



Did you know that Australia's River Murray Estuary is now only one tenth of its historic natural size? This loss of habitat has nothing to do with 'over-allocation', drought, or climate change. Barrages were built in the 1940's to keep seawater out of the Lower Lakes so farmers could have a guaranteed year round supply of fresh water. Now 90% of this former estuary is kept completely fresh with water from the River Murray.

Retaining fresh water sounds like a good idea; what's the problem? During extended drought there is not enough water in upstream storages to keep the lakes with adequate fresh water. Historically, during drought seawater would hold the Lakes at sea level, never exposing acid sulphate soils to air. During the recent drought the lakes dried out to below sea level.

Why were the barrages built in the first place? Five barrages, 7.6 km long, were built between 1933 to 1940. The growth of the state of South Australia depended upon a reliable source of fresh water for agriculture. The Lakes (i.e., estuary) naturally went 'salty' during the summer months making the water unfit for stock. South Australian settlers had been promised 'riparian rights' from the Lakes on their newly purchased Murray Hundred blocks. Making the Lower Lakes 'fresh' was about riparian rights and a rightful share of the waters of the River Murray for the growing state of South Australia, it was not about the 'environment'.

Did you know that during the recent drought the barrages acted as dykes; water levels dropped and Lake Albert dried-up exposing potential acid sulphate soils? These soils are harmless as long as they remain undisturbed and waterlogged, but when exposed to oxygen and then wet again, sulphuric acid forms. The development of acid sulphate soils can be avoided by restoring the Murray River's estuary with connectivity to the sea through the Murray mouth.

Why is estuary habitat so important?

Where fresh and salt water mix is exactly where most of the estuarine fish spawn and grow up. Species like bream and mulloway all require a functioning estuary to flourish. The right amount of fresh water flows combined with the right amount of sea water. Flows of different types of water from two different directions, river and sea.



Lake Alexandrina 2009

Did you know that the barrages have decimated the mulloway fishery? Before the barrages were built, and the Lakes changed to permanent freshwater lakes, mulloway would come through the Murray Mouth and enter the Lakes looking for food. Enough mulloway (butterfish) were caught to supply the Adelaide and Melbourne markets and support a fishing industry from both Goolwa and Milang in the 1900's.

Did you know that the Lower Lakes evaporate over 800 GL of fresh water every year? That's over 4 times the annual water requirement for metropolitan Adelaide, (or 800,000 Olympic swimming pools), and all sourced from the River Murray. The Lakes hold approximately 2200 GL and the average depth is 2.9 metres.



Did you know that the current 'allocation' and 'entitlement' scheme for irrigation, already takes into consideration the seasonal availability of water? Irrigation *entitlements* grant the right to extract water only when seasonal *allocations* are made and this depends on water availability. When water is short there are no, or very limited, *allocations*. During the Millennium Drought extraction *entitlements* were cut by over 4,000 GL by the allocation system. Buying irrigation *entitlements* will not put real water in the rivers and will only limit agricultural production when water is plentiful.

Did you know the Murray Mouth has closed before 1981? The Murray Mouth silted up the first year the barrages were built in 1941 and it is a known problem that tidal barrages cause sediment buildup.

The mouth was also closed in 1830 when Charles Sturt described in detail how his men were unable to manoeuvre their boat from Lake Alexandrina to the Southern Ocean because they were "blocked by sandbars".

Did you know that piped potable water is now available to every township and farmer that previously used the Lower Lakes for their water supply? But pumping from the lakes is free, while taking from the pipes incurs a charge. But shouldn't we all be paying for our water?



Goolwa Barrage 1937

Did you know that many South Australian settlers, graziers and fishers opposed the building of the barrages in 1933? Primarily due to the loss of fishing as a livelihood and the loss of low lying grazing lands by inundation.

The barrages were supported by dairymen, pastoralists, riverboat captains, steam train (fresh water for boilers) and many of the new Murray 'blockers'.



Barrages across a tidal estuary are just plain wrong. If we resign ourselves to living with our past mistakes, what future do we leave our children?

How can we move forward together?

Sign the petition, pass the word, and stand up for the restoration of the River Murray's Estuary.

Rivers Need Estuaries is a campaign of the Australian Environment Foundation.

For more information go to www.aefweb.info
Or email info@aefweb.info

