

Lower Namoi Groundwater Sources Summary Report 2006-2013

Water Sharing Plan

The Water Sharing Plan (hereafter referred to as the Plan) for the Upper and Lower Namoi Groundwater Sources commenced on 1 November 2006. Since commencement of the Plan, the Lower Namoi has been managed under the *Water Management Act 2000*. The Plan sets the framework for managing these groundwater sources until the end of June 2017.

A copy of the Plan can be viewed and downloaded from the NSW legislation website at www.legislation.nsw.gov.au (under "Regulations in force" > W).

The Plan sets the framework for sharing water between extractive users and the environment. It reserves the physical water contained in storage as planned environmental water, minus the amount required for supplementary water access, and allows the average annual recharge to be made available for extraction.

Location and description of water sources

The Lower Namoi groundwater source includes all water contained in the unconsolidated alluvial sediments associated with the Namoi River and its tributaries from Narrabri in the east to Walgett in the west within the area shown in **Figure 1**.

Access licences

Three categories of groundwater access licenses are held in the Lower Namoi groundwater sources. These are:

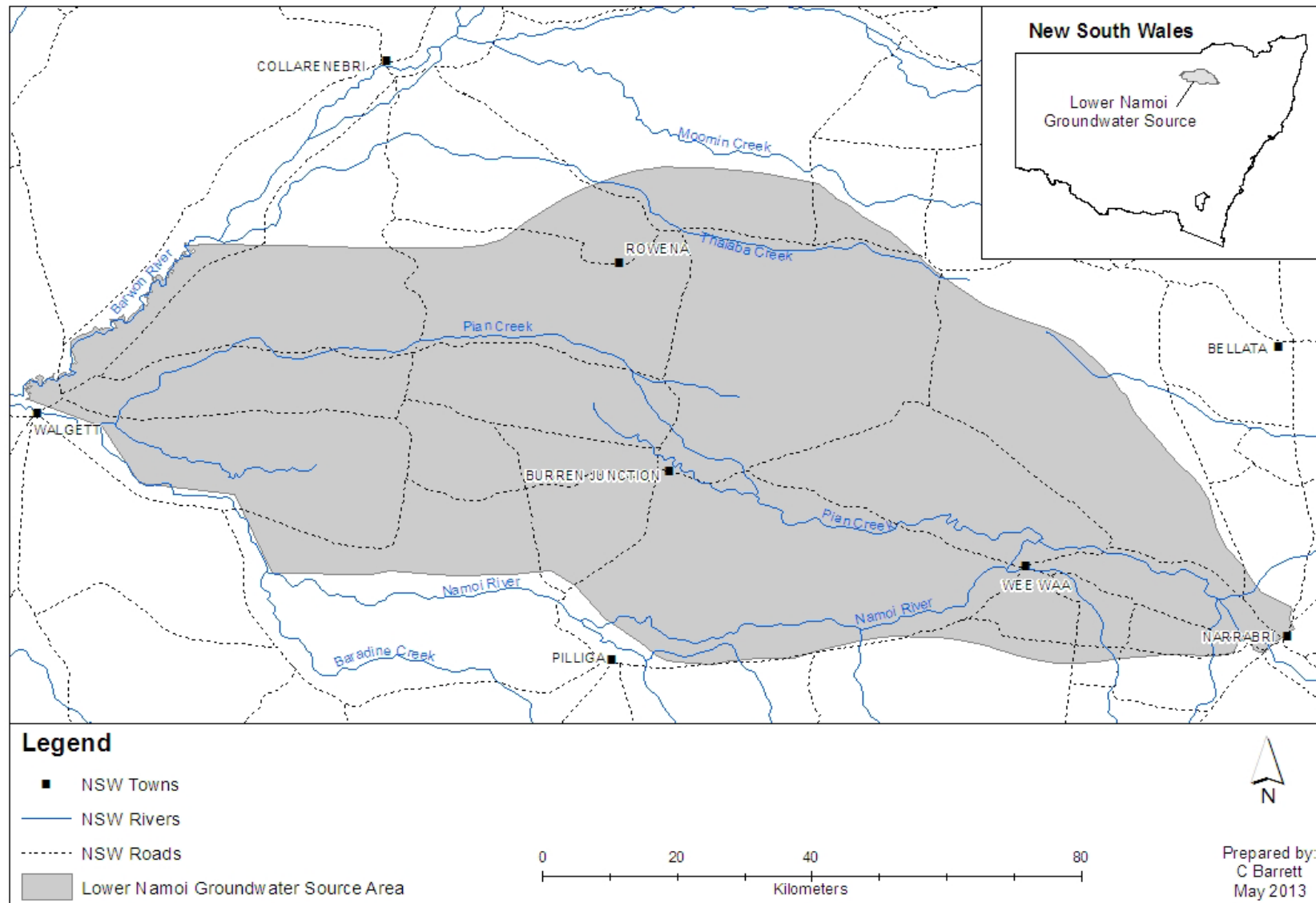
- Local Water Utility (LWU)
- Aquifer Access Licences (AAL)
- Supplementary Water Access Licences (SWAL).

The Local Water Utility Licences are held by local governments for town water supply purposes. The share component of these licences is for a specified volume of groundwater. The share components of Aquifer Access Licences and Supplementary Water Access Licences are issued for a specified number of unit shares. These are summarised in **Table 1**.

Table 1 Existing Access Licences

Type of access licences	Lower Namoi
Local Water Utility Access Licences	4,407 ML
Aquifer Access Licences	81,593 shares
Supplementary Water Access Licences	21,005 shares

Figure 1 Map of the Lower Namoi groundwater sources plan area



Annual extraction limits and Available Water Determination

The extraction limit for the Lower Namoi is initially 86,000 ML/yr, plus total water made available to supplementary water access licences, plus the total requirements for basic landholder rights at the commencement of the plan

At the start of each water year an Available Water Determination (AWD) is made which sets the allocation of groundwater for the different categories of access licences. The Plan requires that where the average of the preceding 3 year's extraction exceeds the extraction limit by 5% or greater, then an allocation determination of less than 100% is to be made for the following water year to return the water usage back to the extraction limit.

The available water determinations for Supplementary Water Access Licences for each year have been set in the Plan. After the 2014-2015 water year there will be no groundwater available under Supplementary Water Access Licences.

Figure 2 Annual extraction limits

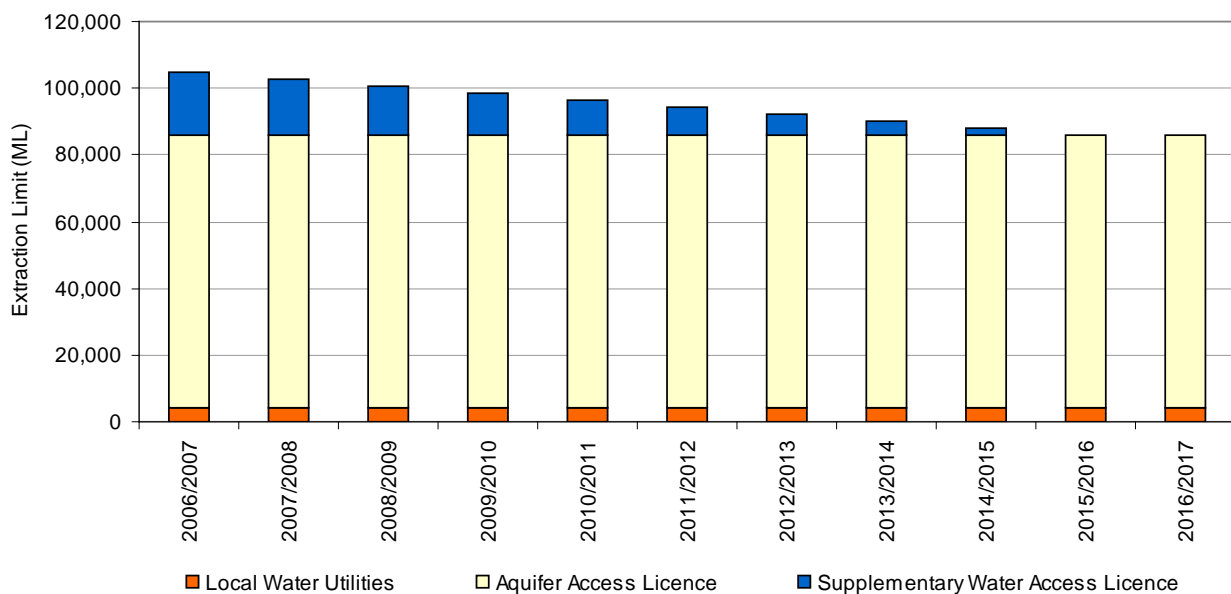


Table 2 Available Water Determinations for Access Licence Categories

Year of Plan	Water Year	Supplementary Water (ML per unit share)	Aquifer (ML per unit share)	Local Water Utility (%)
1	2006-2007	0.9	1	100
2	2007-2008	0.8	1	100
3	2008-2009	0.7	1	100
4	2009-2010	0.6	1	100
5	2010-2011	0.5	1	100
6	2011-2012	0.4	1	100
7	2012-2013	0.3	1	100
8	2013-2014	0.2	1	100
9	2014-2015	0.1	1	100
10	2015-2016	0	1	100
11	2016-2017	0	1	100

Access licence account management rules and groundwater extraction

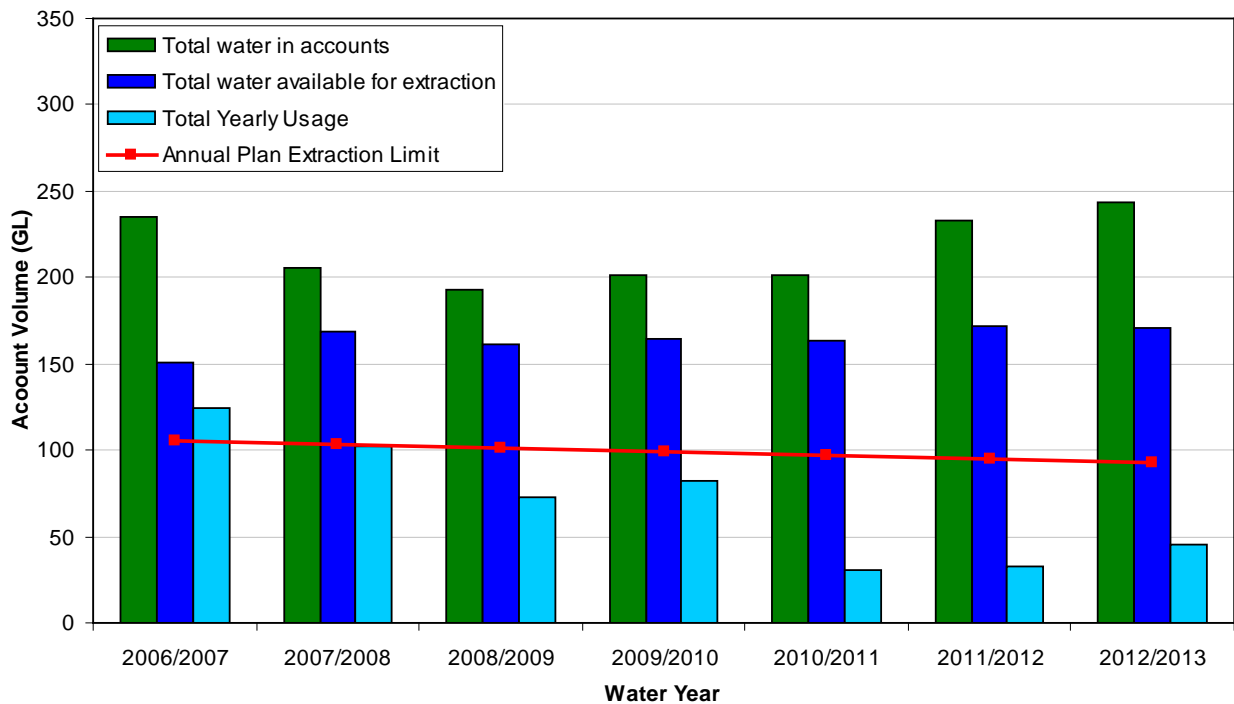
The Water Sharing Plan allows for accrual of unused allocation in access licence accounts. This includes the yearly available water determination for the Aquifer Access Licences plus any carryover of unused allocation up to a maximum of twice the share component. If the share component is zero, then all water held in the account at the end of the water year is forfeited.

The maximum amount of water permitted to be debited from an account in any one water year (i.e. account take limit) cannot exceed 2 ML per unit share component plus any allocation transferred in, and minus any allocation transferred out. This means that metered extraction plus transfers out cannot exceed 200% of share component, unless transfer in occurs. Any water held in the licence account in excess of the account take limit cannot be used or traded.

Local Water Utility Access Licences do not have any provisions for carryover.

Figure 3 shows the total water held in groundwater accounts and water available for extraction for the Lower Namoi for each water year for all accounts together with the annual plan extraction limits and yearly usage.

Figure 3 Lower Namoi water account information



Note: 2012/2013 water accounts not finalised at time of printing.

Groundwater dealings (trades)

Under the *WMA 2000* two general types of dealings (or water trades) are permitted. The permanent dealings are those that result in a permanent change to the access licence shares (71Q dealing) or a change in the location where extraction occurs within a water source (71W dealing). This could also result from subdivision or consolidation and change of access licences (71P/71W dealing). The temporary dealings (assignment of allocation or 71T dealings) are trades that results in a change in the volume of water held in an access licence account for a particular water year.

All trades in the Lower Namoi groundwater sources require some level of assessment. Trade areas (**Figure 4**) have been established to manage the impacts of additional extraction from groundwater trading.

The following general rules apply:

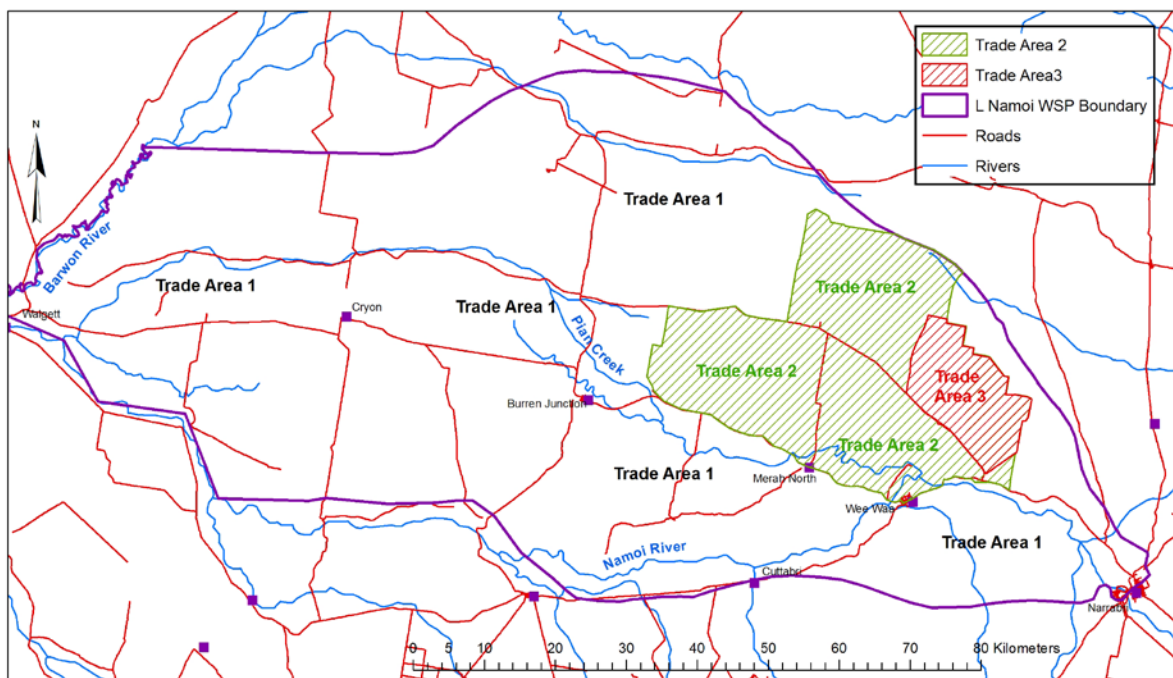
Permanent Dealings (71M, 71N, 71Q and 71W)

- Permanent dealings may be permitted:
 - between properties within the same trading zone,
 - from Area 3 into Areas 1 and 2,
 - from Area 2 into Area 1, and
 - from Area 1 into Area 2, or from Area 2 into Area 3, where seller and buyer properties are contiguous and are run as a single farming unit, but are dissected by a trade area boundary.
- All assessments for permanent trades will be done on the following criteria calculated at the end of a 10 year period:
 - The calculated drawdown at 200m from any production bore will not exceed 40% of the pre-development pressure head in the Water Source.
 - The additional drawdown at the nearest neighbouring bore screened in the same aquifer will not exceed 2m.

Temporary Dealings (71T)

- Temporary trades may be permitted:
 - between properties within the same trading zone,
 - from Area 3 into Areas 1 and 2,
 - from Area 2 into Area 1, and
 - from Area 1 into Area 2, or from Area 2 into Area 3, where seller and buyer properties are contiguous and are run as a single farming unit, but are dissected by a trade area boundary.

Figure 4 Local trade areas



A summary of all temporary and permanent dealings since the commencement of the Plan is provided in **Table 3**. This information can be obtained from <http://registers.water.nsw.gov.au> (go to the Register of water allocation assignments or transfer and share assignment statistics).

Note: The register only lists permanent dealings that have been finalised and registered with Land and Property Information (LPI) and may not represent the total number of dealings lodged with NSW Office of Water.

Table 3 Temporary and permanent dealings in Lower Namoi groundwater sources

Water Year	Temporary Dealings (71T dealings)		Permanent Dealings (71Q dealings)	
	Number	Volume (ML)	Number	Shares
2006-07	27	5,957	0	0
2007-08	30	8,608	1	141
2008-09	27	5,895	3	280
2009-10	24	5,227	0	0
2010-11	9	1,459	0	0
2011-12	5	875	1	50
2012-13	11	3,341	0	0

Groundwater levels

The NSW Office of Water monitors groundwater levels in approximately 620 bores at 258 sites throughout the Lower Namoi (**Figure 6**). At most of these sites multiple pipes are screened at different depths below ground surface. The graphs (**Figures 7 to 15**) show variation in water levels at each monitoring site over time expressed as metres below ground level or metres above sea level (m AHD). The depth of the screened intervals indicating the interval of the aquifer being monitored is noted on each graph.

The network includes 17 telemetered sites with continuous real time (logged) data available at <http://realtimedata.water.nsw.gov.au>

Figure 6 Monitoring bore locations

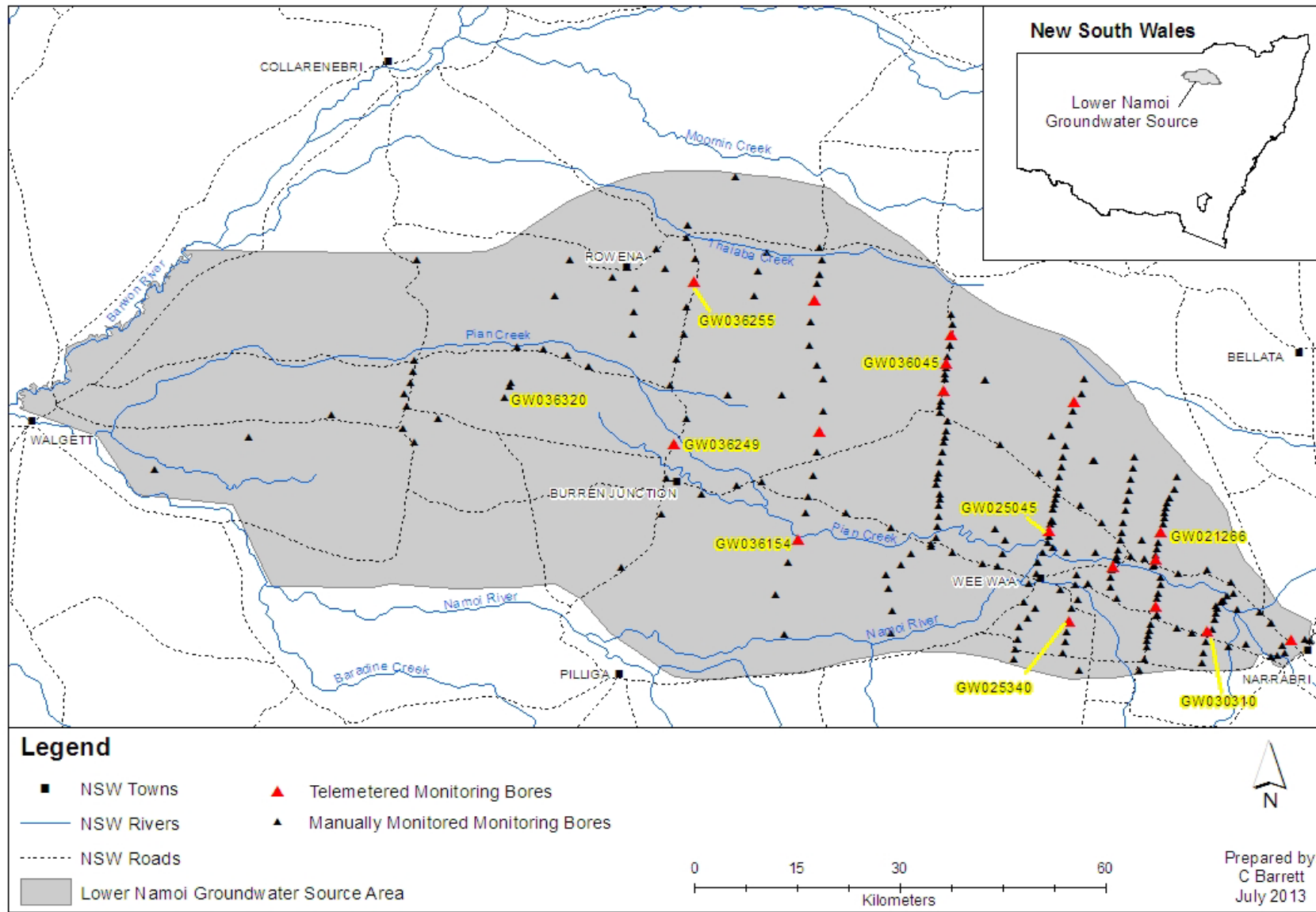


Figure 7 Hydrograph for monitoring site GW030310

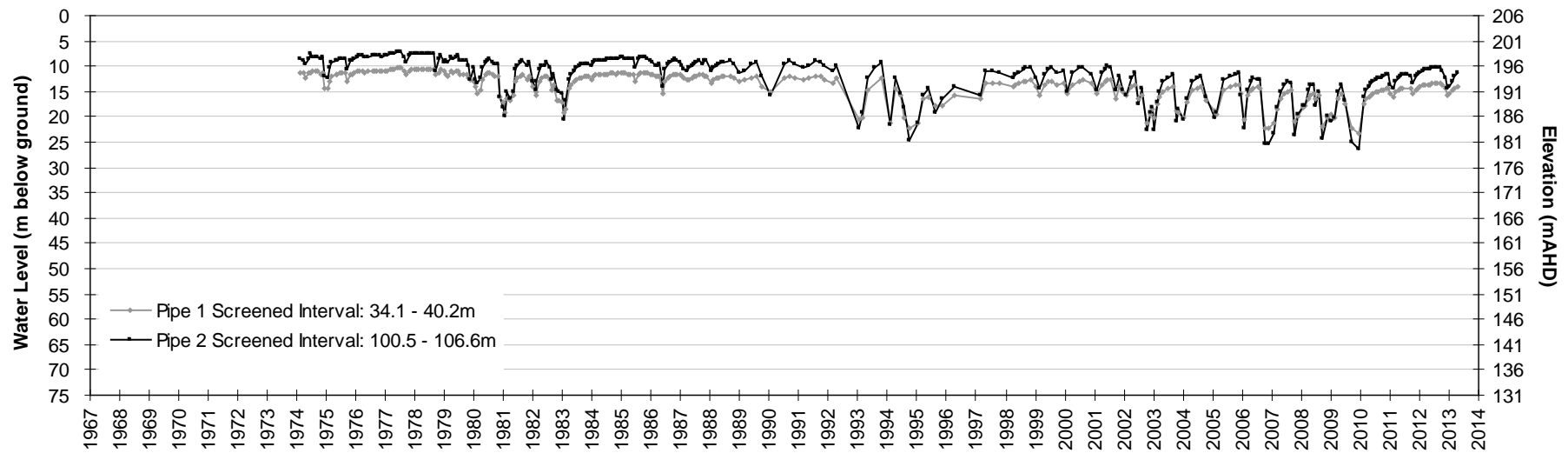


Figure 8 Hydrograph for monitoring site GW021266

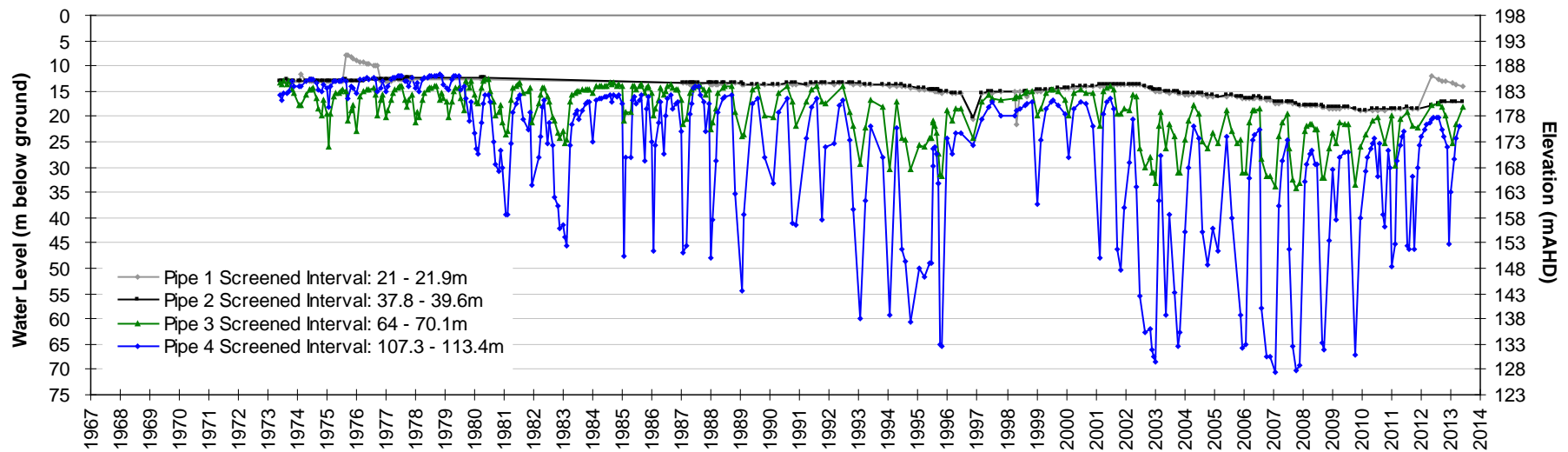


Figure 9 Hydrograph for monitoring site GW025340

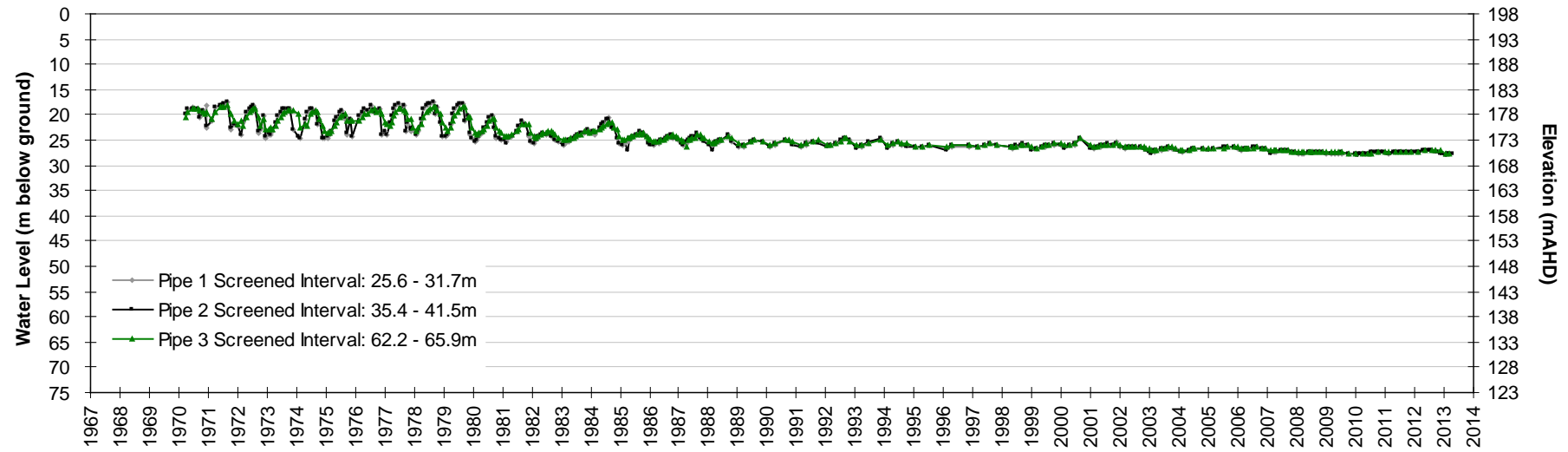


Figure 10 Hydrograph for monitoring site GW025045

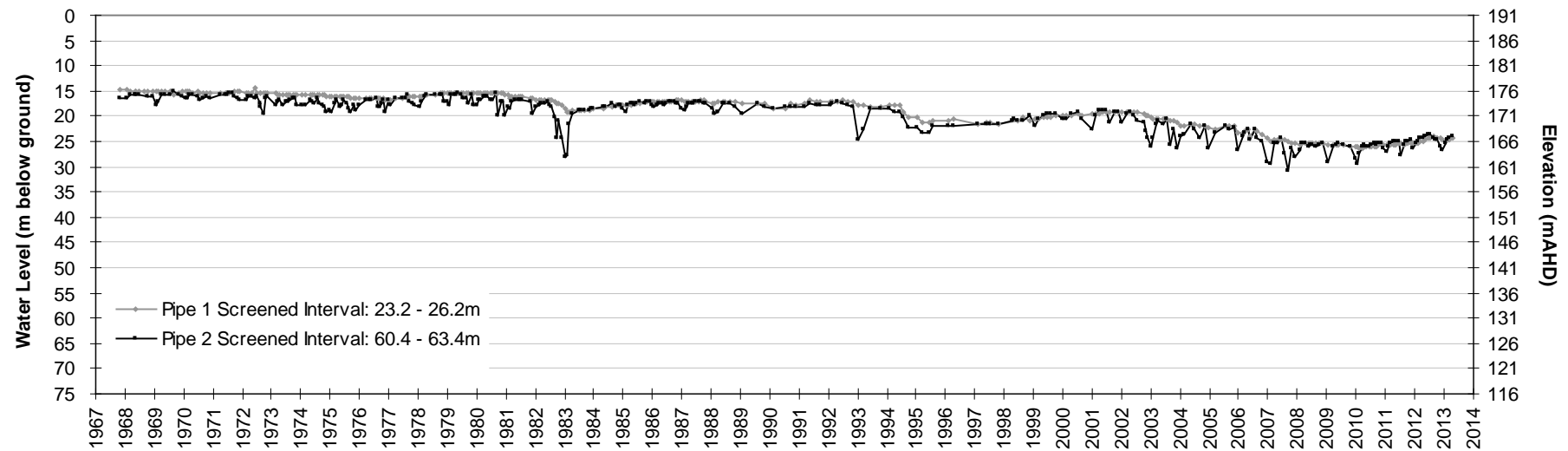


Figure 11 Hydrograph for monitoring site GW036045

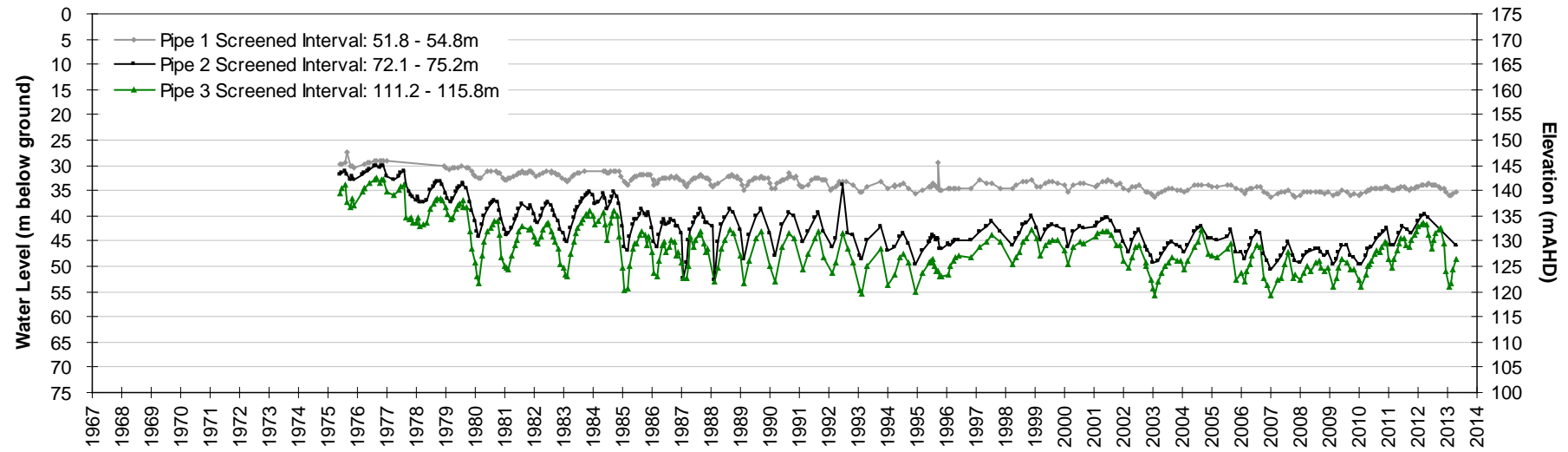


Figure 12 Hydrograph for monitoring site GW036154

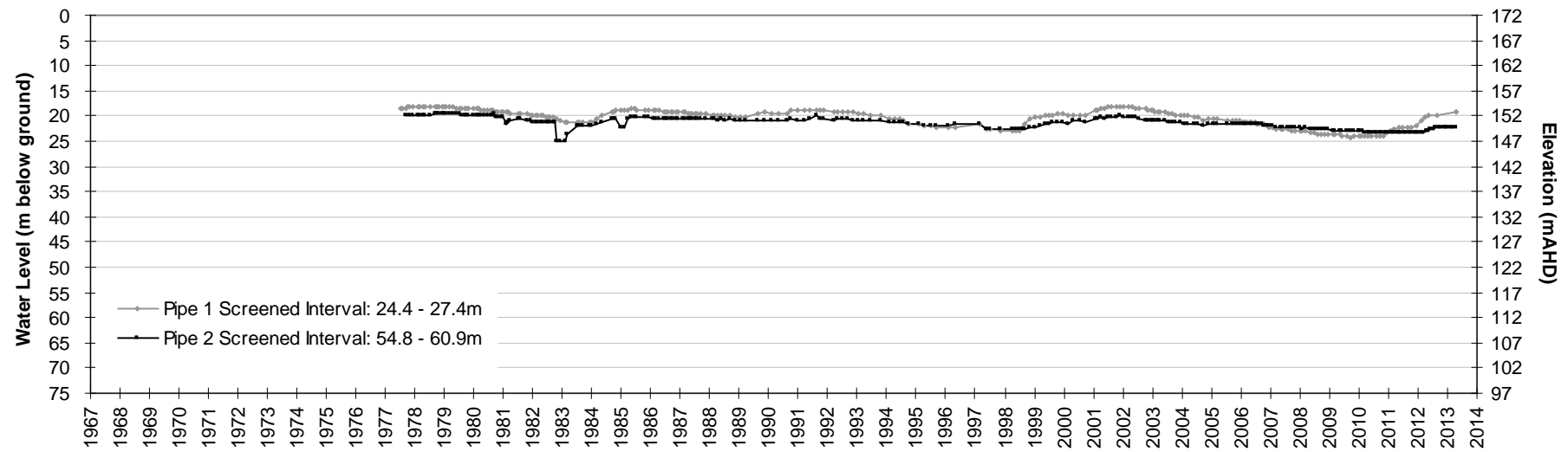


Figure 13 Hydrograph for monitoring site GW036249

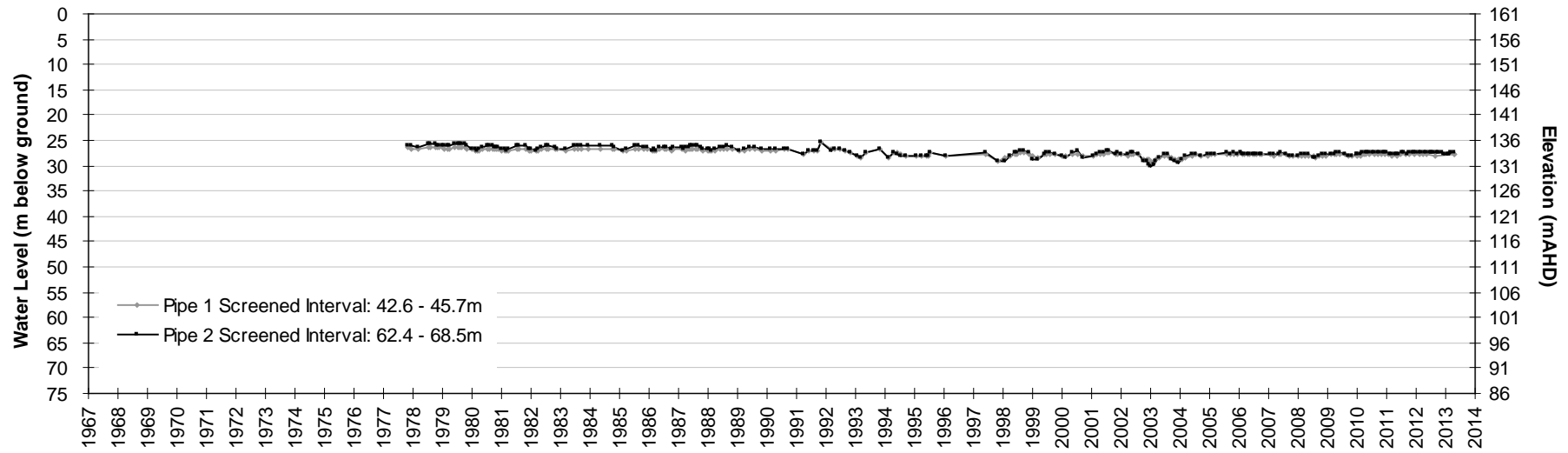


Figure 14 Hydrograph for monitoring site GW036255

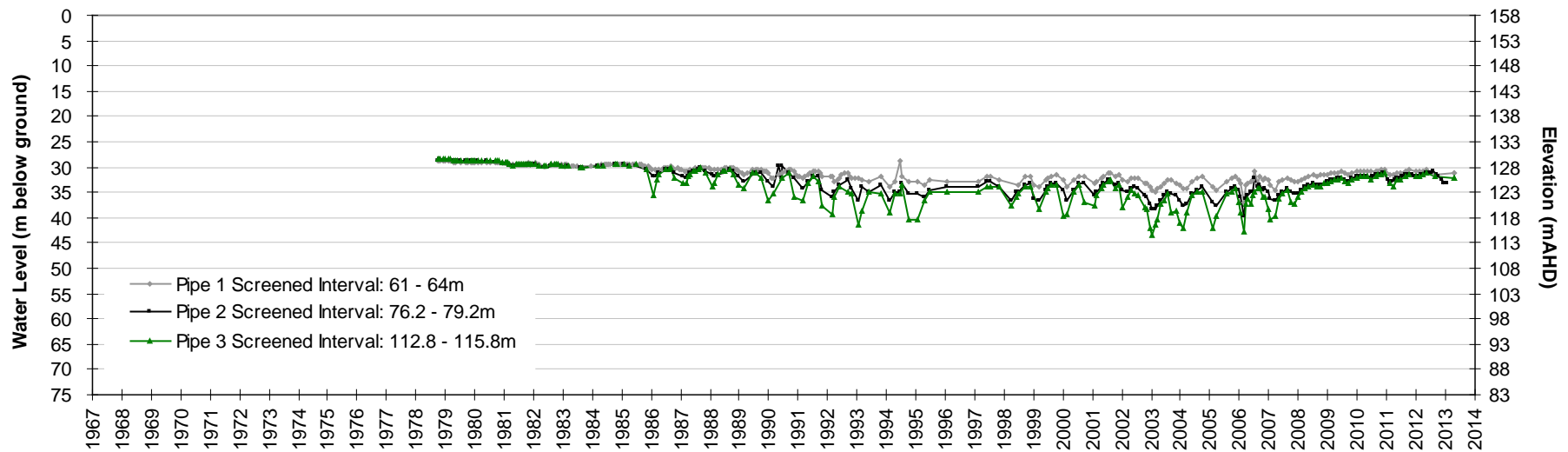
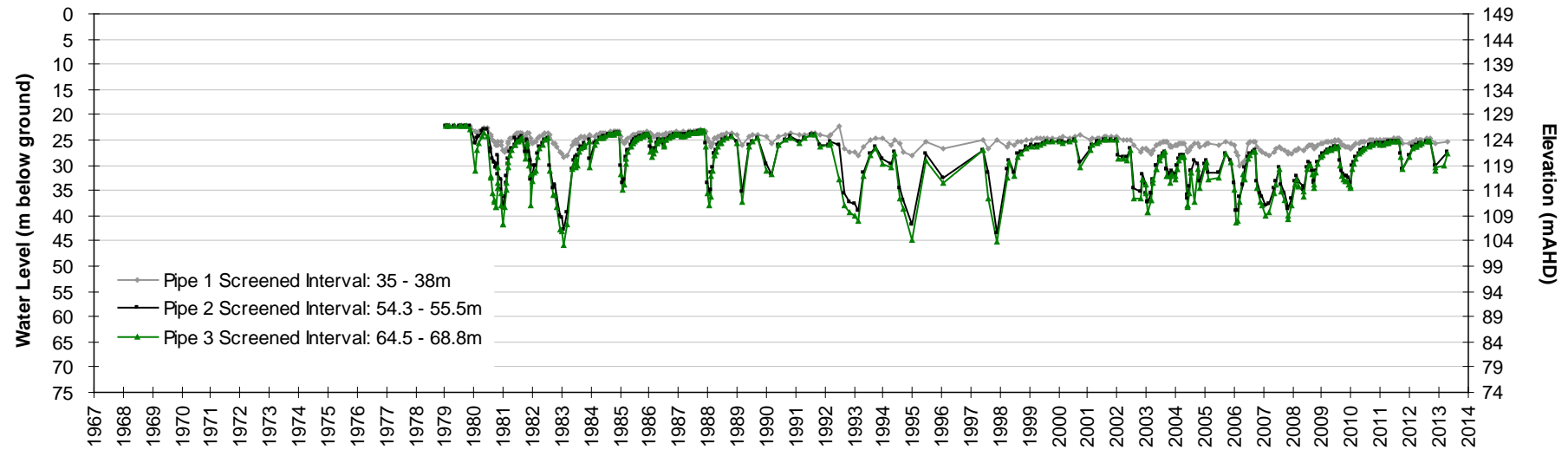


Figure 15 Hydrograph for monitoring site GW036320



More information

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