April | 17,753 | 27 | 662 | 0 | n/a | 0 | 4 | 320 | 1 |
| May | 4,706 | 34.9 | 286 | 0 | n/a | 0 | 0 | n/a | 0 |
| June | 0 | n/a | n/a | 0 | n/a | 0 | 0 | n/a | 0 |
| **Total** | **415,520** | | **28,183** | **195** | | **77** | **1,045** | | **214** |
| **Salt TOTAL** | **28,474** | | | | | | | | |
| **ML TOTAL** | **416,760** | | | | | | | | |

Tables 6.2 to 6.4 are provided in satisfaction of requirement 12.15 of approval 2012 – for further elaboration refer to attachment A3.

**Table 6.2: Volume of Water exiting CICL's Operational Area (ML), Salinity (µS/cm) and Salt Load (Tonnes) in 2014/15**

| Month | DC 800@ OUTFALL | | | Flow @ DC 500 at Wonga EC @ CODA | | | Flow @ CCD Escape EC @ CCD | | |
|---|---|---|---|---|---|---|---|---|---|
| | ML | µS/cm | Salt (T) | ML | µS/cm | Salt (T) | ML | µS/cm | Salt (T) |
| July | 1 | 411 | 0 | 0 | n/a | 115 | 100 | n/a | 19 |
| August | 166 | 166 | 35 | 51 | 407 | 38 | 1 | n/a | 0 |
| September | 1,073 | 167 | 35 | 181 | 174 | 88 | 0 | n/a | 0 |
| October | 1,986 | 128 | 163 | 1,631 | 139 | 162 | 0 | n/a | 0 |
| November | 814 | 117 | 61 | 897 | 95 | 71 | 0 | n/a | 0 |
| December | 718 | 140 | 6 | 987 | 109 | 108 | 80 | 66 | 8 |
| January | 627 | 189 | 76 | 1,265 | 201 | 306 | 214 | 45 | 15 |
| February | 516 | 297 | 98 | 710 | 260 | 163 | 346 | 143 | 77 |
| March | 1,321 | 180 | 152 | 2,497 | 151 | 262 | 2923 | 111 | 506 |
| April | 255 | 135 | 3 | 1,699 | 115 | 130 | 1194 | 53 | 99 |
| May | 282 | 135 | 24 | 171 | 152 | 154 | 1 | 59 | 0 |
| June | 1,305 | 168 | 140 | 3488 | 195 | 336 | 252 | 52 | 20 |
| **Total** | **9,064** | | **793** | **13,576** | | **1934** | **5112** | | **745** |
| **Salt TOTAL** | **5,009** | | | | | | | | |
| **ML TOTAL** | **31,404** | | | | | | | | |

Note: New flow measurement points are being used in this report. DC500@Outfall has been replaced by DC500 @ Wonga, and CCD has been replaced by CCD@Escape. In both cases this is due to improved measurement following the installation of flume gates. For the same reason in the following table, sampling at CODD@Bundy is now replaced by sampling at CODO.

**Table 6.3: Volume of Water exiting CICL's Operational Area at CODO @ Bundy, Salinity (µS/cm) and Salt Load (Tonnes) in 2014/15**

**Flow(ML)@CODO and Salinity (EC) @ CODD**

| Month | Flow @ COD Oaklands<br>EC @ CODD at OUTFALL BUNDY | | |
|---|---|---|---|
| | ML | µS/cm | Salt (T) |
| July | 0 | n/a | 0 |
| August | 0 | n/a | 0 |
| September | 0 | n/a | 0 |
| October | 19 | 256 | 3 |
| November | 119 | 256 | 19 |
| December | 0 | n/a | 0 |
| January | 18 | 256 | 3 |
| February | 0 | n/a | 0 |
| March | 56 | 256 | 9 |
| April | 135 | 186 | 1 |
| May | 0 | 196 | 0 |
| June | 0 | n/a | 0 |
| **Total** | **346** | | **35** |
| **Salt TOTAL** | **35** | | |
| **ML TOTAL** | **346** | | |

Table 6.4 represents a **Simple Annual Salt Balance** comprising the imported, exported and retained Salt Load for the area associated with each separate water supply work. This satisfies requirement 12.16 in the approval 2012.

**Table 6.4: CID Simple Salt Balance (Tonnes) in 2014/15**

| IMPORTED SALT | Tonnes | EXPORTED SALT | Tonnes |
|---|---|---|---|
| MAIN CANAL | 28,183 | DC 800A | 2,330 |
| COL BORE | 77 | DC 500 | 1,934 |
| HORT BORE | 214 | CCD | 264 |
| **TOTAL** | **28,474** | | **4,528** |
| BALANCE | **23,946** | | |

The salt balance does not include the amount of salt going into the shallow or deep groundwater. It is acknowledged that some salt would be exported out of the area through both shallow groundwater and deep groundwater movement and this is further complicated by groundwater extractions by holders of private irrigator licences.

For this report, a conversion factor of 1,000 µS/cm in 1 L = 640 mg of salt has been used. Effectively 1 ML of water at an EC of 1000 µS/cm contains 640 kg of salt. This is equivalent to the calculation in Section 3.8.

# 7 Groundwater Conditions

## 7.1 Groundwater Conditions within the Area of Operation

CICL has a network of piezometers throughout its Area of Operations which is used to monitor groundwater conditions. The piezometers are read in September (+/- 2 wks) as per licence requirements, and again in March to have a more complete understanding. The data is analysed using Arc Map GIS and MS Excel software.

In September 2015, 699 of CICL's 737 licensed piezometers were read. Of those read, two were recorded as being dry, two as blocked, and five damaged. Due to the extraordinarily wet winter period, 38 of the 737 licensed piezometers remained inaccessible. Blocked/damaged piezometers will likely be remedied during general maintenance scheduled for the following April, annually.

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

All Licence piezometers with a recorded depth are mapped, except those recorded as dry/blocked within 4m of the natural surface, and all those recorded as buried/damaged, as their inclusion would falsely influence groundwater modelling.

For comparative purposes, groundwater levels in the previous year and in the baseline year of 1998 are presented along with the current year. The inclusion of the previous year 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 the year following CICL's privatisation.

Figures 7.1 and 7.2 are contour maps of the piezometric levels below natural surface for September 2015. A 3D surface of piezometric levels was created from point measurements (depth to water 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 7.1 and 7.2 are tabular representations of Figures 7.1 and 7.2 respectively.

**Tab 7.1: Groundwater depth below natural surface; 0-12m piezometers; Sep 2015**

| Groundwater Depth Below Natural Surface (m) | 2015 Area (ha) | 2014 Area (ha) | Benchmark Area (Ha) |
|---|---|---|---|
| 0-1 | 210 | 53 | 1,939 |
| 1-2 | 3,085 | 2,676 | 34,102 |
| 2-4 | 45,287 | 40,362 | 41,559 |
| 4-6 | 25,090 | 29,928 | 13,442 |
| 6-8 | 9,626 | 11,488 | 4,256 |
| 8+ | 12,504 | 11,295 | 504 |
| **Total** | **95,802** | **95,802** | **95,802** |

From Table 7.1 for 0-12m depth piezometers 48,582 or 51% of the mapped groundwater area existed in the 0-4m zone in 2015, which in Figure 7.1 is represented in red, orange & yellow combined.

**Fig 7.1: Groundwater depth below natural surface; 0-12m piezometers; Sep 2015**

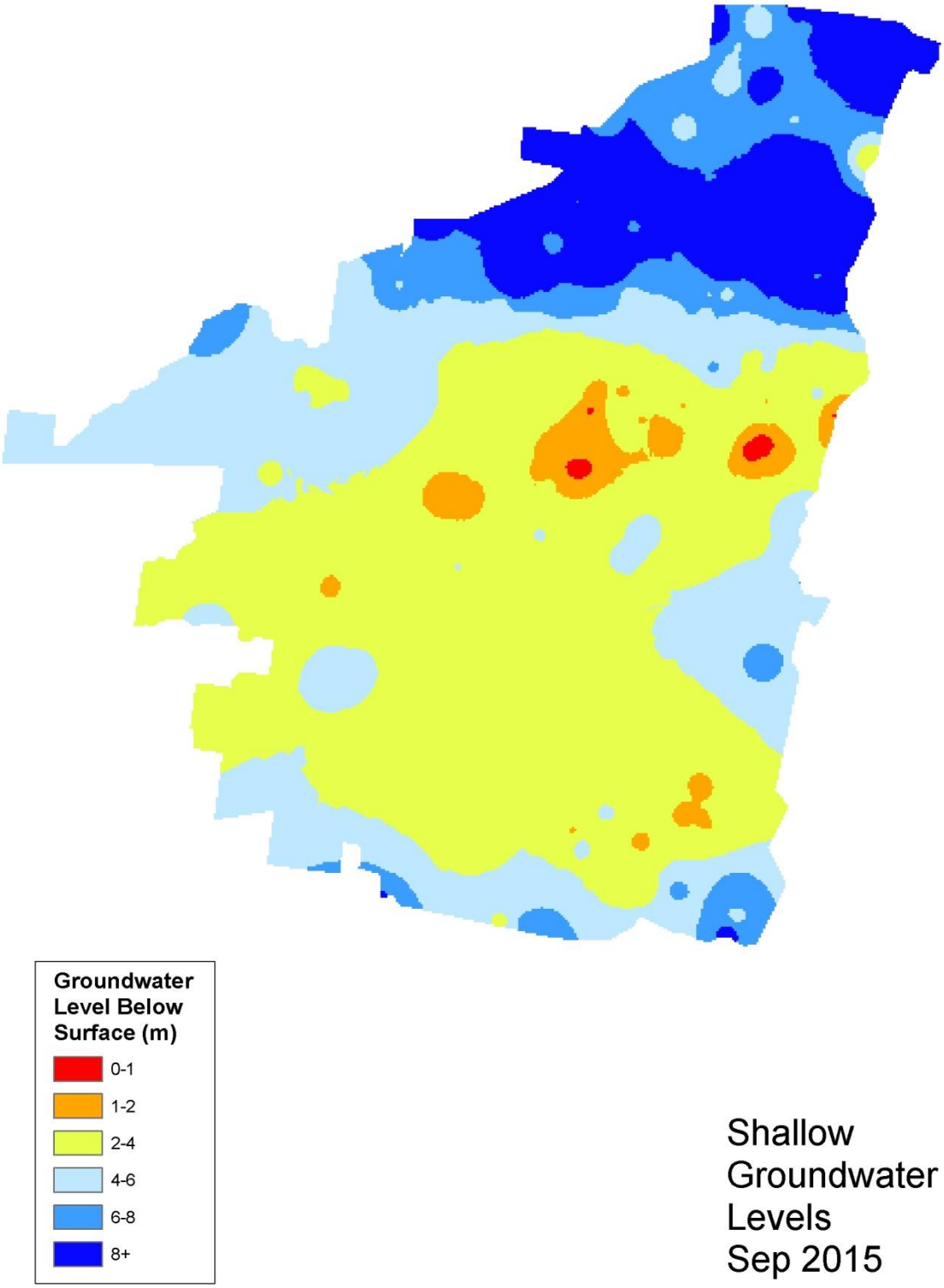
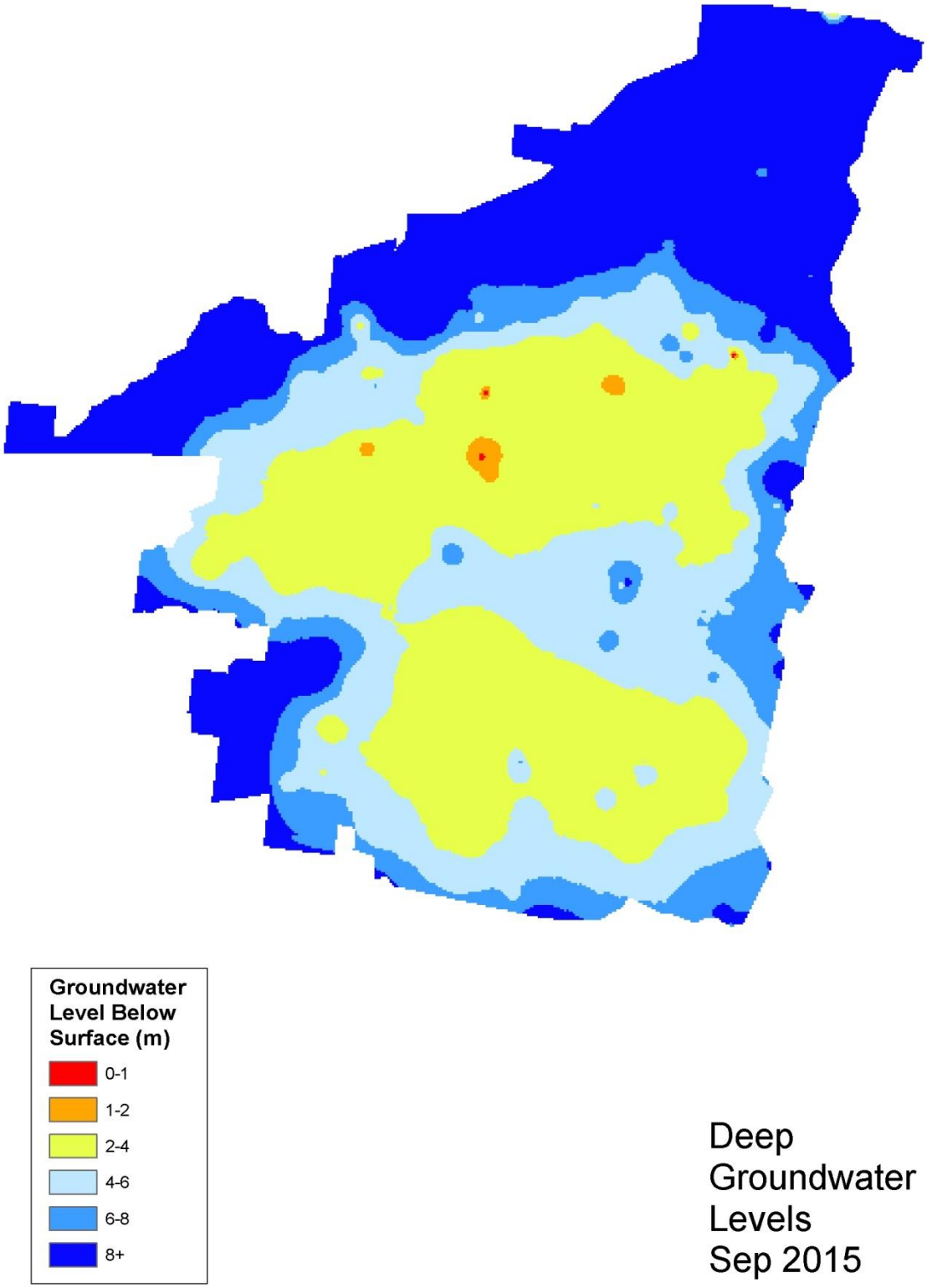


**Fig 7.2: Groundwater depth below natural surface; 12-60m piezometers Sep 2015**



**Tab 7.2: Groundwater depth below natural surface; 12-60m piezometers; Sep 2015**

| Groundwater Depth Below Natural Surface (m) | 2015 Area (ha) | 2014 Area (ha) | Benchmark Area (Ha) |
|---|---|---|---|
| 0-1 | 14 | 34 | 760 |
| 1-2 | 381 | 380 | 22,264 |
| 2-4 | 31,444 | 33,812 | 33,481 |
| 4-6 | 23,340 | 22,028 | 17,300 |
| 6-8 | 11,287 | 11,533 | 10,549 |
| 8+ | 29,336 | 28,015 | 11,448 |
| **Total** | **95,802** | **95,802** | **95,802** |

From Table 7.2 for 12-60m depth piezometers 31,839 ha or 33% of the mapped groundwater area existed in the 0-4m zone in 2015, which in Figure 7.2 is represented in red, orange & yellow combined.

Figures 7.3 and 7.4 depict the groundwater depth below natural surface, in the years 2015 and 1998, as converted to the Australian Height Datum (mAHD) and mapped for all of the 0-12m and 12-60m piezometers, signifying the upper and lower parts of the Shepparton Aquifer, respectively. These levels represent the groundwater height above sea level (metres above sea level, mASL) and can be used to identify the direction of groundwater flow. In general, the direction of groundwater flow is WSW.

Tables 7.3 and 7.4 are tabular representations of Figures 7.3 and 7.4 respectively.

**Tab 7.3: Groundwater depth below natural surface; 0-12m piezometers; Sep 2015 versus Sep 1998**

| Groundwater Depth Below Natural Surface (mAHD) | 2015 Area (ha) | 1998 Area (ha) |
|---|---|---|
| 123 – 127 (higher) | 2,415 | 6,381 |
| 119 - 122 | 28,707 | 42,337 |
| 115 - 118 | 34,911 | 34,921 |
| 111 - 114 | 28,022 | 11,432 |
| 107 - 110 | 1,747 | 731 |
| 94 – 106 (lower) | 0 | 0 |
| **Total** | **95,802** | **95,802** |

**Tab 7.4: Groundwater depth below natural surface; 12-60m piezometers; Sep 2015 versus Sep 1998**

| Groundwater Depth Below Natural Surface (mAHD) | 2015 Area (ha) | 1998 Area (ha) |
|---|---|---|
| 123 – 127 (higher) | 66 | 4,151 |
| 119 - 122 | 18,361 | 39,182 |
| 115 - 118 | 35,496 | 31,548 |
| 111 - 114 | 22,950 | 11,211 |
| 107 - 110 | 11,142 | 5,724 |
| 94 – 106 (lower) | 7,787 | 3,986 |
| **Total** | **95,802** | **95,802** |

**Fig 7.3: Groundwater level (mAHD); 0-12 m and 12-60m piezometers; Sep 2015**

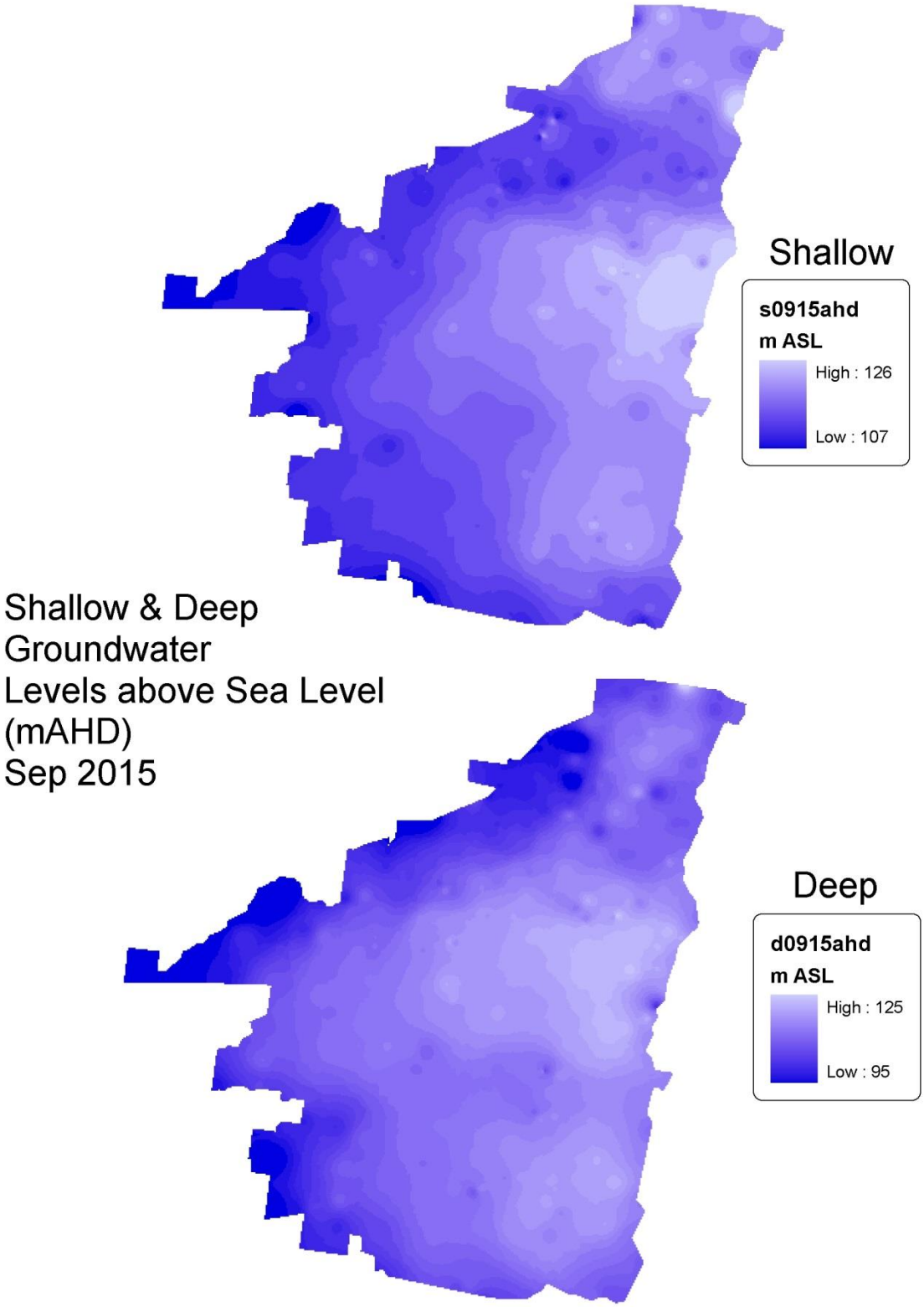
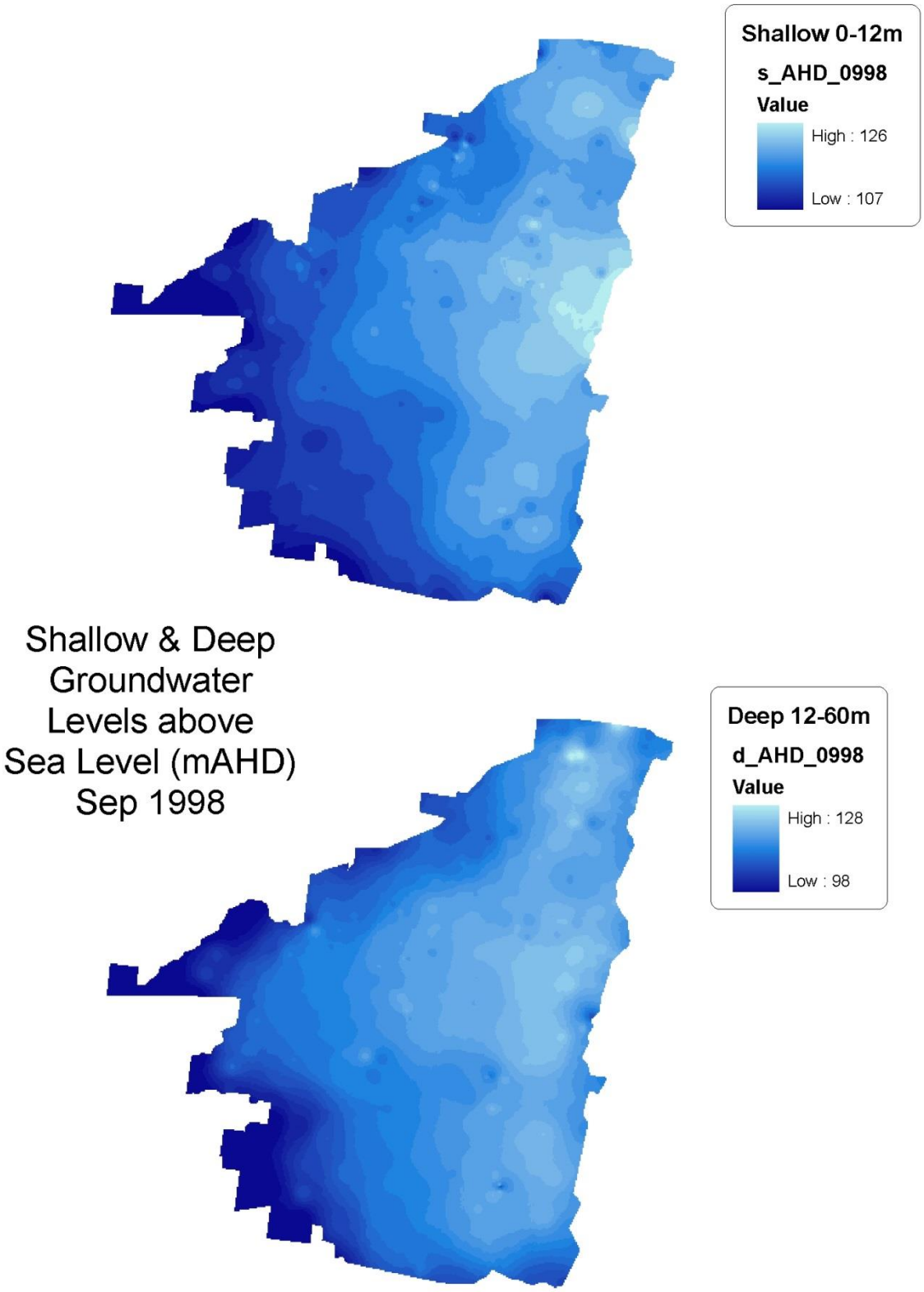


**Fig 7.4: Groundwater level (AHD); 0-12 m & 12-60m piezometers; Sep 1998**




From Tables 7.3 and 7.4, groundwater level is currently still significantly lower than that in the historical reference (baseline) of 1998. Areas associated with the highest 123-127 mAHD levels (i.e. closest to natural surface) decreased by 3,966ha from 1998 to 2015 for 0-12m piezometers.

Figures 7.5 and 7.6 depict the changes in September groundwater depth below natural surface, from 2014 to 2015 and, as a comparison, from 1998 to 2015, for both 0-12m and 12-60m piezometers, respectively.

Negative values indicate areas with lower (deepening) groundwater and conversely, positive numbers indicate areas with higher (rising) groundwater.

Tables 7.5 and 7.6 represent a comparison of change in area of key groundwater depth ranges from 2014 to 2015 and from 1998 to 2015.

**Tab 7.5: Change in area of groundwater depth ranges below natural surface; 0-12m piezometers; years 2014 to 2015, and years 1998 to 2015**

| Groundwater Depth Range Below Natural Surface (m) | Years and Area of Groundwater Depth (ha) | | | Change in Area of Groundwater Depth (ha) [+ = rising][– = falling] | |
|---|---|---|---|---|---|
| | 1998 | 2014 | 2015 | 2015 vs 1998 | 2015 vs 2014 |
| 0-1 | 1,939 | 53 | 210 | -1,729 | +157 |
| 1-2 | 34,102 | 2,676 | 3,085 | -31,017 | +409 |
| 2-4 | 41,559 | 40,362 | 45,287 | +3,728 | +4,925 |
| 4-6 | 13,442 | 29,928 | 25,090 | +11,648 | -4,838 |
| 6-8 | 4,256 | 11,488 | 9,626 | +5,370 | -1,862 |
| 8+ | 504 | 11,295 | 12,504 | +12,000 | +1,209 |
| **Total** | **95,802** | **95,802** | **95,802** | **0** | **0** |

**Tab 7.6: Change in area of groundwater depth ranges below natural surface; 12-60m piezometers; years 2014 to 2015, and years 1998 to 2015**

| Groundwater Depth Range Below Natural Surface (m) | Years and Area of Groundwater Depth (ha) | | | Change in Area of Groundwater Depth (ha) [+ = rising][– = falling] | |
|---|---|---|---|---|---|
| | 1998 | 2014 | 2015 | 2015 vs 1998 | 2015 vs 2014 |
| 0-1 | 760 | 34 | 14 | -746 | -20 |
| 1-2 | 22,264 | 380 | 381 | -21,883 | +1 |
| 2-4 | 33,481 | 33,812 | 31,444 | -2,037 | -2,368 |
| 4-6 | 17,300 | 22,028 | 23,340 | +6,040 | +1,312 |
| 6-8 | 10,549 | 11,533 | 11,287 | +738 | -246 |
| 8+ | 11,448 | 28,015 | 29,336 | +17,888 | +1,321 |
| **Total** | **95,802** | **95,802** | **95,802** | **0** | **0** |

**Fig 7.5: Changes in groundwater depth below natural surface; 0-12m piezometers; years 2014 to 2015, and years 1998 to 2015**

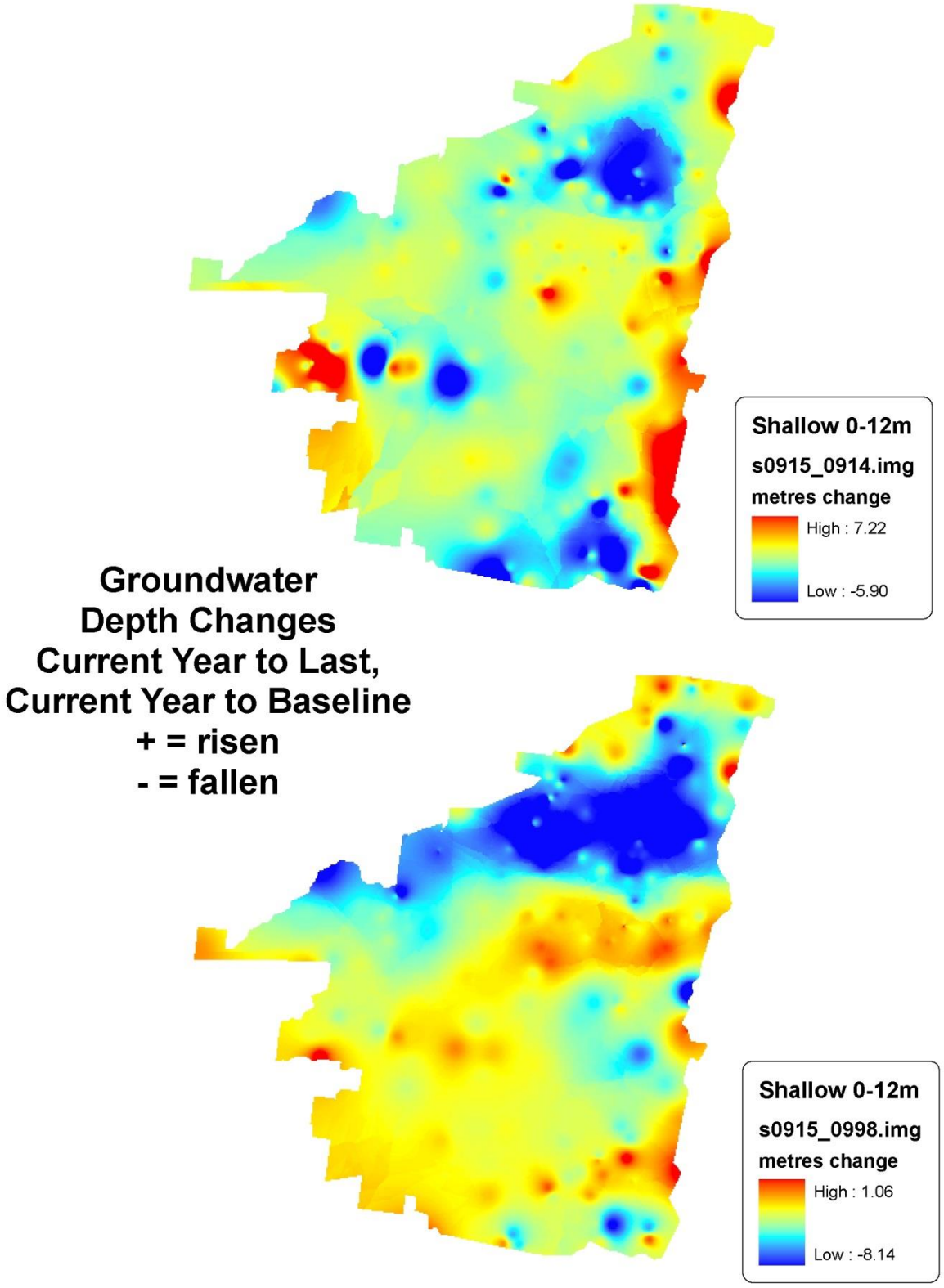


**Fig 7.6: Changes in groundwater depth below natural surface; 12-60m piezometers; years 2014 to 2015, and years 1998 to 2015**

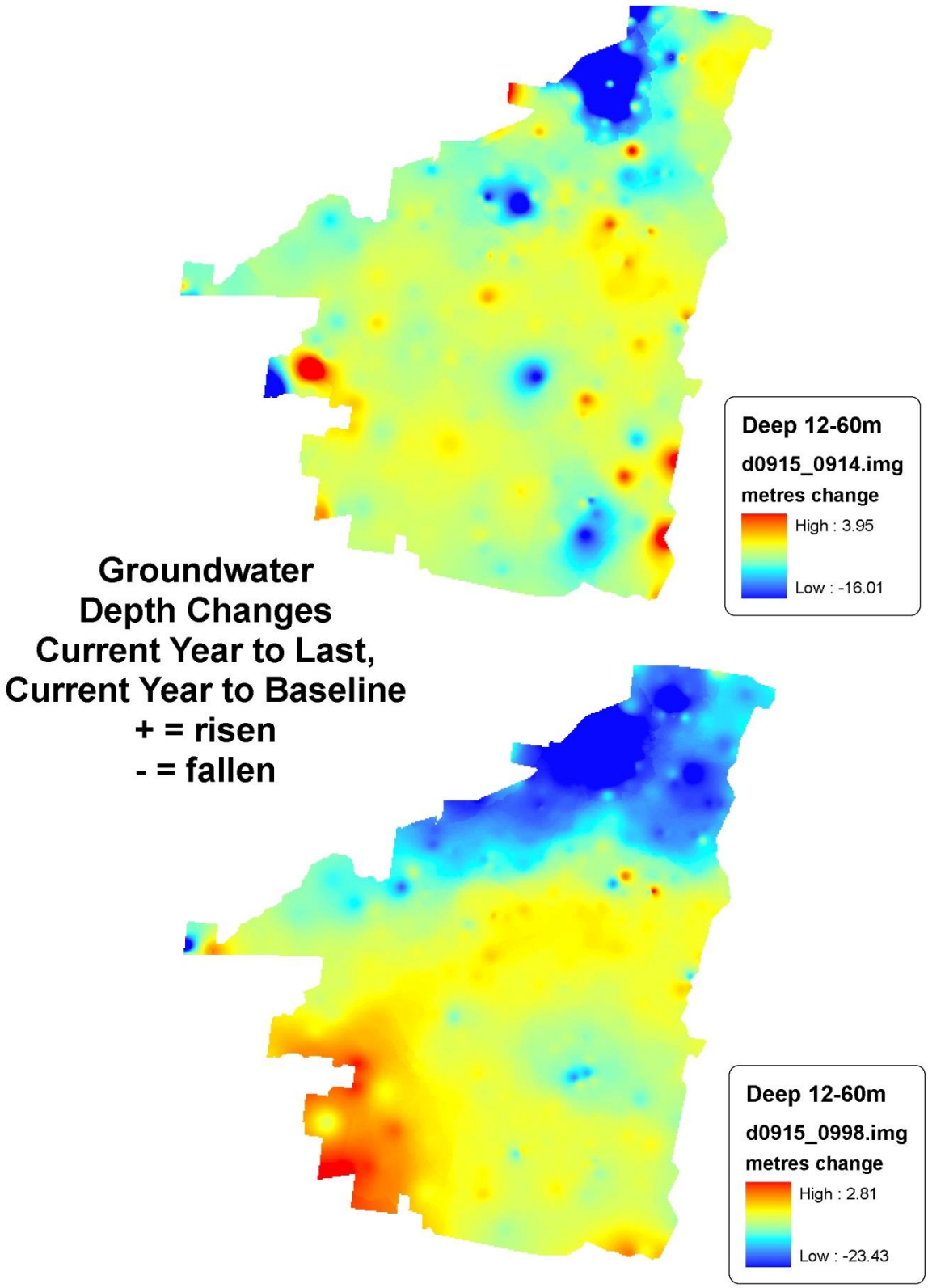



Table 7.5 (0-12m piezometers) indicates that, from 1998 to 2015 the area associated with the two uppermost depth ranges (bands) fell significantly. The quantum of area that fell in depth was redistributed amongst the four bands below. However from 2014 to 2015, groundwater area increased in the top 3 bands with areas undergoing a net decrease in magnitude in the

three bands below. Interestingly, a positive increase in area in the deepest band indicates deep percolation into the deepest realms.

Generally, the groundwater level in 2015 has significantly fallen since that of 1998, and has slightly risen since 2014.

## 7.2 Groundwater Usage

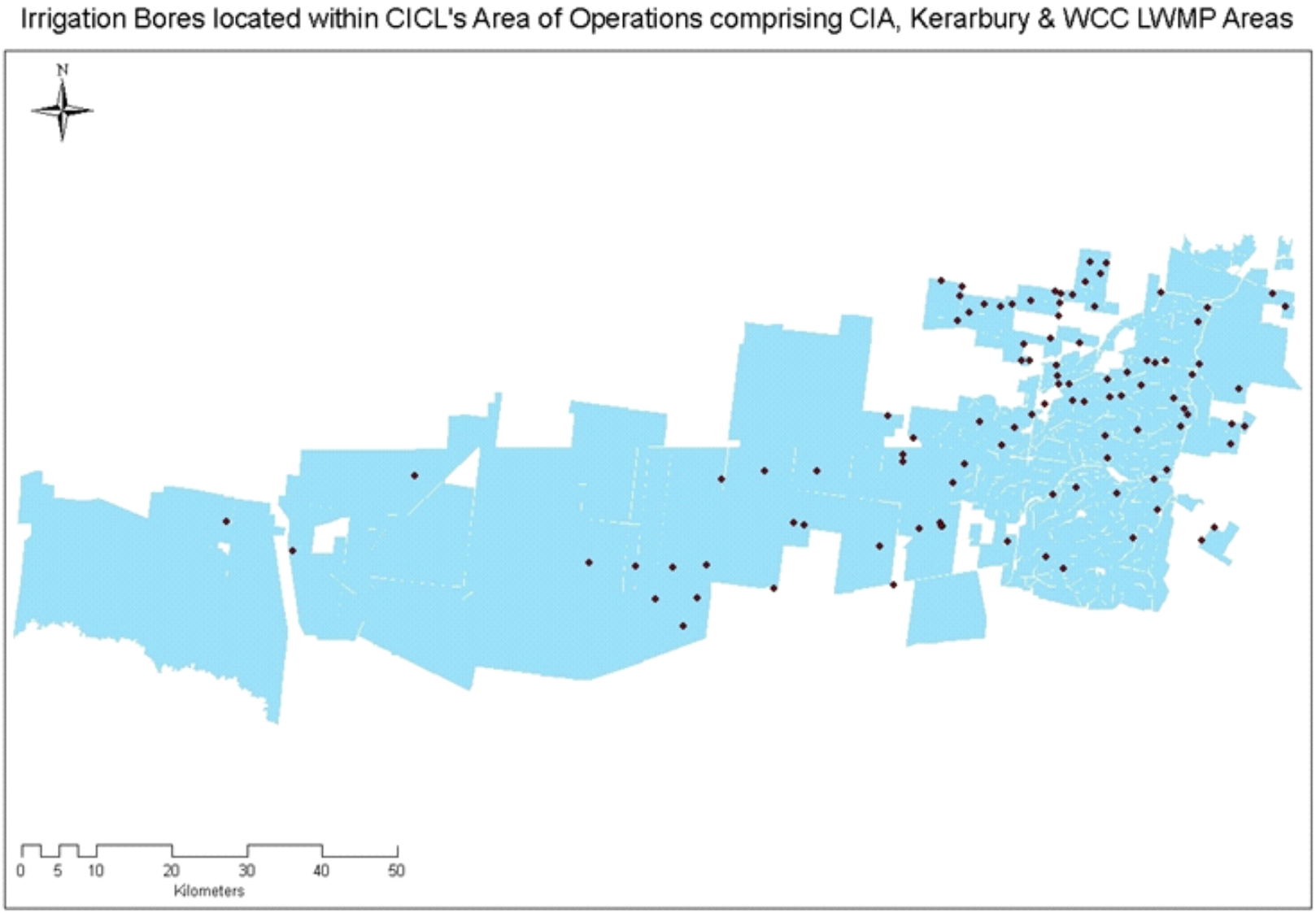
The total metered groundwater usage for the past two seasons and for the baseline season of 1998/99 is presented in Table 7.6. For the 2014/15 season, the total groundwater extraction within the reporting area was 104,849 ML. It should be noted that the bores identified for inclusion in this section were originally identified by the Office of Water but they include some bores that lie outside the Coleambally Irrigation area of operation. Most of the bore use is in Kerarbury and WCC. For comparative purposes they are included again in this report.

There was a significant decrease in the use of bore water in Coleambally which can be attributed to high surface water allocations, the low cost of temporary water and the mounting costs associated with operating diesel or electrically powered bores.

**Table 7.6: Groundwater Extractions in CICL's Area of Operation in 2014/15**

| LWMP Area | Number of bore licences (2014/15) | Extraction 2014/15 (ML) | Extraction 2013/14 (ML) | Extraction 2012/13 (ML) | Extraction 1998/99 (ML) [baseline] |
|---|---|---|---|---|---|
| CIA | 25 | 19,666 | 38,777 | 33,778 | 28,714 |
| CIA Ext | 10 | 8,600 | n/a | n/a | n/a |
| Kerarbury | 21 | 46,800 | 37,620 | 32,770 | 29,161 |
| WCC/Outfall | 46 | 29,783 | 9,763 | 8,504 | 11,065 |
| **Total** | **102** | **104,849** | **86,160** | **75,052** | **68,940** |

**Figure 7.7: Location of CID Irrigation Bores**



# 8 Environment Protection Licence

## 8.1 Water Quality

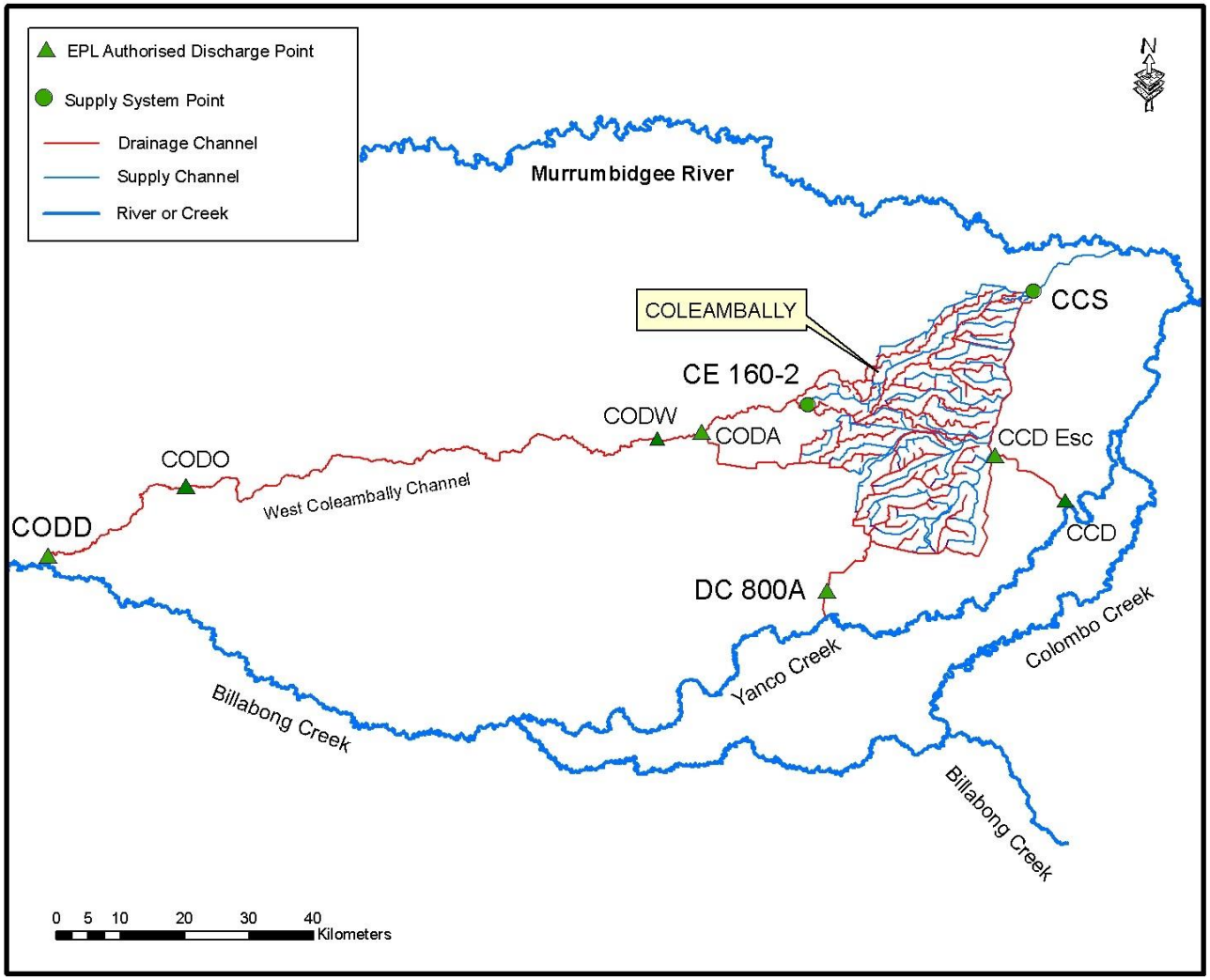
CICL's surface water quality program is aimed at monitoring supply and drainage water quality within CICL's operational area, including at the licensed discharge points. The program monitors flow, turbidity, dissolved oxygen, pH, salinity, chemical and nutrient levels at various points in compliance with licence conditions. CICL's water quality monitoring sites are shown in Figure 9.1.

There are three licensed drainage discharge points; Coleambally Outfall Drain monitoring site A (CODA) is used as a licensed site in place of Coleambally Outfall Drain monitoring site D (CODD) for the Rice Chemical Management Program (RCMP). Although the CODA site is not identified in the Environment Protection Licence (EPL), the site has been selected for its accessibility and is listed as an approved monitoring site. This arrangement has previously been agreed with the Department of Environment and Conservation (DEC), NSW Office of Water and the NSW Environmental Protection Agency.

The approval 2012 refers to the above discharge points; however a different terminology has been used to identify these sites.

At the licensed sites the flow, salinity and temperature of the drainage water are monitored continuously. Monthly water samples are collected from these sites and are analysed for chemicals as required by the EPL. Samples are also collected and analysed from one supply site at the Main Canal (CCS) and one escape site (CE-160-2). CCS is constantly monitored for salinity.

**Figure 8.1: Water Quality Monitoring Sites**



## 8.2 Site Names used within the EPL and Approval 2012

The EPA Licence and the Approval 2012 describe different monitoring sites,

### 8.2.1 EPA Licence Sites

1. Coleambally Outfall Drain Discharge labelled “COD Wonga” on map titled “West Coleambally Water Management Area” dated 19 February 2014 and on EPA file EF13/2805 replacing CODA.
2. DC800A on map titled “CICL Water Quality Monitoring Site” dated 12 August 2008 and on EPA file LIC07/2508
3. Coleambally Catchment Drain labelled ‘CCD’ on map titled “CICL Water Quality Monitoring Site” dated 12 August 2008 and on EPA file LIC07/2508
4. Coleambally Outfall Drain labelled “CODOaklands on map titled “West Coleambally Water Management Area” dated 19 February 2014 and on EPA file EF13/2805 replacing CODD at Bundy.

### 8.2.2 Office of Water Approval sites

1. Coleambally Outfall Drain A (CODA) - 410110 Drainage Canal 500 / DC500
2. Coleambally Outfall Drain D, 410133 Coleambally Outfall Drain at Bundy
3. Drainage Canal DC800A to Yanco Creek, 410108 Drainage Canal 800 at Outfall
4. Coleambally Catchment Drain at Outfall, Site 410191 CCD Into Yanco Creek

Flow monitoring is also conducted at the Boona and Argoon escapes as these are the main sources of water for the COD. These sites are to meter the fresh water supply for downstream customers.

## 8.3 Rice Chemical Monitoring Program (RCMP)

From October to December each year samples are collected from 21 sites and are analysed for Molinate levels as part of the RCMP.

Weekly sampling commenced on 13th October and concluded on 8th December 2014, with no detections of Molinate exceeding the Action Level of 14.0 µg/L.

Molinate levels are used as an indicator of the presence of other rice chemicals in the drainage water.

Please see appendix Table A6.1 for individual report results.

## 8.4 Chemical Use

**Table 8.1: CICL Chemical Usage in 2014/15**

| Product | Litres | Kg | Application |
|---|---|---|---|
| Access | 10 | | Boxthorns |
| Bluestone | | 100 | Slime control |
| Dicam (Kamba)/Cutlass | 1500 | | Horehound, Bathurst Burr |
| Goal/ Cavalier/ Striker/ Oxen (Oxyfan) | 60 | | Additive |
| Gulliver (Kg) | | 4 | Alisma |
| LI700 / VC700 / Wilt(wetter) | 40 | | Drift reduction |
| Propon | | 1500 | Cumbungi, Water couch |
| Roundup CT | 3000 | | Cumbungi in Channels & Drains |
| Starane | 20 | | St Johns Wort |
| Surefire Fortune 500 | 1 | | |
| Super 1000 | 5 | | Drift reduction |
| Tordon | 40 | | Suckers |
| Wetta (Hotup / Blood e Good) /Bowlem | 3401 | | With Goal and Amitrol |
| **Total** | **8077** | **1604** | |

## 8.5 Reportable Incidents

There were four reportable water quality incidents in 2014/15. Metolachlor was detected in October and January at CODW (Wonga Station) and at the DC800A Outfall into Yanco Creek.

# 9 Appendices

## 9.1 A1 Piezometer pressure level data (raw data)

| No. | Sub Region | Piezo depth range | Top of pipe above NS (m) | Natural Surface (m AHD) | Pipe depth below NS (m) | Reading | Comment |
|---|---|---|---|---|---|---|---|
| 767 | Argoon | 12-60 | 0.08 | 123.32 | 24.30 | 4.15 | |
| 770 | Argoon | 12-60 | 0.12 | 124.68 | 17.80 | 4.42 | |
| 771 | Argoon | 12-60 | 0.02 | 125.61 | 26.00 | 3.08 | |
| 772 | Argoon | 12-60 | 0.06 | 122.44 | 18.30 | 3.24 | |
| 773 | Argoon | 12-60 | 0.11 | 122.29 | 25.30 | 3.09 | |
| 774 | Argoon | 12-60 | 0.36 | 120.74 | 25.10 | 2.54 | |
| 776 | Argoon | 0-12 | 0.04 | 122.16 | 7.30 | 3.18 | |
| 778 | Argoon | 12-60 | 0.02 | 120.98 | 20.90 | 4.15 | |
| 779 | Argoon | 12-60 | 0.25 | 119.95 | 18.60 | 2.88 | |
| 987 | Argoon | 12-60 | 0.00 | 120.50 | 24.30 | 3.50 | |
| 992 | Argoon | 12-60 | 0.16 | 121.44 | 32.80 | 7.24 | |
| 993 | Argoon | 0-12 | 0.07 | 121.43 | 8.40 | 4.03 | |
| 1000 | Argoon | 12-60 | 0.06 | 118.84 | 24.90 | 2.38 | |
| 1001 | Argoon | 12-60 | 0.00 | 118.90 | 14.90 | 3.42 | |
| 1002 | Argoon | 12-60 | 0.00 | 118.50 | 15.20 | 2.63 | |
| 1003 | Argoon | 12-60 | 0.00 | 117.70 | 28.10 | 4.10 | |
| 1004 | Argoon | 12-60 | 0.20 | 117.60 | 15.00 | 3.11 | |
| 1006 | Argoon | 12-60 | 0.27 | 117.03 | 20.50 | 3.48 | |
| 1007 | Argoon | 0-12 | 0.17 | 116.93 | 6.10 | 3.26 | |
| 1008 | Argoon | 12-60 | 0.05 | 118.25 | 18.00 | 4.27 | |
| 1009 | Argoon | 12-60 | 0.08 | 118.72 | 18.10 | 3.32 | |
| 1018 | Argoon | 12-60 | 0.00 | 118.80 | 30.10 | 3.95 | |
| 1022 | Argoon | 0-12 | 0.15 | 118.95 | 6.50 | 2.85 | |
| 1049 | Argoon | 0-12 | 0.10 | 118.40 | 11.40 | 5.85 | |
| 1052 | Argoon | 12-60 | 0.12 | 117.28 | 17.50 | 4.88 | |
| 1060 | Argoon | 0-12 | 0.17 | 118.23 | 5.10 | 1.53 | |
| 1061 | Argoon | 0-12 | 0.64 | 118.46 | 6.90 | 1.56 | |
| 1070 | Argoon | 12-60 | 0.08 | 119.02 | 37.60 | 13.82 | |
| 1071 | Argoon | 12-60 | 0.08 | 116.42 | 13.50 | 9.58 | |
| 1080 | Argoon | 0-12 | 0.07 | 118.83 | 6.40 | 3.08 | |
| 1082 | Argoon | 0-12 | 0.21 | 117.28 | 3.75 | 4.89 | |
| 1148 | Argoon | 12-60 | 0.15 | 114.25 | 32.30 | 18.40 | |
| 1149 | Argoon | 12-60 | 0.42 | 114.18 | 13.50 | 5.78 | blocked @rd6.20m |
| 1150 | Argoon | 12-60 | 0.18 | 113.92 | 31.80 | 19.52 | blocked @rd 19.7m |
| 1151 | Argoon | 12-60 | 0.37 | 114.23 | 16.40 | 14.63 | dry @rd15.00m |
| 1152 | Argoon | 0-12 | 0.15 | 118.55 | 9.80 | 3.75 | |

| No. | Sub Region | Piezo depth range | Top of pipe above NS (m) | Natural Surface (m AHD) | Pipe depth below NS (m) | Reading | Comment |
|---|---|---|---|---|---|---|---|
| 1168 | Argoon | 12-60 | 0.14 | 115.06 | 29.70 | 10.96 | |
| 1169 | Argoon | 12-60 | 0.08 | 115.45 | 15.60 | 8.49 | |
| 1170 | Argoon | 12-60 | 0.04 | 116.39 | 14.60 | 3.96 | |
| 1178 | Argoon | 12-60 | 0.10 | 113.50 | 31.20 | 17.65 | |
| 1179 | Argoon | 0-12 | 0.26 | 113.54 | 5.60 | 5.39 | dry @rd5.65m |
| 1180 | Argoon | 12-60 | 0.00 | 114.00 | 30.90 | 15.80 | |
| 1181 | Argoon | 12-60 | 0.12 | 114.58 | 18.90 | 16.18 | |
| 1190 | Argoon | 0-12 | 0.04 | 116.39 | 3.30 | 2.83 | |
| 1256 | Argoon | 0-12 | 0.07 | 116.23 | 8.60 | 2.66 | |
| 1257 | Argoon | 0-12 | 0.07 | 116.63 | 10.70 | 2.67 | |
| 1262 | Argoon | 0-12 | 0.00 | 114.90 | 11.10 | 5.98 | |
| 1263 | Argoon | 12-60 | 0.10 | 115.54 | 20.40 | 12.27 | |
| 1264 | Argoon | 12-60 | 0.35 | 115.55 | 15.00 | 12.27 | |
| 1279 | Argoon | 0-12 | 0.34 | 118.77 | 7.40 | 3.36 | |
| 1853 | Argoon | 12-60 | 0.26 | 113.84 | 19.70 | 19.14 | |
| 1878 | Argoon | 12-60 | 0.12 | 114.68 | 18.60 | 18.41 | |
| 2338 | Argoon | 12-60 | 0.12 | 119.60 | 25.00 | 4.85 | |
| 2428 | Argoon | 0-12 | 0.38 | 119.54 | 9.50 | 3.27 | |
| 2431 | Argoon | 0-12 | 0.24 | 118.56 | 9.10 | 2.29 | |
| 2519 | Argoon | 0-12 | 0.00 | 122.70 | 7.70 | 4.10 | |
| 2951 | Argoon | 0-12 | 0.13 | 123.87 | 6.90 | 4.21 | |
| 3371 | Argoon | 0-12 | 0.38 | 119.43 | 8.70 | 2.79 | |
| 4237 | Argoon | 12-60 | 0.07 | 120.93 | 22.90 | 5.08 | |
| 4238 | Argoon | 12-60 | 0.05 | 122.15 | 24.40 | 4.01 | |
| 4941 | Argoon | 12-60 | 0.34 | 117.36 | 23.10 | 3.93 | |
| 4942 | Argoon | 12-60 | 0.18 | 116.47 | 12.20 | 2.77 | |
| 12181 | Argoon | 12-60 | 0.25 | 118.57 | 15.00 | 2.55 | |
| 12184 | Argoon | 12-60 | 0.24 | 119.41 | 16.50 | 2.13 | |
| 12346 | Argoon | 12-60 | 0.10 | 119.20 | 21.30 | 3.40 | |
| 12352 | Argoon | 12-60 | 0.20 | 115.61 | 27.00 | 14.30 | |
| 12354 | Argoon | 12-60 | 0.26 | 115.50 | 24.30 | 10.44 | |
| 12355 | Argoon | 12-60 | 0.23 | 115.57 | 28.00 | 5.45 | |
| 12373 | Argoon | 12-60 | 0.32 | 110.07 | 20.00 | 16.40 | |
| 12374 | Argoon | 12-60 | 0.44 | 112.17 | 23.30 | 20.81 | dry @rd21.25m |
| 12375 | Argoon | 12-60 | 0.19 | 110.07 | 24.00 | 19.86 | dry @rd20.05m |
| 12376 | Argoon | 12-60 | 0.15 | 113.19 | 32.00 | 20.61 | |
| 12377 | Argoon | 12-60 | 0.13 | 117.31 | 22.00 | 5.81 | |
| 12378 | Argoon | 12-60 | 0.19 | 119.09 | 30.00 | 7.81 | |
| 12384 | Argoon | 12-60 | 0.27 | 119.01 | 16.00 | 8.01 | |
| 12618 | Argoon | 12-60 | 0.05 | 120.65 | 18.80 | 2.25 | |
| 12633 | Argoon | 12-60 | 0.02 | 122.18 | 29.80 | 3.67 | |

| No. | Sub Region | Piezo depth range | Top of pipe above NS (m) | Natural Surface (m AHD) | Pipe depth below NS (m) | Reading | Comment |
|---|---|---|---|---|---|---|---|
| 12634 | Argoon | 12-60 | 0.28 | 122.23 | 17.50 | 1.29 | |
| 12635 | Argoon | 12-60 | 0.22 | 121.98 | 18.80 | 0.90 | |
| 12638 | Argoon | 12-60 | 0.16 | 121.14 | 16.30 | 3.74 | |
| 12638 | Argoon | 12-60 | 0.23 | 121.07 | 47.80 | 15.73 | |
| 12640 | Argoon | 12-60 | 0.18 | 120.22 | 18.80 | 3.41 | |
| 12644 | Argoon | 12-60 | 0.22 | 120.68 | 19.00 | 2.98 | |
| 12645 | Argoon | 0-12 | 0.03 | 120.87 | 3.50 | 1.32 | |
| 12646 | Argoon | 12-60 | 0.24 | 120.96 | 21.50 | 2.66 | |
| 12647 | Argoon | 12-60 | 0.05 | 123.05 | 20.30 | 2.65 | |
| 12658 | Argoon | 12-60 | 0.06 | 121.04 | 24.50 | 5.16 | |
| 12672 | Argoon | 12-60 | 0.06 | 119.14 | 20.30 | 3.07 | |
| 12675 | Argoon | 12-60 | 0.07 | 118.83 | 23.30 | 2.59 | |
| 12681 | Argoon | 12-60 | 0.09 | 118.71 | 14.30 | 4.79 | |
| 12682 | Argoon | 12-60 | 0.24 | 118.26 | 25.30 | 3.19 | |
| 12683 | Argoon | 12-60 | 0.21 | 118.29 | 13.80 | 2.67 | |
| 12684 | Argoon | 12-60 | 0.23 | 119.27 | 13.30 | 2.55 | |
| 12686 | Argoon | 12-60 | 0.16 | 122.24 | 17.50 | 4.44 | |
| 12687 | Argoon | 12-60 | 0.26 | 124.54 | 16.30 | 3.89 | |
| 12688 | Argoon | 12-60 | 0.46 | 122.94 | 23.30 | 4.32 | |
| 12689 | Argoon | 12-60 | 0.26 | 123.34 | 20.80 | 5.77 | |
| 12690 | Argoon | 12-60 | 0.30 | 120.40 | 26.50 | 5.27 | |
| 12691 | Argoon | 12-60 | 0.11 | 121.89 | 27.30 | 7.29 | |
| 12701 | Argoon | 12-60 | 0.12 | 122.48 | 24.50 | 5.59 | |
| 12711 | Argoon | 12-60 | 0.12 | 122.41 | 17.80 | 5.57 | |
| 12854 | Argoon | 12-60 | 0.20 | 116.40 | 27.00 | 2.35 | |
| 12855 | Argoon | 0-12 | 0.23 | 116.37 | 8.80 | 2.09 | |
| 12880 | Argoon | 12-60 | 0.29 | 114.61 | 19.50 | 9.59 | |
| 12901 | Argoon | 0-12 | 0.21 | 114.69 | 4.80 | 2.62 | |
| 12943 | Argoon | 12-60 | 0.35 | 119.77 | 14.30 | 4.42 | |
| 12944 | Argoon | 0-12 | 0.25 | 119.87 | 2.28 | 2.30 | |
| 12957 | Argoon | 12-60 | 0.34 | 117.82 | 44.20 | 5.19 | |
| 12958 | Argoon | 12-60 | 0.25 | 118.31 | 33.00 | 2.89 | |
| 12960 | Argoon | 12-60 | 0.22 | 122.02 | 40.50 | 10.20 | |
| 12967 | Argoon | 12-60 | 0.17 | 123.05 | 20.00 | 4.63 | |
| 12967 | Argoon | 12-60 | 0.15 | 123.07 | 24.50 | 4.75 | |
| 12975 | Argoon | 12-60 | 0.19 | 115.91 | 25.00 | 12.49 | |
| 13011 | Argoon | 0-12 | 0.09 | 120.03 | 5.00 | 1.65 | |
| 13011 | Argoon | 0-12 | 0.20 | 120.03 | 6.70 | 1.67 | |
| 13012 | Argoon | 0-12 | 0.17 | 119.75 | 5.00 | 1.73 | |
| 13012 | Argoon | 0-12 | 0.18 | 119.74 | 7.00 | 1.74 | |
| 13034 | Argoon | 0-12 | 0.65 | 115.58 | 7.08 | 5.27 | |

| No. | Sub Region | Piezo depth range | Top of pipe above NS (m) | Natural Surface (m AHD) | Pipe depth below NS (m) | Reading | Comment |
|---|---|---|---|---|---|---|---|
| 13035 | Argoon | 0-12 | 0.21 | 116.26 | 5.14 | 6.14 | dry @rd6.35m |
| 13036 | Argoon | 0-12 | 0.26 | 116.46 | 7.34 | 6.19 | dry @rd6.45m |
| 1 | Boona | 12-60 | 0.08 | 128.52 | 20.60 | 17.60 | |
| 4 | Boona | 12-60 | 0.38 | 128.52 | 24.70 | 16.84 | |
| 5 | Boona | 12-60 | 0.20 | 127.80 | 20.60 | 15.75 | |
| 10 | Boona | 12-60 | 0.50 | 127.50 | 21.60 | 8.97 | |
| 17 | Boona | 12-60 | 0.20 | 124.20 | 27.00 | 16.89 | |
| 19 | Boona | 12-60 | 0.55 | 123.75 | 18.50 | 17.42 | |
| 25 | Boona | 12-60 | 0.00 | 125.00 | 26.90 | 26.90 | dry @rd26.90m |
| 94 | Boona | 12-60 | 0.60 | 127.60 | 20.60 | 9.32 | |
| 96 | Boona | 12-60 | 0.25 | 127.05 | 24.40 | 12.79 | |
| 200 | Boona | 12-60 | 0.10 | 128.30 | 25.30 | 15.50 | |
| 201 | Boona | 12-60 | 0.10 | 128.30 | 32.40 | 9.99 | |
| 202 | Boona | 12-60 | 0.35 | 125.45 | 18.70 | 11.20 | |
| 203 | Boona | 12-60 | 0.35 | 124.45 | 26.90 | 15.74 | |
| 204 | Boona | 12-60 | 0.40 | 127.20 | 34.90 | 10.39 | |
| 207 | Boona | 12-60 | 0.40 | 123.70 | 25.90 | 17.36 | |
| 208 | Boona | 12-60 | 0.30 | 124.00 | 35.40 | 18.08 | |
| 376 | Boona | 12-60 | 0.44 | 126.86 | 31.90 | 31.46 | dry @rd31.90 |
| 392 | Boona | 12-60 | 0.90 | 120.00 | 14.20 | 9.80 | |
| 396 | Boona | 12-60 | 0.73 | 121.37 | 32.50 | 11.62 | |
| 437 | Boona | 12-60 | 0.10 | 119.80 | 26.90 | 10.37 | |
| 443 | Boona | 12-60 | 0.28 | 120.82 | 26.10 | 10.87 | |
| 502 | Boona | 12-60 | 0.82 | 118.48 | 28.40 | 10.67 | |
| 503 | Boona | 12-60 | 0.20 | 120.30 | 27.60 | 14.50 | |
| 504 | Boona | 12-60 | 0.33 | 120.07 | 28.80 | 15.98 | |
| 507 | Boona | 12-60 | 0.20 | 120.40 | 39.00 | 22.06 | |
| 508 | Boona | 12-60 | 0.18 | 120.32 | 25.40 | 22.11 | |
| 509 | Boona | 12-60 | 0.05 | 119.15 | 21.90 | 20.07 | |
| 510 | Boona | 12-60 | 0.27 | 120.63 | 23.20 | 16.73 | Dry @17m |
| 520 | Boona | 12-60 | 0.28 | 121.52 | 21.60 | 13.64 | |
| 521 | Boona | 12-60 | 0.54 | 122.86 | 21.60 | 15.81 | |
| 594 | Boona | 12-60 | 0.41 | 121.39 | 17.70 | 12.21 | |
| 595 | Boona | 12-60 | 0.20 | 122.70 | 21.20 | 14.70 | |
| 596 | Boona | 12-60 | 0.25 | 122.85 | 23.30 | 15.07 | |
| 598 | Boona | 12-60 | 0.00 | 121.70 | 22.90 | 14.26 | |
| 614 | Boona | 12-60 | 0.45 | 122.25 | 15.50 | 15.31 | |
| 615 | Boona | 12-60 | 0.12 | 123.30 | 15.80 | 15.68 | dry @15.8m |
| 617 | Boona | 12-60 | 0.60 | 124.30 | 24.90 | 8.00 | |
| 618 | Boona | 12-60 | 0.46 | 124.14 | 12.60 | 7.78 | |
| 619 | Boona | 12-60 | 0.00 | 124.90 | 24.10 | 8.84 | |

| No. | Sub Region | Piezo depth range | Top of pipe above NS (m) | Natural Surface (m AHD) | Pipe depth below NS (m) | Reading | Comment |
|---|---|---|---|---|---|---|---|
| 620 | Boona | 12-60 | 0.30 | 123.60 | 26.90 | 9.11 | |
| 621 | Boona | 12-60 | 0.23 | 126.67 | 30.40 | 12.65 | |
| 622 | Boona | 12-60 | 0.63 | 125.27 | 22.10 | 11.47 | |
| 623 | Boona | 12-60 | 0.47 | 124.83 | 12.40 | 7.71 | |
| 624 | Boona | 12-60 | 0.00 | 127.20 | 19.80 | 10.50 | |
| 625 | Boona | 12-60 | 0.13 | 123.17 | 26.90 | 11.25 | |
| 629 | Boona | 12-60 | 0.30 | 129.50 | 29.40 | 15.75 | |
| 631 | Boona | 12-60 | 0.13 | 130.17 | 31.30 | 19.52 | |
| 635 | Boona | 12-60 | 0.31 | 129.29 | 31.90 | 18.69 | |
| 636 | Boona | 12-60 | 0.26 | 128.94 | 16.80 | 12.69 | |
| 637 | Boona | 12-60 | 0.24 | 128.66 | 28.20 | 10.83 | |
| 643 | Boona | 12-60 | 0.27 | 127.03 | 21.90 | 13.17 | |
| 644 | Boona | 12-60 | 0.45 | 126.85 | 12.30 | 11.85 | dry @rd12.30m |
| 645 | Boona | 0-12 | 0.32 | 126.28 | 11.90 | 7.96 | |
| 647 | Boona | 0-12 | 0.25 | 128.25 | 11.90 | 10.10 | dry @rd10.35m |
| 648 | Boona | 12-60 | 0.60 | 127.30 | 12.60 | 12.60 | dry @rd13.20m |
| 651 | Boona | 12-60 | 0.50 | 125.90 | 12.90 | 9.69 | |
| 652 | Boona | 12-60 | 0.80 | 125.10 | 12.60 | 12.60 | dry @rd13.4m |
| 653 | Boona | 12-60 | 0.00 | 127.00 | 21.80 | 11.33 | |
| 654 | Boona | 12-60 | 0.25 | 126.25 | 32.50 | 17.09 | |
| 656 | Boona | 12-60 | 0.00 | 126.40 | 27.30 | 16.32 | |
| 661 | Boona | 12-60 | 0.19 | 128.41 | 14.40 | 14.43 | |
| 662 | Boona | 12-60 | 0.28 | 126.22 | 13.80 | 12.12 | |
| 667 | Boona | 0-12 | 0.70 | 126.30 | 7.50 | 5.64 | |
| 697 | Boona | 12-60 | 0.54 | 122.86 | 21.90 | 18.44 | |
| 698 | Boona | 12-60 | 0.19 | 123.31 | 20.60 | 20.60 | dry |
| 726 | Boona | 0-12 | 0.55 | 126.05 | 5.10 | 4.55 | DRY @ 5.1 |
| 730 | Boona | 12-60 | 0.12 | 124.78 | 23.90 | 20.25 | |
| 732 | Boona | 12-60 | 0.28 | 124.62 | 23.20 | 4.54 | blocked @rd4.82m |
| 738 | Boona | 0-12 | 0.25 | 126.25 | 10.90 | 10.42 | |
| 739 | Boona | 12-60 | 0.40 | 125.80 | 18.30 | 10.04 | |
| 752 | Boona | 0-12 | 0.00 | 126.94 | 11.80 | 10.34 | |
| 790 | Boona | 0-12 | 0.25 | 127.05 | 9.40 | 9.15 | dry @rd9.40m |
| 804 | Boona | 12-60 | 0.30 | 123.00 | 32.50 | 15.23 | |
| 805 | Boona | 0-12 | 0.25 | 123.05 | 11.80 | 11.80 | dry @12.05 |
| 806 | Boona | 12-60 | 0.27 | 123.23 | 34.70 | 15.58 | |
| 807 | Boona | 12-60 | 0.05 | 123.25 | 20.40 | 15.45 | |
| 834 | Boona | 12-60 | 0.15 | 127.15 | 36.40 | 18.65 | |
| 835 | Boona | 0-12 | 0.15 | 127.15 | 5.90 | 2.52 | |
| 836 | Boona | 12-60 | 0.20 | 126.00 | 23.60 | 15.83 | |

| No. | Sub Region | Piezo depth range | Top of pipe above NS (m) | Natural Surface (m AHD) | Pipe depth below NS (m) | Reading | Comment |
|---|---|---|---|---|---|---|---|
| 837 | Boona | 0-12 | 0.25 | 126.05 | 11.50 | 11.45 | dry @rd11.70m |
| 839 | Boona | 12-60 | 0.10 | 130.40 | 22.60 | 11.51 | |
| 843 | Boona | 12-60 | 0.10 | 127.20 | 21.70 | 17.94 | |
| 845 | Boona | 12-60 | 0.00 | 127.40 | 23.50 | 18.36 | |
| 846 | Boona | 12-60 | 0.05 | 126.75 | 20.90 | 20.85 | dry @rd20.90m |
| 946 | Boona | 12-60 | 0.26 | 124.96 | 23.30 | 17.92 | |
| 949 | Boona | 0-12 | 0.17 | 128.43 | 10.50 | 10.23 | dry @rd10.40m |
| 952 | Boona | 12-60 | 0.00 | 126.00 | 30.30 | 14.09 | |
| 954 | Boona | 12-60 | 0.00 | 126.60 | 14.10 | 11.27 | |
| 964 | Boona | 12-60 | 0.13 | 124.07 | 27.50 | 15.39 | |
| 966 | Boona | 12-60 | 0.10 | 124.80 | 21.00 | 17.43 | |
| 967 | Boona | 12-60 | 0.20 | 123.60 | 26.60 | 14.00 | |
| 968 | Boona | 12-60 | 0.16 | 129.54 | 24.80 | 12.51 | |
| 969 | Boona | 12-60 | 0.45 | 129.55 | 14.30 | 11.71 | |
| 974 | Boona | 12-60 | 0.23 | 128.07 | 25.70 | 12.75 | |
| 977 | Boona | 12-60 | 0.13 | 129.77 | 24.00 | 17.97 | |
| 980 | Boona | 0-12 | 1.10 | 127.22 | 11.60 | 10.26 | |
| 983 | Boona | 12-60 | 0.00 | 130.10 | 33.20 | 19.14 | |
| 1154 | Boona | 12-60 | 0.00 | 122.20 | 27.90 | 11.81 | |
| 1165 | Boona | 12-60 | 0.23 | 122.27 | 32.30 | 13.30 | |
| 1166 | Boona | 0-12 | 0.05 | 122.65 | 9.20 | 7.20 | dry@7.25m |
| 1177 | Boona | 12-60 | 0.08 | 121.22 | 31.80 | 10.58 | |
| 1596 | Boona | 0-12 | 0.12 | 123.38 | 9.70 | 9.70 | dry |
| 1616 | Boona | 0-12 | 0.16 | 121.64 | 5.60 | 5.44 | dry @rd5.60m |
| 1659 | Boona | 12-60 | 0.12 | 128.48 | 27.50 | 12.20 | |
| 1660 | Boona | 12-60 | 0.10 | 128.10 | 30.90 | 12.28 | |
| 1661 | Boona | 0-12 | 0.27 | 128.13 | 12.00 | 11.02 | |
| 1740 | Boona | 12-60 | 0.34 | 118.56 | 25.70 | 20.82 | |
| 1780 | Boona | 0-12 | 0.20 | 123.00 | 10.80 | 10.50 | |
| 2141 | Boona | 12-60 | 0.30 | 130.34 | 22.40 | 17.83 | |
| 2142 | Boona | 12-60 | 0.17 | 130.43 | 23.30 | 17.20 | |
| 2288 | Boona | 0-12 | 0.15 | 122.85 | 11.10 | 11.80 | dry @rd11.95m |
| 2377 | Boona | 0-12 | 0.25 | 119.60 | 10.50 | 10.25 | dry @rd10.5 |
| 2456 | Boona | 0-12 | 0.20 | 120.41 | 10.80 | 10.60 | dry @rd10.80m |
| 2458 | Boona | 0-12 | 0.28 | 119.33 | 11.10 | 10.82 | dry @rd11.10m |
| 2723 | Boona | 0-12 | 0.22 | 122.83 | 7.40 | 6.53 | |
| 2727 | Boona | 0-12 | 0.24 | 122.59 | 5.20 | 4.63 | |
| 4375 | Boona | 12-60 | 0.44 | 121.85 | 18.20 | 10.66 | |
| 4546 | Boona | 12-60 | 0.35 | 120.84 | 19.40 | 14.35 | |
| 4547 | Boona | 12-60 | 0.23 | 121.07 | 19.10 | 15.66 | |
| 4548 | Boona | 12-60 | 0.35 | 127.65 | 18.30 | 18.30 | dry @rd18.65m |

| No. | Sub Region | Piezo depth range | Top of pipe above NS (m) | Natural Surface (m AHD) | Pipe depth below NS (m) | Reading | Comment |
|---|---|---|---|---|---|---|---|
| 4558 | Boona | 12-60 | 0.20 | 126.90 | 21.50 | 16.41 | |
| 4912 | Boona | 12-60 | 0.20 | 129.00 | 13.70 | 13.50 | dry @rd13.70m |
| 4914 | Boona | 0-12 | 0.32 | 128.13 | 6.90 | 2.26 | |
| 5911 | Boona | 12-60 | 0.29 | 115.68 | 13.10 | 12.81 | dry @rd13.10m |
| 5915 | Boona | 0-12 | 0.18 | 116.16 | 8.80 | 8.62 | dry @rd8.80m |
| 5935 | Boona | 12-60 | 0.15 | 116.42 | 20.70 | 11.17 | |
| 6102 | Boona | 0-12 | 0.22 | 117.17 | 11.60 | 11.38 | dry @rd11.60m |
| 9320 | Boona | 12-60 | 0.00 | 129.49 | 13.80 | 13.80 | dry @rd13.80m |
| 9323 | Boona | 12-60 | 0.18 | 127.99 | 14.20 | 9.95 | |
| 9324 | Boona | 12-60 | 0.20 | 128.38 | 14.10 | 15.10 | dry @rd15.30m |
| 9329 | Boona | 0-12 | 0.05 | 130.15 | 9.20 | 9.20 | dry @rd9.25m |
| 9331 | Boona | 0-12 | 0.33 | 124.62 | 7.10 | 6.85 | |
| 9376 | Boona | 0-12 | 0.27 | 127.98 | 4.50 | 4.23 | dry @rd4.50m |
| 9379 | Boona | 12-60 | 0.21 | 127.69 | 12.40 | 8.52 | |
| 12166 | Boona | 12-60 | 0.30 | 122.55 | 31.83 | 17.19 | |
| 12171 | Boona | 12-60 | 0.07 | 122.58 | 16.00 | 11.39 | |
| 12188 | Boona | 0-12 | 0.10 | 121.27 | 9.70 | 8.15 | |
| 12190 | Boona | 12-60 | 0.26 | 121.47 | 22.01 | 17.32 | |
| 12191 | Boona | 12-60 | 0.15 | 121.08 | 22.00 | 19.30 | |
| 12192 | Boona | 0-12 | 0.14 | 120.77 | 10.15 | 8.91 | |
| 12194 | Boona | 0-12 | 0.24 | 119.37 | 9.25 | 7.23 | |
| 12197 | Boona | 12-60 | 0.22 | 126.98 | 19.02 | 17.81 | |
| 12201 | Boona | 12-60 | 0.25 | 128.67 | 23.60 | 2.06 | |
| 12202 | Boona | 12-60 | 0.25 | 129.06 | 32.23 | 17.30 | |
| 12298 | Boona | 0-12 | 0.16 | 123.86 | 8.90 | 10.30 | |
| 12299 | Boona | 12-60 | 0.20 | 124.57 | 22.20 | 11.60 | |
| 12312 | Boona | 0-12 | 0.27 | 126.86 | 6.00 | 5.73 | dry @rd6.00m |
| 12314 | Boona | 0-12 | 0.26 | 126.37 | 8.20 | 7.27 | |
| 12315 | Boona | 0-12 | 0.22 | 126.40 | 6.00 | 4.64 | |
| 12316 | Boona | 12-60 | 0.16 | 126.91 | 21.00 | 17.21 | |
| 12317 | Boona | 0-12 | 0.39 | 126.70 | 6.60 | 4.28 | |
| 12321 | Boona | 0-12 | 0.19 | 128.53 | 11.30 | 9.85 | |
| 12323 | Boona | 0-12 | 0.37 | 127.16 | 9.50 | 7.55 | |
| 12332 | Boona | 0-12 | 0.30 | 128.02 | 9.00 | 8.70 | dry @rd9.00m |
| 12333 | Boona | 0-12 | 0.26 | 127.25 | 9.40 | 10.54 | dry @rd10.80m |
| 12334 | Boona | 0-12 | 0.22 | 128.47 | 8.50 | 7.72 | |
| 12347 | Boona | 12-60 | 0.22 | 119.71 | 15.90 | 7.13 | |
| 12349 | Boona | 12-60 | 0.26 | 120.90 | 16.30 | 9.04 | |
| 12350 | Boona | 0-12 | 0.14 | 118.54 | 6.00 | 5.21 | dry @rd5.35m |
| 12381 | Boona | 0-12 | 0.30 | 124.39 | 9.00 | 8.70 | dry @rd9.00m |
| 12383 | Boona | 12-60 | 0.13 | 126.70 | 15.50 | 12.61 | |

| No. | Sub Region | Piezo depth range | Top of pipe above NS (m) | Natural Surface (m AHD) | Pipe depth below NS (m) | Reading | Comment |
|---|---|---|---|---|---|---|---|
| 12389 | Boona | 12-60 | 0.23 | 130.25 | 21.90 | 14.09 | |
| 12391 | Boona | 12-60 | 0.25 | 131.03 | 17.00 | 14.81 | |
| 12393 | Boona | 0-12 | 0.00 | 125.20 | 10.00 | 8.26 | |
| 12394 | Boona | 0-12 | 1.00 | 124.59 | 12.00 | 9.44 | |
| 12401 | Boona | 12-60 | 0.15 | 127.67 | 15.00 | 11.66 | |
| 12402 | Boona | 12-60 | 0.16 | 125.83 | 19.50 | 7.72 | |
| 12403 | Boona | 0-12 | 0.28 | 126.77 | 9.80 | 7.82 | dry @rd8.10m |
| 12404 | Boona | 12-60 | 0.27 | 125.59 | 12.70 | 11.21 | |
| 12405 | Boona | 12-60 | 0.29 | 125.65 | 14.50 | 11.46 | |
| 12406 | Boona | 12-60 | 0.22 | 125.16 | 17.00 | 11.74 | |
| 12407 | Boona | 12-60 | 0.23 | 126.01 | 12.10 | 11.87 | dry @rd12.10m |
| 12409 | Boona | 0-12 | 0.05 | 125.79 | 11.30 | 11.30 | dry @rd11.35m |
| 12411 | Boona | 0-12 | 0.14 | 126.24 | 9.00 | 3.02 | |
| 12430 | Boona | 0-12 | 0.25 | 126.09 | 9.80 | 9.55 | dry @rd9.80m |
| 12431 | Boona | 0-12 | 0.20 | 125.77 | 9.80 | 11.04 | |
| 12432 | Boona | 12-60 | 0.04 | 125.33 | 17.10 | 10.84 | |
| 12434 | Boona | 0-12 | 0.18 | 125.98 | 10.80 | 9.62 | |
| 12436 | Boona | 0-12 | 0.22 | 123.10 | 11.30 | 5.95 | |
| 12437 | Boona | 0-12 | 0.11 | 124.23 | 8.00 | 5.34 | |
| 12512 | Boona | 12-60 | 0.34 | 128.87 | 22.50 | 17.59 | |
| 12514 | Boona | 12-60 | 0.34 | 130.92 | 16.30 | 12.87 | |
| 12528 | Boona | 12-60 | 0.20 | 126.76 | 17.50 | 17.60 | dry @rd17.80m |
| 12529 | Boona | 0-12 | 0.10 | 127.08 | 10.30 | 10.20 | dry @rd10.30m |
| 12534 | Boona | 12-60 | 0.17 | 126.55 | 15.80 | 6.97 | |
| 12542 | Boona | 12-60 | 0.00 | 125.32 | 11.77 | 15.30 | dry @rd15.30m |
| 12564 | Boona | 12-60 | 0.30 | 125.30 | 19.50 | 16.50 | |
| 12567 | Boona | 12-60 | 0.25 | 127.45 | 18.00 | 14.89 | |
| 12568 | Boona | 0-12 | 0.10 | 128.60 | 12.00 | 11.95 | dry @ rd12.05m |
| 12569 | Boona | 12-60 | 0.17 | 123.93 | 12.16 | 8.65 | |
| 12570 | Boona | 0-12 | 0.30 | 123.10 | 11.60 | 10.04 | |
| 12571 | Boona | 0-12 | 0.16 | 122.94 | 11.00 | 8.04 | |
| 12572 | Boona | 0-12 | 0.25 | 122.23 | 11.30 | 7.75 | dry @ 8 m |
| 12573 | Boona | 12-60 | 0.20 | 122.90 | 26.50 | 11.90 | |
| 12574 | Boona | 0-12 | 0.10 | 123.00 | 11.30 | 9.41 | |
| 12576 | Boona | 12-60 | 0.20 | 121.40 | 14.30 | 9.02 | |
| 12577 | Boona | 0-12 | 0.20 | 121.10 | 11.80 | 9.00 | |
| 12578 | Boona | 0-12 | 0.38 | 120.62 | 11.30 | 8.07 | |
| 12580 | Boona | 0-12 | 0.13 | 119.47 | 8.80 | 5.22 | |
| 12619 | Boona | 12-60 | 0.18 | 119.62 | 17.30 | 6.07 | |
| 12623 | Boona | 12-60 | 0.30 | 120.21 | 24.50 | 8.57 | |
| 12708 | Boona | 0-12 | 0.18 | 122.46 | 11.30 | 11.30 | dry @rd11.48m |

| No. | Sub Region | Piezo depth range | Top of pipe above NS (m) | Natural Surface (m AHD) | Pipe depth below NS (m) | Reading | Comment |
|---|---|---|---|---|---|---|---|
| 12848 | Boona | 12-60 | 0.20 | 122.27 | 21.80 | 7.80 | dry @ 8 m |
| 12962 | Boona | 12-60 | 0.35 | 131.81 | 33.00 | 19.57 | |
| 12972 | Boona | 12-60 | 0.17 | 124.89 | 18.50 | 7.96 | |
| 12972 | Boona | 12-60 | 0.18 | 124.87 | 48.00 | 14.93 | |
| 12998 | Boona | 12-60 | 0.17 | 120.31 | 26.50 | 15.45 | |
| 12999 | Boona | 12-60 | 0.21 | 121.44 | 23.00 | 15.81 | |
| 13000 | Boona | 12-60 | 0.11 | 121.82 | 23.00 | 15.79 | |
| 13001 | Boona | 12-60 | 0.16 | 123.09 | 20.50 | 16.09 | |
| 13002 | Boona | 12-60 | 0.24 | 117.38 | 21.50 | 10.16 | |
| 13003 | Boona | 12-60 | 0.23 | 116.29 | 25.18 | 10.72 | |
| 13004 | Boona | 12-60 | 0.29 | 116.53 | 26.00 | 23.58 | |
| 13005 | Boona | 12-60 | 0.32 | 118.17 | 17.80 | 17.80 | dry @ 18.12 |
| 496 | Coly | 12-60 | 1.30 | 117.60 | 27.10 | 1.48 | |
| 498 | Coly | 12-60 | 0.10 | 120.40 | 20.50 | 5.21 | |
| 499 | Coly | 12-60 | 0.38 | 117.82 | 23.80 | 3.25 | |
| 501 | Coly | 12-60 | 0.47 | 118.93 | 16.00 | 5.62 | |
| 626 | Coly | 12-60 | 0.23 | 122.67 | 25.50 | 7.04 | |
| 627 | Coly | 0-12 | 0.13 | 122.67 | 9.60 | 6.34 | |
| 630 | Coly | 12-60 | 0.56 | 127.64 | 19.30 | 9.67 | |
| 655 | Coly | 12-60 | 0.24 | 127.26 | 35.90 | 8.76 | |
| 657 | Coly | 12-60 | 0.00 | 126.90 | 36.50 | 9.43 | |
| 658 | Coly | 12-60 | 0.34 | 123.66 | 22.30 | 2.32 | |
| 659 | Coly | 0-12 | 0.63 | 123.67 | 10.20 | 5.49 | |
| 663 | Coly | 0-12 | 0.10 | 125.10 | 7.30 | 5.87 | |
| 664 | Coly | 12-60 | 0.16 | 125.74 | 19.10 | 6.75 | |
| 665 | Coly | 12-60 | 0.15 | 123.05 | 20.10 | 3.98 | |
| 668 | Coly | 12-60 | 0.00 | 123.20 | 26.50 | 7.85 | |
| 669 | Coly | 0-12 | 0.00 | 123.00 | 11.00 | 6.76 | |
| 673 | Coly | 12-60 | 0.05 | 125.05 | 24.90 | 3.27 | |
| 676 | Coly | 12-60 | 0.14 | 125.06 | 23.40 | 2.46 | |
| 677 | Coly | 12-60 | 0.05 | 124.95 | 15.50 | 2.45 | |
| 678 | Coly | 12-60 | 0.13 | 126.57 | 23.60 | 3.65 | |
| 679 | Coly | 12-60 | 0.50 | 126.20 | 13.70 | 3.30 | |
| 680 | Coly | 12-60 | 0.00 | 126.10 | 23.10 | 3.54 | |
| 681 | Coly | 12-60 | 0.00 | 125.90 | 18.70 | 3.50 | |
| 682 | Coly | 0-12 | 0.00 | 125.80 | 10.50 | 3.44 | |
| 683 | Coly | 12-60 | 0.00 | 126.50 | 23.80 | 4.25 | |
| 684 | Coly | 0-12 | 0.00 | 126.50 | 11.20 | 3.30 | |
| 685 | Coly | 12-60 | 0.10 | 127.30 | 12.70 | 4.57 | |
| 688 | Coly | 12-60 | 0.20 | 127.60 | 13.70 | 6.40 | |
| 689 | Coly | 12-60 | 0.60 | 127.40 | 26.10 | 11.70 | |

| No. | Sub Region | Piezo depth range | Top of pipe above NS (m) | Natural Surface (m AHD) | Pipe depth below NS (m) | Reading | Comment |
|---|---|---|---|---|---|---|---|
| 690 | Coly | 12-60 | 0.26 | 127.64 | 27.70 | 10.74 | |
| 691 | Coly | 12-60 | 0.13 | 126.57 | 20.70 | 8.62 | |
| 692 | Coly | 12-60 | 0.20 | 126.50 | 15.80 | 7.30 | |
| 693 | Coly | 12-60 | 0.41 | 127.49 | 24.50 | 8.09 | |
| 695 | Coly | 12-60 | 0.05 | 126.35 | 20.40 | 6.38 | |
| 696 | Coly | 12-60 | 0.22 | 126.68 | 58.50 | 18.00 | |
| 700 | Coly | 12-60 | 0.17 | 122.93 | 24.60 | 1.63 | |
| 701 | Coly | 12-60 | 0.30 | 122.90 | 17.10 | 1.70 | |
| 702 | Coly | 0-12 | 0.13 | 122.77 | 11.20 | 1.63 | |
| 704 | Coly | 12-60 | 0.05 | 123.65 | 24.30 | 2.95 | |
| 708 | Coly | 12-60 | 0.08 | 123.72 | 26.20 | 3.20 | |
| 709 | Coly | 12-60 | 0.30 | 123.60 | 19.40 | 3.20 | |
| 711 | Coly | 12-60 | 0.00 | 125.60 | 27.10 | 3.25 | |
| 753 | Coly | 12-60 | 0.40 | 126.10 | 26.70 | 7.85 | |
| 757 | Coly | 12-60 | 0.32 | 126.58 | 30.40 | 8.00 | |
| 758 | Coly | 12-60 | 0.35 | 126.55 | 15.80 | 9.09 | |
| 762 | Coly | 12-60 | 0.00 | 126.10 | 25.90 | 3.60 | |
| 763 | Coly | 12-60 | 0.10 | 125.70 | 17.00 | 3.66 | |
| 764 | Coly | 12-60 | 0.10 | 124.70 | 20.90 | 4.25 | |
| 765 | Coly | 12-60 | 0.00 | 122.40 | 15.60 | 2.61 | |
| 768 | Coly | 12-60 | 0.05 | 122.35 | 21.40 | 2.52 | |
| 769 | Coly | 12-60 | 0.30 | 122.40 | 16.60 | 2.35 | |
| 789 | Coly | 12-60 | 0.44 | 127.66 | 23.70 | 9.31 | |
| 791 | Coly | 0-12 | 0.00 | 124.10 | 10.10 | 4.48 | |
| 792 | Coly | 0-12 | 0.06 | 124.04 | 4.90 | 4.46 | |
| 793 | Coly | 0-12 | 0.05 | 124.15 | 4.50 | 3.38 | |
| 794 | Coly | 0-12 | 0.12 | 124.18 | 4.20 | 2.03 | |
| 798 | Coly | 12-60 | 0.15 | 122.65 | 19.10 | 3.55 | |
| 799 | Coly | 0-12 | 0.27 | 122.63 | 10.90 | 3.48 | |
| 800 | Coly | 12-60 | 0.13 | 123.17 | 30.40 | 3.49 | |
| 801 | Coly | 0-12 | 0.18 | 123.12 | 8.30 | 3.44 | |
| 802 | Coly | 12-60 | 0.00 | 121.20 | 15.00 | 3.40 | |
| 803 | Coly | 0-12 | 0.00 | 121.20 | 7.70 | 3.38 | |
| 809 | Coly | 12-60 | 0.00 | 119.79 | 25.85 | 4.60 | |
| 810 | Coly | 12-60 | 0.08 | 119.74 | 17.10 | 4.60 | |
| 813 | Coly | 12-60 | 0.35 | 118.75 | 25.20 | 11.07 | |
| 814 | Coly | 0-12 | 0.00 | 118.70 | 7.40 | 4.82 | |
| 815 | Coly | 12-60 | 0.00 | 117.50 | 28.70 | 13.82 | |
| 821 | Coly | 12-60 | 0.02 | 119.18 | 25.90 | 4.40 | |
| 822 | Coly | 0-12 | 0.02 | 118.88 | 9.80 | 4.26 | |
| 826 | Coly | 0-12 | 0.25 | 114.65 | 5.80 | 5.13 | dry @rd5.38m |

| No. | Sub Region | Piezo depth range | Top of pipe above NS (m) | Natural Surface (m AHD) | Pipe depth below NS (m) | Reading | Comment |
|---|---|---|---|---|---|---|---|
| 828 | Coly | 0-12 | 0.86 | 114.60 | 9.80 | 9.84 | |
| 830 | Coly | 12-60 | 0.34 | 116.56 | 19.50 | 8.58 | |
| 831 | Coly | 0-12 | 0.05 | 116.85 | 6.30 | 4.37 | |
| 841 | Coly | 12-60 | 0.12 | 114.88 | 37.10 | 16.48 | |
| 1012 | Coly | 12-60 | 0.00 | 124.50 | 20.80 | 3.35 | |
| 1050 | Coly | 12-60 | 0.18 | 117.42 | 33.20 | 3.56 | |
| 1896 | Coly | 12-60 | 0.15 | 116.36 | 26.20 | 10.75 | |
| 1897 | Coly | 12-60 | 0.15 | 117.29 | 26.40 | 10.81 | |
| 6804 | Coly | 12-60 | 0.00 | 128.47 | 28.00 | 15.38 | |
| 9317 | Coly | 0-12 | 1.18 | 125.56 | 5.60 | 5.85 | dry @rd7.03m |
| 9318 | Coly | 0-12 | 0.13 | 125.54 | 4.70 | 3.47 | |
| 9325 | Coly | 12-60 | 0.11 | 126.97 | 16.40 | 8.14 | |
| 9327 | Coly | 12-60 | 0.40 | 124.61 | 31.20 | 6.45 | |
| 9349 | Coly | 0-12 | 0.34 | 121.24 | 9.50 | 2.06 | |
| 9351 | Coly | 0-12 | 0.20 | 122.23 | 4.00 | 0.13 | |
| 9352 | Coly | 0-12 | 0.10 | 122.77 | 8.50 | 2.61 | |
| 9353 | Coly | 0-12 | 0.16 | 123.15 | 6.40 | 3.47 | |
| 9354 | Coly | 0-12 | 0.12 | 123.13 | 6.70 | 3.20 | |
| 9355 | Coly | 0-12 | 0.27 | 122.50 | 6.40 | 2.85 | |
| 9356 | Coly | 12-60 | 0.12 | 122.14 | 13.60 | 2.33 | |
| 9357 | Coly | 0-12 | 0.12 | 121.98 | 4.30 | 2.21 | |
| 9358 | Coly | 12-60 | 0.22 | 121.34 | 12.95 | 2.53 | |
| 9359 | Coly | 0-12 | 0.00 | 122.73 | 6.90 | 2.70 | |
| 9380 | Coly | 0-12 | 0.30 | 124.22 | 11.50 | 2.80 | |
| 9381 | Coly | 0-12 | 0.22 | 124.20 | 11.30 | 2.90 | |
| 9388 | Coly | 0-12 | 0.25 | 121.20 | 11.50 | 0.81 | |
| 9393 | Coly | 0-12 | 0.10 | 122.03 | 5.18 | 1.70 | |
| 9394 | Coly | 0-12 | 0.25 | 120.49 | 7.50 | 1.21 | |
| 9395 | Coly | 0-12 | 0.16 | 121.50 | 10.80 | 1.69 | |
| 9396 | Coly | 0-12 | 0.15 | 122.22 | 9.40 | 1.38 | |
| 9397 | Coly | 12-60 | 0.28 | 123.23 | 16.50 | 1.82 | |
| 9398 | Coly | 0-12 | 0.12 | 123.23 | 6.77 | 1.82 | |
| 9399 | Coly | 0-12 | 0.20 | 122.16 | 5.18 | 1.27 | |
| 12101 | Coly | 0-12 | 0.19 | 121.66 | 3.05 | 1.17 | |
| 12102 | Coly | 0-12 | 0.14 | 122.76 | 5.50 | 1.80 | |
| 12103 | Coly | 0-12 | 0.14 | 126.24 | 3.60 | 0.60 | |
| 12104 | Coly | 0-12 | 0.30 | 126.77 | 3.20 | 0.53 | |
| 12116 | Coly | 0-12 | 0.00 | 124.37 | 6.30 | 3.18 | |
| 12178 | Coly | 0-12 | 0.16 | 121.36 | 9.35 | 3.30 | |
| 12179 | Coly | 0-12 | 0.23 | 120.13 | 6.10 | 3.57 | |
| 12180 | Coly | 0-12 | 0.23 | 121.00 | 7.21 | 4.57 | |

| No. | Sub Region | Piezo depth range | Top of pipe above NS (m) | Natural Surface (m AHD) | Pipe depth below NS (m) | Reading | Comment |
|---|---|---|---|---|---|---|---|
| 12199 | Coly | 12-60 | 0.02 | 123.47 | 27.17 | 6.47 | |
| 12200 | Coly | 12-60 | 0.17 | 123.40 | 14.38 | 6.30 | |
| 12245 | Coly | 12-60 | 0.21 | 129.12 | 18.30 | 16.25 | |
| 12247 | Coly | 12-60 | 0.18 | 128.63 | 23.10 | 15.32 | |
| 12250 | Coly | 12-60 | 0.16 | 127.78 | 24.40 | 15.79 | |
| 12251 | Coly | 12-60 | 0.13 | 128.19 | 22.40 | 13.64 | |
| 12253 | Coly | 12-60 | 0.46 | 126.96 | 20.06 | 10.74 | |
| 12272 | Coly | 12-60 | 0.14 | 129.03 | 24.60 | 15.08 | |
| 12351 | Coly | 0-12 | 0.26 | 120.36 | 7.20 | 5.21 | |
| 12395 | Coly | 12-60 | 0.17 | 125.71 | 15.60 | 4.08 | |
| 12396 | Coly | 0-12 | 0.05 | 125.62 | 6.90 | 1.56 | |
| 12397 | Coly | 12-60 | 0.17 | 124.20 | 13.00 | 2.38 | |
| 12398 | Coly | 12-60 | 0.17 | 123.19 | 13.00 | 5.50 | |
| 12399 | Coly | 12-60 | 0.42 | 125.65 | 17.70 | 3.56 | |
| 12410 | Coly | 0-12 | 0.28 | 126.61 | 10.10 | 3.32 | |
| 12412 | Coly | 0-12 | 0.29 | 124.38 | 11.80 | 4.71 | |
| 12413 | Coly | 12-60 | 0.27 | 126.14 | 19.00 | 3.55 | |
| 12441 | Coly | 12-60 | 0.17 | 126.89 | 18.10 | 6.23 | |
| 12442 | Coly | 12-60 | 0.20 | 126.67 | 18.50 | 5.30 | |
| 12445 | Coly | 12-60 | 0.80 | 126.19 | 19.50 | 2.86 | |
| 12448 | Coly | 0-12 | 0.38 | 125.77 | 3.50 | 2.52 | |
| 12449 | Coly | 0-12 | 0.00 | 126.34 | 2.87 | 1.76 | |
| 12481 | Coly | 0-12 | 0.10 | 124.73 | 11.70 | 6.84 | |
| 12482 | Coly | 0-12 | 0.17 | 124.36 | 11.30 | 4.10 | |
| 12483 | Coly | 12-60 | 0.18 | 124.50 | 12.80 | 3.18 | |
| 12484 | Coly | 12-60 | 0.22 | 124.66 | 20.30 | 5.23 | |
| 12485 | Coly | 12-60 | 0.32 | 124.59 | 20.00 | 0.45 | |
| 12486 | Coly | 0-12 | 0.30 | 124.63 | 9.30 | 3.47 | |
| 12487 | Coly | 0-12 | 0.12 | 125.77 | 10.30 | 4.25 | |
| 12488 | Coly | 0-12 | 0.21 | 125.96 | 7.00 | 4.89 | |
| 12489 | Coly | 12-60 | 0.00 | 126.19 | 14.20 | 6.79 | |
| 12490 | Coly | 12-60 | 0.12 | 126.27 | 12.80 | 6.54 | |
| 12491 | Coly | 12-60 | 0.15 | 126.47 | 14.30 | 6.22 | |
| 12555 | Coly | 0-12 | 0.15 | 123.15 | 11.30 | 3.45 | |
| 12556 | Coly | 12-60 | 1.20 | 123.10 | 13.80 | 3.52 | |
| 12557 | Coly | 12-60 | 0.15 | 122.45 | 17.80 | 2.67 | |
| 12558 | Coly | 12-60 | 0.21 | 121.39 | 20.80 | 3.22 | |
| 12559 | Coly | 12-60 | 0.15 | 120.75 | 22.00 | 2.75 | |
| 12560 | Coly | 12-60 | 0.18 | 120.92 | 14.00 | 3.12 | |
| 12562 | Coly | 12-60 | 0.04 | 120.86 | 14.50 | 3.49 | |
| 12563 | Coly | 12-60 | 1.12 | 120.11 | 15.00 | 3.22 | |

| No. | Sub Region | Piezo depth range | Top of pipe above NS (m) | Natural Surface (m AHD) | Pipe depth below NS (m) | Reading | Comment |
|---|---|---|---|---|---|---|---|
| 12620 | Coly | 12-60 | 0.30 | 121.50 | 17.00 | 0.44 | |
| 12621 | Coly | 12-60 | 0.10 | 121.43 | 15.80 | 2.90 | |
| 12624 | Coly | 0-12 | 0.13 | 121.47 | 10.80 | 4.11 | |
| 12625 | Coly | 0-12 | 0.20 | 121.60 | 8.80 | 3.26 | |
| 12626 | Coly | 0-12 | 0.08 | 122.12 | 9.50 | 3.53 | |
| 12627 | Coly | 0-12 | 0.19 | 122.01 | 8.80 | 3.54 | |
| 12628 | Coly | 12-60 | 0.60 | 123.15 | 16.00 | 5.54 | |
| 12629 | Coly | 12-60 | 0.12 | 121.18 | 18.80 | 5.34 | |
| 12630 | Coly | 12-60 | 0.15 | 121.58 | 17.30 | 3.11 | |
| 12631 | Coly | 12-60 | 0.30 | 121.60 | 18.50 | 2.97 | |
| 12676 | Coly | 12-60 | 0.14 | 127.26 | 16.30 | 5.60 | |
| 12677 | Coly | 12-60 | 0.15 | 126.25 | 20.00 | 3.30 | |
| 12678 | Coly | 12-60 | 0.22 | 125.28 | 19.30 | 3.34 | |
| 12679 | Coly | 12-60 | 0.16 | 124.34 | 23.80 | 3.80 | |
| 12680 | Coly | 12-60 | 0.10 | 123.30 | 24.30 | 3.58 | |
| 12709 | Coly | 12-60 | 0.11 | 122.60 | 14.80 | 4.93 | |
| 12710 | Coly | 0-12 | 0.00 | 124.07 | 11.30 | 4.38 | |
| 12751 | Coly | 12-60 | 0.00 | 123.29 | 14.00 | 5.79 | |
| 12753 | Coly | 12-60 | 0.80 | 123.70 | 16.30 | 7.20 | |
| 12759 | Coly | 0-12 | 0.15 | 122.00 | 8.30 | 4.68 | |
| 12760 | Coly | 12-60 | 0.08 | 123.02 | 18.30 | 6.29 | |
| 12841 | Coly | 12-60 | 0.25 | 123.05 | 18.30 | 4.60 | |
| 12842 | Coly | 12-60 | 0.25 | 123.15 | 15.40 | 4.17 | |
| 12843 | Coly | 12-60 | 0.27 | 123.13 | 18.90 | 3.30 | |
| 12844 | Coly | 12-60 | 0.22 | 123.18 | 17.30 | 3.28 | |
| 12845 | Coly | 12-60 | 0.19 | 122.81 | 22.80 | 2.76 | |
| 12846 | Coly | 12-60 | 0.28 | 124.52 | 17.80 | 7.09 | |
| 12963 | Coly | 12-60 | 0.15 | 130.50 | 19.00 | 18.65 | dry @rd18.80m |
| 12963 | Coly | 12-60 | 0.15 | 130.52 | 41.50 | 22.70 | |
| 12964 | Coly | 12-60 | 0.11 | 130.77 | 22.00 | 15.56 | |
| 12966 | Coly | 12-60 | 0.25 | 120.95 | 20.00 | 5.02 | |
| 12966 | Coly | 12-60 | 0.29 | 120.90 | 27.50 | 7.57 | |
| 12966 | Coly | 0-12 | 0.23 | 120.99 | 11.00 | 5.23 | |
| 12968 | Coly | 12-60 | 0.35 | 131.67 | 20.50 | 17.35 | dry @rd17.70m |
| 12968 | Coly | 12-60 | 0.29 | 131.67 | 42.00 | 22.71 | |
| 12973 | Coly | 12-60 | 0.06 | 125.78 | 23.00 | 3.64 | |
| 12973 | Coly | 12-60 | 0.10 | 125.80 | 44.50 | 16.60 | |
| 12973 | Coly | 0-12 | 0.19 | 125.73 | 7.50 | 3.11 | |
| 12976 | Coly | 12-60 | 0.22 | 127.71 | 19.70 | 7.83 | |
| 12977 | Coly | 0-12 | 0.08 | 127.85 | 4.60 | 1.18 | |
| 12978 | Coly | 0-12 | 0.13 | 127.20 | 8.00 | 0.72 | |

| No. | Sub Region | Piezo depth range | Top of pipe above NS (m) | Natural Surface (m AHD) | Pipe depth below NS (m) | Reading | Comment |
|---|---|---|---|---|---|---|---|
| 12979 | Coly | 0-12 | 0.08 | 127.49 | 6.50 | 1.18 | |
| 12984 | Coly | 0-12 | 0.20 | 126.46 | 11.80 | 3.67 | |
| 12985 | Coly | 0-12 | 0.11 | 127.20 | 10.00 | 3.52 | |
| 12986 | Coly | 0-12 | 0.14 | 127.77 | 9.30 | 3.51 | |
| 12987 | Coly | 0-12 | 0.05 | 125.56 | 8.30 | 3.34 | |
| 12988 | Coly | 0-12 | 0.10 | 125.00 | 9.20 | 3.48 | |
| 12989 | Coly | 0-12 | 0.10 | 125.33 | 8.80 | 3.38 | |
| 12990 | Coly | 12-60 | 0.16 | 125.77 | 12.50 | 3.51 | |
| 12991 | Coly | 0-12 | 0.25 | 124.90 | 10.00 | 2.75 | |
| 12992 | Coly | 0-12 | 0.17 | 125.16 | 9.60 | 3.53 | |
| 12993 | Coly | 12-60 | 0.21 | 125.66 | 16.00 | 3.39 | |
| 12994 | Coly | 0-12 | 0.13 | 124.99 | 10.45 | 3.42 | |
| 12995 | Coly | 0-12 | 0.13 | 125.09 | 7.10 | 3.41 | |
| 12996 | Coly | 12-60 | 0.10 | 119.22 | 20.60 | 4.31 | |
| 12996 | Coly | 0-12 | 0.19 | 119.13 | 8.90 | 4.18 | |
| 13007 | Coly | 0-12 | 0.17 | 116.63 | 8.50 | 2.36 | |
| 13008 | Coly | 0-12 | 0.00 | 119.62 | 11.40 | 4.80 | |
| 13009 | Coly | 0-12 | 0.17 | 118.84 | 7.00 | 2.09 | |
| 13016 | Coly | 0-12 | 1.00 | 117.79 | 10.00 | 4.30 | |
| 13019 | Coly | 0-12 | 0.20 | 118.76 | 10.50 | 6.05 | |
| 13020 | Coly | 12-60 | 0.23 | 119.86 | 13.50 | 5.47 | |
| 13020 | Coly | 0-12 | 0.28 | 119.80 | 7.00 | 5.36 | |
| 13022 | Coly | 12-60 | 0.54 | 121.17 | 13.00 | 6.14 | |
| 13023 | Coly | 12-60 | 0.32 | 118.96 | 16.00 | 5.77 | |
| 13024 | Coly | 12-60 | 0.70 | 116.68 | 13.50 | 2.74 | |
| 13030 | Coly | 12-60 | 0.27 | 119.53 | 13.50 | 6.60 | |
| 13031 | Coly | 0-12 | 0.32 | 118.27 | 9.00 | 5.44 | |
| 13041 | Coly | 12-60 | 0.65 | 116.67 | 20.80 | 18.27 | |
| 13042 | Coly | 12-60 | 0.67 | 116.02 | 17.30 | 16.83 | dry @rd17.50m |
| 13043 | Coly | 12-60 | 0.40 | 116.15 | 18.10 | 17.52 | |
| 755 | Yamma | 0-12 | 0.20 | 126.70 | 9.30 | 6.00 | |
| 756 | Yamma | 0-12 | 0.46 | 126.54 | 4.40 | 3.06 | |
| 781 | Yamma | 0-12 | 0.21 | 126.49 | 8.50 | 6.39 | |
| 4109 | Yamma | 12-60 | 0.25 | 125.65 | 17.90 | 7.81 | |
| 4113 | Yamma | 0-12 | 0.37 | 123.51 | 8.50 | 5.22 | |
| 4131 | Yamma | 12-60 | 0.33 | 124.64 | 26.20 | 5.90 | |
| 4137 | Yamma | 0-12 | 0.42 | 126.14 | 8.50 | 6.72 | |
| 4209 | Yamma | 12-60 | 0.30 | 125.30 | 12.20 | 6.12 | dry @rd6.42m |
| 4239 | Yamma | 12-60 | 0.18 | 120.92 | 22.90 | 2.82 | |
| 4241 | Yamma | 12-60 | 0.19 | 124.47 | 17.10 | 4.71 | |
| 4242 | Yamma | 0-12 | 0.24 | 124.34 | 9.90 | 3.93 | |

| No. | Sub Region | Piezo depth range | Top of pipe above NS (m) | Natural Surface (m AHD) | Pipe depth below NS (m) | Reading | Comment |
|---|---|---|---|---|---|---|---|
| 4921 | Yamma | 0-12 | 0.17 | 119.13 | 10.70 | 2.44 | |
| 4925 | Yamma | 12-60 | 0.40 | 120.30 | 12.30 | 2.98 | |
| 4927 | Yamma | 0-12 | 0.12 | 120.38 | 11.70 | 2.34 | |
| 4929 | Yamma | 0-12 | 0.24 | 122.06 | 5.40 | 2.61 | |
| 4930 | Yamma | 12-60 | 0.40 | 121.10 | 13.70 | 2.14 | |
| 4934 | Yamma | 0-12 | 0.05 | 118.49 | 10.80 | 2.61 | |
| 4935 | Yamma | 0-12 | 0.28 | 117.72 | 10.80 | 2.47 | |
| 4936 | Yamma | 0-12 | 0.27 | 117.57 | 11.10 | 3.23 | |
| 4937 | Yamma | 12-60 | 0.24 | 117.71 | 25.20 | 3.05 | |
| 4938 | Yamma | 0-12 | 0.12 | 117.77 | 11.00 | 3.06 | |
| 4944 | Yamma | 0-12 | 0.28 | 123.60 | 8.40 | 3.85 | |
| 4956 | Yamma | 12-60 | 0.43 | 116.37 | 17.40 | 4.91 | |
| 4960 | Yamma | 12-60 | 0.12 | 118.48 | 28.70 | 3.78 | |
| 4962 | Yamma | 12-60 | 0.30 | 118.00 | 12.80 | 2.75 | |
| 4963 | Yamma | 0-12 | 0.13 | 118.47 | 9.70 | 3.49 | |
| 4999 | Yamma | 0-12 | 0.37 | 119.12 | 11.30 | 5.58 | |
| 5000 | Yamma | 12-60 | 0.13 | 119.27 | 14.90 | 5.76 | |
| 5001 | Yamma | 12-60 | 0.07 | 119.54 | 17.40 | 5.77 | |
| 5002 | Yamma | 0-12 | 0.42 | 119.55 | 10.50 | 6.58 | |
| 5003 | Yamma | 0-12 | 0.22 | 117.34 | 3.50 | 3.42 | |
| 5004 | Yamma | 12-60 | 0.14 | 117.99 | 15.00 | 6.43 | |
| 5011 | Yamma | 12-60 | 0.29 | 120.58 | 17.10 | 4.45 | |
| 5436 | Yamma | 0-12 | 0.25 | 121.72 | 7.30 | 4.41 | |
| 5439 | Yamma | 0-12 | 0.19 | 121.84 | 4.30 | 1.92 | |
| 5443 | Yamma | 12-60 | 0.15 | 124.55 | 24.40 | 3.00 | |
| 5447 | Yamma | 12-60 | 0.13 | 123.70 | 23.40 | 3.67 | |
| 5448 | Yamma | 0-12 | 0.00 | 122.90 | 11.00 | 1.61 | |
| 5449 | Yamma | 0-12 | 0.32 | 122.31 | 9.40 | 1.51 | |
| 5528 | Yamma | 0-12 | 0.17 | 122.87 | 8.20 | 4.33 | |
| 5577 | Yamma | 0-12 | 0.00 | 122.88 | 8.50 | 7.87 | |
| 5952 | Yamma | 0-12 | 0.21 | 121.00 | 7.60 | 2.89 | |
| 5954 | Yamma | 0-12 | 0.14 | 120.57 | 11.80 | 3.39 | |
| 5955 | Yamma | 0-12 | 0.10 | 120.15 | 9.40 | 3.03 | |
| 5957 | Yamma | 0-12 | 0.24 | 119.90 | 10.10 | 7.31 | |
| 5960 | Yamma | 0-12 | 0.12 | 119.31 | 7.00 | 4.54 | |
| 5961 | Yamma | 0-12 | 0.13 | 119.92 | 6.40 | 4.14 | |
| 5964 | Yamma | 12-60 | 0.35 | 120.65 | 20.20 | 8.39 | |
| 5965 | Yamma | 12-60 | 0.36 | 122.46 | 15.50 | 2.64 | |
| 12210 | Yamma | 12-60 | 0.30 | 125.27 | 27.25 | 8.10 | |
| 12211 | Yamma | 12-60 | 0.30 | 125.27 | 17.30 | 8.12 | |
| 12215 | Yamma | 12-60 | 0.05 | 123.72 | 22.80 | 8.35 | |

| No. | Sub Region | Piezo depth range | Top of pipe above NS (m) | Natural Surface (m AHD) | Pipe depth below NS (m) | Reading | Comment |
|---|---|---|---|---|---|---|---|
| 12217 | Yamma | 12-60 | 0.35 | 124.03 | 22.50 | 6.70 | |
| 12218 | Yamma | 0-12 | 0.29 | 124.01 | 7.38 | 4.91 | |
| 12220 | Yamma | 12-60 | 0.02 | 122.95 | 15.80 | 6.19 | |
| 12221 | Yamma | 0-12 | 0.21 | 122.54 | 11.45 | 3.84 | |
| 12222 | Yamma | 0-12 | 0.18 | 121.64 | 10.00 | 3.57 | |
| 12223 | Yamma | 12-60 | 0.41 | 120.89 | 20.00 | 5.02 | |
| 12224 | Yamma | 12-60 | 0.15 | 121.21 | 20.05 | 8.30 | |
| 12225 | Yamma | 12-60 | 0.09 | 120.42 | 20.60 | 8.16 | |
| 12226 | Yamma | 0-12 | 0.06 | 120.92 | 10.10 | 9.04 | |
| 12229 | Yamma | 12-60 | 0.12 | 120.57 | 24.00 | 6.14 | |
| 12230 | Yamma | 0-12 | 0.38 | 121.98 | 9.80 | 5.40 | |
| 12232 | Yamma | 0-12 | 0.22 | 121.83 | 5.50 | 7.84 | |
| 12233 | Yamma | 0-12 | 0.19 | 121.83 | 5.50 | 4.81 | |
| 12234 | Yamma | 12-60 | 0.16 | 121.78 | 23.25 | 3.92 | |
| 12235 | Yamma | 0-12 | 0.14 | 121.16 | 6.15 | 2.55 | |
| 12237 | Yamma | 0-12 | 0.20 | 123.17 | 11.00 | 2.32 | |
| 12238 | Yamma | 12-60 | 0.18 | 120.49 | 17.80 | 3.01 | |
| 12239 | Yamma | 0-12 | 0.08 | 120.52 | 7.50 | 1.44 | |
| 12241 | Yamma | 0-12 | 0.17 | 121.73 | 8.50 | 1.51 | |
| 12242 | Yamma | 12-60 | 0.19 | 123.66 | 19.10 | 2.45 | |
| 12243 | Yamma | 12-60 | 0.15 | 123.20 | 18.90 | 2.30 | |
| 12244 | Yamma | 0-12 | 0.13 | 123.42 | 8.30 | 3.64 | |
| 12260 | Yamma | 12-60 | 0.40 | 126.89 | 12.05 | 3.53 | |
| 12264 | Yamma | 0-12 | 0.13 | 129.28 | 10.30 | 11.03 | |
| 12265 | Yamma | 12-60 | 0.00 | 126.70 | 17.20 | 13.33 | |
| 12267 | Yamma | 0-12 | 0.30 | 127.99 | 10.10 | 9.70 | |
| 12274 | Yamma | 0-12 | 0.24 | 115.56 | 10.40 | 10.16 | dry @rd10.40m |
| 12276 | Yamma | 12-60 | 0.15 | 115.27 | 18.30 | 8.22 | |
| 12277 | Yamma | 12-60 | 0.12 | 116.53 | 22.33 | 15.08 | |
| 12278 | Yamma | 12-60 | 0.16 | 120.50 | 21.78 | 10.42 | |
| 12279 | Yamma | 12-60 | 0.11 | 118.08 | 22.45 | 12.69 | |
| 12280 | Yamma | 12-60 | 0.29 | 117.32 | 19.50 | 14.31 | |
| 12294 | Yamma | 0-12 | 0.22 | 119.31 | 9.00 | 8.50 | |
| 12356 | Yamma | 12-60 | 0.16 | 115.77 | 23.50 | 8.00 | |
| 12357 | Yamma | 12-60 | 0.08 | 115.55 | 23.00 | 10.60 | |
| 12358 | Yamma | 0-12 | 0.20 | 115.43 | 11.00 | 10.52 | |
| 12362 | Yamma | 12-60 | 0.05 | 125.74 | 19.20 | 10.57 | |
| 12363 | Yamma | 12-60 | 0.25 | 125.38 | 21.70 | 12.57 | |
| 12364 | Yamma | 12-60 | 0.21 | 125.57 | 17.60 | 13.44 | |
| 12365 | Yamma | 12-60 | 0.23 | 125.08 | 20.00 | 8.70 | |
| 12366 | Yamma | 12-60 | 0.27 | 124.08 | 17.20 | 13.25 | |

| No. | Sub Region | Piezo depth range | Top of pipe above NS (m) | Natural Surface (m AHD) | Pipe depth below NS (m) | Reading | Comment |
|---|---|---|---|---|---|---|---|
| 12367 | Yamma | 12-60 | 0.08 | 126.65 | 19.00 | 10.98 | |
| 12368 | Yamma | 12-60 | 0.10 | 126.69 | 16.20 | 7.92 | |
| 12370 | Yamma | 12-60 | 0.07 | 115.27 | 20.00 | 13.61 | |
| 12371 | Yamma | 12-60 | 0.18 | 115.22 | 24.00 | 14.57 | |
| 12372 | Yamma | 12-60 | 0.10 | 114.73 | 20.00 | 3.25 | |
| 12420 | Yamma | 12-60 | 0.06 | 117.89 | 15.50 | 2.17 | |
| 12421 | Yamma | 0-12 | 0.11 | 117.94 | 7.30 | 2.09 | |
| 12454 | Yamma | 12-60 | 0.18 | 122.24 | 20.00 | 3.02 | |
| 12455 | Yamma | 0-12 | 0.12 | 122.31 | 10.50 | 2.93 | |
| 12458 | Yamma | 12-60 | 0.04 | 122.91 | 16.50 | 2.73 | |
| 12459 | Yamma | 12-60 | 0.17 | 123.64 | 17.50 | 3.33 | |
| 12460 | Yamma | 12-60 | 0.12 | 120.37 | 14.50 | 3.42 | |
| 12462 | Yamma | 12-60 | 0.05 | 120.32 | 16.50 | 2.76 | |
| 12465 | Yamma | 12-60 | 0.15 | 120.11 | 23.80 | 2.61 | |
| 12466 | Yamma | 12-60 | 0.23 | 119.52 | 34.00 | 6.14 | |
| 12467 | Yamma | 12-60 | 0.13 | 119.18 | 18.10 | 2.87 | |
| 12468 | Yamma | 12-60 | 0.15 | 118.31 | 19.50 | 2.33 | |
| 12471 | Yamma | 12-60 | 0.14 | 124.74 | 20.00 | 5.16 | |
| 12472 | Yamma | 0-12 | 0.24 | 124.43 | 4.80 | 2.33 | |
| 12473 | Yamma | 12-60 | 0.00 | 124.50 | 18.80 | 3.66 | |
| 12477 | Yamma | 12-60 | 0.10 | 124.13 | 18.50 | 4.32 | |
| 12502 | Yamma | 12-60 | 0.19 | 122.01 | 15.50 | 3.35 | |
| 12551 | Yamma | 12-60 | 0.48 | 110.79 | 19.80 | 15.72 | |
| 12552 | Yamma | 12-60 | 0.08 | 111.38 | 14.30 | 14.89 | |
| 12553 | Yamma | 12-60 | 0.18 | 111.70 | 13.30 | 13.12 | |
| 12554 | Yamma | 12-60 | 0.20 | 113.82 | 24.50 | 16.05 | |
| 12961 | Yamma | 12-60 | 0.24 | 117.47 | 26.00 | 2.52 | |
| 12974 | Yamma | 12-60 | 0.29 | 123.31 | 28.50 | 4.04 | |
| 12974 | Yamma | 12-60 | 0.21 | 123.31 | 50.50 | 15.03 | |
| 12974 | Yamma | 0-12 | 0.29 | 123.31 | 10.00 | 3.49 | |

## 9.2 A2 Surface Water Extraction and Salinity

**Table A 2.1: Flow (ML) at CCS Coleambally Main Off-take**

| Day | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 2085 | 1285 | 3210 | 1625 | 2760 | 1875 | 1310 | 585 | 445 | |
| 2 | | | 1620 | 1280 | 2330 | 1875 | 2665 | 1895 | 925 | 510 | 75 | |
| 3 | | | 1630 | 1210 | 2290 | 1850 | 2700 | 2030 | 1320 | 535 | 240 | |
| 4 | | | 1715 | 1045 | 1790 | 1440 | 2545 | 1735 | 1315 | 385 | 330 | |
| 5 | | | 1250 | 1385 | 1530 | 1745 | 2140 | 1795 | 1390 | 430 | 315 | |
| 6 | | | 1130 | 1530 | 1455 | 1380 | 2235 | 1935 | 1305 | 395 | 330 | |
| 7 | | | 1020 | 1600 | 1505 | 1140 | 3650 | 2045 | 1260 | 640 | 320 | |
| 8 | | 100 | 1145 | 1860 | 1875 | 1525 | 4000 | 2070 | 1060 | 890 | 400 | |
| 9 | | 450 | 1030 | 1965 | 1600 | 2560 | 3390 | 2105 | 970 | 1195 | 330 | |
| 10 | | 500 | 458 | 2150 | 1285 | 2615 | 2410 | 2070 | 995 | 1087 | 245 | |
| 11 | | 350 | 535 | 1950 | 1640 | 2725 | 1450 | 1700 | 970 | 1480 | 230 | |
| 12 | | 250 | 635 | 1920 | 1605 | | 1200 | 1640 | 1090 | 1335 | 165 | |
| 13 | | 600 | 580 | 1760 | 1760 | | 645 | 1145 | 855 | 1430 | 405 | |
| 14 | | 950 | 620 | 1150 | 1820 | | 930 | 2705 | 840 | 450 | 495 | |
| 15 | | | 685 | 1420 | 1135 | | 1145 | 2290 | 750 | 400 | 150 | |
| 16 | | | 725 | 3005 | 875 | | 1155 | 3320 | 760 | 310 | | |
| 17 | | | 860 | 3395 | 2280 | | 1565 | 3250 | 850 | 30 | | |
| 18 | | | 955 | 3440 | 3025 | | 1920 | 2365 | 865 | 735 | | |
| 19 | | | 970 | 3065 | 2980 | | 2200 | 1280 | 770 | 1093 | | |
| 20 | | | 945 | 3005 | 2935 | | 2475 | 500 | 700 | 1240 | | |
| 21 | | | 750 | 2595 | 2480 | | 2145 | 800 | 570 | 715 | | |
| 22 | | | 1135 | 2595 | 1750 | | 2110 | 995 | 555 | 526 | | |
| 23 | | | 645 | 2670 | 1470 | | 3275 | 1240 | 575 | 445 | | |
| 24 | | | 400 | 2695 | 1165 | | 3040 | 1115 | 705 | 195 | | |
| 25 | | | 1630 | 2640 | 850 | | 3015 | 1210 | 570 | 245 | | |
| 26 | | | 1930 | 2430 | 1310 | | 3130 | 1330 | 610 | 205 | | |
| 27 | | | 1450 | 2130 | 1220 | | 2770 | 1305 | 680 | 135 | | |
| 28 | | | 1080 | 2145 | 1865 | | 2240 | 1085 | 640 | 184 | | |
| 29 | | | 1075 | 2170 | 2420 | | 2025 | | 615 | 185 | | |
| 30 | | | 1300 | 3520 | 1780 | | 2075 | | 490 | 315 | | |
| 31 | | | | 3375 | | | 2115 | | 620 | | | |

**Table A 2.2: Salinity (µS/cm) at CCS Coleambally Main Off-take**

| Day | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 114.7 | 153.4 | 184 | 117.7 | 115.9 | 99.4 | 105.8 | 162.7 | 188.1 | 164.3 | 88.1 | 149.6 |
| **2** | 112.8 | 154.3 | 170.6 | 117.8 | 117.4 | 106 | 108.5 | 158.5 | 184.9 | 167.8 | 84.5 | 148.5 |
| **3** | 110 | 153.3 | 160.8 | 126.7 | 115.8 | 108.6 | 113.3 | 159.3 | 181.1 | 167.9 | 84.9 | 158.2 |
| **4** | 117.9 | 150.6 | 169.7 | 129.2 | 112.5 | 111.2 | 116.3 | 157.6 | 178.2 | 163.9 | 84.5 | 153.8 |
| **5** | 134.2 | 153.8 | 157.8 | 125.4 | 112.9 | 116.1 | 120.9 | 156.2 | 172.2 | 159.7 | 84.3 | 157.6 |
| **6** | 146.8 | 158.8 | 146.1 | 127.7 | 109.6 | 117.6 | 123.9 | 158.9 | 167.1 | 156.7 | 85.8 | 154.4 |
| **7** | 157.7 | 161.2 | 133.6 | 143.5 | 106.6 | 118.8 | 129.6 | 165.5 | 172.9 | 147.4 | 87.3 | 153.4 |
| **8** | 168.2 | 159.7 | 124.4 | 140.4 | 102.9 | 114.7 | 134.5 | 163.7 | 170.2 | 139.4 | 89.7 | 150.6 |
| **9** | 179.4 | 155.8 | 121.2 | 146.4 | 100.5 | 111.5 | 137.7 | 165.8 | 168 | 132 | 92.1 | 141.5 |
| **10** | 167.3 | 158.4 | 119.7 | 144.5 | 98.5 | 105.3 | 140 | 167.9 | 165.9 | 125.6 | 96 | 138.7 |
| **11** | 178.6 | 163.7 | 119.7 | 131.2 | 97.3 | 103.4 | 138.9 | 171 | 164.4 | 121.9 | 99.2 | 134.6 |
| **12** | 216.6 | 166.6 | 120.3 | 132.8 | 97.5 | 98.3 | 142.3 | 167.2 | 164.2 | 119.1 | 103 | 128.4 |
| **13** | 219 | 167.9 | 127 | 143.6 | 99.9 | 98.3 | 144.4 | 170.4 | 162.5 | 112 | 105.2 | 123.4 |
| **14** | 185.3 | 164.7 | 141.6 | 145 | 99.4 | 88.9 | 144.8 | 180.6 | 162.8 | 93.9 | 110.4 | 121.2 |
| **15** | 166.7 | 164.8 | 151.3 | 143.2 | 100 | 91.1 | 145.6 | 179.8 | 163.4 | 92.8 | 116.9 | 127 |
| **16** | 159.7 | 167.1 | 179.8 | 142.4 | 99.6 | 92.5 | 144.9 | 197.9 | 165.5 | 81.3 | 119.2 | 135.1 |
| **17** | 152.3 | 169.6 | 170.1 | 141.8 | 100.3 | 91.8 | 144.7 | 228.4 | 170.1 | 76.3 | 117.5 | 137.3 |
| **18** | 142.9 | 172.3 | 166.2 | 141.1 | 101.7 | 91.3 | 144 | 190.4 | 167.8 | 94.5 | 116.9 | 135.9 |
| **19** | 132.8 | 175.9 | 159.5 | 132.7 | 104.1 | 92.5 | 142.3 | 190.5 | 174.4 | 89.1 | 116.7 | 176.7 |
| **20** | 126.9 | 179.4 | 153.5 | 131.1 | 101.7 | 90.5 | 131.6 | 198.5 | 173.2 | 91.9 | 115.1 | 182.6 |
| **21** | 128 | 178 | 146.2 | 132 | 98.7 | 90 | 127.1 | 204.3 | 167.3 | 90.2 | 113 | 156.3 |
| **22** | 132.3 | 176.3 | 142.3 | 134.9 | 98.3 | 91.9 | 130.6 | 199.3 | 164.7 | 84.7 | 113.2 | 152.2 |
| **23** | 133.7 | 193.3 | 135.2 | 139 | 95.6 | 92.8 | 133.9 | 191.1 | 164.6 | 80.7 | 111 | 151.1 |
| **24** | 134 | 194.4 | 135.7 | 157.1 | 96.4 | 94.4 | 135.8 | 189.1 | 163.6 | 85.1 | 114.1 | 154.8 |
| **25** | 136.5 | 186.9 | 129.8 | 155.8 | 96.4 | 96.6 | 136.9 | 192.7 | 161.5 | 87.5 | 118.4 | 153.7 |
| **26** | 140 | 190.7 | 142.7 | 146.4 | 95.2 | 98 | 138 | 191.1 | 160.5 | 84.9 | 121.5 | 145.3 |
| **27** | 143.7 | 209.2 | 149.1 | 139.4 | 95.3 | 99.3 | 139.4 | 198.7 | 159.5 | 85 | 125.8 | 146.3 |
| **28** | 146.9 | 205.2 | 135.7 | 131 | 97.1 | 100.9 | 141.8 | 196.1 | 158.4 | 87 | 132.3 | 146 |
| **29** | 148.6 | 206.8 | 132.2 | 125 | 97.8 | 104.5 | 143.7 | | 161.6 | 103.1 | 169.9 | 147.3 |
| **30** | 153.4 | 190 | 122.8 | 125.5 | 98.2 | 106.1 | 145.8 | | 162.9 | 96.2 | 155.4 | 147 |
| **31** | 156.2 | 189.8 | | 124.1 | | 106 | 150.8 | | 163.1 | | 156.8 | |

## 9.3 A3 Drainage Salinity and Flow Data

**Table A 3.1 Flow (ML) for DC 800 at Outfall into Yanco Creek**

| Day | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.299 | | 16.325 | 12.888 | 51.501 | 0.007 | 44.638 | 22.986 | 63.456 | 0.088 | 35.698 | 48.782 |
| 2 | 0.155 | | 12.965 | 8.825 | 49.77 | | 45.638 | 23.46 | 65.055 | 0.097 | 27.918 | 52.636 |
| 3 | 0.071 | | 15.656 | 9.896 | 51.361 | | 45.094 | 23.538 | 28.761 | 0.063 | 19.299 | 56.738 |
| 4 | 0.044 | | 17.153 | 4.79 | 57.007 | | 55.246 | 10.629 | 8.535 | 0.029 | 10.703 | 52.782 |
| 5 | 0.007 | | 14.621 | 3.78 | 49.314 | | 59.668 | 3.617 | 1.078 | 0.008 | 3.386 | 72.035 |
| 6 | 0.001 | | 11.936 | 5.567 | 48.175 | | 53.399 | 1.438 | 13.524 | 0.001 | 3.293 | 70.504 |
| 7 | | | 7.132 | 2.734 | 50.309 | | 58.964 | 0.915 | 48.586 | | 5.462 | 50.573 |
| 8 | | | 2.81 | 3.157 | 50.542 | | 64.305 | 0.592 | 57.228 | | 2.704 | 43.74 |
| 9 | | | 2.546 | 39.476 | 51.923 | | 74.632 | 0.512 | 57.425 | | 0.938 | 35.253 |
| 10 | | | 4.58 | 75.333 | 43.074 | | 40.81 | 0.866 | 57.22 | | 0.493 | 37.812 |
| 11 | | | 4.091 | 89.391 | 34.901 | | 18.041 | 0.723 | 57.512 | | 0.314 | 34.629 |
| 12 | | | 1.979 | 99.926 | 29.428 | | 7.177 | 3.541 | 54.153 | | 0.591 | 27.89 |
| 13 | | | 0.631 | 105.044 | 29.152 | | 2.119 | 26.49 | 58.246 | | 3.462 | 16.628 |
| 14 | | | 0.458 | 92.53 | 28.137 | | 6.293 | 30.142 | 91.377 | | 5.49 | 16.839 |
| 15 | | | 6.398 | 96.086 | 28.994 | | 7.08 | 34.486 | 105.047 | | 8.092 | 15.648 |
| 16 | | | 22.529 | 100.358 | 30.755 | | 5.351 | 49.855 | 118.04 | 0.023 | 4.138 | 16.447 |
| 17 | | | 34.485 | 95.256 | 32.046 | | 3.16 | 36.559 | 112.259 | 5.518 | 2.341 | 24.539 |
| 18 | | | 29.672 | 96.017 | 35.309 | 22.251 | 2.224 | 25.553 | 79.379 | 19.556 | 2.258 | 56.514 |
| 19 | | | 38.903 | 79.415 | 32.159 | 27.44 | 1.638 | 20.097 | 75.978 | 24.013 | 1.515 | 162.705 |
| 20 | | | 50.747 | 77.462 | 15.823 | 34.262 | 1.594 | 15.977 | 65.879 | 28.53 | 0.852 | 152.32 |
| 21 | | 0.001 | 62.954 | 84.075 | 7.823 | 48.342 | 1.377 | 12.166 | 35.879 | 23.35 | 1.859 | 77.621 |
| 22 | | 8.141 | 69.839 | 92.941 | 3.43 | 52.29 | 1.202 | 9.004 | 16.624 | 14.83 | 2.368 | 41.545 |
| 23 | | 2.514 | 79.875 | 87.092 | 0.812 | 57.049 | 1.267 | 7.31 | 9.511 | 11.018 | 1.479 | 29.17 |
| 24 | | 1.976 | 87.664 | 86.946 | 0.44 | 58.812 | 1.458 | 7.654 | 4.841 | 10.787 | 3.663 | 23.357 |
| 25 | | 3.452 | 100.29 | 89.254 | 0.324 | 58.108 | 1.116 | 3.506 | 4.803 | 10.519 | 3.975 | 21.384 |
| 26 | | 16.743 | 99.133 | 86.044 | 0.688 | 57.824 | 1.966 | 17.041 | 2.079 | 7.305 | 3.324 | 18.823 |
| 27 | | 20.37 | 90.988 | 78.442 | 0.231 | 63.592 | 1.801 | 59.353 | 2.497 | 7.107 | 2.237 | 15.468 |
| 28 | | 31.037 | 83.645 | 71.593 | 0.175 | 62.525 | 1.947 | 67.822 | 5.802 | 13.852 | 6.742 | 13.523 |
| 29 | | 29.821 | 73.69 | 68.71 | 0.079 | 54.709 | 1.726 | | 13.019 | 36.402 | 19.861 | 11.013 |
| 30 | | 25.051 | 29.718 | 71.761 | 0.032 | 57.593 | 1.678 | | 7.509 | 41.493 | 46.479 | 7.758 |
| 31 | | 27.109 | | 70.755 | | 63.6 | 14.467 | | 0.134 | | 51.194 | |

**Table A 3.2 Salinity (µS/cm) for DC 800 at Outfall into Yanco Creek**

| Day | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 399.8 | | 261.6 | 142.9 | 61.2 | 265.4 | 179.6 | 214.6 | 243.8 | 286.5 | 77.6 | 114.1 |
| **2** | 417.4 | | 261.4 | 168.9 | 72.4 | 306.7 | 200.4 | 194.5 | 237.4 | 285.6 | 77.2 | 112.6 |
| **3** | 426.2 | | 288.8 | 277.7 | 86.8 | 344.6 | 185 | 196.5 | 249.9 | 282.6 | 81.3 | 124.6 |
| **4** | 438.2 | | 348.7 | 248.7 | 103.7 | 326 | 182.9 | 198 | 255.2 | 284.4 | 78.8 | 131.4 |
| **5** | 449 | | 266.2 | 233.5 | 110.1 | 273.4 | 175.3 | 210.4 | 215.7 | 288.4 | 92 | 150.9 |
| **6** | 450.2 | | 269.8 | 265.6 | 118.9 | 283.2 | 175 | 234.4 | 182.8 | 287.2 | 99.3 | 155.7 |
| **7** | 453.1 | | 260.7 | 295.5 | 126.4 | 279.4 | 168.4 | 239.4 | 169.2 | 282.1 | 108.4 | 171.4 |
| **8** | 453.8 | | 255.6 | 290.6 | 125.6 | 273.6 | 178.1 | 253 | 153.1 | 277.6 | 110.9 | 160.5 |
| **9** | 455.4 | | 262.8 | 222.3 | 123.5 | 277.3 | 194.3 | 263.5 | 148 | 282.8 | 122.3 | 152.5 |
| **10** | 459.2 | | 269.9 | 126.5 | 124.3 | 269.7 | 212.1 | 280.9 | 149.3 | 281.9 | 121.8 | 146.3 |
| **11** | 457.9 | | 374.8 | 111.5 | 125.9 | 214.2 | 229.3 | 283.5 | 150.6 | 283.5 | 126.6 | 137.8 |
| **12** | 457.8 | | 453.7 | 131.2 | 130.4 | 113.1 | 241.9 | 263.7 | 153.5 | 287.3 | 139.7 | 126.3 |
| **13** | 455 | | 460.1 | 146.9 | 134.2 | 72.3 | 250 | 273.9 | 152.5 | 289.7 | 142.8 | 126.9 |
| **14** | 454.9 | | 519 | 135.2 | 134.9 | 70.9 | 217.5 | 224.8 | 157 | 292.8 | 160.1 | 126.7 |
| **15** | 453.2 | | 513.6 | 137.2 | 130.5 | | 187.1 | 276.8 | 157.7 | 293.6 | 176.5 | 137.4 |
| **16** | 448.8 | | 352.1 | 139.5 | 134 | | 202.5 | 449.7 | 172.5 | 298.4 | 168.4 | 149 |
| **17** | 447.5 | | 217 | 146.9 | 125.9 | | 184.3 | 335.1 | 169.2 | 323.5 | 166.8 | 126.7 |
| **18** | 436.2 | | 184.9 | 158 | 140.2 | | 179 | 319.4 | 188.5 | 233.9 | 157.9 | 128 |
| **19** | 439 | | 158.7 | 149 | 149.7 | 108.1 | 157.2 | 335.2 | 190.9 | 164.1 | 159.1 | 209.7 |
| **20** | 439.2 | | 148.3 | 144.7 | 150.9 | 108 | 187.2 | 345.4 | 183.5 | 154.4 | 159.3 | 195.9 |
| **21** | 438.3 | | 139.7 | 132.2 | 184 | 118.7 | 187 | 345.3 | 186.4 | 174.7 | 169 | 184.8 |
| **22** | 435.5 | 553.8 | 135.9 | 137 | 176.9 | 125.6 | 190.7 | 351.3 | 190.4 | 150 | 171.2 | 191.8 |
| **23** | 429.8 | 579.6 | 127.9 | 139.3 | 193.6 | 131.4 | 196.6 | 340 | 211.9 | 181.3 | 158.5 | 216.2 |
| **24** | 433.9 | 454.9 | 129.1 | 142.8 | 209.6 | 141.5 | 206 | 284.2 | 224.8 | 243 | 151.9 | 222.1 |
| **25** | 422.1 | 351 | 127.3 | 131.2 | 214.2 | 141.4 | 207.8 | 294.1 | 235.4 | 203.6 | 148.2 | 211 |
| **26** | 379.5 | 406.5 | 159.1 | 112.8 | 220 | 144 | 205.2 | 333.3 | 245.1 | 184.3 | 127.4 | 222.1 |
| **27** | 341.4 | 344.5 | 155.7 | 93.4 | 228.5 | 142.1 | 222.1 | 299.4 | 252.9 | 196.7 | 207.8 | 226.6 |
| **28** | 267.4 | 341.2 | 147.8 | 65 | 233.9 | 148.8 | 218.7 | 276.4 | 265.5 | 199.9 | 390.7 | 232.1 |
| **29** | 130.4 | 263.6 | 139.1 | 60.9 | 243 | 157.1 | 221.4 | | 283.6 | 135.2 | 273.1 | 235.2 |
| **30** | 63.9 | 269.3 | 135.5 | 62.2 | 255.5 | 162.9 | 226.9 | | 302.4 | 101.3 | 138.1 | 247.2 |
| **31** | 36.6 | 274.3 | | 59.6 | | 163.5 | 254.9 | | 283.5 | | 131.1 | |

## Table A 3.3 Flow (ML) for CODA at West Coleambally Channel

| Day | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 30.244 | | 11.976 | 45.419 | 50.48 | 28.186 | 68.567 | 10.284 | | 120.952 | 48.586 | 48.771 |
| **2** | 33.263 | | 7.738 | 42.801 | 55.02 | 31.963 | 84.097 | 26.445 | | 110.62 | 47.879 | 102.265 |
| **3** | 34.222 | | 3.327 | 4.059 | 62.44 | 40.233 | 114.032 | 31.904 | 32.418 | 98.956 | 48.043 | 149.053 |
| **4** | 31.145 | | 1.272 | | 71.296 | 73.135 | 101.018 | 41.167 | 34.524 | 95.498 | 47.945 | 127.946 |
| **5** | 32.293 | | 2.135 | | 89.524 | 89.265 | 73.795 | 34.404 | 35.092 | 94.716 | 49.083 | 127.351 |
| **6** | 31.119 | | 0.114 | | 89.982 | 65.786 | 76.441 | 39.495 | 36 | 94.628 | 48.547 | 123.995 |
| **7** | 31.395 | | 0.302 | | 85.917 | 52.327 | 62.93 | 52.36 | 51.349 | 95.091 | 49.312 | 115.525 |
| **8** | 30.564 | | 0.183 | | 89.451 | 43.461 | 79.481 | 55.78 | 51.321 | 88.553 | 46.562 | 90.929 |
| **9** | 27.004 | | 37.895 | | 97.034 | 40.548 | 99.235 | 57.854 | 53.368 | 50.11 | 37.461 | 64.868 |
| **10** | 27.475 | | 50.509 | | 79.232 | 46.877 | 101.011 | 74.88 | 46.289 | 12.483 | 37.617 | 61.701 |
| **11** | 28.175 | | 46.142 | | 36.057 | 51.818 | 116.982 | 70.589 | 38.297 | 34.259 | 39.157 | 75.86 |
| **12** | 27.709 | | 36.089 | 0.16 | 9.527 | 56.407 | 109.096 | 72.713 | 22.641 | 46.829 | 36.49 | 67.27 |
| **13** | 26.221 | | 26.49 | 0.305 | 0 | 35.661 | 59.044 | 81.242 | 22.269 | 49.93 | 33.465 | 66.073 |
| **14** | 24.995 | | 15.161 | 6.721 | 5.661 | 15.138 | 52.263 | 57.627 | 57.941 | 59.852 | 30.956 | 65.018 |
| **15** | 23.033 | | 6.819 | 5.276 | 19.398 | 13.872 | 52.208 | 32.119 | 57.362 | 63.927 | 28.403 | 58.463 |
| **16** | 22.791 | | 0 | 24.357 | 38.459 | 13.897 | 55.005 | 26.51 | 56.936 | 58.761 | 26.372 | 57.698 |
| **17** | 20.672 | | 0.001 | 134.763 | 19.367 | 28.104 | 47.474 | 23.973 | 82.886 | 61.118 | 24.537 | 82.714 |
| **18** | 21.104 | | 0.043 | 112.907 | 15.329 | 55.45 | 37.767 | 15.073 | 99.858 | 70.885 | 22.717 | 132.929 |
| **19** | 18.949 | | 0.005 | 115.818 | 17.744 | 63.898 | 63.906 | 16.176 | 116.733 | 27.853 | 21.107 | 275.092 |
| **20** | 16.98 | | 0 | 114.794 | 22.602 | 67.144 | 72.252 | 14.376 | 117.9 | 12.772 | 20.165 | 233.339 |
| **21** | 14.576 | | 0.552 | 111.681 | 20.356 | 79.768 | 92.642 | 14.589 | 118.65 | 26.002 | 36.241 | 154.374 |
| **22** | 10.563 | | 4.598 | 103.25 | 24.556 | 86.103 | 99.516 | 45.755 | 119.145 | 73.152 | 48.226 | 115.796 |
| **23** | 11.425 | | 1.135 | 108.131 | 27.482 | 45.727 | 96.323 | 54.434 | 123.019 | 92.752 | 31.897 | 88.372 |
| **24** | 3.842 | | | 106.263 | 58.72 | 59.196 | 97.993 | 53.8 | 125.094 | 56.53 | 13.698 | 75.483 |
| **25** | 3.323 | | 76.037 | 123.95 | 53.558 | 62.179 | 108.388 | | 130.617 | 22.486 | 7.958 | 61.636 |
| **26** | 3.163 | 1.157 | 90.955 | 126.99 | 5.692 | 61.595 | 98.906 | | 133.814 | 16.797 | 15.545 | 59.232 |
| **27** | 0.212 | 9.545 | 94.024 | 112.288 | | 40.332 | 82.207 | | 136.365 | 19.471 | 27.046 | 41.269 |
| **28** | | 55.577 | 76.039 | 105.64 | 1.799 | 25.968 | 64.501 | | 136.752 | 36.36 | 20.758 | 27.329 |
| **29** | | 39.603 | 54.264 | 83.458 | 5.326 | 25.075 | 87.325 | | 134.486 | 52.427 | 4.526 | 18.259 |
| **30** | | 32.302 | 50.64 | 75.892 | 20.193 | 46.909 | 40.036 | | 130.594 | 56.392 | 6.753 | 12.204 |
| **31** | | 20.357 | | 75.282 | | 58.094 | | | 129.033 | | 5.798 | |

## Table A 3.13: Flow (ML) at CODW (Wonga)

| Day | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | | | 2 | 7 | 62 | 0 | 35 | 1 | 24 | 158 | 15 | 12 |
| **2** | | | | 1 | 42 | 5 | 44 | 0 | 24 | 136 | 10 | 59 |
| **3** | | | | 17 | 45 | 15 | 45 | 12 | 21 | 123 | 9 | 69 |
| **4** | | | | 20 | 47 | 16 | 67 | 18 | 14 | 108 | 9 | 168 |
| **5** | | | | 13 | 48 | 22 | 70 | 21 | 16 | 106 | 9 | 140 |
| **6** | | | | 3 | 85 | 34 | 37 | 25 | 16 | 99 | 8 | 152 |
| **7** | | | | 5 | 84 | 35 | 64 | 26 | 18 | 98 | 9 | 135 |
| **8** | | | | 0 | 81 | 35 | 49 | 46 | 31 | 100 | 9 | 134 |
| **9** | | | | 0 | 85 | 32 | 45 | 50 | 29 | 73 | 7 | 101 |
| **10** | | | 3 | 0 | 94 | 32 | 45 | 50 | 33 | 43 | 2 | 66 |
| **11** | | | 7 | 0 | 46 | 32 | 46 | 59 | 24 | 23 | 3 | 73 |
| **12** | | | 3 | 0 | 15 | 32 | 53 | 68 | 18 | 45 | 3 | 82 |
| **13** | | | | 0 | 1 | 32 | 47 | 69 | 24 | 45 | 1 | 81 |
| **14** | | | | 1 | 0 | 30 | 19 | 70 | 21 | 45 | 0 | 85 |
| **15** | | | | 6 | 0 | 10 | 9 | 27 | 28 | 48 | 0 | 74 |
| **16** | | | | 5 | 3 | 13 | 4 | 8 | 36 | 53 | 2 | 65 |
| **17** | | | | 20 | 17 | 16 | 4 | 8 | 39 | 54 | 0 | 66 |
| **18** | | | | 135 | 5 | 36 | 14 | 3 | 70 | 51 | 0 | 113 |
| **19** | | | | 111 | 3 | 63 | 20 | 0 | 93 | 50 | 0 | 141 |
| **20** | | | | 119 | 5 | 71 | 25 | 0 | 131 | 12 | 0 | 491 |
| **21** | | | | 120 | 7 | 73 | 25 | 0 | 132 | 1 | 0 | 351 |
| **22** | | | | 116 | 12 | 82 | 31 | 0 | 151 | 11 | 6 | 205 |
| **23** | | | | 92 | 15 | 84 | 48 | 18 | 154 | 50 | 7 | 139 |
| **24** | | | | 126 | 19 | 17 | 59 | 22 | 160 | 60 | 0 | 101 |
| **25** | | | 12 | 114 | 45 | 28 | 60 | 22 | 168 | 34 | 0 | 94 |
| **26** | | | 37 | 122 | 32 | 28 | 70 | 22 | 177 | 12 | 0 | 87 |
| **27** | | | 40 | 148 | 1 | 27 | 70 | 38 | 177 | 8 | 0 | 76 |
| **28** | | | 42 | 114 | 0 | 9 | 69 | 28 | 175 | 12 | 1 | 55 |
| **29** | | 28 | 23 | 97 | 0 | 31 | 37 | | 175 | 25 | 40 | 42 |
| **30** | | 15 | 12 | 65 | 0 | 22 | 30 | | 167 | 17 | 10 | 33 |
| **31** | | 8 | | 57 | | 25 | 23 | | 155 | | 15 | |

**Table A 3.4 Salinity (µS/cm) for CODA at West Coleambally Channel**

| Day | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 330.4 | 239.5 | 392.7 | 239.7 | 99.3 | 165.8 | 165.8 | 138.1 | | 122.5 | 97 | 210 |
| **2** | 314 | 44.1 | 394.9 | 241.1 | 85.4 | 173.1 | 173.1 | 203.9 | | 127.5 | 95.9 | 199.2 |
| **3** | 301.5 | | 387.7 | 147.7 | 85 | 181.5 | 181.5 | 195 | 213.9 | 140.1 | 95.3 | 150.1 |
| **4** | 296.8 | | 336.2 | 11.6 | 77.8 | 187 | 187 | 202.8 | 216.2 | 135.1 | 96.2 | 142.4 |
| **5** | 295.9 | | 276.1 | | 84 | 195.2 | 195.2 | 212.3 | 211.2 | 126 | 100.1 | 142.8 |
| **6** | 293.3 | | 285.2 | | 85.4 | 202.7 | 202.7 | 235.3 | 216.3 | 125.6 | 98.9 | 142.4 |
| **7** | 292.9 | | 276.9 | 226.6 | 85.7 | 215.1 | 215.1 | 258.2 | 258.2 | 130.8 | 100.3 | 138.9 |
| **8** | 295.1 | | 256.2 | 252.1 | 95.5 | 224.2 | 224.2 | 277.7 | 324.2 | 129.1 | 107.3 | 138.3 |
| **9** | 295.2 | | 220.6 | 251.5 | 101.2 | 228.8 | 228.8 | 293.4 | 349.8 | 130.5 | 120.6 | 148.1 |
| **10** | 293.9 | | 223.5 | 275.4 | 102.3 | 241.3 | 241.3 | 296.9 | 339.6 | 133.7 | 121.2 | 150.2 |
| **11** | 300.3 | | 218.3 | 280.9 | 112.3 | 252.7 | 252.7 | 291.1 | 305.4 | 138.1 | 147.7 | 148.9 |
| **12** | 304.6 | | 207.3 | 266.4 | 136.6 | 229.9 | 229.9 | 253.1 | 307.7 | 136.7 | 436.7 | 144.3 |
| **13** | 305.9 | | 205.1 | 238.2 | 145.7 | 220.8 | 220.8 | 203.3 | 304 | 88.3 | 554.8 | 139.9 |
| **14** | 310.5 | | 240.7 | 200.1 | 134.9 | 217.6 | 217.6 | 297.8 | 246.9 | 83.7 | 561 | 135.7 |
| **15** | 317.1 | | 251.6 | 182.7 | 115.8 | 210 | 210 | 298.8 | 236.9 | 108.3 | 562.9 | 130.2 |
| **16** | 322.2 | | 258.6 | 175.4 | 82.5 | 215 | 215 | 307.1 | 205.9 | 98.6 | 564.5 | 127.6 |
| **17** | 322.1 | | 268.2 | 184.2 | 85.8 | 198.9 | 198.9 | 297.6 | 195.6 | 65.9 | 566 | 125 |
| **18** | 313.6 | | 266.6 | 143.4 | 96 | 182.9 | 182.9 | 265.5 | 199.4 | 99.5 | 566.5 | 177.1 |
| **19** | 314.3 | | 236 | 131.3 | 102 | 172.9 | 172.9 | 260.2 | 247.1 | 126.3 | 569.1 | 261.4 |
| **20** | 317.9 | | 277.9 | 121.9 | 91.5 | 161.1 | 161.1 | 242.7 | 85.5 | 131.3 | 570.3 | 253.5 |
| **21** | 321.4 | | 286.9 | 149.1 | 97.9 | 157.8 | 157.8 | 228.7 | 81.2 | 133.7 | 391.7 | 232.2 |
| **22** | 324.4 | | 365.7 | 154.6 | 100.5 | 164.3 | 164.3 | 236 | 86.8 | 142.3 | 223.7 | 234.9 |
| **23** | 325.7 | | 445.1 | 146 | 97.3 | 180.1 | 180.1 | 241.5 | 84.7 | 72.8 | 360.8 | 258.1 |
| **24** | 332 | | 368.8 | 135.9 | 114.5 | 189.7 | 189.7 | 233.6 | 114.6 | 8.6 | 431.3 | 251.6 |
| **25** | 331.2 | | 175.9 | 142.8 | 105.3 | 202.6 | 202.6 | | 142.3 | 66.7 | 387.8 | 211.2 |
| **26** | 330.8 | | 125.2 | 144.1 | 105.9 | 187.1 | 187.1 | | 150.5 | 103.1 | 232.8 | 203.6 |
| **27** | 328.2 | 356.4 | 171.6 | 140.2 | 123.7 | 180.7 | 180.7 | | 153.5 | 126.4 | 152 | 217.9 |
| **28** | 322 | 324.2 | 169.4 | 125 | 148.9 | 184.4 | 184.4 | | 141.3 | 111.4 | | 222 |
| **29** | 310.8 | 389.9 | 196.7 | 116.5 | 132.7 | 216.4 | 216.4 | | 141.7 | 107.3 | | 234.3 |
| **30** | 284 | 441.1 | 233.5 | 115.4 | 120.1 | 262.7 | 262.7 | | 125 | 102.3 | 160.1 | 241.5 |
| **31** | 259.6 | 406.3 | | 117.7 | | 178.1 | 178.1 | | 120.7 | | | |

**Table A 3.5 Flow (ML) for CCD at Coleambally Catchment Drain Outfall into Yanco Creek**

| Day | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | | 0.2 | | | | | 5.2 | 0.5 | 87.2 | 95.2 | 0.4 | |
| **2** | | 0.1 | | | | | 5.1 | 0.3 | 89.6 | 94.9 | | |
| **3** | 0.1 | 0.4 | | | | | 4.6 | 0.3 | 95.6 | 94.8 | | |
| **4** | 1.5 | | | | | | 3.5 | 0.6 | 93.6 | 94.9 | | |
| **5** | 1.4 | | | | | | 2.7 | 0.6 | 92.9 | 95.3 | | |
| **6** | 2.8 | | | | | | 3.5 | 0.6 | 95.8 | 95.3 | | |
| **7** | 12.7 | | | | | | 5.9 | 0.5 | 95.8 | 96.3 | | |
| **8** | 13.8 | | | | | 1.4 | 8.3 | 0.4 | 95.5 | 91.3 | 0.3 | |
| **9** | 5.1 | | | | | 1.9 | 11.4 | 0.3 | 93.9 | 6.4 | 0.3 | |
| **10** | 1.3 | | | | | 2.7 | 17.3 | 0.3 | 93.9 | 51.6 | | |
| **11** | 0.3 | | | | | 2.6 | 2.2 | 0.3 | 94.1 | | | |
| **12** | 0.2 | | | | | 3.4 | 18.5 | 0.5 | 94.7 | 48.9 | | |
| **13** | 0.3 | | | | | 3.2 | 21.6 | 0.9 | 94.5 | 48.7 | | |
| **14** | | | | | | 2.2 | 29.5 | 1.4 | 94.8 | 49.2 | | |
| **15** | 0.6 | | | | | 1.6 | 24.9 | 2.8 | 93.7 | 48.5 | | |
| **16** | 1.0 | | | | | 1.7 | 15.5 | 1.8 | 94.2 | 48.7 | | |
| **17** | 0.7 | | | | | 2.2 | 8.7 | 1.9 | 94.5 | 52.7 | | 5.6 |
| **18** | 0.3 | | | | | 2.2 | 5.3 | 1.8 | 94.8 | 55.3 | | 1.4 |
| **19** | | | | | | 2.4 | 3.0 | 1.2 | 94.7 | 4.7 | | 0.1 |
| **20** | | | | | | 2.4 | 1.7 | 1.7 | 93.9 | | | 0.2 |
| **21** | 0.4 | | | | | 2.5 | 1.5 | 1.5 | 94.6 | 0.7 | | 0.2 |
| **22** | 0.5 | | | | | 2.8 | 1.9 | 1.0 | 95.5 | 1.6 | | 0.3 |
| **23** | 0.7 | | | | | 3.4 | 3.0 | 0.5 | 95.3 | 1.9 | | 0.3 |
| **24** | 9.4 | | | | | 3.9 | 1.8 | 0.4 | 93.9 | 2.1 | | 0.3 |
| **25** | 26.7 | | | | | 4.1 | 1.3 | 55.6 | 94.5 | 2.2 | | 0.4 |
| **26** | 14.7 | | | | | 4.6 | 1.1 | 86.6 | 95.2 | 2.1 | | 12.4 |
| **27** | 4.0 | | | | | 5.3 | 1.0 | 92.4 | 94.7 | 2.1 | | 58.6 |
| **28** | 1.0 | | | | | 5.5 | 1.1 | 89.8 | 95.2 | 2.7 | | 80.0 |
| **29** | 0.3 | | | | | 5.5 | 1.5 | | 95.4 | 4.5 | | 83.6 |
| **30** | 0.2 | | | | | 6.4 | 1.0 | | 95.4 | 2.1 | | 8.4 |
| **31** | 0.2 | | | | | 6.4 | 0.6 | | 95.3 | | | |

## Table 3.7 Flow (ML) at CCD Escape

| Day | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | | 0 | | | | | 5 | 0 | 87 | 95 | 0 | |
| **2** | | 0 | | | | | 5 | 0 | 90 | 95 | | |
| **3** | 0 | 0 | | | | | 5 | 0 | 96 | 95 | | |
| **4** | 2 | | | | | | 4 | 1 | 94 | 95 | | |
| **5** | 1 | | | | | | 3 | 1 | 93 | 95 | | |
| **6** | 3 | | | | | | 4 | 1 | 96 | 95 | | |
| **7** | 13 | | | | | | 6 | 0 | 96 | 96 | | |
| **8** | 14 | | | | | 1 | 8 | 0 | 95 | 91 | 0 | |
| **9** | 5 | | | | | 2 | 11 | 0 | 94 | 6 | 0 | |
| **10** | 1 | | | | | 3 | 17 | 0 | 94 | 52 | | |
| **11** | 0 | | | | | 3 | 2 | 0 | 94 | | | |
| **12** | 0 | | | | | 3 | 19 | 0 | 95 | 49 | | |
| **13** | 0 | | | | | 3 | 22 | 1 | 95 | 49 | | |
| **14** | | | | | | 2 | 30 | 1 | 95 | 49 | | |
| **15** | 1 | | | | | 2 | 25 | 3 | 94 | 48 | | |
| **16** | 1 | | | | | 2 | 16 | 2 | 94 | 49 | | |
| **17** | 1 | | | | | 2 | 9 | 2 | 94 | 53 | | 6 |
| **18** | 0 | | | | | 2 | 5 | 2 | 95 | 55 | | 1 |
| **19** | | | | | | 2 | 3 | 1 | 95 | 5 | | 0 |
| **20** | | | | | | 2 | 2 | 2 | 94 | | | 0 |
| **21** | | | | | | 2 | 1 | 2 | 95 | 1 | | 0 |
| **22** | 0 | | | | | 3 | 2 | 1 | 95 | 2 | | 0 |
| **23** | 1 | | | | | 3 | 3 | 1 | 95 | 2 | | 0 |
| **24** | 9 | | | | | 4 | 2 | 0 | 94 | 2 | | 0 |
| **25** | 27 | | | | | 4 | 1 | 56 | 95 | 2 | | 0 |
| **26** | 15 | | | | | 5 | 1 | 87 | 95 | 2 | | 12 |
| **27** | 4 | | | | | 5 | 1 | 92 | 95 | 2 | | 59 |
| **28** | 1 | | | | | 5 | 1 | 90 | 95 | 3 | | 80 |
| **29** | 0 | | | | | 6 | 1 | | 95 | 5 | | 84 |
| **30** | 0 | | | | | 6 | 1 | | 95 | 2 | | 8 |
| **31** | 0 | | | | | 6 | 1 | | 95 | | | |

**Table A 3.6: Salinity (µS/cm), for CCD at Coleambally Catchment Drain Outfall into Yanco Creek**

| Day | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | | | | | | | 98.4 | 157.7 | 14.9 | 69.1 | 69.1 | |
| **2** | | | | | | | 15.0 | 152.3 | 129.1 | 6.7 | 6.7 | |
| **3** | 97.4 | | | | | | 111.7 | 139.2 | 125.0 | 53.0 | 53.0 | |
| **4** | 186.9 | | | | | | 121.5 | 137.5 | 126.7 | 53.8 | 53.8 | |
| **5** | 196.4 | | | | | | 128.3 | 14.4 | 117.5 | 66.5 | 66.5 | |
| **6** | 167.9 | | | | | | 114.6 | 142.0 | 117.4 | 72.3 | 72.3 | |
| **7** | 127.9 | | | | | | 11.7 | 142.6 | 119.2 | 63.6 | 63.6 | |
| **8** | 122.3 | | | | | 31.0 | 18.3 | 142.4 | 12.1 | 53.5 | 53.5 | |
| **9** | 128.2 | | | | | 63.7 | 13.8 | 145.2 | 122.6 | 53.1 | 53.1 | |
| **10** | 132.8 | | | | | 62.9 | 12.4 | 142.8 | 124.9 | 59.1 | 59.1 | |
| **11** | 125.2 | | | | | 62.4 | 16.1 | 144.3 | 126.1 | | | |
| **12** | 122.6 | | | | | 6.7 | 14.6 | 146.0 | 128.0 | 53.2 | 53.2 | |
| **13** | 1.8 | | | | | 58.4 | 1.5 | 145.3 | 126.1 | 5.3 | 5.3 | |
| **14** | | | | | | 64.1 | 13.6 | 135.6 | 127.2 | 51.2 | 51.2 | |
| **15** | 59.1 | | | | | 7.2 | 15.9 | 132.5 | 125.8 | 56.5 | 56.5 | |
| **16** | 1.3 | | | | | 64.3 | 111.9 | 141.0 | 124.8 | 59.8 | 59.8 | |
| **17** | 86.1 | | | | | 64.8 | 121.3 | 138.9 | 124.1 | 55.0 | 55.0 | 59.5 |
| **18** | 8.4 | | | | | 71.7 | 132.2 | 141.7 | 123.5 | 56.8 | 56.8 | 61.3 |
| **19** | | | | | | 78.0 | 14.0 | 144.3 | 121.2 | 41.1 | 41.1 | 1.5 |
| **20** | | | | | | 8.3 | 167.1 | 145.8 | 122.2 | | | 3.0 |
| **21** | 17.9 | | | | | 75.6 | 151.9 | 142.7 | 122.3 | 7.2 | 7.2 | 3.1 |
| **22** | 36.8 | | | | | 71.1 | 13.3 | 144.8 | 126.7 | 85.1 | 85.1 | 6.3 |
| **23** | 11.9 | | | | | 72.1 | 137.1 | 153.8 | 133.4 | 93.0 | 93.0 | 12.7 |
| **24** | 112.4 | | | | | 77.4 | 146.6 | 145.8 | 133.6 | 16.6 | 16.6 | 18.6 |
| **25** | 113.3 | | | | | 79.7 | 15.2 | 153.2 | 128.0 | 13.1 | 13.1 | 9.9 |
| **26** | 116.3 | | | | | 79.7 | 145.4 | 141.2 | 122.7 | 83.8 | 83.8 | 129.3 |
| **27** | 122.9 | | | | | 82.9 | 142.2 | 138.8 | 117.9 | 71.5 | 71.5 | 188.7 |
| **28** | 126.6 | | | | | 87.0 | 139.0 | 144.1 | 18.6 | 72.0 | 72.0 | 26.1 |
| **29** | 126.1 | | | | | 9.4 | 143.8 | | 98.1 | 77.6 | 77.6 | 26.5 |
| **30** | 121.8 | | | | | 92.6 | 146.8 | | 88.4 | 86.5 | 86.5 | 29.0 |
| **31** | 122.7 | | | | | 96.7 | 151.1 | | 79.5 | | | |

**Table A 3.8: Flow (ML) at CODD at West Coleambally Channel at Bundy**

| Day | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 2.9 | | | | 9.2 | | | | | 8.3 | 0.017 | |
| **2** | 2.0 | | | | 8.4 | | | | | 5.5 | 0.001 | |
| **3** | 1.3 | | | | 10.1 | | | | | 7.8 | | |
| **4** | 0.7 | | | | 10.1 | | | | | 12.0 | | |
| **5** | 0.4 | | | | 4.7 | | | | | 12.0 | | |
| **6** | 0.2 | | | | 8.9 | | | | | 12.0 | | |
| **7** | 0.1 | | | | 8.1 | | | | | 11.0 | | |
| **8** | 0.1 | | | | 8.6 | | | | | 8.3 | | |
| **9** | 0.0 | | | | 2.9 | | | | | 8.0 | | |
| **10** | 0.0 | | | | 0.2 | | | | | 7.1 | | |
| **11** | | | | | 7.6 | | | | | 6.7 | | |
| **12** | | | | | 8.3 | | | | | 8.2 | | |
| **13** | | | | | 8.2 | | | | | 8.2 | | |
| **14** | | | | | 8.1 | | | | | 8.0 | | |
| **15** | | | | | 8.1 | | 11.8 | | | 2.6 | | |
| **16** | | | | | 4.3 | | 3.8 | | | 0.3 | | |
| **17** | | | | | 1.4 | | 0.4 | | | 0.3 | | |
| **18** | | | | | 0.9 | | 0.8 | | | 0.7 | | |
| **19** | | | | | 0.4 | | 1.3 | | | 1.9 | | |
| **20** | | | | | | | | | | 3.2 | | |
| **21** | | | | | | | | | | 1.9 | | |
| **22** | | | | | | | | | | 0.8 | | |
| **23** | | | | | | | | | | | | |
| **24** | | | | | | | | | | | | |
| **25** | | | | | | | | | 7.2 | | | |
| **26** | | | | | | | | | 5.3 | | | |
| **27** | | | | | | | | | 3.1 | | | |
| **28** | | | | | | | | | 9.4 | | | |
| **29** | | | | 0.8 | | | | | 10.4 | | | |
| **30** | | | | 9.9 | | | | | 10.3 | | | |
| **31** | | | | 8.5 | | | | | 10.1 | | | |

**Table A 3.10: Flow (ML) at CODO (Oaklands)**

| Day | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | 9 | | | | | 8 | | |
| 2 | | | | | 8 | | | | | 6 | | |
| 3 | | | | | 10 | | | | | 8 | | |
| 4 | | | | | 10 | | | | | 12 | | |
| 5 | | | | | 5 | | | | | 12 | | |
| 6 | | | | | 9 | | | | | 12 | | |
| 7 | | | | | 8 | | | | | 11 | | |
| 8 | | | | | 9 | | | | | 8 | | |
| 9 | | | | | 3 | | | | | 8 | | |
| 10 | | | | | | | | | | 7 | | |
| 11 | | | | | 8 | | | | | 7 | | |
| 12 | | | | | 8 | | | | | 8 | | |
| 13 | | | | | 8 | | | | | 8 | | |
| 14 | | | | | 8 | | | | | 8 | | |
| 15 | | | | | 8 | | 12 | | | 3 | | |
| 16 | | | | | 4 | | 4 | | | 0 | | |
| 17 | | | | | 1 | | | | | 0 | | |
| 18 | | | | | 1 | | 1 | | | 1 | | |
| 19 | | | | | | | 1 | | | 2 | | |
| 20 | | | | | | | | | | 3 | | |
| 21 | | | | | | | | | | 2 | | |
| 22 | | | | | | | | | | 1 | | |
| 23 | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | |
| 25 | | | | | | | | | 7 | | | |
| 26 | | | | | | | | | 5 | | | |
| 27 | | | | | | | | | 3 | | | |
| 28 | | | | | | | | | 9 | | | |
| 29 | | | | 1 | | | | | 10 | | | |
| 30 | | | | 10 | | | | | 10 | | | |
| 31 | | | | 9 | | | | | 10 | | | |

**Table A 3.9: Salinity (µS/cm) for CODD West Coleambally Channel at Bundy**

| Day | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 301.2 | | | | 256 | | | | | 256 | 195.8 | |
| 2 | 304.1 | | | | 256 | | | | | 256 | 198.4 | |
| 3 | 303.1 | | | | 256 | | | | | 256 | | |
| 4 | 306.6 | | | | 256 | | | | | 256 | | |
| 5 | 303.5 | | | | 256 | | | | | 256 | | |
| 6 | 306.2 | | | | 256 | | | | | 256 | | |
| 7 | 310.2 | | | | 256 | | | | | 256 | | |
| 8 | 310.8 | | | | 256 | | | | | 256 | | |
| 9 | 309.1 | | | | 256 | | | | | 256 | | |
| 10 | 304.6 | | | | 256 | | | | | 256 | | |
| 11 | | | | | 256 | | | | | 256 | | |
| 12 | | | | | 256 | | | | | 256 | | |
| 13 | | | | | 256 | | | | | 256 | | |
| 14 | | | | | 256 | | | | | 256 | | |
| 15 | | | | | 256 | | 256 | | | 256 | | |
| 16 | | | | | 256 | | 256 | | | 256 | | |
| 17 | | | | | 256 | | 256 | | | 256 | | |
| 18 | | | | | 256 | | 256 | | | 256 | | |
| 19 | | | | | 256 | | 256 | | | 256 | | |
| 20 | | | | | | | | | | 256 | | |
| 21 | | | | | | | | | | 256 | | |
| 22 | | | | | | | | | | 256 | | |
| 23 | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | |
| 25 | | | | | | | | | 256 | | | |
| 26 | | | | | | | | | 256 | 207.4 | | |
| 27 | | | | | | | | | 256 | 194.2 | | |
| 28 | | | | | | | | | 256 | 187.2 | | |
| 29 | | | | 256 | | | | | 256 | 185.8 | | |
| 30 | | | | 256 | | | | | 256 | 190.4 | | |
| 31 | | | | 256 | | | | | 256 | 256 | | |

**Table A 3.11: Flow (ML) at Argoon Escape**

| Day | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | | | | | 61 | 25 | 75 | 49 | 32 | 120 | | |
| **2** | | | | | 60 | 29 | 79 | 50 | 33 | 114 | | 41 |
| **3** | | | | | 60 | 35 | 75 | 50 | 51 | 101 | | 51 |
| **4** | | | | | 60 | 55 | 63 | 34 | 60 | 100 | | 51 |
| **5** | | | | | 61 | 40 | 91 | 34 | 60 | 101 | | 50 |
| **6** | | | | 21 | 73 | 41 | 90 | 72 | 60 | 100 | | 51 |
| **7** | | | | 25 | 76 | 40 | 91 | 81 | 60 | 100 | | 50 |
| **8** | | | | 26 | 62 | 40 | 90 | 91 | 60 | 72 | | 17 |
| **9** | | | | 25 | 61 | 45 | 70 | 90 | 51 | 26 | | 2 |
| **10** | | | | 25 | 18 | 50 | 61 | 91 | 30 | 10 | | 5 |
| **11** | | | | 25 | 15 | 50 | 53 | 90 | 30 | 50 | | 11 |
| **12** | | | | 25 | 15 | 50 | 28 | 68 | 30 | 50 | | 7 |
| **13** | | | | 25 | 15 | 50 | 4 | 61 | 40 | 50 | | 7 |
| **14** | | | | 1 | 15 | 41 | 0 | 21 | 60 | 50 | | 5 |
| **15** | | | | 0 | 41 | 45 | 0 | 10 | 60 | 51 | | 5 |
| **16** | | | | 14 | 36 | 45 | 0 | 5 | 61 | 51 | | 22 |
| **17** | | | | 101 | 25 | 73 | 0 | 12 | 101 | 51 | | 25 |
| **18** | | | | 120 | 32 | 100 | 47 | 13 | 117 | 18 | | 26 |
| **19** | | | | 120 | 35 | 100 | 49 | 38 | 140 | 0 | | 24 |
| **20** | | | 10 | 121 | 36 | 100 | 60 | 24 | 151 | 0 | | 23 |
| **21** | | | 15 | 97 | 35 | 101 | 60 | 12 | 150 | 0 | | 20 |
| **22** | | | 15 | 80 | 35 | 78 | 54 | 30 | 150 | 49 | | 17 |
| **23** | | | 15 | 80 | 45 | 40 | 59 | 32 | 151 | 42 | | 17 |
| **24** | | | 2 | 81 | 55 | 40 | 69 | 32 | 155 | 17 | | 18 |
| **25** | | | 1 | 73 | 27 | 40 | 70 | 32 | 157 | 7 | | 27 |
| **26** | | 16 | | 60 | 5 | 40 | 61 | 33 | 158 | 12 | | 22 |
| **27** | | 11 | | 61 | 8 | 40 | 60 | 32 | 157 | 15 | | 10 |
| **28** | | 2 | | 60 | 16 | 49 | 77 | 33 | 150 | 18 | | 6 |
| **29** | | 0 | | 60 | 18 | 64 | 62 | | 141 | 11 | | 5 |
| **30** | | | | 60 | 25 | 75 | 36 | | 131 | 0 | | 4 |
| **31** | | | | 60 | | 76 | 35 | | 131 | | | |

## Table A 3.12: Flow (ML) at Boona Escape

| Day | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | 0 | 10 | 4 |
| 2 | | | | | | | | | | | | |
| 3 | | | | | | | | | | | 12 | 15 |
| 4 | | | | | | | | | | | 12 | 10 |
| 5 | | | | | | | | | | | 16 | 9 |
| 6 | | | | | | | | | | | 9 | 10 |
| 7 | | | | | | | | | | | 12 | 24 |
| 8 | | | | | | | | | | | 3 | 24 |
| 9 | | | | | | | | | | | | 18 |
| 10 | | | | | | | | | | | | 6 |
| 11 | | | | | | | | | | | | |
| 12 | | | | | | | 11 | | | | | 14 |
| 13 | | | | | | | | | | | | 8 |
| 14 | | | | | | | 12 | | | | | 4 |
| 15 | | | | | | | 18 | | | | | 1 |
| 16 | | | | | | | 7 | | | | | 1 |
| 17 | | | | | | | 12 | | | | | |
| 18 | | | | | | | 12 | | | | | 1 |
| 19 | | | | | | | | | | 7 | | 4 |
| 20 | | | | | | | 19 | | | 1 | | 5 |
| 21 | | | | | | | 5 | | 5 | | | 8 |
| 22 | | | | | | | 12 | | 12 | 24 | | 6 |
| 23 | | | | | | | 12 | | 24 | 16 | | |
| 24 | | | | | | | 12 | | 31 | | | 4 |
| 25 | | | 5 | | | | 8 | | 49 | 4 | | 2 |
| 26 | | | 24 | | | | 4 | | 35 | | 4 | 1 |
| 27 | | | 21 | | | | 12 | | 13 | | | 1 |
| 28 | | | 9 | | | | 12 | | 48 | 7 | | 1 |
| 29 | | | | | | | 12 | | 48 | 12 | | |
| 30 | | | | | | | 4 | | 35 | 11 | 4 | 1 |
| 31 | | | | | | | | | 24 | | | |

## 9.4 A4 Groundwater Extraction from other Approved Works

**Table A4.1 & Flow (ML), Salinity (µS/cm), Salt Load (Tonnes) at Col Bore Hort Bore for 2014/15**

| | Col Bore | | | Hort Bore | | |
|---|---|---|---|---|---|---|
| | ML | EC | Salt (T) | ML | EC | Salt (T) |
| Jul | | | | | | |
| Aug | | | | 50 | 320 | 10 |
| Sep | | | | 31 | 320 | 6 |
| Oct | 29 | 620 | 12 | 9 | 320 | 2 |
| Nov | | | | 152 | 320 | 31 |
| Dec | 166 | 620 | 66 | | | |
| Jan | | | | 551 | 320 | 113 |
| Feb | | | | 156 | 320 | 32 |
| Mar | | | | 92 | 320 | 19 |
| Apr | | | | 4 | 320 | 1 |
| May | | | | | | |
| Jun | | | | | | |
| | **195** | | **77** | **1045** | | **214** |

## 9.5 A5: Water Quality Data

**Table A5.1 Nutrient (mg/L) and Pesticide Data (µg/L) for CCS at Coleambally Main Canal (Tubbo Wells) for 2014/15**

| Month | Oxidised Nitrogen as N | Soluble Phosphorous | Total Nitrogen | Total Phosphorous | Total Suspended Solids | Atrazine | Chlorpyrifos | Diazinon | Diuron | Malathion | Metolachlor | Molinate | Simazine | Thiobencarb | Trifluralin | 2, 4-D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| July | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Aug | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Sep | 0.038 | 0.10 | 0.7 | 0.11 | 20 | <0.10 | 0.012 | NA | <0.10 | NA | NA | NA | <0.10 | NA | <0.10 | NA |
| Oct | 0.242 | <0.05 | 0.892 | 0.15 | 9.3 | <0.10 | <0.01 | NA | <0.10 | <0.01 | <0.10 | <0.10 | <0.10 | NA | <0.10 | <1.00 |
| Nov | 0.011 | <0.05 | 0.50 | 0.11 | 19 | <0.10 | <0.01 | <0.01 | <0.10 | <0.01 | <0.10 | <0.10 | <0.10 | <1.00 | <0.10 | <1.00 |
| Dec | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Jan | 0.209 | <0.05 | 0.40 | 0.13 | 16 | <0.20 | <0.20 | <0.20 | <0.20 | NA | <0.10 | NA | <0.15 | NA | <0.10 | <1.00 |
| Feb | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Mar | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Apr | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF |
| May | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF |
| Jun | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

NF = No Flow
NA = Not Applicable

**Table A5.2 Nutrient (mg/L) and Pesticide Data (µg/L) for CODW (WCC) at Wonga Station for 2014/15**

| Month | Oxidised Nitrogen as N | Soluble Phosphorous | Total Nitrogen | Total Phosphorous | Total Suspended Solids | Atrazine | Chlorpyrifos | Diazinon | Diuron | Malathion | Metolachlor | Molinate | Simazine | Thiobencarb | Trifluralin | 2, 4-D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| July | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Aug | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Sep | 0.805 | 0.17 | 3.8 | 0.20 | 85 | 1.4 | <0.01 | NA | <0.10 | NA | NA | <0.10 | <0.10 | NA | <0.10 | NA |
| Oct | 0.792 | 0.10 | 5.492 | 0.46 | 39 | 0.28 | <0.01 | NA | <0.10 | <0.01 | 0.14 | <0.10 | <0.10 | NA | <0.10 | <1.00 |
| Nov | 0.054 | 0.07 | 0.60 | 0.31 | 39 | <0.10 | <0.01 | <0.01 | <0.10 | <0.01 | <0.10 | <0.10 | <0.10 | <1.0 | <0.10 | <1.0 |
| Dec | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF |
| Jan | 0.036 | 0.14 | 0.60 | 0.53 | 150 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | 0.13 | <0.50 | <0.15 | NA | <0.10 | <1.00 |
| Feb | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Mar | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Apr | 0.011 | <0.05 | 0.40 | 0.16 | 11 | 0.007 | <0.005 | <0.005 | 0.017 | <0.002 | NA | NA | 0.006 | NA | <0.01 | 0.01 |
| May | 0.209 | <0.05 | 1.00 | 0.16 | <4.0 | 0.006 | <0.005 | <0.005 | <0.005 | NA | NA | NA | 0.012 | NA | <0.005 | <0.01 |
| Jun | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

NF = No Flow
NA = Not Applicable

**Table A5.3 Nutrient (mg/L) and Pesticide Data (µg/L) for DC800A at Outfall into Yanco Creek for 2014/15**

| Month | Oxidised Nitrogen as N | Soluble Phosphorous | Total Nitrogen | Total Phosphorous | Total Suspended Solids | Atrazine | Chlorpyrifos | Diazinon | Diuron | Malathion | Metolachlor | Molinate | Simazine | Thiobencarb | Trifluralin | 2, 4-D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| July | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Aug | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Sep | 1.66 | 0.24 | 6.6 | 0.31 | 82 | 0.15 | <0.01 | NA | <0.10 | NA | NA | NA | <0.10 | NA | <0.10 | NA |
| Oct | 1.195 | <0.05 | 3.375 | 0.64 | 200 | <0.10 | <0.01 | NA | <0.10 | <0.01 | 0.12 | <0.10 | <0.10 | NA | <0.10 | <1.00 |
| Nov | 0.03 | 0.07 | 0.60 | 0.47 | 140 | <0.10 | <0.01 | <0.01 | <0.10 | <0.01 | <0.10 | <0.10 | <0.10 | <1.00 | <0.10 | <1.00 |
| Dec | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF |
| Jan | 0.126 | 0.20 | 1.10 | 0.57 | 180 | <0.20 | <0.20 | <0.20 | <0.20 | NA | 0.17 | NA | <0.15 | NA | <0.10 | <1.00 |
| Feb | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Mar | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Apr | 0.017 | <0.05 | 1.70 | 0.25 | 20 | 0.01 | <0.005 | <0.005 | <0.005 | NA | NA | NA | <0.005 | NA | <0.01 | 0.14 |
| May | 0.209 | <0.05 | 1.0 | 0.39 | <4.0 | 0.013 | <0.005 | <0.005 | <0.005 | NA | NA | NA | 0.023 | NA | <0.005 | 0.02 |
| Jun | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

NF = No Flow
NA = Not Applicable

**Table A5.4 Nutrient (mg/L) and Pesticide Data (µg/L) for CCD at Coleambally Catchment Drain at Outfall into Yanco Creek for 2014/15**

| Month | Oxidised Nitrogen as N | Soluble Phosphorous | Total Nitrogen | Total Phosphorous | Total Suspended Solids | Atrazine | Chlorpyrifos | Diazinon | Diuron | Malathion | Metolachlor | Molinate | Simazine | Thiobencarb | Trifluralin | 2, 4-D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| July | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Aug | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Sep | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF |
| Oct | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF |
| Nov | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF |
| Dec | NF | NF | NF | NF | NF | NF | NF | NA | NF | NF | NF | NF | NF | NA | NF | NF |
| Jan | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF |
| Feb | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Mar | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Apr | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF |
| May | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF |
| Jun | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

NF = No Flow
NA = Not Applicable

**Table A4.5 Nutrient (mg/L) and Pesticide Data (µg/L) for CODO (WCC) at Oaklands Station for 2014/15**

| Month | Oxidised Nitrogen as N | Soluble Phosphorous | Total Nitrogen | Total Phosphorous | Total Suspended Solids | Atrazine | Chlorpyrifos | Diazinon | Diuron | Malathion | Metolachlor | Molinate | Simazine | Thiobencarb | Trifluralin | 2, 4-D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| July | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Aug | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Sep | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF |
| Oct | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF |
| Nov | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF |
| Dec | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF |
| Jan | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF |
| Feb | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Mar | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Apr | 0.599 | 0.14 | 1.40 | 0.59 | 27 | <0.005 | <0.005 | <0.005 | <0.005 | NA | NA | NA | 0.007 | NA | <0.01 | <0.01 |
| May | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF | NF |
| Jun | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

NF = No Flow
NA = Not Applicable

## 9.6 A6 RCMP Results

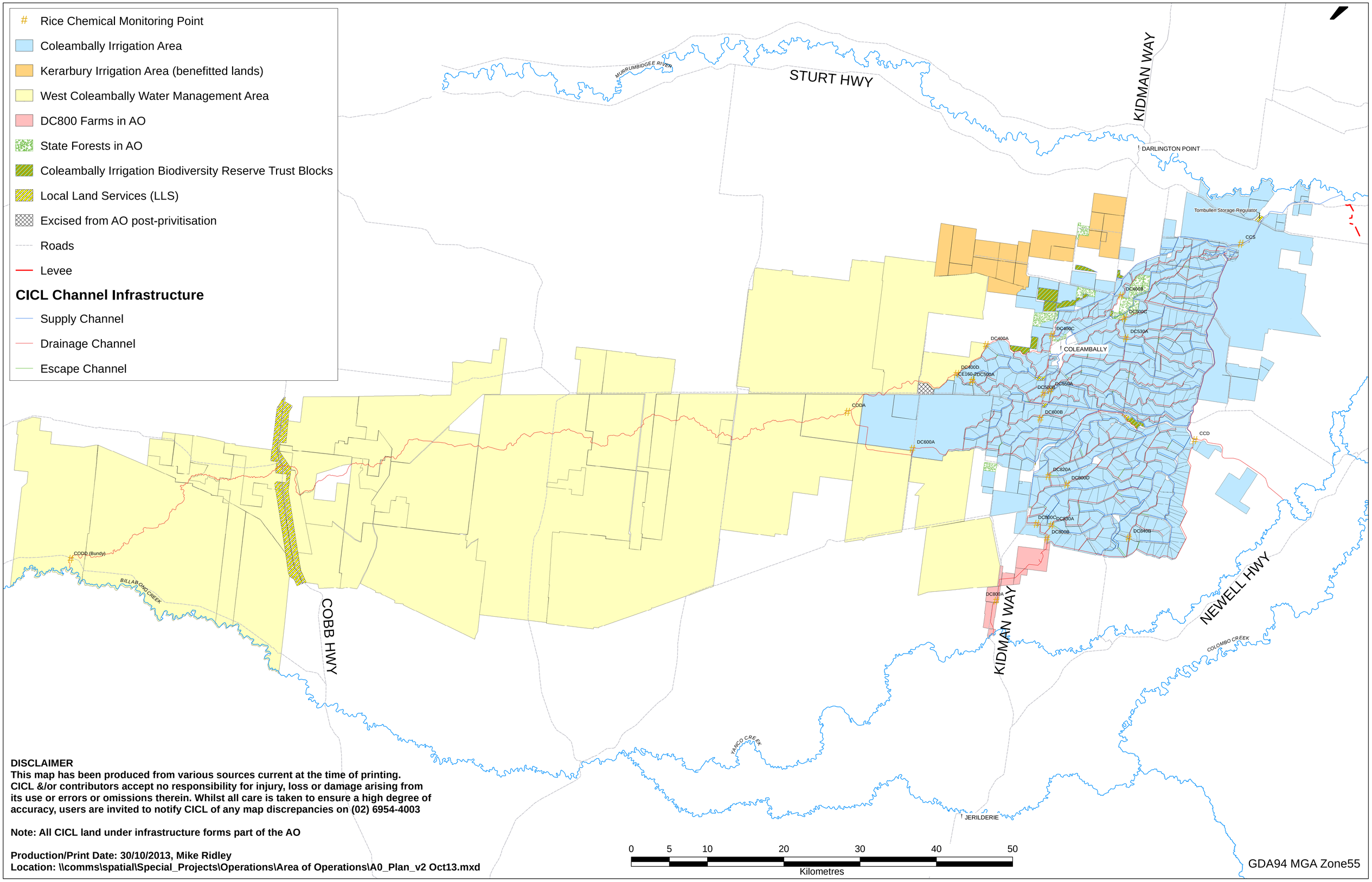
**Table A 6.1 RCMP Licence Point Results 2014/15**

| Date | Sample Number | Sample point | Molinate results |
|---|---|---|---|
| 13/10/2014 | 783 | CODA | <LOR* |
| 20/10/2014 | 826 | CODA | <LOR |
| 20/10/2014 | 834 | DC800A | <LOR |
| 20/10/2014 | 840 | CCS | <LOR |
| 27/10/2014 | 874 | DC800A | <LOR |
| 27/10/2014 | 881 | CCS | <LOR |
| 2/11/20154 | 924 | DC800A | <LOR |
| 2/11/2014 | 930 | CCS | <LOR |
| 7/11/2014 | 964 | DC800A | <LOR |
| 7/11/2014 | 969 | CCS | <LOR |
| 17/11/2014 | 1013 | DC800A | <LOR |
| 14/11/2014 | 1018 | CCS | <LOR |
| 24/11/2014 | 1076 | DC800A | <LOR |
| 24/11/2014 | 1082 | CCS | <LOR |
| 1/12/2014 | 1146 | DC800A | <LOR |
| 1/12/2014 | 1149 | CCS | <LOR |
| 8/12/2014 | 1187 | DC800A | <LOR |
| 8/12/2014 | 1191 | CCS | <LOR |

* LOR = Level of Reporting

## 9.7 A7 Additional Detail (Map)

# CICL Area of Operations (AO) Plan




**DISCLAIMER**
**This map has been produced from various sources current at the time of printing. CICL &/or contributors accept no responsibility for injury, loss or damage arising from its use or errors or omissions therein. Whilst all care is taken to ensure a high degree of accuracy, users are invited to notify CICL of any map discrepancies on (02) 6954-4003**

**Note: All CICL land under infrastructure forms part of the AO**

**Production/Print Date: 30/10/2013, Mike Ridley**
**Location: \\comms\spatial\Special_Projects\Operations\Area of Operations\A0_Plan_v2 Oct13.mxd**

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