

Why are we building wetlands in the city ?

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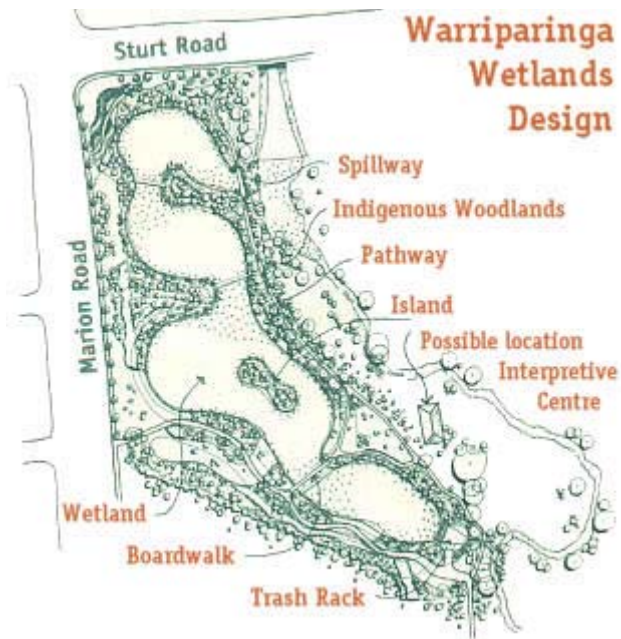
Wetlands were once a significant and prominent component of the Adelaide plains fresh water environment. Due to natural processes that occur within wetlands, they can improve water quality. Heavy particles such as soil, which often have chemicals and nutrients attached to them, fall to the bottom of wetlands and stay there. Nutrients can be taken up by water plants such as reeds growing in dense beds in the water, floating plants such as Azolla and plants that we don't get to see very often because they grow under the water and rarely make an appearance on the surface. Bacteria and other nasties are killed by the sun's ultra-violet rays. When sunlight penetrates the water, bacteria such as those found in animal faeces, cannot tolerate these ultra-violet rays and die.

Swamps and marsh areas spanned from Glenelg to Port Adelaide in the early years of European settlement, and were altered during the early 1800's to suit the requirements of farmers and other local residents. See [A Little Catchment History Jon](#), hyper link with this section in [Inv. Your Catchment](#).

Increases in urban developments and the subsequent construction of roads, carparks, houses and shopping centres, have increased the amount of stormwater runoff in our cities and suburbs. Hard surfaces absorb very little rainfall, and as a result, stormwater gutters and drains were developed to move stormwater runoff as quickly as possible from our neighbourhoods out to sea, to reduce the possibility of flooding. As a result, pollutants such as nutrients, faeces, silt, dirt, oil, and street tree leaf-fall all flow unfiltered and at tremendous speeds into our oceans.

This is where Artificial Wetlands or Urban Wetlands come into the picture. These areas have been built to collect stormwater. Wetlands retain or hold the runoff for long periods of time, before releasing it back down stormwater drains, which eventually flow out to sea. When stormwater is released down stream, it is cleaner! This filtering is due to allowing time for suspended solids to sink to the bottom of the wetland, nutrients to be entrapped and absorbed by the roots of water plants and bacteria removed by ultra-violet rays.

Artificial wetlands are only a replacement of a natural complex system that was once common throughout the plains of Adelaide. Isn't it interesting, that natural wetlands were sacrificed throughout the past 100 years for urban development, yet today we are reviving these natural systems to solve one of the problems our urban development has caused.....just imagine if we hadn't removed them in the first place.



Aquifer Stormwater Recovery (ASR)

Stormwater is now being seen as a valuable resource, when previously it has been viewed as a nuisance that can pollute and flood our neighbourhoods. A process called Aquifer Stormwater Recovery (ASR) where stormwater is pumped into our underground aquifers, is attempting collect stormwater for future use. It is already in place at "The Paddocks" in Salisbury, and a demonstration site is located at Urrbrae Wetland. ASR wells collect stormwater during periods of high rainfall (winter) and is recovered from aquifers during dry periods (summer) to be used for irrigation. The quality of this water would not be appropriate for drinking or for recreational use, but it is great for watering plants or to use in the loo!