

Meet Neil Palmer

Neil has more than four decades of water industry experience across Government and private water utilities, regulators, international development, and water research. Well known internationally, he has been a Director of the International Desalination Association for nine years and in 2015 was voted No 1 in Water and Waste International's survey of 25 world water industry leaders.

Neil currently works with Tonkin Consulting in Adelaide, South Australia and is heading up a bid to establish a new ten-year Future Water Co-operative Research Centre.

Q: Where were you living toward the end of the Millennium Drought (specifically 2006-2009)?

A: Adelaide, South Australia.

Q: Could you share some insights and experiences that stick out in your mind from the drought?

A: The Millennium Drought was long and serious, with extraordinary impacts on the River Murray.

From a personal perspective the most severe impact was water restrictions—only being able to water outdoors by hand between 6am and 9am three days a week. We all wondered if it doesn't rain what will we do—the River Murray had stopped flowing. Driving through the city you'd see sports grounds not watered and turning brown and 100-year-old trees were dead, and there was nothing we could do about things like that.

My recollection at the time was that nobody wanted to act, thinking "it must rain soon", and when it became apparent it wasn't going to rain there was a crisis, and infrastructure was built. The water security infrastructure constructed was big and fast, and instead of optimizing cost and staging things we went for the big bang, so cost was sacrificed for expediency.

Unlike other capital cities in Australia, the City of Adelaide had always relied on the normally dependable River Murray, and never used water restrictions. As the drought wore on, severe restrictions were introduced to try and address the water shortage issue.

For water security the ideal position to be in is to plan—if you have time to consult and design you can integrate things like power, desalination and water reuse. I also believe some measures should always be put in place for water security. If you have a steady but small climate independent water supply that's always there, it can have a huge impact in conjunction with water storages.

Q: Did your attitude to water change because of the Millennium Drought?

A: Not really, however I came across strange attitudes from the community and professionals, things like, "Enough rainwater falls on the city each year so the government should collect it all".



The issue with thinking like this is that in a city like Adelaide, rain falls mostly in winter, so we'd need to store it, then treat it and pump it back to residents in the summer. As one year's supply for Adelaide is about the same volume as all the metropolitan reservoirs combined you'd need to dig a big hole—which begs the question of which seaside suburb do you obliterate to make this happen? Not to mention you'd need to line the new reservoir and treat the water and pump it again for distribution. Generally, after an explanation people look at me and say, "Oh. I had no idea."

There's a lot of ignorance out there about water. Wherever possible I relate it to people on a personal level using a scenario of a household and storage, and that tends to help understanding. For an average Adelaide house, about five 20 kilolitre (kL) storage tanks would be needed to collect the winter rains (about 100 kL from the average house roof) for use during summer. As well as filling up the garden with tanks, the cost of water, taking into account interest, operating costs, and maintenance would be around five times the cost of desalinated mains water. And that would only supply about half the average daily household consumption.

Even in professional circles there's a lot of emotional talk instead of discussion that's based on facts and science. There are people passionately opposed to things like desalination because they think they are "energy guzzling", yet they are happy to get on a jumbo jet that uses more energy than the whole Adelaide Desalination Plant.

Getting back to the question, it's been fascinating through this period (during and after the drought) to have discussions with lots of people and you realize how much misinformation there is out there about water.

Basically many people think if it falls from the sky you get it for free, and I have a little story from the 2011 Ozwater Conference in Adelaide about that. A consumer told keynote speaker Pat Mulroy (who at the time was running the water utility in Las Vegas) that the utility should not charge for water. Pat replied that they don't actually charge for the water. She said, "You can go and collect as much water as you want from Lake Mead and cart it to your house. What we charge for is to treat it and deliver it to your house."

We've been lucky to have cheap water, I think it is still cheap even today; the top price is \$3.50 per kL delivered to your house, if you do the same for firewood you pay \$350.

That's been part of our problem; water is cheap so people don't value it—and that's a bigger issue, understanding and valuing water.

Q: How have people's attitudes toward water changed during/after the drought?

A: There was forced attitude change through water restrictions, and sometimes restrictions bring out the worst in people, some of whom "dobbled in" their neighbours for watering outside of permitted hours.

There was also the massive construction campaign for seawater desalination and water reuse infrastructure. All mainland state capitals in Australia now have water security, then it rained in the eastern states, but everyone knows that drought will come again. It took a crisis to get things done but maybe that's life—never waste a good crisis.

A secure water supply is essential to a livable city and, when you think about it, the cost for water security provided by the desalination plant in Adelaide in a household budget is equivalent to the cost of one beer a week, so you can either have water restrictions or you sacrifice that beer. I reckon that's a good deal. I can't say if the general public's attitude has changed to that extent, but that's how I see it.

From a project delivery perspective, even if you have a social licence you need to tell people what the problem is and what the options are. Water Corporation (utility in the City of Perth, Western Australia) did this well when they were addressing the water shortages in the city. There was genuine consultation, with honest and strategic leadership, who recognized we have to “take the population with us”. The options to address water shortages were highly debated, but in the end it was decided to go for seawater desalination rather than pump more groundwater, and acted upon.

Also, the Western Australian Government and Water Corp have done a large amount of work to raise the issue of water and educate the public, for instance Water Corp has been undertaking water-wise education with schools for the past twenty years. I can tell you the kids graduating today have a very different attitude to water than we did in the 1960s!

Q: What are the top three things you believe water professionals can do to prepare for drought and climate variability?

A: Firstly, understand the issue and talk about it in your sphere of influence. If you’re presenting in public, use science rather than use the opportunity as a soapbox to promote your own ideas.

Secondly, tell the whole story not just part of the story.

Thirdly, as industry professionals it’s our job to set the story straight and look to the long term. Take an approach that water is infrastructure, like roads or schools. This is an approach to supply that takes into account growth, climate change, and risk. The more people who express this and articulate it through trade shows, conferences and other presentations, the more we can help deliver a social licence to act.

Q: Any other advice you’d like to share with Canadians about water management?

A: We need to spread a factual message about water, its cost, the issues associated with it, and the opportunities, and keep asking, how can we fulfill this market? A great example of this from Canada is H2O Innovation who came out of Quebec and recognized international opportunities are there—in the water industry we just have to grasp them.

Also I’ve made two observations about Canada:

1. I think Canadians value and appreciate their water resources and use them wisely.
2. There is a strong innovation and commercialization industry in Canada, and when I go to trade shows the Canadian booths always impress me.

I also admire the Canadians’ entrepreneurial approach to water management issues. We are working on that here in Adelaide with an exciting proposed water reuse and high tech greenhouse project—some say it’s too ambitious but we have a committed team and serious experience and all we want is to have a go.

Around the world there are people with the courage to implement ambitious water projects—like David Pratt, the Canadian who heads up growing tomatoes with SunDrop Farms in the City of Port Augusta here in South Australia. SunDrop has addressed food production and water in an arid environment, using solar power. It’s the only one of its kind in the world, and they’ve created 150 local jobs in a regional city steeped in the history of rail and electricity production from coal. That’s great, so let’s all do some more!

Lastly, Neil has a knack for reciting poetry, including “Said Hanrahan”, of which one of the verses reads:

"If we don't get three inches, man,
Or four to break this drought,
We'll all be rooned," said Hanrahan,
"Before the year is out."
John O'Brien, 1921

Thank you Neil for sharing your insights with the people of Alberta!