

## Can sinking a bore solve your stock water issues?

*Some farmers in the Barossa Ranges have recently dug and equipped bores for stock water supply as their surface storages have not been adequate. Various factors need to be considered before establishing a new bore for stock water. This fact sheet outlines existing information on underground water, legal aspects for accessing water and summarises a case study of a local landholder sinking a bore.*

### Underground water resources in the Barossa Ranges

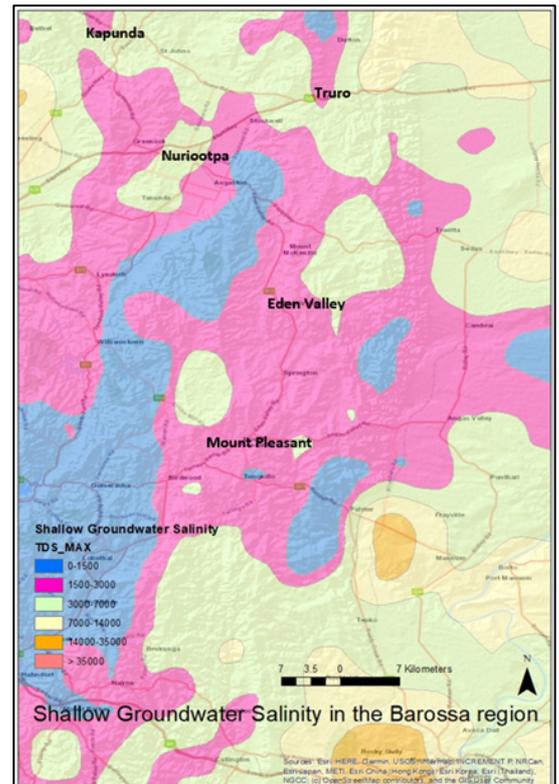
Most of the underground water in the Barossa Ranges is contained in fractured rock aquifers so accurate predictions of quality and yield are difficult. There is no definitive “map” of underground water resources, as numerous layers exist holding varying amounts of water with a wide range of quality. A general guide of local ground water quality (Figure 1) highlights better quality water closer to Angaston and Mt Pleasant although there is considerable variation throughout the region.

Another factor in assessing bores is yield, that is, how quickly water can be drained from the rock strata and again this is extremely variable in fractured rock aquifers. Drill holes in South Australia are logged and mapped. NatureMaps, hosted by the Department for Environment and Water has a drill hole data layer set and querying an individual drill hole will provide data from [WaterConnect](#) (groundwater data) that usually includes a salinity measurement and often a yield measurement.

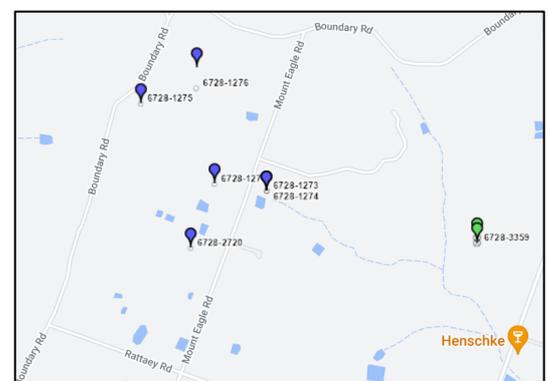
Checking drill hole data is a good guide of underground water quality and yield in your area. An example of the location of holes near Keyneton is shown in Figure 2. Professional advice can also be obtained on likely success and the best locations for bores.

### Livestock water quality

Water quality is important for the type of stock you are running. In particular, water salinity impacts stock health with different types of stock having different requirements. For sheep it is desirable to have <6000mg/l for healthy growth and for beef cattle <4,000 mg/l for healthy growth. (For further information about stock water quality visit [SheepConnect SA](#)).



**Figure 1. General groundwater salinity in the Barossa region.**



**Figure 2. Example of a well location near Keyneton on WaterConnect.**

## Legal aspects

Important water resources in South Australia are protected and managed by being ‘prescribed’ under the Landscape South Australia Act 2019. This enables sustainable management of the water resource to provide security for all water users, including the environment. Once a water resource is prescribed, all people who take water from that prescribed resource need a licence or approval from the Minister for Environment and Water. Smaller broadacre stock and domestic uses are often exempt in some catchments/water resource areas although taking water for intensive stock production such as feedlots, piggeries, chicken farms etc require licensing requirements (contact your local SA Landscape Board for further information). Water for firefighting is also currently exempt.

There are several prescribed water resources areas in this region including: Barossa, Marne River and Saunders Creek, Western Mount Lofty Ranges and Eastern Mount Lofty Ranges. The Landscape Boards are the relevant authority for surface and watercourse water. For the Northern and Yorke Landscape region visit the Boards webpage, ‘Water Affecting Activities’ <https://www.landscape.sa.gov.au/ny/water/water-affecting-activities>.

For information about applying for a permit to drill or repair a bore that is administered through the SA Department for Environment and Water visit, <https://www.environment.sa.gov.au/licences-and-permits/water-licence-and-permit-forms>.

## BIGG case study: sinking a bore

Michael Evans engaged drillers to sink a bore on his property at Flaxman Valley in 2021. The bore is 105 m deep, yields 2,000 L/hr and has a salinity level of 2,000 mg/L. The bore is situated at a high point on the property and provides water to 62 paddocks across it. Its establishment has substantially improved the properties “water security”. Costings for the project were:

- Bore drilling, steel casing, PVC casing and surface casing: \$16,878 (~ \$161/m)
- Solar Pump from Solar Water Pumps Australia (Kapunda): \$10,184
- Trenching using a Vermeer Trencher from Barossa Valley Hire: \$300/day
- Pipe and fittings: \$500 (plus any additional tanks)



Source: Michael Evans

***This BIGG case study is supported through funding from the Australian Government  
Smart Farms Small Grants***