

## Sullivans Creek from concrete channels to living systems

Prior to urbanisation, Sullivans Creek was a natural ecosystem that included narrow rocky channels, flood plains and ponds. Vegetation surrounding the creek including reeds (macrophytes), native grasses and forbs (non-woody flowering plants) with scattered trees. With the development of the suburbs most of the creek was turned into concrete channels in order to divert water quickly away from residences. Remnant vegetation was removed and the drainage channels were converted into an open space system of introduced turf species and exotic and native trees selected for Canberra's conditions. Many of these trees are no longer planted due to their weedy nature, such as *Pinus radiata* (Radiata Pine), *Populus alba* (White Poplar), *Populus nigra 'Italica'* (Lombardy Poplar) and *Acer negundo* (Box Elder). The two Poplar species and Box Elder are prohibited from sale whilst the Pine must be contained.

The concrete channels are inhospitable and are devoid of aquatic life. The ACT government is committed to restoring sections of the channels to more natural systems. With restoration comes a host of benefits, not least the return of frogs, macro-invertebrates (water bugs visible to the naked eye), water birds (including black and wood ducks), pacific herons, cormorants, ibis, coots, swallows, turtles and yabbies.

Once constructed the wetlands quickly attract more common species like wood ducks and frogs with the other species following as plants mature.

These wetlands are not developed in isolation, rather they are viewed as a series of improvements within the catchment which contribute to improved water quality, and thus the health of the Murray-Darling Basin. They also enhance suburban biodiversity.

The Sullivans Creek Catchment will include five wetland complexes which when linked by vegetation will greatly enhance the biodiversity of Canberra's inner north suburbs. These are:

1. Flemington Ponds, Flemington Road, Mitchell  
Constructed 2008-09
2. David St, O'Connor wetland  
Constructed 2001
3. Banksia St, O'Connor wetland  
Constructed 2010
4. Hawdon St, Dickson wetland  
Construction commenced October 2010
5. Goodwin St, Lyneham wetland  
Construction commenced October 2010

## **Community consultation – Inner North Wetlands, Sullivans Creek Catchment**

The community consultation process was initiated over 10 years ago by the community based, Sullivans Creek Catchment Group (SCCG). Responding to community concerns the SCCG saw the need

“.. to create a plan for the future management of the catchment that was integrated and was focused on restoring environmental, social and economic health to the hydrological system.”

In 1999, the Group led community, stakeholder and government meetings about the state of the Sullivans Creek Catchment. Their work was supported by a Technical Advisory Committee. As a result of these conversations the Sullivans Creek Catchment Management Plan was developed in 2000. It developed a restoration strategy for the creek and its tributaries and identified 14 potential wetland sites within the urban catchment (including Dickson and Lyneham) and removal of sections of the concrete channels.

In 2001, Canberra Investment Corporation, the SCCG and ACT Government funded the development of a demonstration wetland at David St, O’Connor, adjacent to the shops. This wetland has proved an outstanding success – creating an urban aquatic and terrestrial oasis, improving property values, improving the quality of

stormwater prior to reaching Lake Burley Griffin and providing learning and volunteering opportunities for the community.

At around the same time as the David St wetland was approved plans were drawn up for the Banksia St, O’Connor wetland. Despite being approved no money was available for construction. Fast track to 2009 and a modified design (taking into account reduced catchment inflows) was approved and funding made available by the Commonwealth and ACT governments.

Construction finished in February 2010 and the wetland has been gradually planted by the community. Regular volunteers include members of the Banksia Street Wetland Carers and students from Turner Primary School

## Supporting Studies

The ACT Government responded to the Sullivans Creek Catchment Management Plan and commissioned a stormwater master plan for the catchment in 2003. They added nine more potential wetland sites to the plan.

Wetland sites were ranked according to their role in improving water quality (reducing levels of suspended solids, total nitrogen, total phosphorous). The Dickson wetland delivered the highest improvements in water quality indicators, followed by Flemington Ponds, Mitchell and Lyneham wetlands.

1. Dickson
2. Flemington Ponds, Mitchell
3. Lyneham
4. A second site in Lyneham adjacent to Lyneham High School.

In 2005 concept plans were prepared for Dickson and Lyneham sites.

The 2009 CSIRO Report focused on potential for stormwater harvesting from wetland sites and looked at additional wetland sites for the ACT.

## **Community Feedback**

Consultation for the Dickson and Lyneham wetlands commenced in December 2009 and included a comprehensive community engagement calendar and attracted media attention.

Overwhelmingly, the community has expressed their positive response to the concept of wetlands developments in the inner north. They support the notion of returning concrete channels to 'living systems' and can see the long term benefits that accrue, not only for the environment but for the community in creating these places.

## **Environmental Education**

As well as their commitment to developing wetlands, the Department of the Environment, Climate Change, Energy and Water; Department of Education and Training and the Australian Sustainable School Initiative have developed a curriculum program on natural and constructed urban wetlands, called *Understanding Canberra's Wetlands*. It is intended that all ACT children will learn about the importance of wetlands and be able to use them as outdoor classrooms.

## **Legislation - Water Sensitive Urban Design General Code**

The ACT Government is committed to wetland values and design specifications enshrined in the ACT's Water Sensitive Urban Design General Code.

## **ACT Water Resource Strategy**

The ACT government is committed to ensuring that the level of nutrients and sediments entering ACT waterways is no greater than from a well managed rural landscape.

## **Parliamentary Agreement**

The ACT Government is committed to the Parliamentary Agreement signed between ACT Labor and ACT Greens in October 2008 which specifies "accelerating program of replace stormwater drains with urban creek and wetland systems, beginning with the completion of the Sullivans Creek wetland network."