

# *Angas Bremer Irrigation Management Zone 2021 – 2022 Annual Report*

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**Project Coordinator: Leah Hunter**  
Angas Bremer Water Management Committee Inc

*Supported by*



**Government of South Australia**

Department for Environment  
and Water



# 2021-22 Annual Irrigation Report

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# **Angas Bremer Water Management Committee**

## **Members 2021-2022**

***Presiding Member*** – James Stacey

***Treasurer*** – Justin Cleggett

### ***Committee Members***

Barry Potts, George Borrett, Michael Clements,  
Ken Follett, Trevor McLean, Michael Cutting  
and Tom Mowbray

### ***Non-elected members of the Committee***

***Secretary*** – Keren Stagg

***Project Coordinator*** – Leah Hunter

## **Report of the Activities of the Committee 2021-2022**

The Angas Bremer Water Management Committee has focussed on its core duties this year holding five committee meetings and an Annual Public Meeting during August.

Throughout the year the committee have continued to raise concern from irrigators and residents of the Langhorne Creek area about the flow of the Bremer River and possible impacts the developments in Mount Barker and surrounding areas is having on the quality and quantity of the water in the watercourse.

The committee is still focused on this issue and will continue to pursue the region's concerns and the steps that can be taken to improve knowledge of possible causes, and to help push solutions.

Throughout the 2021 / 2022 season, the committee has kept in contact with the EPA and Mount Barker District Council with these parties' providing updates to the group on volumes of water released and the monitoring of water in the catchment. The committee will continue to work with these groups to follow the works to be undertaken on the wastewater treatment plant.

The Hills and Fleurieu Landscape Board invited James Stacey (Presiding Member) to present at the McLaren Vale Water Allocation Plan Community Forum on August 4<sup>th</sup> in McLaren Vale. James discussed how the Angas Bremer

Prescribed Wells Area was integrated into the Eastern Mount Lofty Ranges Water Allocation Plan. The Western Mount Lofty Ranges Water Allocation Plan is due to be reviewed and there were discussions about the McLaren Vale Water Allocation Plan being integrated, similar to the Angas Bremer Prescribed Wells Area plan.

The Presiding Member and Project Coordinator attended a State of the Environment workshop during August in Strathalbyn. The workshop provided an overview of the reports purpose and timeframes, what information will be covered in the report, how the information would be gathered and the next steps. We were also given the opportunity to explain what information we thought should be included in the report that is due out in 2023.

The committee continue to work closely with the staff and Board from both Hills and Fleurieu and Murraylands and Riverland Landscape Boards and are very thankful for the support received so far. The Hills and Fleurieu and Murraylands and Riverland Landscape Boards have committed funding until June 2025.

The other main focus for the committee this year was the annual irrigation reporting for the Angas Bremer Irrigation Management Zone. Please read the following report that summarises the data for the 2021 / 2022 irrigation season.

# Irrigation Annual Report Forms: Data Summary and Comment

Irrigation Annual Report forms (IARs) were mailed to 134 irrigators within the Angas Bremer Irrigation Management Zone. The 126 irrigators who returned their completed forms to the Angas Bremer Water Management Committee on time have achieved “Accredited Irrigator” status. Online submissions were up this year with 105 irrigators reporting online, 8 irrigators did not respond/ provide data and did not achieve accreditation. The data from 126 irrigators (94 %) has been collated and that data is presented in the following graphs and tables.

**Flooding:** Flooding by diversion or pumping was reported by 15 irrigators. Flooding was recorded in July 2021 on several days and one in August 2021 and October 2021. 230 hectares of irrigated land was recorded as being flooded and 222 hectares of non-irrigated land this year, much higher than last year.

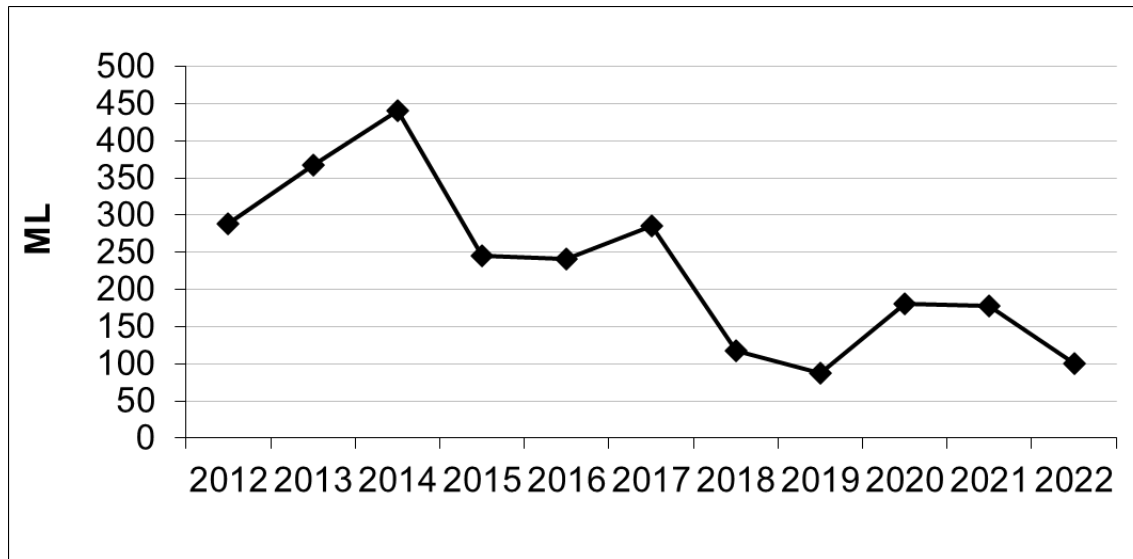
**Revegetation:** The total area of revegetation reported in the Irrigation Annual Reports is around 1,890 ha. This includes 40 hectares revegetated during the Biodiversity Landcare Projects.

**Red Gum Health:** 120 Irrigators reported on the health of the red gums on their properties. Health, or otherwise, was rated from 0 to 5, 5 being healthy and 0 being dead. This year there has been a slight increase in the number of irrigators reporting that their Red Gums were healthy with 25 irrigators reporting that their red gums were all 100% healthy. While most of the remainder listed the majority of their trees to be in relatively good health, 6 irrigators listed their red gums as getting worse due to no significant flooding over the past few years. 9 irrigators listed their red gums as getting better.

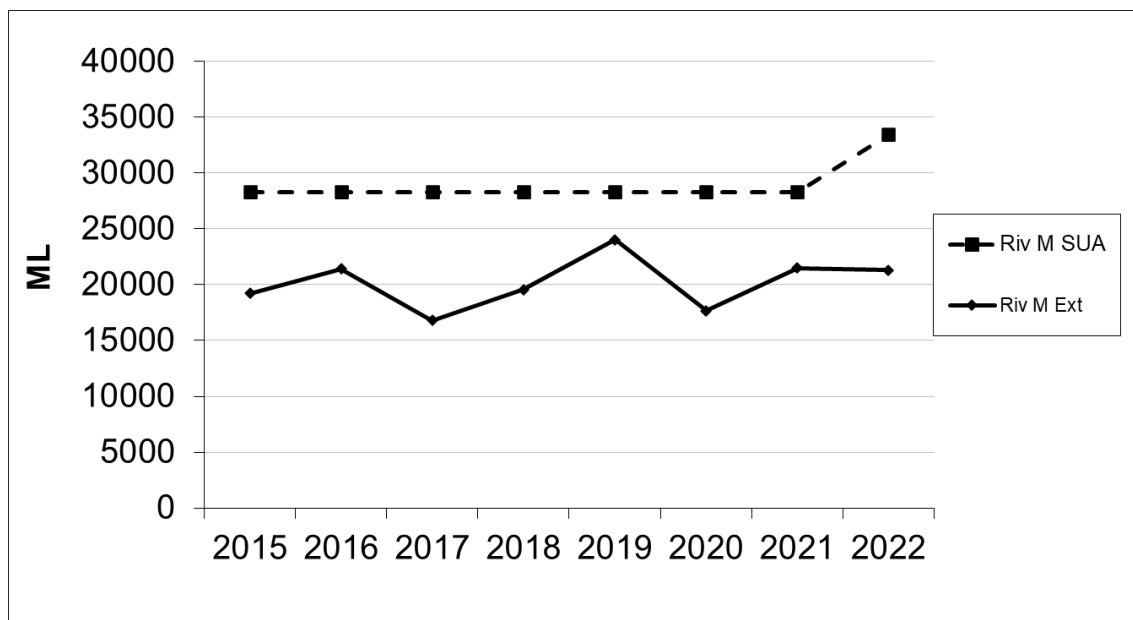
**Water Leasing:** Table 1 below shows the amount of water leased in 2021-22 compared with water leased in previous years. Overall, more water was leased out by irrigators this year than last. The amount of River Murray water leased out to Outside Irrigators increased by 1215ML and the amount leased in from irrigators outside of the Angas Bremer Irrigation Management Zone increased by 7628.1ML. The volume of River Murray water leased to other irrigators within the Angas Bremer Irrigation Management Zone is higher than last year with 10 leases reported. For the last five years no reports of leased groundwater within the zone were received.

**Table 1: Water Leasing**

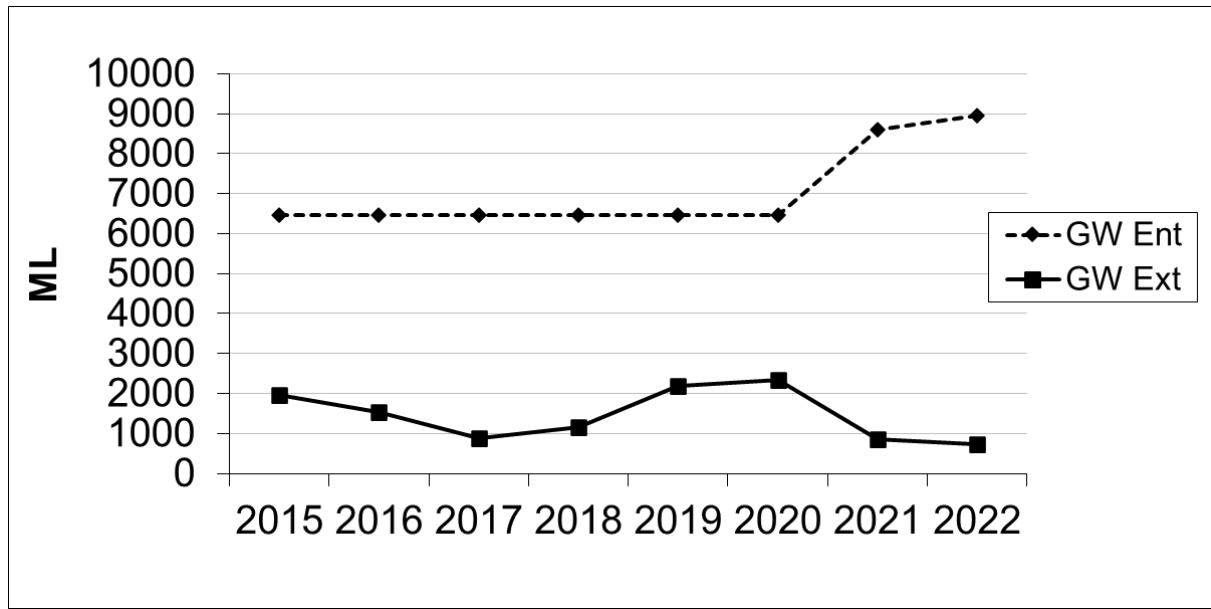
Type of Lease	Megalitres 2019-2020	Megalitres 2020-2021	Megalitres 2021-2022
RM water leased from ABIMZ to outside ABIMZ	4541.70	2618.50	3833.50
RM water leased from outside ABIMZ to inside ABIMZ	3286.64	2345.95	9974.05
RM water leased from inside ABIMZ to inside ABIMZ	260	25	484



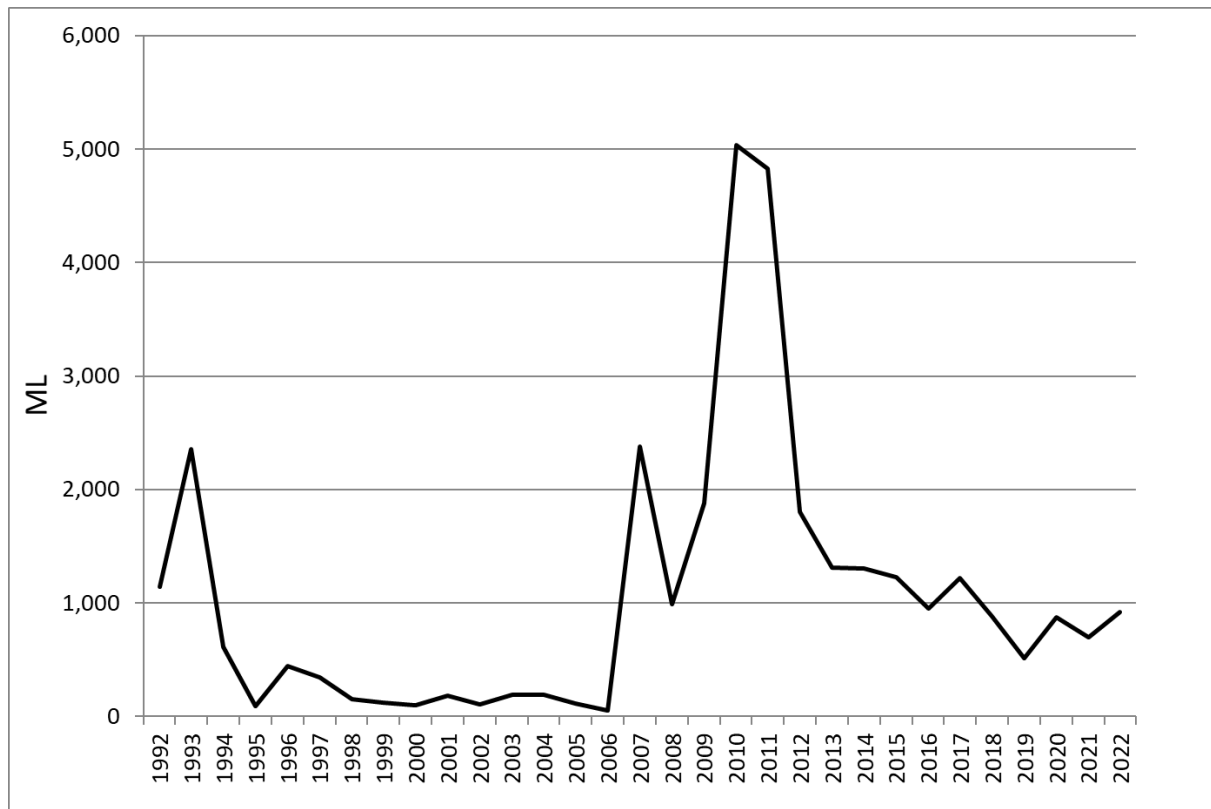
**Figure 1: Angas and Bremer Rivers Water Extractions 2012-2022:** Not all of the water taken from these rivers, such as the water diverted through weirs and sluices, is accounted for in this chart. The volumes on this graph are metered volumes from irrigators with meters installed, as well as the amount recharged into the aquifer from these rivers, as reported on the Irrigation Annual Reports. The amount of water that was recorded as having been extracted from these rivers is lower than last year with a reduction of 78 ML (100.49 ML used this year)



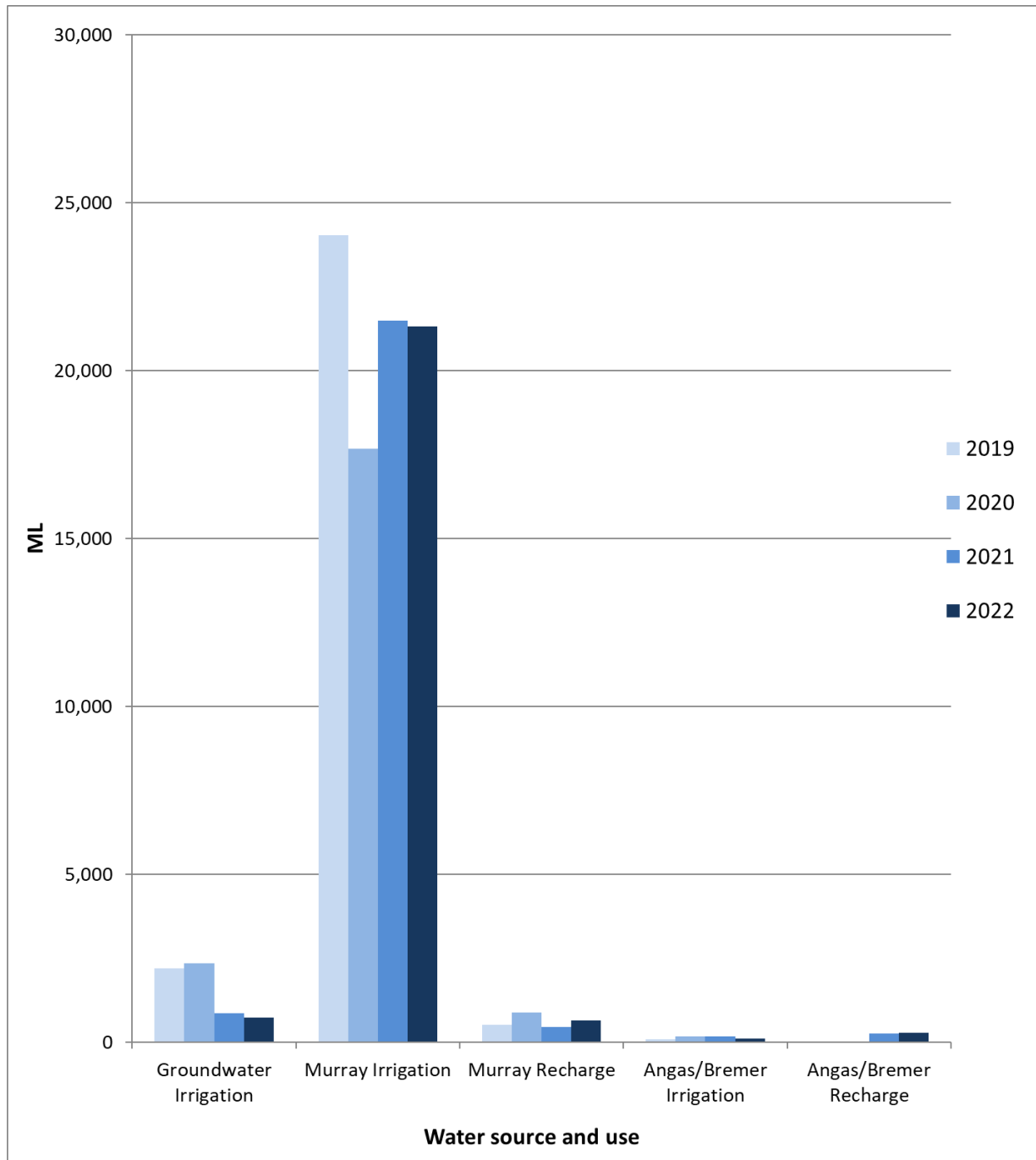
**Figure 2: River Murray Water Site Use Approval and Extraction 2015-2022:** The River Murray Site Use Approval (RivM SUA) is the maximum quantity of River Murray water that can be used for irrigation on land identified as being in the Angas Bremer Irrigation Management Zone. Extraction (RivM Ext) is the volume of water that was used during the irrigation year. The total Site Use Approval volume for 2021-22 volume has increased to 33454.51ML, and the recorded use was 21304.32ML, 186.85ML less than last year.



**Figure 3: Groundwater Entitlement and Extraction 2015-2022:** The maximum entitlement for 2021-22 was 8942ML and the recorded use was 740ML, less than the volume of 867ML used in the previous year. This is much lower than the 7,700 ML used during the “Millennium Drought”.

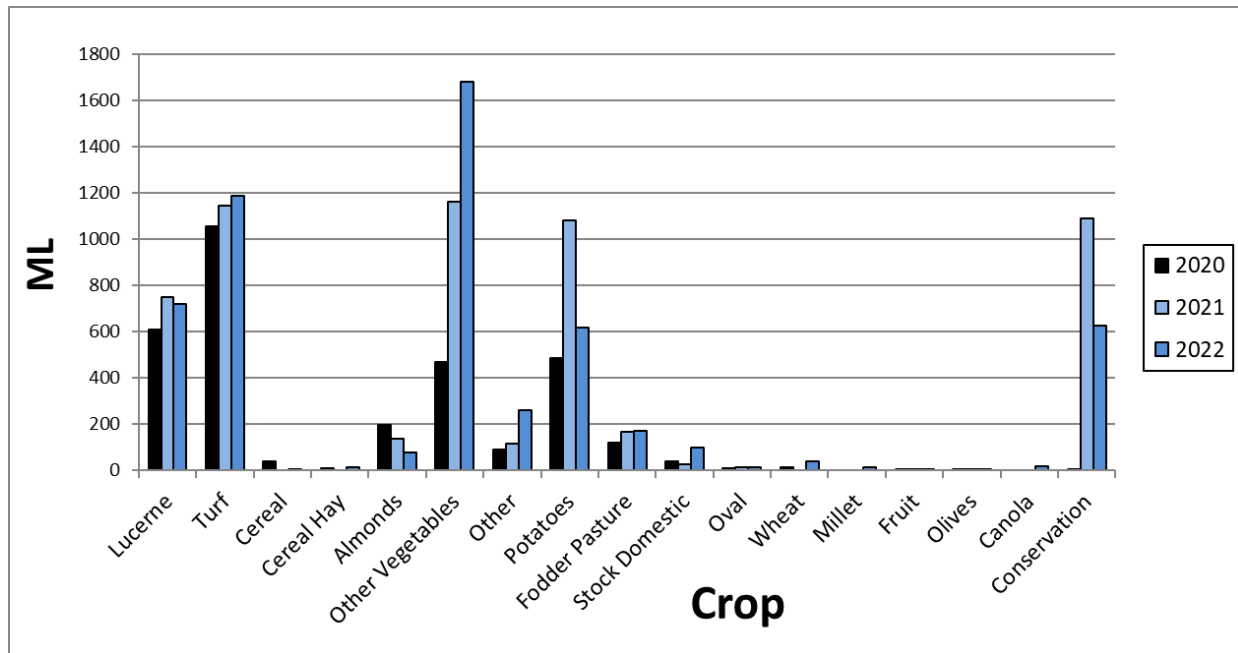


**Figure 4: Managed Aquifer Recharge (formerly termed Aquifer Storage and Recovery (ASR)) :** This chart shows the total volume of water artificially recharged to the aquifer from 1992 to 2022. The **924 ML** recharged from the Angas, Bremer and Murray rivers in 2021-2022 was higher than last year’s volume but substantially lower than the record levels achieved in 2010.

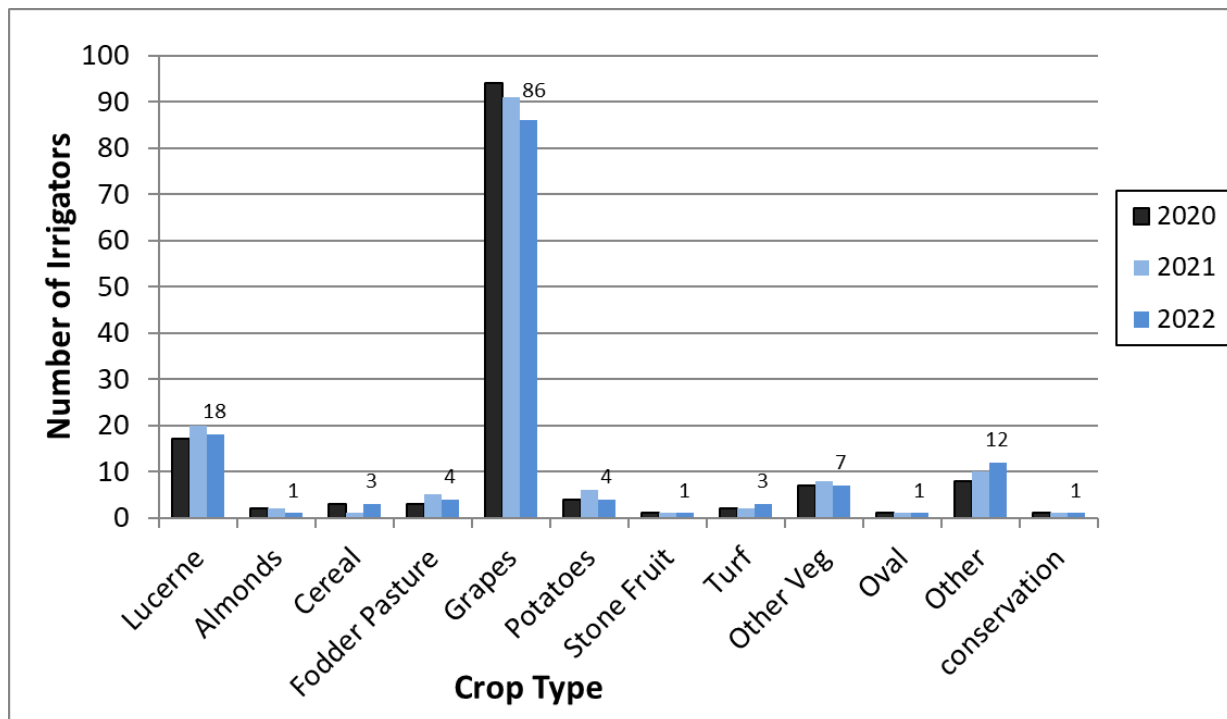


**Figure 5: Total volume of water used 2021-2022:** The total volume of water extracted from all sources within the region over the 2021-22 year was **23,069ML**, which is slightly less than the previous year, 2020-2021 = 23,236ML but more than 2019-2020 = 21,060ML.

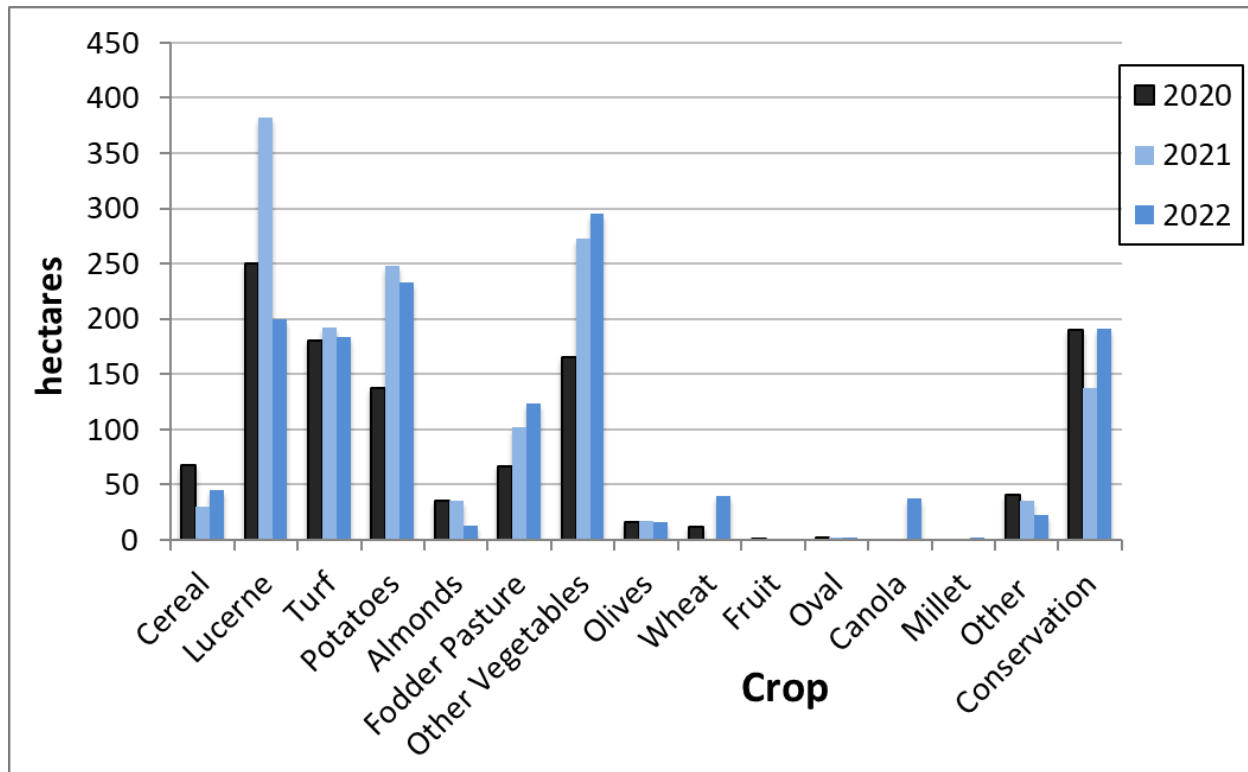




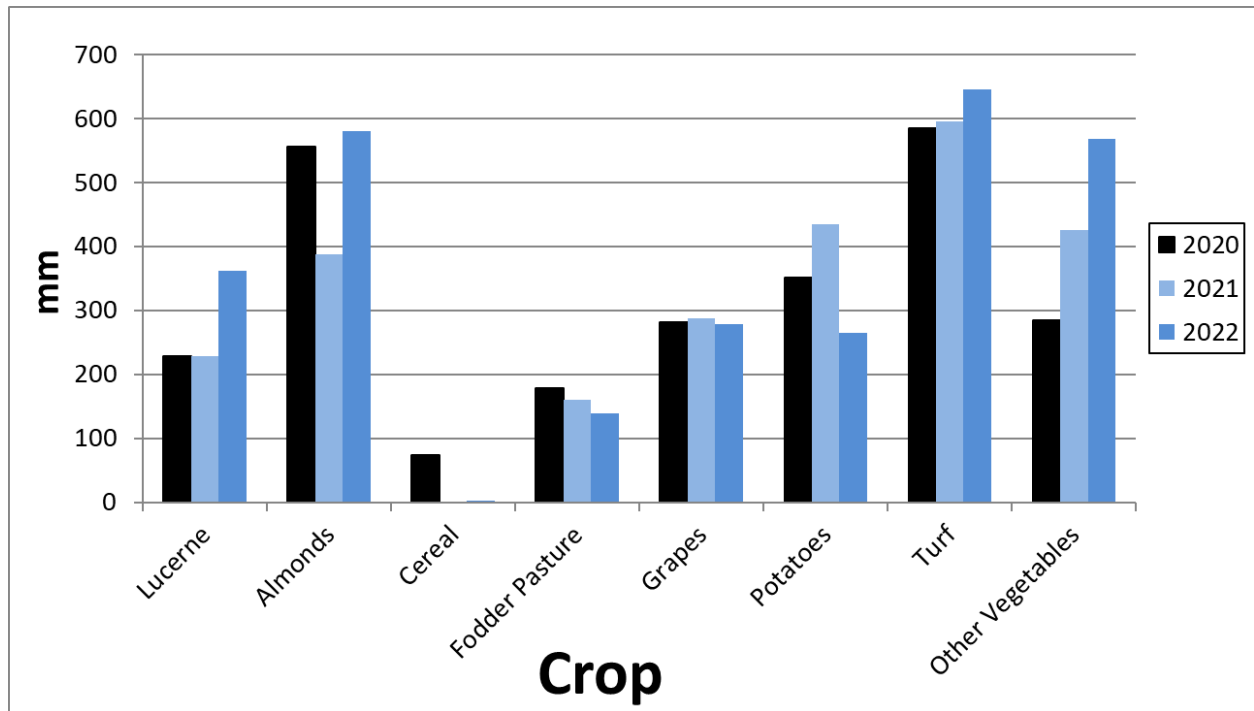
**Figure 6: Total volume of water used for each crop type:** This volume is the total used from all sources; groundwater, Angas/Bremer water and River Murray water that was applied to each crop type (grapes excluded). **The total volume of water applied to grapes was 16,118ML in 2021-2022, decreasing from last year's 16,767 ML.**



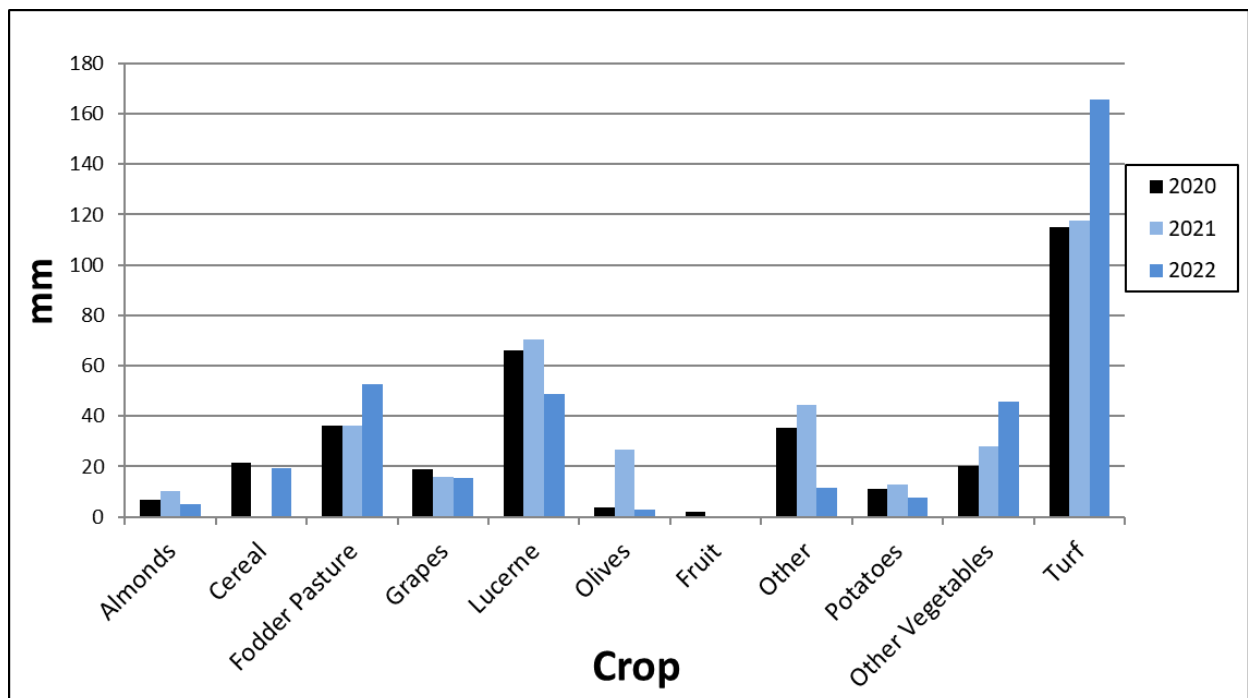
**Figure 7: Number of Irrigators for Each Crop Type:** The number of irrigators growing each crop type in the region appears to have remained relatively stable with a decrease in the number of people irrigating grapes and number of irrigators for each crop returning to similar numbers as in 2020.



**Figure 8: Area Irrigated by Crop Type:** The area of each crop irrigated is shown in hectares. **The area of grapes irrigated in 2021-22 was 5,799 ha, lower than the 5,821 ha recorded last year.** The total area under irrigation in 2021-22 was 7,206 ha, which is less than the 7,277 ha recorded last year.

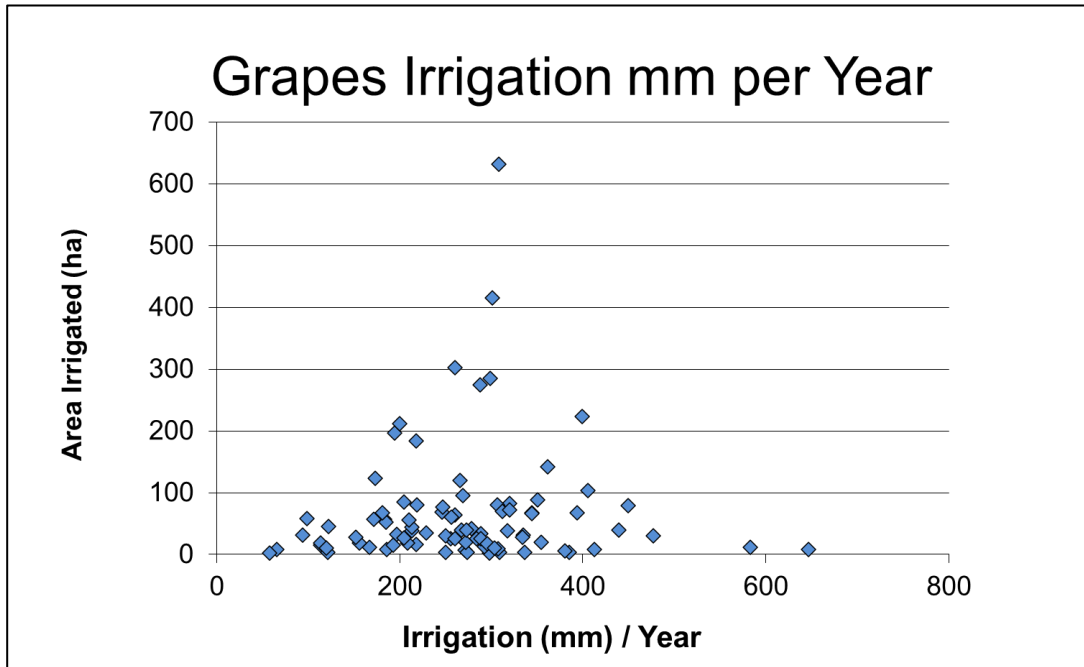


**Figure 9: Average total irrigation rate for the year by crop type:** Irrigation is shown in mm for 2019-20, 2020-21 and 2021-22.

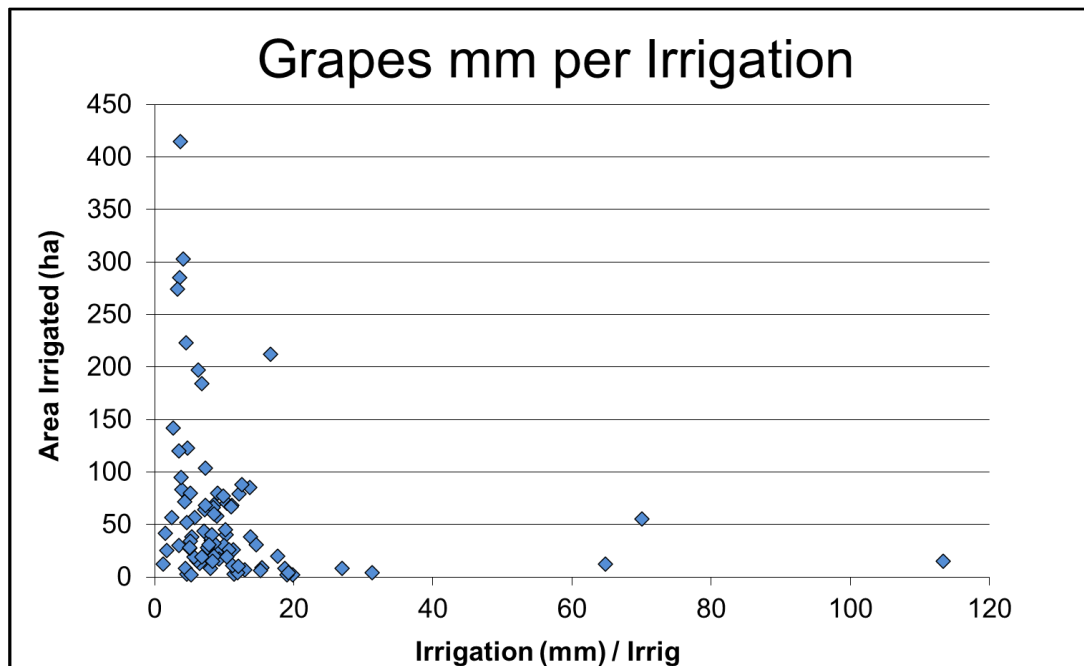


**Figure 10: Average mm of water applied per irrigation for each crop type for the last three years.**

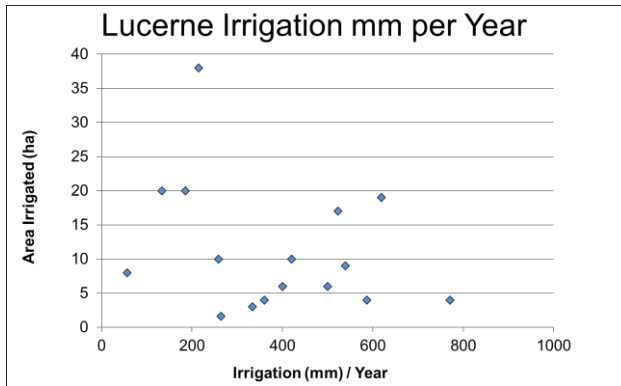
**Figures 11-14:** These charts show the irrigation rate per property for the more common crops. For each crop one chart shows (a) the mm per year and (b) the mm per irrigation.



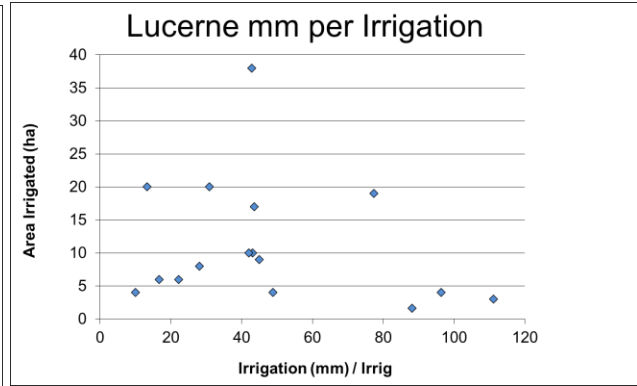
11a)



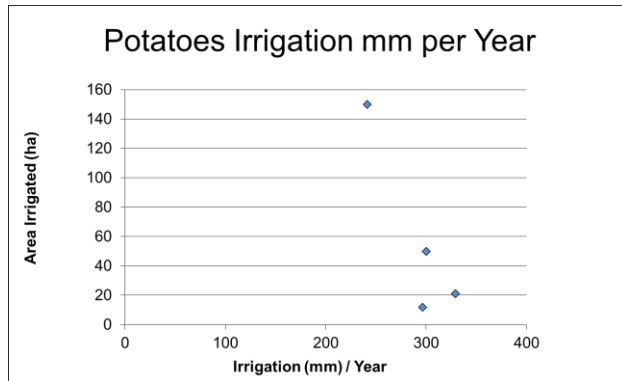
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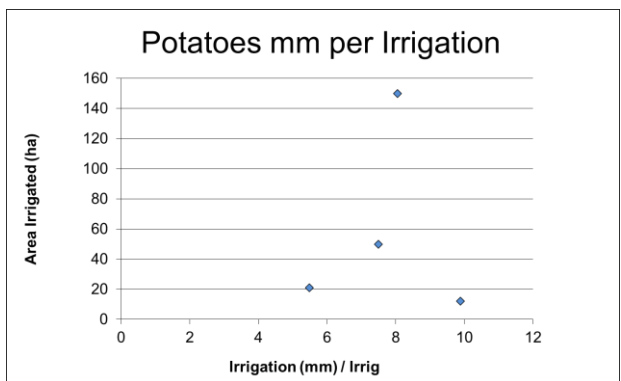
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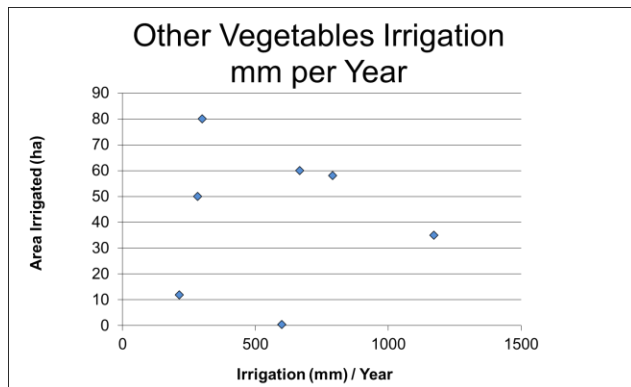
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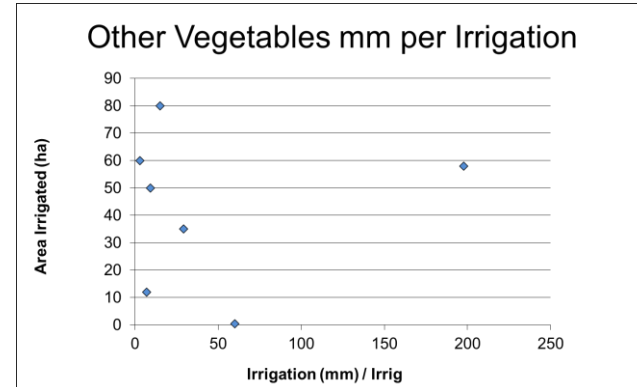
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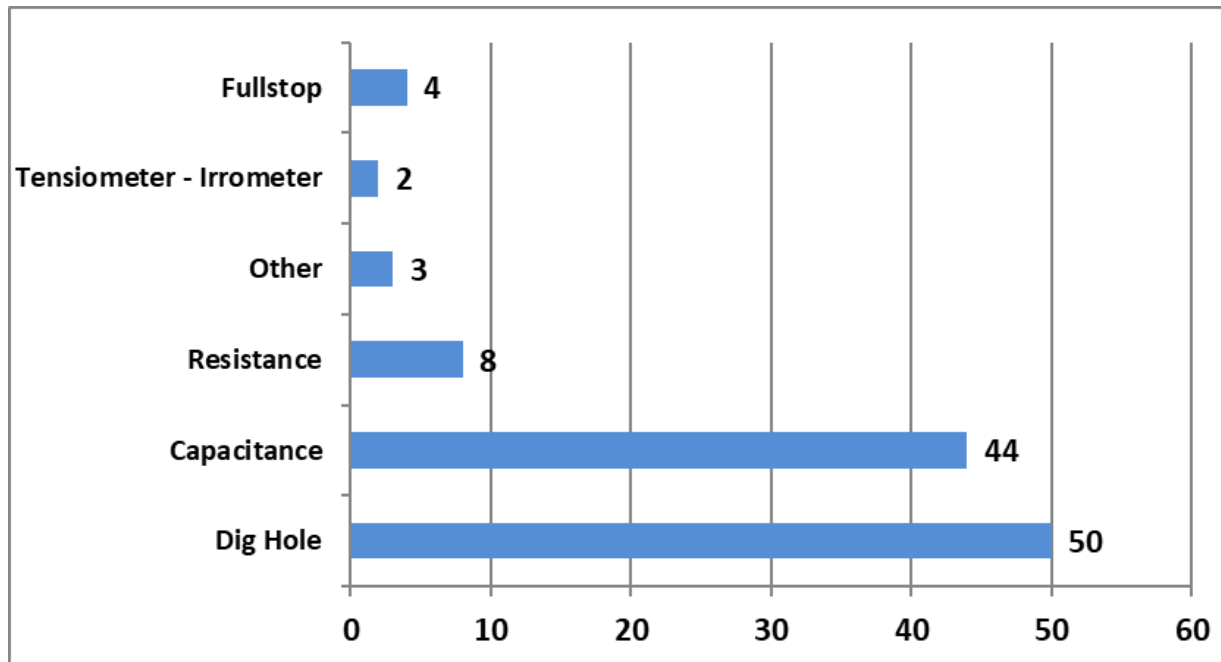
13(b)



14(a)



14(b)



**Figure 15: Number of growers using Soil Moisture Monitoring devices in 2021-22:** “Resistance” includes Gypsum Blocks. “Capacitance” includes Agwise soil moisture probes, Agrilink C probe, Dataflow Gopher, Sentek Diviner and Sentek EnviroSCAN. “Dig hole” includes Dig stick, spade, auger and post hole digger.

**Table 2: Average ML/ha per crop per year:** This table shows the average ML/ha of irrigation water applied to different crop types and compares 2022 with previous years. This information is also displayed in the following Figure 16. Note: 1ML/ha is equivalent to 100mm of irrigation.

Year	Grape	Lucerne	Vegetable	Potato	Fodder	Almond	All Crops
2021-2022	2.78	3.62	5.68	2.65	1.4	5.81	2.98
2020-2021	2.88	1.96	4.25	4.35	1.6	3.88	3
2019-2020	2.82	2.43	2.84	3.51	1.8	5.56	2.8
2018-2019	2.79	2.9	6.46	3.4	1.3	5.33	2.95
2017-2018	2.74	3.14	4.78	4.33	0.9	3.61	2.99
2016-2017	1.85	2.92	4.71	4.86	1.3	3.18	2.23
2015-2016	2.82	3.38	4.96	4.66	1.02	5.79	2.99
2014-2015	2.68	3.8	5.39	5.41	3.03	4.15	3.13
2013-2014	2.26	4.24	4.02	4.92	1.98	4.56	2.51
2012-2013	2.62	4.53	6.35	4.01	1.58	3.91	2.62
2011-2012	2.25	4.52	7.76	4.13	1.22	4.37	2.55
2010-2011	1.9	2.2	2.4	3.1	0.5	3.4	2
2009-2010	2.3	4.32	3.6	3.72	1.2	5.11	2.47
2008-2009	1.73	2.99	4.38	1.74	1.24	1.04	1.78
2007-2008	1.97	4.36	7.8	2.51	2.36	5.24	2.07
2006-2007	2.04	5.13	6.43	4.12	1.7	5.23	3.67
2005-2006	1.8	4.23	5.04	2.99	1	4.06	2.95
2004-2005	1.99	5.22	5.18	3.67	2.74	4.79	2.25
2003-2004	1.97	4.5	8.8	3.5	2.7	4.2	2.28
2002-2003	2.2	6.8	6	3.8	4.3	4	2.61
2001-2002	2.1	4.4	5.1	4	3.3	4.5	2.5
2000-2001	2.1	4.8	5.7	3.6	4.7	3.1	2.6
1999-2000	2.1	6	6.3	3.7	3.7	2.8	2.6

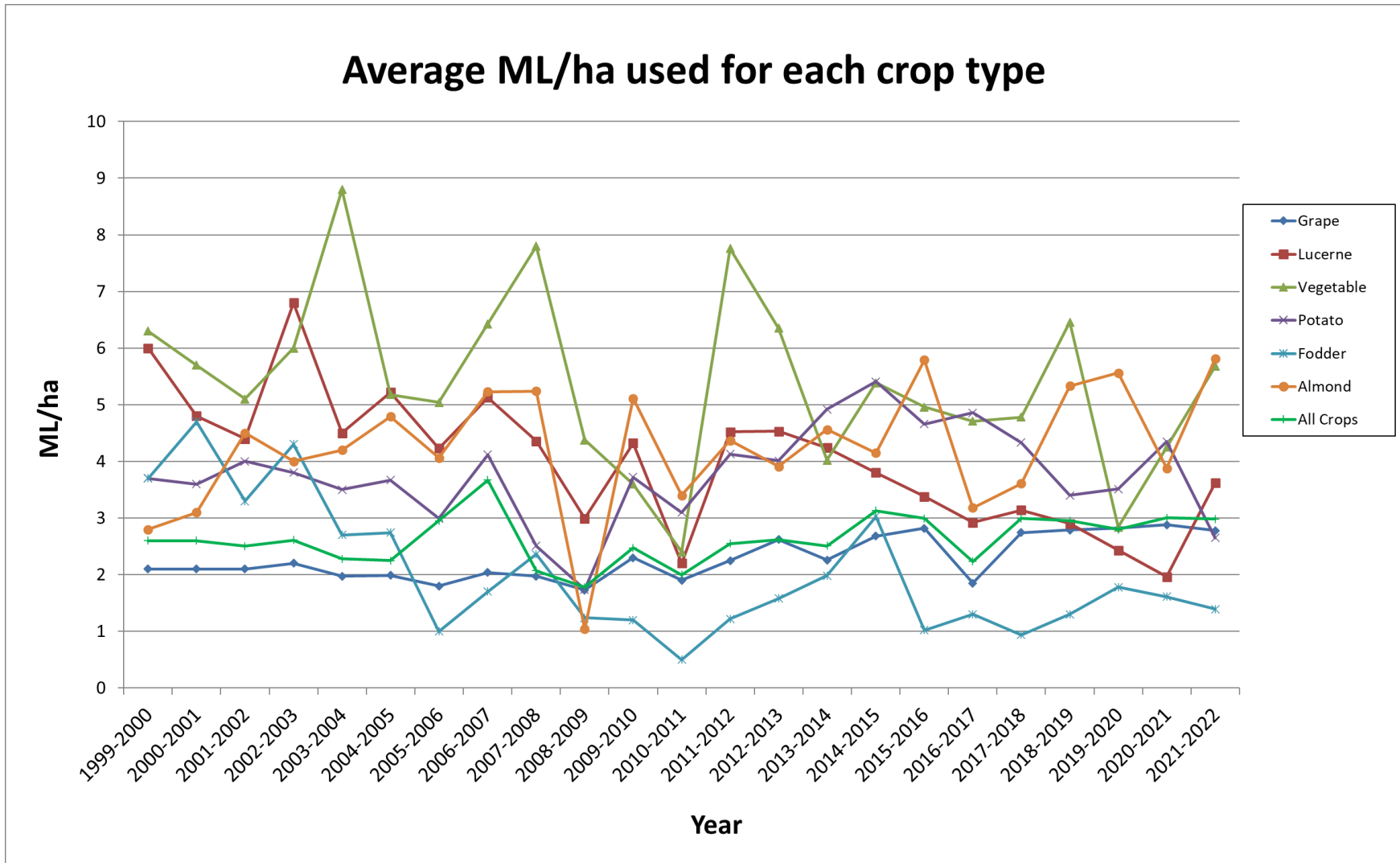


Figure 16: Average ML / ha used for each crop type



**Table 3: ML used and ha irrigated comparison chart:**

	2021-2022	2020-2021	2019-2020	2018-2019	2017-2018	2016-2017	2015-2016	2014-2015	2013-2014	2012-2013	2011-2012	2010-2011	2009-2010	2008-2009	2007-2008	2006-2007	2005-2006	2004-2005	2003-2004	2002-2003	2001-2002	2000-2001
<b>Total ML</b>	<b>21,652</b>	<b>22,456</b>	<b>19,839</b>	<b>22,125</b>	<b>20,279</b>	<b>14,772</b>	<b>20,932</b>	<b>20,408</b>	<b>18,605</b>	<b>18,617</b>	<b>17,056</b>	<b>13,346</b>	<b>16,241</b>	<b>12,001</b>	<b>14,743</b>	<b>20,911</b>	<b>15,811</b>	<b>17,719</b>	<b>17,154</b>	<b>20,715</b>	<b>17,428</b>	<b>17,467</b>
<b>Total ha</b>	<b>7,212</b>	<b>7,479</b>	<b>7,085</b>	<b>7,489</b>	<b>6,792</b>	<b>6,637</b>	<b>7,011</b>	<b>7,380</b>	<b>7,406</b>	<b>7,107</b>	<b>6,687</b>	<b>6,687</b>	<b>6,578</b>	<b>6,748</b>	<b>7,049</b>	<b>8,370</b>	<b>7,739</b>	<b>7,869</b>	<b>7,509</b>	<b>7,934</b>	<b>7,089</b>	<b>6,788</b>
Grape ML	16,118	16,767	16,702	16,418	14,819	9,998	15,961	15,972	13,230	13,129	11,990	11,275	13,718	10,738	12,330	12,827	11,293	11,688	11,927	13,165	11,159	10,626
Grape ha	5,799	5,821	5,920	5,892	5,407	5,391	5,658	5,954	5,850	5,641	5,323	5,965	5,971	6,199	6,245	6,271	6,170	5,876	6,059	6,059	5,357	4,991
Lucerne ML	719	751	608	1,352	1,236	1,013	1,300	1,668	1,446	1,820	1,477	376	657	326	675	1,437	1,378	1,791	1,608	2,560	2,051	2,040
Lucerne ha	200	383	251	466	393	348	384	439	341	402	327	170	152	109	155	280	325	343	354	376	471	429
Veg ML	1,679	1,161	468	1,194	559	856	963	964	580	610	877	193	36	57	179	373	363	638	605	647	651	769
Veg ha	296	273	165	185	117	182	194	179	144	96	113	81	10	13	23	58	72	123	69	108	103	134
Potato ML	617	1,079	485	717	758	1,156	947	1,238	1,073	1,232	1,283	555	320	131	136	1,200	1,171	1,278	1,280	1,504	1,719	1,773
Potato ha	233	248	138	211	175	238	203	229	218	307	311	179	86	75	54	291	392	348	360	394	425	490
Fodder ML	173	165	120	141	79	21	76	109	107	90	78	22	47	32	53	222	144	505	399	752	316	742
Fodder ha	124	103	67	108	84	16	74	36	54	57	64	43	39	26	23	130	144	184	146	173	97	157
Almond ML	75	136	195	202	65	57	104	166	187	180	188	148	225	193	231	251	195	230	203	188	246	172
Almond ha	13	35	35	38	18	18	18	40	41	46	43	43	44	44	44	48	48	48	48	47	55	55
Other crops ML	2,271	2,397	1,261	2,100	2,763	1,671	1,581	2,069	1,935	1,556	1,094	777	1,238	524	795	2,004	900	1,589	1,132	1,899	1,286	1,259
Other crops ha	547	616	509	589	598	444	480	503	573	558.5	501	206	276	282	505	906	588	936	443	777	583	533

# ANGAS BREMER GROUNDWATER RESOURCES 2022 CURRENT STATUS AND HISTORICAL TRENDS

21 December 2022

## Murray Group Limestone aquifer water levels 2018-2022

The main aquifer used in the Angas Bremer PWA is the confined Murray Group Limestone (MGL) aquifer, which is up to 100 m thickness. For the period 2018 to 2022, 24 out of 32 monitoring wells (75%) show five-year rising trend in groundwater pressure levels, at rates between 0.05 and 0.91 m/y (median rise of 0.1 m/y). Five wells (16%) show stable pressure levels and three wells (9%) show declining trends. In August 2022, most wells (93%) show groundwater pressure levels above the long-term average.

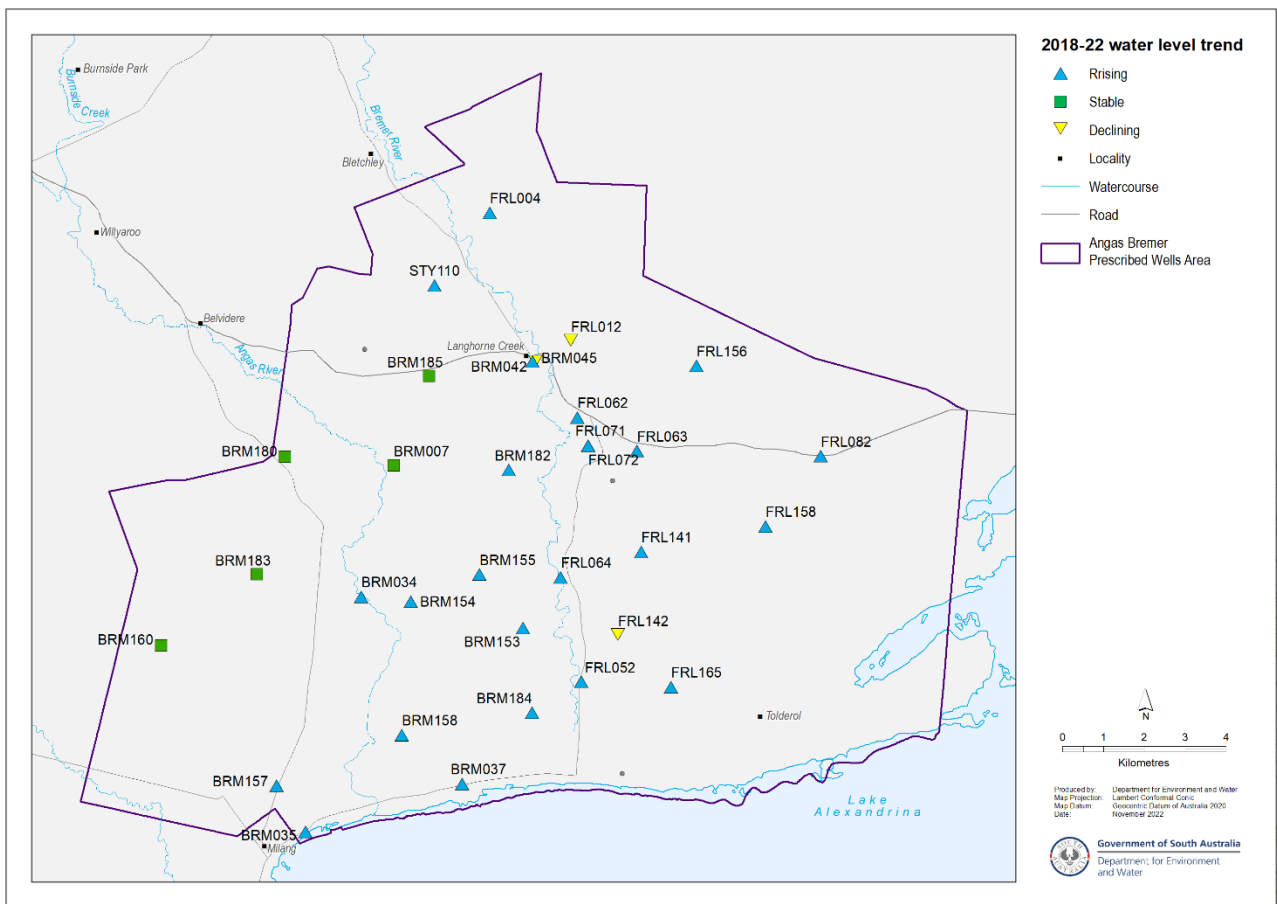
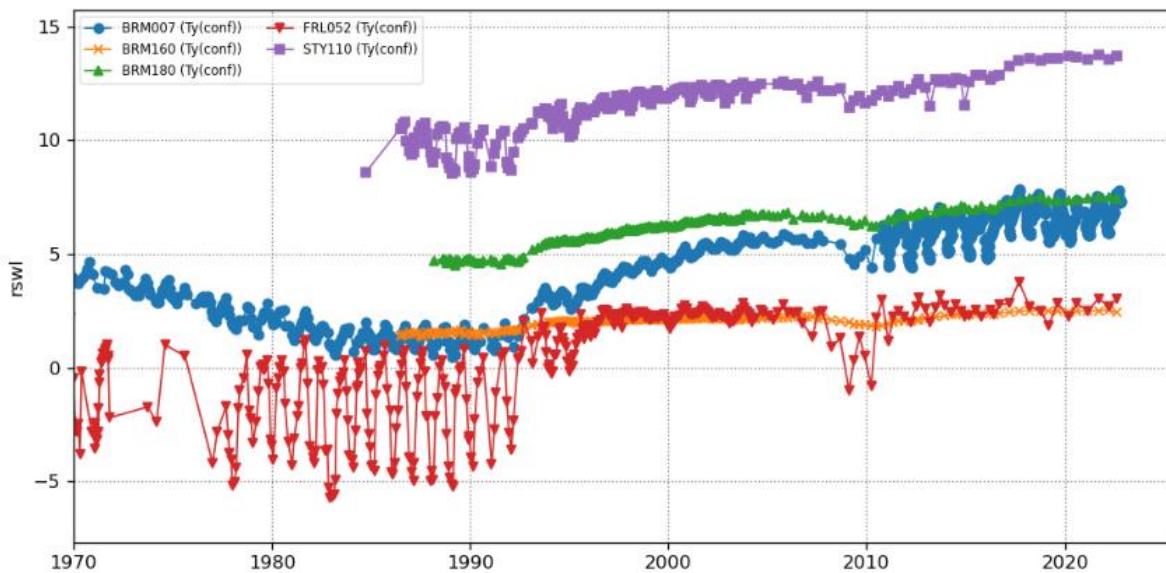


Figure 17: Murray Group Limestone aquifer water levels trend 2018-2022

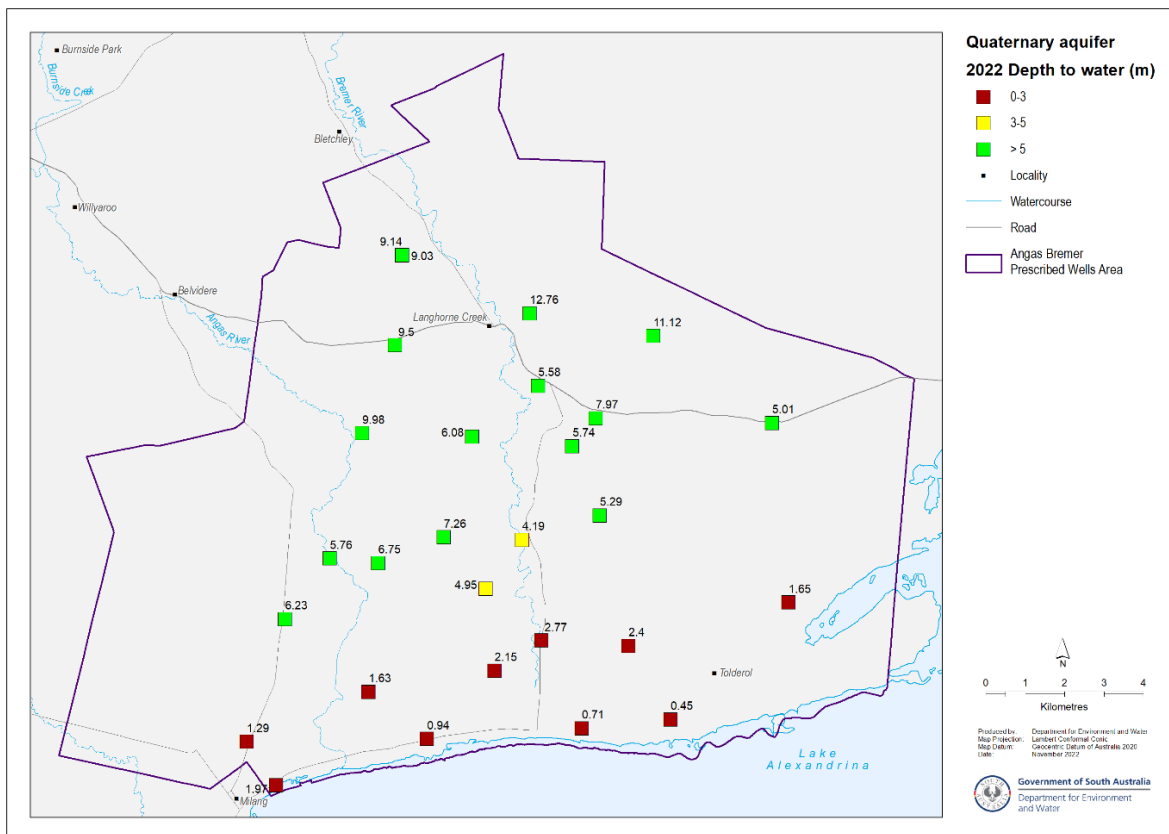
The hydrographs presented below were selected to illustrate important and/or representative trends. Hydrographs show a long-term rising trend across the region - water levels are currently close to the highest levels recorded since monitoring began in the 1970s. The long-term increases in pressure levels are mainly attributed to managed aquifer recharge operations in the area. Additionally, since 1992, groundwater extractions have decreased markedly due to the increased use of alternative water sources.



**Figure 18: Long-term water levels for selected monitoring wells in the Murray Group Limestone aquifer**

### Quaternary aquifer water levels (current)

The shallow Quaternary aquifer consists of a sequence of clays, silts and sands of around 10–20 m thickness. This aquifer is generally highly saline with low yields and consequently, has limited use. Water level monitoring in August 2022 shows the watertable is deeper than 3 metres across the area, with the exception of areas adjacent to Lake Alexandrina, where the watertable is naturally shallower than 3 metres.



**Figure 19: Current quaternary aquifer water levels (m)**

## MGL aquifer salinity (current)

The salinity distribution in the MGL aquifer shows low-salinity groundwater is limited to relatively narrow zones parallel to the Bremer River. In 2022, from 39 water samples collected from irrigators across the area, 56% of salinity monitoring wells show salinity in the range 1500 to 3000 mg/L, while 33% of samples show salinity less than 1500 mg/L. Groundwater salinity greater than 1500 mg/L is typical of the MGL aquifer, but is generally greater than the salinity tolerance level for grapevines.

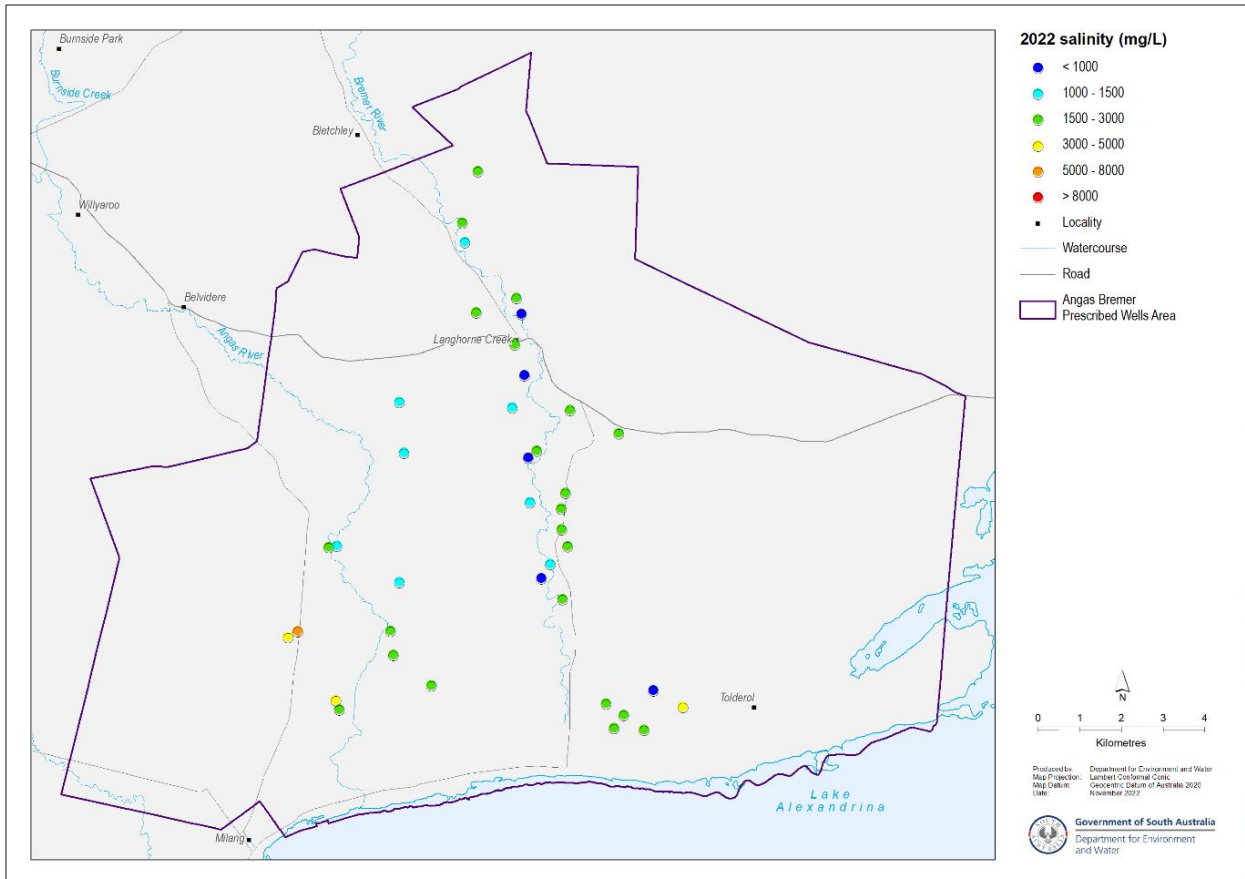


Figure 20: 2022 Murray Group Limestone aquifer salinity distributions (mg/L)

## MGL aquifer salinity 2018-2022

Salinity monitoring for the period 2018-22 shows stable or decreasing salinity in 10 of 20 wells. Wells with a salinity data record of at least five years' length are generally located adjacent to the Bremer River where most of the groundwater extraction occurs. Short-term fluctuations in groundwater salinity are mainly due to managed aquifer recharge operations.

Irrigators from across the area are actively encouraged to participate in the Department for Environment and Water's (DEW's) annual groundwater sampling program.

Groundwater data submitted by irrigators augment DEW's groundwater monitoring network, all of which support planning and management of the region's water resources.

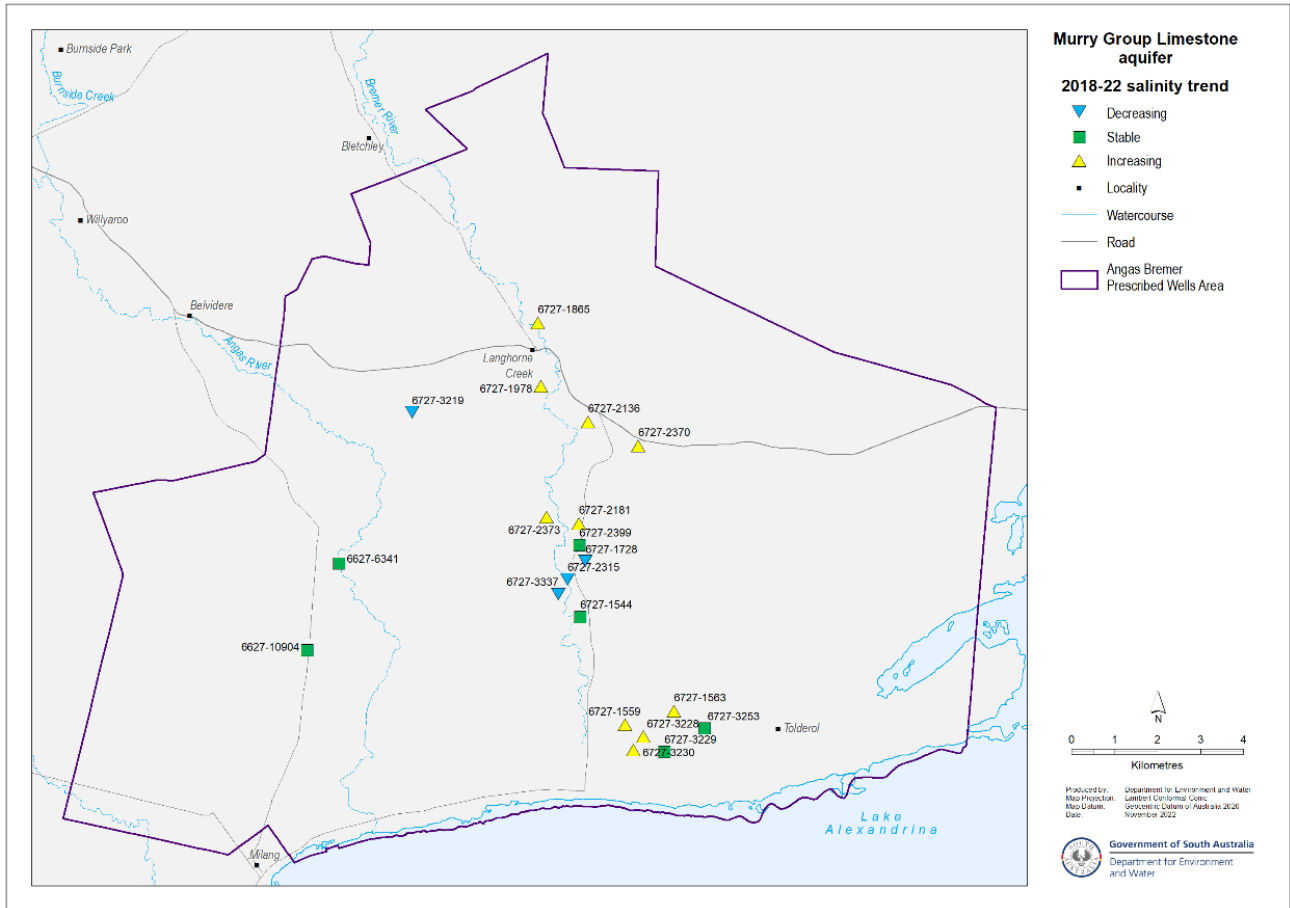


Figure 21: Murray Group Limestone aquifer salinity 2018-2022

# Langhorne Creek Weather Station Statistics

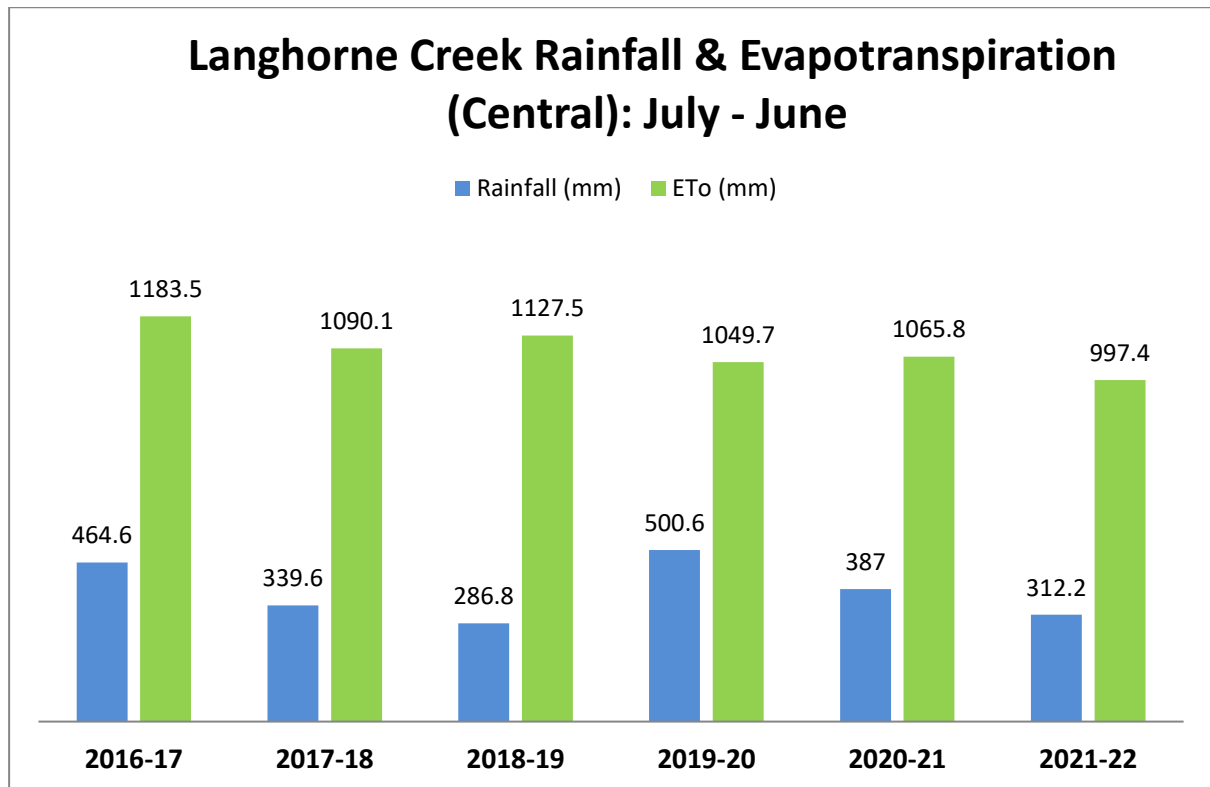
*Michael Cutting, Murraylands and Riverland Landscape Board*

## 2021/22 Seasonal Summary:

As shown in Figure 22 312.2.0mm of **rainfall** was recorded during the 2021/22 water use year (July – June) at the Langhorne Creek Central weather station which was less than the previous season's total of 387.0mm. Interestingly almost as much rainfall, 296.6mm has been recorded in the current season in the July-November inclusive period.

The 2021/22 **evapotranspiration (ET)** figure of 997.4mm was less than the previous season highlighting the fairly mild season that was experienced.

Rainfall & ET figures produced an **evaporative deficit (ET - rainfall)** of 685.2mm for the 2021/22 season which was very similar to the 2020/21 figure of 678.8mm due to the reduced ET and rainfall that was observed.



**Figure 22: Rainfall and Evapotranspiration – Langhorne Creek Central**

The highest **daily maximum temperature** for 2021/22 of 40.0°C was observed on the 1<sup>st</sup> January 2022 which was the only day across the season where a maximum temperature of 40.0°C or above was observed. The **minimum daily temperature** of -0.7°C was recorded on the 21<sup>st</sup> May 2021 with only three days over the 2021/22 season recording minimum temperatures of 0°C or below.

The **highest daily rainfall** total observed in 2021/22 was 17.6mm which was recorded on the 30<sup>th</sup> May 2022.

Monthly rainfall distribution for the 2021/22 season is shown in Figure 23 below.

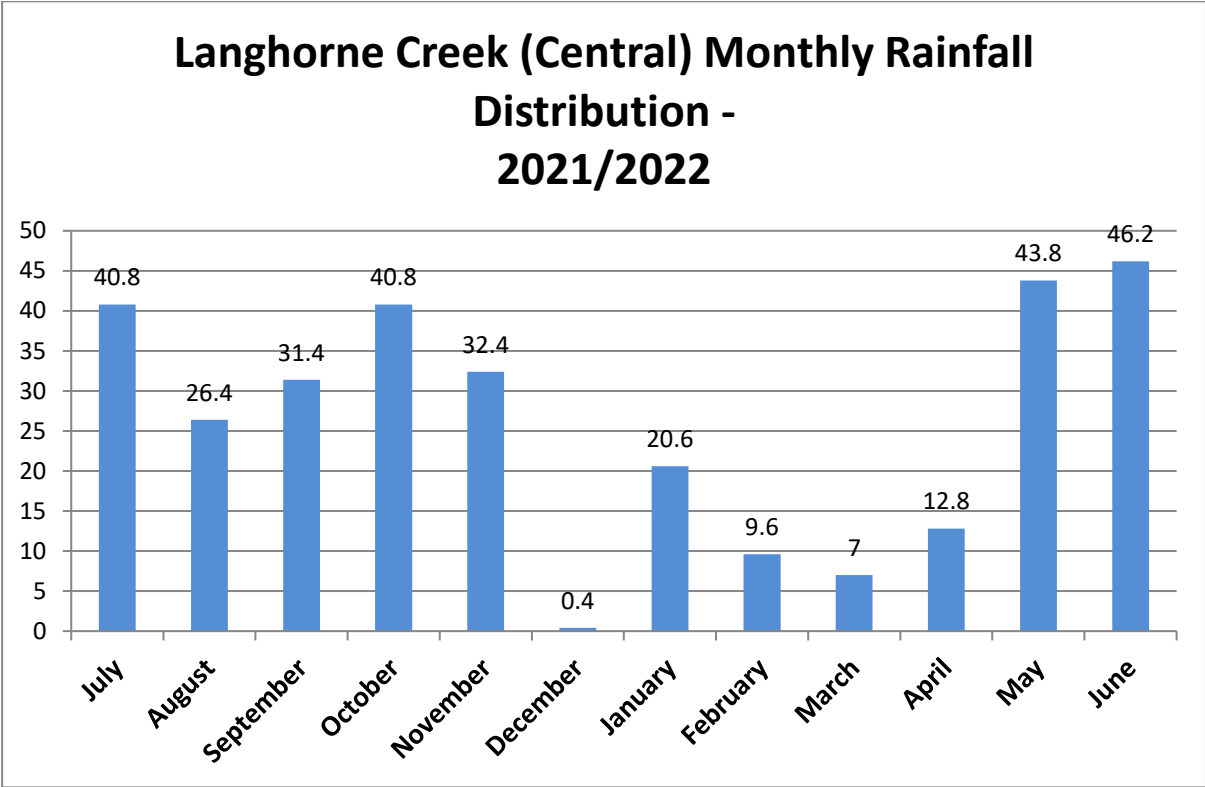


Figure 23: Monthly Rainfall Totals - Langhorne Creek Central

# **The Twenty Fourth Annual Public Meeting of the Angas Bremer Water Management Committee Incorporated**

Wednesday 24<sup>th</sup> August, 2022 at 7:00pm.

The Langhorne Creek Bowling Club, Langhorne Creek.

**Attendees:** Greg Burns (Speaker), Tom Mowbray (HFLB), Lauren Nicholson, Sue Miller, George Borrett, James Stacey, Brett Cleggett, D Hender, Michael Cutting, Ken Follet, Barry Potts, Geoff Warren, Alyssa Lovelock, Trevor McLean, David Eckert, Leah Hunter, Justin Cleggett.

**Apologies:** Tim Follett, Karlene Maywald, Nicole Clarke Martin Silcock, Melissa White, Wendy Telfer, Paul Wainwright, Keren Stagg

## **1. Opening Address**

The meeting was opened at 7:07 pm by James Stacey, Presiding Member. James welcomed all attendees and guest speakers to the meeting.

## **2. Minutes of the last Annual Public Meeting**

A motion was raised that the minutes from last year's APM be accepted.

Moved: Barry Potts                      Seconded: Justin Cleggett

## **3. Presiding Member Annual Report**

The Presiding Member Annual Report was presented by James Stacey.

James thanked Leah for her work in compiling the Irrigation Annual Report (IAR) and the irrigators for their efforts in providing their irrigation data. A successful 93% rate of return was achieved.

Ongoing funding of the ABWMC continues to be an issue with the current funding contract expiring 30.6.23. The ABWMC needs to decide whether it is beneficial in continuing with the IAR in its current form and if so, funding will need to be sourced from the Hills & Fleurieu (HFLB) and Murraylands and Riverland (MRLB) Landscape Boards to fund both the IAR and maintain the operations of the Committee. James raised the importance of having a consistent method of knowing how water is being used in the region and to stay vigilant for any potential issues that may arise. It should be noted that the requirement for the



ABWMC to complete the IAR is currently written into the EMLR WAP which is coming up for review.

The Flows for the Future Program was also discussed, including how it has been challenging with staff changeover. Lisa Stribley has recently been appointed as Program Leader, Flows for the Future.

Sue Miller was in attendance and is running for Alexandrina Council in the November 2022 elections. James acknowledged her presence and welcomed attendees to talk with her and raise any concerns with her after the meeting.

#### **4. Summary of 2020/2021 Irrigation Annual Report - Leah Hunter**

Leah Hunter presented a summary of the 2021/2022 IAR.

Leah thanked everyone who submitted their reports online and on time. 105 reports (78% of total reports due) were received online. 124 reports (93% of total reports due) were received by accreditation date.

Analysis of the data received to date showed the following:

- River Murray water usage increased this year. Leah worked with Frances Simes from water licensing this year and was able to obtain a current figure for River Murray Site Use Approvals (SUA) in the area.
- Groundwater use dropped to 649.86ML, with this year being the lowest recorded since online reporting started in 2009.
- Volume recharged to the aquifer increased this year but is still very low compared to 2010 and 2011.
- Total water use increased by 1,508ML in 2022
- There were 6 records of flooding during 2021-22, 5 in July 2021 and 1 in August 2021. A total of 173Ha were flooded.
- Average mm of irrigation was 0-30mm per irrigation. The total number of crops did not change significantly from 2021. The total area under irrigation for grapes is 5,682Ha.

The final IAR is due out late December 2022 and an email link to the report which will be uploaded to the ABWMC website will be sent to all irrigators when available.

Leah thanked the committee for their efforts and the HFLB and MRLB for their funding support.

James thanked Leah for her presentation.

#### **5. Financial Report – Justin Cleggett, Treasurer**

The Annual Financial Report of the Angas Bremer Water Management Committee 2021-22 was presented by Justin Cleggett.

James thanked Justin for delivering the Treasurers report.

## **6. Role and Function of the Inspector General of Water Compliance, Greg Burns, Field Officer, Inspector General of Water Compliance**

Prior to Greg delivering his presentation he thanked everyone for having him speak at the ABWMC APM, Michael Cutting for suggesting him and Leah Hunter for organising.

Greg delivered a presentation which provided an overview of role and function of the Inspector General of Water Compliance. It included the following:

- The Inspector General of Water Compliance is a Federal Statutory body, which consolidates the Commonwealth's responsibilities into one statutory office. It has the compliance and enforcement functions previously held by the Murray-Darling Basin Authority and holds regulatory powers under Commonwealth law.
- The Inspector General of Water Compliance Field Officers working within the Murray-Darling Basin are located at Loxton, Mildura, Albury, Dubbo and Goondiwindi.
- They provide independent oversight and monitoring of Commonwealth and Basin State compliance through investigation, audit and enforcement; and aim to strengthen compliance, increase transparency and build trust within the community.
- A key priority is to encourage greater consistency in the guidelines and standards across the Basin and between States.
- Each year the Inspector General publishes a workplan which is uploaded to their website. This year's focus is on water trade enforcement, the Water Resource Plan and building trust and confidence with the community. Currently water traders are not regulated in SA so they may investigate this at some stage as well.

Greg is here to listen and keen to hear how the system is working in the area. If anyone has concerns to raise, please direct them to Greg who will put in a report for investigation.

The Inspector General of Water Compliance has recently appointed a media manager who now has podcasts available and is currently working on videos. Further information can be found at [www.igwc.gov.au](http://www.igwc.gov.au)

Q: Is there audited water licensing in SA?

A: Not yet but it will likely occur in the future.

James thanked Greg for his presentation.

## **7. Upcoming review of the Eastern Mount Lofty Ranges Water Allocation Plan, Tom Mowbray, Senior Water Planner, Hills & Fleurieu Landscape Board**

Prior to his presentation, Tom addressed the following action items which arose from the 2021 APM:

- *Will the nutrients present in 'Class A' water have a detrimental effect on fish coming up the waterway to breed?*

There should be minimal risk as these species have adapted to living in poorer quality environments.

- *Issue of changes in the level of floodwaters upstream by the time the flow reaches Ballandown Road.*

This is something that will need to be considered and included in the EMLR WAP review.

- *Query regarding the reinstatement of the water level monitoring station at Langhorne Creek.*

This water level monitoring station has now been reinstated at Langhorne Creek. A live data feed (volume, water height and salinity) is now available.

There were no further action items outstanding from the 2021 APM.

Tom then delivered his presentation on the upcoming review of the EMLR WAP which included the following:

- An overview of the main functions of the Water Allocation Plan and why they are necessary to fairly distribute water resources between all stakeholders including the environment.
- A review of the Eastern Mount Lofty Ranges Water Allocation Plan (EMLR WAP) is due at the end of September 2023
- An overview of the WAP cycle was provided by Tom. The initial review of the EMLR WAP is an evaluation of how well the WAP has been working and will identify which areas of the WAP need to be looked at carefully. During the amendment phase, these issues will be addressed, and amendments made if necessary.
- The focus areas for the amendment phase could include matters such as allocation limits, rules about dam use, revegetation requirements, and take rules for the Lower Angas Bremer catchment and transfer rules. Consideration will also be given to climate change and Flows for the Future (low flows).
- The preparation phase is expected to be completed in December 2022 and followed by an engagement phase which will take place between February and June 2023. A review report will then be written between July and September 2023 with amendments likely to occur from November 2023 onwards.
- At the end of his presentation, Tom asked the attendees to consider what important issues they would like included in the review.

Questions raised for consideration included:

- How is the EMLR WAP review group established and who decides who will be on it?
- Is salinity within the system tested? There is good flow at present, however the water is not usable by some irrigators due to the salt content.
- What is the source of the increased salinity within the Angas Bremer Catchment?
- What % of allocated water licenses are used within the EMLR?
- What will happen to unlicensed dams within the EMLR area?
- Does the HFLB have a policy on climate change? Do we know enough of our past history to be able to know what is changing?
- Will the WAP still require monitoring wells? Less are being reported and many are being reported as dry.
- Leah tabled an email question from an irrigator asking whether the need for deep-rooted vegetation would still be included in the EMLR WAP and could it be looked at in the review.

#### **8. Update on carryover policy and SDL compliance, Michael Cutting, Team Leader, Sustainable Water Use (on behalf of Mel White, HFLB)**

Michael Cutting provided an impromptu update on carryover policy and SDL compliance on behalf of Mel White who was an apology. It included the following:

- In 2021 the private carryover rules within the River Murray Water Allocation Plan were reviewed.
- Key concerns raised were that there was a high risk of carryover volumes being forfeited and that 'rollover' provisions were complex and difficult to understand. Carryover policy has always had the rule that you cannot achieve over 100% of your entitlement in combined allocation/carryover amount in the carryover year however, there has previously been issues with fulfilling carryover amounts with available allocations; raising the question 'what do we do if there isn't enough to go around?' A 'first in, first serve' option was considered unfair. Now if there is not enough bulk water to meet the total carryover demand for all eligible water users, the volume of water granted to each will be reduced proportionately down to 10%.
- The carryover review included education about the risks and how/ when to buy water.
- Further information can be found at:  
<https://www.landscape.sa.gov.au/mr/water/water-allocation-plans/river-murray-wap>

Michael also provided an overview on the new One Basin CRC initiative which is a \$150m, 10-year program focussed on developing policy, technical and financial solutions to support and reduce exposure to climate, water, and environmental threats in the Murray-Darling Basin. They are currently looking at opportunities to diversify water sources, especially if River Murray water becomes

scarce. Cost effective methods to increase groundwater usage and ways to use brackish water are being considered.

Further information can be found at <https://onebasin.com.au/>

## **9. Election of ABWMC members**

The constitution of the Angas Bremer Water Management Committee requires that a minimum of 5 members and a maximum of 10 members be elected. Three positions have been carried over from the previous committee, and nominations were called for up to six positions.

Members mid-way through their term and continuing are: George Borrett, Barry Potts and Tim Follett.

Members electing to renominate were: Michael Clements, Trevor McLean, Justin Cleggett, Tom Mowbray, James Stacey and Michael Cutting.

There were no new written nominations received prior to the APM.

## **10. General Business**

### 10.1. Update on the History of the Langhorne Creek irrigation area

Ken Follett asked what the status of documenting the History of the Langhorne Creek irrigation area was. Trevor McLean has been investigating and collecting available information, including some records that were previously thought to be lost. A lot of voluntary work was done measuring the water table and windmills across the district. There is approximately 60 years of history that could be written up, perhaps by a university student, or via some assistance through a grant. Further information on the Angas River needs to be investigated. Fraser Davidson has a lot of history that would be good to harness such as that of the Rankine Floodgate in the 1880's. Information on the Woodburn Weir would also be of interest. The ABWMC are considering organising a field day to several historic sites.

### 10.2. Red Gum death in the lower Angas River

The issue of Red Gum death in the lower Angas River at Mosquito Creek was raised. Over time the permanent pools have been lost because of agriculture upstream. The Red Gum Swamps haven't been flooded since 2017. It was thought that an irrigator was using part of their River Murray water allocation to water them in the past, but that doesn't appear to be the case now.

Q - Could irrigators pool water resources and deliver the water to the red gum swamps away from the river?

A- George Borrett didn't think that this solution could replicate a natural flood event as the volume of water would be insufficient.

## **11. Meeting Close**

James thanked all for attending the meeting which closed at 9:21pm. All who were present were invited to stay for a light supper.

# **Financial Accounts 2021-22**

**ANGAS BREMER WATER MANAGEMENT COMMITTEE INC.**

**FINANCIAL STATEMENTS**

**FOR THE YEAR ENDED JUNE 30, 2022**

**"STATEMENT OF FINANCIAL PERFORMANCE"**

**STATEMENT OF FINANCIAL POSITION**

**NOTES TO THE FINANCIAL STATEMENTS**

**STATEMENT BY THE MANAGEMENT COMMITTEE**

**REPORT BY THE MANAGEMENT COMMITTEE**

**SUMMARY OF PROJECT FINANCIAL PERFORMANCE**

**ANGAS BREMER WATER MANAGEMENT COMMITTEE INC.**

**STATEMENT OF FINANCIAL PERFORMANCE**

**FOR THE YEAR ENDED JUNE 30, 2022**

	2022	2021
	\$	\$
<b>INCOME</b>		
<b>Grants</b>		
Grants (State) Op-Non Rec	<u>31,191.00</u>	<u>20,000.00</u>
<i>Total Grants</i>	31,191.00	20,000.00
Interest-Unrestricted	<u>10.80</u>	<u>1.45</u>
<b>Total Income</b>	<b>31,201.80</b>	<b>20,001.45</b>
<b>EXPENSES</b>		
Advertising & Promotion	258.18	212.00
Assets Purchased	1,582.00	0.00
Bank Fees	0.00	6.06
<b>Client Support Services</b>		
CSS Project Co-ord/Manag	25,264.00	18,090.00
<i>Total Client Support Services</i>	25,264.00	18,090.00
Computer Expenses	2,925.00	500.00
Insurance	547.96	484.65
Meetings Expense	300.00	339.40
Membership fees paid	0.00	45.45
Postage, Freight & Courier	145.00	125.89
Printing & Stationery	16.82	0.00
Sundry Expenses	(0.35)	50.00
Telephone, Fax & Internet Exp	<u>151.76</u>	<u>197.55</u>
<b>Total Expenses</b>	<b>31,190.37</b>	<b>20,051.00</b>
<b>Net Surplus / (Deficit)</b>	<b><u>11.43</u></b>	<b><u>(49.55)</u></b>



**ANGAS BREMER WATER MANAGEMENT COMMITTEE INC.**

**STATEMENT OF FINANCIAL POSITION**

**FOR THE YEAR ENDED JUNE 30, 2022**

	<b>2022</b>	<b>2021</b>
<b>CURRENT ASSETS</b>	<b>\$</b>	<b>\$</b>
Cash at Bank (Unrestricted)	12,347.34	10,460.06
Accounts Receivable	0.00	1,650.00
Prepayments	151.76	0.00
<b>TOTAL CURRENT ASSETS</b>	<b>12,499.10</b>	<b>12,110.06</b>
<b>TOTAL ASSETS</b>	<b>12,499.10</b>	<b>12,110.06</b>
<b>CURRENT LIABILITIES</b>		
Accounts Payable	3,627.99	3,631.24
Accrued Expenses	1,317.92	0.00
GST Payable	0.00	150.00
Less GST Receivable	(318.91)	(322.85)
GST Clearing	(680.00)	111.00
<b>TOTAL CURRENT LIABILITES</b>	<b>3,947.00</b>	<b>3,569.39</b>
<b>NET ASSETS</b>	<b>8,552.10</b>	<b>8,540.67</b>
<b>EQUITY</b>		
Unexpended Funds as at July 1, 2021	8,540.67	8,590.22
Current Year Surplus (Deficit)	11.43	(49.55)
<b>Unexpended Funds as at June 30, 2022</b>	<b>8,552.10</b>	<b>8,540.67</b>

**ANGAS BREMER WATER MANAGEMENT COMMITTEE INC.**

**NOTES TO THE FINANCIAL STATEMENTS**

**FOR THE YEAR ENDED JUNE 30, 2022**

**NOTE 1: STATEMENT OF SIGNIFICANT ACCOUNTING POLICIES**

This financial report is a special purpose financial report prepared in order to satisfy the financial reporting requirements of the Associations Incorporation Act 1985 (SA). The Committee have determined that the Association is not a reporting entity.

This financial report has been prepared in accordance with the requirements of the Associations Incorporation Act 1985 (SA) and the following Australian Accounting Standards:

AASB 101 - Presentation of Financial Statements

AASB 108 - Accounting Policies, changes in accounting estimates and errors

AASB 110 - Events after the Reporting Period

AASB 1058 - Income of Not for profit entities

No other applicable Accounting Standards, Urgent Issues Group Consensus Views or other authoritative pronouncements of the Australian Accounting Standards Board have been applied.

The following material accounting policies, which are consistent with the previous period unless otherwise stated, have been adopted in the preparation of this financial report.

- a) **Accounting Method** - Accrual Accounting
- b) **Currency** - All values are presented in Australian Dollars
- c) **Measurement Basis** - The financial report is based on historical costs. It does not take into account changing money values, or, except where specifically stated, current valuations of non-current assets
- d) **Goods & Services Tax** - Revenue and expenses are recognised exclusive of the amount of GST
- e) **Plant & Equipment** - Plant and equipment is recorded as an expense for the reporting period.

**STATEMENT OF THE MANAGEMENT COMMITTEE OF  
ANGAS BREMER WATER MANAGEMENT COMMITTEE**

**In accordance with Section 35(2)(c) of the Associations Incorporations Act 1985, it is the opinion of the Members of the Committee that,**

- (a) The accompanying Statement of Financial Performance is drawn up so as to give a true and fair view of the operations of the Association for the year ended 30/6/22;
- (b) The accompanying Statement of Financial Position is drawn up so as to give a true and fair view of the state of affairs of the Association as at 30/6/22;
- (c) At the date of this Statement there are reasonable grounds to believe that the Association will be able to pay its debts as and when they fall due.

Signed in accordance with a resolution of the Committee

Signed:   
James Stacey, Chairperson

Signed:   
Justin Cleggett, Treasurer

Date: 17/8/22

Date: 17/8/22

**REPORT OF THE MANAGEMENT COMMITTEE OF  
ANGAS BREMER WATER MANAGEMENT COMMITTEE**

**In accordance with section 35 (5) of the Associations Incorporations Act, 1985 the Committee hereby states that during the financial year ended June 30, 2022:**

- (a) (1) no officer of the association;  
 (2) no firm of which an officer is a member; and  
 (3) no body corporate in which an officer has a substantial interest,

has received or become entitled to receive a benefit as a result of a contract between the officer, firm or body corporate and the association.

- (b) no officer of the association has received directly or indirectly from the association any payment or other benefit of a pecuniary nature.

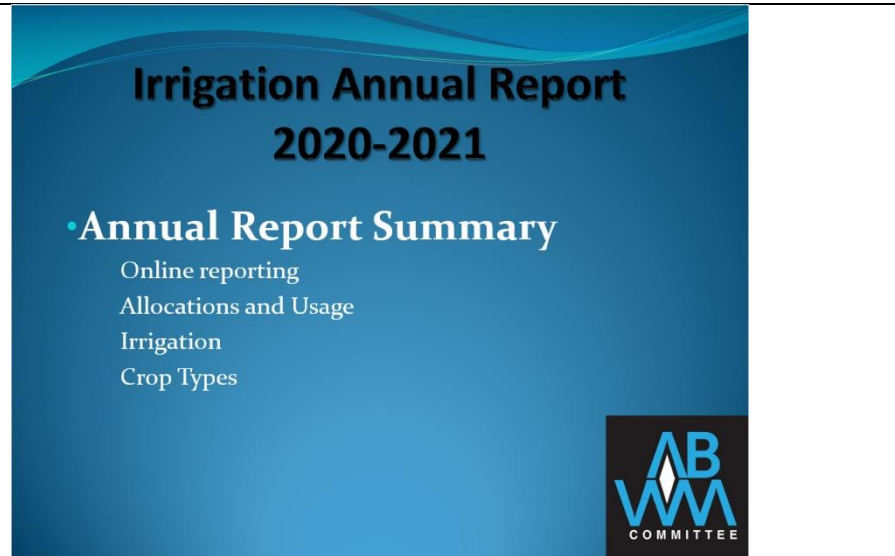
Signed in accordance with a resolution of the Committee.

Signed:   
 James Stacey, Chairperson  
 Date: 17/8/22

Signed:   
 Justin Cleggett, Treasurer  
 Date: 17/8/22


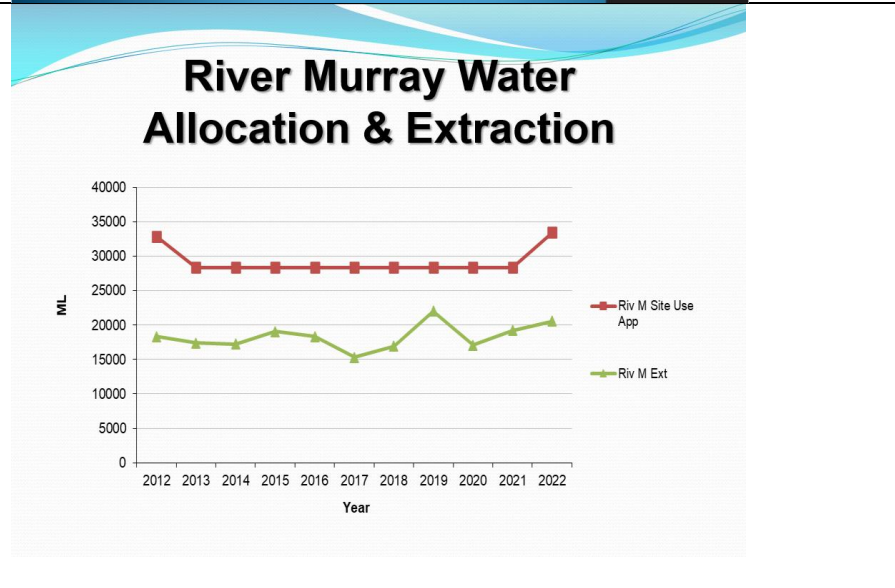
ANGAS BREMER WATER MANAGEMENT COMMITTEE INC.				
PROJECT INCOME, EXPENDITURE AND BALANCES				
FOR THE YEAR ENDED JUNE 30, 2022				
Project Name	Balance at June 30, 2021	Total Income	Total Expenses	Balance at June 30, 2022
ABIRA funds	7,570.30	0.00	0.00	7,570.30
Angas Bremer Water Management Committee Funds	970.37	10.80	-0.63	981.80
Irrigation Annual Reporting Project	0.00	27,191.00	27,191.00	0.00
MRLB Grant for new PC purchase	0.00	4,000.00	4,000.00	0.00
<b>Totals</b>	<b>8,540.67</b>	<b>27,201.80</b>	<b>27,190.37</b>	<b>8,552.10</b>

**Appendix A** – Angas Bremer Irrigation Management Zone 2021-2022 Interim Annual Report, Leah Hunter.



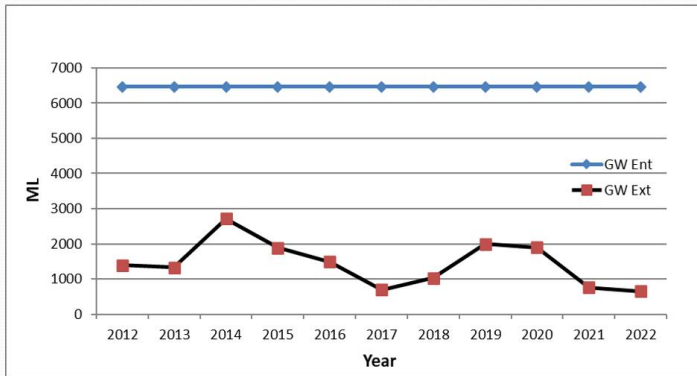
### On Line Reporting

- Thank you again to everyone who submitted their reports online and on time
- 105 reports submitted online (78%) of total reports due
- 124 (93%) reports received by accreditation date

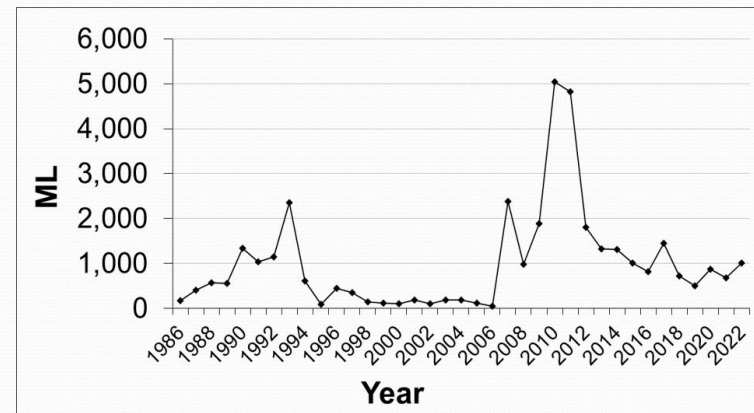





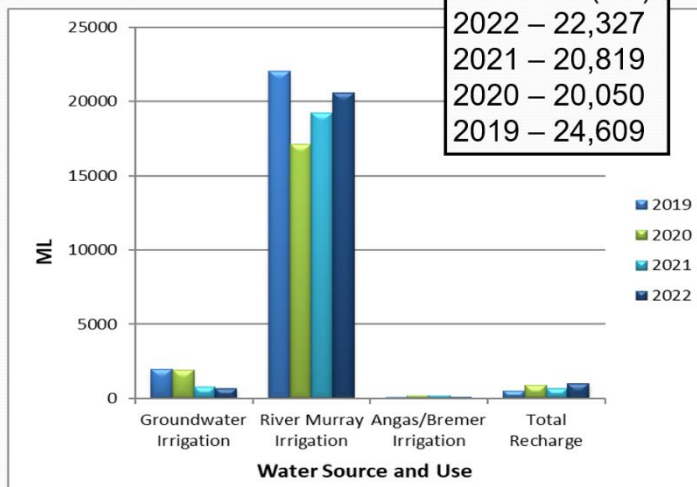
## Groundwater Allocation & Extraction



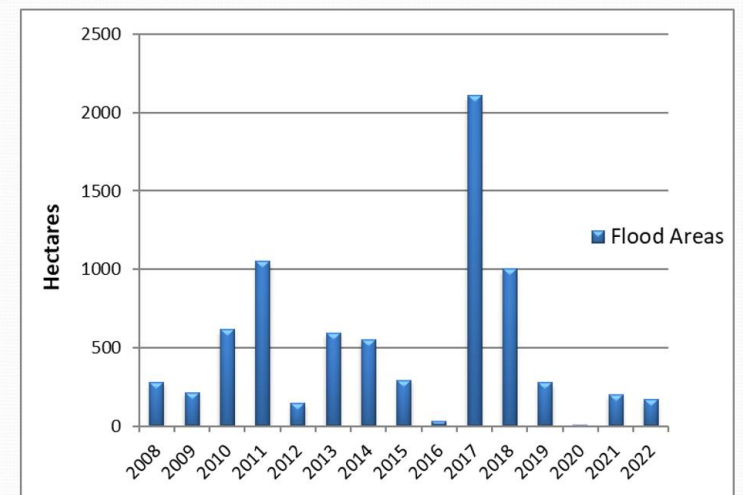
## Volume Recharged to Aquifer 1986-2022



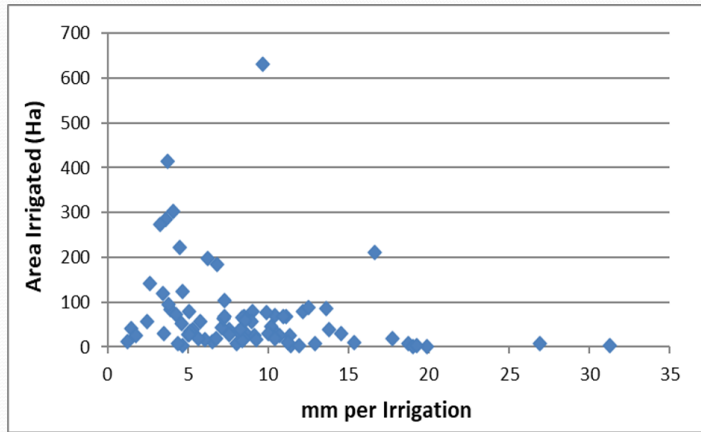
## Total Water Use



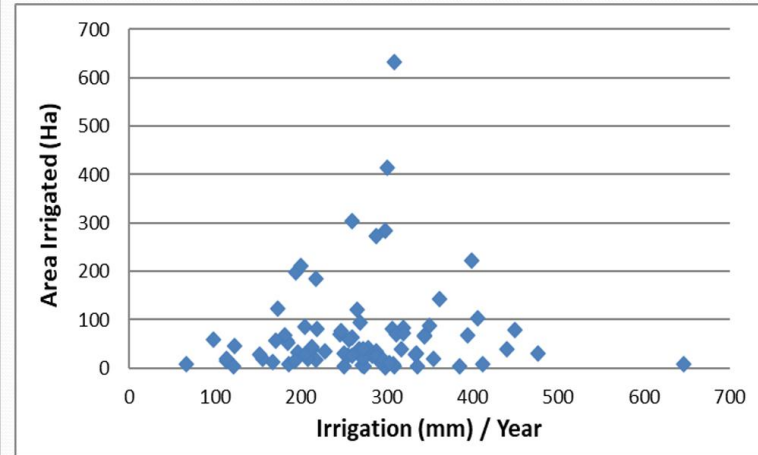
## Area Flooded



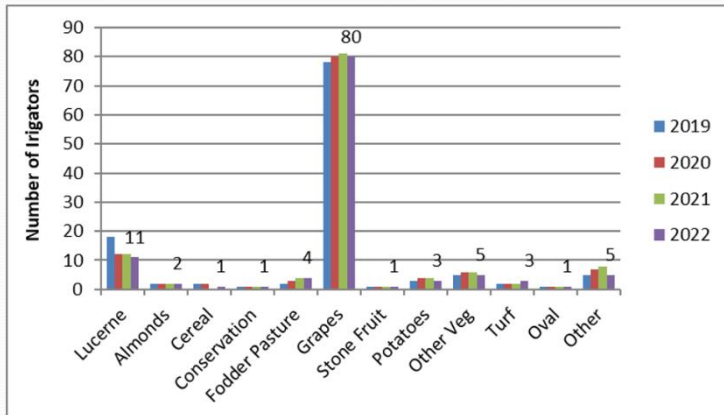
### Average mm per Irrigation for Grapes



### Total Yearly Irrigation for Grapes



### Number of Irrigators for Different Crops



### Full Annual Report

- All final graphs and further explanation in Annual Report due late December.
- Email will be sent out with a link to the report on the Angas Bremer Water Management Committee Website [angasbremerwater.org.au](http://angasbremerwater.org.au)



- Thank you to all the Angas Bremer Water Management Committee members.
- Thank you to both the Hills and Fleurieu and the Murrylands and Riverland Landscape Boards for continuing to fund the Annual Irrigation reporting process and for providing technical information to the committee.



## Financial Report

ANGAS BREMER WATER MANAGEMENT COMMITTEE INC.

### STATEMENT OF FINANCIAL PERFORMANCE

FOR THE YEAR ENDED JUNE 30, 2022

	2022		2021	
	\$	\$	\$	\$
<b>INCOME</b>				
Grants				
Grants (State) Op-Non Rec	31,191.00		20,000.00	
Total Grants		31,191.00		20,000.00
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Total Income		31,201.80		20,001.45
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Bank Fees		0.00		6.06
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CSS Project Co-ord/Manag	25,264.00		18,090.00	
Total Client Support Services		25,264.00		18,090.00
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Meetings Expense		300.00		339.40
Membership fees paid		0.00		45.45
Postage, Freight & Courier		145.00		125.89
Printing & Stationery		16.82		0.00
Sundry Expenses		(0.35)		50.00
Telephone, Fax & Internet Exp		151.76		197.55
Total Expenses		31,190.37		20,051.00
Net Surplus / (Deficit)		11.43		(49.55)

ANGAS BREMER WATER MANAGEMENT COMMITTEE INC.

### STATEMENT OF FINANCIAL POSITION

FOR THE YEAR ENDED JUNE 30, 2022

	2022	2021
<b>CURRENT ASSETS</b>	\$	\$
Cash at Bank (Unrestricted)	12,347.34	10,460.06
Accounts Receivable	0.00	1,650.00
Prepayments	151.76	0.00
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<b>EQUITY</b>		
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Current Year Surplus (Deficit)	11.43	(49.55)
<b>Unexpended Funds as at June 30, 2022</b>	<u>8,552.10</u>	<u>8,540.67</u>



# Appendix B – Inspector-General of Water Compliance Field Operations, Greg Burns, Loxton Field Officer.

## Inspector-General of Water Compliance

### Field Operations



- Our Field Officers
- Functions
- Compliance Responsibility
- Legislated Work Plan
- Priorities for 2021/2022
- Field Operations – The Role
- Organisational Chart



## Our Field Officers

- Situated throughout the Murray-Darling Basin.
- Selected due to their strong community connections within each region.
- Situated at Loxton, Mildura, Albury, Dubbo and [Goondiwindi](#)

3

## IGWC - Role and Function

Inspector General – Hon. Troy GRANT. Appointed August 2021.

Wide ranging powers similar to ICAC.

Inspector-General of Water Compliance



Regulate the Regulators

Function and Powers found in the Water Act part 9 and 10.

4

## IGWC – Functions

- The new statutory role of the Inspector-General of Water Compliance brings together the Commonwealth's responsibilities into a single statutory office.
- The Inspector-General has the compliance and enforcement functions previously held by the Murray-Darling Basin Authority.
- The Inspector-General of Water Compliance has regulatory powers under Commonwealth law.
- The Inspector-General is able to work across the whole Basin to strengthen compliance, increase transparency and improve trust.
- The Inspector-General will provide independent oversight and monitoring of Commonwealth and Basin state compliance.
- A key priority for the Inspector-General is to encourage greater consistency in the guidelines and standards across the Basin—so all water users are held to the same high bar. To do this, the Inspector-General will have new powers to make guidelines and standards, which will help build greater consistency across the Basin.



## Compliance Responsibilities

- Monitoring and auditing of water resource plan compliance.
- Investigating and enforcing non-compliance with sustainable diversion limits and assurance of Basin state compliance and enforcement frameworks, through audits and investigations.
- Supporting the development and implementation of standards and methods to improve the accuracy of water measurement to increase the transparency of water take across the Basin.
- Enforcing compliance with the Basin Plan water trading rules.
- Monitoring and reporting on the requirements of the Basin Plan and water resource plans related to the protection of planned environmental water.



## Legislated Work Plan

The Water Legislation Amendment (Inspector-general of Water Compliance and other measures) Act 2021 mandates the work plan.

Division 2 – Annual Work Plans

215E Inspector-General must prepare annual work plan

- 1) The Inspector-General must prepare a work plan, in writing, for each financial year.
- 2) The work plan for a financial year must set out the key outcomes and priorities for the Inspector-General for the financial year.
- 3) A work plan for a financial year is not a legislative instrument.
- 4) The Inspector-General must publish the work plan for a financial year on the Inspector-General's website or the Department's website as soon as practicable after it has been finalised.



## Priorities for 2021/2022

- 1) To assess whether the compliance and accounting approaches adopted by each Basin government are effective in responding to water theft and accountability.
- 2) Oversight of water metering and floodplain harvesting measurement reforms.
- 3) Scrutinising increasing groundwater use.

## Priorities for 2022/2023

- 1) Trade Enforcement
- 2) Water Resource Plan compliance
- 3) Building trust and confidence

### 1. Water Trade Enforcement

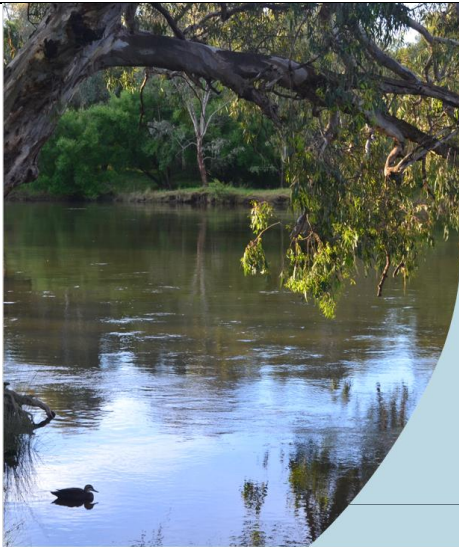
The healthy operation of the water market relies on transparent, accurate and timely reporting of data. Water market compliance and enforcement are predominantly the domain of Basin states, however the Inspector-General has a limited role to enforce rules within the Basin Plan. The ACCC's final inquiry report demonstrated that significant improvements are needed across all aspects of water market regulation and a concerted effort is required by all levels of government and regulators.

### 2. Water Resource Plan Compliance

The healthy operation of the water market relies on transparent, accurate and timely reporting of data. Water market compliance and enforcement are predominantly the domain of Basin states, however the Inspector-General has a limited role to enforce rules within the Basin Plan. The ACCC's final inquiry report demonstrated that significant improvements are needed across all aspects of water market regulation and a concerted effort is required by all levels of government and regulators.

### 3. Building Trust and Confidence

The Inspector-General has heard, time and time again when speaking with and listening to the community, trust and confidence across the Basin are recognised as being fundamental challenges in relation to water compliance, and water management more broadly.



## Field Operations – The Role

### Where do Field Operations fit in?

- The primary objective of the Field Officer is to act as a conduit between stakeholders living and working in regional basin localities, the IGWC and in turn the Federal Water Minister.
- These stakeholders will include irrigators, farmers, Government Department representatives (State, Federal and local) peak bodies, First Nation Peoples and community groups.
- Engagement with the above-mentioned groups will be solution focused, ensuring that the role of the Field Officer is to listen without bias, while also ensuring that evidence-based facts are made available to the basin community.
- The gathering of information from the differing sources needs to be value added through thorough research and channelled into the differing sections within the IGWC office to assist in meeting the goals as set out in the office work plan.

## Key Responsibilities

The Inspector-General, and the Inspector-General of Water Compliance (the Office), is responsible for:

- Holding Commonwealth and Basin State agencies to account for their performance of water management obligations under the Water Act and implementation of commitments set out in relevant agreements
- Monitoring and enforcing compliance with water management obligations under the Water Act, the Basin Plan 2012 (the Basin Plan) and Water Resource Plans accredited in accordance with the Water Act and Basin Plan
- Communicating and engaging with the Australian community about water management in the Basin; that is, who is responsible for what in the Murray-Darling Basin (the Basin) and how they perform in relation to their water management obligations under the Water Act.

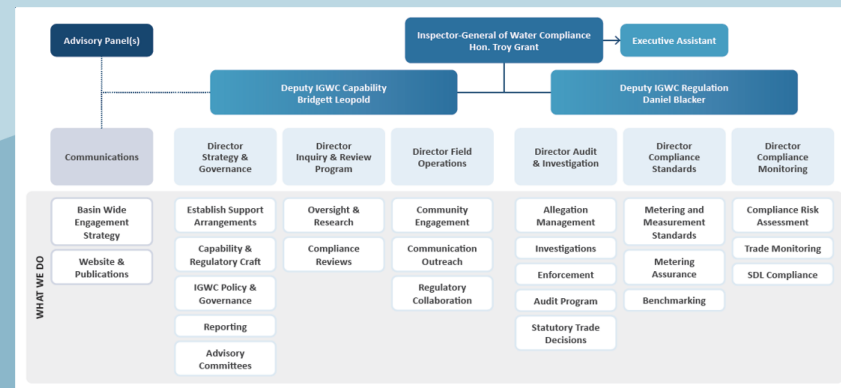
# Key Responsibilities

However, the Inspector-General is only one of the regulatory agencies with responsibilities around water management in the Basin.

This means the Inspector-General does not:

- Make, or implement, policy or make regulations relating to water management in the Basin (this is the responsibility of Basin States and relevant federal agencies)
- Regulate how water is used in the Basin
- Make water allocations (this is the responsibility of Basin States)
- Operate the rivers (this is the responsibility of the MDBA and Basin States)
- Act as a front-line compliance regulator, except in relation to compliance with the water trading rules.

# Organisation Chart



# Thank you!

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 Research Centre, Loxton  
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**Appendix C** – Upcoming Review of the Eastern Mount Lofty Ranges Water Allocation Plan, Tom Mowbray, Senior Water Planner.

**Upcoming Review of the Eastern Mount Lofty Ranges Water Allocation Plan**



**First:**

**HF Action Items from Last ABWMC Annual Public Meeting**



***Will the nutrients in 'Class A' water affect the fish coming upstream to breed?***

*This response is informed by a discussion with a fish ecologist from DEW and an environmental scientist from the EPA.*

- In the opinion of both professionals, current inputs of recycled water (higher volumes during winter) presents minimal risk to flora and fauna. The limits imposed by the EPA are regulated through license conditions. These limits are informed by significant research which looks at a wide range of environmental data. Water quality thresholds are set so that releases of Class A water will not adversely affect native plants and animals or affect migratory behaviour.
- Water quality risks are elevated when environmental conditions are drier. The concentration of water in permanent pools during the cease-to-flow period is such a time. Whilst the risks are elevated at these times, the EPA believes that controls on the quality of Class A water releases are sufficient to manage risks to water dependent species.
- Native fish in general have adapted to be reasonably tolerant of poor water conditions. Inputs of recycled water are not expected to impact their movements. Water availability across the catchment, more generally, is a much more significant in terms of influencing how fish can migrate within the catchment.

***Take Rules trigger levels affect how much flood water can be taken upstream from Ballandown Road.***

*By the time the water gets to the Ballandown Road monitoring stations the flows upstream have often changed and are more of a pulse, reducing the amount of water available to flood irrigators. The further upstream the more exaggerated the pulse is.*

There is a piece of scientific investigation needed to examine this properly – we'll definitely include this as an issue in the Review and look carefully at the rules during the Amendment.



## Reinstatement of water level monitoring station at Langhorne Creek Bridge

- Data streams:

- Bremer at Langhorne Ck

<https://water.data.sa.gov.au/Data/DataSet/Chart/Location/A4261102/DataSet/Discharge/Best%20Available/Interval/Custom/2022/08/17/2022/08/25>



## Upcoming Review of the Eastern Mount Lofty Ranges Water Allocation Plan



## Water Allocation Plans – what they do

- Manage native water resources – groundwater and surface water
- Set limits for water take – main tool
- Trade rules
- Water affecting activity rules – e.g. rules around dams and new bores
- Monitoring plan

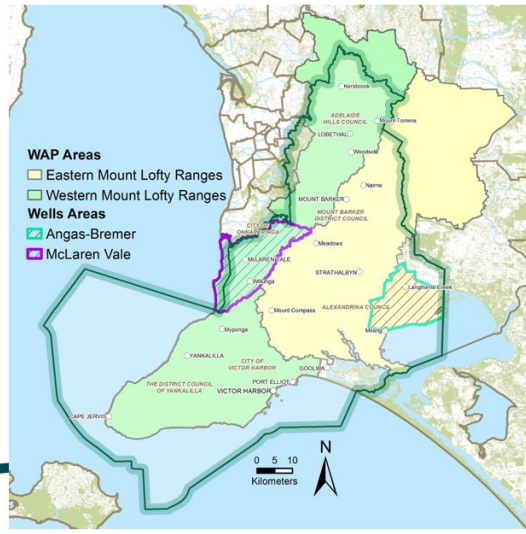


## Water Allocation Plans – why have them?

- Makes sure that you leave some water for your neighbours (and your neighbours leave some water for you)
- So that the environment gets a share – protect the native fish
- Rules to manage impacts around bores, dams and what you can build in a watercourse
- Part of the licensing system which protects water rights (an asset)

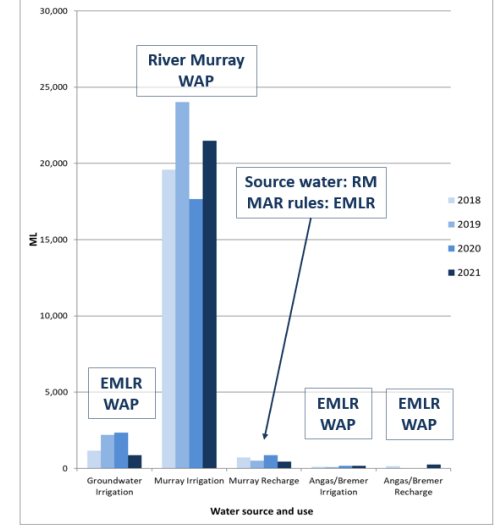


# Hills and Fleurieu Region



# Water resources used in the Angas Bremer

- EMLR review due end of 2023,
  - engagement starting Feb 2023
- River Murray review due 2027

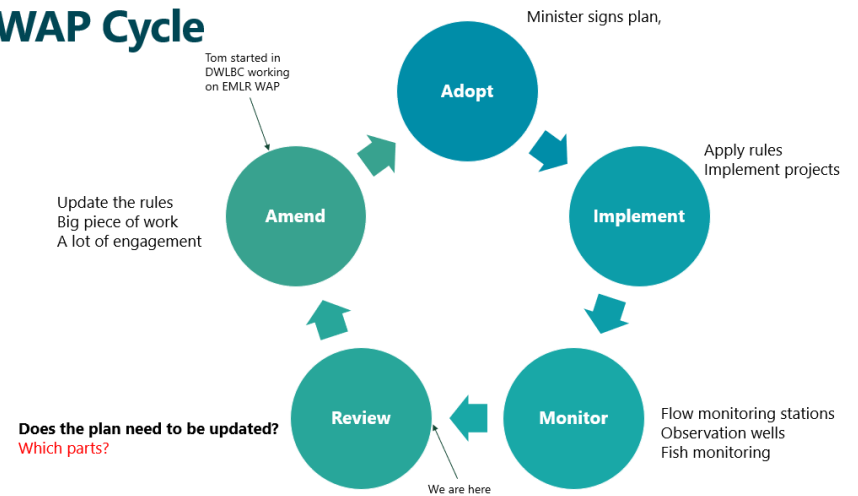


# EMLR WAP Review - Angas Bremer

- Some of the rules set out in the EMLR WAP:
  - Allocation limits for surface water and groundwater
  - Rules about dams (e.g. returning low flows)
  - Some rules about when water can be taken e.g. Lower Angas Bremer Allocation Rules
  - Revegetation rules (avoid water logging)
  - Transfer rules (same catchment, avoid concentrating GW take)



# WAP Cycle



# Review vs Amendment

## REVIEW (Evaluation)

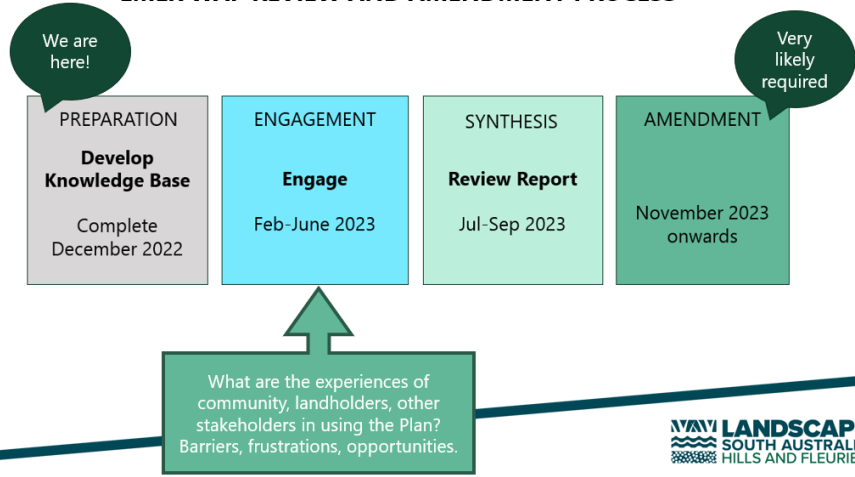
- Due Sept 2023
- How are things going?
- Do we need to make changes, if so where?

## AMENDMENT (Making changes)

- This is where we work out what needs to be done to manage the issues identified in the Review
- A lot of science and talking to make sure we get the balance right



# EMLR WAP REVIEW AND AMENDMENT PROCESS



# Review Engagement

ENGAGEMENT

**Engage**

Feb-June 2023

Engage with as many landholders, communities and stakeholders as possible in this period.

Want to make sure that we understand what all the issues are and their relative importance.

We'll be coming and talking to you Feb – June



# Questions for you

- Suggestions about who we need to talk to?
- What are the important issues we need to include in the review?

