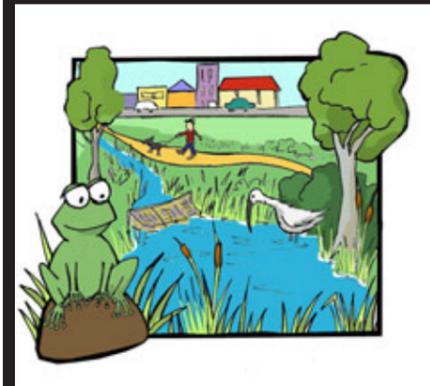


Visiting The Wetland



Northgate Reserve is situated on the corner of Folland Avenue and Dumfries Avenue at Northgate. It has become a popular place for leisurely walks and bike rides for the community as there are neat paths leading around the wetland and through the residential areas to another small lake along Northgate Parade.

There are interpretive signs around the wetland, including at the pumping station where visitors can learn about the aquifer storage and recovery system.

NRM Education

climate change biodiversity water food air waste transport energy



Northgate Reserve Wetland

Improving the environment by storing and re-using water

Fast Facts

- The Northgate aquifer will capture and store approximately 110 mega litres of water each winter, which is about the volume of water in 110 Olympic-sized swimming pools
- AV Jennings is the developer of the 79 hectare site and has been able to successfully combine housing, a major community playing field, 11.3 hectares of landscaped open space and a five-lake wetland system as a sustainable environment
- The Northgate aquifer scheme has attracted international recognition and, in 2001, AV Jennings won the award for environmental excellence from the State Urban Development Institute of Australia for the use of the Aquifer Storage and Recovery scheme and for social and environmental urban renewal
- In 2004, the City of Port Adelaide Enfield took over responsibility for the management of the wetland from AV Jennings.



Northgate Reserve Wetland, providing habitat for a range of wildlife



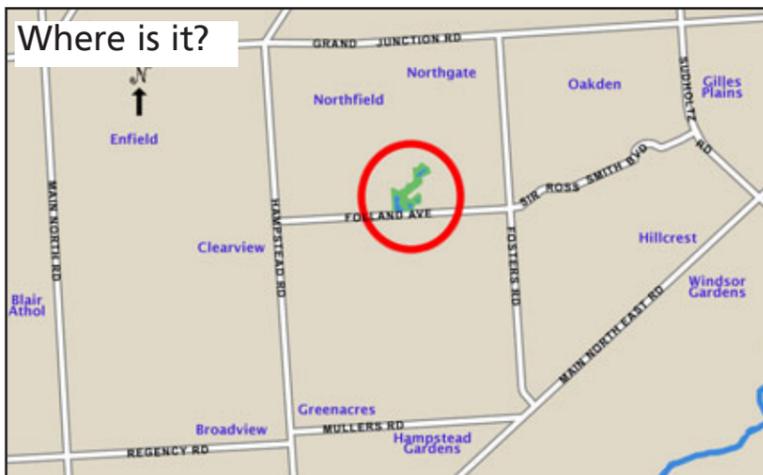
Northgate Reserve Wetland, which was constructed in 2001, is designed as a five-lake wetland system with its primary lake and pumping station situated on Folland Avenue, Northgate.

The wetland system has been developed to capture all the extra stormwater runoff from this residential development and to reduce runoff entering the Barker Inlet Wetlands.

The catchment area for the Northgate wetland is approximately 79 hectares in size.

The wetland system is designed to collect and treat runoff. Stormwater runoff can often be contaminated by sediments, fertilisers, oil and building materials due to the recent pressures of urbanisation in the area.

This wetland and its associated aquifer storage and recovery scheme plays an important role in preventing other waterways further downstream from becoming polluted. The aquifer is located approximately 90 metres below ground level.



NRM Education proudly delivers the Australian Sustainable Schools Initiative - SA. We acknowledge the support of Local Government and, in particular, those Councils who are working in partnership with NRM Education and the AMLR NRM Board. KESAB environmental solutions is also a key partner and we recognise their ongoing support.



Wetland History

Prior to the re-development of Northgate, the land was primarily used for agricultural purposes. The CSIRO conducted cereal crop trials on this land, and there was also a piggery situated in this area around the same time.

Before the land release of the Northgate area, an extensive planning process was undertaken by LMC in conjunction with Planning SA and the City of Port Adelaide Enfield to achieve a site that delivers both quality residential housing and a large focus on environmental objectives, particularly quality stormwater management.



What lives there?

BIRDS

Northgate Reserve Wetland provides habitat for various bird species, including ducks, silver gulls and Eurasian coots, as there is a diverse range of shrubs and grasses through the wetland. These shrubs and grasses provide food for the ducks and other animals, but they also improve water quality. Local council is undertaking an initiative to protect the water quality and aesthetic value at the wetland by discouraging the feeding of the waterfowl in the wetland.

Feeding bread to ducks and other birds results in higher nutrient levels (from duck pool!) in the water, leading to greater incidences of algal blooms. In addition, bread is of poor nutritional value for these birds.



WHAT IS AQUIFER STORAGE AND RECOVERY (ASR)?

An aquifer is an underground layer of rock or sediment that is permeable and transmits water easily. Using aquifers to store water is becoming more widespread across country regions and metropolitan Adelaide, as it enables the large volumes of stormwater that typically flow in winter to be harvested and then recovered for summer irrigation use. This capture and storage of stormwater can play an important step in reducing the pressures of water supply from the Murray River and is also a way to increase recharge to aquifers.

Other aims of the ASR system include:

- The ability to water parks and gardens to provide environmentally sustainable recreation and leisure amenities
 - Providing water for industrial and residential use
 - Reduction of irrigation water costs
 - The effective management of stormwater by using this low cost method of water storage.



HOW IS ASR BEING USED AT NORTHGATE?

At Northgate, the wetland works by directing all the stormwater through the pipe network into the five-lake system where the water is filtered through to the main lake. The pumping station is on the corner of Folland Avenue and Dumfries Avenue and from here the water is injected into the aquifer, approximately 90 metres beneath Northgate, where it is further filtered to improve water quality.

During winter, the Northgate aquifer is capable of storing 110 mega litres of water. Recovery of the stored water is undertaken in the summer months when the demand for water is higher, especially for irrigation.

This scheme is extremely favourable because most of Adelaide's stormwater goes to waste. In South Australia, an average of more than 160 gigalitres of stormwater is discharged into the gulf each year; only about 5 gigalitres of stormwater is currently being re-used by industry and agriculture. Therefore, it is important that more of an effort is made to re-use this valuable resource.

Northgate is just one of several aquifer storage and recovery systems operating within metropolitan Adelaide and country South Australia, while more sites around Adelaide are looking at using the system and others are already undergoing trials.



Why were the wetlands constructed?

To provide educational opportunities

To provide habitat for plants, birds and other animals

Stormwater retention, pollution management and flood control

Incorporate the use of the Aquifer Storage and Recovery scheme

