



Developing a water sensitive cities index

Overview

Two years into the life of the CRC for Water Sensitive Cities (CRCWSC) a considerable knowledge base has been established that will support the development of tools, products and processes to enable transitions toward water sensitive cities. This recently established project aims to provide a platform to consolidate this knowledge in a Water Sensitive Cities (WSC) Index. Ultimately, the index will underpin a reliable and user-friendly web tool that can be used for city assessments across Australia and the rest of the world.

Key outcomes

This project will deliver a WSC Index and accompanying tools for assessing the water sensitivity of urban places ranging from metropolitan to local government areas and informing management responses to improve water sensitive practices. The tools will be packaged with a web-based platform and user manuals to assist self-assessment by end users.

The value of this project lies in equipping CRCWSC's industry partners with the capacity to monitor and evaluate the performance of their water management practices and explore measures that would realise water sensitive potential. This outcome will critically support CRCWSC's mission of revolutionising water management to enhance the liveability, sustainability and resilience of our cities. End users will include local and state governments, public agencies and water utilities, consultancies, land developers, community groups, technology providers and research organisations.

Project design

The CRCWSC vision refers to liveability, sustainability and resilience as key components of water sensitivity. Therefore the tool will apply these three concepts as "lenses" through which water sensitivity is assessed.

The first stage involves the consolidation of existing knowledge to identify preliminary indicators for hallmarks of water sensitivity, such as good governance, adaptive water infrastructure and ecological health.

These preliminary indicators and proposed algorithms for calculating the liveability, sustainability and resilience scores will then be compiled in an initial prototype version of the WSC Index, ready for early trials with CRCWSC's stakeholders. The trials will involve local government stakeholders using the tool with data on local water management practices. In tandem with the

development of the prototype, and continuing throughout the trial phase, extensive research will provide the scientific underpinning of a reliable version for application across Australian cities. Research will also help develop processes and analytical methods to support these applications. The WSC Index will be made available as a web-based platform, consisting of:

- a database containing geographical, biophysical, socio-demographic, climate and environmental data; data on the characteristics of water management practices; and context-specific data to be entered by the end user
- algorithms for conducting assessments of water sensitivity
- a website which includes a secure login for partners to ensure sensitive user data and assessment results can be protected; templates for data input to support self-assessment; and interactive displays of assessment results including maps, graphs and tables.

A range of reporting templates will also be created that support the synthesis and effective communication of the assessment. These communication tools will be highly visual, appealing and appropriate for a wide range of technical and non-technical audiences. They will be instrumental for decision-makers to understand the implications of the assessment, to ensure broad ownership and support of the results, and to engage other audiences such as developers and the general public.

The WSC Index and accompanying tools will then be piloted in Brisbane, Melbourne and Perth to develop contextualised indicators for local water sensitive visions. The local assessments will be validated through participatory workshops that reflect on the accuracy and reliability of the tool's results, as well as on comparisons across cities. Lessons from these pilots will be incorporated to refine the indicators, analytical and process methodologies and the web-based platform.

The refined WSC Index and tools will then be rolled out together with a manual that guides end users through the methodologies for their effective use.

Water Sensitive Cities Index
water management trials
prototype consolidation Platform
sustainability mission liveability
tools synthesis
lenses website
self-assessment resilience water sensitivity
indicators local governments



With the project having a strong emphasis on users' self-assessment, CRCWSC's key stakeholders have been engaged from the very beginning of the project. They will continue to do so through project advisory and user groups which will help build their ownership and capacity to support the pilots and roll out the final version of the tools.

The project has strong links with two other CRCWSC projects, namely Project A4.2 (Mapping water sensitive city scenarios) and Project A4.3 (Socio-technical modelling tools to examine urban water management scenarios). The pilot applications will build on outcomes from Project A4.2, in which visions for Brisbane, Melbourne

and Perth will be developed through participatory workshops with policy-makers, water practitioners, urban designers, community leaders and academics.

Outlook

It is anticipated that a prototype will be delivered by March 2015 followed by testing to be undertaken with two Melbourne councils. After this initial validation, the development of the web-based platform will begin, followed by city-scale pilot applications in Brisbane, Melbourne and Perth from early 2016. A full beta version is scheduled for release by September 2016.

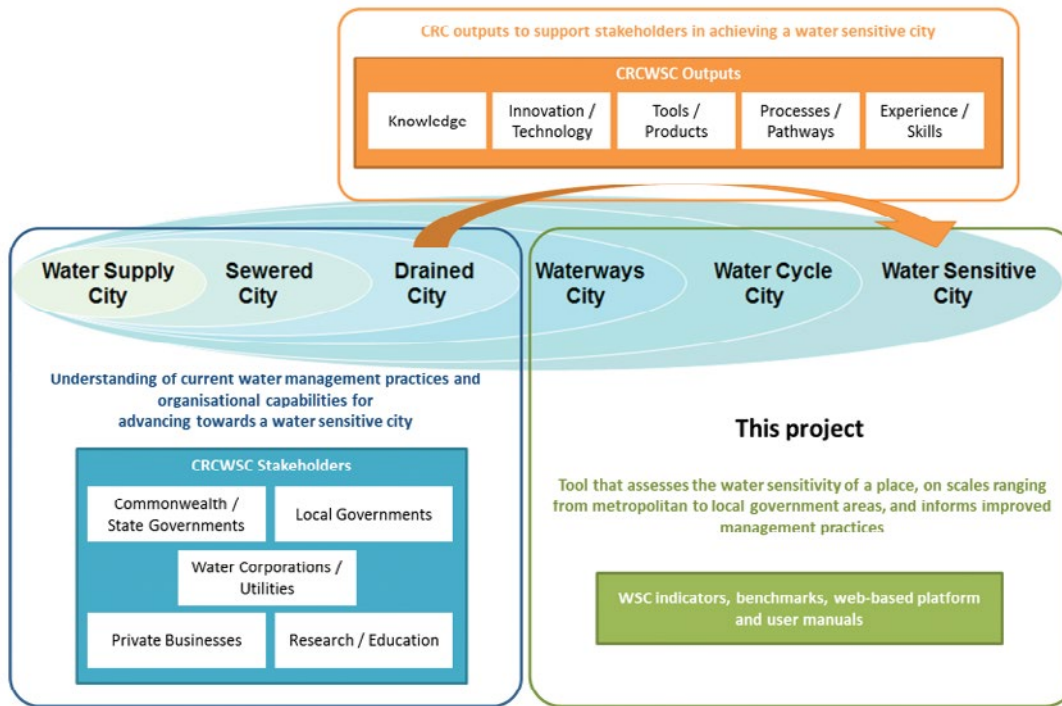


Figure 1. Conceptualisation of how this project supports CRCWSC's mission.



About the Cooperative Research Centre for Water Sensitive Cities

The Cooperative Research Centre for Water Sensitive Cities (CRCWSC) brings together interdisciplinary research expertise and thought-leadership from Australia and the world to address current urban water management challenges facing our cities and regions. In collaboration with over 80 research, government and industry partners, it develops and synthesises knowledge into powerful tools and influences key players aiming to achieve sustainable, resilient and liveable water sensitive cities.

Further information

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