CRC for
Water Sensitive Cities

# Engaging communities in stormwater management

*Knowledge and awareness in the Australian community*

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# *A2.3 Engaging communities with Water Sensitive Cities*

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# Why engage communities?

**Increasing recognition that sustainable urban water management needs to consider:**

- Not only technical & biophysical solutions
- Socio-cultural context for these solutions



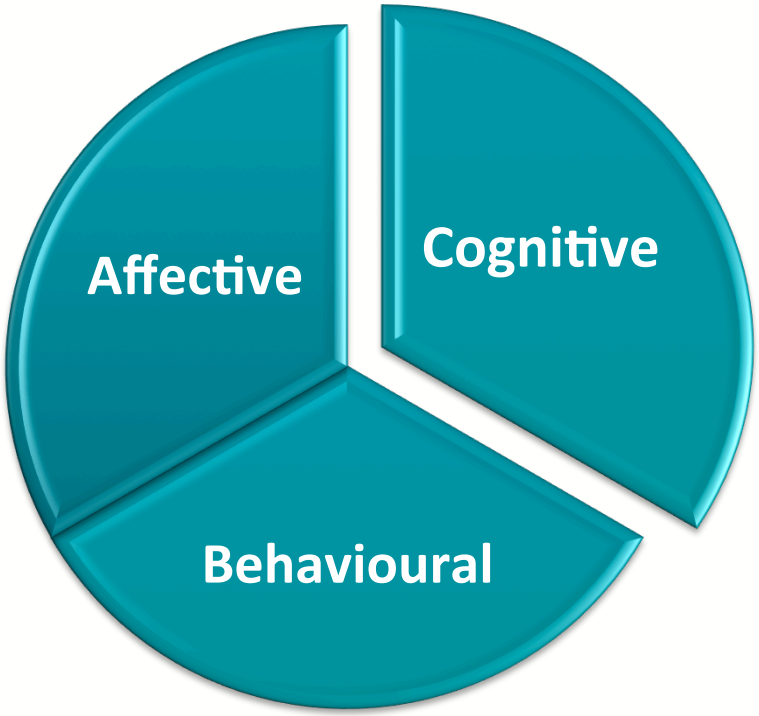
**Engaging communities important for**

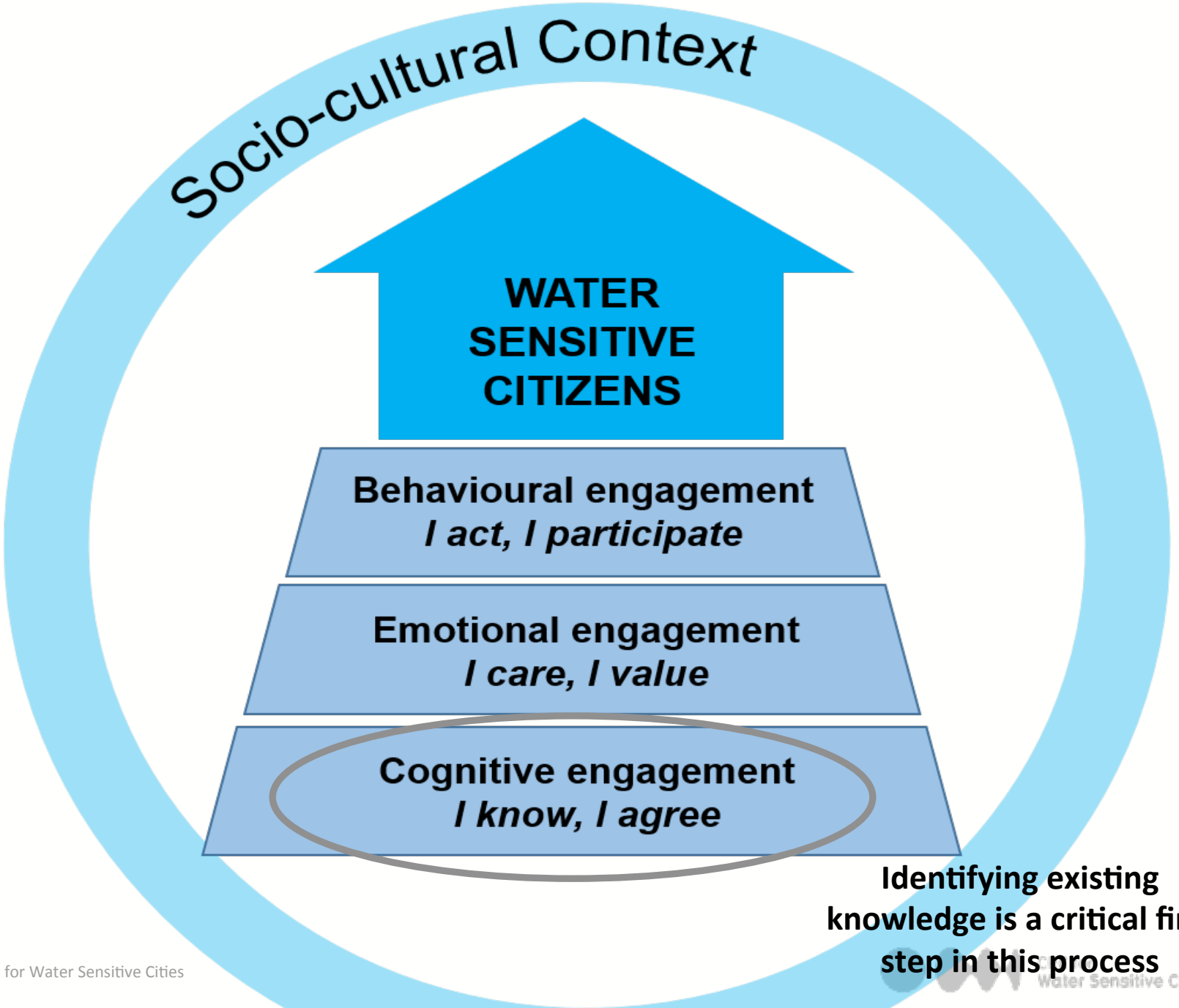
- Changing personal behaviour
- Building support for new policies and investments
- Building trust in reform processes

**Our focus how to build an engaged citizenry – 'water sensitive citizens'**

# Engagement framework

*Engagement is 'a personal state of connection with an issue'*






**Identifying existing knowledge is a critical first step in this process**

# Study 1 – National survey of Australian adults (n=5193)

## Questions

- How good is community knowledge about water?
- What influences knowledge? Who has better knowledge?
- Does knowledge matter? Is it associated with attitudes and behaviours?

# Measuring water knowledge – 15 questions

The fertilizers that individual householders use in their garden can have a negative impact on the health of waterways

Planting native plants along a waterway's bank improves health of waterway

Storm water from roofs and roads is treated to remove pollutants before entering the waterways

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Strongly disagree | Disagree | Neither | Agree | Strongly agree | Don't know |

# What else did we assess?

**Water knowledge score:** the number of correct responses to 15 questions about water management

**Participant characteristics**:

- Demographics & cultural background
- Household characteristics
- Information sources
- Life experience, satisfaction and participation
- Waterway use
- Environmental identity

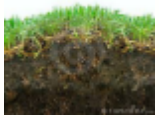
**Water-related attitudes and behaviours**:

- Support for alternative water sources
- Support for raingardens
- Uptake of water-saving devices
- Use of everyday water-saving behaviours
- Use of pollution-reduction behaviours

# Knowledge varied across topoc

## High

- Actions in the home can affect waterway health
- Household fertilizers can impair waterway health
- **Planting trees** near waterways improves waterway health
- **Stormwater flows can damage** waterway health



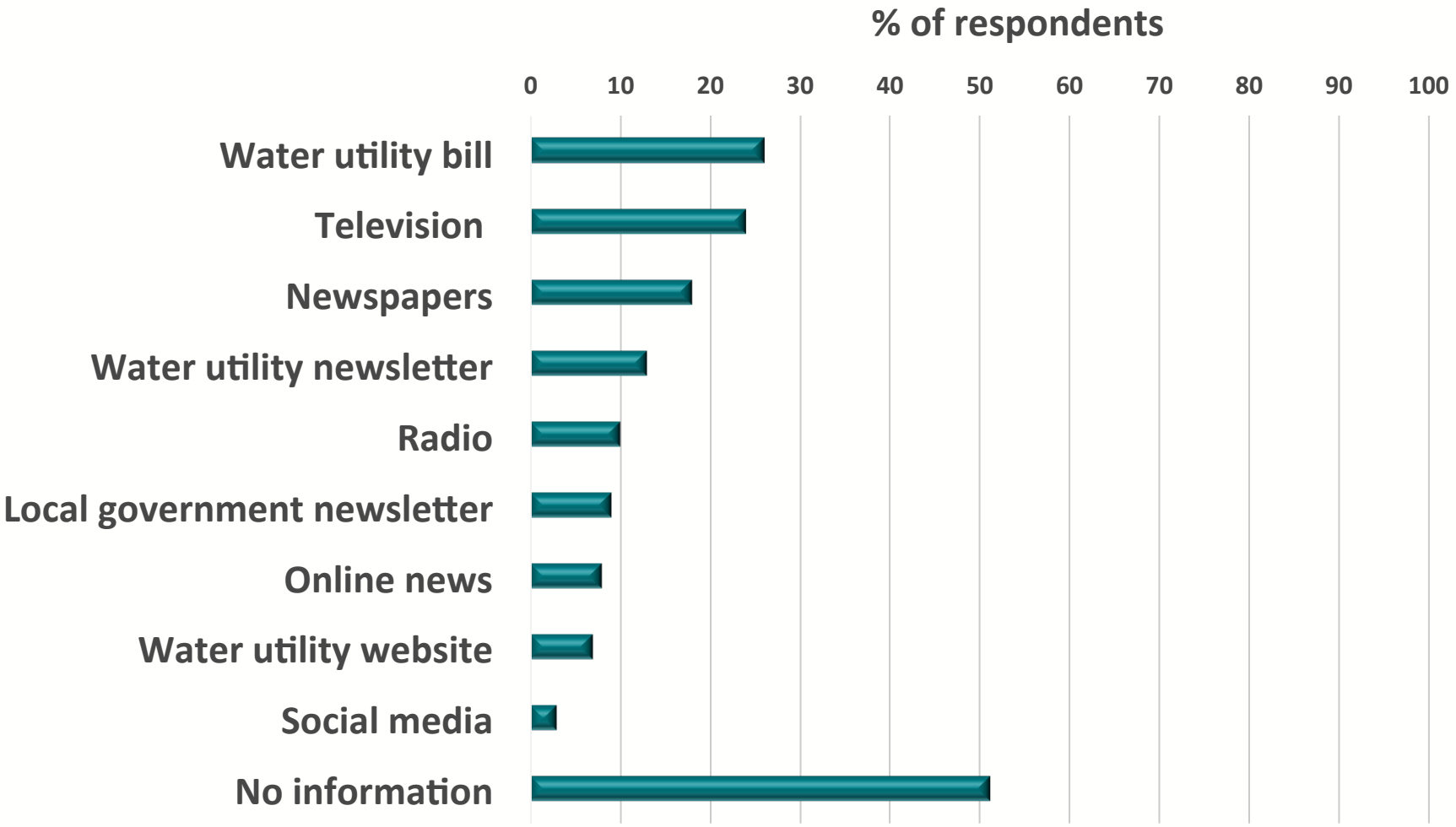
## Medium

- Urban soil erosion can impair waterway health
- Large amounts of sediment can damage waterways
- Household pesticides can impair waterway health

## Poor

- A catchment=total land area draining to a specific waterway
- Urban stormwater **is not treated** before entering waterways
- Domestic wastewater **is treated** before entering waterways
- Separate pipes carry domestic wastewater & stormwater

# In the last 6 months, have you seen information about water from any of the following sources?



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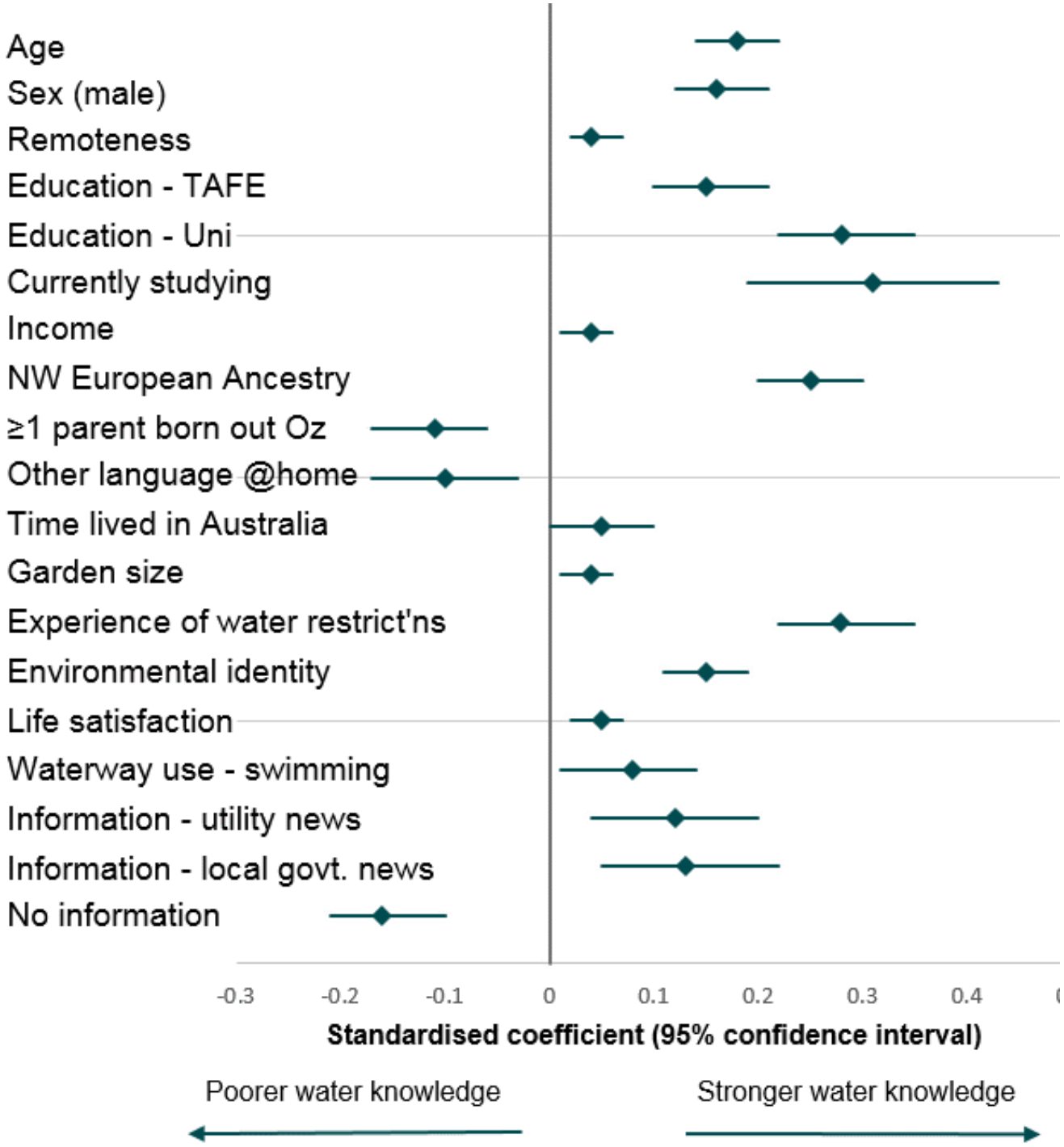
# Factors influencing knowledge

**All factors significant**
**$p < 0.05$**



# Does water knowledge matter? Yes!

Greater support for alternative water sources

**Greater support for raingardens**

Higher uptake of water-saving devices

Greater use of everyday water-saving strategies

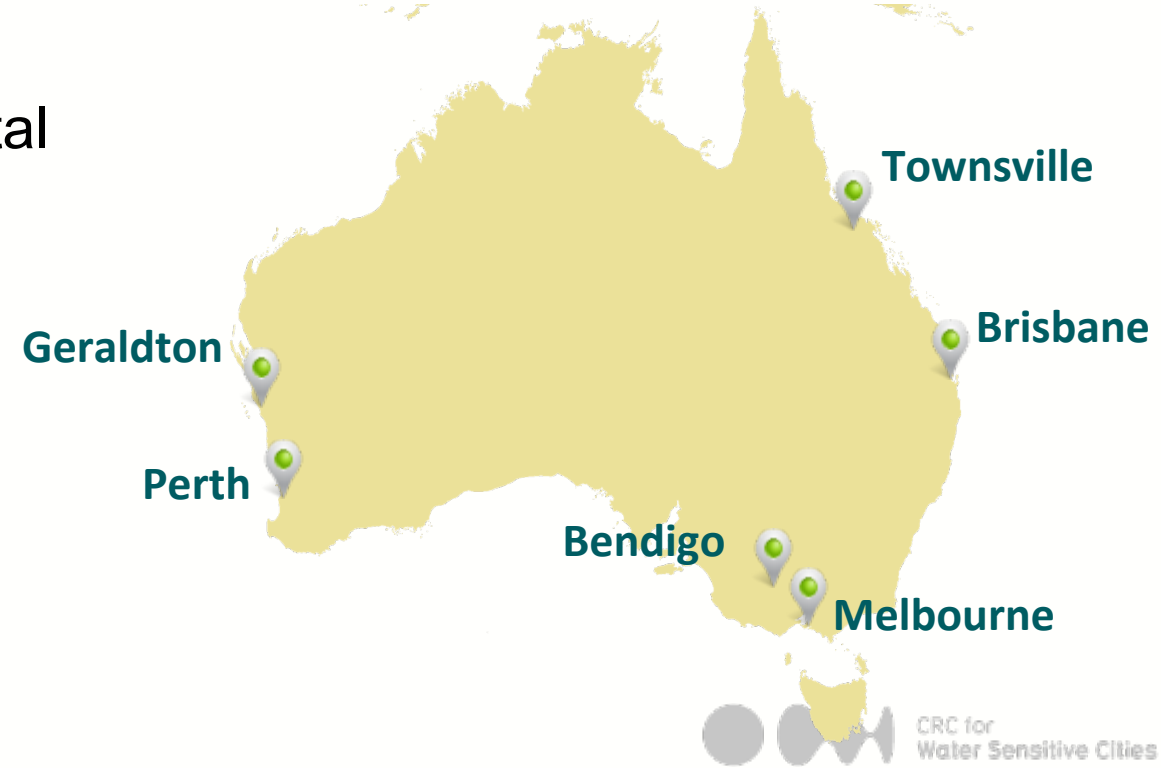
**Greater engagement in pollution reduction behaviours**

# Exploring this further

# Study 2: Focus groups

Aimed to explore perceptions about stormwater & management

- Representative mix of ages, gender & incomes
- 6 locations
- 40 participants in total



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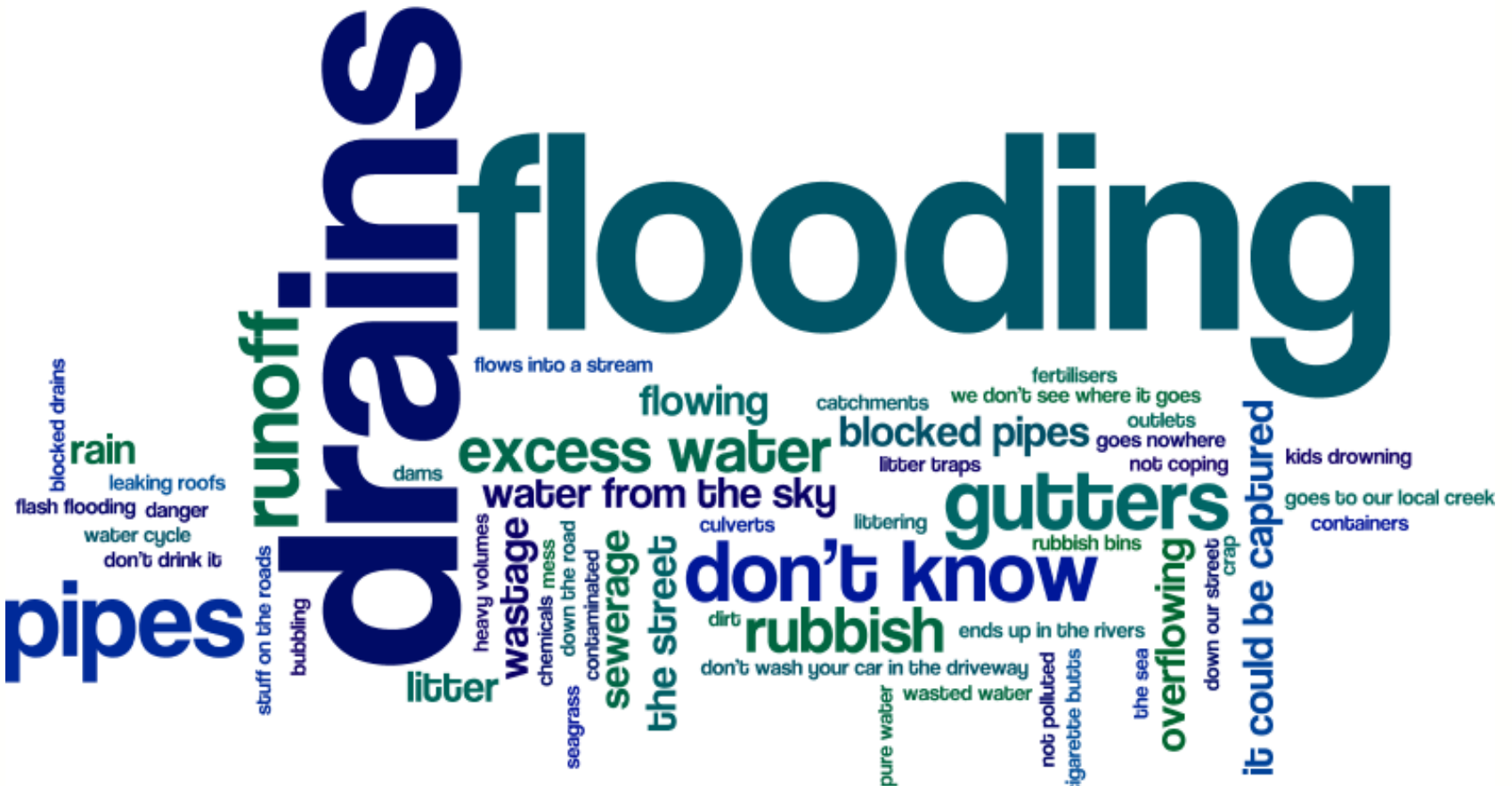
# What comes to mind when you see the word ‘stormwater’

Most frequent responses relate to excess water and flooding



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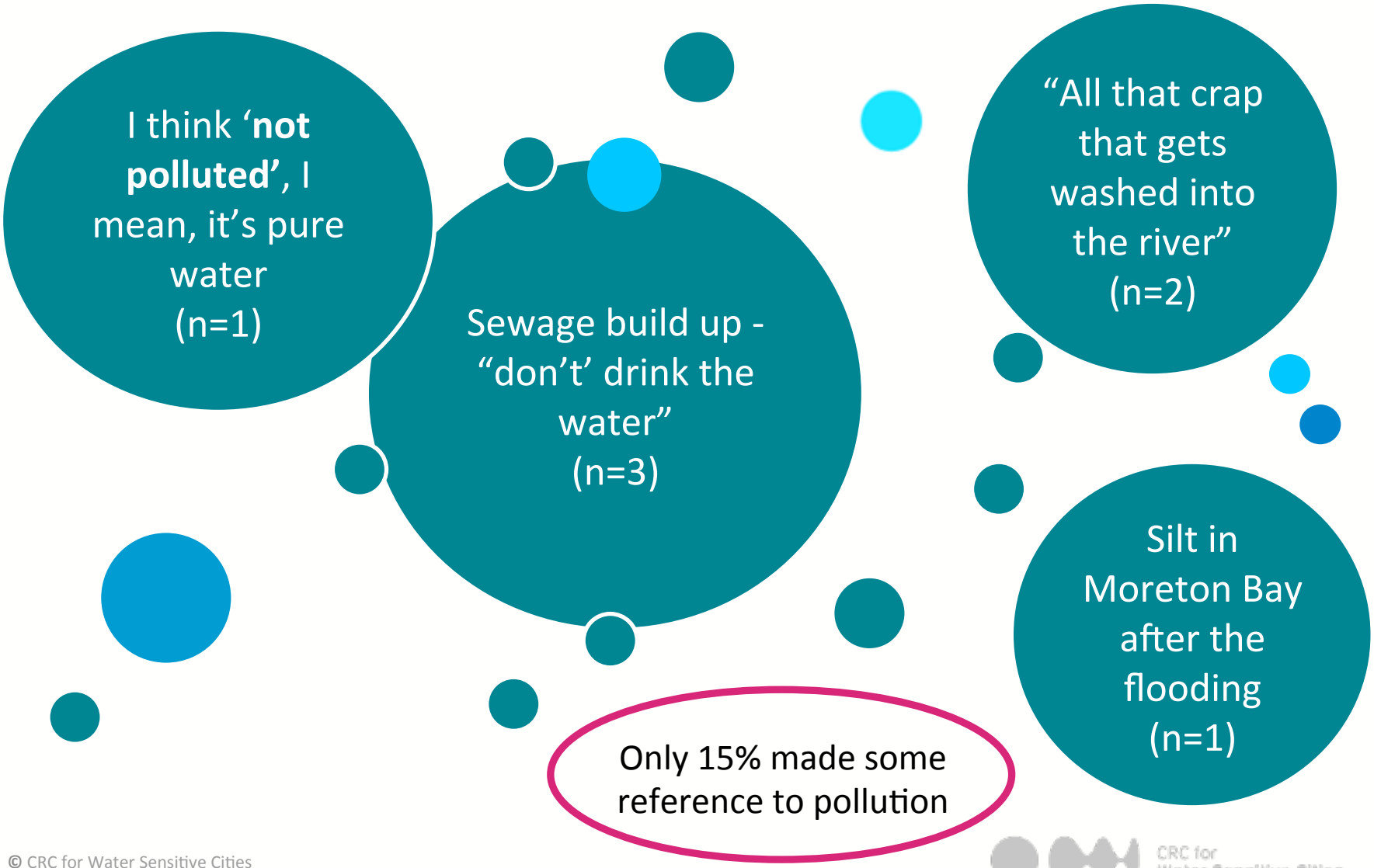
# Other responses



# Responding to information

**We then provided information about stormwater**

Discussion about definition and management options

Concepts not difficult – people response well to information

**Poor community understanding**

*"I didn't realise that stormwater washed all the rubbish out to sea, I thought it just cleaned everything up… not that it did any harm"*

**Poor issue visibility**

*"We don't see, to a large extent, where our stormwater goes"*

Despite prompting, the conversation kept returning to 'visible' issues like litter

# Discussing personal actions

**Unprompted**

Limited capacity to identify management options

Most responses ~ **physical litter** or **water saving**

**Prompted**

*"Oh, that's common sense"*

*"good advice"*

**Barriers?**

**Not thinking soil is a pollutant**

*"I wouldn't think of planting trees… that wouldn't spring to mind"*

**Personal relevance**

*"For me, that's a bit tricky to relate to because I live in a small apartment"*

# Discussing water sensitive urban design

**Unprompted**

**Very limited** capacity to identify any management practices

Assumed local govts would be investing in expensive filtration technology

**Prompted**

*Curiosity: effectiveness*

*Relevance: will it affect my property or rates?*

*Positive: aesthetics*


**Barriers?**

**Poor Awareness**

*"It sounds great, but we don't know what it is"*

*"Does it really have a benefit? **It seems too simple"***

**Poor Visibility**

*"you can see the things we want councils to do, … **this has got nothing, no function you can see"***

# Need to *show* impact

**Nature of the problem**

*"**show people** how much rubbish builds up…"*

*"**I would be interested to see the stats**, what chemicals are going into the environment… to explain what's happening…"*

**Individual action**

*"**Show us** the difference we can make"*

*"explain why you're asking me to do this… **we want to know the impact**"*

**Impact of WSUD**

*"I don't think it would hurt to have some **signage, saying this is what we're doing and this is what it does**"*

# So where does this leave us?

| Stormwater pollution | | |
|---|---|---|
| **Not top of mind for people** | **Not highly visible** | **Perceived as not relevant** |

If we want to engage people in stormwater issues – we need to be communicate and motivate more effectively

| Insights from other water issues | | | |
|---|---|---|---|
| **Clear visuals** | **Simple language** | **Provision of feedback?** | **Social norms** |

# Tips for engaging communities

Knowledge is important, but multidimensional

People's knowledge may be good in some areas but poor in others

A lot of people are not accessing information - consider targeting certain social groups

Make it relevant!

Make it visible!

**Avoid jargon**

Even words like catchment or stormwater may not be understood

When discussing stormwater issues, remember: pollution is not front of mind– you need to specify the issue and rationale for the solution

# Next steps


Typology of engagement: characteristics of engaged & less engaged groups
Intervention studies to test different communication approaches
Effectiveness of different engagement strategies

# Thank you!

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