

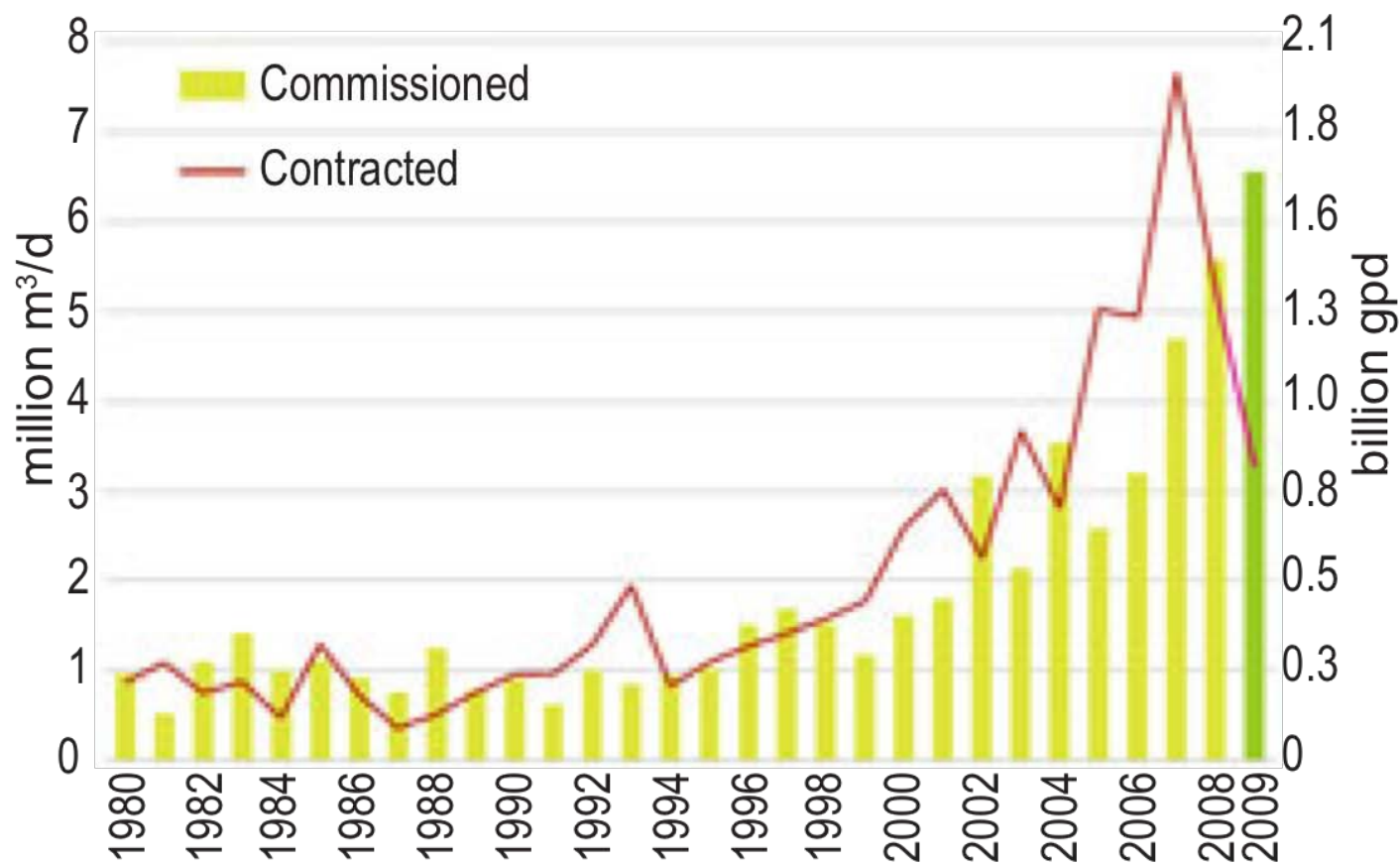


Why is US Seawater Desalination Lagging Behind?

Tom Pankratz, pankratztm@gmail.com

***Multi-State Salinity Summit
Las Vegas, Nevada – February 2010***

Seawater desal is growing rapidly



Seawater desal initiatives (2008)

- Australia +235 MGD
- Spain +265 MGD
- Libya +265 MGD
- Iran +360 MGD
- China +265 MGD
- US +132 MGD
- Saudi Arabia +1,500 MGD

Australian Seawater Desal Installations: <2007

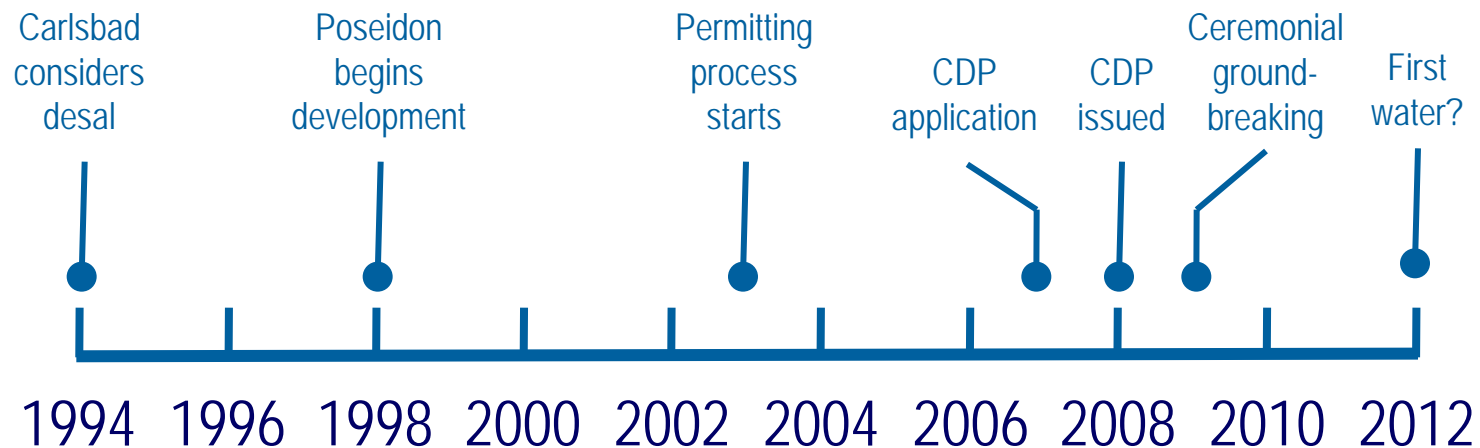


Current Australian SWRO Plants



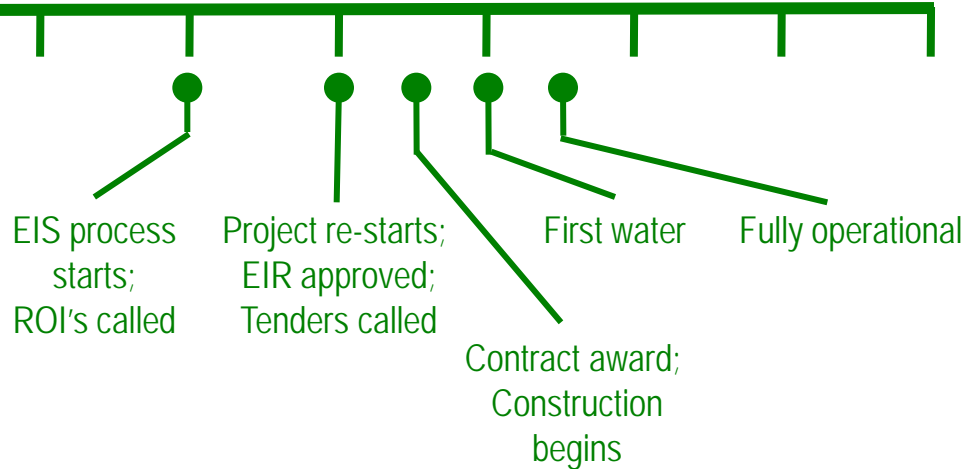
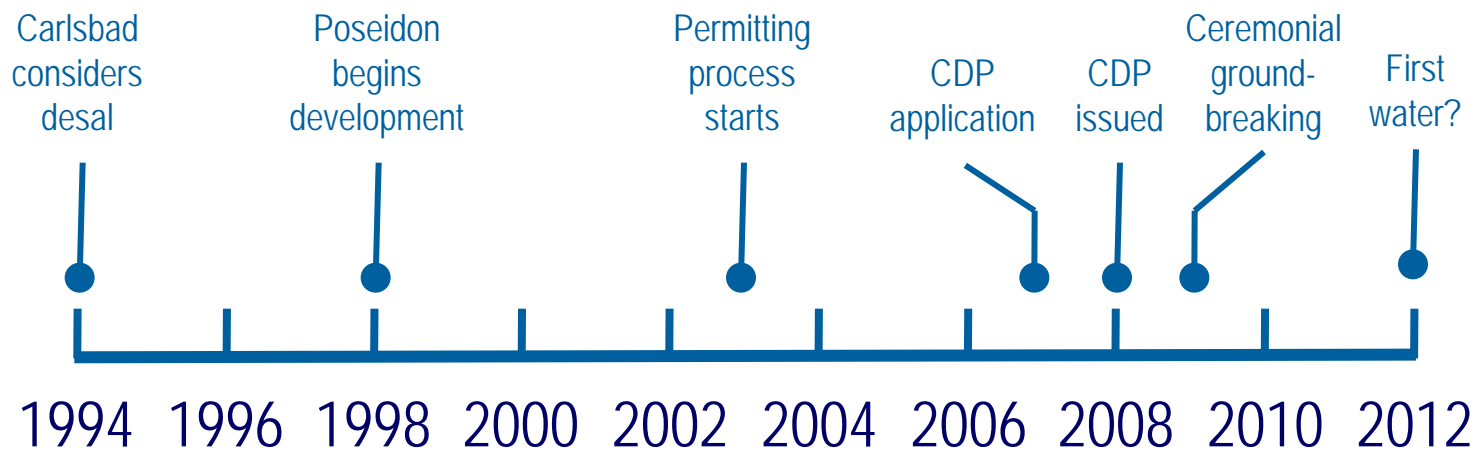
A Tale of Two Projects

Carlsbad, California



A Tale of Two Projects

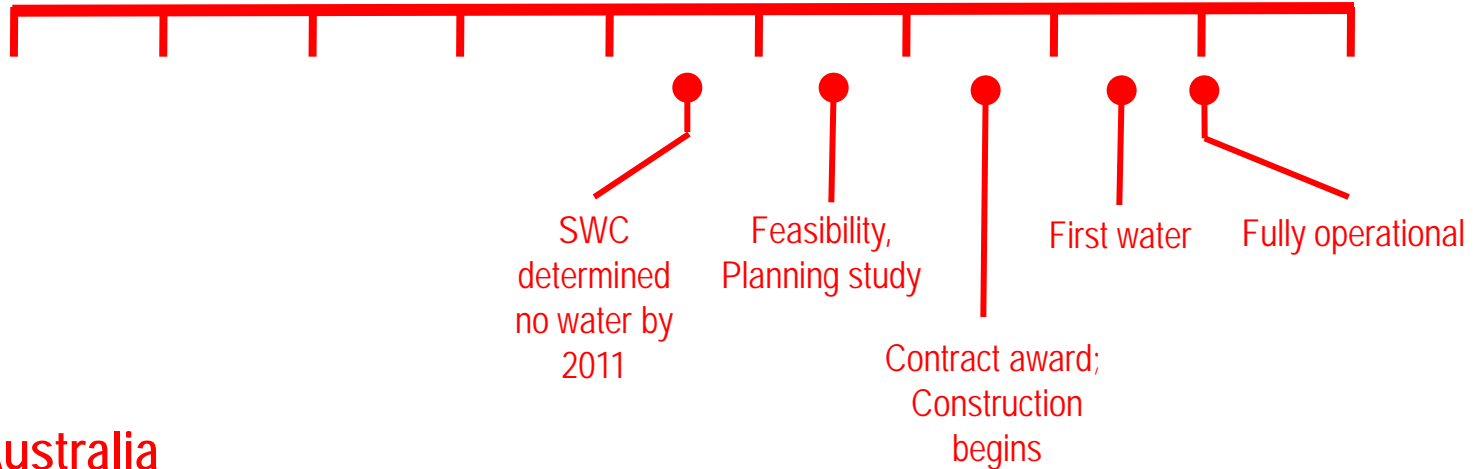
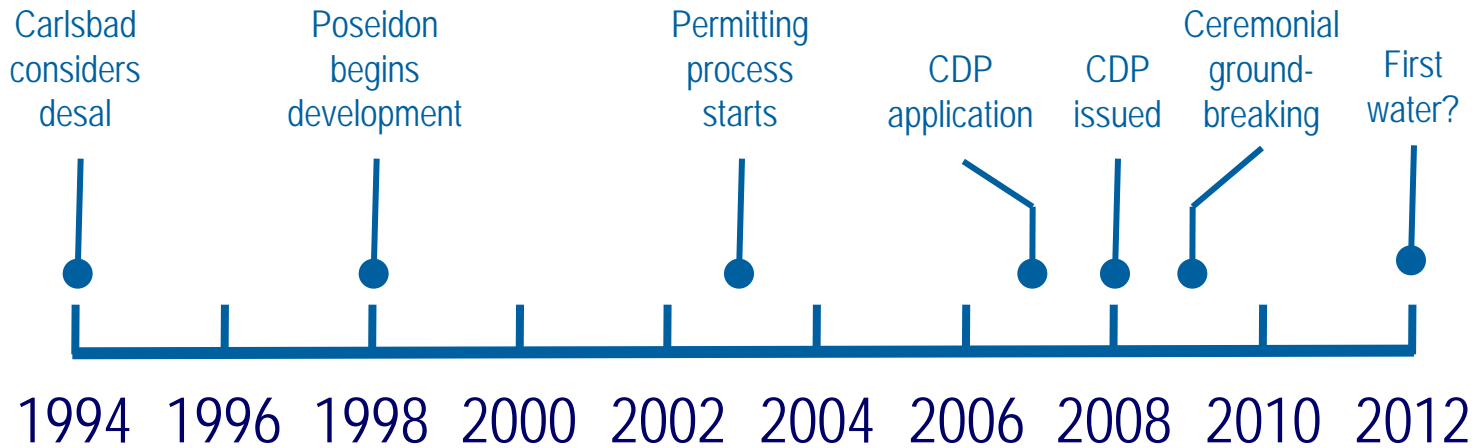
Carlsbad, California



Perth, Australia

A Tale of Two Projects

Carlsbad, California

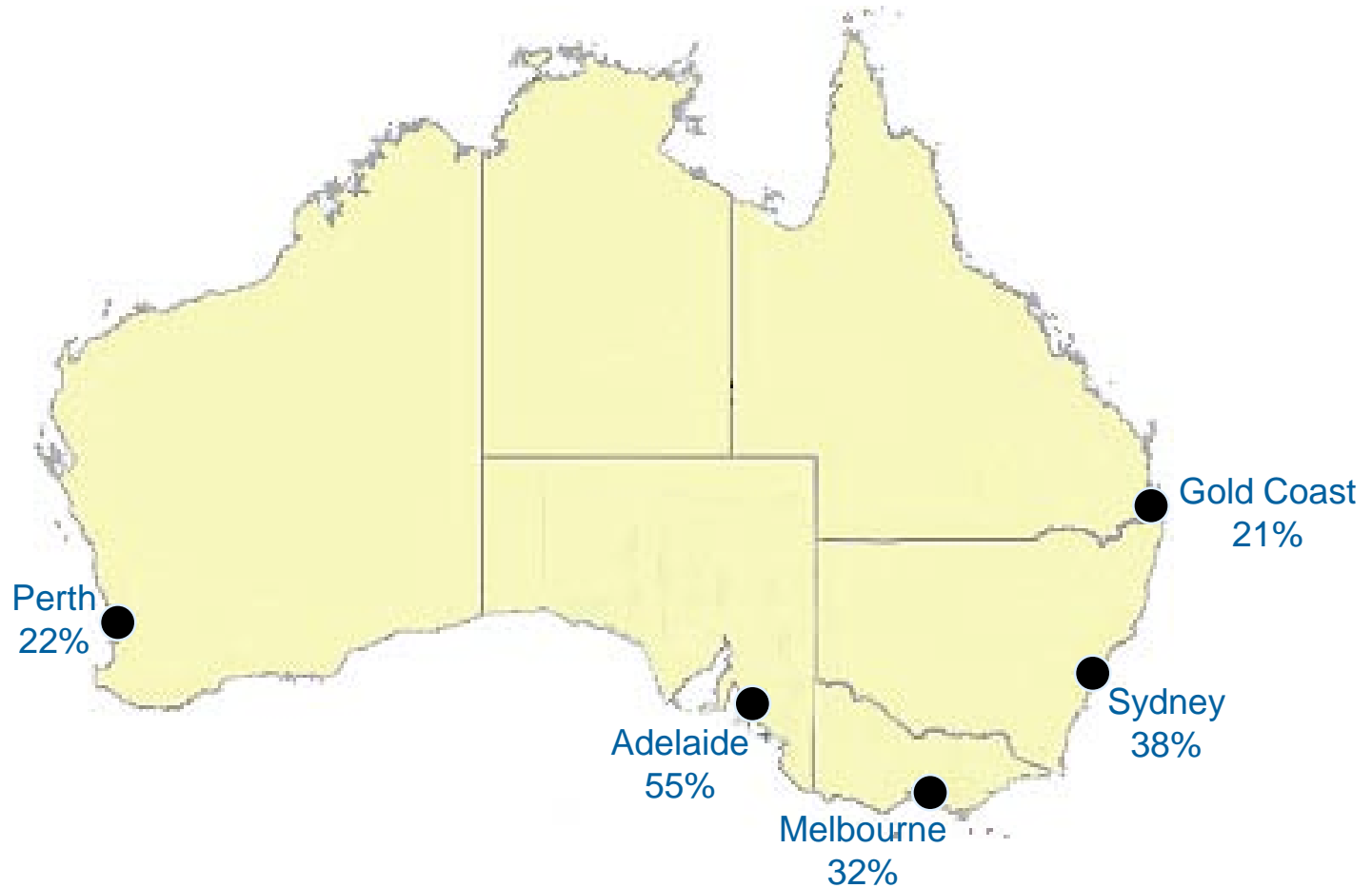


Sydney, Australia

Why is US seawater desal lagging behind?

- We haven't needed it badly enough

Australian Dam Levels – March 2007



Why is US seawater desal lagging behind?

- We haven't needed it badly enough
- Environmental issues

Environmental Issues

- Impingement & entrainment
- GHG
- Growth inducement
- No well-defined permitting process

Why is US seawater desal lagging behind?

- We haven't needed it badly enough
- Environmental issues
- Economics

Economics: Are costs “obscenely high”?

	Water Cost \$/kgal	Water Cost \$/AF
Carlsbad (2010)	3.46	1,129
Perth (2007)	4.39	1,430
Gold Coast (2009)	6.41	2,089
Sydney (2010)	7.69	2,506

Why is US seawater desal lagging behind?

- We haven't needed it badly enough
- Environmental issues
- Economics
- Poseidon

Poseidon: The developer everyone loves to hate

- the “Face” of US desal
- Tampa Bay
- Utility and competitor resentment
- ‘Lack of Transparency’ claimed
- Price constraint required aggressive approach

Why is US seawater desal lagging behind?

- We haven't needed it badly enough
- Environmental issues
- Economics
- Poseidon
- All of the above