Drying Out Wetlands

Natural wetlands are recharged by rainfall or springs. In times of drought, wetlands may dry out. For many native plants and animals in southern Australia, these wet and dry periods are a necessary part of life. Draining the City's constructed wetlands helps simulate this natural cycle.

Top New life emerges from the dried bed of the wetland. Photo: Luke Simon

Above Aside from human-influenced pollution, European Carp have the most negative effect on water quality and biodiversity. A dry-out period provides an opportunity to remove the fish (if Pelicans don't get them first)! Photo: Luke Simon

Native wetland plants have adapted to cope with drying out by producing spores, cysts or tubers that can survive without water for a long time. In some natural wetland systems, the dry period may last for years.

As a wetland dries out, some of its fauna (such as insects) produce eggs or pupae; other fauna (such as mussels, yabbies, and frogs) burrow into the soil to wait for the next wet cycle. Some plant and animal species may even rely on dry periods for survival.

For these reasons, wetting and drying cycles are used to manage constructed wetlands. Every three or four years, the City of Salisbury will drain its constructed wetlands. This is an essential part of responsible management of wetlands and is done to ensure the quality of the water harvested.

When wetlands are drained, water is diverted to watercourses, such as Dry Creek, and earthmoving machinery is used to remove silt and weeds from the wetlands.

Imitating natural cycles of wetting and drying has a range of benefits. Dry periods help to ensure the wetland soils maintain their ability to absorb nutrients, particularly phosphorus. They also allow oxygen into the soil which aids the decomposition of plant material, increasing soil fertility.

Wetting and drying cycles are also useful in controlling bacteria, weeds and invasive fish such as European Carp. Being bottom-dwellers, Carp stir up the bed of wetland ponds and generate turbid (muddy) conditions. The muddy sediment smothers submerged plants and prevents light from reaching them. Algal blooms and plant dieback can result, which may severely damage the health of a wetland.

Dry periods are also important for reasons of wetland maintenance and operation. For instance, drying out wetlands allows weir gates to be checked and repaired if required.

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:

Wetland maintenance
www.salisbury.sa.gov.au
www.hobartcity.com.au

Top After several years, the build-up of silt and other sediments can be substantial. Draining a constructed wetland enables the removal of tonnes of material for composting and reuse.
Photo: Luke Simon

Above After 'pulling the plug', filtered water drains from the wetland into a nearby watercourse.
Photo: Luke Simon

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