Open Space

Book of Proceedings

"What research is needed to help you deliver healthy, liveable cities that are resilient to changing climate"?

Sponsor: The Water Sensitive Transition Network

5th November 2018

Venue: IQX at UWA

Open Space Facilitator: Michael Wood

www.michaeljohnwood.com

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Sponsor's Introduction

This event was convened to explore the future research topics related to delivering healthy, liveable cities that are resilient to changing climate. This was driven by the demand by participants of the Cooperative Research Centre for Water Sensitive Cities (CRCWSC) to explore this topic. A broad range of experts and stakeholders, both within and external to the CRCWSC, were invited to attend so that the scope could be broadened beyond water.

This workshop has the potential to link with a number of activities. The CRCWSC will be holding a workshop in Melbourne December 5 and 6, 2018, to explore future research directions for CRCWSC participants and interested stakeholders with the objective to extend the existing CRCWSC program beyond 2021. The findings from the Water Sensitive Transition Network's Perth-based workshop held on 5 November 2018 will be used to inform this national process. In addition, there is a current bid for Future Cities CRC which is developing a detailed proposal by early 2019. Finally, even if both CRCs are funded, there may still be a gap in WA based liveable cities research that is a priority for stakeholders. Other avenues may be explored to address this gap.

The workshop was supported by the CRC for Water Sensitive Cities, The University of Western Australia and Curtin University.

Invitation Flyer

The Water Sensitive Transition Network invites decision makes, planners and strategic thinkers to engage with the question

What research is needed to help you deliver healthy, liveable cities that are resilient to changing climate?

We are seeking input from a range of people and organizations across government, industry, research and community sectors, with interest and expertise in tackling this question. The outcomes from the workshop will feed into the Water Sensitive Transition Network's discussions on a future cities research hub in Western Australia. The Transition Network was established in 2015 and is a leadership group in the urban water sector, championing Perth's transition to a water sensitive city.

If you are unable to attend and know others who would be interested in attending, please let Emma Yuen know.

Please register by **Wednesday 24th October.** Note seats are limited at this workshop, so register early.

To ensure participants have the opportunity to raise and discuss issues, we will be using 'Open Space Technology'. Open Space is a self-organizing process that runs on the energy and commitment of those who attend. There is no predetermined agenda established by others and discussion is not limited to issues related to urban water. The conversations that you need to have in relation to future cities will be generated by the group, based on what is important to you. This is a highly self-directed, interactive, dynamic and flexible workshop process that allows you to directly name and address each of your 'burning' questions, issues and ideas.

What we can guarantee is:

a) The issues most important to you will be raised;

b) Your issues will receive as much airtime as participants wish to give them within the available time; and

c) Your choices and freedom to participate, at whatever level you wish, will be respected.

So, we invite you to come, being prepared for highly energetic conversation, thoughtful reflection and genuine engagement. If you have any queries, please contact **emma.yuen@uwa.edu.au**, 6488 3701 or 0448 889 318.

Regards,

Ashley Vincent (Water Corporation)

Chair, WSTN

John Savell (Department of Communities)

Deputy Chair, WSTN

Background Notes

What research is needed to help you deliver healthy, liveable cities that are resilient to changing climate?

Background

Perth has managed well in the face of extreme climate change and strong population growth over the past 15 years through robust planning and community action. Perth is now at an important juncture in its continuing development as a capital city. While climate change and population growth persist, a new wave of challenges will exacerbate these issues requiring an innovative approach to urban development, as well as strong collaboration among government, industry, research and community stakeholders towards a shared vision of our future city.

DRIVERS

The key drivers requiring a shift in thinking are:

Climate change – Although we have had a wetter year this year, persistent climate change in the south west of Western Australia is one of the biggest challenges ever faced by our state. Average streamflow into Perth's dams has reduced by 83% over the past five years compared to the pre-1975 average. It is projected that winter rainfall will decrease by up to a further 15% by 2030. Average temperatures are also predicted to increase in all seasons. The reduction in rainfall is a key contributor to declining groundwater levels on much of the Swan Coastal Plain. The challenge facing Perth is not only reducing reliance on inflow to dams, but the potential significant reductions to groundwater availability and allocations to both public and private water users.

Population growth – Planning is under way to accommodate a projected 3.5 million people by 2050, requiring urban expansion and densification and significant consumption of natural resources. Development is moving into constrained areas, including those without groundwater to irrigate parks and ovals, and this will require innovative approaches to urban form and water servicing.

Affordability – Infrastructure services must be provided to a growing population at a sustainable cost. Urban sprawl up and down the coast of Perth has resulted in substantial costs in terms of infrastructure provision and transportation, with increasing dependence on private cars. Innovative approaches to housing and urban development can help provide affordable housing. Planning and designing urban areas, homes and buildings in ways that reduce the water, energy and carbon footprint help contribute to affordable living by lowering utility bills.

Community aspirations – Maintaining and improving liveability, health and wellbeing as the city grows is a priority for urban communities. Cities are hotter than the surrounding natural environment, which impacts on human health. Water has an essential role in maintaining a green, cool environment for human comfort and health. There is also increasing evidence of growing demand for higher quality urban environments and increased urban renewal, which increases the need for urban greening alongside denser living environments. At the same time we have constantly evolving social structures, aging populations, and an economy that is shifting more and more towards a service economy.

Environmental protection – Managing water resources, protecting receiving environments and managing the impact of key resources becoming finite are essential to the sustainability our city region. Healthy, natural

environments also play a vital role in human health, wellbeing and development. Accessibility to natural areas can reduce crime, foster psychological wellbeing, reduce stress, increase productivity and promote healing.

Cultural protection - Perth's waterways hold significant cultural and spiritual value to the Noongar people, who are the Traditional Owners of the south west of Australia. Waterways provide a sense of place and identity for both Aboriginal and non-Aboriginal people, create tourism benefits and enable businesses to grow and thrive.

Changing economy and technology – We also live in an era of where we are effected by a range of mega trends such as; exponential technological change and disruption, globalization of trade, increased urbanisation of our economy, the globalisation of trade and supply chains/value chains, the rise of the innovation economy, the increasing importance of Asia as an economic power and increasing recognition of resource scarcity and the need to shift to a low carbon economy.

BUILDING ON PAST RESEARCH AND INNOVATION

Perth has emerged as a world leader in building resilience to climate change. We have planned ahead to secure water supplies in our changing climate, developing climate independent sources such as seawater desalination and groundwater replenishment, as well as working with the community to substantially reduce water use. This has enable Perth to avoid a water crisis, as has occurred in cities such as Cape Town that faced running out of water.

Western Australian partners joined the Cooperative Research Centre for Water Sensitive Cities (CRCWSC) in 2012, an interdisciplinary research centre that brought together world renowned subject matter experts and industry thought leaders who want to revolutionise urban water management.

The 9-year research program has delivered new knowledge, tools and practical solutions addressing key research and adoption questions under four key themes:

•Society - How do our culture, institutions, and human systems affect the adoption of new ideas and innovation?

•Water Sensitive Urbanism - How will changes in our natural environment impact on and affect how we plan and build our cities?

•Future Technologies - What technologies and information are needed to support delivery of water sensitive cities?

•Adoption Pathways - What are the range and appropriate mix of interventions to translate research and knowledge into practice?

The CRCWSC's current program is due for completion in June 2021. While the research program has achieved significant progress in providing the knowledge and tools to advance water sensitive cities, there is still more to be done. This is especially true as we understand more about how to identify and respond to the vulnerabilities of climate change at an institutional level and how this might be responded to in the built form of our evolving city and region.

The Water Sensitive Transition Network and partners of the existing research program will use insights gained in this workshop to help develop future Cooperative Research Centre bids and other research partnership opportunities to continue to drive industry-led research to support delivery of healthy, liveable cities that are resilient to changing climate.

The Water Sensitive Transition Network sees some of the key emerging questions as being:

•How do we best adapt to and mitigate climate change to maintain Perth as one of the world's most liveable cities?

•How can we best achieve 'whole city' governance, leadership and strategic planning that integrate priorities across portfolios?

•How can policy and infrastructure planning keep up with the pace and scale of change?

•How do we best engage the community to proactively participate in shaping our future cities?

•How can we best use data and smart technologies to inform planning and decision-making?

•How do we create sense of place and green our cities to build cities for people?

•How do we protect and enhance the environment, use resources sustainably and build communities that are sympathetic to, and enhanced by, their local natural environment?

•What financial models and incentives are required to support holistic decision making and investment that achieves the best community benefit, now and for future generations?

At this Open Space workshop participants will have the opportunity convene conversations on these or any other questions considered important by participants. We look forward to your active involvement in this important workshop.

List of participants

Name	Email
Abbey Potter	abbey.potter@health.wa.gov.au
Adele Gismondi	adele.gismondi@watercorporation.com.au
Andrew Cumming	andrew.cumming@mra.wa.gov.au
Antonietta Torre	antonietta.torre@watercorporation.com.au
Avril Thomson	avrilt@cosweb.com.au
Bill Grace	bill.grace@uwa.edu.au
Carolyn Oldham	carolyn.oldham@uwa.edu.au
Chris Melsom	chris.melsom@uwa.edu.au
Emma Yuen	emmayuen@uwa.edu.au
Greg Ryan	greg.ryan@landcorp.com.au
Helen Brookes	helen@urbaqua.org.au
Ian Kininmonth	ian.kininmonth@watercorporation.com.au
Ian Overton	ian.overton@waterra.com.au
Jana Soderlund	j.soderlund@biophilic.solutions
Joanne Smith	joanne.smith@kalamunda.wa.gov.au
John Savell	john.savell@housing.wa.gov.au
Kerry Trayler	kerry.trayler@dbca.wa.gov.au
Lucy Robinson	lucinda.robinson@csiro.au
Martin Anda	m.anda@murdoch.edu.au
Max Hipkins	hipkins@vianet.net.au
May Carter	may.carter@dlgsc.wa.gov.au
Mike Mouritz	mike.mouritz@curtin.edu.au
Nannette Nguyen	Nanette.nguyen@canning.wa.gov.au
Peter Adkins	peter.adkins@dbca.wa.gov.au
Roberta Fornarelli	roberta.fornarelli@curtin.edu.au
Sandra Henville	sandra.henville@watercorporation.com.au
Scott Glassborow	scott.glassborow@belmont.wa.gov.au
Shelley Shepherd	shelley@urbaqua.org.au
Sonja Mennen	sonja.mennen@jtsi.wa.gov.au
Stewart Dallas	s.dallas@murdoch.edu.au
Winsome MacLaurin	winsome.maclaurin@dwer.wa.gov.au

Open Space Group Report 4.1

Topic: Wellsprings for urban infill precincts: What are the economic, social and environmental benefits?

Conversation convened by: Ian Kininmonth

Group participants: Ian Kininmonth, Adele Gismondi, Greg Ryan, Helen Brookes, Stewart Dallas

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Main points discussed:

4.1-1Central development region of Perth
4.1-2Increasing from 800,000 people to 1,200,000 by 2040
4.1-3Development focused in urban infill precincts
4.1-460% have Water Corporation drain flowing through them
4.1-515 GL per year sustainable yield
4.1-6Irrigation demand will be about the same
4.1-7Opportunity exists to harvest drain and create wellsprings and then infiltrate (MAR)
4.1-8Water quality concerns
4.1-9Need water quality monitoring program
4.1-10Need to data on flows and water quality
4.1-11Claisebrook main drain: off take to wetland which is used for irrigation and amenity
4.1-12Water orientated development, e.g. creating surface spring; benefits
4.1-13Potential for community bore and purple pipe system in urban infill precincts
4.1-14Benefit in terms of possible water savings, energy, water production and distribution, and carbon
4.1-15Efficiency of biofiltration, using ecological engineering approaches
4.1-16Water oriented development e.g. springs and lakes; enhances property values. What are the likely improvement in values? Extend this to planners and developers.
4.1-17How do you get it adopted?
4.1-18Need to have plug and play system for developers. They want it to be easy, they want certainty.
4.1-19Need to plan each drainage catchment; Start with Subiaco main drain; Could be opportunities at Kitchener Park with a new school, and Montario, Grayland Hospital redevelopment
4.1-20Need to understand catchments; The Water Corporation have a lot of data. Data sharing is an issue
4.1-21Modelling catchments and rainfall, harvesting locations, infiltration and injection
4.1-22Cultural research: linking Noongar names for places, to water
4.1-23Social attitude to the wellspring idea and willingness to pay?

Open Space Group Report 4.2

Topic: How do we create communities, that are sympathetic to, and enhanced by the local natural environment?

Conversation convened by: Antonietta Torre

Scribe: John Savell

Group participants: Antonietta Torre, John Savell, Ian Overton, Nannette Nguyen, Chris Melsom, Jana Sunderland, Sandra Henville, Peter Adkins

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Main points discussed:

4.2-1Concerned about new developments and the disconnect from the natural environment
4.2-2Streetscapes need to encourage people to come out the houses
4.2-3Too much concrete paving not enough green areas
4.2-4Play equipment areas at too hot
4.2-5Need to build shade into the landscape - greater canopy cover
4.2-6Inclusion of rain gardens
4.2-7Right time to the right places
4.2-8Not enough rainfall to ensure vibrant plants
4.2-9Historical rainfall pattern is needing the clearing of natural vegetation, More cleared with less rainfall.
4.2-10What research has been undertaken on drying climates
4.2-11Keep rainwater on site, considered this is not a big issue as we mainly you be desalinated water
4.2-12How do we stop the developers bottom line shaping the form of future communities?
4.2-13Research and case studies and demonstration projects need to be undertaken to lead the way for developers and local authorities to push the required changes
4.2-14Breakthrough demonstration projects will lead the way
4.2-15Greenfield developments are destroying ecosystems; Brownfield and infill developments are demonstrating retrofit requirements
4.2-16Infill - clearing habitat- is maximising land use but causes health and living problems
4.2-17Local Authorities inability to stop developers chopping down trees. Leads to developments of boundary to boundary houses
4.2-18Deep soil planting zones are required to be mandated
4.2-19What don't we know? As we all seem to know the answers
4.2-20Policy needs to be changed. How can we change policy?
4.2-21Translating international examples to local examples
4.2-22Modelling and the impact on health not done sufficient to this point
4.2-23Heat island effect discussed

4.2-24Plausible futures – deciding on what is the best approach are we lacking the predictive modelling to drive development futures
4.2-25How long do people stay in houses? Do they move for health issues?
4.2-26The water balance, run off rates, recharge etc. are issues on new developments
4.2-27Alternate construction methods not being taken up due to historical reasons
4.2-28Barriers and incentives to make developments (better) happen. Do we need to research and translate this better?
4.2-29Transit (people) orientated destinations are not being done well. Pointed out new apartment codes are out but these are watered down so best possible developments don't happen
4.2-30Do we resolve our density issues or just pay lip service to them. Comparison with other world wide cities which are developed at much greater ratios
4.2-31What are the priorities of the Government and how can these be focussed on and implemented to ensure that everyone is heading in the same direction
4.2-32What is important and what is not important

Open Space Group Report 4.3

Topic: Peer to peer water trading

Conversation convened by: Martin Anda

Scribe: Martin Anda

Group participants: Shelley Shephard, Peter Adkins, May Carter

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Main Points:

4.3-1We can't do it can we???
4.3-2Energy seems clean from PV – just export it
4.3-3No precedent for water
4.3-4There is a fit-for-purpose hierarchy for water that needs to be managed
4.3-5Do people really want to pay an extra $1per week for a desalination plant? Are there other options to finance a hybrid water system and also start Peer to peer water trading??
4.3-6Not everyone can put photovoltaic or rooftop rain capture?
4.3-7We have metered 50 houses and now starting a peer to peer water trading trial
4.3-8What model to use?
4.3-9Who's going to do it, manage it?
4.3-10What will it cost?
4.3-11Is Brabham a good case study?
4.3-12It will start at Fremantle Expression of Interests, participants trial and later at Land Corp Lot 1819 Knutsford
4.3-13Muchea- have installed tanks for pressure management – not storage
4.3-14We can change the mindset and move forward. We can develop the modes and move forward in WA.
4.3-15We can't just keep building seawater reverse osmosis plants
4.3-16Who looks after it and who doesn't?
4.3-17Can the costs be spread elsewhere?
4.3-183 models

- Credit – debit scheme against mains water
- Aquifer or storage tank
- Third pipe or community rain tank or grey water or wastewater

4.3-19Hartfield Park is good but may not work everywhere

Open Space Group Report 4.4

Topic: How to be less isolating so we come out of our homes to be healthier physically and emotionally

Conversation convened by: Emma Yuen

Group participants: Emma Yuen, Bill Grace, Andrew Cummings, Sonja Mennen, Scott Glassborow, Mike Mouritz, Winsome MacLaurin, Avril Thompson

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Main Points:

4.4-1Streetscape is dominated by grey infrastructure, houses and is not see as public open space
4.4-2Some people want to be in a bubble on public transport
4.4-3People want too much, water views, good quality water, no ball games, need to make them aware off trade-offs
4.4-4Our houses are too nice and we have carports, don't leave, can control in our own space?
4.4-5Now we need to create community through fairs, dogs compulsory, trick or treating
4.4-6Structure makes public open space community orientation – amenity, trees
4.4-7Housebuilders dominate street-scaping you lead them to a different product, (via controls, incentives)
4.4-854% are first homebuyers and can only afford $300K. even though it costs $8K extra to live in the outer suburbs
4.4-9Development of battle-axe blocks are making things harder and we need a good infill plan
4.4-10How do you influence owners to amalgamate blocks and avoid fragmented lots
4.4-11How do you accelerate planning policy levers? When does the corridor open up? How do you unwind the series of approvals. How to revise urban design process through Design WA. Need benevolent dictator – WA Planning Commission?
4.4-12How do you get resilience liveability to drive the narrative and incorporate affordability and jobs
    a. Cost
    b. Infrastructure
4.4-13What is opportunity cost of not doing now
4.4-14Does human centred design actually work in the context of climate change?
4.4-15Should it drive correction?
4.4-16What are the drivers for correct intersection
4.4-17What does the next generation need to correct and be resilient to climate change?

Open Space Group Report 4.5

Topic: Fit for purpose water

Conversation convened by: Stewart Dallas

Group participants: Bill Grace, Scott Glassborow, Joanne Smith

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Main Points:

4.5-1Grey water
4.5-2Rainwater
4.5-3Bore water
4.5-4Treated wastewater
4.5-5Need to consider whole of cycle
4.5-6Source and efficient
4.5-7Need to consider and evaluate which is most appropriate source and AS
4.5-8Desalination is a linear source – needs to be recycled
4.5-9Rainfall and groundwater in decline
4.5-10Efficient in-house pretty well maximised
4.5-11Savings ex-house still possible
4.5-12How will Dept Water manage groundwater allocation reductions
4.5-13Industries (Horticulture, Agriculture) can /should use maximise recycled water
4.5-14Kalamunda Managed Aquifer Recharge good example
4.5-15Governance of drainage water still an issue
4.5-16Metering of backyard bores! Too political!
4.5-17Can residential systems e.g. grey water, bore water be given a value? As these 'en masse' can defer desalination eg. Rooftop photovoltaic
4.5-18No incentive for developers
4.5-19Tariffs, headworks etc don't support developers to implement WSUD or alternative water systems
4.5-20Need policy to drive
4.5-21Dept Water lacks the mandate
4.5-22 Gross Rental Value for residential wastewater does not incentivise reuse
4.5-23Fit-for-purpose should be part of an integrated, overall water policy/plan – planning, WA Planning Commission, etc
4.5-24Water Corporation's waste water treatment plants future upgrades will be $$$, similar to desalination

Open Space Group Report 4.6

Topic: Need for national research to change behaviours to achieve water sensitive design

Conversation convened by: Max Hipkins

Group participants: Sonja Mennen, Adele Gismondi, Lucy Robinson, Antonietta Torre, Emma Yuen, Winsome MacLaurin

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Main Points:

4.6-1There are technical issues but larger issues are community perception and education
4.6-2What is new norm? Manage community expectations
4.6-3People want green lawns - traditional indicator of wealth. Myth?
4.6-4What are best strategies to engage?
4.6-5Water Corporation knows what people want in relation to water. What about other things? Cross-agency effort needed
4.6-6Danger of Water Corporation seen to be pushing own agenda
4.6-7Department of Planning, Lands and Heritage needs a similar approach
4.6-8How to get all government approach?
4.6-9All Ministers need to be on same page
4.6-10Amalgamation of agencies has sapped energy
4.6-11Water Corporation research demonstrated people don't like being told what to do
4.6-12People say they want something but momentum for change not necessarily there
4.6-13How to bring researchers in different fields together?
4.6-14Role for professional bodies?
4.6-15How do we develop shared private space
4.6-16Need for same research but more widely applied
4.6-17What is best way to change behaviour
4.6-18How to evaluate research that has already been done?

Open Space Group Report 4.7

Topic: How to build core content in urban design education and how to achieve biophilic design outcomes

Conversation convened by: Chris Melson and Jana

Group participants: Mike Mouritz, Greg Ryan, Sandra Henville, Winsome Maclaurin, Scott Glassborow, Bill Grace and Peter Adkins

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Main Points:

4.7-1Look at science of living stream models eg Bannister Creek and research land value impacts as well as social and mental health.
4.7-2Water orientated development is learning from education and practice. Therefore inadequate water related greenery, etc.
4.7-3Water studies are relevant even more now globally.
4.7-4Information sharing around the human interrelationship with nature and our living environments i.e. integration of nature with built form.
4.7-5Biophilic Design = Useful and popular term
4.7-6A level of enhanced ecological literacy is needed in the built form discussions.
4.7-7As is a sufficient understanding of base level 'science'.
4.7-8Knowledge/ data - leads to awareness which leads to application
4.7-9Need to overcome the silos between science and design in education.
4.7-10Need to include the community in the education process.
4.7-11Build on knowledge of research findings on green design. eg reduced crime in places with trees and greenery
4.7-12Need to develop a clearer understanding of the relationship between design aspirations (community health or wellbeing, ecologically responsive outcomes, good design generally) and the economics of urban development.
4.7-13Potential to develop and use positive technology in community proven planning.
4.7-14Value in reviewing exemplar projects to understand what skills and other circumstances enabled them to happen. E.g small scale versions like White Gum Valley (small scale)
4.7-15At undergraduate level, starting point should be the basic physics of the water cycle, how we intervene and what its impacts are.
4.7-16Follow up with smart 'water wise' knowledge.
4.7-17Educate on the impacts of and challenges around climate change.
4.7-18Could use an understanding of indigenous names and connection with natural environment to help understand place and natural systems (that pre-existed and/or still exist).

Open Space Group Report 4.8

Topic: Hybrid water systems

Conversation convened by: Martin Anda/Roberta Fornarelli

Group participants: Kerry Trayler, Peter Adkins, Roberta Fornarelli, Ian Overton

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Main Points:

4.8-1Can we do it on a bigger scale?
4.8-2It seems difficult to manage at a householder scale
4.8-3Can we do community scale grey water?
4.8-4Can we use rain water tanks to control urban storm flows? Eg. Burns et a.l (Uni Melbourne) and Dandy et al. (Uni SA)
4.8-5Another scheme could be Water Corporation provides a third pipe with untreated rain water – you treat to the level you want, but you'd want to know where it came from? So you could treat to the level you need it for?
4.8-6In NSW there is a new 'plug n play' system to stick on houses to treat any water source. 'Point of entry system'.
4.8-7What cost of hybrid system would householders like using water balance approach to define option modelling:

a. supply 1 source to meet all needs (point of entry $50, 000 unit), versus
b. distributed point treatment 'hybrid', versus
c. 'pre-treatment' ignore where raw water comes and treat at point of use, versus
d. 3 or 4 pipes (hybrid) OR 1 pipe and onsite treatment unit

Open Space Group Report 4.9

Topic: Use of data and smart technologies to inform policy of planning

Conversation convened by: Sonja Mennen

Group participants: Ian Kininmonth, Nannette Nguyen, Scott Glassborow

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Main Points:

4.9-1Water Corporation stack of data
4.9-2Water use consumption every house/year
4.9-3Implications of increase density apply geographically
4.9-4Issue – access to all collected data careful about privacy issues – need to be worked through
4.9-5Water flows through different drains
4.9-6sustainable yield ⇨ reuse storm water
4.9-7risk of flooding
4.9-8Repurpose data
4.9-9Urban canopy strategy – City of Canning. Heat maps, build up data over 10 – 20 – 50 years
4.9-10Impact of land use change
4.9-11Research question – how can all the data gathered be made available / accessible to put to good use – cloud based? Impact on privacy?
4.9-12Idea to have a place to 'collectively dump data' – stored so accessible – able to use data from different angles
4.9-13Curtin Nexus project – data gathered made available after project is finished
4.9-14Data accessibility and everything that comes with it
    a. Privacy
    b. Accuracy
    c. Way of storing data so they are useful for later use – procedures of data storing
    d. Protection (hacking)
4.9-15Qualitative date gathering
4.9-16Local data gathering – having dashboards available can help change people's behaviour with regards to water use or energy use
4.9-17Could be the lever to help change behaviour
4.9-18Learn from collected data
4.9-19Urban heat – setting up stations around Perth to measure heat, soil moisture

Open Space Group Report 4.10

Topic: Water Governance / WSUD KPI's taken on by Councils

Conversation convened by: Bill Grace

Group participants: Max Hipkins, Emma Yuen, Antonietta Torre, Greg Ryan, Scott Glassborow, Peter Adkins

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Main Points:

4.10-1Policy – fragmented/polarised approach to coordination of water related issues
4.10-2Short and long-term planning is in conflict
4.10-3Best practice governance arrangements – best leverage points? case studies
4.10-4How we get holistic agreement on strategy
4.10-5Articulating the problem is politically inconvenient
4.10-6Water Sensitive Transition Network is informal (now) – could advise government more formally
4.10-7Roles and responsibilities are not clearly defined
4.10-8Councils set KPI's for CEO – reflects the attitudes of council and community
4.10-9Usually more corporate KPI's - efficiency

Open Space Group Report 4.11

Topic: Transition theory

Conversation convened by: Martin Anda

Group participants: Adele Gismondi, Avril Thomson

Main Points:

4.11-1Transition theory is used to describe various change processors overtime. One main theory and body of knowledge was started by the Sustainability Transitions Research Network.
4.11-2Can we do a review of how Perth is going by Professor Frank Geels??
4.11-3Are we doing it well enough for climate resilience?
4.11-4We are getting hotter, we'll need more trees, more water, need affordability
4.11-5Ongoing maintenance costs – futureproofing
4.11-6City benchmarking index has been done. All local governments are being asked to do theirs
4.11-7Seven goals, 34 indicators in the Index
4.11-8See online CRC WSC
4.11-9Spider diagram shows strengths and weaknesses
4.11-10Where is the city on the continuum?
4.11-11Areas for improvement identified
4.11-12Review every few years
4.11-132018 great Perth indexing
4.11-14May be a review next year?
4.11-15Because Perth is sand on shallow groundwater, Waterwise here is very difference to elsewhere

Open Space Group Report 4.12

Topic: How do we balance density with amenity to create more social/liveable cities

Conversation convened by: Avril Thomson

Group participants: Nanette Nguyen, Shelley Shepherd, Helen Brookes, Andrew (MRA planner)

Main Points:

4.12-1Our community doesn't know what good density looks like.

a. Demonstration project in prominent location.
b. Ensure planning for density matches infrastructure capacity

4.12-2Develop a 'virtual' model showing how density could be incorporated well into existing areas

4.12-3What are the positives of density – use that as selling point for the local community

4.12-4How do we force buildings up rather than out.

a. Dictate minimum open space requirements.
b. Incentivise increased private open space with government stamp duties

4.12-5Encourage local governments to prepare good precinct level local structure plans that designate areas of amenity

4.12-6Wider road reserves for higher density

4.12-7Mixed/relaxed coding – what happens

4.12-8Investing - why people in Perth don't buy apartments

4.12-9What are the good design elements that need to be mandated in planning/building standards to ensure good density

4.12-10How do you dispel the fear and promote the opportunities?

Open Space Group Report 4.13
Topic: Protecting existing values

Conversation convened by: Joanne Smith

Group participants: Max Hipkins, Lucy Robinson, Kerry Trayler

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Main Points:

4.13-1Legislation for protection - explained and available to community – must evolve instead of rapid change imposed on community

4.13-2Values

a. not well defined / articulated ⇨ community engagement
b. not understood ⇨ trust and language
c. not respected ⇨ authority and transparency of decisions

4.13-3Community values captured and acted on

4.13-4Example – CHRMP processing regarding coastal risks/values

4.13-5Transparency – easily accessible and defendable legislation, regulation, decision making

4.13-6Engaging

a. science based decision making
b. majority rules decision making
c. risk assessment process. Run simulations for various scenarios. Simple digestible portions for the implementers and the public. 'Knowledge brokers' to better deliver findings to governments and communities.

4.13-7Commitment to long term policy and agendas required to provide the stability for benefit to the community leaders need to point people to the right sources

a. there is a lot of research available
b. at all levels of leadership and government

Open Space Group Report 4.14

Topic: Can we organise ourselves better as we continue to invest in research and policy development in climate resilience?

Conversation convened by: Mike Mouritz

Group participants: Mike Mouritz, Shelley Sheherd, Helen Brookes, Sondra Henville, Chris Melsom, Lucy Robinson, Ian Overton, John Savell, Jana Soderlund, Kerry Trayler

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Main Points:

4.14-1Demonstration of research value
4.14-2Really classify measurable benefit
4.14-3A range of models are worth looking at
4.14-4 Eg: Cities institute
4.14-5Prioritise around research – are they local priorities – address locally
4.14-6 There is a a bunch of science locally that needs to be done
4.14-7Water Research Association (WRA)– example of post CRC
4.14-8All stakeholders of CRC wanted to continue to invest
4.14-9 WRA has Membership categories
4.14-10How do we value the research out puts
4.14-11Scope – clarify

Action Plan 5.1

Focus area for action: Biophilic Cities Australia

Convened by: Jana Soderlund

Offers of Support:

Name	Email	Phone	Notes/Comments
Antonietta Torre	Antonietta.torre@watercorporation.com.au		Not sure what I can contribute but would like to be kept informed
Chris Melsom	Chris.melsom@uwa.edu.au	0408 025 933	

Immediate next step(s):

Join NFP Biophilic Cities Australia mailing list

- Projects
- Educational and uniting working with field trip and hands on design

By when:

Action Plan 5.2

Focus area for action: Research scope for T3

Convened by: Ian Overton

Offers of support

Name	Email	Phone	Notes/Comments
Martin Anda	m.anda@murdoch.edu.au		
Helen Brookes	helen@urbaqua.org.au		
Shelley Shepherd	shelley@urbaqua.org.au		
Kerry Trayler	Kerry.trayler@dbca.wa.gov.au	0431 990 675	
Mike Mouritz	Mike.mouritz@curtin.edu.au		
Emma Yuen	Emma.yuen@uwa.edu.au		
Nanette Nguyen	Nanette.nguyen@canning.wa.gov.au		
Peter Adkins	Peter.adkins@dbca.wa.gov.au		
Sandra Henville	Sandra.henville@watercorporation.com.au		
Bill Grace	Bill.grace@uwa.edu.au		
Antonietta Torre	Antonietta.torre@watercorporation.com.au		
Jana Soderlund	j.soderlund@biophilic.solutions		

Immediate next step(s):

Workshop on scope and stakeholder identification 27 November DWER, Level 4

By when:

Action Plan 5.3

Focus area for action: Wellspring Pilot for Subiaco main drain catchment

Convened by: Ian Kininmonth

Offers of Support:

Name	Email	Phone	Notes/Comments
Adele Gismondi	Adele.gismondi@watercorporation.com.au		
Andrew Cumming	Andrew.cumming@mra.wa.gov.au		
Scott Glassborow	scott.glassborow@belmont.wa.gov.au		
Greg Ryan	greg.ryan@landcorp.com.au		
Emma Yuen	Emma.yuen@uwa.edu.au		

Immediate next step(s):

- Andrew to advise contact at MRA
- Adele to help assist with defining the business case and community benefit and link to Subaico as a Water Wise Council and link to Water Corporation Water Wise project
- Discuss with Greg Ryan re. feasibility
- Scott, as a Local Government rep to assist with identifying feasibility and communicating to local government
- Discuss with Max Hipkins and WESROC

By when:

Action Plan 5.4

Focus area for action: Build knowledge of urban water management and big picture implications into urban design education and leverage research and knowledge in practice.

Convened by: Chris Melsom

Offers of Support:

Name	Email	Phone	Notes/Comments
Bill Grace	Bill.grace@uwa.edu.au		
Antonietta Torre	Antonietta.torre@watercorporation.com.au		
Jana Soderlund	j.soderlund@biophilic.solutions		

Immediate next step(s):

Work with Bill Grace and others on research topics and curriculum design

By when:

Start by 20 December

Action Plan 5.5

Focus area for action: Peer to Peer Trading and Hybrid Water Systems and Transition Theory

Convened by: Martin Anda

Offers of Support:

Name	Email	Phone	Notes/Comments
Emma Yuen	Emma.yuen@uwa.edu.au		
Roberta Fornarelli	roberta.fornarelli@curtin.edu.au		
Stewart Dallas	s.dallas@murdoch.edu.au		

Immediate next step(s):

1. Convene meeting
2. Prepare research funding application

By when:

1. December 2018
2. May 2019