

**Yarram Groundwater
Management Plan Annual
Report**

2011-12

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
Allocation Limit (Permissible Annual Volume)	25,317 ML
Scheduled Plan Review	The need for a review is considered annually during the preparation of the Annual Report.
Implementation Authority	Southern Rural Water
Relevant CMA	West Gippsland Catchment Management Authority
Report Period	1 July 2011 – 30 June 2012

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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 recommendations given in the Yarram GMP.

The Yarram GMP Annual Report for 2011-12 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 that require review of the plan. Therefore, it is considered that the groundwater resources of the Yarram WSPA are being managed sustainably. No changes are proposed for the monitoring strategy in 2012-13.

Signed

CLINTON RODDA
Managing Director

2 Introduction

This report summarises licence information, metered usage and monitoring data collected for the period between 1 July 2011 and 30 June 2012 in accordance with the recommendations given in the Yarram Groundwater Management Plan (GMP).

The Yarram Water Supply Protection Area (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 WSPA also incorporates forested areas along the Strzelecki Ranges comprising State Parks or plantation forestry.

It 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.

Southern Rural Water (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 so as to ensure the long-term sustainability of those resources.*

Water level declines are expected to continue in the WSPA, irrespective of the activities of groundwater users, due to offshore fluid extractions. The part that the management plan plays in ensuring long-term sustainability of the water resources is to prohibit the issue of any further groundwater licences. Restrictions are also placed on licence transfers within the WSPA.

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;
- Seek review of 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.

- 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);
- Trading of existing consumptive use allocations 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 equal or 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 897mm (measured at Yarram Airport).
 The average rainfall for this area is 732mm per year (which is measured at Yarram).
 This area received approximately 160mm above the average for the reporting year.

3.2 Water Levels/flows

Groundwater levels are measured in eleven (11) bores, monitoring the Haunted Hills, Boisdale, LaTrobe Valley Coal Measures, and LaTrobe aquifers.

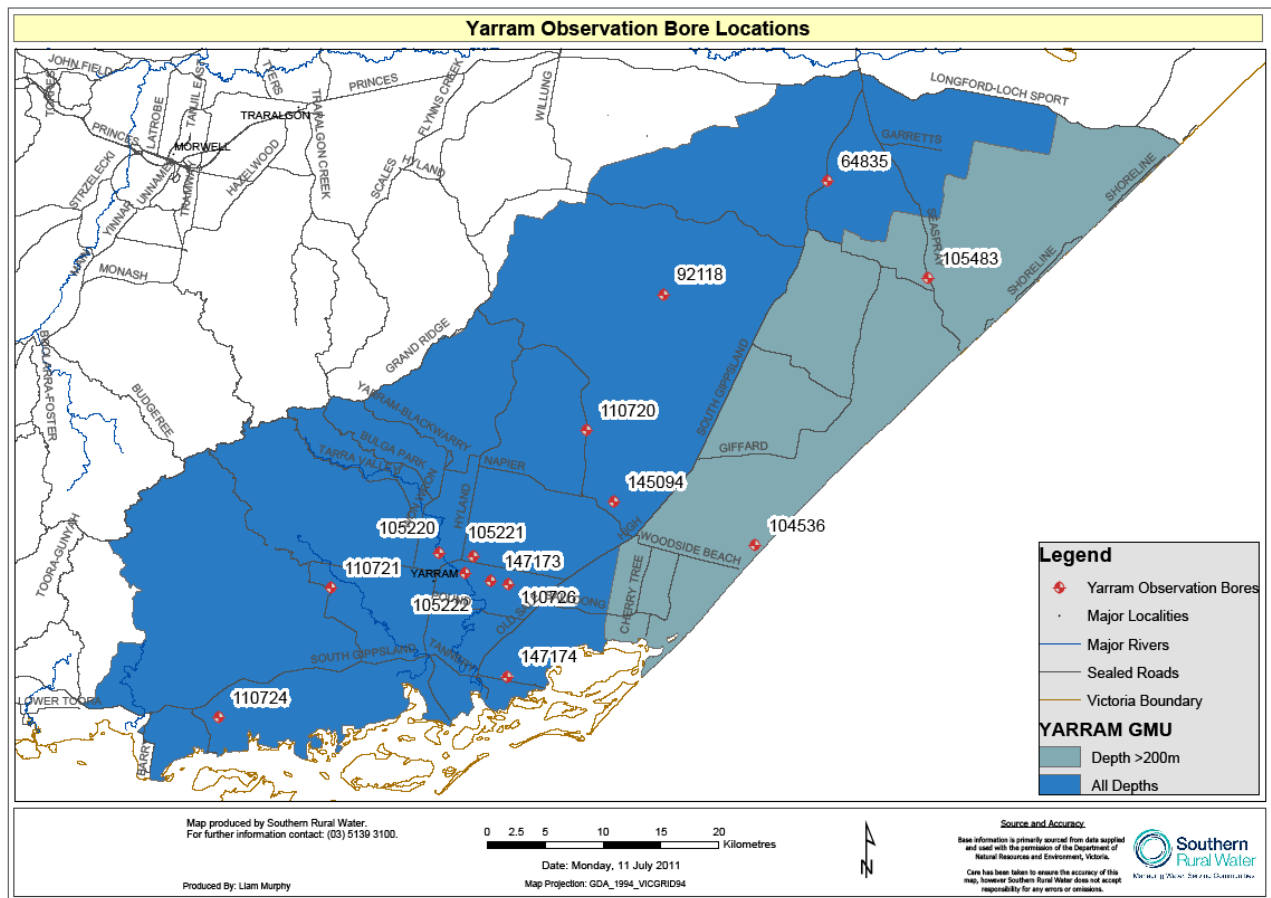


Figure 1: Map showing State Observation Bore locations.

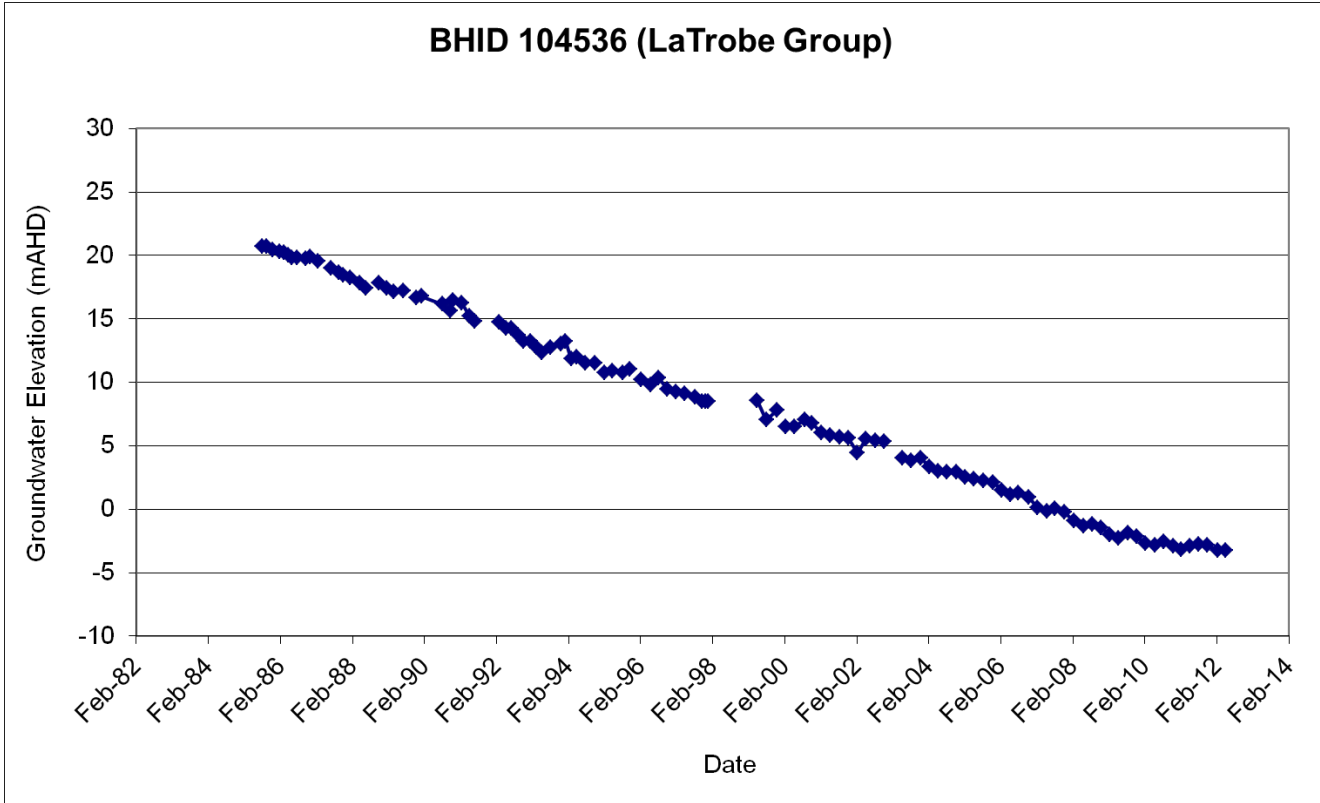


Figure 2: Example hydrograph

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. Levels have been falling steadily by approximately 1 meter per year since at least the early 1980's.
- 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 (If required under the plan)

Salinity measurements are not currently taken from any of the State Observation Bores in the Yarram WSPA. However, salinity samples will be taken from a selection of new State Observation Bores that were installed during 2010-2011.

3.4 Water Use

The following table provides detail on water use in the 2011-12 year as compared to four previous years.

At 30 June	2008	2009	2010	2011	2012
No. of licences	86	83	83	83	92
Total allocated volume (ML)	25,657.4	25,316.9	25,317.0	25,319.9	25,695.0
No. of metered licences	58	57	57	59	57
Total volume metered (ML)	23,050.2	23,243.2	23,110	23,165	23,372
Metered volume used (ML)	11,977.9	13,891.2	11,778.2	6,882	6,739.9
Use of allocation (%)	47%	55%	47%	27%	26%
No. of licences with use greater than allocation (refer to section 3.5)	4	2	1	1	1
Permissible Consumptive Volume (PCV)	25,317.0	25,317.0	25,317.0	25,317.0	25,317.0
Use as a % of PCV	47%	55%	47%	27%	27%
No. of D&S bores	-	1067	357	323	324
D & S bores estimated use	-	2,134	714	646	486*
Estimated D & S use from licenses bores	172	166	166	166	138 [#]

*As reported in State Water Accounts 2011

[#]Estimated 1.5ML per licence

The usage during the reporting period was significantly less than previous years due to the above average rainfall.

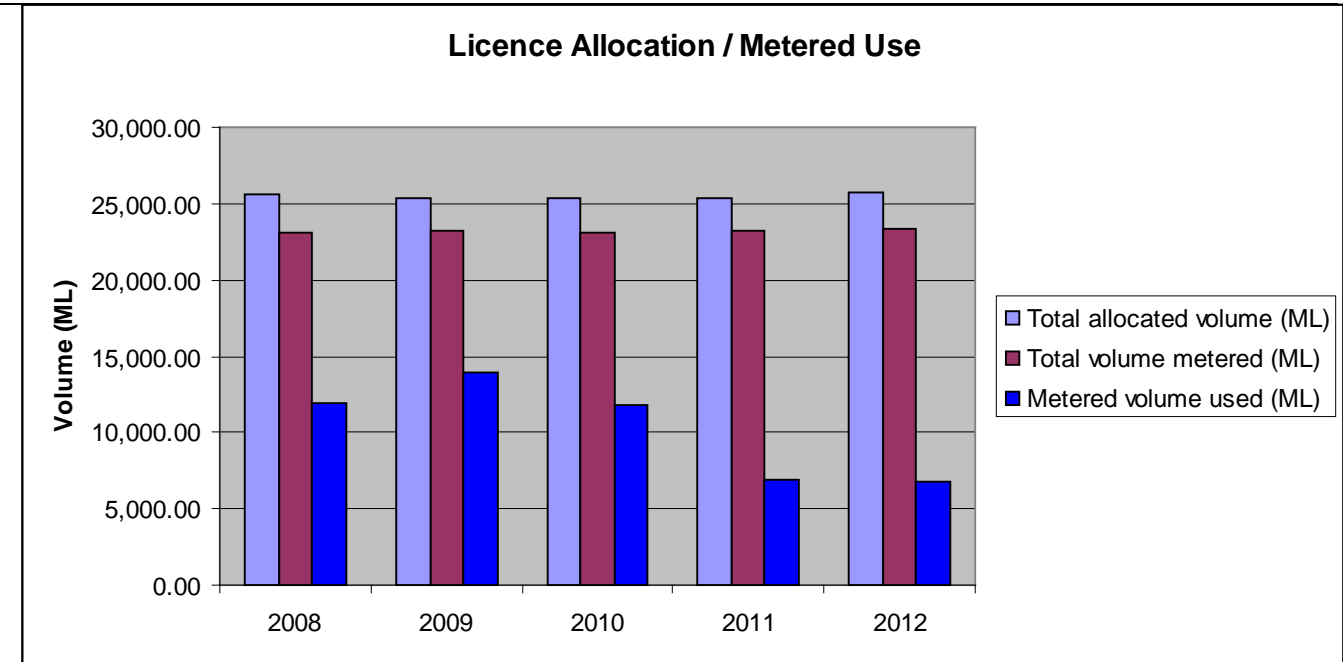


Figure 3: Licence allocation compared to metered volume and usage.

3.5 Non compliance

The following table lists the licence where water was taken in excess of licensed entitlement.

Entitlement No	Entitlement (ML)	Usage (ML's)	Overuse (ML's)	Comments
BEE 025075	1500ML + 250 transfer	1867.9ML	117.9ML	The licence holder was interviewed, and the outcome was a warning letter.

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.

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 Sustainability & Environment (DSE).</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 DSE carries out maintenance on bores that have been identified by the field service provider through the Extra Works Advice. This is bore specific.</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>a) assess annual and long term impact on water levels from groundwater pumping;</p> <p>b) monitor saline intrusion</p> <p>c) monitor regional and local seasonal drawdown;</p> <p>d) examine interaction between groundwater, surface water and groundwater dependent ecosystems;</p> <p>e) provide information for future resource assessments; and</p> <p>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 DSE 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 DSE's monitoring program.</p> <p>Refer to section 3.1.2 for further information on points 11b and 11d.</p>	<p>Yes</p>

4.1.2 Issues Affecting Implementation

Prescriptions 11b and 11d, which refer to salinity monitoring and SW/GW interaction, have been addressed by the Gippsland SOBN refurbishment program which was finished in the second half of 2011. Salinity samples will be taken from a selection of these new observation bores.

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. Usage is also recorded in the State Water Register.

4.2.2 Metering activities

	Year to 30 June 2012	Total for WSPA at 30 June 2012
Number of licences issued	9	92
Number of meters installed	0*	83
Meters requiring maintenance	0	
Meters replaced	1	
Meters read (1 – date)	Jan 2012	
Meters read (2 – date)	May/Jun 2012	
Number of estimated readings	0	

*A metering program is currently being undertaken for licences issued under the Dairy Shed Water Licence Transition Program.

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.	Two temporary transfers were processed during the reporting period.	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.		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.	9 new dairy licences were issued and 25 existing dairy licences were updated during the reporting period.	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.	Refer to appendices for licence details.	Yes

4.3.2 Compliance and Exceptions

Activities under taken during the reporting period generally comply with the requirements of the Plan.

4.3.3 Issues Affecting Implementation

No issues to report.

4.4 Licensing Activities

The following table provides details of licensing activities.

Year to 30 June 2011	No.	Volume ML
New licences issued	9	37.8
Additional volumes on existing licences	25	335.3
Licences revoked	0	0
Permanent transfers	0	0
Temporary transfers	2	258.0
D&S Bores notifying use	0	0

*estimate of DS volume only

The new licences and increase of entitlements occurred as a result of the Dairy Shed Water License Transition Program. SRW will seek an amendment to the PCV to account for the increased volumes.

4.4.1 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 so as to ensure the long-term sustainability of those resources.*

The groundwater elevation data indicates that:

- Groundwater levels in the LaTrobe aquifer are primarily influenced by offshore extraction. Levels have been falling steadily by approximately 1 meter per year since at least the early 1980's.
- 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.

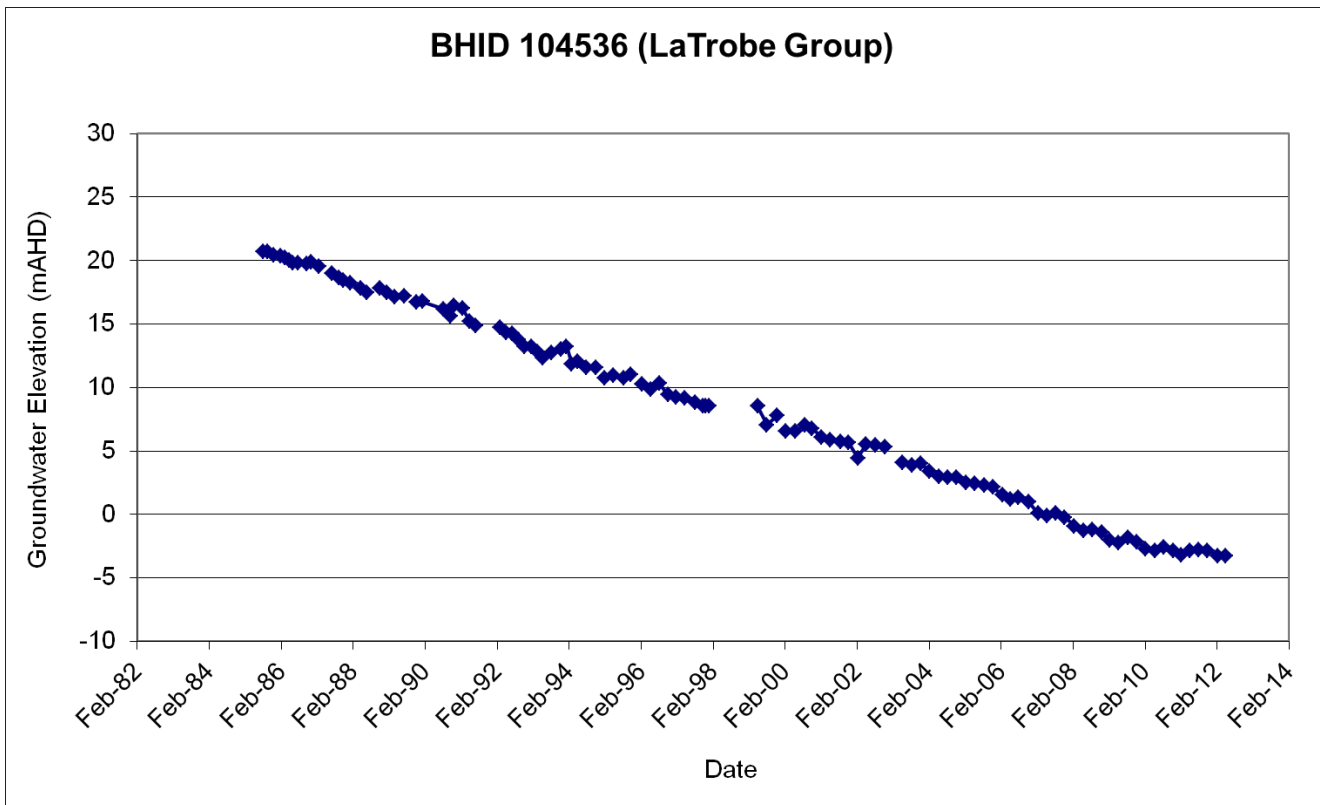
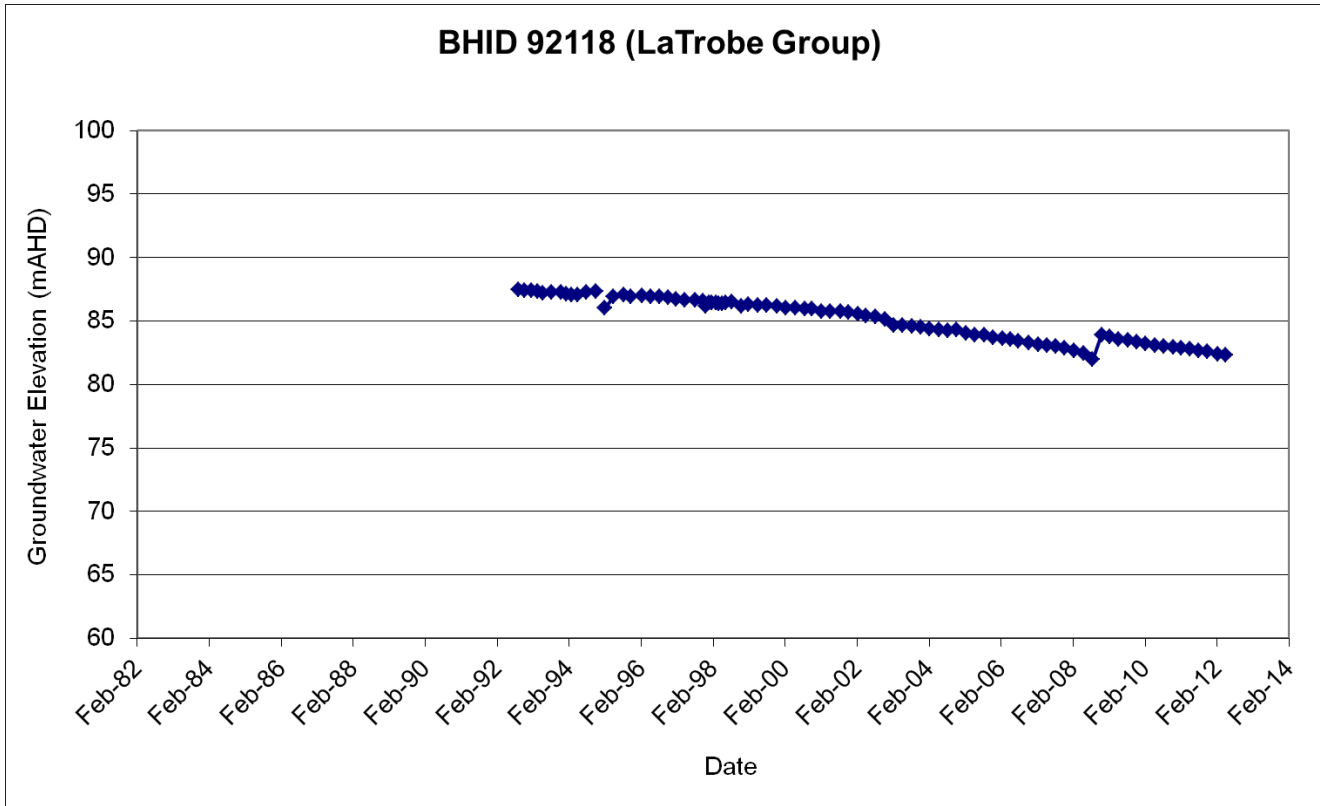
Therefore, it is considered that the groundwater resources of the WSPA are being managed sustainably and as a result there is not need to review of the plan at this point.

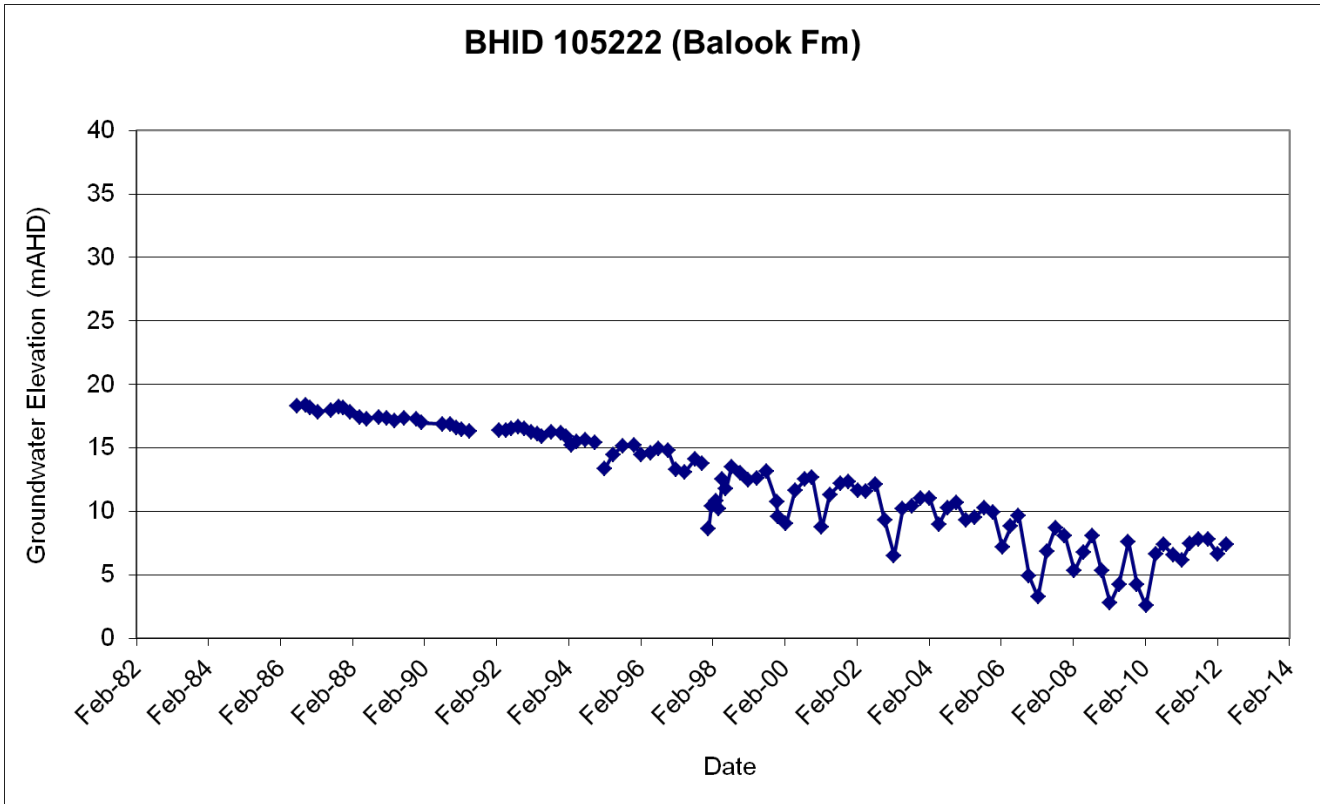
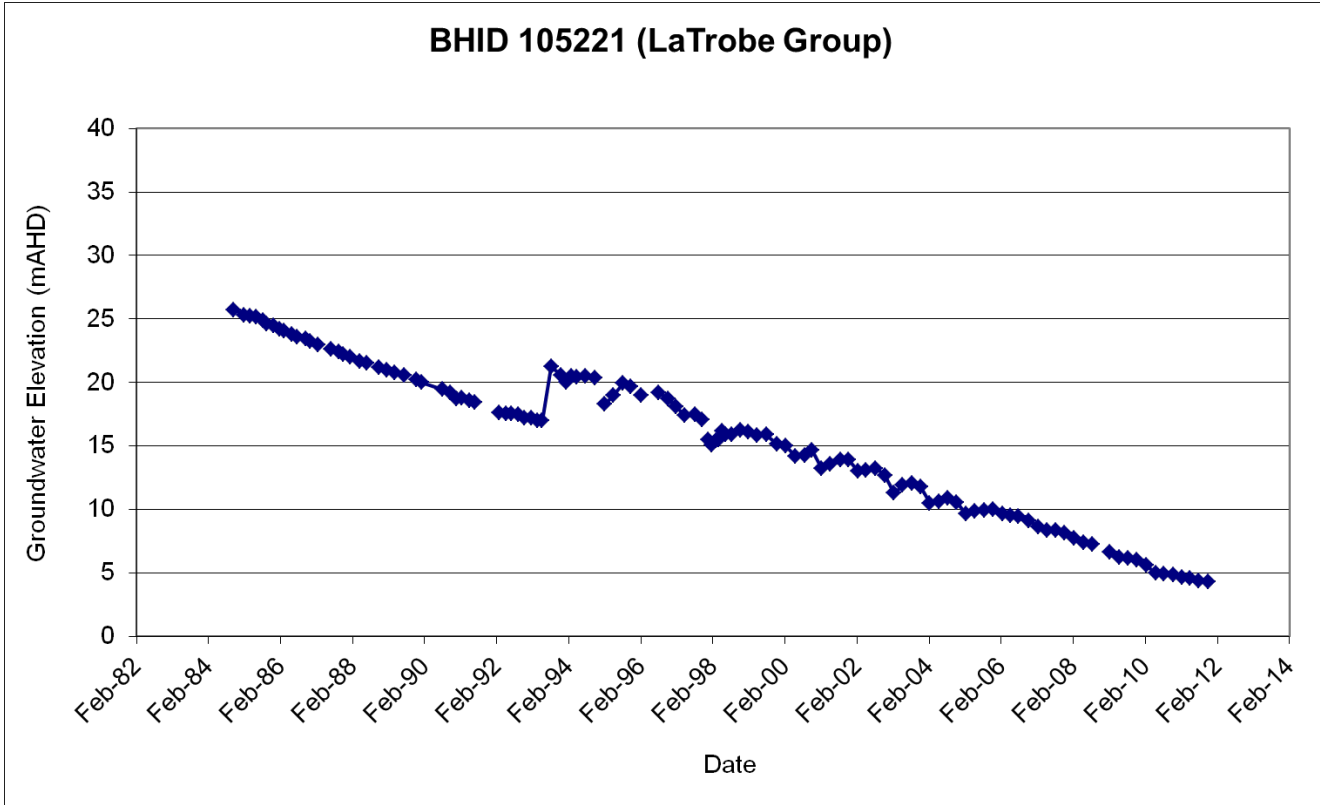
6 Appendices

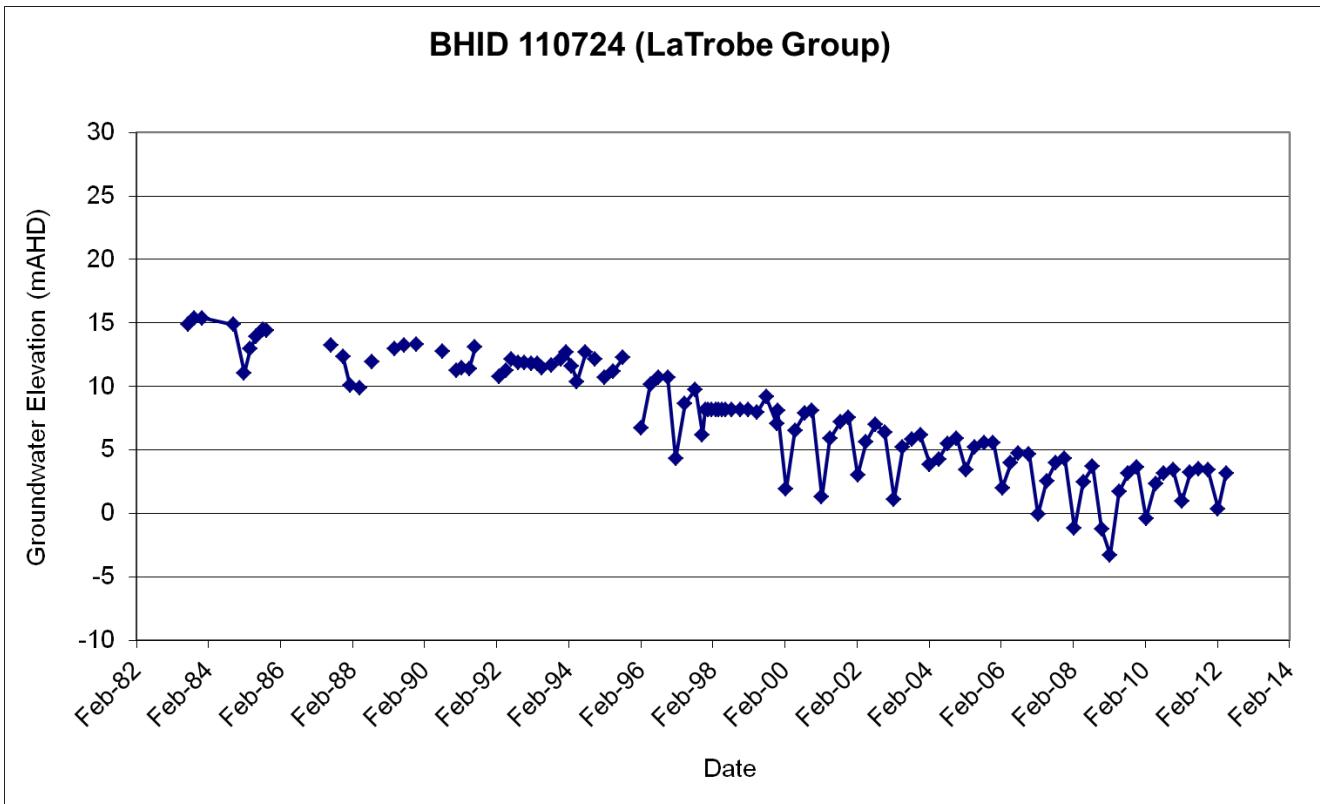
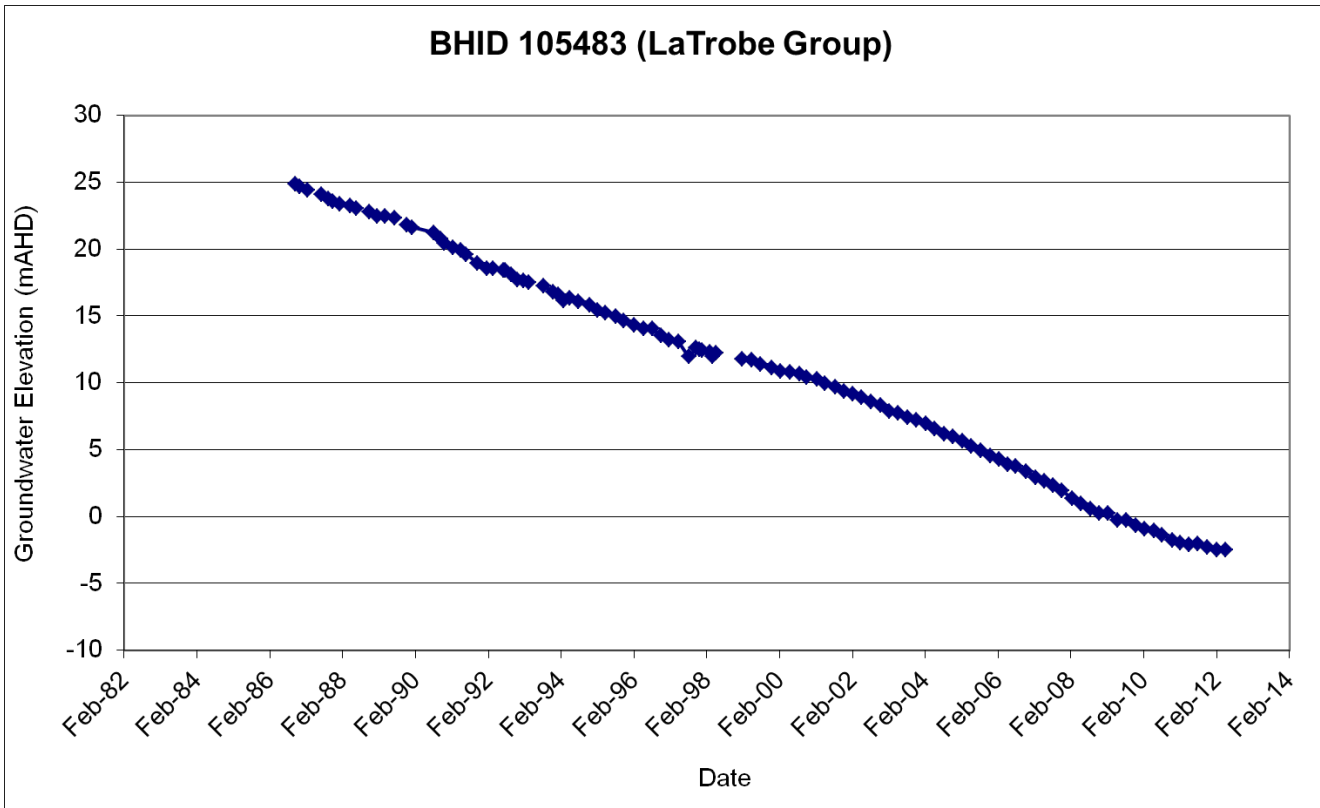
6.1.1 Licence details

Entitlement Number	Application Type	Purpose	Previous Volume	Approved Volume
BEE069224	New	Dairy	0.0	3.0
BEE069225	New	Dairy	0.0	8.2
BEE069280	New	Dairy	0.0	1.3
BEE069348	New	Dairy	0.0	4.0
BEE069373	New	Dairy	0.0	3.0
BEE069370	New	Dairy	0.0	4.0
BEE069396	New	Dairy	0.0	6.4
BEE069394	New	Dairy	0.0	3.4
BEE069398	New	Dairy	0.0	4.5
BEE022885	Amend	Dairy	1.2	5.1
BEE028257	Amend	Irrigation/Dairy	198.0	210.2
BEE028895	Amend	Dairy	1.2	1.6
BEE028919	Amend	Dairy	1.2	22.6
BEE022977	Amend	Irrigation/Dairy	241.2	243.7
BEE025122	Amend	Irrigation/Dairy	636.0	643.0
BEE025923	Amend	Irrigation/Dairy	791.1	801.4
BEE051815	Amend	Irrigation/Dairy	180.0	189.0
BEE027415	Amend	Irrigation/Dairy	72.0	82.0
BEE025206	Amend	Irrigation/Dairy	289.2	292.0
BEE020954	Amend	Irrigation/Dairy	244.2	252.2
BEE026792	Amend	Dairy	11.8	20.6
BEE030792	Amend	Dairy	1.2	16.5
BEE051813	Amend	Irrigation/Dairy	180.0	188.0
BEE025934	Amend	Dairy	1.2	16.0
BEE022620	Amend	Irrigation/Dairy	147.2	147.2
BEE021176	Amend	Irrigation/Dairy	2,020.2	2,118.0
BEE026817	Amend	Irrigation/Dairy	781.2	808.5
BEE027095	Amend	Irrigation/Dairy	241.2	243.0
BEE022456	Amend	Irrigation/Dairy	601.2	612.7
BEE028377	Amend	Dairy	1.2	5.7
BEE032249	Amend	Irrigation/Dairy	1,452.0	1,497.0
BEE032193	Amend	Dairy	0.0	10.0
BEE024302	Amend	Dairy	1.2	2.0
BEE069280	Amend	Dairy	1.3	3.5

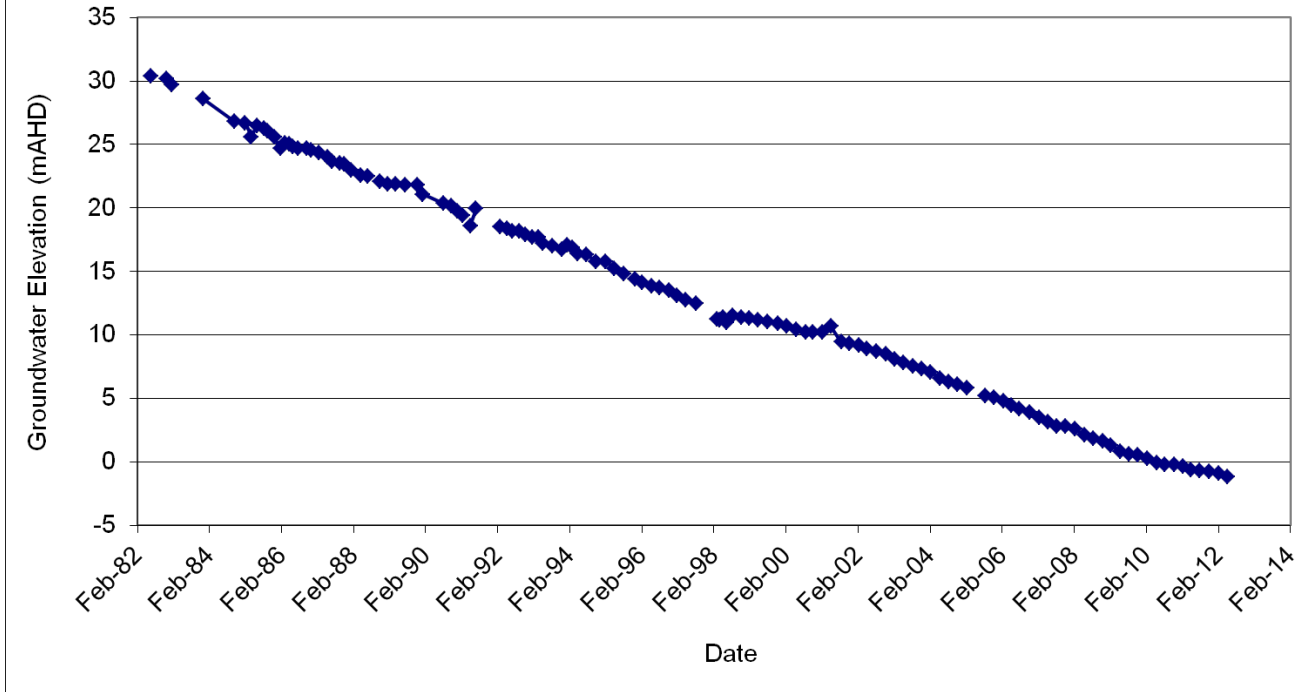
6.1.2 Appendix 1 - Hydrographs







BHID 110726 (LaTrobe Group)



BHID 147173 (Balook Fm)

