



Water workshop themes

Themes and goals from each Sustainable future workshop broadly fell into one of three categories—short, medium and long term.

Short term – Level for potable water (2 to 3 years)

The use of rainwater tanks as a water sensitive urban design strategy to save water generated discussion about maintaining healthy quality levels for human consumption. While tank water was considered to be a positive sustainable strategy appropriate for widespread use in the ACT, a number of negative issues were raised by participants of the workshop that need to be mitigated through appropriate mechanisms. These include:

1. A public health issue of dental hygiene may arise in future years due to the lack of fluoride in tank water. Education campaigns in schools to promote oral hygiene may be required.
2. Tanks may require energy efficient pumping systems to avoid water spoiling from stagnation and to compensate for the need to use water at a faster rate.
3. Boiling water may be necessary to maintain hygiene levels this would raise energy consumption rates. Water quality would be improved with the implementation of filtering systems for individual tanks and larger scale supply such as neighbourhoods.
4. Ensuring information on installation and maintenance for ensuring hygiene levels for potable water is readily available and regulated. This is especially important if tanks are used to supply potable water to several homes or a neighbourhood.

Short term – Greater emphasis on wetland vegetation complex, rather than conceptualising it just as a pond (2 to 3 years)

Many ponds and water bodies exist as simple aquatic systems that contain poor surrounding vegetation consequently attracting little wildlife. Workshop participants identified a potential water management strategy to improve the functional, cultural and aesthetic use of water in Canberra's wetlands to provide greater opportunities to sustain complex natural ecosystems for flora, fauna and the community.

Through diverse and appropriate planting the wetland areas may be transformed into dense ecosystems to support native flora and fauna. They have the potential to provide an integral link in promoting naturally occurring wildlife corridors.

While the focus of improvement of these areas needs to be on the ecological benefits, a result is the tendency for these areas to become increasingly attractive to the community as recreational places. This creates a multiple use of the space that may foster voluntary support from community members in caring, maintaining and engendering a sense of ownership for their local natural environments.

Medium term goal – Forms of consolidation should include permeable areas, planting space, communal areas (up to 5 years)

Urban consolidation in the ACT region to sustain a population of 500,000 by 2050, has seen a proliferation of medium and high density developments that have many positive impacts for sustainable development. Participants recognised the need for green communal spaces to temper the built form of new developments along with appropriate water use to support them.

The green spaces function as recreational gathering spaces for the community living in higher density development, soften and cool the built environment and form green links between individual developments. Further they have significant effects on the local climate and environment as propounded below:

“Urban green space impacts significantly on the micro-climate of a region by modifying extremes of climate, improving the hydrological cycle and improving plant health and biodiversity and adding to soil stability...Urban vegetation can have a cooling effect of between 2 – 8oC due to increases in evapotranspiration. This can reduce building energy consumption by 7 – 47%. Urban green spaces can have a positive impact on the hydrological characteristics of the highly modified urban catchments. Grasses and treed areas increase water infiltration and slow run-off after rainfall. These areas are also effective at removing significant amounts of pollutants such as phosphorus, lead and nitrogen and fine sediment. Urban parks and golf course can be important ‘hotspots’ of biodiversity in cities. The literature indicates that green space can positively affect a person’s physical and mental health, and reduce the risks of contracting lifestyle diseases. Further social benefits are shown from the use of green space for participation in sporting and recreational activities. Communities as a whole also benefit from green space from an aesthetic perspective, and by its contribution to improving social cohesion.”

<http://www.isf.uts.edu.au/publications/fametal2008irrigationgreenspace.pdf>

New urban forms in the ACT that embody these spaces must use water sensitive mechanisms to sustain them including:

- using stormwater to water ovals and other green spaces (though this would require solar pumps to remain a sustainable mechanism)
- locate green spaces at lower level sites where there is a natural collection of rainwater
- use recycled grey water for watering.

It is in the provision of green spaces with water efficient means of sustaining them that negative aspects of urban consolidation may be addressed.

Medium term goal – Intelligent metering to individually manage use (up to 5 years)

Participants suggested the use of intelligent metering to manage the individual household use of water. Intelligent metering entails the use of electronic technology to read and send data to and from water meters. ACTEW could also directly forward information electronically to individuals at home.

One installed meter provides overall consumption rates and the data does not specify for what function the water is being used. Several meters installed in different areas such as laundries, kitchens, bathrooms and on external taps would allow more comprehensive monitoring and data of water use.

The technology is capable of monitoring water consumption of individual homes, identifying leaks, where water is being consumed and in what quantities.

Initiatives of this kind for urban water management are being trialled in various regions of Australia such as Hervey Bay, NSW, where a project involved:

“...the installation of a system that allows water meters on residential properties across the Hervey Bay supply network to be read remotely. This will allow for introduction of a time of use billing system which will encourage customers to use water in off-peak times. Water use at night will be billed at a cheaper rate than during the day. Smart metering also allows for the diagnosis of different types of water leaks.”

<http://www.environment.gov.au/water/programs/wsa/projects/qld05.html>

While this technology may serve as a deterrent for excessive water consumption during times of water restrictions, participants expressed a need to control the access and use of the data to protect individual privacy.