

Mawson Lakes Sustainability Self-Guided Tour



Introduction

This is a self-paced tour suitable to do on your own or in a group.

The entire tour takes approximately 1-2 hours but you can start and stop at any point and rejoin the tour whenever you want.

It is most suitable to walk or cycle, although a car can be used.

The tour looks at sustainable initiatives in Mawson Lakes that . . .

- reduce our environmental footprint
- re-uses our storm-water run off
- use a unique system of aquifers below the Salisbury/Mawson Lakes Region
- highlight the benefits of solar heating and power
- showcase sustainable landscapes in an urban area
- demonstrate Green Star Rating development
- create an environment that is eco-friendly for families and businesses.

Tips:

1. Take a bottle of water, some sunscreen, a hat and a camera.
2. Take a copy of the map on page 14.



This guide has been compiled by Dr Linda Vining from information supplied by Lend Lease, the City of Salisbury and Mawson Lakes Living Community Magazine.

Photographs by Linda Vining unless otherwise credited.

Cover photo Watershed & Wetlands by Janet Coelho.

Development of Mawson Lakes

The Kaurna people, traditional custodians of the land, occupied the Adelaide plains some 24,000 – 7,500 years ago. The picture at this time was lowland plains covered with patches of swamp paper bark trees, common boobialla and many types of saltbush. The plains were packed with many types of birds and other animals.

Following European settlement in the 1830s, the area now known as Mawson Lakes was pastoral holdings called The Levels, a name that described the flat plain topography.

In the early 1900s the area was bought up by Elder Smith & Co who operated stockyards and paddocks until 1982.

In 1970, the South Australian Institute of Technology established a campus at The Levels. Today, this is the Mawson Lakes Campus of the University of South Australia, the largest campus of UniSA.

In 1982, the South Australian Government purchased a large amount of land to create Technology Park.

In 1985, the State Government initiated the Multi Function Polis (MFP) with a vision to create a sustainable 21st Century community. The MFP lost momentum and never went ahead.

In 1998 a partnership between the developer Delfin Lend Lease, the City of Salisbury and the South Australian Government created the new suburb of Mawson Lakes on 620 hectares of land at the site of the former Multi Function Polis with an investment of \$1.5 billion. These partnerships have been very productive and added enormous value to the sustainability initiatives developed at Mawson Lakes. As a result, Mawson Lakes has achieved leading edge and internationally recognised innovations across 6 key elements – Urban Design, Environmental Sustainability, Education, Community, ICT and Economic Development, particularly job creation.

In 2011 Delfin Lend Lease completed the development at Mawson Lakes and moved away. Management of Mawson Lakes was transferred to the City of Salisbury.

Today, Mawson Lakes is a beautiful garden suburb covering 6.2 sq km and consisting of 5 villages – Central, The Bridges, The Cascades, The Sanctuary and Shoalhaven. Mawson Lakes is a growing suburb where more than 23,300 people live, work and study – 12,000 residents, 6,300 at the university campus and 5000+ workers. This makes Mawson Lakes the biggest suburb in Adelaide. It is larger than any rural town in South Australia, except Mt Gambier.



STOP 1 : The Mawson Centre

2 Main St, Mawson Lakes

Parking available in The Mawson Centre carpark – entry via University Parade or in the Town Centre Carpark

✓ Toilet facilities available ✓ Disabled access

The Mawson Centre is a cultural, community learning and information centre that combines the broad concepts of innovation, technology, environmental sustainable design and lifelong learning.

The shared nature of the spaces means that the building efficiently uses resources which would normally be distributed across many larger buildings.

The building is constructed around a main north-south and east-west axis. A courtyard brings light and ventilation into the tutorial, study and education rooms inside the building.

Externally, the glass facade is complimented by aluminium and recycled timbers. Notice the use of light-coloured materials to reflect heat and direct daylight internally. Shading of windows is provided by different glass choices, fins and perforated metal screen.

The main courtyard area is shaded with tree planting that give a soft and inviting feel. Extensive design work also went into the surrounding plazas which compliment the northern and southern facades of the building, with good shade canopy to enhance spaces for civic activity, rest and relaxation.

The inclusion of stormwater treatment in the Mawson Lakes wetlands and installation of infrastructure for the reticulation of grey water, as part of the Mawson Lakes subdivision, has also enhanced sustainability initiatives for engineering services.

Operational features in the building management system relates to power, air-conditioning, temperatures, hot and chilled water consumption, timing and modes of operation of building services, access control and security, which allows the fine-tuning of the building systems to achieve better performance and use less energy.



The Mawson Centre



STOP 2 : Solar Lighting

Sir Douglas Mawson Lake

Solar lighting has been adopted at Mawson lakes, reducing electricity consumption by more than 4,000kW each year. 28 solar lights ring Sir Douglas Mawson Lake. The lights are automatically set to turn on at night and off before morning.

The lighting output is enough to enable safe walking around the lake at night.

The Solar Lighting Project was developed in conjunction with University of SA.

The Adelaide Solar Cities Program is part of a \$75M Federal Government initiative, which is designed to demonstrate how solar power, smart meters, energy efficiency and electricity pricing can combine to provide a sustainable energy future in urban areas of Australia. The Mawson Lakes Development was a partner in the Adelaide Solar Cities Program, which encouraged the inclusion of solar photovoltaic systems on homes in Mawson Lakes.



Sir Douglas Mawson Lake



STOP 3 : Dry Creek

The Walk

Dry Creek was originally a channel running through what is now the Mawson Lakes Town Centre. In order to create a closer link between the University of SA and the Town Centre, the channel was moved to the present site. It is now a landscaped and revegetated area. It is a major area of open space for recreational use by the community. It can sustain 1:100 flooding events.

Dry Creek collects approximately one third of Adelaide's stormwater, which is now being recycled for use in Mawson Lakes.

Along the creek you will see outdoor signs extending from the Levels Homestead to the Strand Bridge (near the school). These explain the life and history of Dry Creek. The trail consists of ten large posters giving information on different aspects of the riparian environment such as wetland birds, insects and spiders, trees and bushes, flooding and drought, amphibians and reptiles. A history of the creek looks at changes over time from 10,000 years ago, through the pastoral era, and now to the creek's place in an urban landscape.

This project was developed by the students of Mawson Lakes School in 2012.



Photo: Dry Creek by Janet Coelho



Students from Mawson Lakes School developed the Dry Creek Interpretive Trail.



STOP 4 : Sustainable Landscapes

Corner of The Strand and Chapel Lane

This garden was developed by students from Mawson Lakes School and Delfin Lend Lease. It is an example of design, plant selection, efficient water use and sustainable gardening in the area.

A sustainable landscape is a healthy and resilient landscape that will endure over the long term without the need for high input of scarce resources such as water. The natural functions and processes of the landscape are able to maintain themselves into the future.

There are 8 main principles in the design of a sustainable park or garden:

- It is well-designed to suit local environmental conditions
- It contains carefully selected water-wise plants
- It contains plants that will not become environmental weeds
- It conserves water by using mulch, efficient irrigation, watering only when necessary and grouping plants with similar water needs together
- It provides a habitat for local native fauna such as small birds, butterflies, bats, lizards and frogs
- It avoids the use of pesticide or other chemicals that can harm the natural insect populations and other beneficial organisms
- It consumes minimal non-renewable energy in construction and maintenance
- It uses sustainable and locally sourced materials and products, and avoids materials such as rocks, pebbles or wood collected from wild landscape

Where possible in Mawson Lakes, street networks and developments have been planned around existing and preserved trees, and an additional 800,000 mainly native trees have been planted.



A sustainable garden in Mawson Lakes with drought resistant plants and mulch to conserve moisture.



STOP 5 : Mawson Lakes School

The Strand, Mawson Lakes, between Garden Tce and Yates St

A number of environmentally sustainable design principles have been incorporated in the design of the Mawson Lakes School. These include:

- Thermal and solar chimneys to assist with climate control and natural ventilation in the classrooms.
- Photo-voltaic cells, which have decreased the school's energy consumption by more than 10%.
- A Building Management System (BMS) to monitor the school's total energy use on an hourly basis and which students use to control the amount of energy their classroom uses.
- The use of the Mawson Lakes recycled water system to flush toilets and irrigate the lawn areas and gardens.
- Passive solar orientation – all teaching units are aligned N-S or E-W wherever practicable to give the best opportunity for passive solar gain, which means how much summer and winter sun you have coming into the room, and how much artificial heating and cooling you need to use. In addition, the school has participated in several community environmental programs, which have further developed student understanding and commitment to sustainable environmental practices. Among these are:
 - The planning, design and maintenance of a sustainable landscaped community park with Delfin Lend Lease.
 - Monitoring of the water quality in the lakes, wetlands and creeks surrounding the school as part of the WaterWatch program.
 - The revegetation and ongoing maintenance of the creek bed separating the two school campuses with the City of Salisbury.



Mawson Lakes
School



STOP 6 : Green Star Development

Corner Goodall Parade and Garden Tce

You are now in Mawson Central, which is a mixed-use precinct of commercial, residential and educational establishments. All buildings in this area have been assessed against the 'Green Star Rating'.

The Green Star Rating System provides an environmental rating for the design of commercial office buildings. This rating can be used to predict and measure the reduction in environmental impacts a building will have. Some things included in the rating are energy efficiency, facilities for bike riders, the way the building faces, which impacts on how much heating and cooling, insulation and shading a building needs.

All buildings in Mawson Central meet a 4 Star rating. You may like to walk around the streets in Mawson Central and get a feel for how a mixed-use precinct operates.

Mawson Lakes commissioned an initial eco-footprint study in 2001 to find out what the impact of the development was on the environment. In 2008, a second eco-footprint study was undertaken to chart our progress.

An eco-footprint is a measurement of the land required to produce the resources for, and absorb the waste from, a specific area.

The key findings were that sustainability initiatives implemented over 12 years had created a footprint at Mawson Lakes that is 20% less than surrounding suburbs. This equates to approximately 3,600 global hectares or 1,800 football fields.

At Mawson Lakes, home builders are required to complete a WEER scoresheet for every home they build, to ensure minimum energy efficiency standards are met. WEER stands for 'Water and Energy Efficiency Rating'. These guidelines were developed in conjunction with the University of SA.

WEER guidelines include items such as solar energy panels, shading, insulation and appliances, all of which contribute to the energy efficiency of the home. Each home was required to complete this checklist prior to receiving approval to build.



Mawson Lakes Comercial Centre

STOP 7 : Railway Interchange

Metro Parade

vehicle parking in the Mawson Interchange Carpark

✓ Toilet facilities available ✓ Disabled access

The Mawson Lakes Interchange is located on the main Adelaide to Gawler and Darwin railway line. Mawson Lakes is a transport-oriented development (TOD), which means that it has good links to public transport, including trains and buses. This means that public transport is within walking distance of people's homes. This encourages resident to reduce their travel time in cars and use public transport. This reduces carbon emissions and lowers our eco-footprint.

The grasslands and waterways around the interchange are home to many creatures. One of these is the brown snake which can sometimes be seen basking in the sun on the rocks. Conditions here are good for reptiles due to the abundance of water hiding places in the rocks and grasses and plenty of food such as lizards, mice and birds.



Brown Snake



Volunteer residents who are members of Mawson Lakes Environment Watch maintaining the natural environment around the Railway Interchange.



STOP 8 : The Watershed

Salisbury Highway, Mawson Lakes

✓ Toilet facilities available ✓ Disabled access

The Watershed is the entry point for 2km of wetlands walking trails.

The Watershed Café (pictured on the front cover) is situated at the entrance to the watershed wetlands. The fine dining restaurant and function centre holds weddings, parties and product launches, and many day trippers come here to walk the wetlands or photograph the wildlife and stay on for lunch.

The Watershed is the home base for Natural Resource Management Educational Officers who provide programs for schools that are interested in exploring environmental sustainability, including WaterWatch and Weed Warriors. Phone 8258 9761

You can take a self guided walk along the wetlands nature trail which has boardwalks and bird hides and signs to explain the plants and animals and aboriginal origins of the area. You are almost guaranteed to sight superb fairy wrens among the dense cover of low shrubs. This is where you could possibly see the sacred kingfisher perched on a branch on the lookout for prey.

A security token for access is available from the café.



Entrance to the Watershed Cafe.



Wetlands nature trail.



STOP 9 : Waste Water Treatment Plant

Salisbury Highway, Mawson Lakes. Take the turnoff to the Watershed Café.

Plenty of parking in the café carpark

The Waste Water Treatment Plant provides recycled water for use in the City of Sallisbury. This reduces the consumption of potable (drinking) water and it stops waste water entering Gulf St Vincent and the Barker Inlet where chemicals and stormwater runoff choke the seagrass beds and affect the coastal ecosystem.

At the wastewater treatment plant, recycled water from the SA Water's Bolivar Wastewater Treatment Plant (treated wastewater) and the City of Salisbury's wetlands (treated stormwater) is mixed together and disinfected.

The recycled water is held in a large storage tank, before being pumped to Mawson Lakes properties via a pipe network separate to the drinking or potable water system. The recycled water system is identified by purple coloured pipes and fittings.

Treated stormwater and wastewater is pumped to properties along a separate purple pipe for watering gardens and parks, washing cars and toilet flushing.

Notice that Mawson Lakes looks greener than surrounding areas. This is because residents and the Council are able to use recycled water for gardens and parklands.

Mawson Lakes residents and businesses are exempt from SA water restriction when using the recycled water system.

The use of recycled water reduces the use of mains water in Mawson Lakes by 50% compared to the Adelaide average. The Mawson Lakes community saves approximately 88 mega litres per year, which equates to approximately 800 Olympic sized swimming pools.



STOP 10 : The Wetlands

Salisbury Highway, Mawson Lakes

Separating Mawson Lakes from the waters of Gulf St Vincent is an extensive reach of saltwater wetlands covering 110 hectares on either side of Salisbury Highway. This is known as the Greenfield Wetlands.

The Greenfields Wetlands were constructed by the City of Salisbury from 1990-1995 to improve water quality, provide valuable habitat for wildlife, enhance the landscape and provide flood retention.

The wetlands now support a wide variety of plants and wildlife including more than 160 species of birds, 20 species of water plants, fish, frogs, macro-invertebrates, long-neck tortoises, snakes and lizards. Pictured here are some of the birds you may see.

Water is stored in ponds which provide a natural way to clean urban runoff. After slow movement and filtration the water is stored underground in a permeable layer of rock for later use. The pioneering recycling project has received world acclaim.

You can take a self guided tours of the Greenfields Wetlands. It takes approximately 30-40 minutes.

Contact (08) 8258 0862 or email watershed@salisbury.sa.gov.au



Australian Wood Duck



Royal Spoonbill



Black Winged Stilt



Great Egret



Purple Swamp Hen

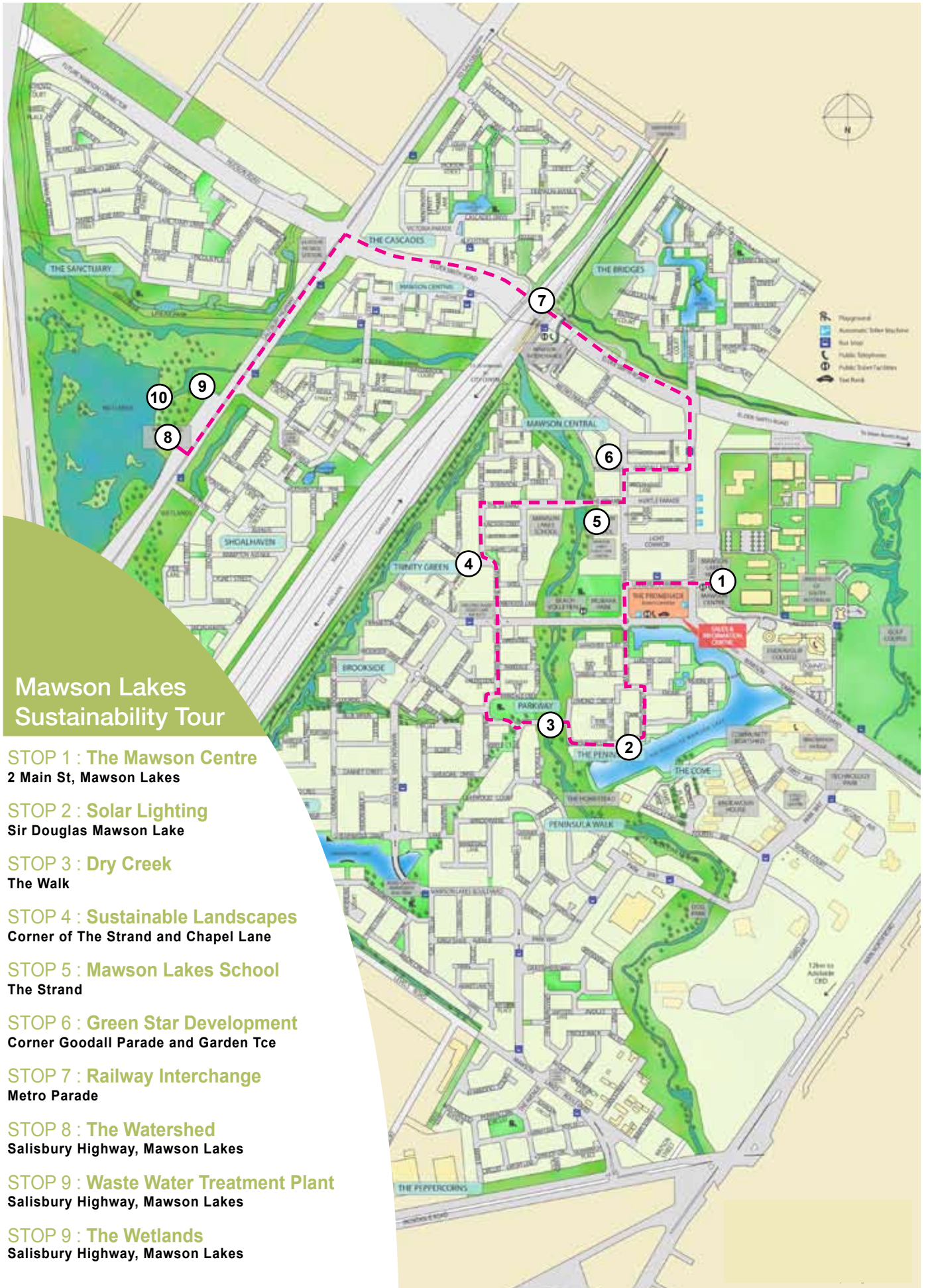


New Holland Honeyeater

Photos by Mike Flynn



MAP : Mawson Lakes Sustainability Tour



Mawson Lakes Sustainability Tour

STOP 1 : The Mawson Centre
2 Main St, Mawson Lakes

STOP 2 : Solar Lighting
Sir Douglas Mawson Lake

STOP 3 : Dry Creek
The Walk

STOP 4 : Sustainable Landscapes
Corner of The Strand and Chapel Lane

STOP 5 : Mawson Lakes School
The Strand

STOP 6 : Green Star Development
Corner Goodall Parade and Garden Tce

STOP 7 : Railway Interchange
Metro Parade

STOP 8 : The Watershed
Salisbury Highway, Mawson Lakes

STOP 9 : Waste Water Treatment Plant
Salisbury Highway, Mawson Lakes

STOP 9 : The Wetlands
Salisbury Highway, Mawson Lakes