



Key tips for protecting our groundwater

- **Reduce your reliance on bore water.** Our rainfall has reduced, which means less water to recharge our aquifers. Continued housing development in some areas can increase the number of new garden bores and the use of groundwater.
The Department of Water has drawn up a map of Perth's groundwater area with boundaries showing which areas are better suited for bores.
- **Design gardens and landscaping to enhance maximum absorption of rainfall into the groundwater and minimise evaporation.** Use local native plants, mulch and subsurface irrigation.
- **Reduce your use of fertilisers and chemicals.** These can contaminate groundwater, particularly products high in phosphate.
- **Reduce water use through a variety of water saving mechanisms in the home and garden.**
- **Re-use water from the home in the garden – this includes bucketing greywater from the laundry and bathroom as well as water from downpipes connected to your house gutters. You can also install a subsurface greywater reuse system. For further information, contact your local council or visit www.water.wa.gov.au**

For your watering days and other information on water saving in homes and gardens visit www.watercorporation.com.au or call 1800 508 55

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Looking after all
our water needs

Extracting
groundwater



Water quality

The quality of groundwater can be affected in many ways.

- The use of lawn and garden fertilisers heavy in phosphate is a major issue in Perth. Phosphates easily soak through the sand plain into the aquifer, rivers, ocean, creeks and swamps. This results in aquatic life dying and the growth of dangerous algae in freshwater lakes and rivers.
- Oils, paint thinners, various workshop chemicals – if poured into the sandy soil – will soak through to the aquifer and create long-term pollution issues.
- Heavy metal particles are dangerous to our health, as are hydrocarbons. These come from vehicle fuel systems, brake linings and exhaust systems. When vehicles are parked on private driveways and carports, such material will wash into your private soak wells and eventually into the aquifer. Remember to clean out your soak wells annually, to remove any leaf and pollutant build-up. This will also aid in the efficiency of your soak wells and reduce internal flooding problems.

Groundwater – the situation

Over two-thirds of Perth's water supply comes from groundwater. The Perth region has an underground geology which includes large areas of deep sand and limestone. Rain falling over this area and running off the hills builds up underground as a shallow semi-freshwater aquifer, which is available for household bores in some areas.

The freshwater aquifer is renewed each year with rainfall. With rainfall continuing to decline in Perth, and more homes being equipped with bores, the draw on the aquifer is increasing, thus creating a threat to ongoing bore water supply.

Groundwater recharge

Traditionally, stormwater run-off from roofs and roads and other surfaces has been collected in drainage pipes and exported into the ocean or waterways.

This 'lost' water can be a valuable resource to recharge a shallow groundwater aquifer. Sandy soils are extremely permeable and well suited to infiltration of stormwater to increase groundwater levels.

Recharging the groundwater aquifer with stormwater helps manage the local water cycle balance and prevents problems associated with increased bore water extraction, acid sulphate soils, salinity and waterlogging.



Managing local stormwater

'Stormwater' is a term used to describe the water which runs off surfaces such as houses and driveways and flows down into drains and stormwater pipes.

Poor stormwater management can damage not only individual properties but the environment in general. Local councils invest significant amounts of money into operating and maintaining the stormwater network.

Maximising infiltration of stormwater into groundwater can be achieved by replacing traditional drainage pipes with infiltration devices such as soakage pits and bioretention swales, as illustrated below.

