

Peel Alluvium Groundwater Source

Introduction

This report is a summary of water accounts, volume pumped and groundwater levels for the Peel Alluvium Groundwater Source for the period 1 July 2020 to 30 June 2021. It will be updated regularly.

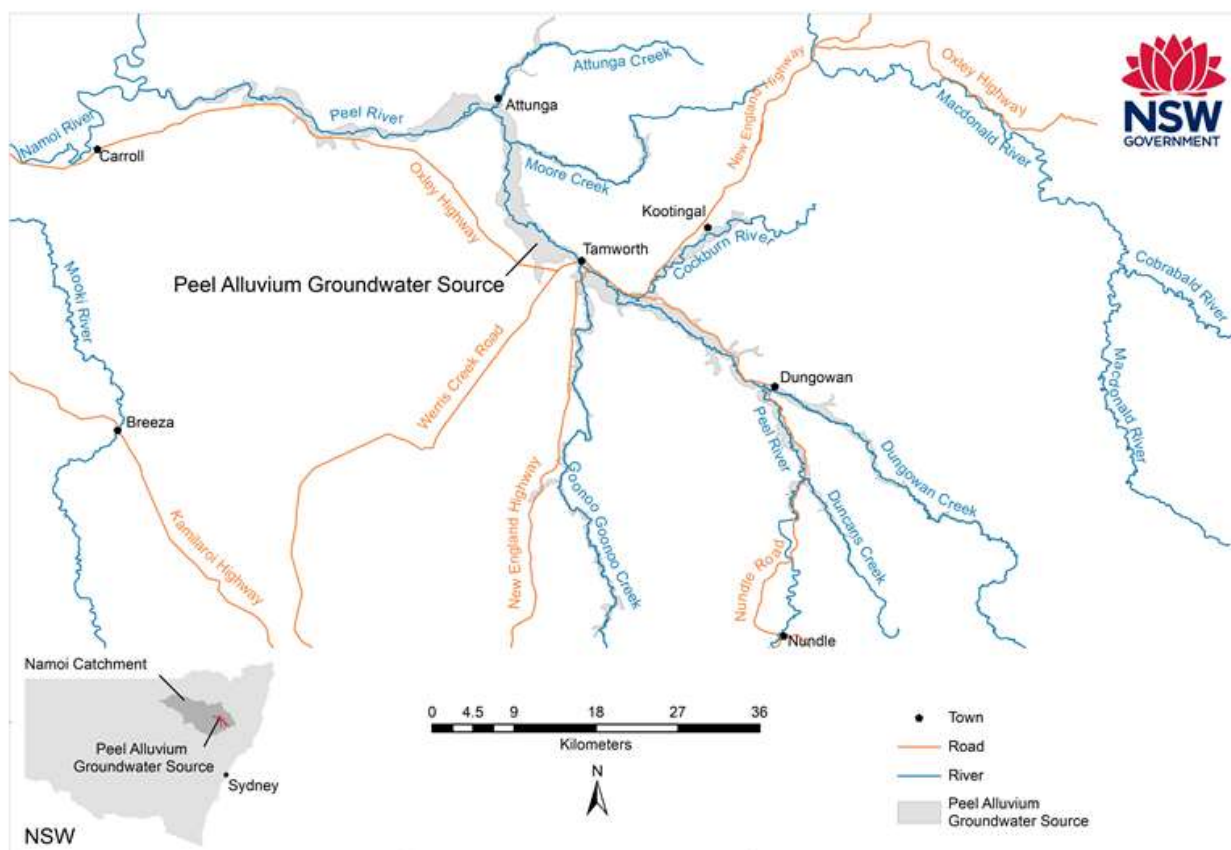
For detailed information of the hydrogeology, management and past long-term water level behaviour of this water source refer to the Groundwater Resource Description Report for the Namoi Alluvial Groundwater Sources:

www.industry.nsw.gov.au/__data/assets/pdf_file/0017/230804/Namoi-Alluvium-WRP-resource-description.pdf

Description

The Peel Alluvium Groundwater Source is located within the Peel catchment, a sub catchment of the Namoi River catchment. The Peel Alluvium Water Source extends from close to where the Peel River meets the Namoi River in the west, extending approximately 40 km east to Attunga, then south east approximately 80 km past Tamworth and Dungowan, including the Cockburn River and the Attunga, Moore, Dungowan, Duncans and Goonoo Goonoo Creeks (**Figure 1**).

Figure 1: Location map



The Peel Valley Alluvium Groundwater Source consists of relatively thin and narrow valley fill alluvial sediments associated with the Peel River and its tributaries and is comprised of gravel, sand, silt and clay.

Water resource management

Water sharing plan

The Peel Alluvium Groundwater Source is managed by the rules defined in the Water Sharing Plan for the Namoi Alluvial Groundwater Sources 2020.

This water sharing plan is available for viewing on the Department of Planning, Industry and Environment website at: www.industry.nsw.gov.au/water/plans-programs/water-sharing-plans/status/namoi-region

Basic rights

Basic landholder rights are available in this groundwater source for domestic and stock watering requirements. While landholders don't need an access licence to take water for domestic and stock purposes from groundwater below their property, the bore must be authorised by WaterNSW.

The volume of water set aside in the water sharing plan for basic landholder rights is 241 megalitres (ML).

An approval holder is responsible for monitoring water quality from the bore to ensure it is suitable for its intended purpose for the duration of the approval. Inherent water quality and land use activities may make the water in some areas unsuitable for use.

Water from the groundwater sources should not be used without first being tested and, if necessary, appropriately treated to ensure it is fit for purpose. Such testing and treatment are the responsibility of the water user.

Groundwater access licences

Groundwater access licence share components for 2020 - 2021 are presented in **Table 1**.

Table 1: Peel Alluvium Groundwater Source share component 30 June 2021

Access Licence Category	Number of Licences	Total Volume
Local Water Utility ¹	3	660
Aquifer ²	143	18,676
Aquifer (General Security) ²	191	32,368
Domestic & Stock ¹	2	39
Domestic & Stock (Domestic) ¹	5	170

¹ Megalitres/year (ML)

² Megalitres per unit share

Extraction limit

All groundwater sharing plans have rules to manage extraction in a water source to the long-term average annual extraction limit.

The extraction limit for Peel Alluvium Groundwater Source is 9,344 ML/year. Extraction in the Peel Alluvium Groundwater Source is not compliant if the **5 years** average annual extraction is more than **115%** of the extraction limit (known as the compliance trigger).

If average extraction exceeds the compliance trigger, then the available water determination made for aquifer access licences for the following water year, may be reduced by an amount that would return subsequent total water extraction to the extraction limit.

Information on tracking groundwater extraction against extraction limit for the groundwater source, including the likelihood of compliance being triggered in the current water year can be found at: www.industry.nsw.gov.au/water/allocations-availability/tracking-groundwater

For each inland groundwater source, the dashboard shows for the current water year:

- Volume that if extracted will reach the compliance trigger (in ML, calculated annually).
- Volume remaining to be extracted before reaching the compliance trigger (in ML, calculated throughout the year).
- The likelihood that access to groundwater may be reduced in the next water year.

Note: the information on the dashboard is limited by the extraction data available at the time.

Available water

Carryover of unused account water from one water year to the next is not available for domestic and stock, local water utility and aquifer (general security) access licenses in this groundwater source. Total water availability in a water year is controlled by the available water determinations credited to an access licence account.

For aquifer access licenses, the maximum amount of water that can be debited from an account in any three consecutive water years cannot exceed the available water determination (AWD), plus any allocation transferred in (temporary trade), minus any allocation transferred out. This means that metered extraction plus transfers out cannot exceed the AWD, unless water is transferred in.

Total account water for period 2012-13 to 2020-21 is displayed in

Figure 2, showing the proportion available for use and what is not available for use in a year. Total yearly extraction is also displayed.

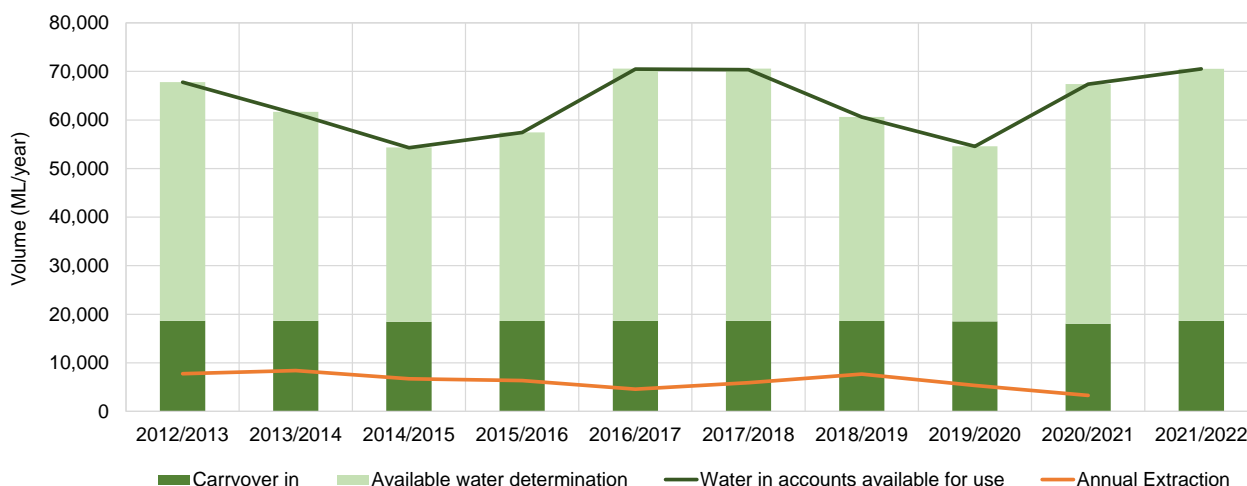
Note: all access licence categories have been combined in

Figure 2.

The access licence account information for the Peel Alluvium Groundwater Source on 1 July 2021 is summarised below:

- Carryover In: 18,661 ML.
- Available water determination: 51,882ML.
- Total water in account: 70,543ML.
- Total water available for use: 61,511 ML.

Figure 2: Account water availability and usage summary for Peel Alluvium Groundwater Source



Water sharing plan management zones

The Peel Alluvium Groundwater Source is divided into the following management zones (**Figure 3**):

- Peel Regulated River Alluvium Management Zone
- Attunga Creek Alluvium Management Zone
- Moore Creek Alluvium Management Zone
- Cockburn River Alluvium Management Zone
- Dungowan Creek Alluvium Management Zone
- Duncans Creek Alluvium Management Zone
- Goonoo Goonoo Creek Alluvium Management Zone

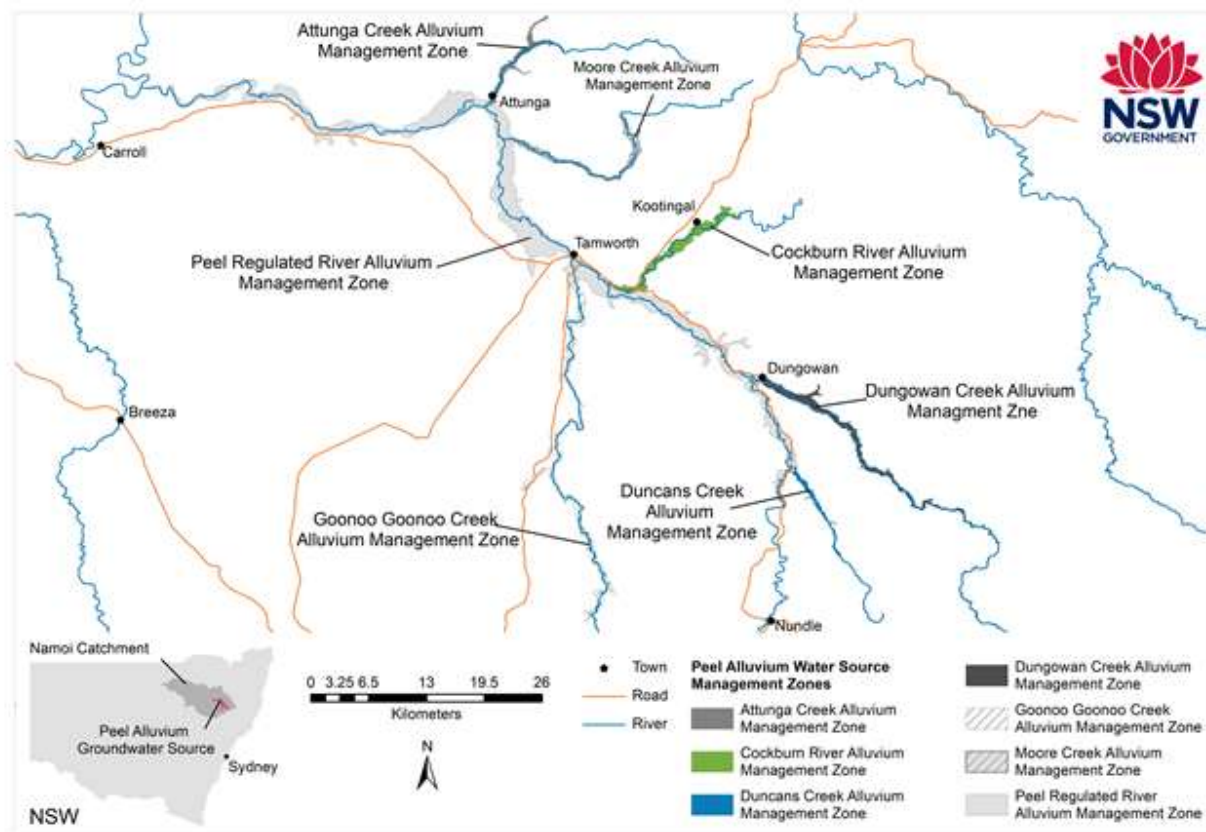
The alluvium within the Peel Regulated River Alluvium Management Zone is highly connected to the Peel River. The available water determinations for the aquifer (general security) access licences in the Peel Regulated River Alluvium Management Zone are linked to those of the Peel River general security access licences.

The allocations for these licences are based on:

- 51% of the available water determination of aquifer access licences, plus
- 49% of the AWD made for regulated river (general security) access licences in the Peel Regulated River Water Source.

The 2020-2021 allocations made available the full entitlement for each category and subcategory of access licence, except for aquifer (general security) access licences, which received 0.92 ML per share.

Figure 3: Management zones in the Peel Alluvium Groundwater Source



Groundwater trading

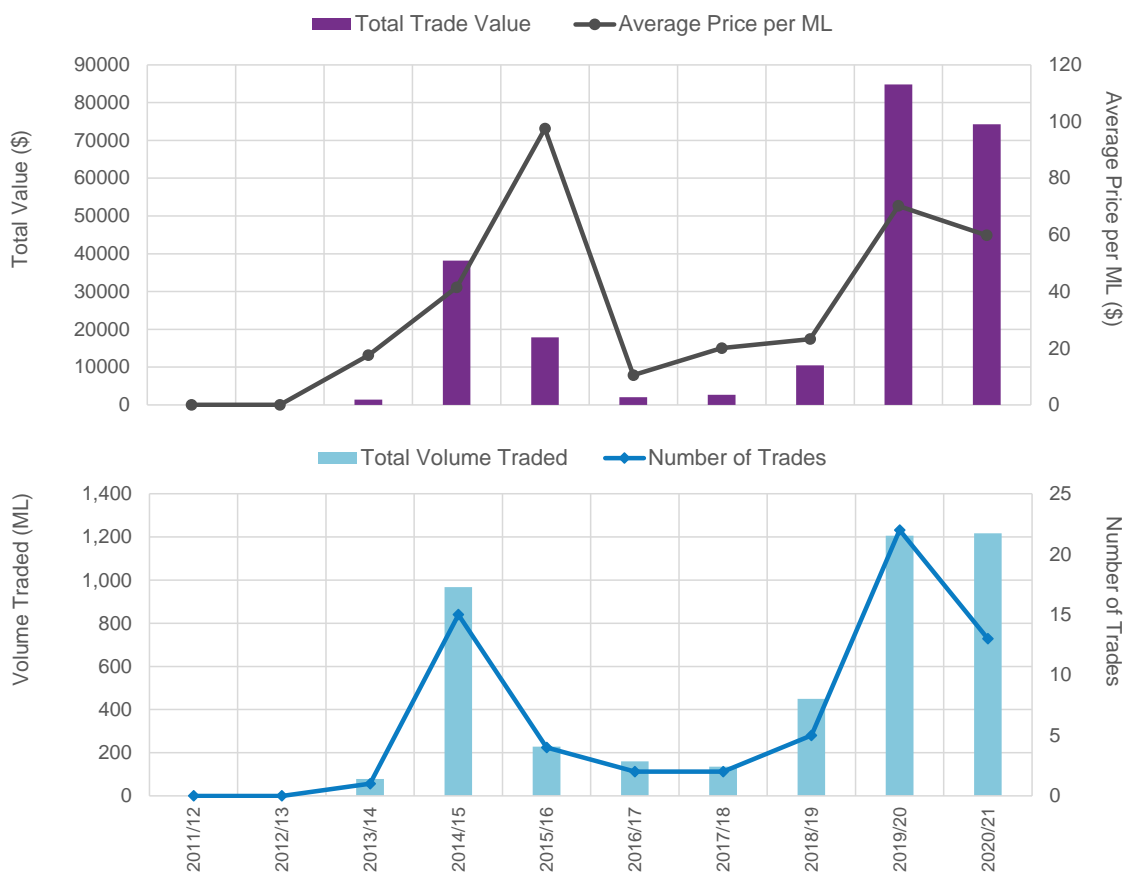
Trades are permitted within the Peel Alluvium Groundwater Source management zones, but not between them and other groundwater sources in NSW.

Allocation assignments (temporary trade)

Trading statistics for the Peel Alluvium Groundwater Source are illustrated in **Figure 4**, excludes trades for less than \$1 per megalitre. The average value paid per megalitre in 2020-21 was \$59.85, while the maximum value was \$100 per megalitre.

Further information on water licences, approvals, water trade, water dealings and other matters related to water entitlements in NSW, can be found on the NSW Water Register at: waterregister.watersw.com.au/water-register-frame

Figure 4: Peel Alluvium Groundwater Source temporary trade statistics



Bores

There are approximately 1,012 registered bores across the Peel Alluvium Groundwater Source (**Figure 5**). The majority of these bores are used for stock and domestic purposes (Basic Landholder Rights). There is also significant use of groundwater for irrigation (**Table 2**).

Bores in the Peel Regulated River Alluvium Management Zone and Cockburn River Management Zone can yield more than 100 ML/year, the rest of the Peel Alluvium generally yields up to 100 ML/year (**Figure 6**).

Table 2: Approximate number of licensed bores in Peel Alluvium Groundwater Source (at June 2021)

Groundwater Source	Registered Bore Purpose		
	Basic Landholder Rights	Production	Local Water Utility
Peel Alluvium Groundwater Source	434	564	14

Water level monitoring

WaterNSW monitors groundwater levels at 49 monitoring bores at 48 sites in the Peel Alluvium Groundwater Source (**Figure 7**). At some monitoring sites there are two or more pipes monitoring different depths. The depth monitored by each pipe reflects the depth where the casing is slotted to allow groundwater entry into the pipe.

A hydrograph is a plot of groundwater level or pressure from a monitoring bore over time. A representative sample of hydrographs from monitoring bores have been selected and are presented in

Figure 8 to Figure 15.

Data for the monitored bores, as well as private bore information, can be obtained from the WaterNSW real time data portal (realtimedata.waternsw.com.au/). Data is also available for three of the groundwater monitoring sites in real-time via telemetry.

You can also request information via: Customer.Helpdesk@waternsw.com.au

Figure 5: Peel Alluvium Groundwater Source registered bores

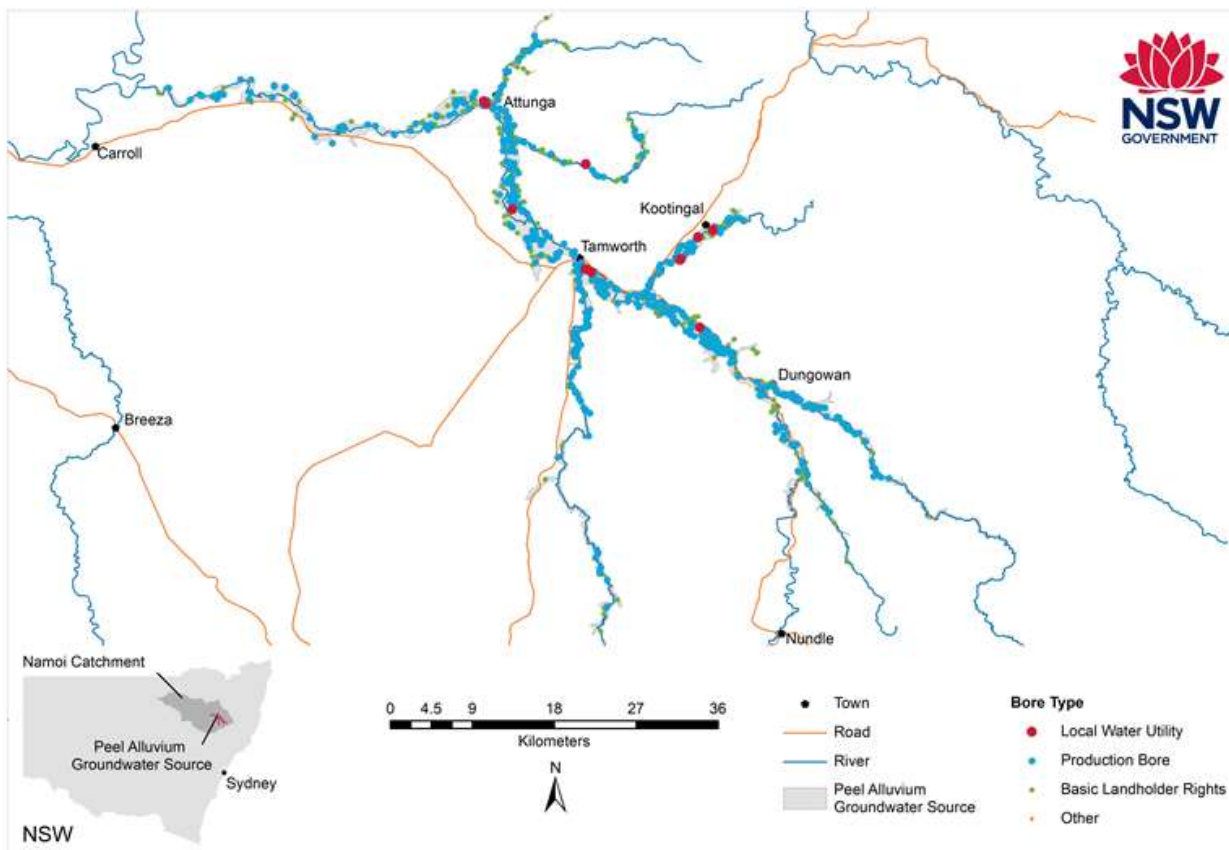


Figure 6: Peel Alluvium Groundwater Source water supply bores and distribution of extraction

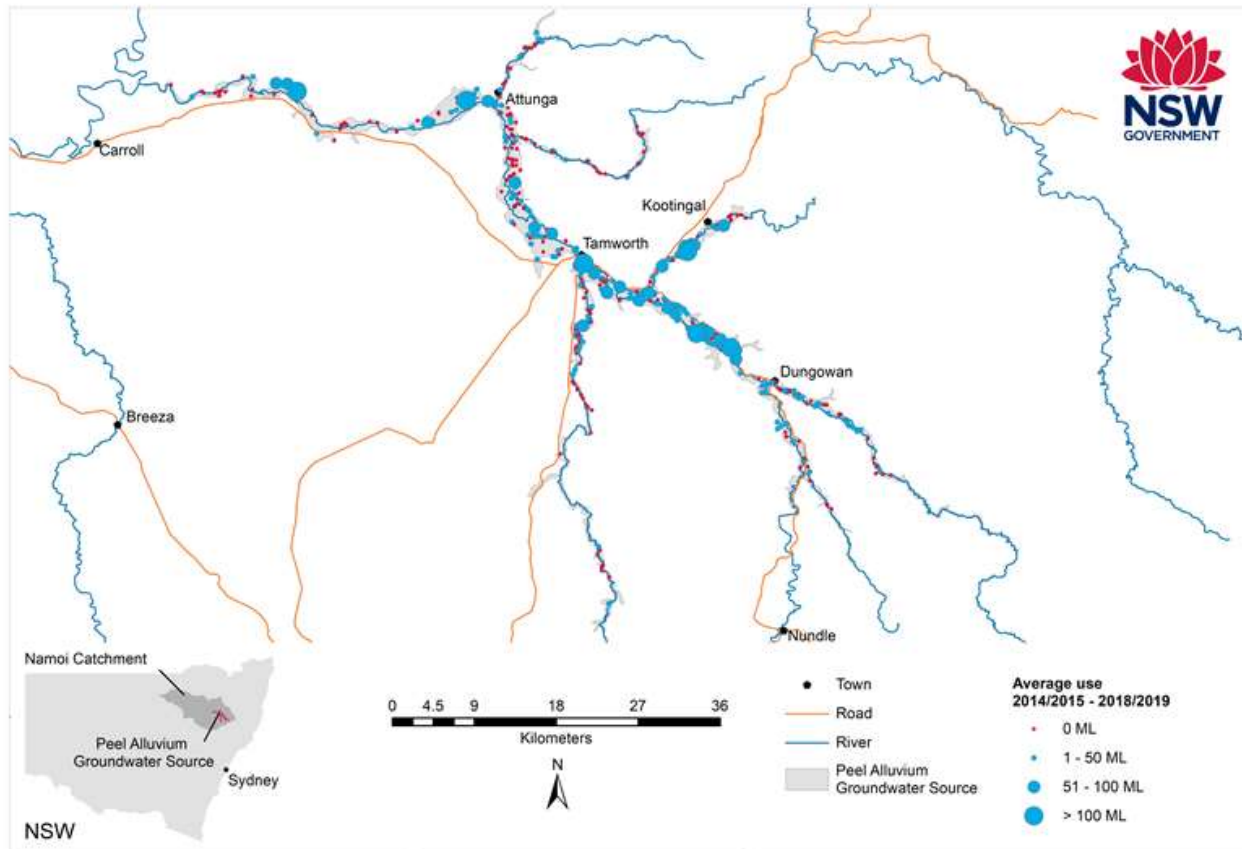


Figure 7: Peel Alluvium Groundwater Source monitoring bore sites

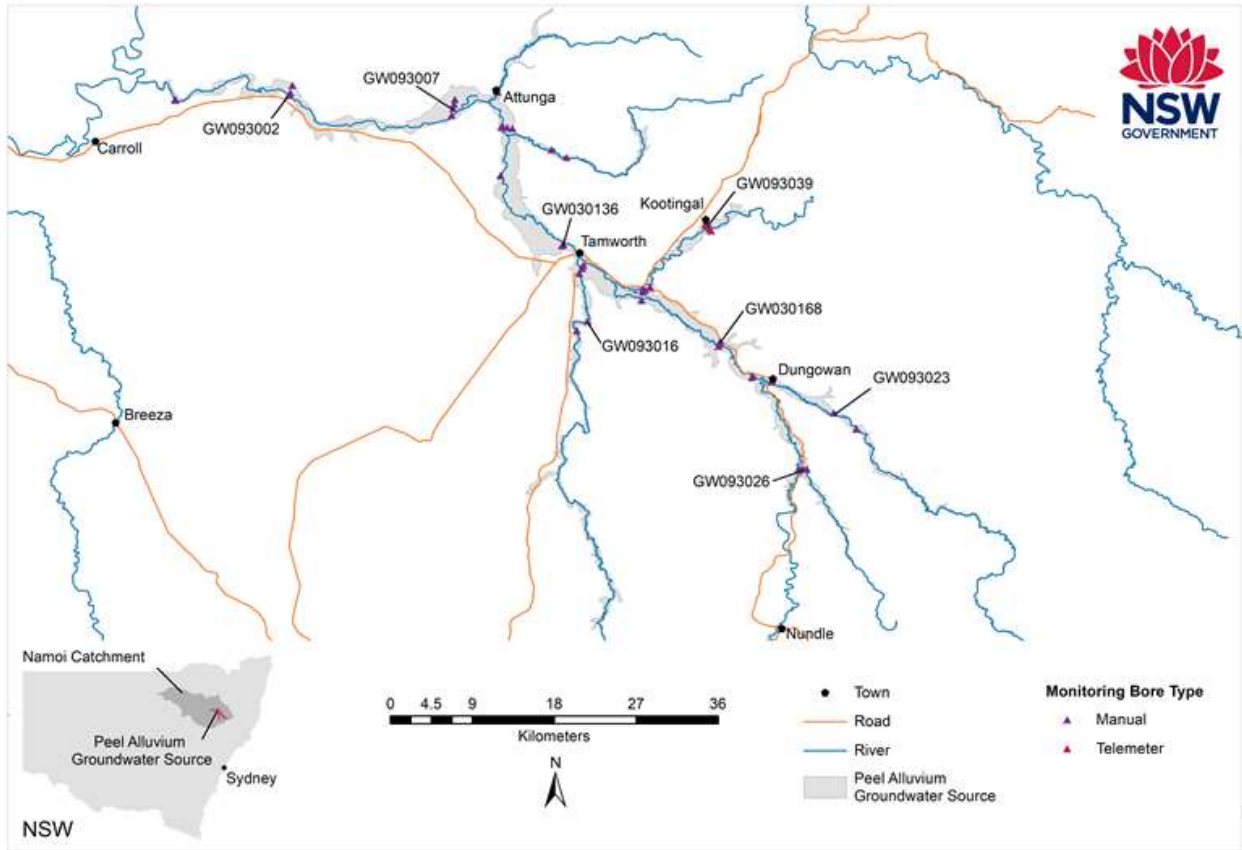


Figure 8: Hydrograph for monitoring bore GW030136

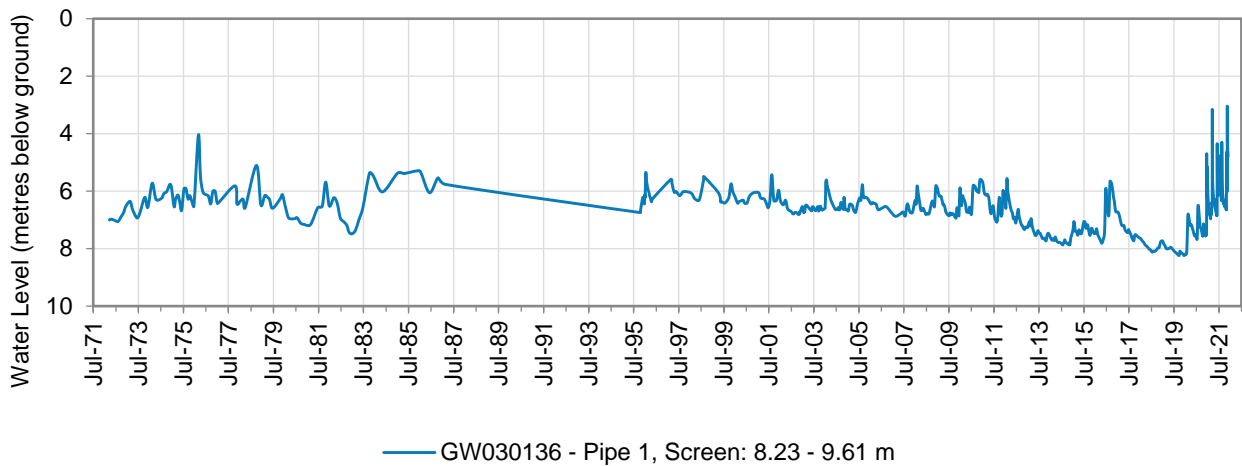


Figure 9: Hydrograph for monitoring bore GW030168

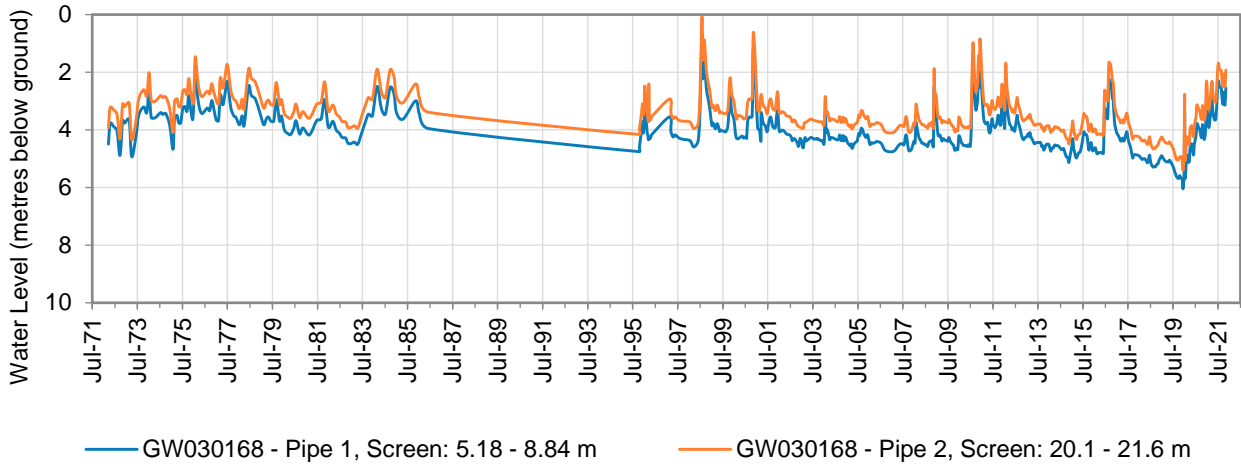


Figure 10: Hydrograph for monitoring bore GW093002

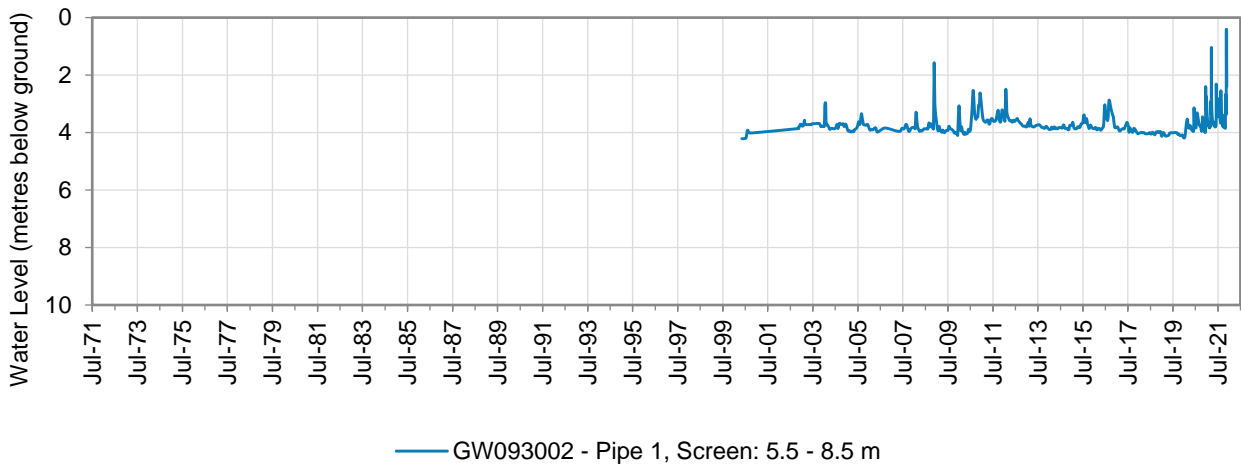


Figure 11: Hydrograph for monitoring bore GW093007

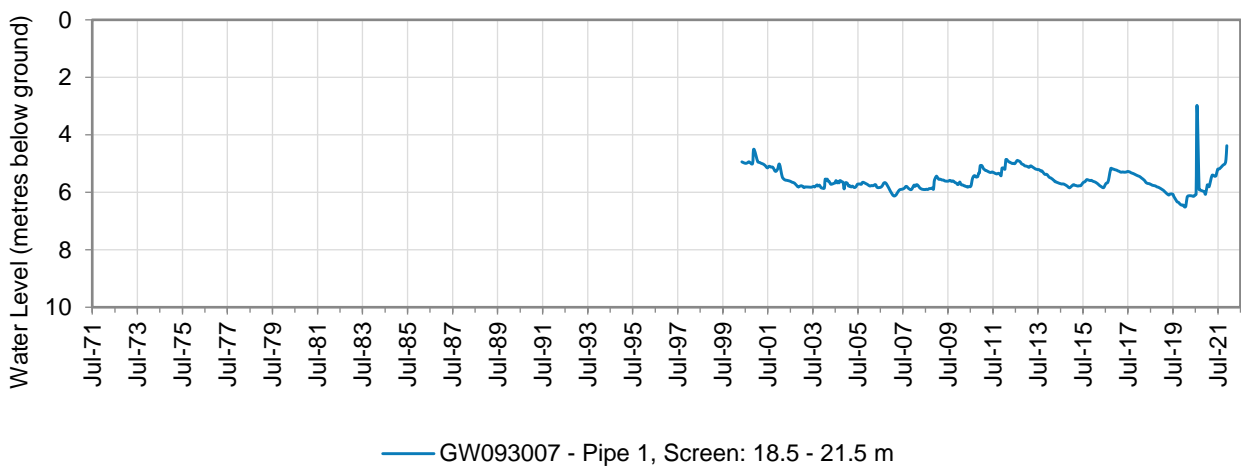


Figure 12: Hydrograph for monitoring bore GW093016

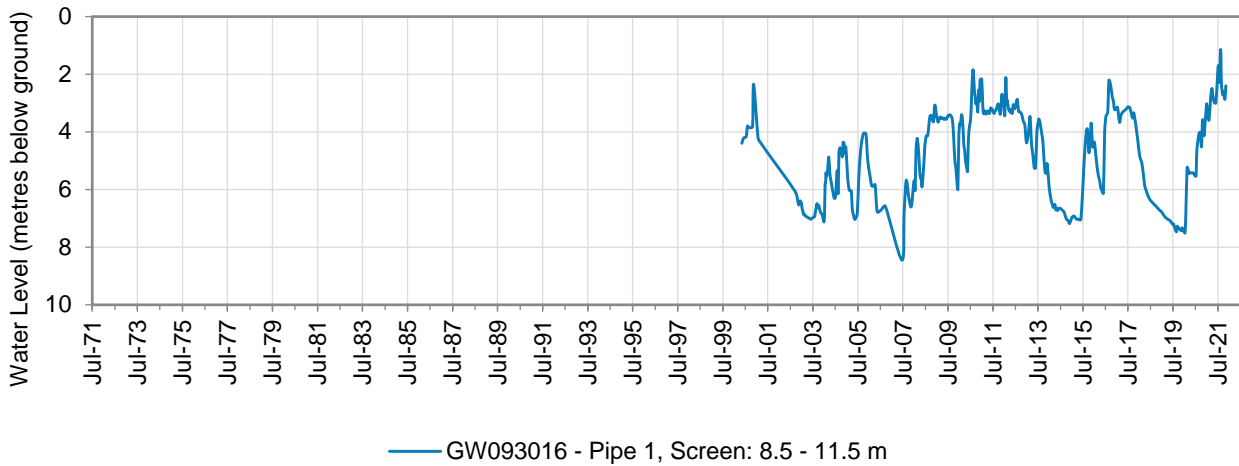


Figure 13: Hydrograph for monitoring bore GW093023

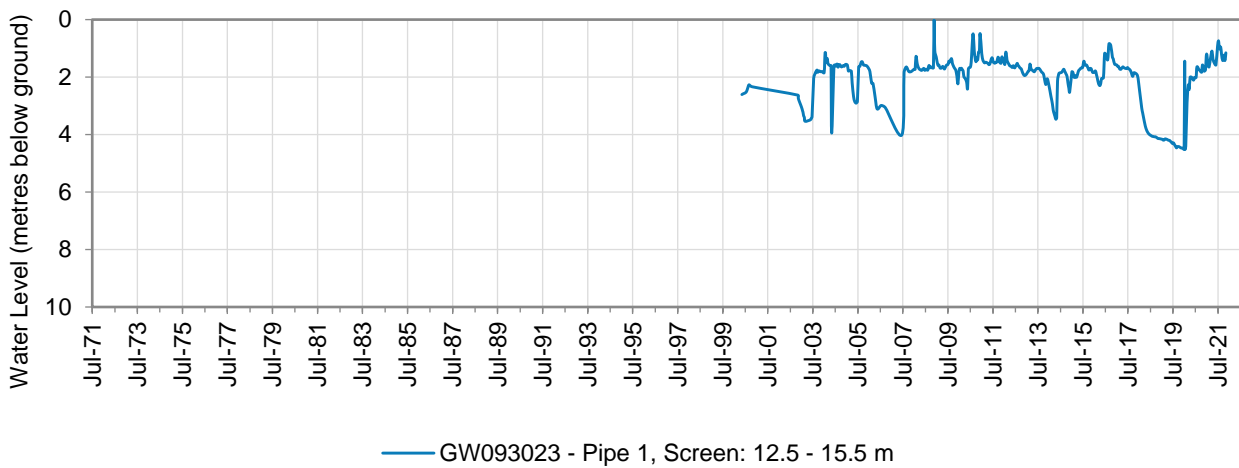


Figure 14: Hydrograph for monitoring bore GW093026

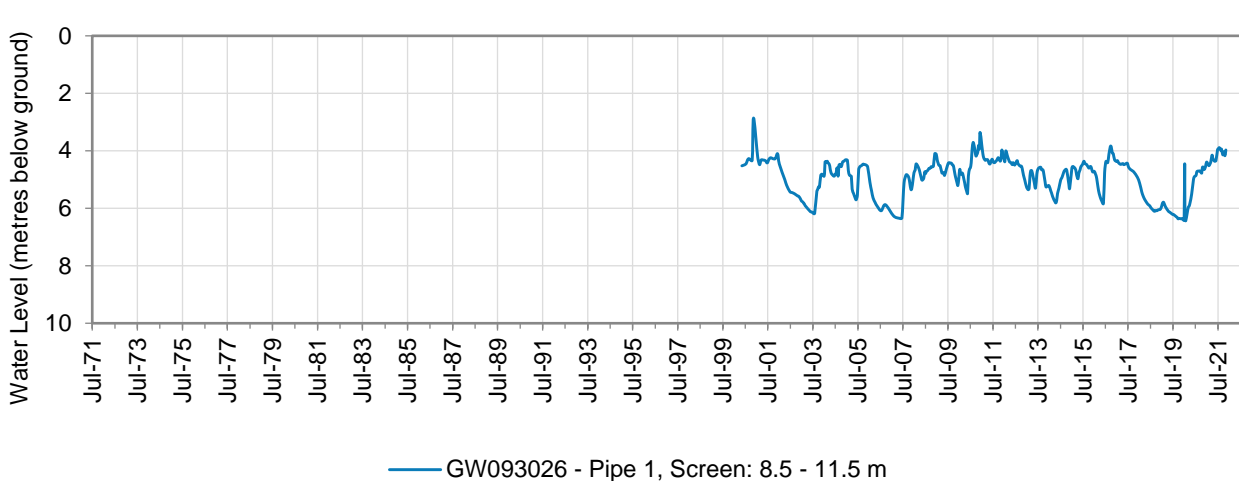
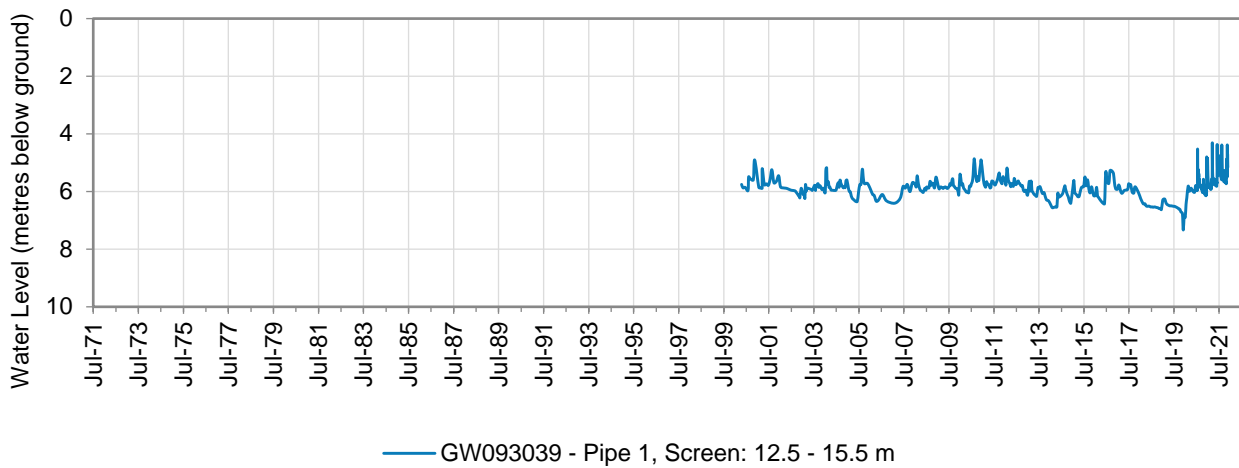


Figure 15: Hydrograph for monitoring bore GW093039



© State of New South Wales through Department of Planning, Industry and Environment 2021 The information contained in this publication is based on knowledge and understanding at the time of writing (November 2021). However, because of advances in knowledge, users should ensure that the information upon which they rely is up to date and to check the currency of the information with the appropriate departmental officer or the user's independent adviser.