

# **SUSTAINABLE LANDSCAPES: WORKING TOWARDS 'ZERO NET COLLATERAL DAMAGE'**

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The Sustainable Landscapes Project (SLP) began in July 2004 as a collaborative public/private partnership hosted by the Botanic Gardens of Adelaide (Department for Environment and Heritage) in association with Land Management Corporation, Innovations and Economic Opportunities Group (through Mawson Lakes Economic Development Project), Adelaide and Mount Lofty Ranges Natural Resources Management Board and SA Water.

It arose in response to an acknowledgement by the partners of the high demand for and consumption of resources in urban landscapes. The project was designed to demonstrate and promote appropriate landscape design, plant species selections and sustainable horticultural practices for South Australian environments.

Many communities in the world today are affected, to some extent, by changing climate and increasing environmental costs of natural resources. Cities and towns, countryside and coastlines, deserts, forests and oceans are all facing change. And our urban landscapes, including parks and gardens, are not immune and should no longer be unsustainable resource-intensive oases. Urban landscapes are rapidly growing environments where we can and must make an enormous positive impact on resource use and ecological sustainability.

With a focus on communication, education, demonstration and research, the SLP work being undertaken in South Australia is leading a cultural shift towards more sustainable attitudes, practices and behaviours. It demonstrates a model for engaging, educating and assisting the community to use resources more efficiently, develop sustainability knowledge and skills, and work in harmony with natural environmental conditions.

A significant aspect of this work is that it brings together the diverse elements of urban landscape sustainability into a user-friendly set of eight principles for designing and creating parks and gardens of all types. The project defines a sustainable landscape as *a healthy and resilient landscape that will endure over the long term without the need for high input of scarce resources such as water*. A sustainable landscape is in harmony with local environmental conditions, including climate, topography, soil and water.

The eight sustainability principles applicable to all urban landscapes, public and private, include design for local environmental conditions, plant selections that require little supplementary water, non-invasive plant selections, minimal chemical use, provision of habitat for local native fauna, water conservation measures, minimal non-renewable energy consumption and the use of sustainably and locally sourced products and materials. Simple to understand, to incorporate in planning and to act upon, these criteria are packaged and promoted in different ways for different audiences, with the ultimate goal of improving the ecological awareness, literacy and behaviours of urban communities.

During the past four years the project has developed and evolved in response to changing environmental and political conditions. At the same time the project has sought to lead change in the way that urban landscapes are considered and designed and assessed for sustainability. The packaging and promoting of eight key principles has generated a more holistic approach to urban landscapes than has traditionally been the case, and many demonstration sites have been identified and created to demonstrate these principles.

## **DEMONSTRATION**

The SLP has identified and developed demonstration sites that showcase a wide range of landscape types and styles. They range from public parks, gardens and community spaces, reserves and roundabouts, median strips, road verges and home gardens. This work is undertaken in close association with landowners or managers of sites, and is often supported by interpretive signage.

An example is the Loxton Mill Corner sustainable landscape project. During 2006 a major road redevelopment resulted in 14 large traffic islands and verges extending for over a kilometre along the major highway through the SA Riverland town of Loxton. The SLP has worked closely with the Loxton Waikerie Council to design a unique landscape treatment that involves the wider community. Almost 9000 local indigenous plants from 40+ species have been selected for their low water use and aesthetic values. Subsurface drip irrigation using water sourced from the nearby stormwater detention pond provides water to the plants in dry conditions. All areas are mulched with street tree prunings while a variety of water retention products, composts and fertilisers are trialed in various combinations in each of the islands and verges. Local surplus rock salvaged from development excavations is designed into feature areas for interest and variety and each island and verge forms a microhabitat environment for local fauna such as small birds, lizards, insects and bats. Attractive interpretive signage tells the story, outlines sustainable landscaping principles and encourages residents and business alike to use a similar landscaping approach.

At the other end of the spectrum the SLP has worked with the state's major land developer, the Land Management Corporation (LMC), to embed the 'sustainable landscapes' principles in the landscaping guidelines of new developments. Lochiel Park, a new LMC residential land development in Adelaide, promotes and provides appropriate guidelines and recommendations to all builders and residents.

A selection of diverse demonstration sites are featured in the Sustainable Landscapes Demonstration Site Trail brochure.

## **RESEARCH**

The project also has developed strong and productive relationships with local and state government, industry groups (such as the Nursery and Garden Industry of SA), and Universities (including the Biocity project at Uni SA and the School of Architecture at University of Adelaide).

The SLP has recently partnered with the Local Government Association R&D Scheme to research, collate and publish recommended plant species lists for the many biophysical zones of the greater Adelaide metropolitan region. One of the key needs of both local government and the community is easy access to non-invasive and low water use plant lists for each local area.

This information is now available through the *Landscapes Alive Plant Selector*. It will encourage and enable councils and residents to more effectively and efficiently develop sustainably landscaped parks and gardens that will not pose an invasive plant threat to waterways, bushland, dunes, farmland or other vulnerable environments or ecosystems. Plant species include local indigenous, Australian native and exotic plants and incorporate diverse data fields containing useful information including habitat values, cautions and special features.

## **EDUCATION**

Education for community, business and industry, government and schools is a critical part of the project. An example of an achievement in this area is the successful incorporation of Sustainable Landscapes into the Year 11 and 12 (final secondary school years) curriculum through the Senior Secondary Assessment Board of South Australia (SSABSA). *Sustainable Futures* is a relatively new senior secondary schools subject and the SL project has worked closely with the Education Department of South Australia to successfully include Sustainable Landscapes within this course.

## **COMMUNICATION**

A selection of written and visual communication materials has been designed to raise awareness and understanding of 'sustainable landscapes'. Seminars, lectures, workshops, conference presentations,

brochures, fact sheets, posters, website, use of electronic and print media and, very importantly, well-interpreted demonstration landscapes all contribute to comprehensive education and communication activities throughout the community. One example is the *Pocket Guide to Environmentally Friendly Gardens* produced in 2007 by the SLP and partner SA Water, recently in distribution via water rate notices to all residents of Adelaide city and beyond. While it has a focus on low water use and water conservation methods, the pocket guide deals with all sustainable landscaping principles and hints.

The SLP acknowledges that everyone from developers, architects, designers, builders, businesses, industries, government agencies, horticulturalists, families and home gardeners manage landscapes. To make urban areas sustainable every phase including planning, design, construction and maintenance needs to be informed and guided by sustainability principles and practices.

The challenges facing change here in South Australia may not be so different from the challenges elsewhere. They include the power of exotic and mainly European influences on a landscape with very different ecological and biological characteristics, the power of fashion, media and the market, the often-insufficient levels of ecological understanding and respect for land and water within the community, and the lack of availability of appropriate plants and materials. It seems though that the greatest reassurance people need is that more sustainable landscapes can still be 'beautiful'.

As Professor George Seddon eloquently writes:

*This is our garden of earthly delights. The earth is home. If we are at war with it, it is a war we cannot win; better to think of it as our partner, for richer or poorer, in sickness and in health, 'til death us do part.<sup>1</sup>*  
(Seddon 1997)

Seddon, G. 1997. *Landprints: Reflections on place and landscape*. Cambridge University Press, Melbourne. pp.248.

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