

# **Yarram WSPA Groundwater Management Plan**

## **Annual Report 2020-21**

## Foreword

This report is submitted to the Minister for Water, Port Phillip & Westernport Catchment Management Authority and Melbourne Water in accordance with s32C *Water Act 1989*. A copy of this report is available by contacting Southern Rural Water at [srw@srw.com.au](mailto:srw@srw.com.au) or by calling 1300 139 510. A notice of report availability will be published as required by s32D of the *Water Act 1989*.

The purpose of this report is to detail Southern Rural Water activities implementing the groundwater management plan along with documenting information that is required to be reported under the Plan.

### Area Summary

<b>Area</b>	Yarram Water Supply Protection Area
<b>Segment</b>	Groundwater
<b>Area Declared</b>	4 November 2002
<b>Plan Approved</b>	14 October 2010
<b>Permissible Consumptive Volume</b>	25,690 ML
<b>Scheduled Plan Review</b>	The Plan will be reviewed on an as needs basis.
<b>Implementation Authority</b>	Southern Rural Water
<b>Relevant CMA</b>	West Gippsland Catchment Management Authority
<b>Report Period</b>	1 July 2020 – 30 June 2021

<b>1</b>	<b>Executive Summary.....</b>	<b>3</b>
<b>2</b>	<b>Introduction.....</b>	<b>4</b>
<b>3</b>	<b>Key Observations .....</b>	<b>5</b>
3.1	Rainfall.....	5
3.2	Water levels.....	5
3.3	Groundwater salinity.....	6
3.4	Water Use.....	7
3.5	Non-Compliance .....	8
<b>4</b>	<b>Plan Implementation.....</b>	<b>9</b>
4.1	Monitoring .....	9
4.1.1	Prescriptions.....	9
4.2	Metering .....	10
4.2.1	Prescriptions.....	10
4.2.2	Metering activities.....	10
4.3	Restrictions on Licensing and Licence Transfers .....	11
4.3.1	Prescriptions.....	11
4.4	Licensing Activities .....	12
4.4.1	Compliance and Exceptions.....	12
4.4.2	Issues Affecting Implementation .....	12
<b>5</b>	<b>Conclusions .....</b>	<b>12</b>
<b>6</b>	<b>Appendices .....</b>	<b>13</b>
6.1	Licence Details.....	13
6.1.1	Hydrographs.....	13
6.1.2	Links for Compliance.....	19

## 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 and 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 2020-21 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.



Bryce Morden  
Manager Groundwater & Rivers  
Southern Rural Water

## 2 Introduction

This report summarises licence information, metered usage and monitoring data collected for the period between 1 July 2020 and 30 June 2021 in accordance with the requirements of the Yarram GMP.

The Yarram WSPA is located south of the Strzelecki Ranges and includes the onshore area of the Gippsland Groundwater Basin. This is a relatively small component of the whole Gippsland Groundwater 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 and 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 which is a shallow, unconfined aquifer incised by local streams. It is low yielding and generally poorer quality than the other aquifers, typically suitable for stock watering and dairy wash purposes rather than irrigation.

The Yarram GMP identifies SRW as the authority responsible for managing and administering the plan.

The objective of a management plan, as set out in the *Water Act 1989*, 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 Yarram GMP includes measures to ensure the long-term sustainability of groundwater resources by setting limits on licensed entitlements and by defining trading rules.

The GMP requires SRW to:

- Coordinate groundwater level monitoring and metering programs;
- Review monitoring and metering data to understand resource status;
- 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; and
- Periodically review the plan 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; and
- 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](http://www.srw.com.au).

### 3 Key Observations

#### 3.1 Rainfall

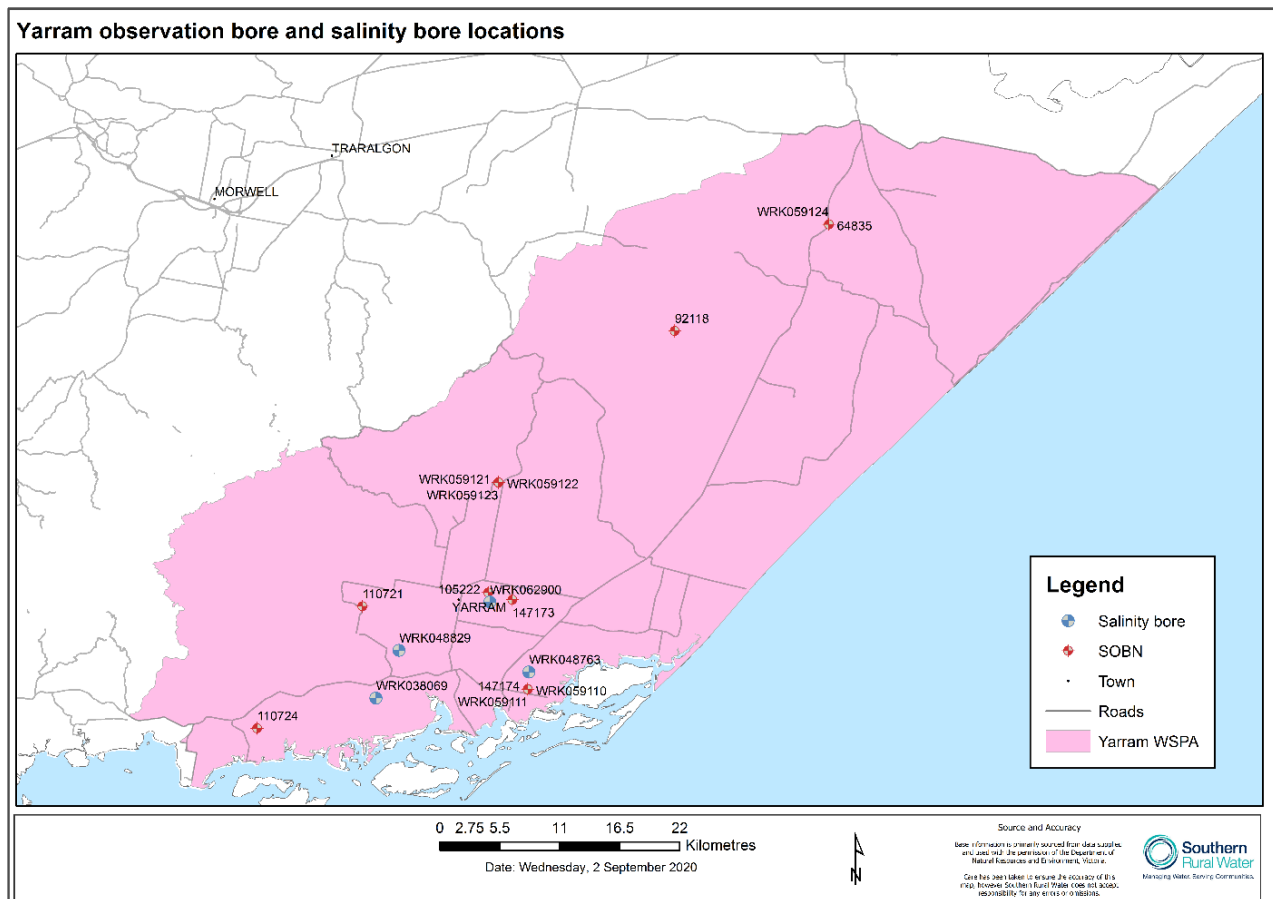
Rainfall during the reporting period was 824mm measured at Yarram Airport. This is above long-term average rainfall of 732mm per year.

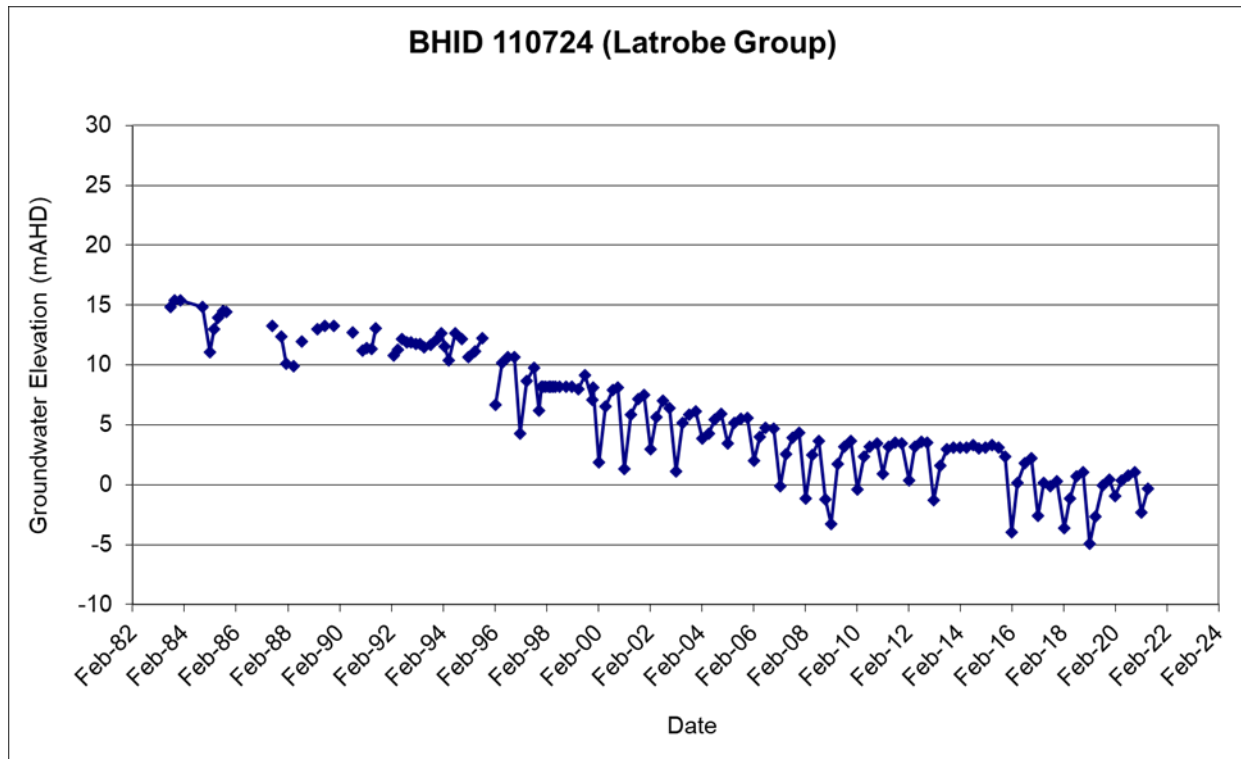
#### 3.2 Water levels

Groundwater levels are measured in thirteen (13) observation bores, targeting the Haunted Hills, Latrobe Valley Coal Measures, Balook Formation and Latrobe Group aquifers (Lower Tertiary Aquifer).

The location of observation bores in the area are shown below in Figure 1, and a sample hydrograph in Figure 2.

**Figure 1: Map showing State Observation Bore and Salinity Bore locations.**





**Figure 2: Example hydrograph**

All hydrographs are presented in appendix 1. Overall, the observation bore hydrographs indicate that:

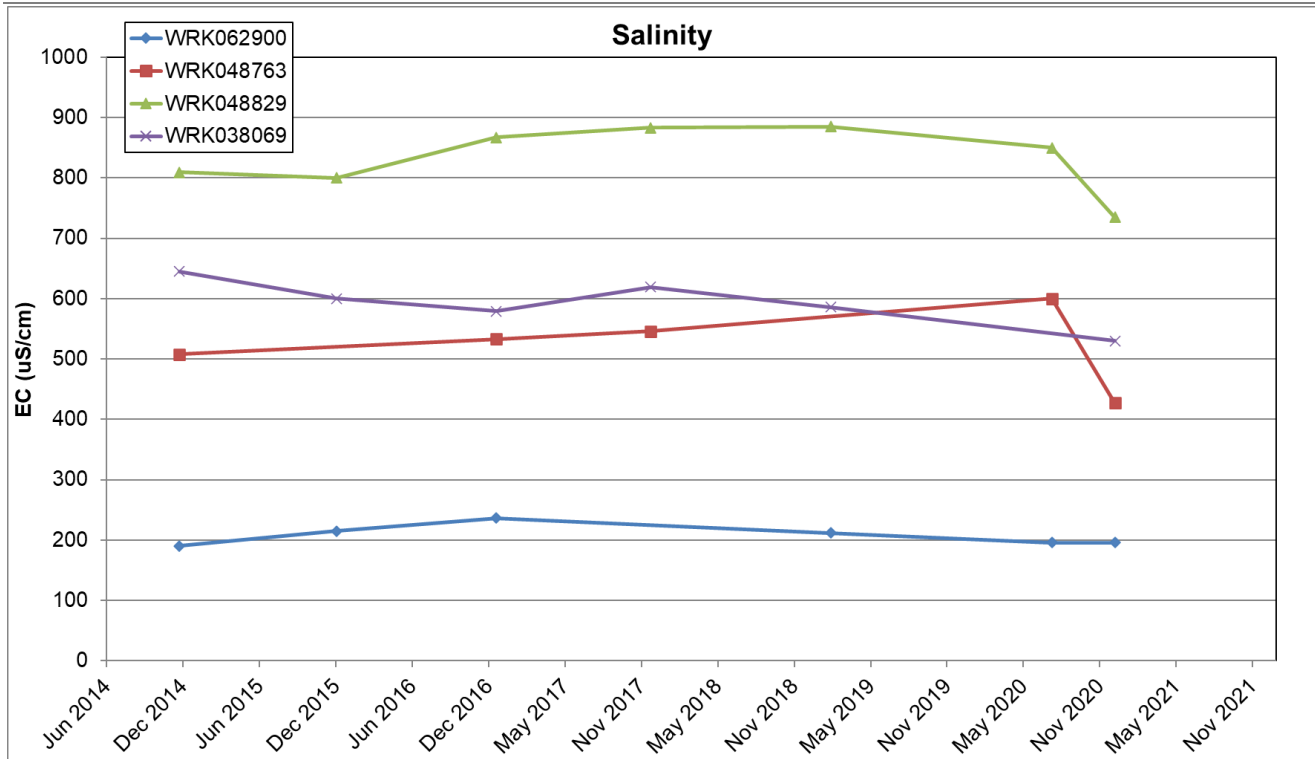
- Groundwater levels in the Latrobe aquifer (Lower Tertiary Aquifer) are primarily influenced by offshore extraction, with a secondary influence from localised groundwater pumping. Levels have been falling steadily by up to 1 meter per year since at least the early 1980's. The impacts of this on users within the WSPA will continue to be monitored.
- Some seasonal variances can be seen in bores 105222 and 110724, where onshore groundwater extraction is concentrated.

### 3.3 Groundwater salinity

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

A monitoring program was established in 2014 to measure salinity every twelve months from four private irrigation bores in the Yarram district. Bore locations are shown in Figure 1 (see 'Salinity Bores').

Salinity has decreased slightly in three of the four bores over the past 12 months. Groundwater quality in all four bores is considered very good quality for irrigation purposes with no saline groundwater intrusion observed.



### 3.4 Water Use

Details of water use in the 2020-21 year with comparison to the four previous years are provided in Table 1 and Figure 3. The total number of licences has decreased slightly over the 5 years predominantly due to customers amalgamating multiple licences held into one licence.

At 30 June	2017	2018	2019	2020	2021
No. of licences	86	89	83	84	84
Total allocated volume (ML)	25,688.8	25,688.8	25,687.6	25,627	25,627
No. of metered licences	55	56	56	56	56
Total allocated volume metered (ML)	25,022	25,034.2	25,304.2	24,914.20	24,914.2
Metered volume used (ML)	12,246.4	14,074.9	16,557.1	8,194.1	9,676.8
Metered Use of allocation (%)	48%	55%	64%	32%	38%
No. of licences with unauthorised take <sup>1</sup> at 30 June 2021 (refer to section 3.5)	1	1	1	0	0
Permissible Consumptive Volume (PCV)	25,690	25,690	25,690	25,690	25,690
Metered use as a % of PCV	48%	55%	64%	32%	38%
No. of D&S bores <sup>2</sup>	231	272	272	258	227

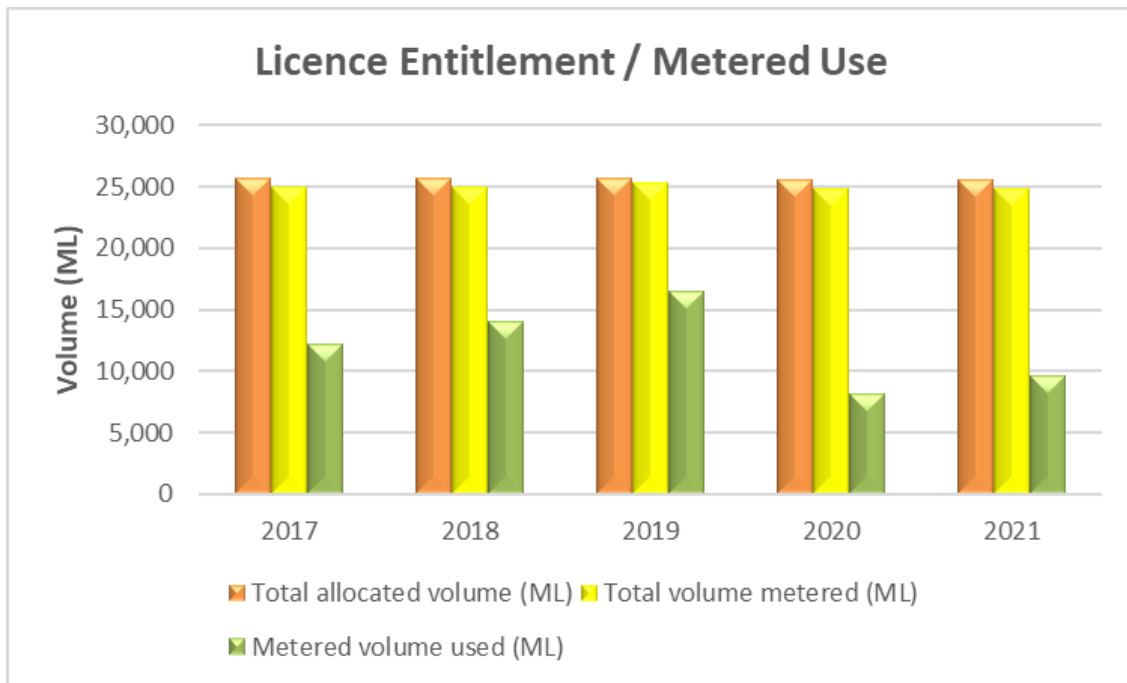


D & S bores estimated use <sup>2</sup>	347	408	408	387	341
Estimated D & S use from licenced bores <sup>3</sup>	127.5	133.5	124.5	126	126

<sup>1</sup> Unauthorised Take of Non-Urban Water

<sup>2</sup> Taken from the Victorian Water Accounts

<sup>3</sup> Estimated 1.5ML per licence 2013 onwards



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

### 3.5 Non-Compliance

The Victorian Government and SRW have a zero-tolerance approach to unauthorised take of non-urban water. SRW is responsible for ensuring water users in southern Victoria comply with their licence conditions.

Further information regarding Southern Rural Water and State Governments approach to compliance is provided in appendix 6.1.2

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. No compliance issues were identified in the Yarram WSPA during 2020-21.

## 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
9. The Department must ensure that monitoring bores are properly maintained and replaced if necessary; and	The monitoring bores are owned and managed by the Department of Environment Land Water and Planning (DELWP)	Yes
10. The Department and the Corporation must ensure that data collected from monitoring bores is entered into the groundwater management system.	<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>	Yes
<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> <ul style="list-style-type: none"> <li>a) assess annual and long term impact on water levels from groundwater pumping;</li> <li>b) monitor saline intrusion</li> <li>c) monitor regional and local seasonal drawdown;</li> <li>d) examine interaction between groundwater, surface water and groundwater dependent ecosystems;</li> <li>e) provide information for future resource assessments; and</li> <li>f) monitor the impacts of groundwater pumping generally across the Yarram WSPA and in areas of intensive groundwater pumping.</li> </ul>	<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>	Yes

## 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 the Victorian Non-Urban Water Metering Policy (2020) and SRW's Meter Action Plan (2020). The rollout of automated meter read technology improves the ability of licence holders to actively manage the resource throughout the year while reducing the risk of non-compliance.

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 2021	Total for WSPA at 30 June 2021
Number of licences issued	0	84
Number of meters installed	0	89
Meters requiring maintenance	2 1 removed	
Meters replaced	0	
Meters read (1 – date)	Jan/Feb 2020	
Meters read (2 – date)	Jun 2020	
Number of estimated readings	0	
Meters fitted with Taggle		70

### 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.	No transfers were processed into 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.	No permanent transfers were processed into 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.	No activity to report	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	0	0
Additional volumes on existing licences	0	0
Licences revoked	0	0
Permanent transfers	0	0
Temporary transfers	1	1
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.

The Yarram GMP Annual Report for 2020-21 demonstrates that SRW has complied with the requirements of the plan.

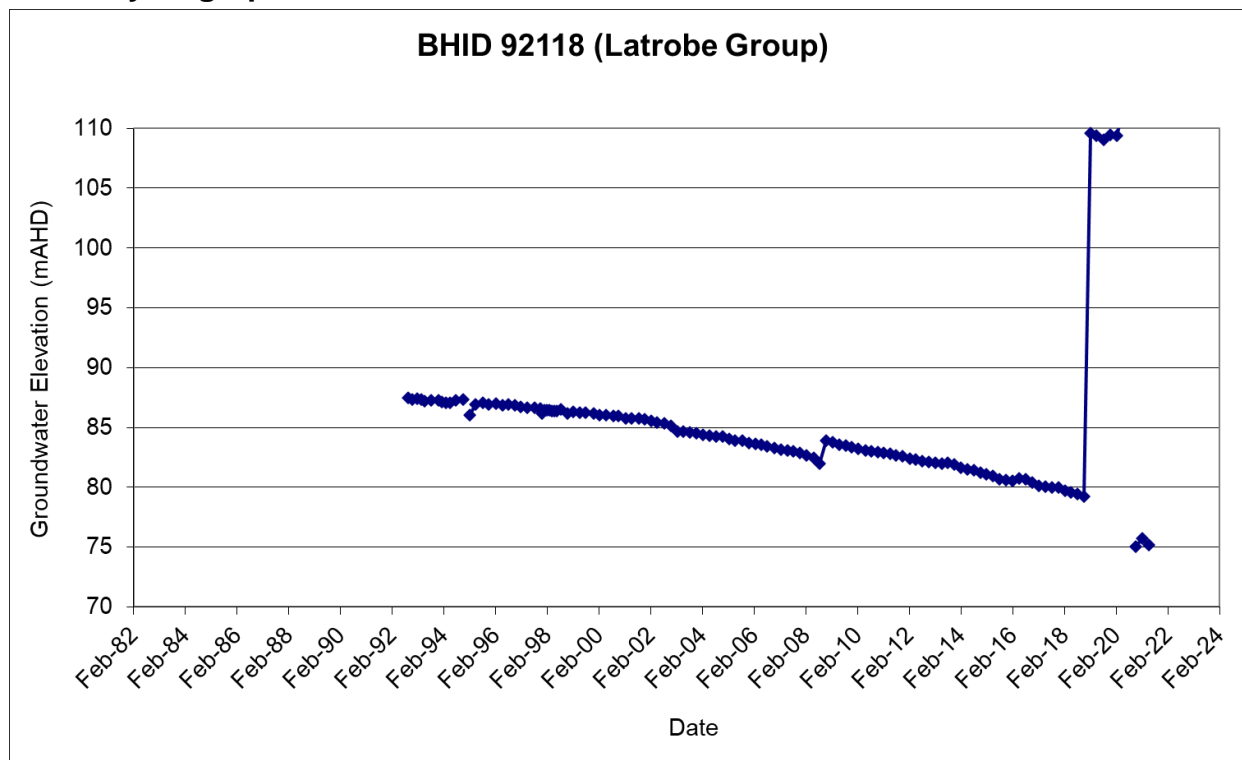
## 6 Appendices

### 6.1 Licence Details

Water Trade details for the 20120-21 season can be found at:

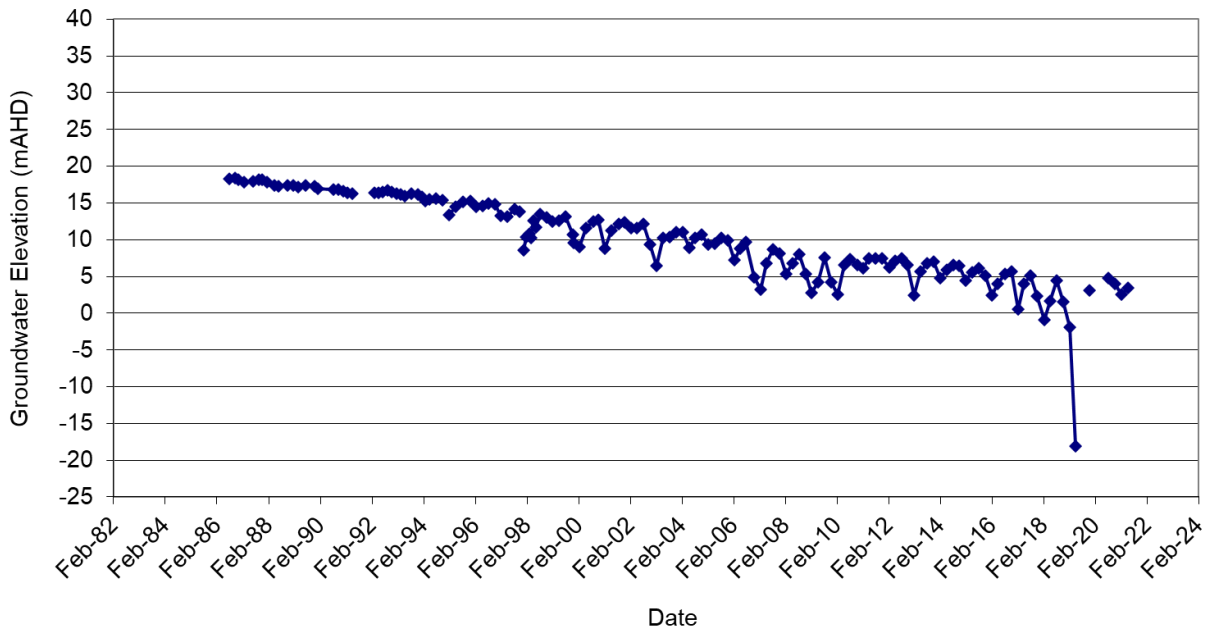
<http://waterregister.vic.gov.au/water-trading/take-and-use-licence-trading>

#### 6.1.1 Hydrographs

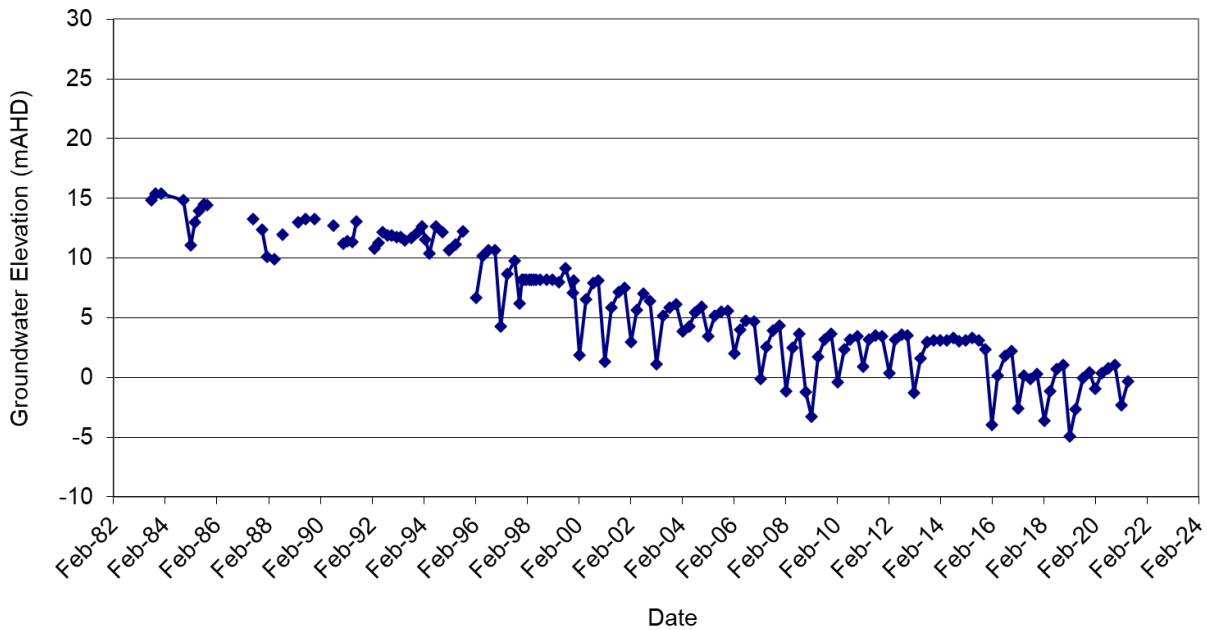


Note : the increase in pressures have been recorded following observation bore refurbishment in late 2019, water levels have returned to normal trend since mid-2020.

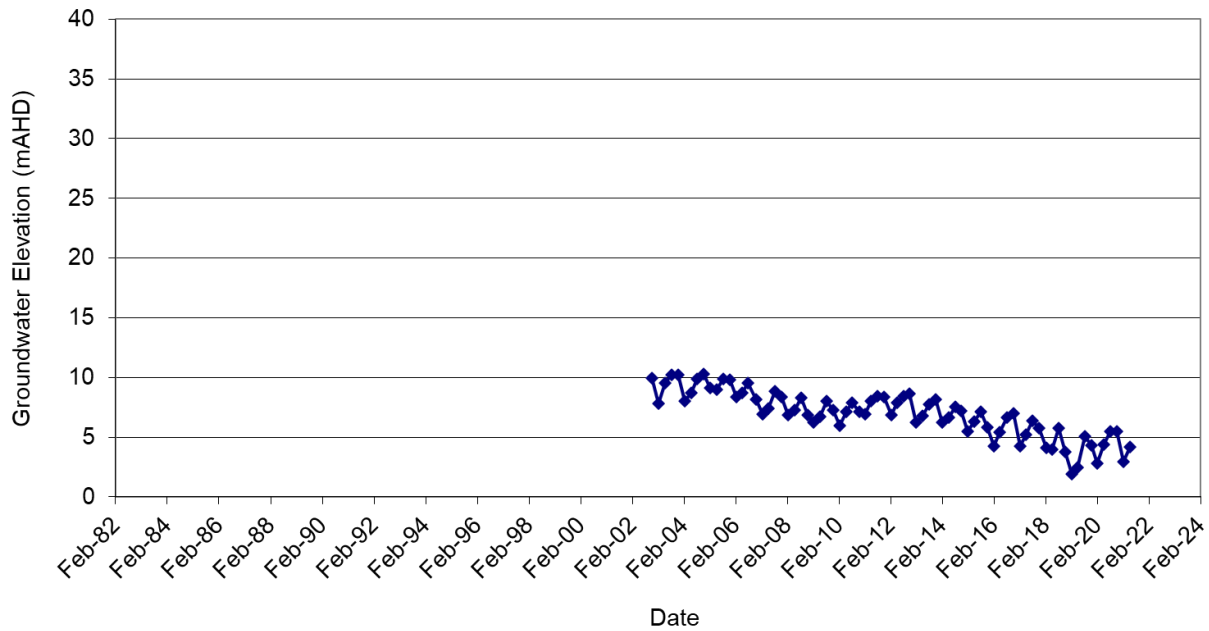
**BHID 105222 (Balook Fm)**



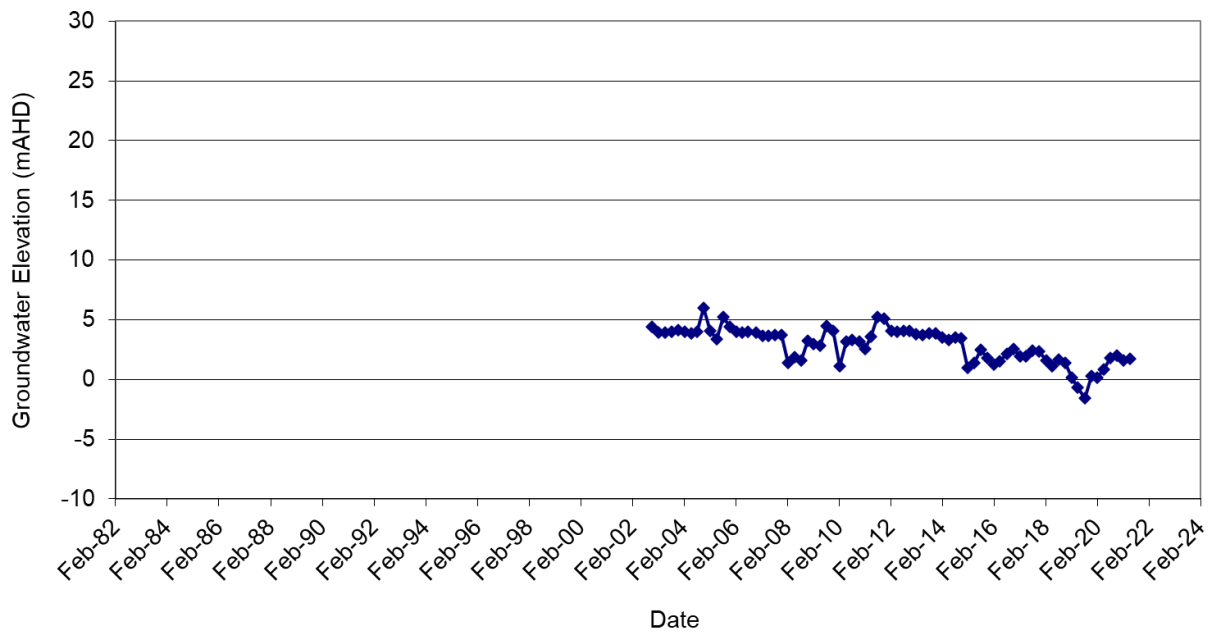
**BHID 110724 (Latrobe Group)**



**BHID 147173 (Balook Fm)**

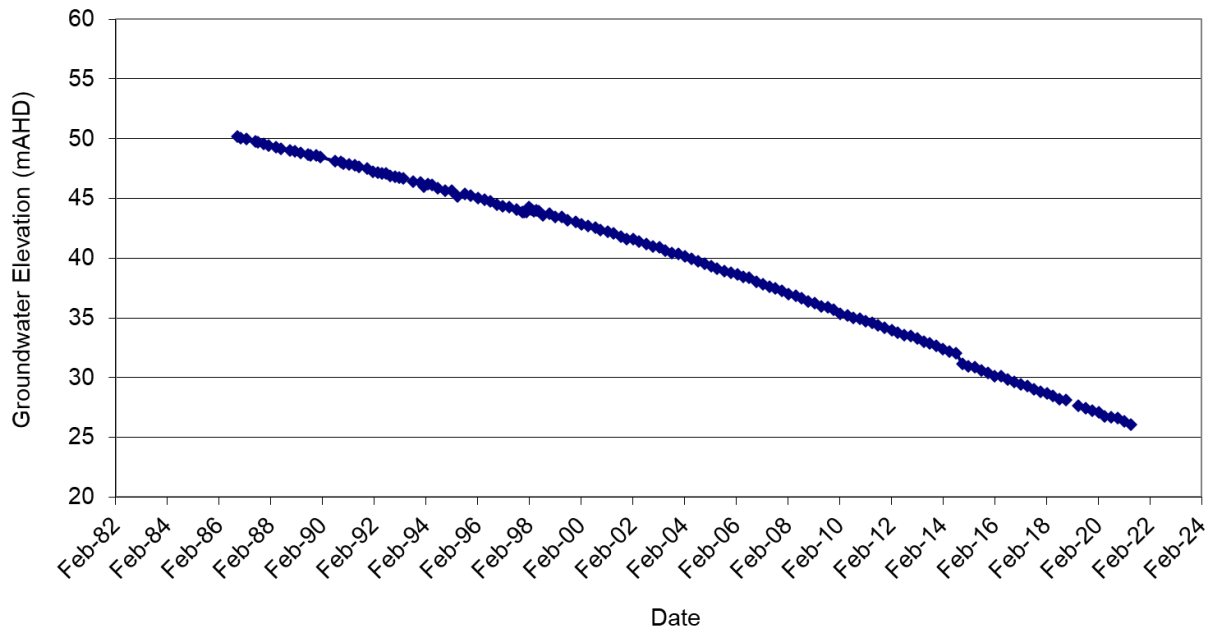


**BHID 147174 (Balook Fm)**

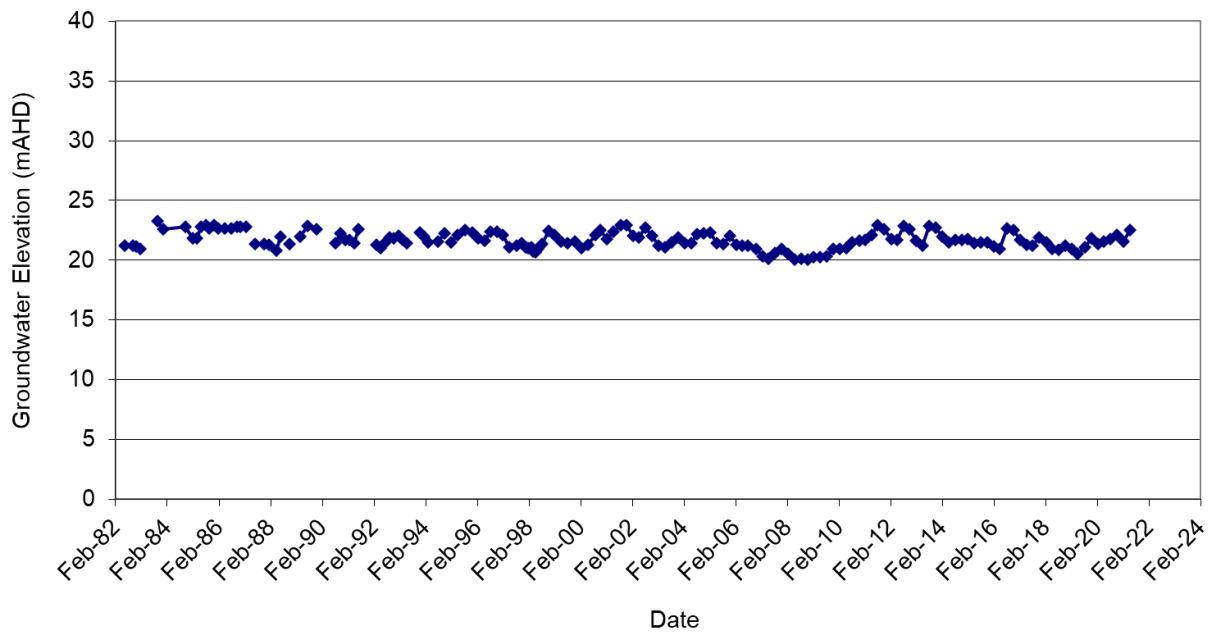




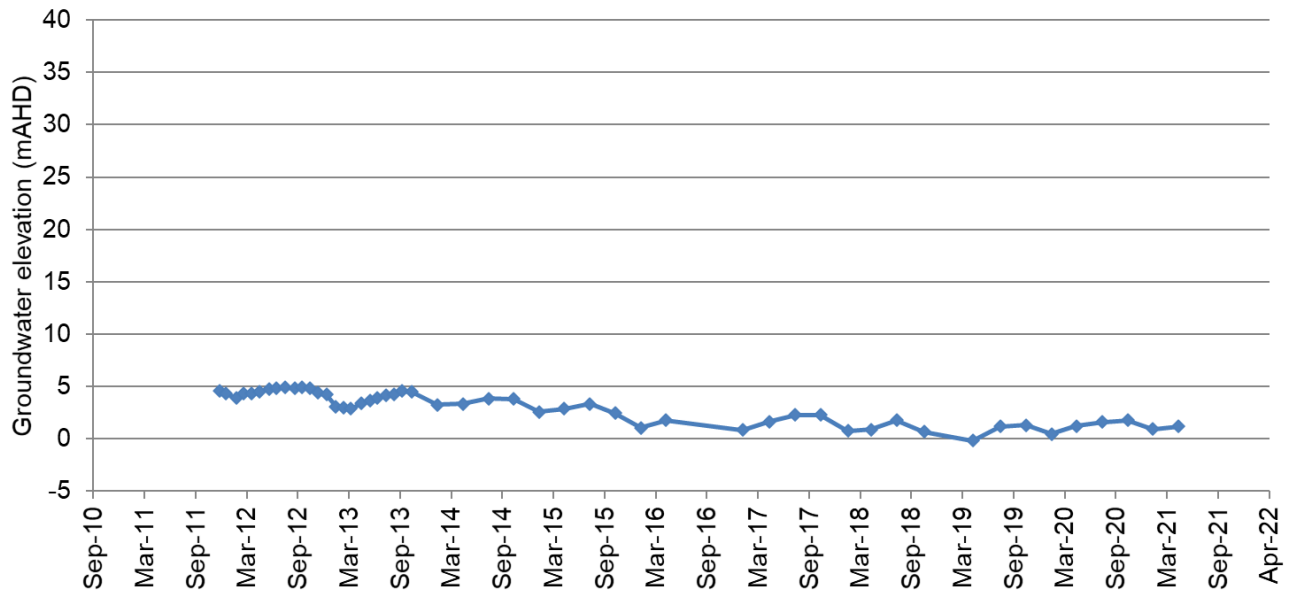
**BHID 64835 (Latrobe Valley Coal Measures)**



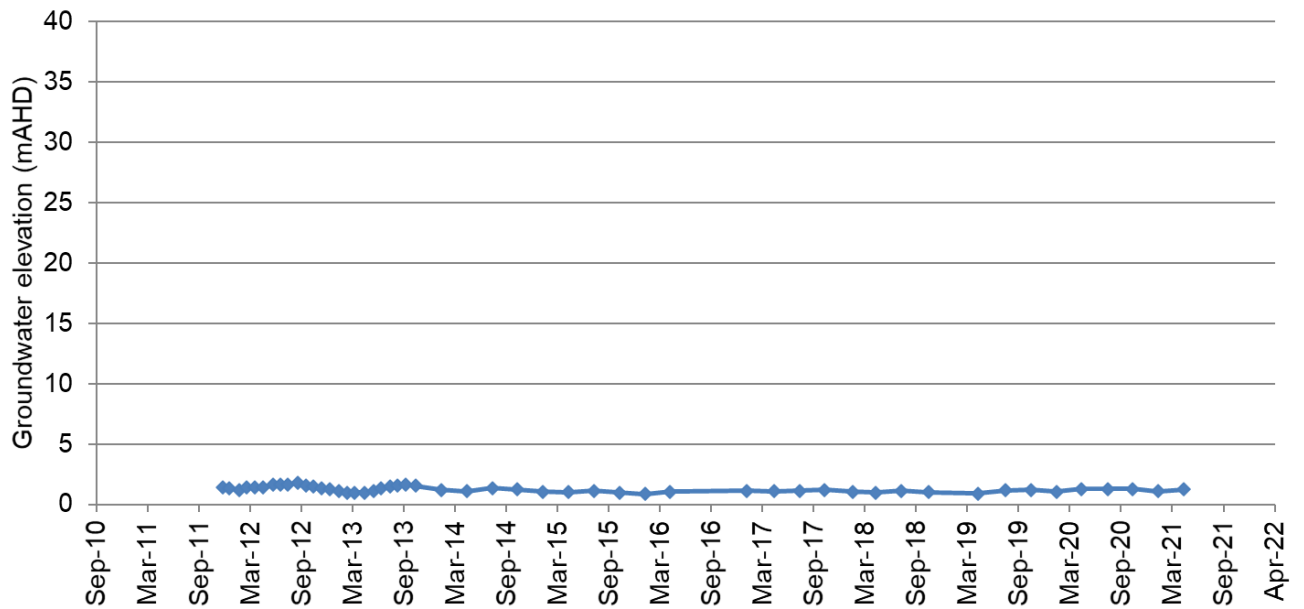
**BHID 110721 (Haunted Hills Fm)**



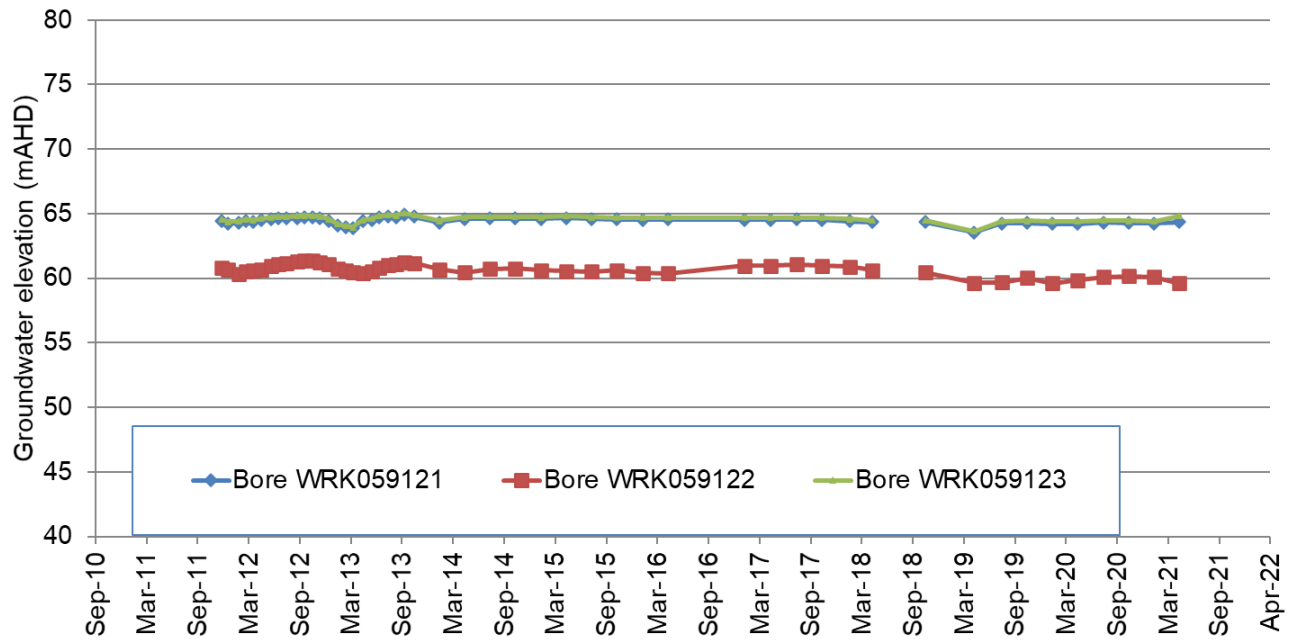
### BHID WRK059110 (Latrobe group)

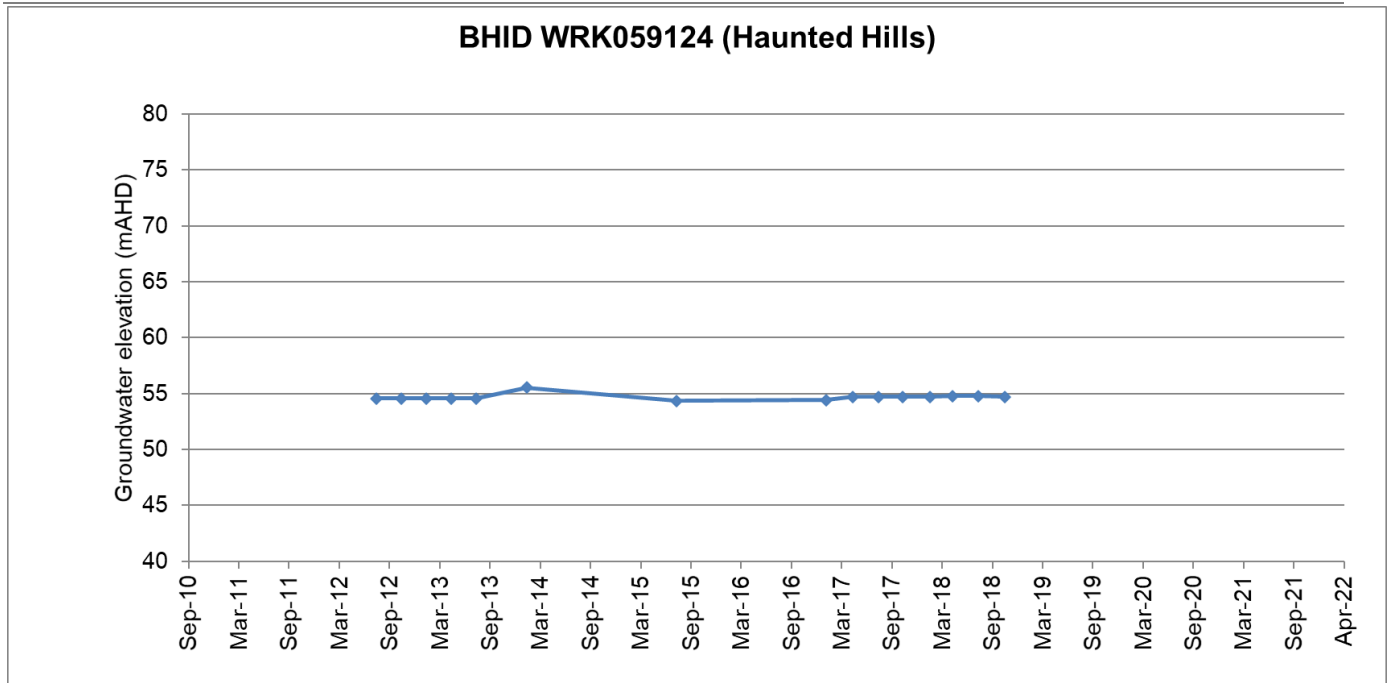


### BHID WRK059111 (Haunted Hills)



### BHID WRK059121, WRK059122 & WRK059123





### 6.1.2 Links for Compliance

[Zero Tolerance To Water Theft In Victoria | Premier of Victoria](#)

[Compliance | Southern Rural Water \(srw.com.au\)](#)

[Non-urban water compliance and enforcement in Victoria](#)