

GROUNDWATER

in the Blue Mountains



Photo: Ingar Swamp, Blue Mountains National Park

Why is groundwater of value?

Groundwater provides the baseflows of streams and sustains groundwater dependent ecosystems such as Blue Mountains Swamps, creeks, lakes and cliff-related springs/ seepages.

The over-extraction of groundwater for domestic and commercial consumption has the potential to adversely impact on groundwater availability for groundwater dependent ecosystems.

Excessive extraction of GROUNDWATER from BORES threatens GROUNDWATER DEPENDENT ECOSYSTEMS.



Photo: Installing a groundwater bore (Sourced from HCCREMS)

What is groundwater?

Groundwater refers to all water found beneath the ground surface (often referred to as bore water) and associated groundwater aquifers.

Groundwater in the Blue Mountains is **recharged** (added to) from rainwater that infiltrates the ground surface and permeable sandstone layers. This feeds underground water stores (**aquifers**) that sit above impermeable layers of claystone or shale (**aquicludes**).

Groundwater is stored in deeper aquifers for days, months, years, even thousands of years before it emerges as a **spring** to provide baseflows to streams, pools and swamps.

Install a RAINWATER TANK and help protect groundwater in the Blue Mountains.

Rainwater tanks also protect our streams by reducing damaging stormwater flows.

Check for State Government rebates for all water and energy efficient products.



Photo: Rainwater tank (www.wsud.org)

GROUNDWATER

THREATS AND IMPACTS in the Blue Mountains

CLIMATE CHANGE could significantly reduce groundwater levels. Potential impacts include: less rainfall, higher temperatures, increased evaporation and more extreme weather events.

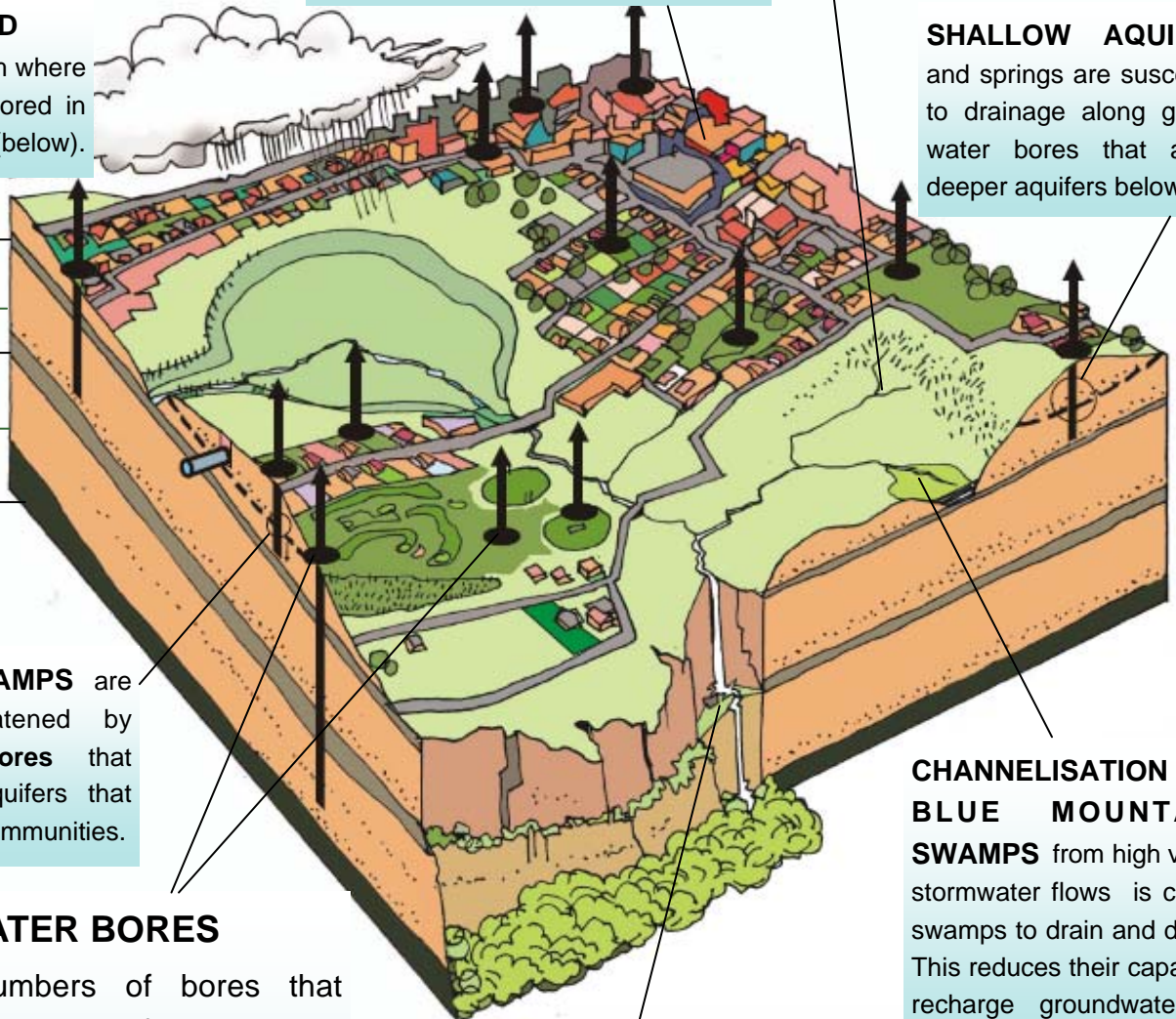
IMPERMEABLE SURFACES (roofs, footpaths, roads) create more **stormwater run-off** (causing downstream flooding and streambank erosion) and reduce groundwater recharge as less water enters the soil.

STREAMS - Groundwater maintains the flow of streams. The water available to streams is already impacted by increased hard surfaces and loss or degradation of swamps.

UNDERGROUND AQUIFERS form where groundwater is stored in sandstone layers (below).

SHALLOW AQUIFERS and springs are susceptible to drainage along groundwater bores that access deeper aquifers below.

Wentworth falls claystone
Banks Wall sandstone
Mt York claystone
Burra Moko Head sandstone
Illawarra coal measures



HANGING SWAMPS are potentially threatened by **groundwater bores** that drain shallow aquifers that support swamp communities.

CHANNELISATION OF BLUE MOUNTAINS SWAMPS from high velocity stormwater flows is causing swamps to drain and dry out. This reduces their capacity to recharge groundwater and maintain stream baseflows.

GROUNDWATER BORES

Excessive numbers of bores that extract large volumes of groundwater have the potential to lower the water-table and threaten natural groundwater flows, especially in high use areas such as golf courses and industry.

The impacts are even more significant during dry weather when groundwater demand is highest.

The threatened **Dwarf Mountain Pine** and ***Epacris hamiltonii*** depend on groundwater seepage and stream base flows.

The **survival of swamps** is further compromised by extraction of groundwater from the aquifers that feed them. The threatened **Giant Dragonfly** and **Blue Mountains Water Skink** both rely on the habitat provided by endangered Blue Mountains Swamps.

For more information on rainwater tank installation guidelines and NSW Government Home Saver Rebates visit www.bmcc.nsw.gov.au or contact Council on 4780 5000.

To view other Environmental Fact Sheets:
www.bmcc.nsw.gov.au/sustainableliving/environmentalinformation

