from Cloudy to Clear

Talking About Water

Vocabulary and Images that Support Informed Decisions about Water Recycling and Desalination

Principal Investigators:
Linda Macpherson/CH2M HILL
Paul Slovic/Decision Research

PRESENTED BY EMILY CALLAWAY | CH2M HILL

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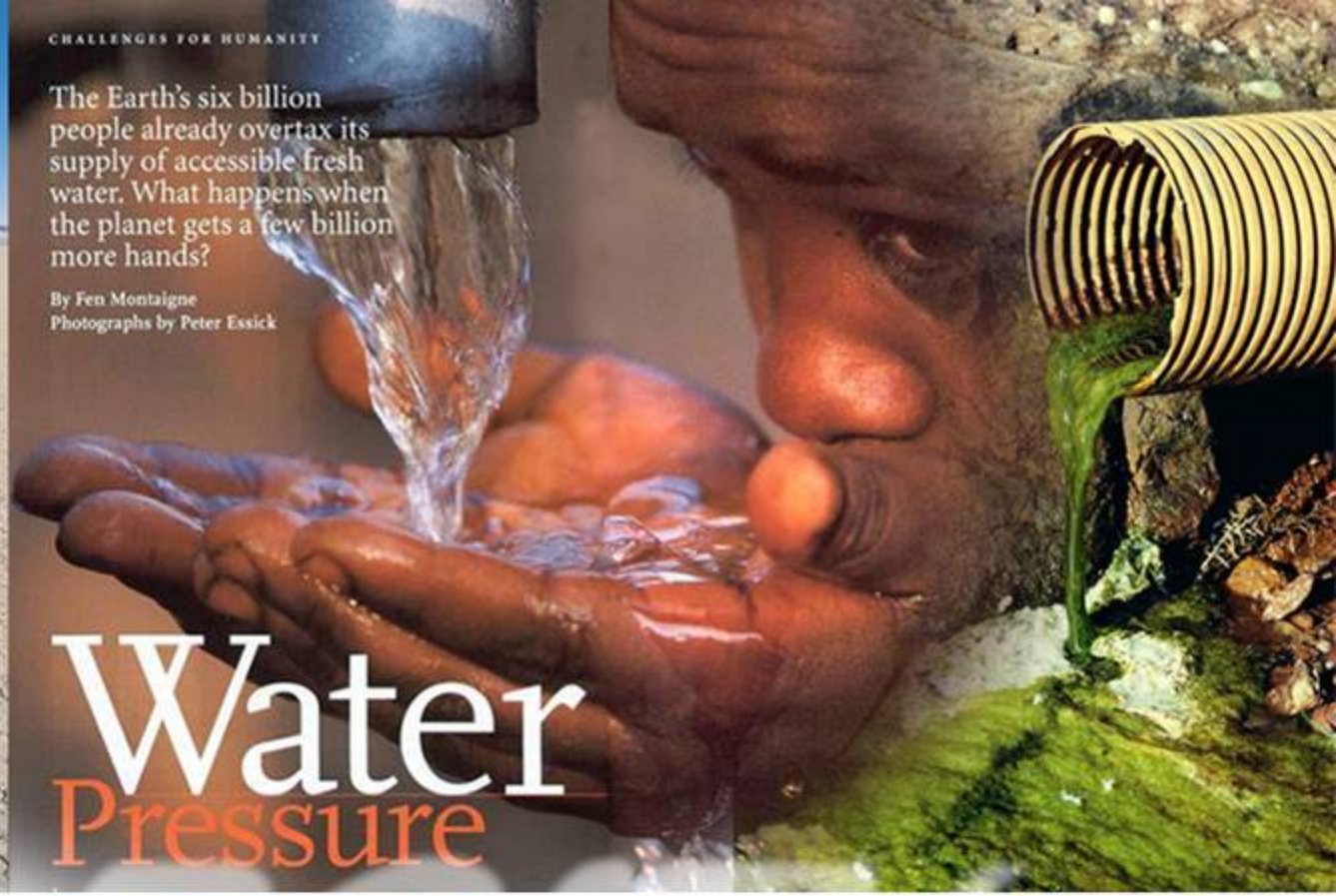
The talk today will cover:

- Purpose and need for this research
- Methodology
- Research Findings
- Recommendations



Purpose and need for this research

We have a problem:

- Water scarcity is casting a shadow over the future viability of communities across nearly every continent

Purpose and need for this research

- We have the technology to reuse water to alleviate this growing crisis
- Lack of public acceptance shuts down reuse projects, often before they even get off the ground

Purpose and need for this research

Reused Wastewater

Indirect Potable Reuse

THAT IS THE QUESTION!

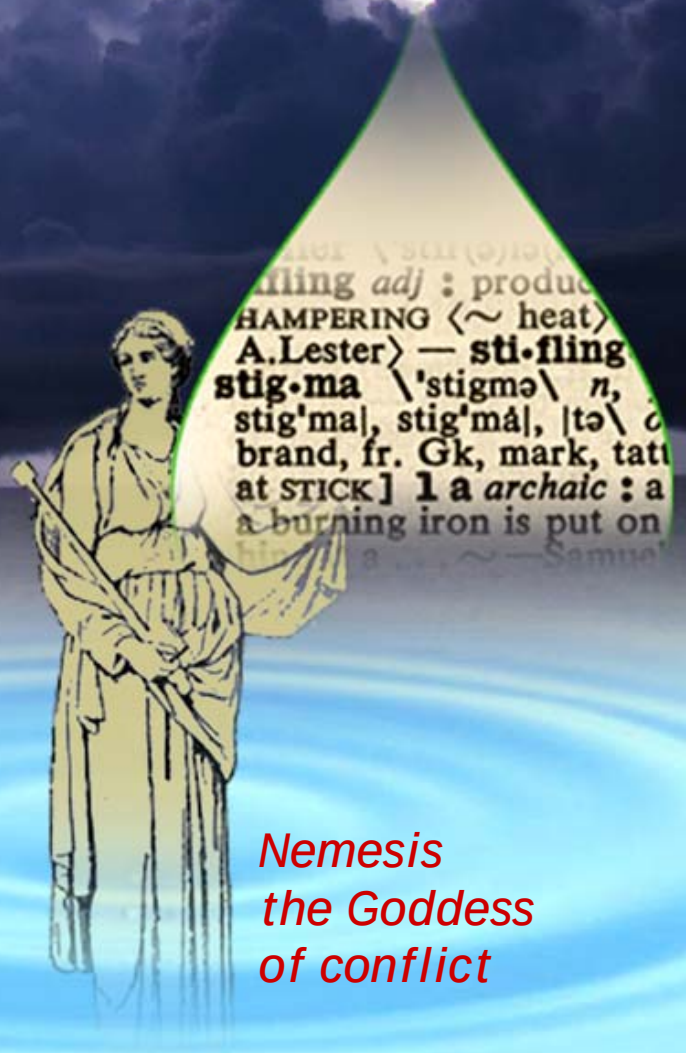
Recycled Wastewater

Influenced Waters

- Could it be that the vocabulary used by the industry to explain technology and the concept of reuse to the public actually inhibits public understanding and results in non-acceptance?

STIGMA!

- Opponents of water recycling are aware of the stigmatizing effects of language
- The use of words that magnify fears is invariably more powerful than countervailing efforts to emphasize facts



Nemesis the Goddess of conflict

Exploration of related issues

- What do people understand about water science?
- Does improved knowledge enhance acceptance?

Are we guinea pigs?

Research methodology

- Review of published materials
  - Community outreach and education materials
  - Examples of survey research conducted between 1987 and 2009
  - Outreach and education guidance documents
  - Terms and definitions used within the industry
  - Images and phrases used by the media
- Quantitative investigation: web-based survey
- Qualitative investigation: focus groups in the US and Australia

Community Outreach and Education Materials

Community outreach and education materials

- Terminology was used inconsistently even within the same organization
- Few attempts were made to ensure the information was interesting – the reading ease of much of the material was equivalent to the fine print of an insurance policy
- It is assumed that technical words are sufficient to create community understanding and reassurance

Community outreach and education materials

- The various parts of the water cycle were treated separately – the subject of water recycling was rarely considered in the broader context of the water cycle
- The material examined was not always accurate. For example, on one website pharmaceuticals were described as inorganic compounds

Outreach and Consultation Guidance

Outreach & consultation guidance

Outreach & consultation guidance

- While there is much to recommend in these documents, there are a number of gaps:
  - although they invariably mentioned the need to provide information, they did not detail what information should be available nor how it should be delivered
  - there were no terms or images to explain different water qualities, different types of reuse and how water is treated to make it suitable for various uses

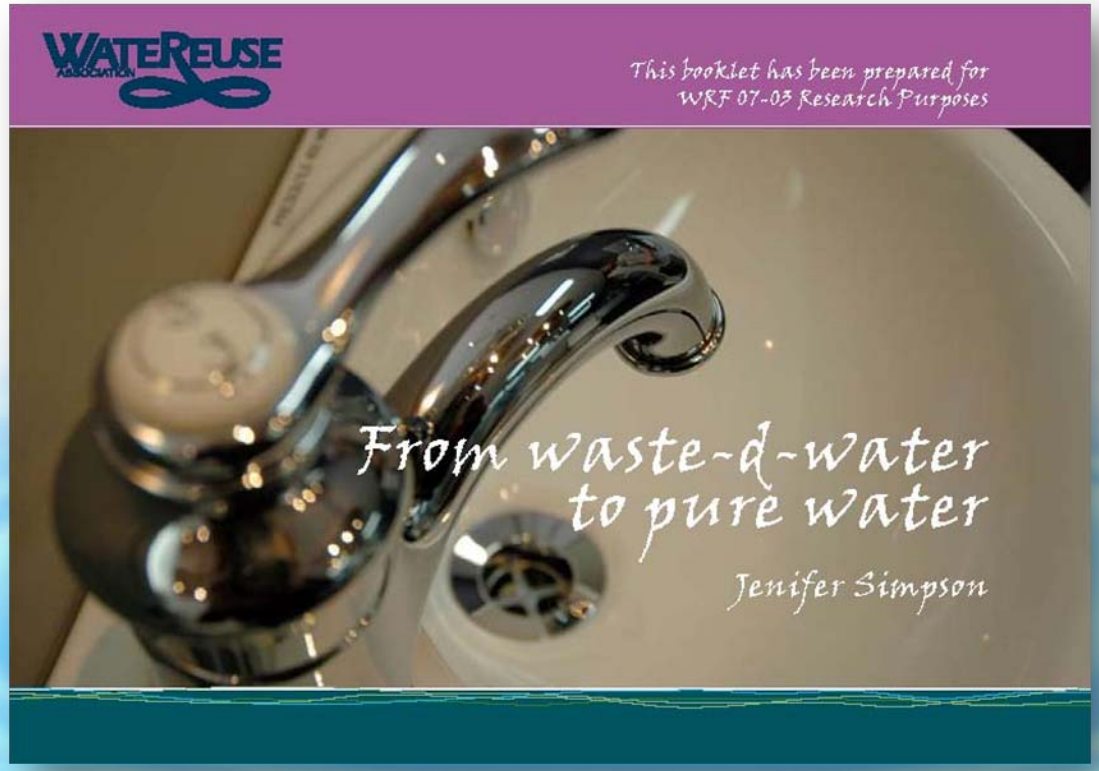
Quantitative Survey Research

Quantitative Survey Research

- Testing the impacts of information:
  - half of the individuals surveyed received on-line information about water science, but the other half did not receive any accompanying information

Quantitative Survey Research

- The information provided was an on-line copy of the booklet *From waste-d-water to pure water*



Quantitative Survey Research

The question was:

- *There is a variety of terms used to describe the processes used to clean wastewater and water. Rate from 1 to 4 how well you understand the terms*.

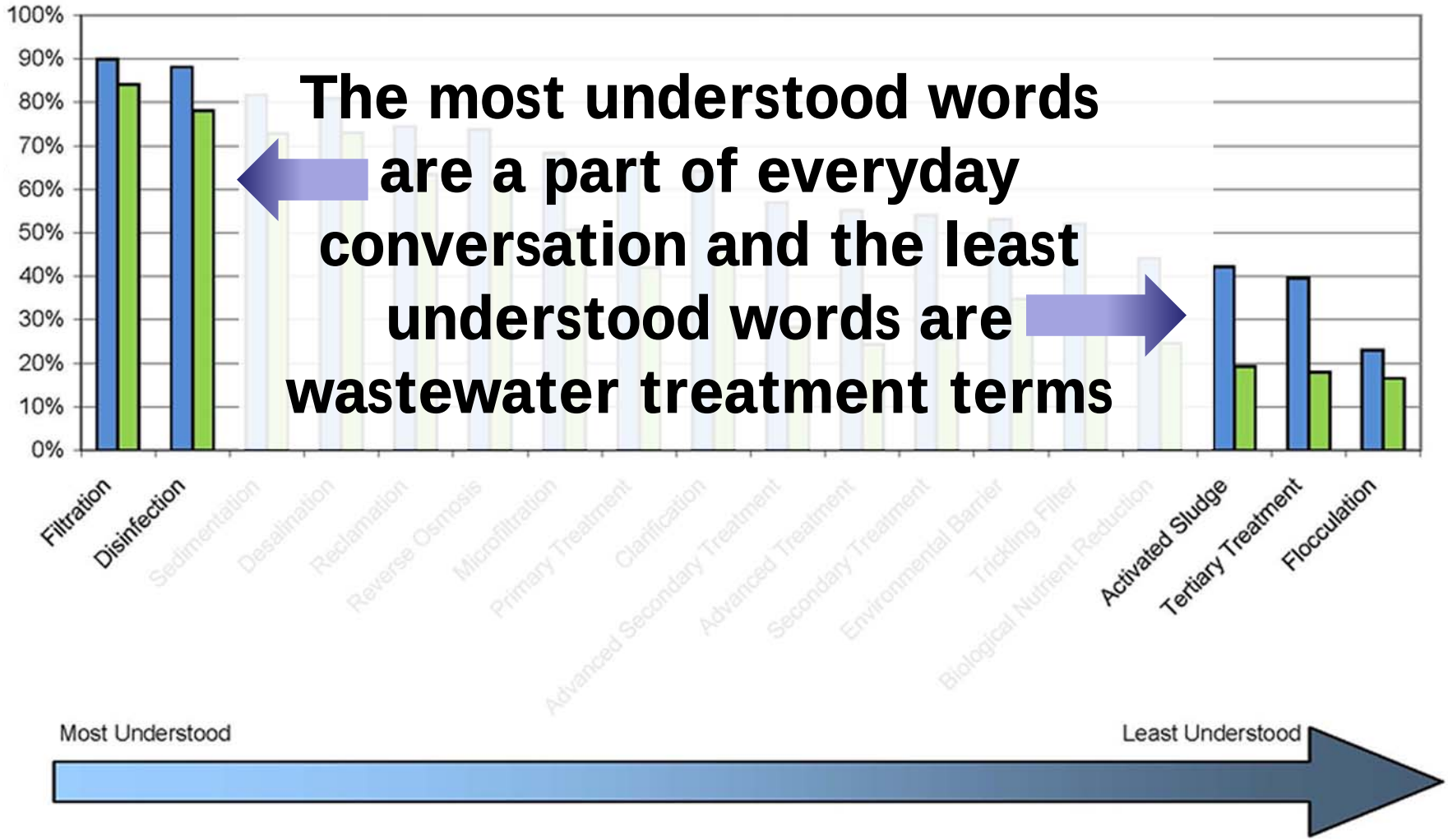
  1 = I have never heard of the term

  2 = I have heard of the term but do now know what it means

  3 = I have some understanding the term

  4 = I understand it well enough to explain it

Percent respondents who indicated they have some understanding of the term, or understood it well enough to explain it



The most understood words are a part of everyday conversation and the least understood words are wastewater treatment terms

Quantitative Survey Research

The question was:

- *Which are the most important factors to ensure the safety of your drinking water supply*?
  - Water treatment technology
  - Monitoring finished water
  - Identifying pollution sources
  - Residual disinfection
  - Raw water quality

The industry assumes…

…the public thinks the quality of raw water is most important for safety.

The reality is…

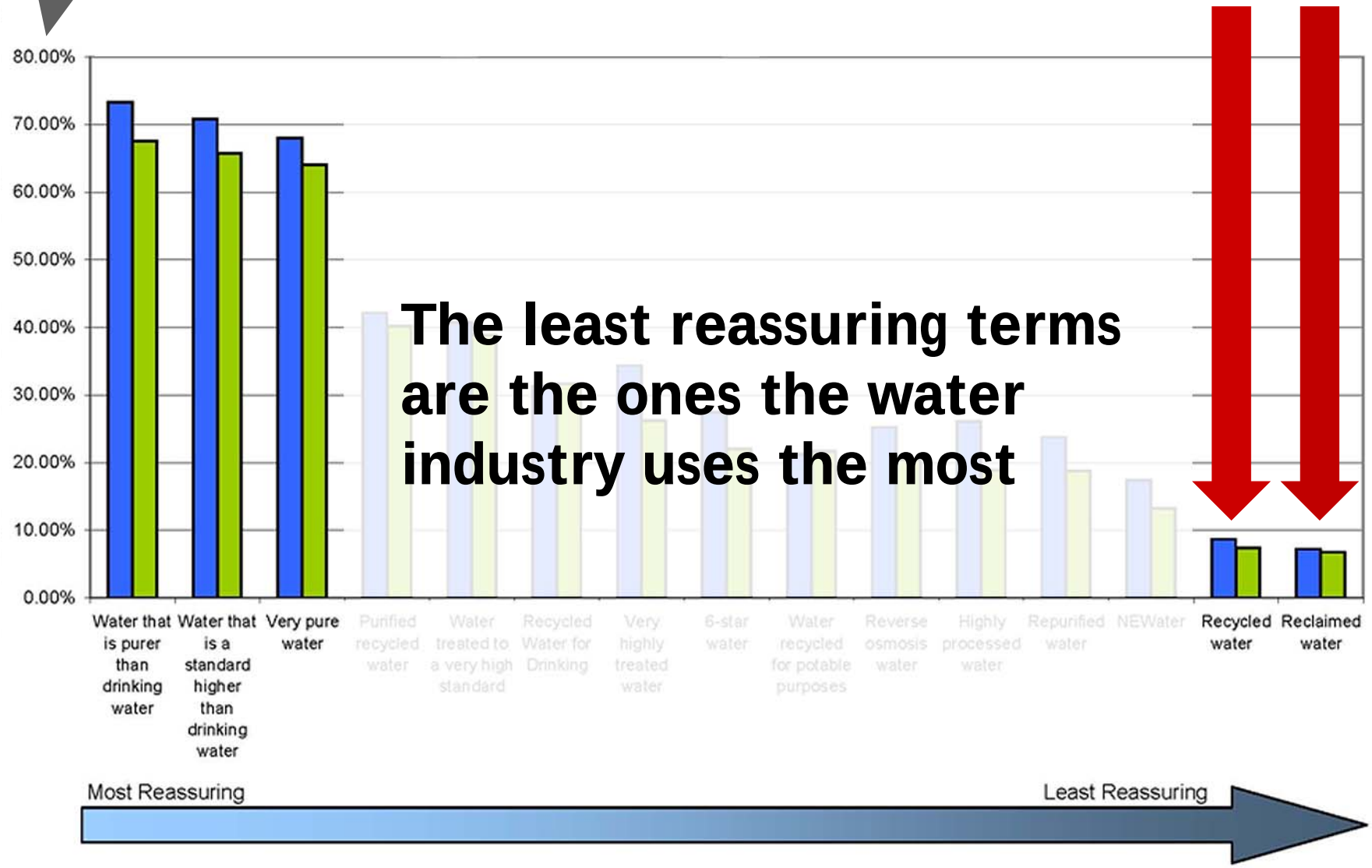
…the public actually thinks that water treatment and monitoring are more important for safety.

Quantitative Survey Research

The question was:

- *Several names have been suggested for the water produced at the reclamation plant that is as pure as modern technology can make it, for recycling back to the drinking supply. Please rate the terms that you consider would most positively reassure the public of its safety and high quality.*

Percent respondents who feel the term is reassuring or very reassuring



The least reassuring terms are the ones the water industry uses the most

Information helped

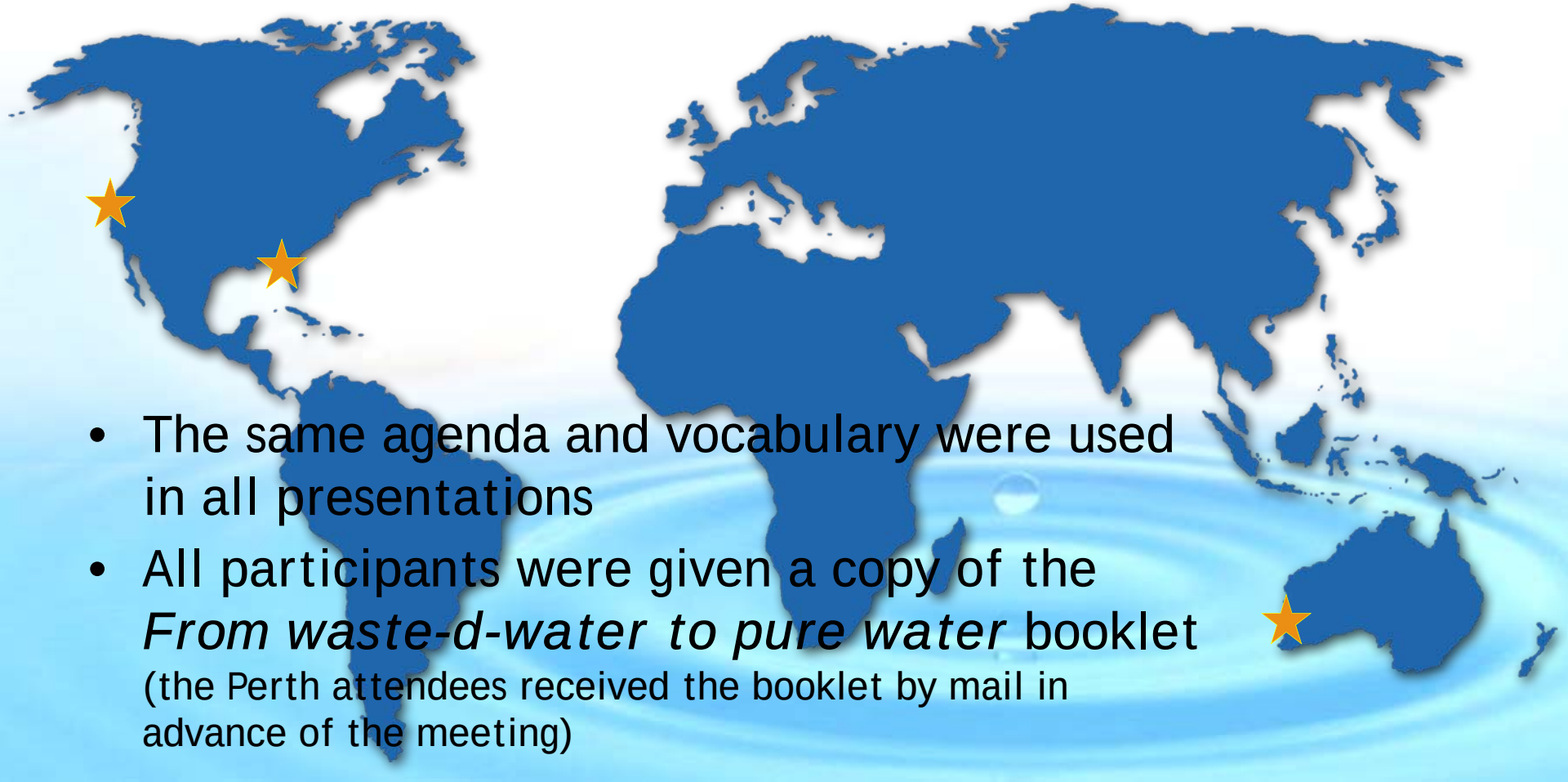
- Information increased understanding of the terms used to describe water and wastewater treatment processes
- It increased understanding that there are different qualities of water that can be reused for different purposes
- It increased willingness to drink water that was known to be used before

Information ⇨ Understanding ⇨ Acceptance

Qualitative Focus Group Research

Qualitative Focus Group Research

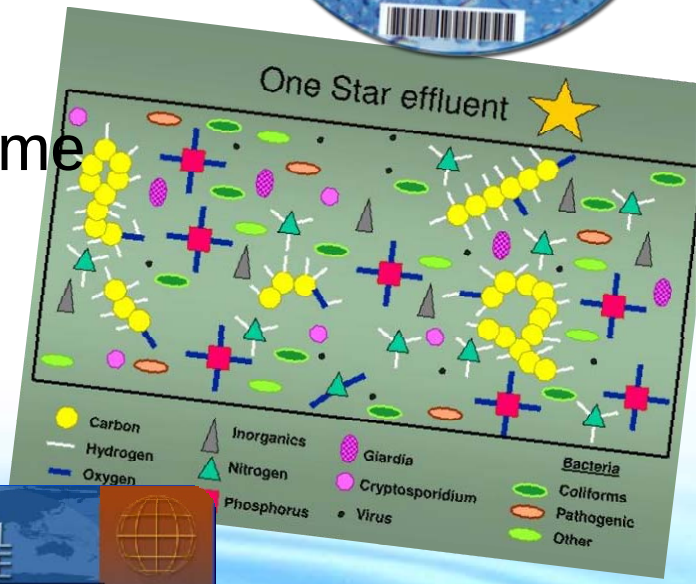
- Focus group meetings were held in Santa Clara Valley Water District/City of San Jose, Tampa and Perth



- The same agenda and vocabulary were used in all presentations
- All participants were given a copy of the *From waste-d-water to pure water* booklet (the Perth attendees received the booklet by mail in advance of the meeting)

Focus group investigations explored the following issues

- Did the AWWA video on all types of water reuse, a personal tutorial and/or the interactive information help people understand and become more accepting of water recycling?



Focus group investigations explored the following issues

- Is it true that ‘the community doesn’t want to know and doesn’t have time to learn about water science’? (AWA Rain Gauge, 2007)

Focus group outcomes

- There was an obvious link between the clear presentation from a knowledgeable presenter coupled with a visual, interactive explanation of the technology and the attendees' understanding of water science and their acceptance of water recycling

Focus group outcomes

- The attendees responded more positively to being provided with a greater depth of information about water, as opposed to the general video whose aim was to explain reuse and establish that the industry may be trusted to provide various qualities of recycled water
- Generic information was regarded as marketing and mistrusted

BRANDING WITHOUT INFORMATION MAY NOT BE THE ANSWER

Focus group outcomes

- The very positive responses showed that the audiences were very interested in learning and talking about water

"The public generally doesn't wish to know, nor has the time to learn the detailed science involved in indirect potable reuse."
(AWA Rain Gauge 2007)

DISPROVEN

Focus group outcomes

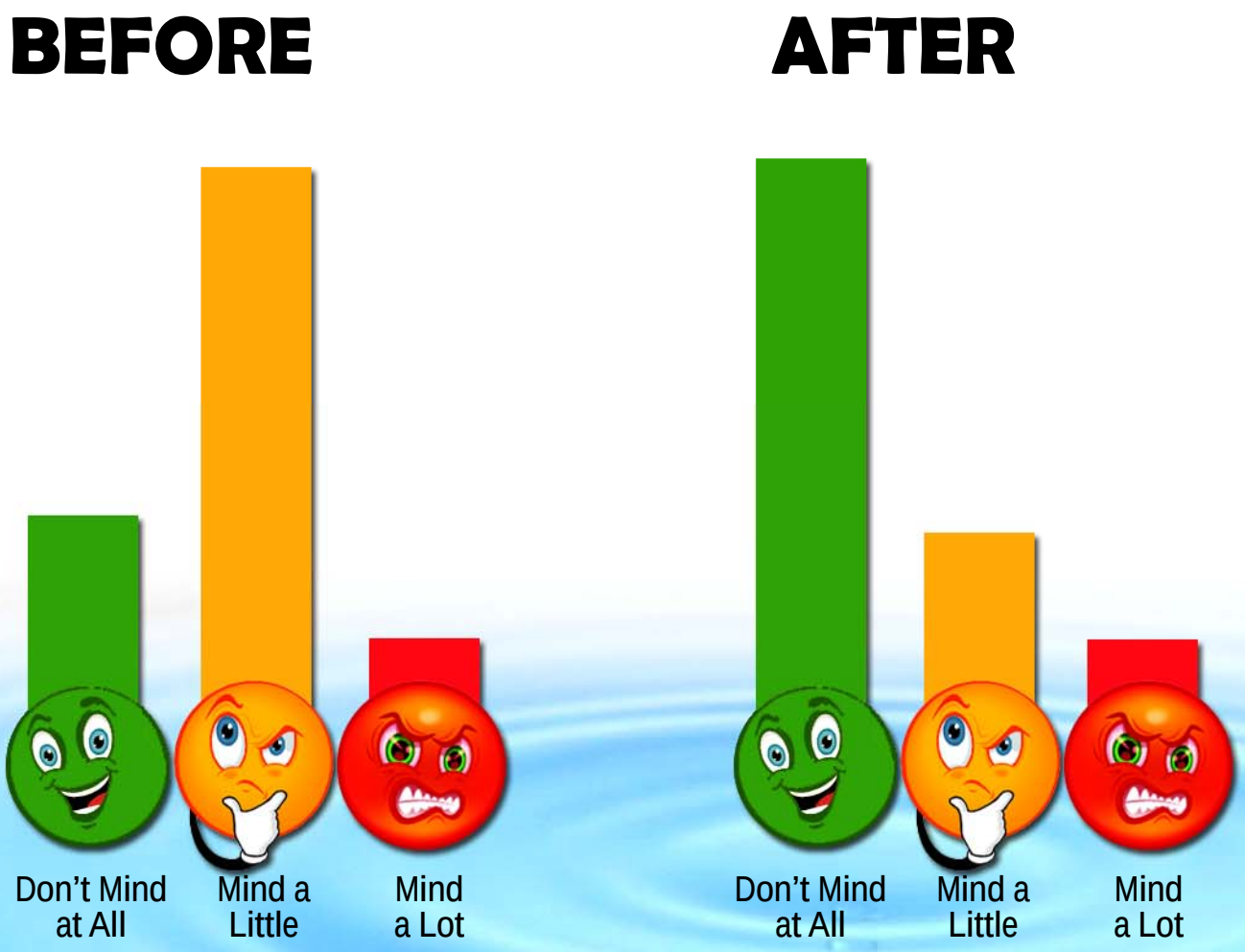
- The attendees said it was important that a range of material be available to suit all learning styles
- They felt strongly that technical information must be available, even if only a minority of people wanted to study it

Focus group outcomes

Wastewater is mostly water—a 53-gallon drum of it contains only about one tablespoon of 'dirt'

- Technical information should be 'simple enough to understand yet technical enough to trust'
- Information should be available on all the options available for managing water (for example: conservation, desalination, reuse)
- Cost was an important issue for many

Focus group outcomes



Recommendations

Recommendations for all Water Professionals

- ALL water professionals must be aware of the impacts of the words they use
  - avoid using jargon, acronyms, and stigmatizing terms

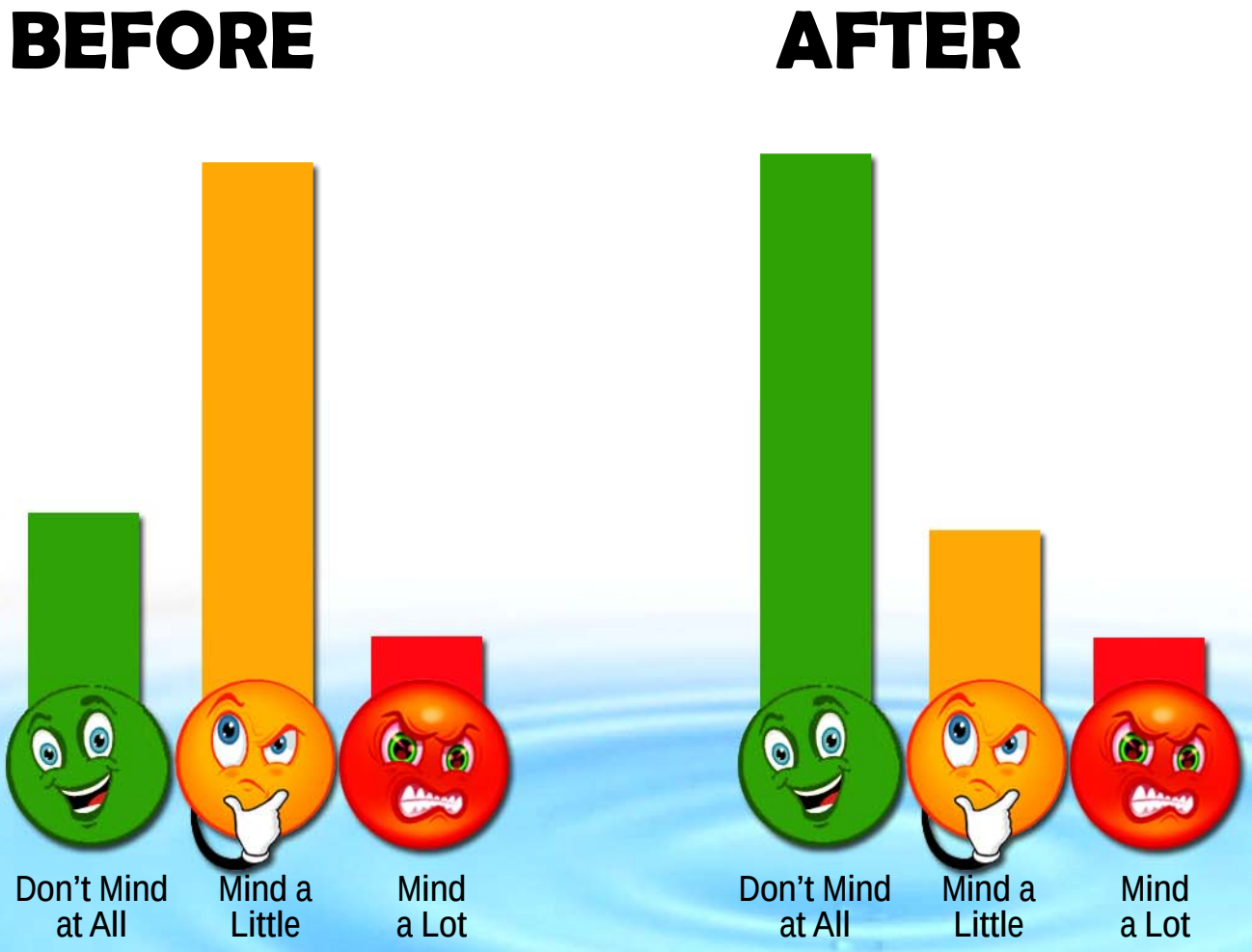
Recommendations for all Water Professionals

- Recognize that the community can be your ally!
  - nurture opinion leaders in the community by providing them with robust knowledge of water science, treatment, and water quality
  - they will in turn reassure the doubtful and counteract the influence of the vocal “mind-a-lot” minority
- Use marketing tools cautiously
  - people need information, not spin!

Recommendations for utility managers

- The water industry must gain community acceptance of recycling if it is to achieve sustainable water management
  - information/education enhances acceptance and is essential to build trust
  - this aspect of project design should funded liberally and early

Mind a Lots don't change their mind…
even with information!



Thank You!

Questions & Answers