WATER SENSITIVE SA

Water Sensitive City transitions.
What is the role of Water Sensitive SA?

Mellissa Bradley, Program Manager

Water Industry Alliance
21 July 2015

Water Sensitive SA - established to build the capacity of all organisations with a role in the planning, design, approval, construction or maintenance of new developments and infrastructure to implement best practice water sensitive urban design (WSUD)

Water Sensitive SA Program Partners

WATER SENSITIVE SA

Natural Resources
Adelaide and Mt Lofty Ranges

LOCAL GOVERNMENT RESEARCH & DEVELOPMENT SCHEME

Government of South Australia

SA Water

City of Burnside

City of Port Adelaide Enfield

City of Salisbury

STORMWATER SOUTH AUSTRALIA

Local Government Association of South Australia

City of Charles Sturt

City of Playford

Australian Government | National Landcare Programme

EPA South Australia

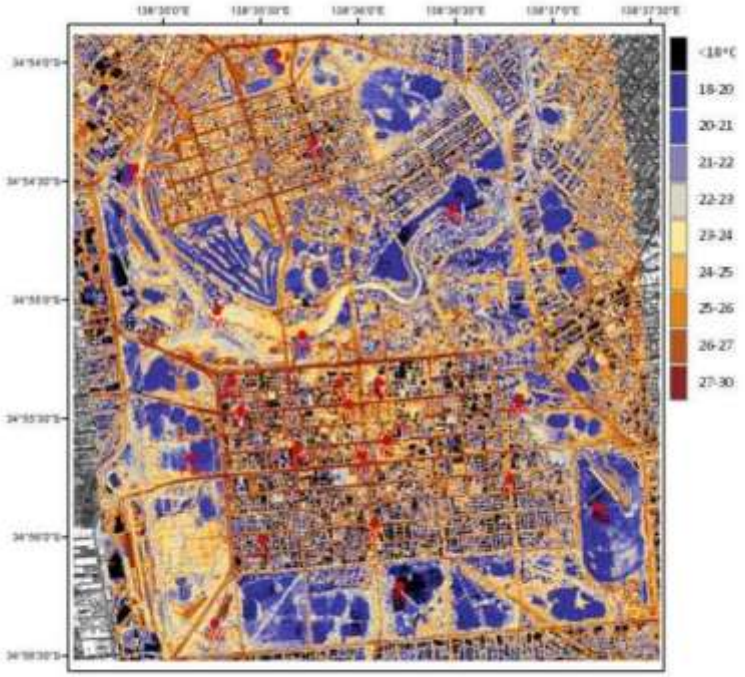
City of Marion

Water sensitive communities

Liveable

Green and blue natural landscapes enhancing human health and wellbeing by :

- providing mental health benefits,
- facilitating the physical recovery from illness,
- providing recreational (passive and active) areas
- providing spaces for community socialisation and connectivity of community spaces.
- improve human thermal comfort through **micro-climate management** (cooling benefits) to reduce heat related stress and mortality
- improving air quality



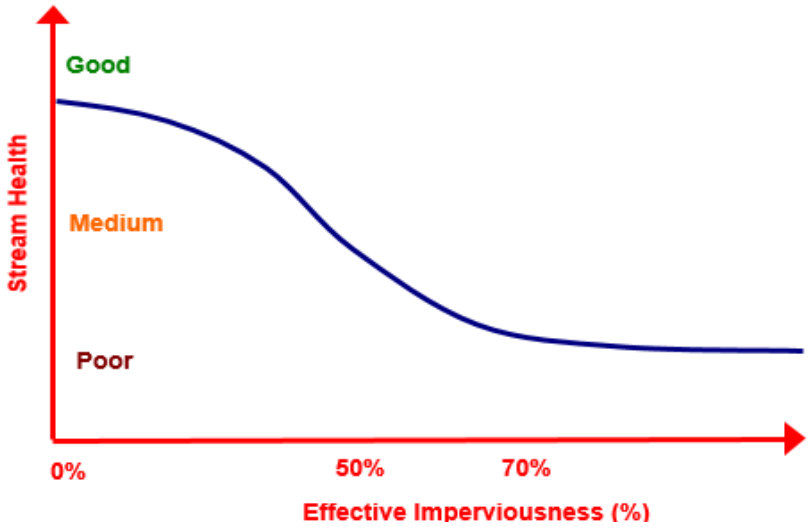
Surface brightness temperatures of the CBD and North Adelaide in the early hours of 7 March 2011 – Source: Flinders University

Water sensitive communities

Sustainable

More healthy natural ecosystems in urban environments that:

- protect urban waterways from degradation, through decreased total stormwater runoff and **improved flow regimes** (more natural high-flows and low-flows)
- reduce pollutant loads entering freshwater and marine environments
- replenish depleting groundwater with fresh water
- extend baseflows in urban streams and wetlands
- provide at source re-use of alternative water supplies to minimise energy use
- conserve our valuable water resource
- increase carbon sequestration



Water sensitive communities

Productive

Enhance productivity and economic prosperity by:

- supporting industry: manufacturing including food production, and irrigated crops,
- deferring or eliminating the need for drainage infrastructure augmentation
- providing high quality public open space,
- avoiding capital or operating costs for potable supply schemes
- defer supply augmentation costs through fit-for-purpose use of alternative water
- strategic and opportunistic investment in infrastructure renewals
- market advantages for residential developers

Water sensitive communities

Resilient

Integrated infrastructure that:

- provides protection against flooding
- provides a diversity of water sources at a **range of scales** to increase resilience under a uncertain future climate
- supply of recycled water resources (treated effluent and stormwater) providing freedom from water restrictions.
- Recycles and reuses treated sewage effluent as a non-climate dependent resource.

Bowden Urban Village

Old Port Road Source: City Charles Sturt

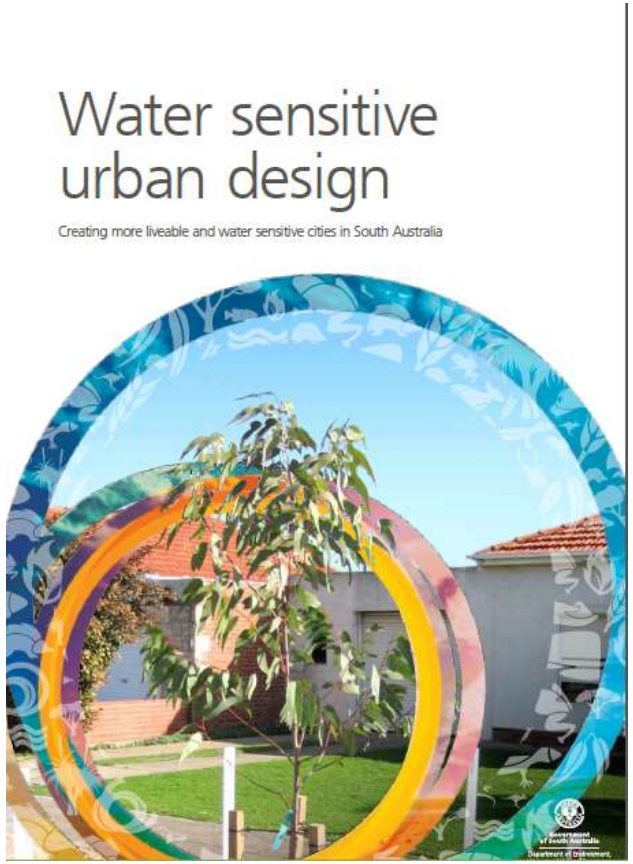
Hindley Street, Adelaide

What we provide:

- WSUD policy development and implementation pathways
- networking opportunities and peer-to-peer learning on strategic, policy and technical matters
- specialist training to address key knowledge and skills gaps
- more accessible WSUD research for practitioners
- resource development, including guidelines and tools
- information sharing through our website, e-newsletter, blog articles and forums.

SA WSUD Policy

- Is it being implemented?
- What more could be done?
- Where does Water Sensitive SA fit?



Water Conservation

Demonstrated compliance with South Australian residential building requirements for water efficiency.

Non-residential: water efficient techniques in commercial, industrial and other non-residential urban settings.

Irrigated open spaces: best practice irrigation management in outdoor irrigated open spaces.

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- Optimal Rainwater tank size supply reliability,
- Optimal storage sizes to retain pre-development runoff
- Ministers Specification for on-site detention
- Incentives needed for commercial and industrial

Flood management

capacity of the existing drainage system is not exceeded.

no increase in the 5 year ARI peak flow compared to existing conditions.

no increase in flood risk for the 100 year ARI peak flow, compared to existing conditions.

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Bowden Urban Village

Source: Water Sensitive SA

Kirkcaldy Avenue, Grange

Source: Baden Myers

Stormwater Runoff Quality

45%
retention of typical annual urban load of total nitrogen.

60%
retention of typical annual urban load of total phosphorus.

80%
retention of typical annual urban load of suspended solids.

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Caltex, 734 Marion Rd, Marion Source: Baden Myers

Cooke Reserve, Royal Park. Source: City of Charles Sturt

Challenges

- Consistency in the interpretation and application of policy
- Design skills
- Construction know how
- Are they pretty enough?
- Maintenance

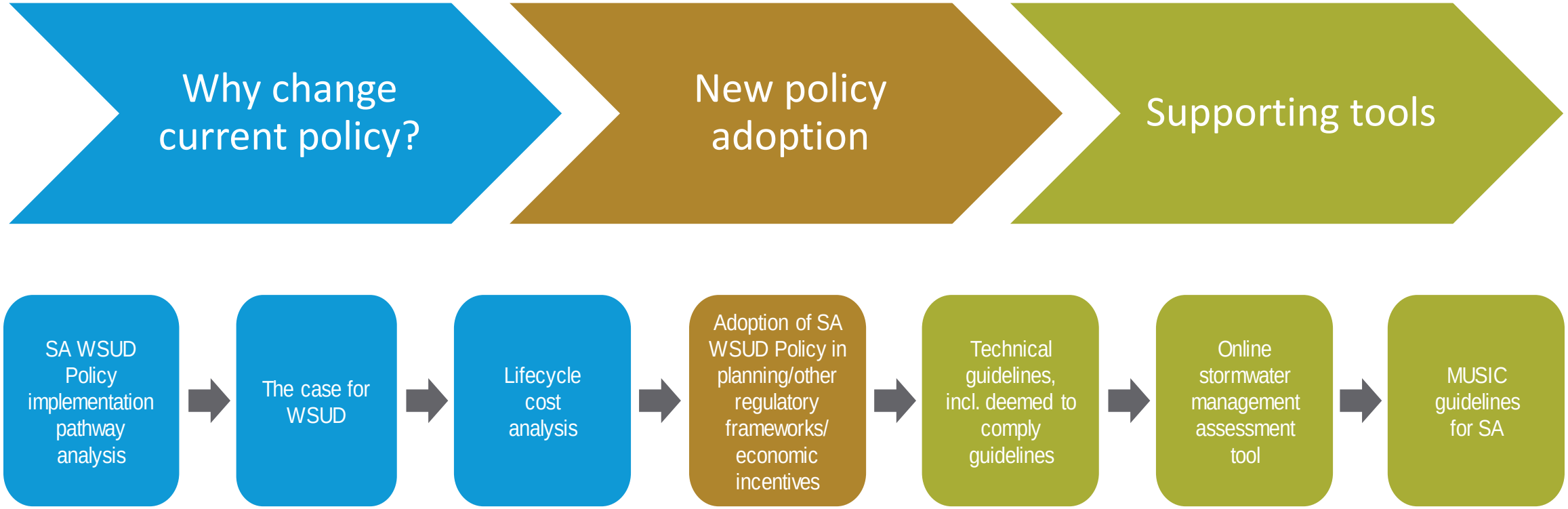
Source: Baden Myers

Source: Water Sensitive SA

Source: www.bie.ala.org.au/

Source: M.Dobbie

Bringing about change…



Priority Projects

Project	Scale at which project could be addressed (national or state)
Project 1: Case for WSUD – cost benefit analysis tool and its application to case studies	National/ international
Project 2: life cycle costing analysis, for a suite of development and WSUD infrastructure scenarios with application to case studies	National
Project 3: Deemed to comply guideline – urban design code	State
Project 4: Online assessment tool for stormwater management for simple/small-scale developments	State
Project 5:MUSIC (stormwater quality model) Guidelines for SA	National with state refinements
Project 6: Technical guidelines review and update/adapt – SA and interstate	National with state refinements

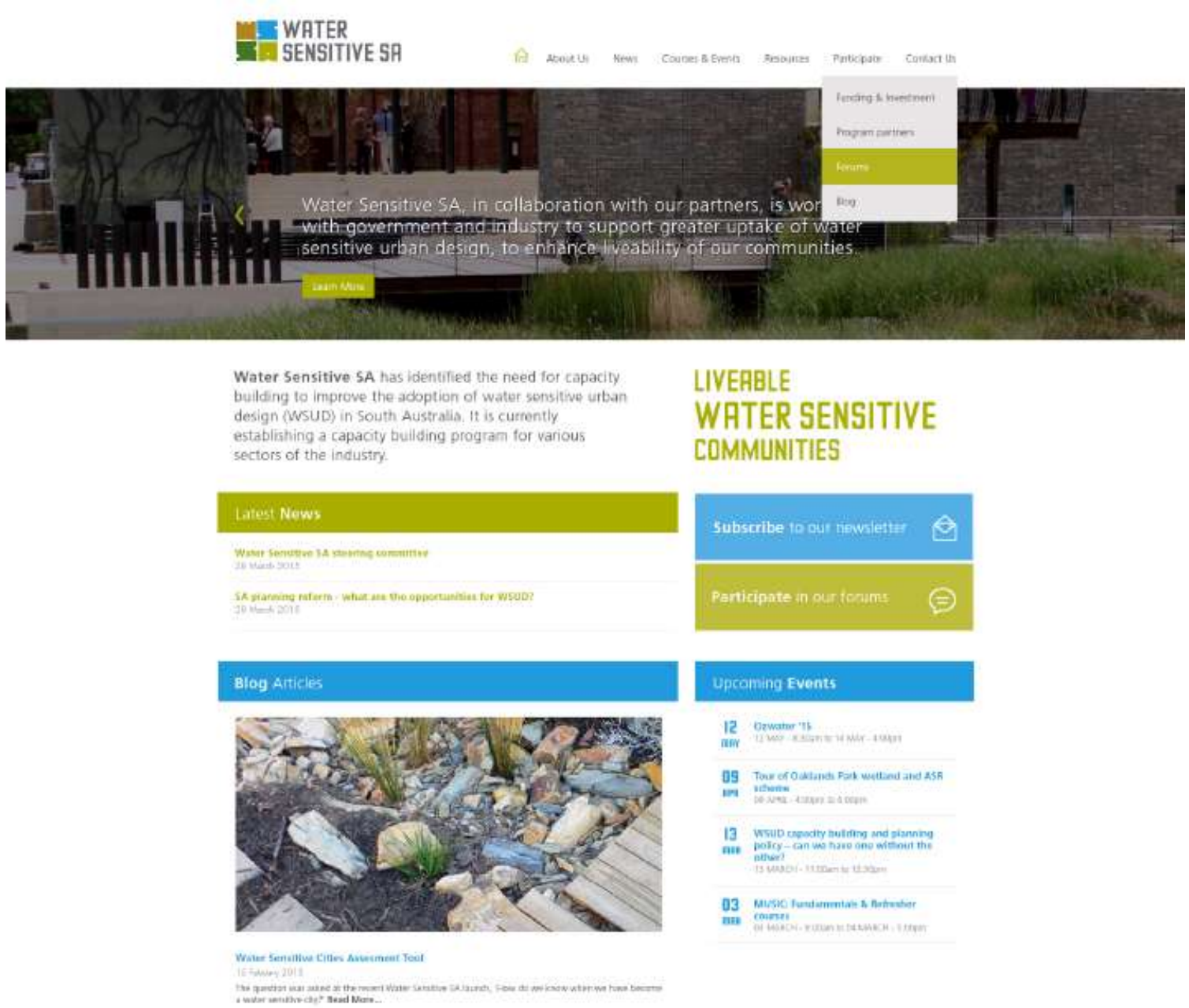
Bowden Urban Village. Photo: Water Sensitive SA

Franklin Street
Photo: City of Adelaide

Advocacy

- Water for Liveability Campaign
- Development industry - involvement and collaboration where possible.
- Support DEWNR initiatives to seek policy change
- Seek local government Local Government and industry
- support for SA WSUD Policy adoption

Lochiel Park
Photo: Water Sensitive SA



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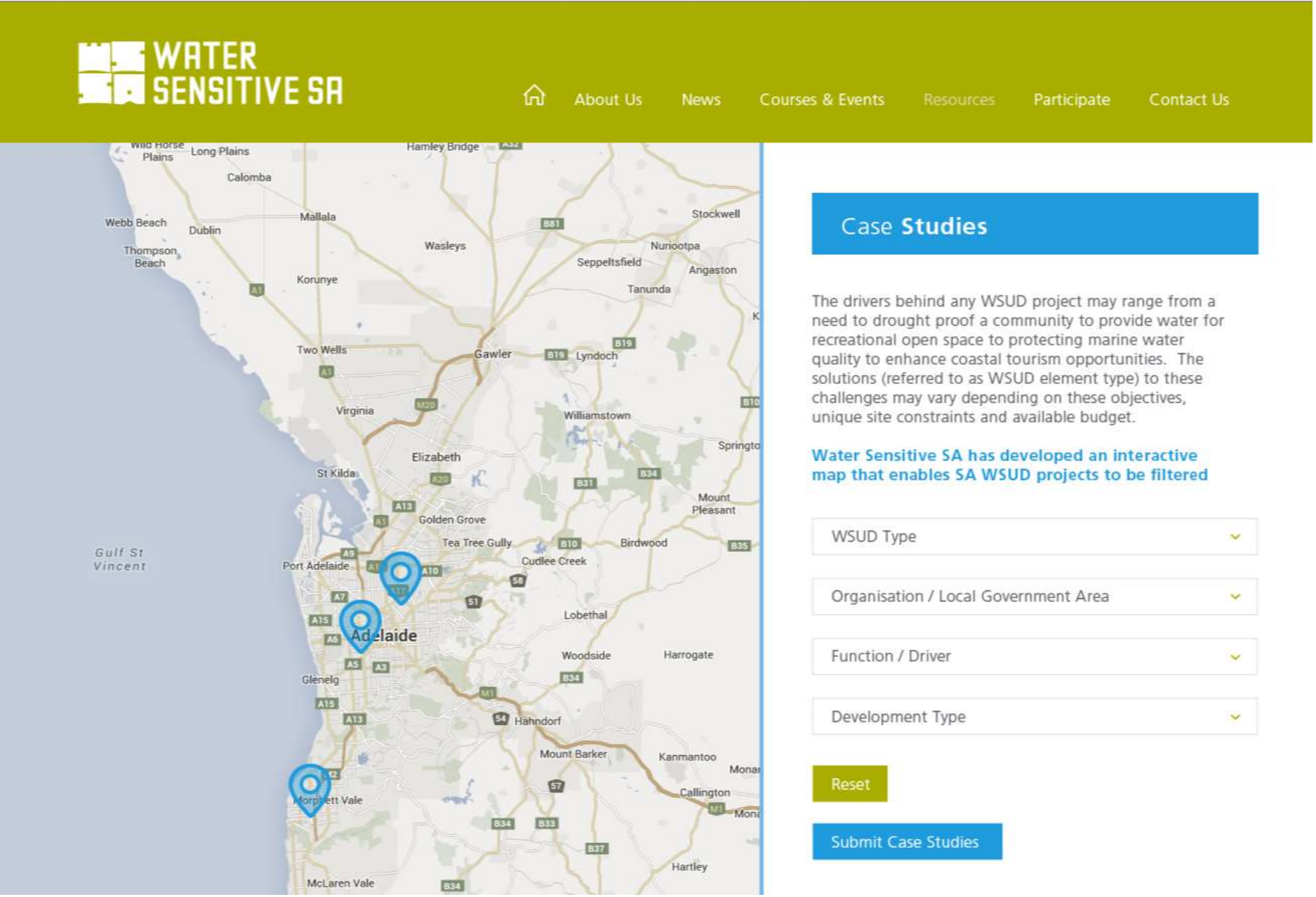
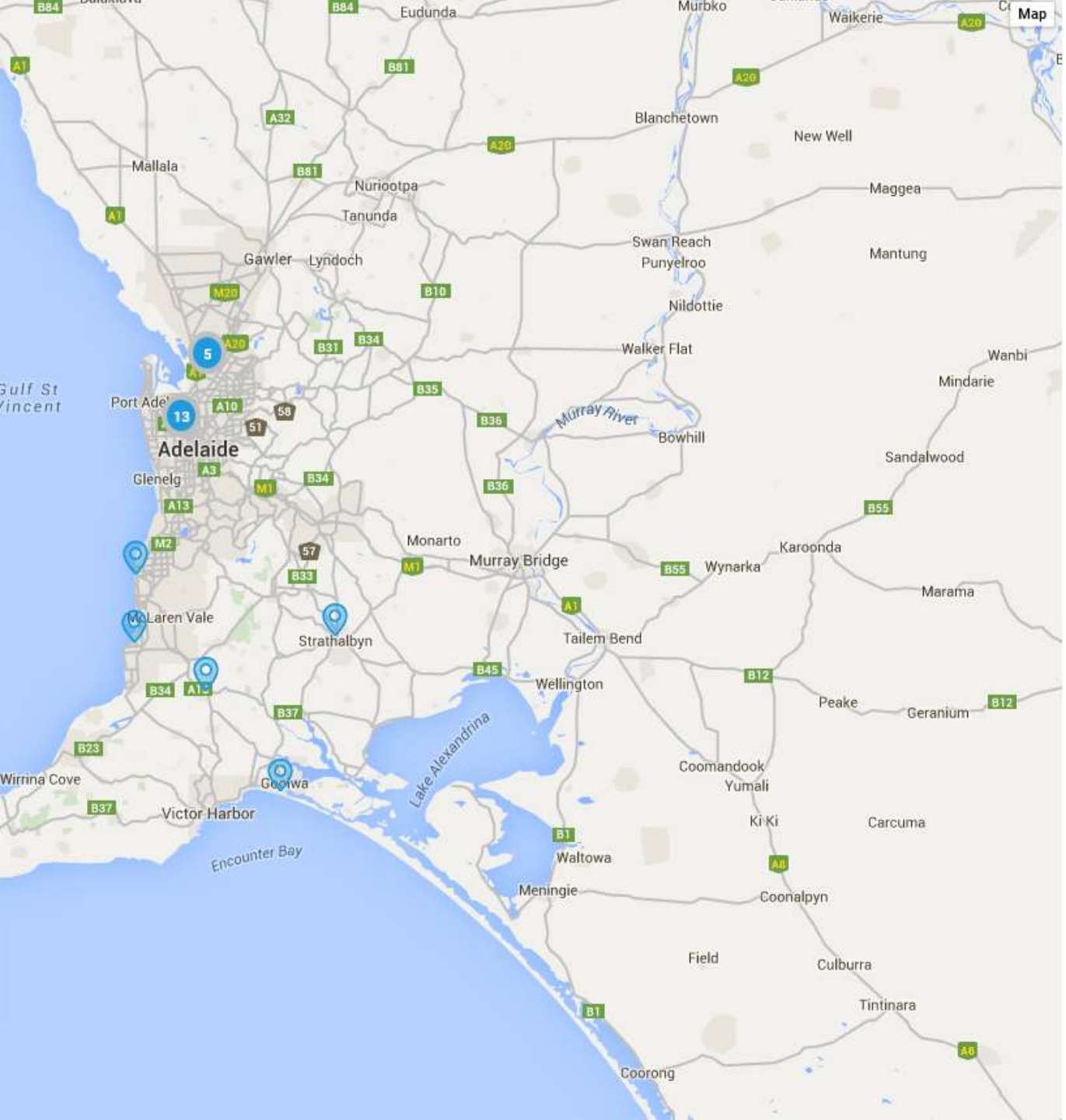
Information Sharing Hub:

- Water for Liveability Campaign
- E-newsletter
- Make research more accessible- seminar series/ blog articles
- Forums
- Training and Events



Case Studies – Interactive Map

Moving beyond demonstration to mainstream



Case **Studies**

Local government, developers and industry have shown leadership and innovation, integrated water sensitive urban design into their projects to deliver a wide range of benefits to the community.

The drivers behind any WSUD project may range from a need to provide water for recreational open space to protecting marine water quality. The solutions (referred to as WSUD element type) to these challenges may vary depending on these objectives, unique site constraints and available budget.

Water Sensitive SA has developed an interactive map that provides a filtering function to enable you to search for WSUD projects under the categories below.

Bioretention

Organisation / Local Government Area

Stormwater quality

Public

Reset

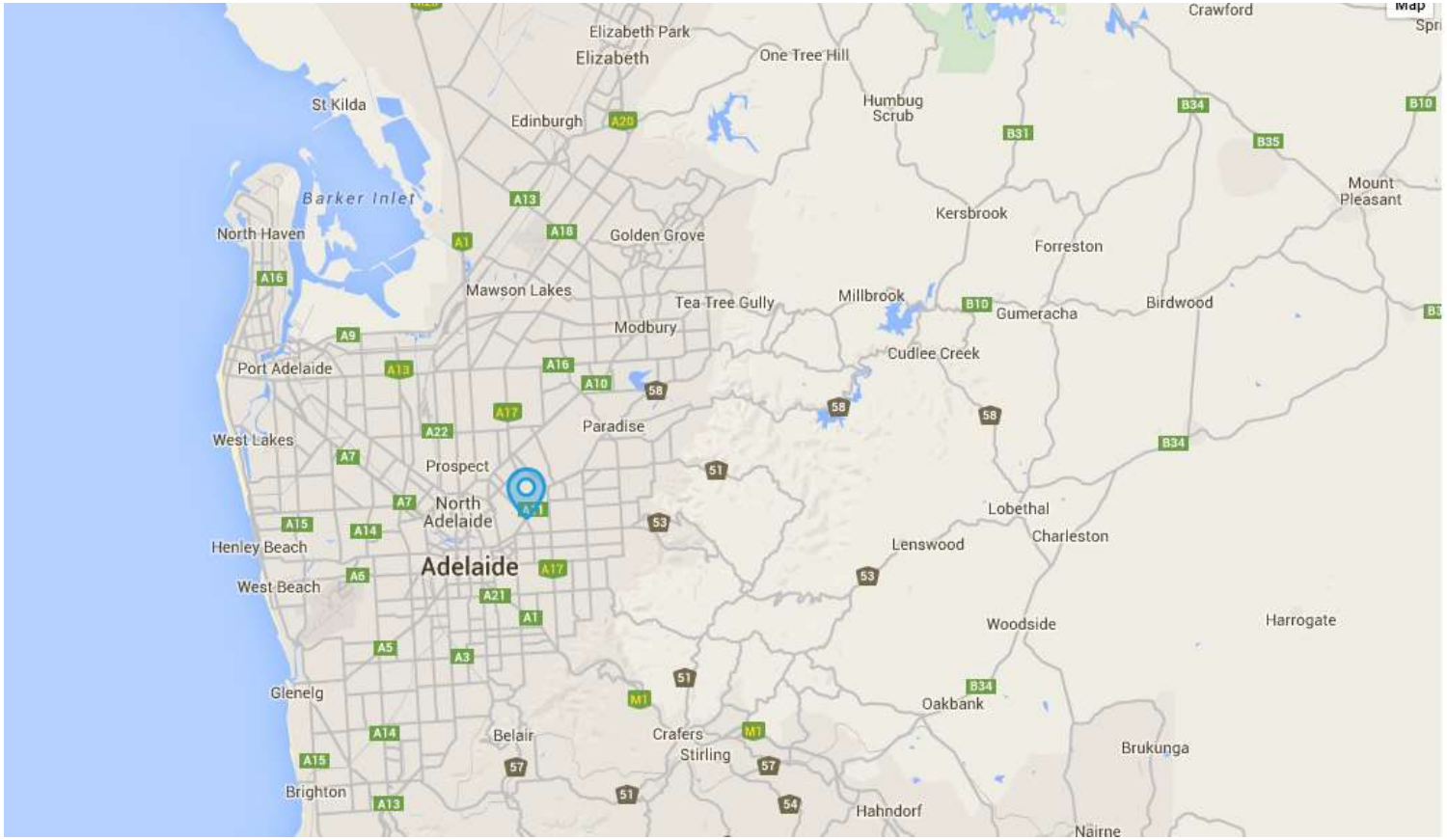
This map has been developed with a database kindly provided by the **Goyder Institute for Water Research**.

Do you have a new WSUD project you would like to submit or add more details and images to an existing project?

Update Case Study

Submit Case Studies

Case Studies



Case **Studies**

Dunstone Grove Linde Reserve

Stepney

ASR, Bioretention

Organisation City of Norwood, Payneham and St Peters
Function/Driver Water conservation
Development Type Public

Water extracted from second creek during flow, cleansed using biofilters and stored using ASR. Creek restoration also undertaken as part of this project.



Back

Dunstone Grove, Linde Reserve

Source: Baden Myers

Training and Seminars 2015

Date	Training/ seminar	Topic
Jul 2015	Training	Introduction to biofiltration rain garden guidelines
Aug 2015	Training	Detailed design of biofiltration systems
Sep 2015	Training	Introduction to WSUD for policy planners and development assessment planners and engineers
Oct 2015	Seminar	WSUD and micro climate benefits – theory and practice
Nov 2015	Seminar	Leadership to advance water sensitive urban design

Angas Street, Adelaide adjacent SAPOL
Photo: Water Sensitive SA

Opportunities

- Collaboration with the development Industry
- Connect practitioners with research outcomes
- Clarity of cost/benefits and lifecycle costs
- Skilled workforce – protect our investment in WSUD

North Terrace Source: City of Adelaide

Kenilworth Street, Fullarton

Laratinga Wetlands, Mount Barker Source: Kreative Wisdom

www.watersensitivesa.com

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