

A Submission: Senate Select Committee on the Multi-Jurisdictional Management & Execution of the Murray-Darling Basin Plan.

2020

In particular, this submission deals with the Terms of Reference items b), c) and e).

By Ken Jury, Senior Investigative Journalist, Marine & Aquatic Ecology

No matter how hard they toil, our irrigator grower-farmers and their un-tiring efforts with our food production and security in this country has sunk to borderline due to a string of disastrous management policies. No one denies our widespread drought and the terrible bush-fires. Non-the-less, mis-use of water resources anywhere in the basin in these times is unforgivable.

Truth remains, those in political circles really need to lift their game! No matter the strength in letters and emails from across the basin to law-makers; the fact is they don't listen and they don't go out of their way across the fields to seriously meet, debate and return to Canberra to report their new found findings. Meanwhile, a page or two from an irrigator/ grower may eventually attract a polite, half-hearted response suggesting those in Parliament or the Authority are up with basin issues and they're pleased to report how the Basin Plan is doing very nicely thank you! Its hardly surprise for some when their out-going mail is never answered.

And so! Here we go again with another Federal Senate Inquiry into Multi-jurisdictional ***Management and Execution of the Murray Darling Basin Plan***. It was bad enough years ago when participating in all three submission requests towards the draft MDB Plan, followed over the years by many other time consuming submissions, leaving the authors wondering if the contents were ever taken seriously. The feedback since was always deafening!

One would think by now that those entrusted in political matters concerning the Murray Darling Basin, would have made a real, heart-felt effort with their irrigator/farmer constituents. Few in politics across the wider constituency, project a clear understanding about the basin when it comes to irrigation and its necessary water management. All the while, there seems to be a serious lack of sound reasoning with our diminishing water resources. In these times we should be conserving water for food security as a top priority followed by a reasonable bank of water for natural emergencies.

Not much hope with that when we see freshwater wasted at the delta end of the Murray River. We're on the way to facing further consequences of a drought burn-out, as water levels drop. If this continues, we'll expose oxygen to highly reactive sulfidic soils, particularly in the Lower Lakes and lower Murray River where Adelaides reservoir intake pipes are found. **Its circumstances such as this when we should act immediately to return the Lower Lakes region back to their former estuarine condition.**

Many across the basin find it difficult to understand the complacency of the South Australian Government and its Water Minister when neither have any back-up whatsoever for the Lower Lakes, when water flows cease and lake beds dry out and crack; bearing signs of acidic catastrophe again. These are grim reminders for many in the four towns bordering the Lower Lakes and Goolwa Channel when remaining freshwater quickly disappears, sulphuric acid mobilises and the water fowl scurry off for something more pleasant . During the Millennium drought, as the two big lakes, the Goolwa channel and various connecting local creeks water levels shrunk well below sea-level; when a percentage of the

500 million tonnes plus of highly acidic soils in the bottom of lakes and the channels became exposed to oxygen; causing extensive sulphuric acid mobilisation.

The only cure was to cover the exposed beds with water. Not necessarily freshwater then because we really had little left anyway. They spent millions building and removing ugly regulators across the channels with the idea of halting what was left of river flows upstream and pumping just enough into the downside channel to provide a minimal acid coverage. The authorities refused free Southern Ocean water at the time. The Lower Lakes system were estuarine before the barrages and there's no reason today why these huge lakes cannot be returned to their former estuarine condition.

The argument that ocean water will promote acid is ridiculous! So let's read why!

On Saturday April 3, 1999 **The Courier Mail** newspaper ran a headline story from **Trinity Bay** near **Cairns** entitled "**Acid horror pouring into the sea.**" **The CSIRO** at the time told how "a huge area of ocean and waterfront land near Cairns was suffocating under some of the worst acid and heavy metal pollution in the country," according to a damning **CSIRO** study.

The report found "**acid sulphate soils on the east side of Trinity Inlet were releasing the equivalent of a small swimming pool of sulphuric acid into the Pacific Ocean every day.**"

The report said, "**In the past 23 years, acid released from exposed mud had been pouring into fishing grounds at 190 times the natural state.**"

Scientists estimated more than 120,000 tonnes of acid had been washed into the inlet since 1976.

Four years after, the 700ha mangrove swamp was cleared; it was estimated the acid was leaching aluminium into the ocean up to 6000 times the recommended levels" the article said.

The eventual Trinity Bay Inlet's successful cleanup covered some 700ha.

*Meanwhile, one of the largest known acid concentrations is found in South Australia's Lower Lakes and Goolwa Channel regions, which is estimated to hold in excess of 500 million tonnes of acidic soils under a surface area of approximately **840sq km!***

With that in mind, we should be very concerned in the knowledge that South Australia has no back-up should the lower Murray River flows cease! Further cries from the SA state government for more freshwater for its Lower Lakes will very likely fail!

*A solution for gaining water in the Lower Lakes is based on our history before the barrages, when the **Great Southern Ocean** played a major role in preserving the Lower Lakes in their estuarine state, when the larger Lake Alexandrina was rich in marine life including fish such as the prized mullet found in tidal prism's high up in this lake while freshwater Murray Cod ventured out of a deeper river into Lake Alexandrina's already stratified ocean/freshwater. Amazingly, freshwater fish and marine estuarine fish species were taken daily from within a short distance of each other in the larger lake by fishermen taste testing the water up-front to establish the specie below.*

On record, this fishery supported more than 40 commercial fishers in Lake Alexandrina alone. Many fishers were not venturing out of the big lake too often, simply because fish stocks were ample for servicing the South Australian and Victorian fish market supplies over many years.

To replicate those successful estuarine years, we'll need to witness ocean water entering the Lower Lakes through the barrages, to be assisted with 1800GL of river water per year, to be held and proportionally released through the new Lock Zero. Returning the Lower Lakes back to their former estuarine state, will provide a bonus 2700 GL plus per average year of freshwater to secure our upstream food security. The plus comes from 5 lakes-connected streams that combined, yield about 9 GL per year from the Lofty Ranges. Doubters with this basin solution who believe ocean water mixed to estuarine will kill the Lower Lakes are reminded that these lakes were estuarine before the barrages, for more than 8000 years. If you're not convinced, take a boat trip into the higher reaches of the Murray River below Morgan and closely check the cliffs where you will easily find remnants of marine life including mollusc shells known to inshore ocean grounds. No, ocean water will not even marginally affect the lakes as was certainly the case previously!

If you're still not convinced, what then can we gain from the wonderful Trinity Bay remediation 2001 cleanup by the celebrated CRC Care Program crew!

The Queensland Government purchased Trinity for acid soil remediation in 2001. A team led by **CRC Care** Program Leader, Dr Richard Bush of Southern Cross University. **CRC Care** actually reversed the chemistry with the advantage of a sea wall where partial tidal exchange through flood gates provided for extensive re-flooding principals. The Process is known as **Lime-assisted tidal exchange** or **LATE** as the means to remediate soils of a potency below ph3 to near mutual in about one year.

Ref: *CRC Care said that East Trinity Inlet, a quiet tidal creek bordering the township of Cairns, in QLD, has witnessed a transformation in the last decade that has made it one of the worlds most successful demonstration of how to restore an area severely affected by acid-sulcate soils.*

Overall. our wider basin water issues are of great concern when realising how the **Commonwealth Environmental Water Holder** allowed close on 400 GL of precious freshwater through the barrages late last year, “expressly for the Coorong” it said, when its highly probable the Coorong didn’t need this extra water. “These flows travelled over 2000 kilometres from Hume Dam in New South Wales to the Coorong in South Australia,” according to the CEWH. It was reported how the environmental water holders had about 400 gigitalitres of water available (as carry over water from last year).

Estuaries around the world and no less the Northern Lagoon of the Coorong only require a small percentage of freshwater to mix with Southern Ocean water to be estuarine. The Coorong’s Northern lagoon requirements are minimal. Quite successfully, it supports a major estuarine fishery. Its no different to small amounts of freshwater from the nearby Onkaparinga River that dribbles into the well patronised Onkaparinga estuary on the western side of the Fleurieu Peninsula, south of Adelaide.

Non-the-less, a small percentage of that 400GL of water sent to the Coorong should have been provided to upstream irrigators who had not received any water supplies for two years or more. Perplexed grower/irrigators watched a healthy River Murray River flowing past their irrigation properties but they were not able to touch a drop. For some, there were dire outcomes for both properties and families.

Over-bank Flooding should not proceed further!

Few on the land today, would have escaped the word ‘**constraints**’ as a relatively new basin weasel word. Just mentioning the word brings fear to basin growers who, by almost a lottery,

find their floodplain properties are at the mercy of an authority that thinks it's justified in its quest to piggyback additional river flows on top of a normal river flows, at high enough levels to flood over river-banks onto hundreds of farmland properties downstream. The authority believe this practice is environmentally friendly. This raises many vexing questions about the use or mis-use of our most precious resource!

Its seen as a draconian measure that will waste unknown volumes of expensive and much needed fresh water, otherwise used for growing food, in what is described as a foolish effort to create higher and stronger volume flows destined to reach the end of the system, to clear the Murray Mouth and keep it clear for nine out of every ten years. Indeed!! This highlights the nature of the beast and the stupidity when one considers that targeted farms may conceivably suffer future flooding conditions for nine out of every ten years.

And that depends upon the amount of damage already foisted upon farming properties already suffering from forced floods during the previous year. It also depends upon two official letters to a couple of growers that their property's won't be flooded without their personal Permission.

Property's high up on the Murrumbidgee River were among many that suffered considerable losses due to stored water releases from Hume and Burrinjuck Dams in the Mountains. Some lost a years effort with crops, notwithstanding the examples of damage to properties. One 405 hectare (1,000 acre) property with a ripe wheat crop was totally destroyed by over bank flooding which ripped fencing out of the ground and pushed the fencing remains against the crop, pushing it over the paddock to a tree line on the opposite side. The complete crop was lost as was the expensive fencing without a thought of recompense to the owners. To "rub salt in this terrible -still felt wound," this man-made flood carted in noxious Lippia, a banned South American import and a noxious plant known for its deep rooted tendencies that often defy remediation.

Over-bank flooding also destroys healthy rivers by rummaging through undergrowth while collecting spent vegetation and sedimentary particles that often find their way back into rivers, where oxygen is starved from the water column to a level where native fish populations are lost to blackwater events due to loss of oxygen. If that's not bad enough, the sedimentary fines, when they're light enough will be entrapped in the upper water column so that sunlight to aquatic vegetation below fails, and the veg. dies, whereby biota including native fish, mollusc and crustacean also fail from a destroyed habitat.

There should be no doubt in our minds today that man-forced overbook flooding should cease.

There are few places throughout the Murray Darling Basin rivers and connecting creeks where the sedimentation hasn't played a major role in the destruction of our river habitats, river banks and the aquatic life they support. Quoting our top scientists and their findings, when they talk about "**The Restoration of Basin Wetlands**" as found on page 3 of "**Prospects For Ecological Recovery in Wetlands Limited by Muddied Waters, 2016**" by Professor Peter Gell from Water Research Network, Federation University Australia 3353," where Prof Gell says in his extended Abstract: There is a clear risk that the ecological response of the system to environmental watering will come up well short of expectations commensurate with the considerable government investment. There is also a clear risk that the ecological benefits will not offset the socioeconomic costs to regional communities who expected to forego valuable water rights," he said.

Further details: "*A Better Way for the Murray Darling Basin*,"2016, by Ken Jury from Goolwa SA.

