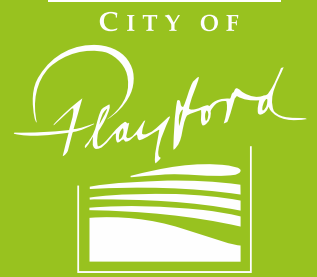


ANDREWS FARM WETLAND



Andrews Farm Wetland is located on Davoren Road, Davoren Park. It has a wetland area of 4ha and a total annual harvest of 490ML.

Stormwater is diverted from Smith Creek and Andrews Farm open drains, and also runoff from an existing developed urban catchment of 460Ha

In addition to improving the stormwater harvesting performance of this site, this project has provided a regional park with the following benefits:

- A community socialisation hub
- An easy accessible park providing facilities for family activity, including play space, BBQ areas, grassed areas and shade for picnics
- Opportunities for school and community groups to learn about water quality, habitat, eco-systems and bird life.

How it works

The Andrews Farm Wetlands receives water from Smith Creek in the Smith and Adams Creek Catchment situated in the Northern Adelaide Plains. The water from this catchment discharges into the partly-closed coastal body, Barker Inlet, through several tidal creeks north and south of St Kilda, South Australia.



Constructed wetlands, such as Andrews Farm, are used to clean stormwater to ensure it can be recycled or discharged to the environment safely. It uses a natural process to filter and clean the stormwater and this occurs through using a number of physical, biological and chemical techniques.

The main processes include:

Sedimentation: The natural process in which heavy particles, such as mud, are carried to the bottom of a body of water and forms a solid layer. This process is supported by the use of gross pollutant traps that collect litter and debris.

Dilution: Some pollutants are only dangerous if they are in a concentrated form. Large detention ponds allow pollutants to be diluted into the larger water body

Sorption (partitioning): A physical and chemical process by which nutrients, metals and other pollutants become attached to soil particles in the shallows along the shoreline of the wetland.

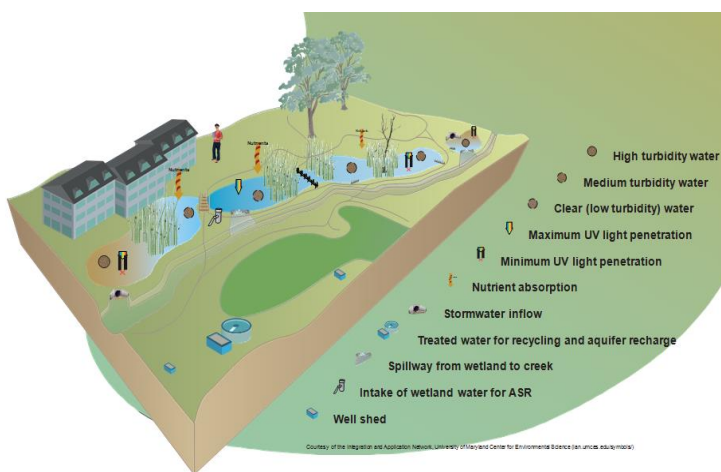
Bioaccumulation: The accumulation of substances, such as pesticides, or other organic chemicals into the biological elements of the wetland. Reed beds filter the slow moving water as well as capture nutrients allowing microscopic film to develop on their stems trapping a range of pollutants.

Photodegradation (photolysis): UV rays and light can break down bacteria that pollute the water. Open water areas of the wetlands allow the sunlight to penetrate the water column.

Hydrolysis: Water can also break down pollutants and occurs when parts of a water molecule bond with a pollutant.

Oxidation: Occurs in oxygen-rich waters and can break down pollutants.

With so many processes occurring at once, wetlands are forever changing. Not only do they reflect the changes that occur as the water passes through the processes, they also reflect the smaller changes in the day, such as temperature and light, to the larger changes in the environment, such as summer and winter. For example, despite being called a 'wet' land, a healthy wetland system may have long dry periods.



Council regularly monitors the water coming into and leaving the wetlands for sediments, salinity, a range of pollutants and nutrients to ensure the wetlands are working in the manner they are designed.

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