



Desalination: drought relief and more

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Drought proofing

- Major desalination plants in Australia
- Recent rainfalls notwithstanding, the future years will undoubtedly endure severe droughts
- Desalination of seawater is a natural solution to provide a drought resistant supply

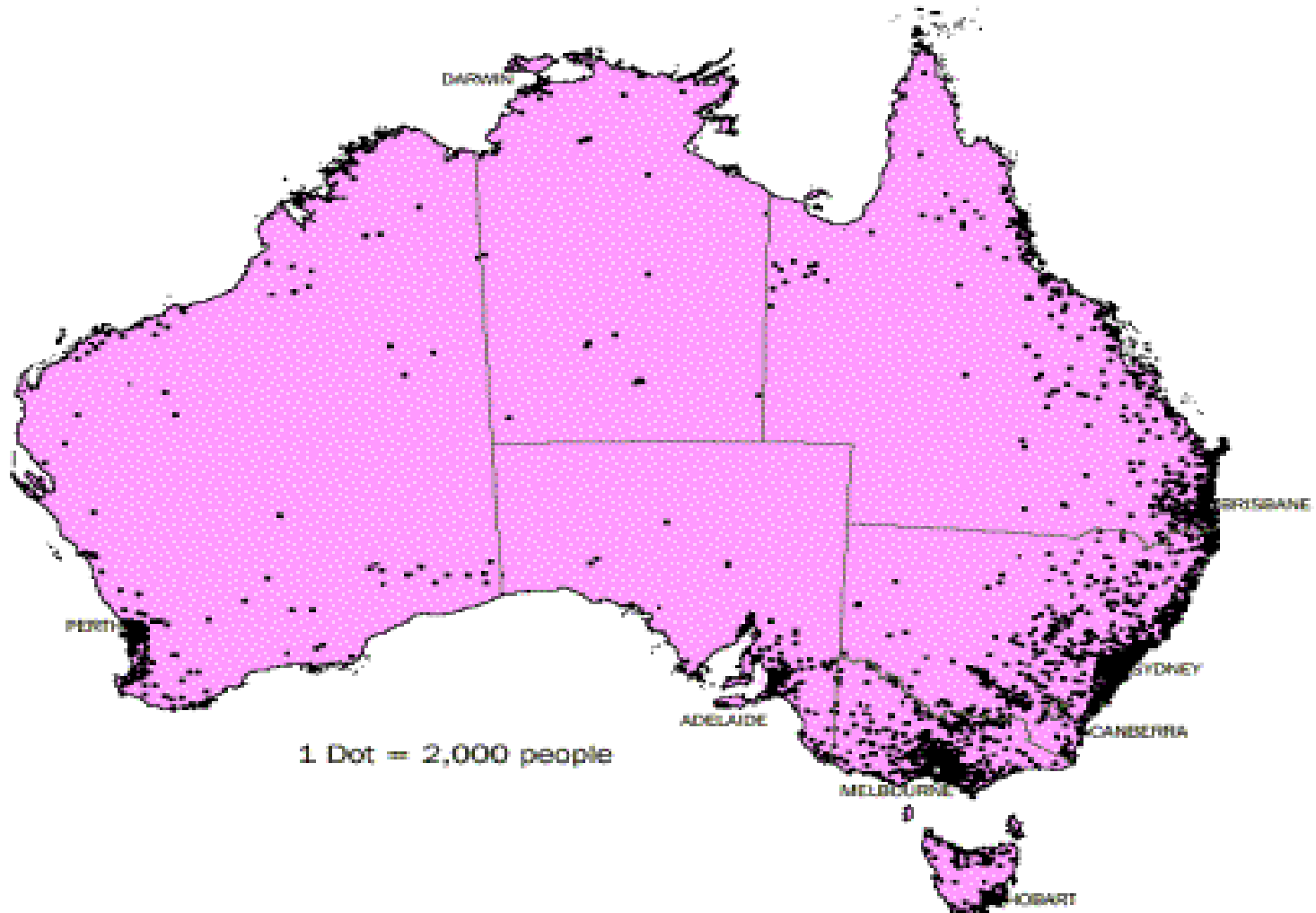
Urban desalination

- Desalination is just one solution
- Urban areas require a multi-faceted water portfolio: each city somewhat different
 - Conservation
 - Water reuse/recycling
 - Storage/groundwater
 - Desalination

Inland/remote communities

- Water scarcity
- Off the grid, must use alternate energy supplies
- Groundwater often saline, may contain contaminants
- Concentrate management

Population distribution



Urban v. inland/remote needs

- Urban requirements are very different from inland/remote needs
- Electrical grid
- Distribution network, pumping systems
- Wastewater treatment
- Reuse/recycling

Australia's seawater desalination plants

<u>Location</u>	<u>On-line</u>	<u>Size, ML/d</u>	<u>Size ,MGD</u>
● Perth 1	2006	130	34
● Perth 2	2011	145	38
● Gold Coast	2009	125	33
● Sydney	2010	250	66
● Melbourne	2011	410	108
● Adelaide	2011	270	71
Total:		1,330	351

Gap analysis

- Groundwork for NCED to move technology forward
- Workshop in Fremantle: academia, industry, utilities, others
- Established areas where R&D can provide an impact

NCED

- The National Centre of Excellence in Desalination, Murdoch University is presently undertaking 24 projects to solve some of the gaps in knowledge and practice that are needed to confront current water problems.
- Funded by national government \$20M over 5 years
- Projects directed toward solving problems in both urban and inland, remote communities

NCED major initiatives

- Public perception
- Renewable energy
- Reducing carbon footprint
- Inland/remote site concentrate management
- Novel new processes

Summary

- Desalination is a drought proof supply
- Other elements required to build portfolio
- Gap analysis revealed many areas still require R&D
- The Australian National Centre of Excellence in Desalination is seeking to find solutions to some of the remaining problems

Thank you!

For further information on NCED or its programs, see:

www.desalination.edu.au