



ACT
Government

Environment and Planning

Improving our waterways

Sullivans Creek and Inner North Reticulation Network



APRIL 2015





Sullivans Creek and Inner North Reticulation Network

Green infrastructure slows runoff, reduces sediment and nutrients in our waterways and provides an alternative to drinking water for irrigating urban green spaces.

Why does Canberra need to be a water sensitive city?

Canberra is the national capital and the largest city in the Murray–Darling Basin. Recent water quality issues in Canberra's lakes and waterways have reinforced the need for a more coordinated and better approach to managing catchments in the ACT and region. Population growth, climate change, ageing infrastructure and residential development continue to impact on the Territory's water demand and water quality.

What are we doing to improve our waterways?

The ACT Government has been incorporating new or 'retro-fitted' wetlands and ponds across the urban landscape. Ponds and wetlands help maintain and improve water quality, make pleasant places for recreation and create aquatic habitat for plants and animals. Ponds and wetlands can also improve flood protection and capture stormwater for irrigating urban green spaces. In addition to restoring life in our urban creeks, ponds and wetlands can provide other benefits such as more opportunities for education, recreation and volunteering, thereby supporting social networking.

Together with other water sensitive design measures, such as rainwater tanks, rain-gardens and permeable paving, ponds and wetlands help slow down stormwater flows. This serves to retain and absorb more water into the landscape, recharge the groundwater system and protect downstream ecological systems. Water sensitive urban design measures can support more streetscape vegetation to help mitigate the urban 'heat island effect' and cool the landscape on hot summer days. More water-efficient household appliances, rainwater tanks and stormwater harvesting can reduce demand on our drinking water supplies and improve our water security for future droughts.

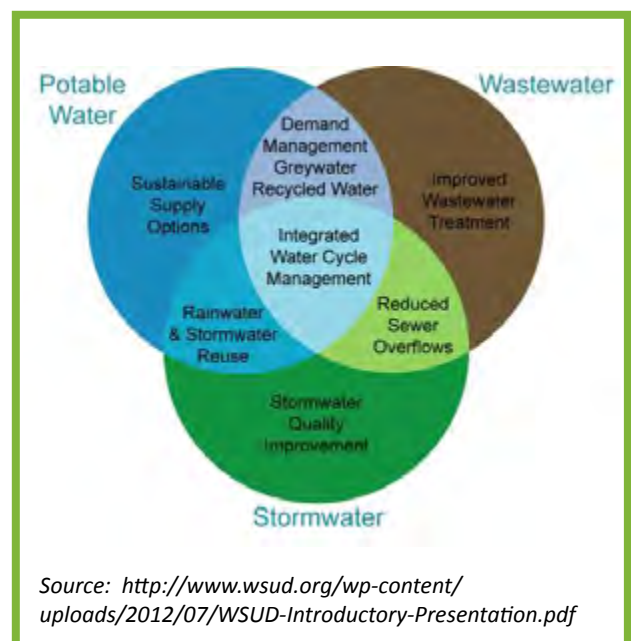
The Sullivans Creek and Inner North Reticulation Network is a practical example of integrated water cycle management and water sensitive urban design principles in action in Canberra.

What is the Sullivans Creek and Inner North Reticulation Network?

The Sullivan's Creek and Inner North Reticulation Network is Canberra's first neighbourhood-scale stormwater harvesting and managed aquifer recharge system. Constructed with financial support from the ACT and Australian governments, the scheme captures and treats urban stormwater in constructed wetlands before pumping through a reticulation network for irrigation of urban green spaces.

Stormwater harvesting improves water quality by removing nutrients from urban waterways, where it creates problems such as algal blooms, and allowing fit-for-purpose use, such as irrigation, where the nutrients provide a benefit to urban green spaces. The scheme also includes managed aquifer recharge, which involves storing filtered stormwater in an underground aquifer during wetter periods for later retrieval and use during the peak irrigation season.

The scheme's infrastructure includes pipelines, pump stations, filtration systems, flow meters, valves, level sensors, water quality monitoring equipment, bores and a telemetry operation system. The end users have constructed tanks to receive and store the water prior to pumping it into their irrigation systems.





INNER NORTH STORMWATER RETICULATION NETWORK



MAP IS INDICATIVE ONLY

200m





What are the benefits of the Sullivans Creek and Inner North Reticulation Network?

The Sullivans Creek and Inner North Reticulation Network is expected to deliver significant environmental, social and economic benefits.

Protecting Lake Burley Griffin

- Removing nutrient-rich stormwater from Sullivans Creek and using it for irrigation reduces nutrient loads and algal blooms in Lake Burley Griffin.
- Reducing the peak from flashy stormwater flows, slows down and weakens flows in Sullivans Creek, thereby improving the regulation of inflows to Lake Burley Griffin.

Reducing demands on our precious potable drinking water supply

- Substituting high-quality drinking water currently used for irrigation with fit-for-purpose stormwater.
- Improving the efficiency of water use for scheme irrigators who have installed on-site tanks, as the water can be pumped at a higher pressure, enables more efficient irrigation and results in a higher quality turf surface.

Reliable stormwater supply and reduced costs of water

- Storing filtered stormwater in an aquifer during cooler months replenishes the groundwater system and enables use during the peak irrigation season in the summer months.
- Using fit for purpose stormwater for irrigating urban green spaces provides a cheaper source of water compared with drinking water. The nutrients in stormwater can also represent a valuable resource for irrigation use, reducing the requirement for fertiliser.

A demonstration project for evaluation

The Sullivans Creek and Inner North Reticulation Network will be evaluated over a five-year trial period to inform future decisions regarding water sensitive urban design, integrated water cycle management and the further potential for stormwater harvesting in the ACT.

Acknowledgements: Water Smart Australia Program

For more information

Canberra Connect on 13 22 81
www.environment.act.gov.au

