



Harvesting Our Stormwater



The City of Salisbury harvests stormwater after it has been treated in constructed wetlands. Stormwater generally needs to be held just ten days within a constructed wetland for it to be clean enough to be used to irrigate public gardens and ovals, or to recharge depleted underground aquifers.



Top After treatment in the City of Salisbury's constructed wetlands, stormwater can be used to irrigate ovals and lawns.
Photo: Luke Simon

Above The storage of processed stormwater in aquifers under the City is achieved through the use of a pump-driven injection process.
Photo: Luke Simon

On maps drawn by nineteenth century surveyors, Adelaide's creeks 'petered out' on the plains. This represented the fact that rivers typically finished in huge natural wetlands, such as the reed beds that originally stretched from Glenelg to Port Adelaide.

The water in these wetlands would seep slowly through the sand to the sea. In wetlands located away from the coast, the water would recharge aquifers - geological formations of porous materials (such as sand, gravel, or permeable rock) that can store water underground.

The urbanisation and 'sealing up' of the landscape through roads, buildings and paving has disrupted this, and man-made drains discharge run-off (and pollutants) directly to sea.

The City of Salisbury's wetlands are an attempt to replicate the original natural process of slowing and filtering water.

Harvesting stormwater has a number of benefits. Most importantly, it helps to reduce the demand on the River Murray and our Mount Lofty Ranges catchments where most of our current 'piped' water supply is sourced.



Harvested stormwater can even generate income if the treated water is sold to local industries. Harvested stormwater can also be used to recharge underground aquifers, through a process known as aquifer storage and recovery (ASR).

A feasibility trial at The Paddocks Wetlands in 1994 demonstrated that large volumes of good quality water could be harvested and stored using ASR techniques. During the wet winter months, excess stormwater - filtered and cleaned by the wetlands - is pumped into the aquifer approximately 160 metres below ground. ASR bores can be used to inject or recover water. When in injection mode, water quality is monitored and the process is shut down if the quality falls below the EPA license criteria.

During summer, this water can be recovered to irrigate ovals and turf areas. Storing water in aquifers reduces the risk of biological contamination and the loss of water through evaporation. However, Council is careful not to remove more water from these aquifers than is injected.

Some aquifers supply natural springs that support other unique flora and fauna, or provide the groundwater necessary for some trees to survive. A State Government (Department of Water Land & Biodiversity Conservation, DWLBC) licensing system allows for the removal of only a percentage of the water injected into the aquifer.

Learn more

For more information on related topics, see the other fact sheets in the Wetlands series. You may also like to visit the following websites for more information:

SA EPA Code of Practice for Aquifer Storage & Recovery, ASR
www.epa.sa.gov.au/pdfs

DWLBC, Water Resources in South Australia
www.dwlbc.sa.gov.au/water

Water for Good, SA's Plan for future water security
www.waterforgood.sa.gov.au



Top A constructed Wetland at Parafield Airport.

Above Water reclaimed through wetlands can be used for a variety of purposes but not for drinking.
 Photo: Luke Simon

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Salisbury, Sustaining Our Environment

