

Yarram WSPA Groundwater Management Plan Annual Report

2018-19

Foreword

This report is submitted to the Minister for Water and West Gippsland Catchment Management Authority in accordance with s32C *Water Act 1989*. A copy of this report is available for inspection at the offices of the Authority, and notice of report availability of the report will be published as required by s32D of the *Water Act 1989*.

The purpose of this report is to detail Authority activities administering and enforcing the management plan, and provide information that is required to be reported under the Plan.

Area Summary

Area	Yarram Water Supply Protection Area
Segment	Groundwater
Area Declared	4 November 2002
Plan Approved	14 October 2010
Permissible Consumptive Volume	25,690 ML
Scheduled Plan Review	A review commenced in 2017 and remains underway.
Implementation Authority	Southern Rural Water
Relevant CMA	West Gippsland Catchment Management Authority
Report Period	1 July 2018 – 30 June 2019

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1 Executive Summary

The Yarram Groundwater Management Plan (GMP) was prepared under Division 3 Part 3 of the *Water Act 1989* for the Yarram Water Supply Protection Area (WSPA) and relates to the groundwater resources of the protection area. The Yarram GMP was approved by the Minister for Water in October 2010.

The objective of the management plan is to make sure that the water resources of the area are managed in an equitable manner so as to ensure the long-term sustainability of those resources.

Southern Rural Water (SRW) is the authority responsible for managing and administering the plan, which includes the preparation of an annual report to demonstrate compliance. The annual report summarises licence information, metered usage and monitoring data collected for the reporting period in accordance with the requirements of the Yarram GMP.

The Yarram GMP Annual Report for 2018-19 demonstrates that SRW has complied with the requirements of the plan.

Monitoring and metering indicate no significant changes in the condition of the resource or water usage patterns, therefore, it is considered that the groundwater resources of the Yarram WSPA are being managed sustainably.

SRW is currently undertaking a review of the GMP. In order to inform this review SRW has undertaken a survey of groundwater licence holders in the Yarram WSPA and adjacent areas. The survey results confirm that the current GMP is working well, however some licence holders would like greater trading opportunities, including between the adjacent Stratford groundwater management area. Future opportunities to improve trade will continue to be considered by SRW, including as part of the review process.



HUGH CHRISTIE
Manager Groundwater & Rivers

2 Introduction

This report summarises licence information, metered usage and monitoring data collected for the period between 1 July 2018 and 30 June 2019 in accordance with the requirements of the Yarram GMP.

The Yarram WSPA is located south of the Strzelecki Ranges and includes the on-shore area of the Gippsland Basin. This is a relatively small component of the whole Gippsland Basin but covers an area where groundwater is extracted primarily for irrigating pasture in Yarram and surrounding districts. The Yarram WSPA also incorporates forested areas along the Strzelecki Ranges comprising State Parks or plantation forestry.

The WSPA includes the aquifers in the Latrobe Group and the shallower Balook Formation which are the main sources of water used for irrigation. The Latrobe Group and Balook Formations are in hydraulic connection. From Woodside to Golden Beach, the Latrobe Group is much deeper, underlying the Gippsland Limestone and Boisdale Formations. These aquifers are overlain by the Haunted Hills Formation: a shallow unconfined aquifer, incised by local streams. It is low yielding and generally poorer quality than the other aquifers and is typically suitable for stock watering and dairy wash purposes.

SRW has the duty of administering and enforcing the management plan.

The objective of a management plan, as set out in the Act, is to make sure that the *water resources of the area are managed in an equitable manner to ensure the long-term sustainability of those resources.*

The management plan includes measures to ensure the long-term sustainability of groundwater resources by setting limits on licensed entitlements and by defining trading rules.

The plan requires SRW to:

- Coordinate groundwater level monitoring and metering programs;
- Review monitoring and metering data;
- Administer groundwater licensing within the prescriptions of the plan;
- Review and report annually to the Minister administering the Water Act 1989 on the implementation of the plan;
- Undertake a review of the plan after 5 years and if, in its opinion, amendments are necessary or desirable, make recommendations to the Minister accordingly.

The success of the Yarram GMP is measured through a number of licensing, metering and monitoring objectives. These include:

- All consumptive use to be metered and recorded in line with both State Government and Corporation metering policies;
- Groundwater usage is to be maintained within licence volumes;
- Water levels and water quality (salinity) is to be monitored to maintain acceptable levels and to ensure the long term sustainable use of the aquifer(s);
- Transfer of existing licences occurs in accordance with all relevant provisions of the Water Act 1989 and/or any supplementary rules adopted for the Yarram WSPA;
- No new groundwater licences will be issued if the total of all groundwater licence entitlements would exceed the PCV declared for the Yarram WSPA, unless in accordance with prescriptions 3 & 4.

Further information can be obtained from the Yarram WSPA Groundwater Management Plan. A copy can be found on Southern Rural Water's website: www.srw.com.au.

3 Key Observations

3.1 Rainfall

Rainfall during the reporting period was 460.4mm (measured at Yarram Airport).

The average rainfall for this area is 732mm per year (which is measured at Yarram).

This area received approximately 260mm below the average for the reporting year. This has contributed to a significant increase in the use of groundwater in the area?

3.2 Water Levels/flows

Groundwater levels are measured in thirteen (13) bores, monitoring the Haunted Hills, Latrobe Valley Coal Measures, and Latrobe aquifers.

The location of observation bores in the area are shown below in Figure 1

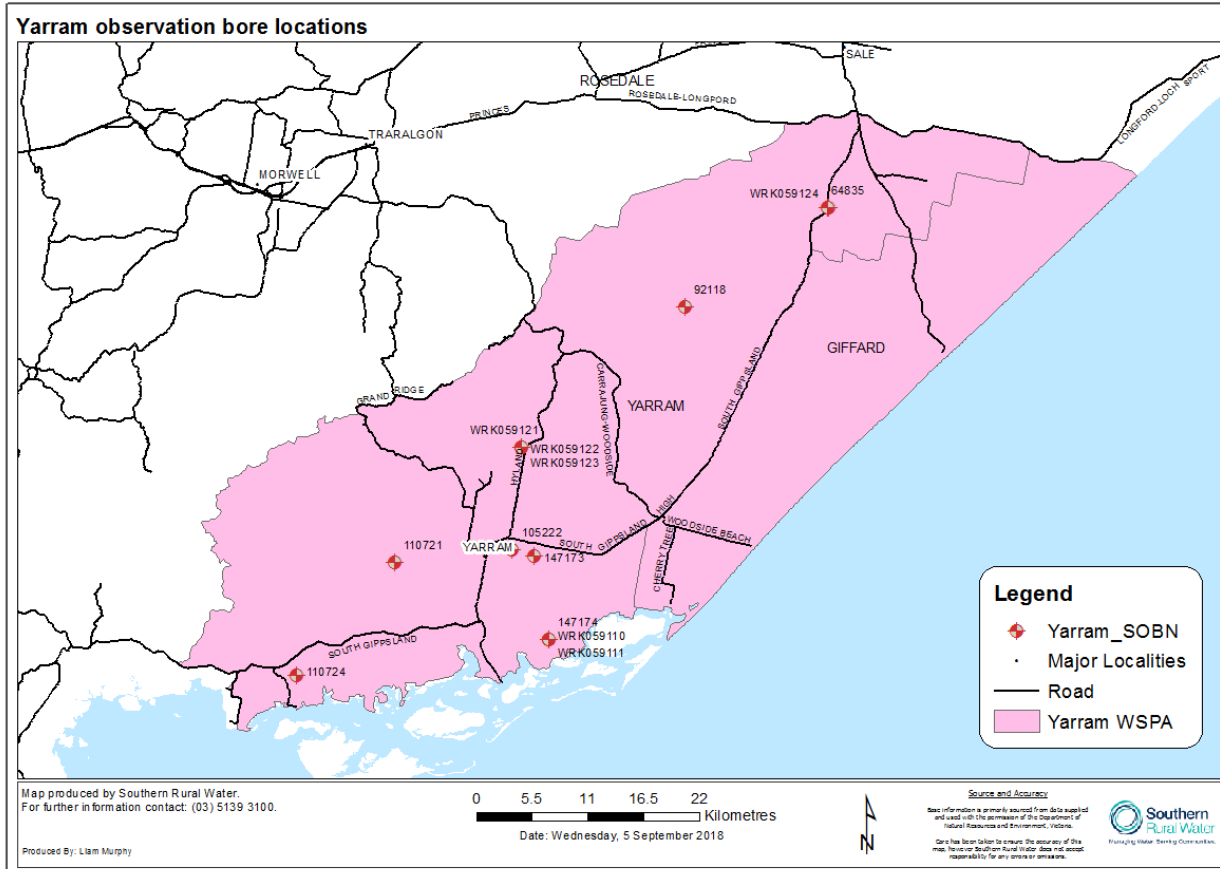


Figure 1: Map showing State Observation Bore locations.

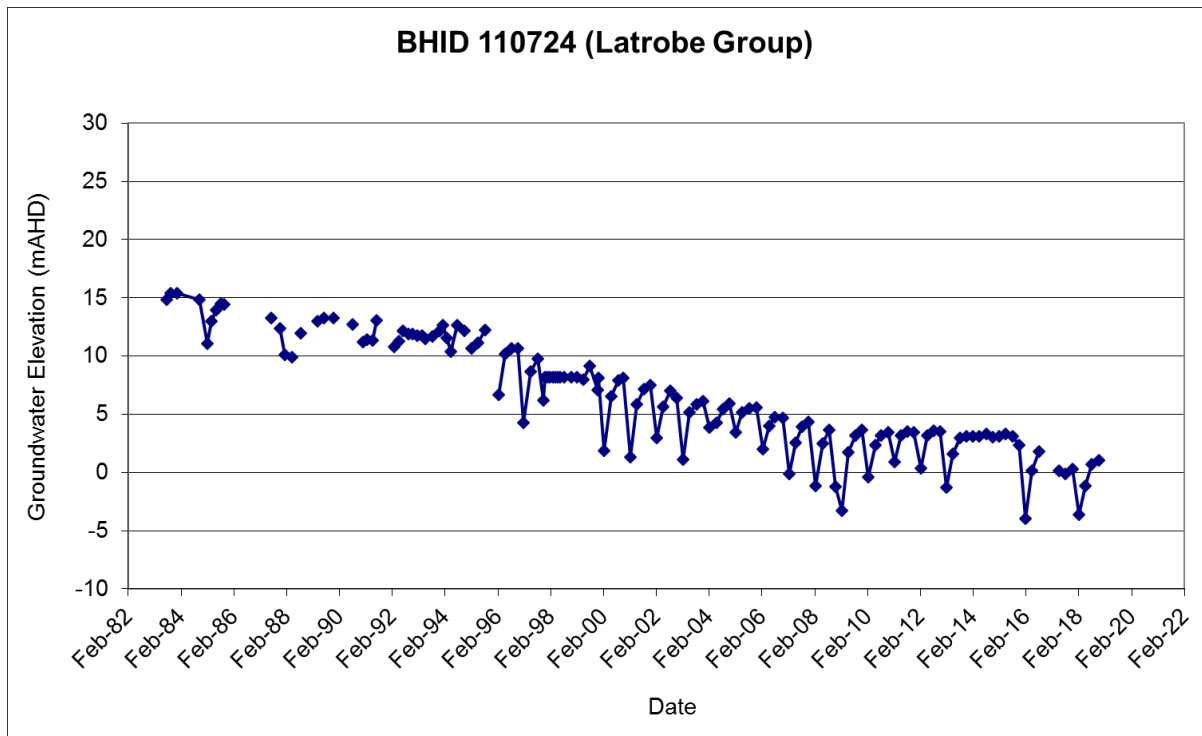


Figure 2: Example hydrograph

All hydrographs are presented in appendix 1.

The groundwater elevation data indicates that:

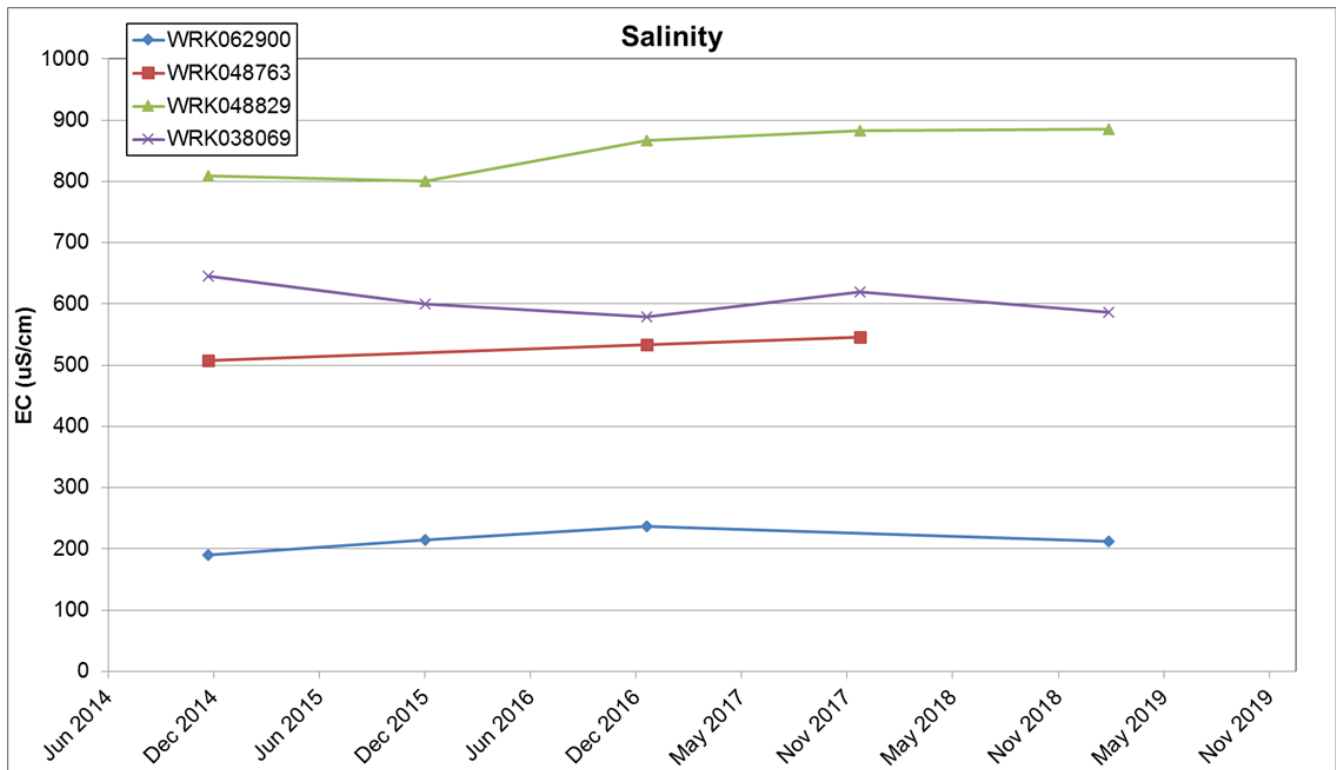
- Groundwater levels in the Latrobe aquifer are primarily influenced by offshore extraction, with a secondary influence from localised groundwater pumping. Levels have been falling steadily by up to 1 metre per year since at least the early 1980's. The impacts of this on users will continue to be monitored.
- Some seasonal variance can be seen in bores 105222 and 110724, where groundwater extraction is concentrated. This extraction does not seem to influence the overall behavior of the aquifer.

3.3 Salinity / Water Quality

One of the key drivers for monitoring salinity in the plan was the potential of saline intrusion into the aquifer, as well as broader resource management issues.

A monitoring program was set up in 2014 to take salinity measurements every twelve months from the same four private irrigation bores in Yarram.

Salinity is stable in three of the four bores. Bore WRK048763 is increasing trend over time, however the quality of this water is still very good, with no indication of issues from saline intrusion. This site was not sampled this year due to OH&S issues with collecting a sample. SRW are considering options for future sampling events at this site.



3.4 Water Use

The following table provides detail on water use in the 2018-19 year as compared to four previous years.

At 30 June	2015	2016	2017	2018	2019
No. of licences	86	87	86	89	83
Total allocated volume (ML)	25,688.8	25,688.8	25,688.8	25,688.8	25,687.6
No. of metered licences	59	57	55	56	56
Total allocated volume metered (ML)	25,038	25,038	25,022	25,034.2	25,304.2
Metered volume used (ML)	11,308.9	14,941	12,246.4	14,074.9	16,557.1
Use of allocation (%)	44%	58%	48%	55%	64%
No. of licences with use greater than allocation (refer to section 3.5)	0	3	1	1	1
Permissible Consumptive Volume (PCV)	25,690	25,690	25,690	25,690	25,690
Use as a % of PCV	44%	58%	48%	55%	64%
No. of D&S bores ¹	285	285	231	272	272
D & S bores estimated use ¹	428.0	428.0	347	408	408
Estimated D & S use from licenced bores ²	129	130.5	127.5	133.5	124.5

¹Taken from the Victorian Water Accounts

²Estimated 1.5ML per licence 2013 onwards

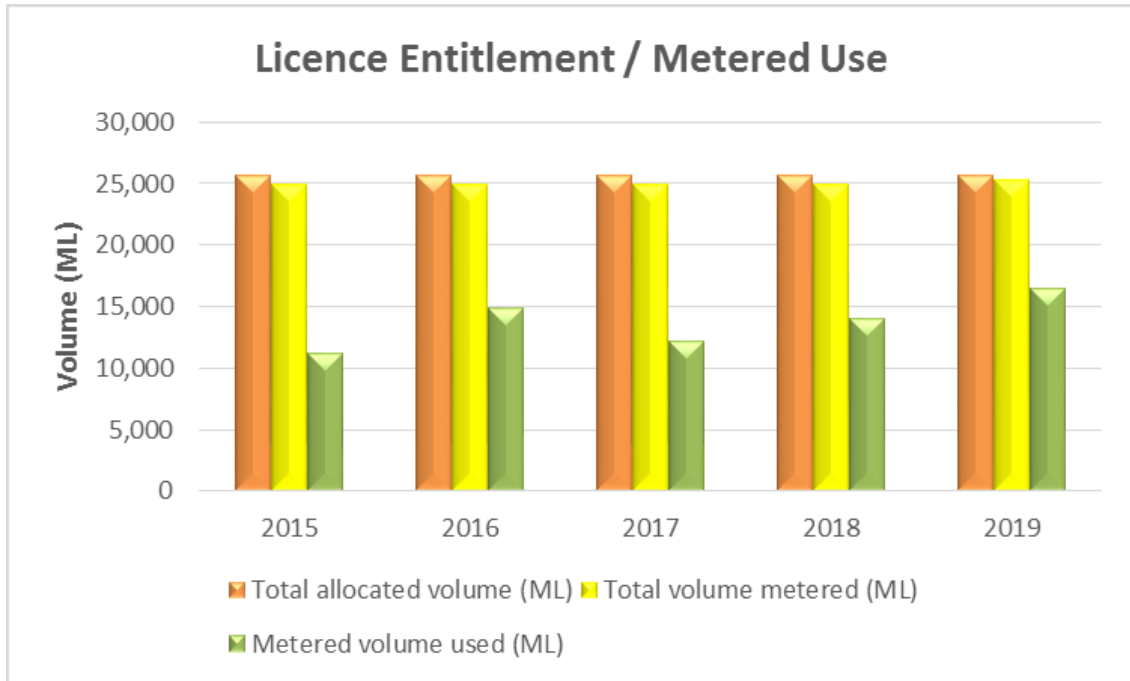


Figure 3: Licence allocation compared to metered volume and usage.

3.5 Non Compliance

SRW investigates all compliance issues and considers several factors such as the seriousness of the breach and impact on the resource and other users, prior to deciding on the most appropriate action. The action taken by SRW can include the use of direction notices, warning letters and prosecution

The following table lists the licences where water was taken in excess of licenced entitlement.

Licence Number	Licence Volume	Amount taken	Unauthorised take	Comments
BEE025450	130	137.4	7.4	Unauthorised take < 5% of licence volume therefore verbal warning given. Licence holder has history of compliance with licence volume.
Totals (ML)	130	137.4	7.4	

4 Plan Implementation

4.1 Monitoring

4.1.1 Prescriptions

The following table details the requirements of the management plan in relation to monitoring.

Plan Requirement:	Activity / Reference	Complies
<p>9. The Department must ensure that monitoring bores are properly maintained and replaced if necessary; and</p> <p>10. The Department and the Corporation must ensure that data collected from monitoring bores is entered into the groundwater management system.</p>	<p>The monitoring bores are owned and managed by the Department of Environment Land Water and Planning (DELWP)</p> <p>All bores have minor maintenance carried out annually which includes site clearance, rust removal, painting, and ensuring the bore is secure and safe.</p> <p>The DELWP carries out maintenance on bores that have been identified as needing maintenance following field inspections.</p>	<p>Yes</p> <p>Yes</p>
<p>11. The Department and the Corporation must ensure that water level monitoring and investigations are carried out at appropriate locations throughout the Yarram WSPA to:</p> <p style="padding-left: 40px;">a) assess annual and long term impact on water levels from groundwater pumping;</p> <p style="padding-left: 40px;">b) monitor saline intrusion</p> <p style="padding-left: 40px;">c) monitor regional and local seasonal drawdown;</p> <p style="padding-left: 40px;">d) examine interaction between groundwater, surface water and groundwater dependent ecosystems;</p> <p style="padding-left: 40px;">e) provide information for future resource assessments; and</p> <p style="padding-left: 40px;">f) monitor the impacts of groundwater pumping generally across the Yarram WSPA and in areas of intensive groundwater pumping.</p>	<p>SRW works closely with the DELWP to ensure that the monitoring program meets the requirements of the Plan.</p> <p>SRW regularly reviews the groundwater level program. (Covers section a, c, e and f)</p> <p>If SRW identifies bores of greater interest, monitoring may be undertaken in addition to the DELWP's monitoring program.</p> <p>Refer to section 3.3 for further information on points 11b.</p>	<p>Yes</p>

4.2 Metering

4.2.1 Prescriptions

The plan does not have specific prescriptions relating to metering.

Active licence holders in the Yarram WSPA are metered in accordance with State Government policy and SRW requirements.

All meters are read at least twice per year in December/January and May/June. The meter readings and usage data are recorded and stored in SRW's metering system and reported into the Victorian Water Register.

4.2.2 Metering activities

	Year to 30 June 2019	Total for WSPA at 30 June 2019
Number of licences issued ¹	0	83
Number of meters installed	0	89
Meters requiring maintenance	18 1 removed	
Meters replaced	1	
Meters read (1 – date)	Jan/Feb 2019	
Meters read (2 – date)	Jun 2019	
Number of estimated readings	0	

4.3 Restrictions on Licensing and Licence Transfers

4.3.1 Prescriptions

The following table details the requirements of the management plan in relation to licensing

Plan Requirement:	Activity/Reference	Complies
1. The Corporation must not approve an application for the permanent or temporary transfer of a licence under section 62 of the Act into the Coastal Zone.	Zero temporary transfer was processed within the Coastal Zone.	Yes
2. The Corporation must not approve an application for the permanent transfer of a licence under section 62 of the Act into the Central Zone.	Zero temporary transfers was processed within the Central Zone.	Yes
3. A new licence may be issued to overcome an administrative oversight or other anomaly or through a transfer of entitlement provided the PCV is not exceeded.	No activity to report.	Yes

4. The Corporation may issue or amend a groundwater licence in accordance with any state-wide policy and the PCV (by application to the Minister) will be adjusted accordingly.	No New licences have been issued	Yes
5. The volume of any groundwater licence that is surrendered, revoked or not renewed, cannot be reallocated other than for the purposes of Prescriptions 3 and 4.	One licence was surrendered.	Yes
6. No new licences are permitted in the Haunted Hills Formation. This applies to any applications to transfer into or within the Haunted Hills Formation. Exceptions may apply in accordance with Prescriptions 3 and 4.	No activity to report.	Yes
7. All groundwater licences within the Yarram WSPA will be migrated to the State Water Register within 6 months of ministerial approval of the Management Plan.	All licences are in the Water Register.	Yes
8. The Corporation must report the details of any licence referred to in Prescriptions 3 to 5 in the annual report on the administration and enforcement of the management plan required under section 32 of the Act.	No activity to report	Yes

4.4 Licensing Activities

The following table provides summary details of licensing activities.

Year to 30 June 2018	No.	Volume ML
New licences issued	1	0
Additional volumes on existing licences	0	0
Licences revoked	1	1.2
Permanent transfers	0	0
Temporary transfers	10	1386
D&S Bores notifying use	0	0

4.4.1 Compliance and Exceptions

Activities undertaken during the reporting period comply with the requirements of the Plan.

4.4.2 Issues Affecting Implementation

No issues to report.

5 Conclusions

The objective of a management plan, as set out in the Act, is to make sure that the *water resources of the area are managed in an equitable manner as to ensure the long-term sustainability of those resources.*

Monitoring and metering indicate no significant changes in the condition of the resource or water usage patterns compared to previous years. The steady decline in pressures resulting from offshore extraction is continuing, however there are no reports of bore or groundwater access issues.

SRW is currently undertaking a review of the GMP. In order to inform this review SRW has undertaken a survey of groundwater licence holders in the Yarram WSPA and in adjacent areas. The survey results confirm that the current GMP is working well, however some licence holders would like greater trading opportunities, including between the adjacent Stratford groundwater management area. Future opportunities to improve trade will continue to be considered by SRW, including as part of the review process.

6 Appendices

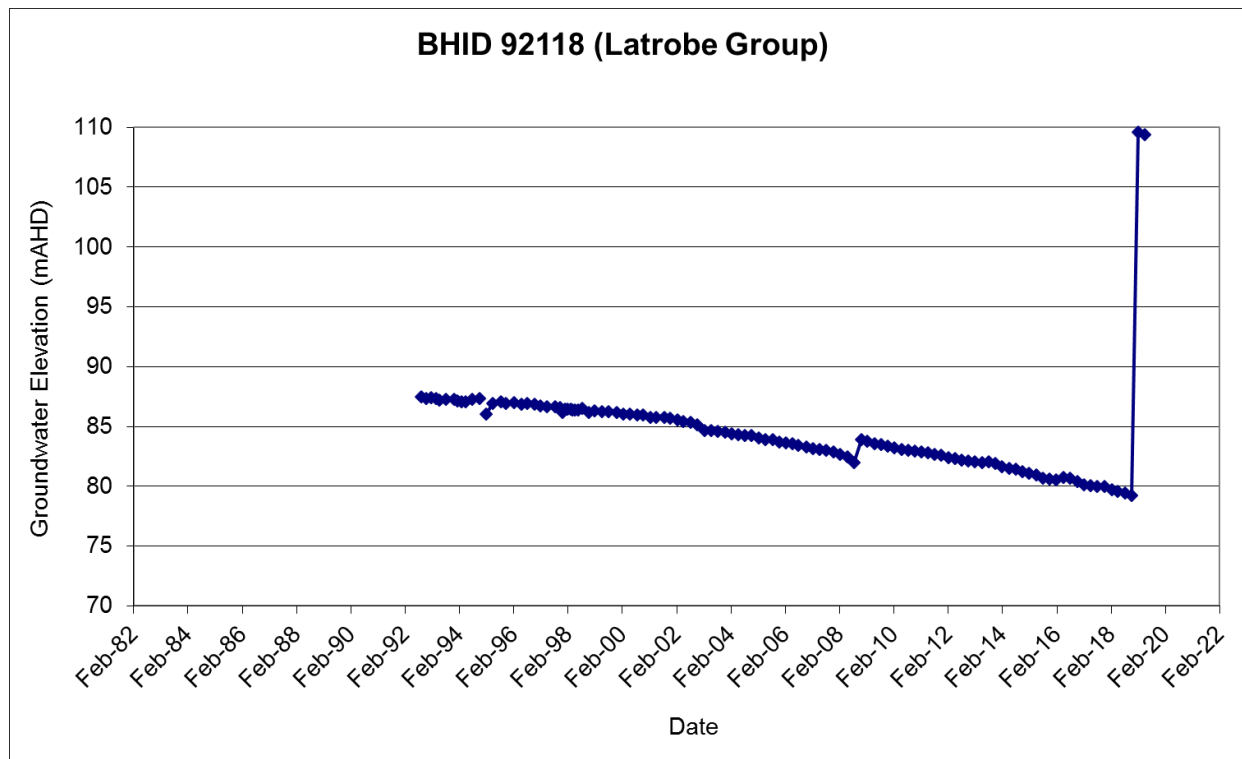
6.1 Licence Details

Entitlement Number	Application Type	Purpose	Previous Volume	Approved Volume
BEE026130	Surrendered	Dairy	1.2	0

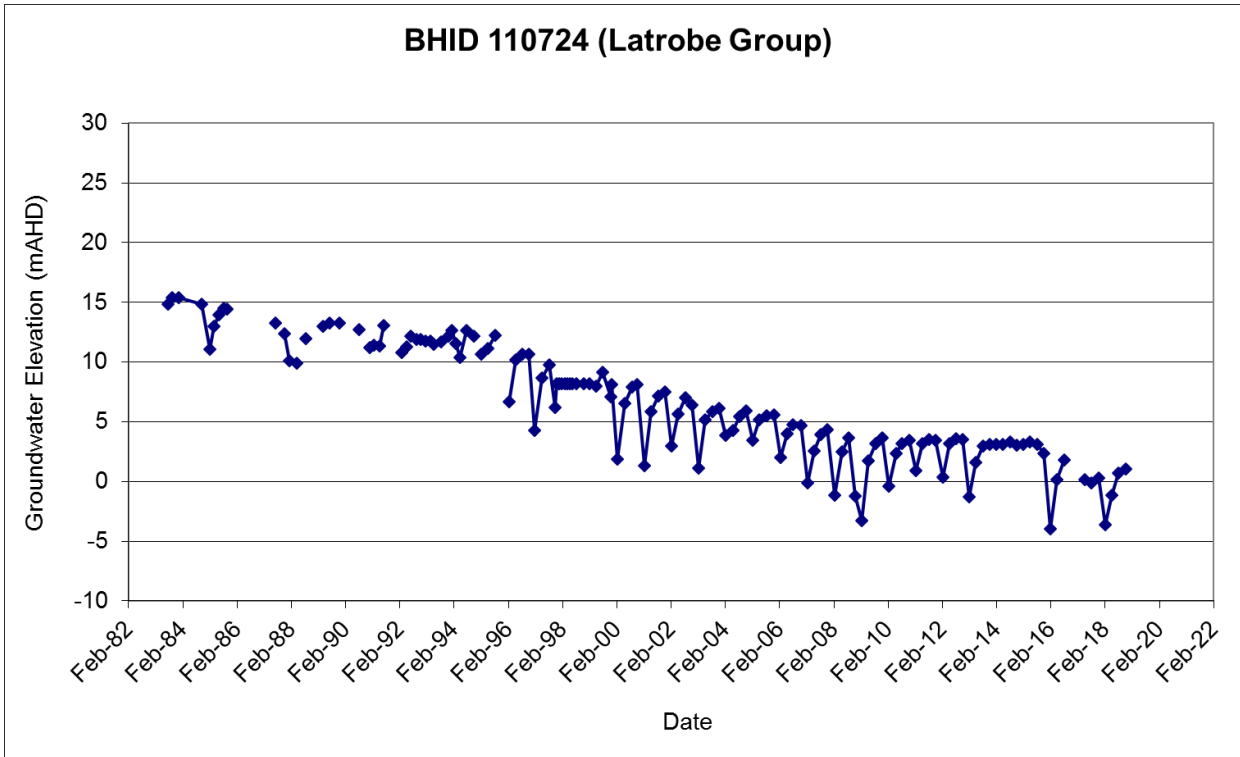
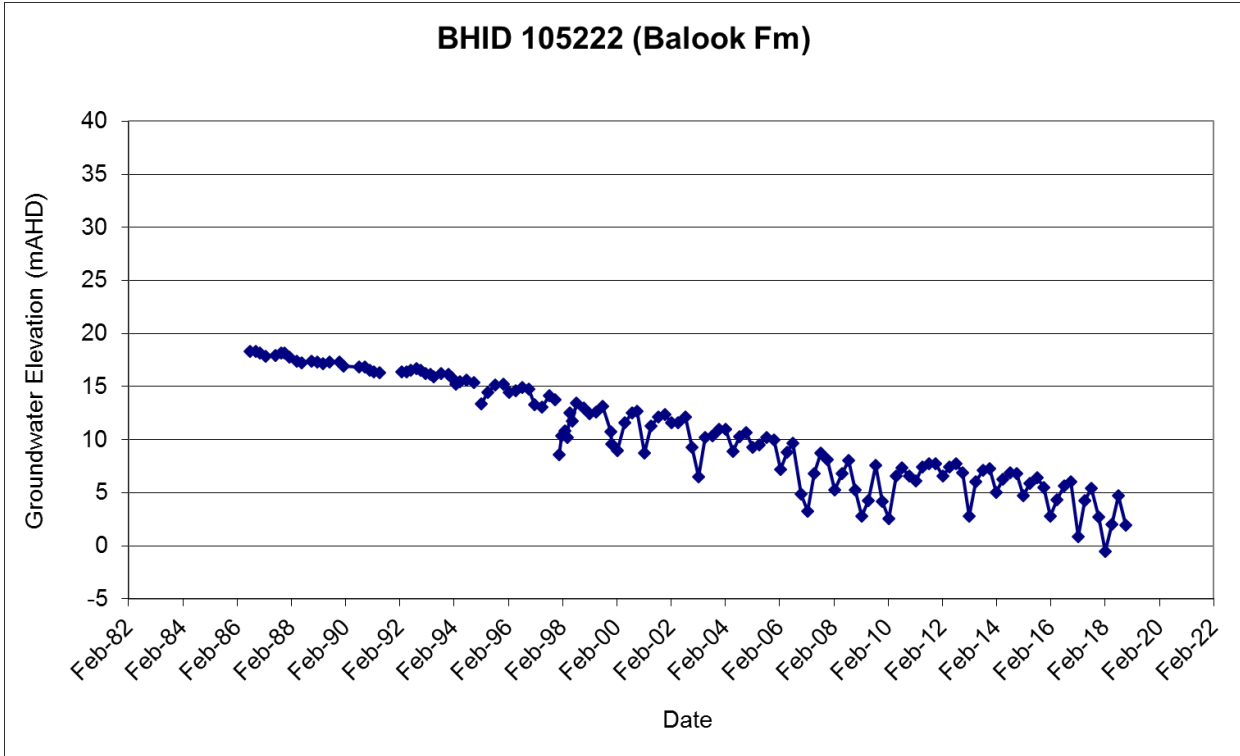
Water Trade details for the 2018-19 season can be found at:

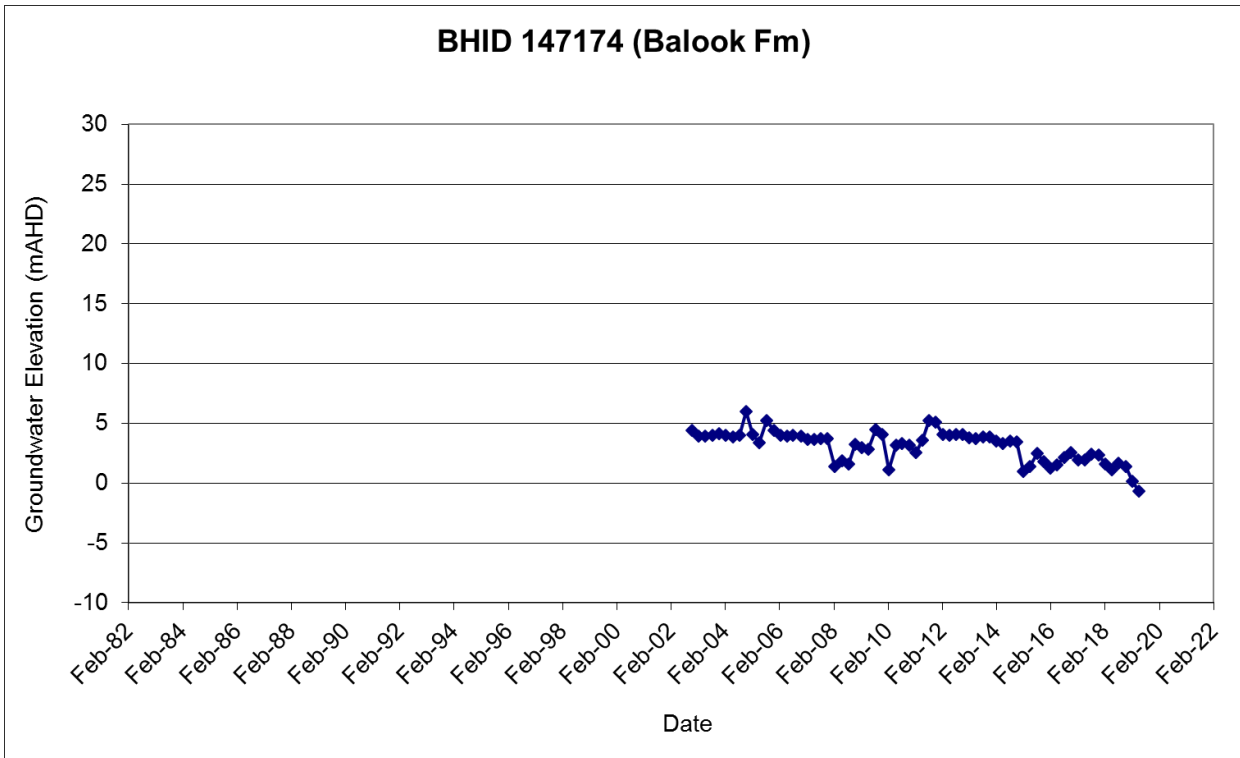
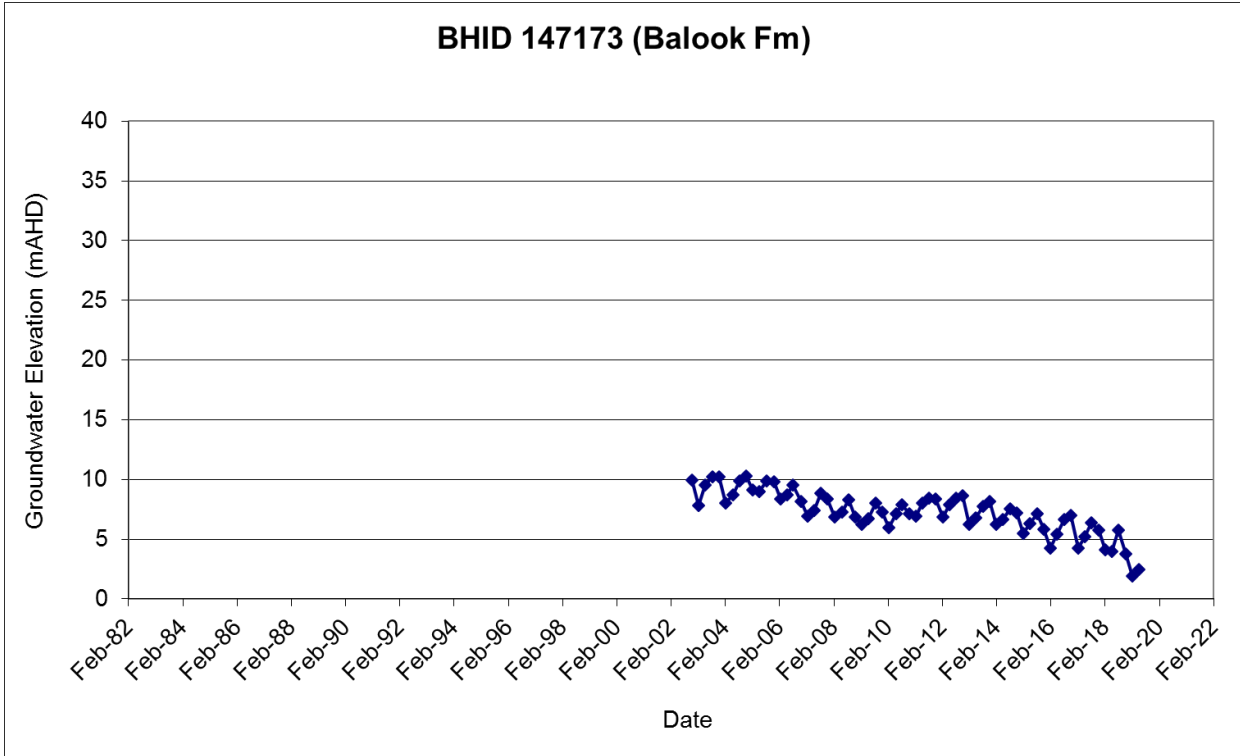
<http://waterregister.vic.gov.au/water-trading/take-and-use-licence-trading>

6.1.1 Appendix 1 - Hydrographs

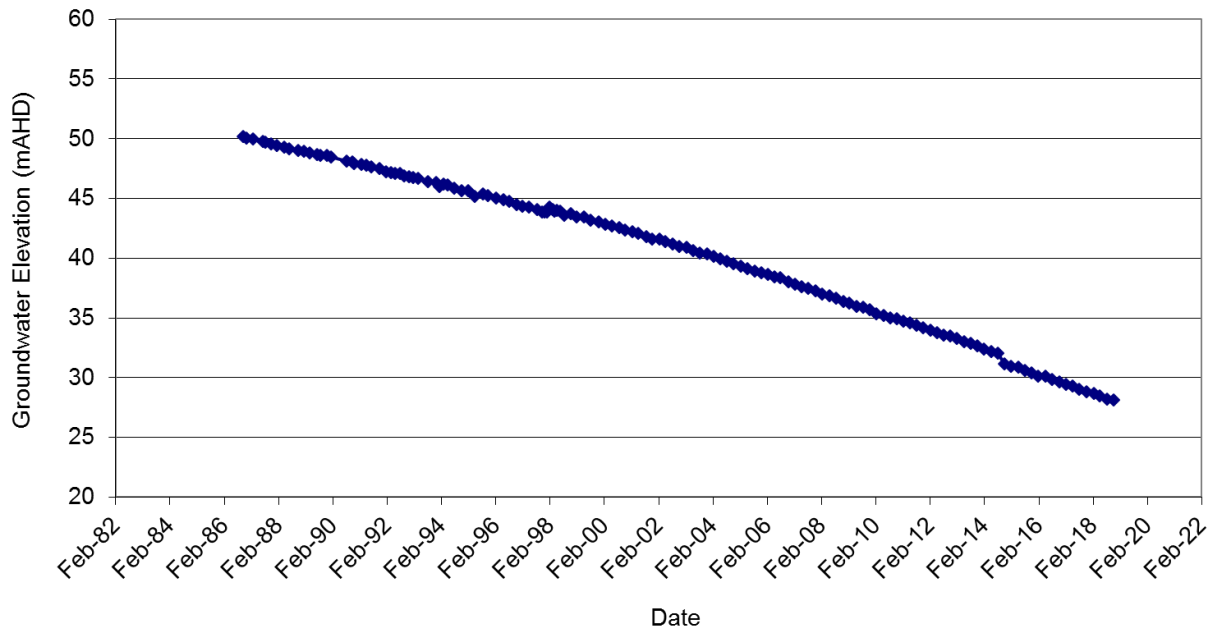


Note : the increase in pressures have been recorded following observation bore refurbishment.

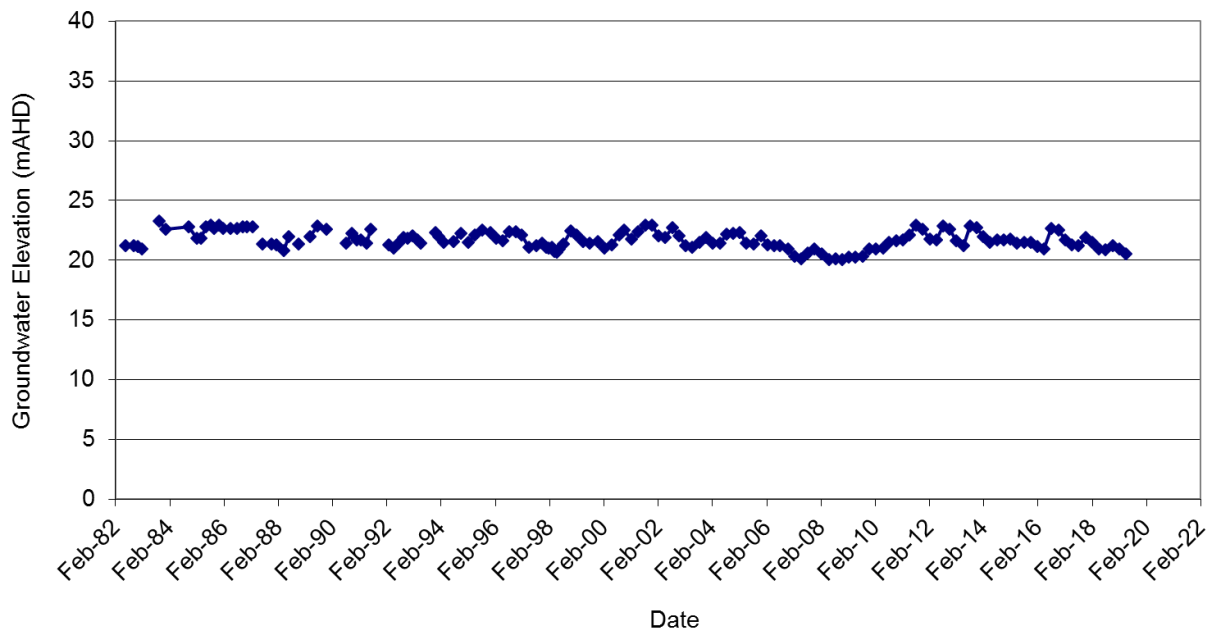




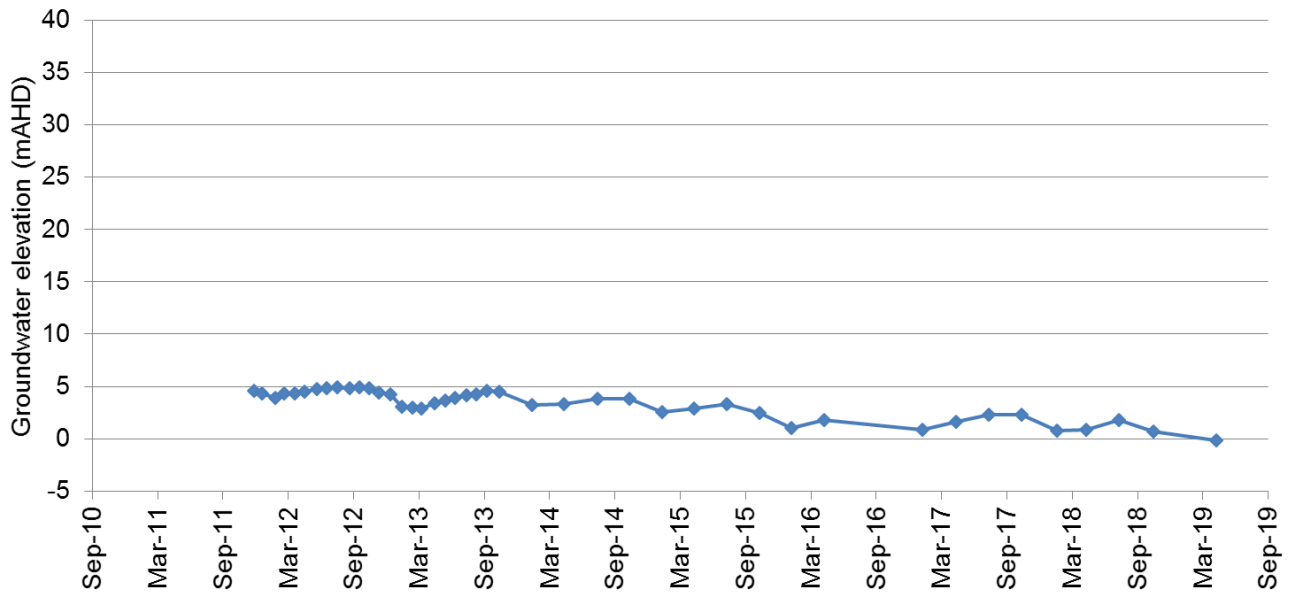
BHID 64835 (Latrobe Valley Coal Measures)



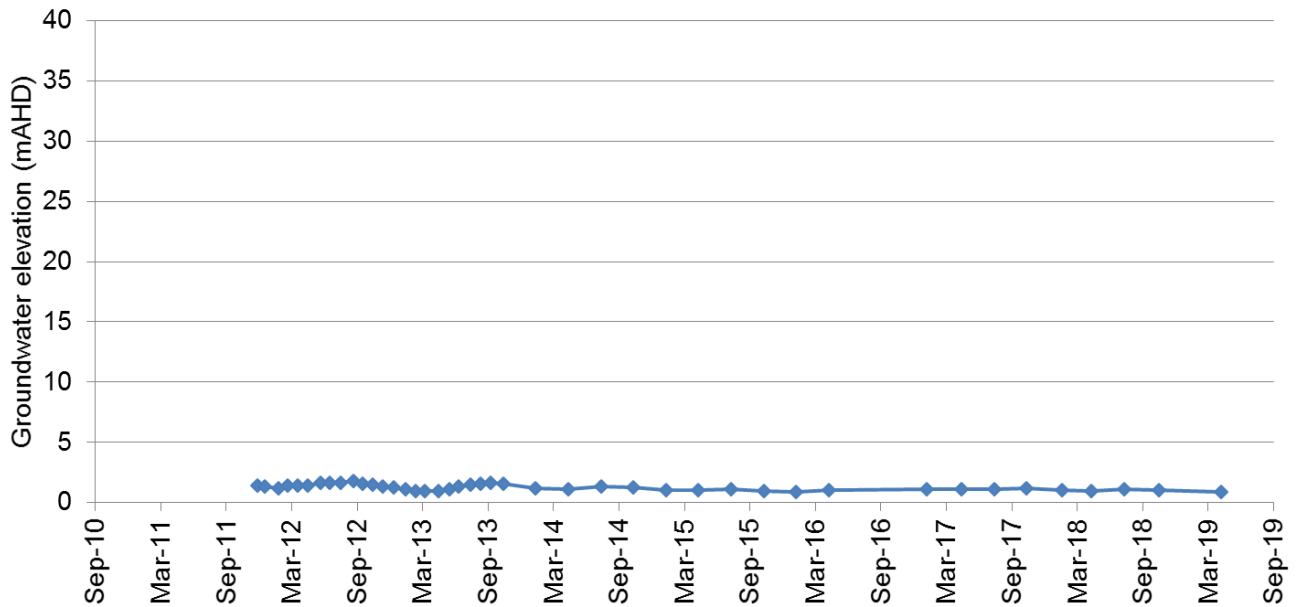
BHID 110721 (Haunted Hills Fm)



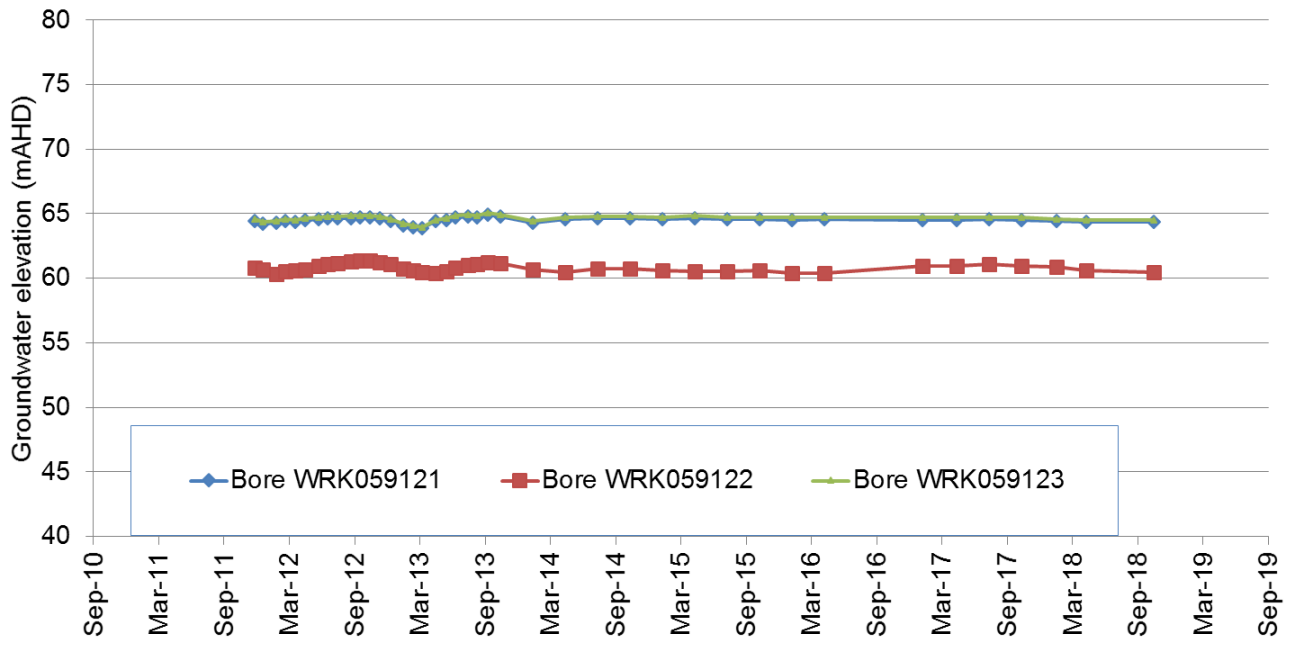
BHID WRK059110 (Latrobe group)



BHID WRK059111 (Haunted Hills)



BHID WRK059121, WRK059122 & WRK059123



BHID WRK059124 (Haunted Hills)

