

“Living Murray, Dying Darling - the year our fish died and Broken Hill cried.”

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Living Murray, Dying Darling – the year our fish died, Broken Hill cried and no one listened.

This is the story of the impact of the Darling River on Broken Hill during the 2002 - 2004 drought.

Firstly if I can introduce where I come from. Whats in my heart. What motivates me.

I’m humbled by the experience and expertise that sits in this room. My passion, my motivation, is about sustaining remote communities with our rivers being the lifeblood.

I am going to cover three parts:

1. The Hurt
2. The Cry and
3. The Future

Firstly the Hurt.

In August 2002 Broken started suffering. From a social view our tap water became unacceptable for dialysis and salt intolerant patients;

Our drinking water became officially unacceptable.

Potentially fatal forms of meningococcal appeared and the water became unsafe.

Chlorine levels rose to combat organic carbon making the water pungent with a strong chlorine smell;

Showers and washing with increasingly hard, salty water, scoured and dried your skin.

Hot water systems scaled up and aged prematurely.

Evaporative air conditioners clogged up.

Manganese built up and when combined with high chlorine or washing detergent it created brown water events.

Finally, fish started dying, not through a lack of water, but because of the water quality.

The community lost confidence; The angst, the anger, the fear was palpable. Mothers I met, crying, fearful and worried for their children. Our community was hurting, our river was hurting.

So that’s how the community hurt, now lets look at the Hurt technically.

Our local reservoirs were exhausted which isn’t unusual.

We relied on the dregs of Darling river not flowing.

Darling River salinity increased from normal levels around 400ec to over 2400 ec! 1,000 ec is officially described as unacceptable by the Australian Drinking Water Guidelines.

Adelaide is concerned at reaching 600 ec in 20 years time!

Chlorine levels rose above health guidelines in an effort to combat dissolved organic carbon, a nice name for dead stuff, which was reaching 60 mg/l, 10 to 15 times higher than normal.

The chlorine normally maintained @ 0.5 mg/l rose to 8 mg/l at dosing. Even at that level it was all consumed by organic matter and by the time it reached the perimeter of our water distribution the chlorine had been consumed, it was all gone, allowing *Naegleria Fowleri*, a potentially fatal bacteria to breed.

And now the financial hurt

I estimate that $\frac{3}{4}$ of our 10,000 households were buying 30 litres of bottled water a week for 18 months = \$8.7m or almost \$900 / household!

For business – ice making became an impossibility and had to be imported from 300 kms away;

Business couldn't serve tap fizzy drinks with saline hard tap water;

Café coffee machines clogged up with salts.

My company, AI, spent more than \$8m in combating the water quality caused by the low river levels.

So, that's the Hurt, now let's look at the Cry

First the Cause of the Cry

70% of Broken Hill's water comes from the Darling River, specifically, Lake

Wetherell. It sits on the Darling River and is part of the Menindee Lakes system.

The volume in Lake Wetherell was over estimated by 70,000 MI by the NSW Govt Lake Managers.

The Menindee Lakes, containing approx 1,800,000 MI when full are used principally as a dilution flow for the Murray. Control should revert to NSW when below 480,000 or approx 25 % full.

That target was overshoot. Too much water was released. To make it worse, most of what was left was inaccessible!

The drought, a natural season, followed. It proved to be severe, two consecutive years of the lowest flows on record. Bearing in mind our records are a blink of an eye when compared to the vast age of the Darling.

Too much water extraction dramatically increased the impact of that drought.

Flows of early 2003 and 04 arrived as a trickle instead of a flush. That trickle washed the crap and dead rubbish upriver into Lake Wetherell where we drunk it.

Let's look at what we are doing to the Darling River. Levels are dropping. In 1960, 50 billion litres was diverted from the Darling and its tributaries. In 1990 it was 1,400 billion litres. What is it now?

The Darling brings water 2736 kms from central and eastern Queensland and NSW. By the time the Darling River reaches the Murray, 69% of the natural median flow has been extracted.

This level of extraction is contributing to rivers in the Murray Darling basin being in a state of drought, as defined by low river levels, for more than 61 years in every 100 compared with 5 years per hundred under natural conditions.ⁱⁱ

The Murray Darling Basin Commission Feb 2004 Audit Report on Draft Condamine-Balonne Water Resource Plan , Pg 9, Estimated 459,000,000 ML reduction in mean annual flow into the Menindee Lakes as a consequence of moratorium level development in the Condamine-Balonne.

Its not all about Queensland, that just one statistic. NSW has its own levels of massive diversions.

Now the Cry in terms of a technical response.

We spent \$1.2m on a emergency pumping station at Copi Hollow, pumping water up from the lower lakes.

The community did a fabulous job in reducing demand. 92% of water was recycled; Loo savers were installed. Lawn sprinklers were banned. Rainwater tanks were embraced; Promotions & giveaways reinforced AAA showerheads and quick showers.

Restrictions reduced water demand by 25%.

Our ability to extend reserves by savings is limited by the high evaporation of the Menindee Lakes. A 25% reduction extends 12 months reserves to 14. However it only extends 18 months 18.5 as most of the saving literally evaporate.

We spent \$1m on our biggest flat reservoir, Stephens creek, reducing

evaporation by reducing surface area by 1/2.

We explored all alternatives water sources. Groundwater, alternative lakes, extending the Anabranche pipeline & pumping from the Murray; even the feasibility of water trains. feasibility; Trains would have cost \$4m / month to supply about 15% of our demand.

Finally as ec levels approached 3,000 we invested \$4m in a 6 ML/ day desalination plant; The goal to extend our ability to use the remaining dregs.

Finally our Cry - Our Voice, as a community and politically.

For the most part our community and our politicians blamed the water distributor, Australian Inland, and me personally.

The media had a field day, and a substantial portion of the community lost confidence in their water

Some blamed irrigators upstream.

Understandable as 86% of consumption in the Darling and Lower Darling basin is by irrigators and just 7% is used by urban areas.ⁱⁱⁱ

Broken Hill politically imploded – blaming AI, then Irrigators, then Bourke, and not creating a political solution focused on the river;

We kept the issue local instead of using the enormous pain and anger of the community to pursue a whole of river solution.

To a large degree, the nation, the Murray Darling catchment didn't know what was going on, the extent to which

the Darling River and Broken Hill was hurting

So that's the hurt and the cry. Now the Future

First, our future water use

Despite the caps and water plans, continued high extraction, and poor quality will continue for years.

Broken Hill will continue to suffer.

There will be more frequent periods of low flow, some as nature intended, some as a consequence of man.

Second, future technology.

There will be some technology fixes.

Good people are working on the Anabranch to improve the Menindee Lakes efficiency, releasing 47,000 MI to the Darling and letting the Anabranch ebb and flow as nature intended.

The Menindee Lakes Ecologically Sustainable Development infrastructure will improve the lakes efficiency, especially the proposed regulator between Menindee and Cawndilla.

However technology is only part of the fix. I believe it is also about people, attitudes, how we work together and what we focus on.

So what is the future fix in terms of people.

We need a whole of Darling River lobbying group that does more than blame. Lets collectively

First, work to get our own backyard squared away – keep our communities green while at the same time eliminating water waste. Establish credibility to talk to others;

Second, work together – forget the state borders – move upstream and downstream and cooperate with other communities

Third, focus on wetlands. Banrock Station has shown today what a healthy wetland can do for a community and for the river health.

The Living Murray has six icon wetland sites. Not one is on the Darling.

We need a seventh. We need at least ONE icon wetland on the Darling.

We need to commit to an unrelenting pursuit of Lake Wetherell as an icon Wetland site.

We must establish Lake Wetherell as an icon wetland site with all the ecosystem improvements that come with this like yabbie and fish life, tree life, water quality.

It will be good for Broken Hill's water quality, good for downstream users, good for the Darling, good for the Murray.

So lets conclude.

Thats my story of the Living Murray, Dying Darling – the year our fish died and Broken Hill cried.

That's a story of the hurt, the cry and some of the fix.

I am an optimist. The River attracts good people. People in this room are

good people, many motivated to fix our land and our river, not out of self interest but in the interests of our land and our communities.

We have made enormous progress. I am confident we shall make more.

Lets turn the Living Murray, Dying Darling into the Living Murray Darling.

Lets do it with science; lets do it without blame.

I ask you to

1. eliminate water waste in our own community
2. work together as a whole of river community, involve youth and put aside state and regional boundaries.
3. Establish Lake Wetherell as an icon Living Murray Darling Wetland Site

Thank you for listening.

Table 4 Gross water consumption, by river basins, 1983-84, in GL (source: AWRC 1987, Volume 2)

ⁱ Murray Darling Basin Commission, Murray-Darling Basin Water Resources Fact Sheet, Table 5, Burtundy. Median Annual Flows at selected sites in the Murray-Darling Basin. http://www.mdbc.gov.au/publications/factsheets/water_resourcesver2.html

ⁱⁱ www.mdbc.gov.au/education/encyclopedia/water_regulation/water_regulation_impact.htm "One very significant result of the reduced flows though out the Basin is that the rivers are now in a state of drought (as defined by river levels) for more than 61 years in every 100 compared with 5 years per hundred under natural conditions (MDBMC 1995, 19).

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http://www.mdbc.gov.au/education/encyclopedia/water_use