



Submission to the Senate Hearing Committee; no.

The Murray Darling Association Inc.

For Conservation & Sustainable Development.

**Resulting from the Annual General Meeting at Leeton NSW
29th August 2008**

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Preamble/ Introduction

To the Hon. Senators of this Australian Government and the members of this Senate Hearing Committee, the Murray Darling Association wishes to acknowledge the severe circumstances that the communities, all communities of the Murray Darling Basin, find themselves in.

For the past 10years we have seen the greatest socio-economic decline, environmental decline and ecological decline since European Settlement history of this great basin.

This entire entity, contributes to the social fabric of our great Australian nation and there is no other parallel with over 1.9million Australians producing over 12% of Australia's GDP in good years and providing 65% of our net agricultural Exports, in a value added sense.

We must not overlook the benefits to our resident population of now over 2million and the vast benefit of the decentralisation that this community, the community of the Murray Darling Basin as a whole, has given to the development of the Australian Continent.

The expansion of enterprise in the pursuit of more efficient, in some case the most efficient production of food in the world today, has not come easy over the past 168 years of our basin's settlements but it has achieved some remarkable milestones of Rural Development over those years.

The environment has not been the only victim in this harsh and unforgiving landscape and many communities are acutely aware of the need for that landscape to weather all that nature dishes out to it, just as they must weather the droughts now and of the past and the looming realization the climate change is upon us.

The Murray Darling Association influence stretches across the entire Murray Darling Basin landscape and beyond, into the coastal cities.

It has seen throughout it's history of now 64years, the benefits that the carefully managed resources of water, land and air, can do to assist in the growth and development of this great continent.

The sheer Harshness of the landscape and climate have produced a tough and resilient, courageous, "can do society", prepared for practically any condition that nature can dish out.

The one element that can bring the demise to any population is the lack of water, the lack of water to produce the food that sustains a far greater population than that of the almost 2million people living in the Murray Darling Basin.

We all Know "Water is the Essence of Life", life not just for human inhabitants, but for the entire ecological fabric of our landscape, the whole of the biodiversity.

We must protect that biodiversity with every means available to us and that will no doubt mean that for continued sustainability, we must act on change urgently, and more urgently than we have done in the past. The procrastination of our political leaders during the great Centenary Drought of 1897 – 1904 and then again in 1938 – 1946, lead to major works that help build and form this nation to what it is today.

Many view change in a different manner, but history tells us that man will change many things to adapt to new conditions. The history of those changes since Federation would be well known to you all and I direct you to the appendix 'A' of this submission for that verification.

Rural Communities, most farming communities, more than most are very conscious of the environment around them. They must be, for their enterprises to survive. They adapt themselves and their purse, for when nature strikes it's cyclic blows to the well intentioned production cycles of agricultural life.

The Murray Darling Association's evolution has come about, due to the punishment that these communities have endured, leading up to 1944, when it actively re-invigorated the Snowy Mountains Project to the water-proofing of the western aspect of the Murray and Murrumbidgee system.

It also sought to have storages constructed on other river systems, to provide long term Water Security, so that it's key message of Conservation and Sustainable Development would be an actual outcome.

Since 1944 and up to 2001 this has been achievable, but the conditions of change via the prolonged drought coupled with climate change, now requires a new set of changes for the balance to be reset and harmonious life to return.

The Association has always taken the holistic approach to what changes are necessary and have taken this opportunity to outline some of the more urgent steps we consider require urgent attention.

As we all know, the system's ability to maintain storage levels under the current climate change predictions and the Risks Strategy Analysis by the CSIRO (May 2008), is no longer available and we must, more urgently, introduce measures that will reduce the man induced losses in the system.

The major areas of those losses are;

- 1/. The Menindee Lakes System, (Appendix B)
- 2/. On farm storages across the entire basin, (Maunsell Report May 07)
- 3/. The Lower Lakes of Alexandrina and Albert, (not a band-aid solution)
- 4/. Wetlands that were ephemeral but now permanently inundated, (Appendix B)
- 5/. Distribution systems of hundreds of kilometres of open channels and poor or no accurate measuring devices on those systems. (MIA, MIL , GMW etc)
- 6/. On farm water use efficiency regardless of crop type, (CIT you can't manage what you can't measure)
- 7/. Industrial Urban and Domestic Water use, (IPOS phase 2)
- 8/. Irrigated public open space (Recently launched Code of practice – MDA initiated)
- 9/. Treatment of waste water and sensible reuse, (Numerous examples current)
- 10/. Storm water harvesting coupled with ASTR and potable reuse. (Salisbury/ Playford/ Tea Tree Gully, Council joint venture)

We can take each of these subjects and more and dissect the priority actions that are needed and indeed in some quarters are currently being implemented. (Refer Appendix B)

It is also acknowledged , the least of which is a reduction in the overall cap on extractions, That Water Buy- back and an exit strategy for farmers who choose to take that course, is in urgent need of revision.

I think it was Confucius who said; "You will never plough the field by turning it over in your mind!"

Appendix 'A'

Taking the Murray Darling Basin into the 21st century

The History

When Captain Charles Sturt sailed and rowed his way down to Murray Mouth in 1829/30 the colony of New South Wales had already expanded into the Eastern and fertile slopes of the Murray Darling Basin on the Murrumbidgee River. He chose to name the lower section of the river from its junction to the sea after the Secretary of State for the colonies, Sir George Murray. (1)

History also records the stand taken by the Ngarrindjeri people to defend their rights to their lands but diseases and white supremacy took their toll and the transition to permanent white settlement is assured.

After South Australia was established in 1836 and river navigation was seen as the means to open up the inland of this vast river system, the three States of NSW, Vic. and SA met in Melbourne in 1863 to discuss ways to improve and guarantee navigation in all seasons by establishing a series of Weirs and Locks.

More than 40 years passed due to state parochialism of these colonies.

Following the severe drought of 1895 to 1902, which saw the demise of the Chaffey Brothers settlements in Mildura and Renmark and the birth of our Nation in 1901, the River Murray Waters Agreement was signed by these States and the new Australian Government in 1915.

In 1917 the River Murray Commission was established, to ensure the main provisions of the agreement were carried out; (1)

- 1/. The Construction of a storage on the Upper Murray
- 2/. The Construction of a storage at Lake Victoria
- 3/. The Construction of 26 Weirs and Locks between Blanchetown in SA and Echuca in Victoria
- 4/. Construction of 9 Weirs and Locks on the lower parts of either the Darling or the Murrumbidgee (the Bidgee being selected)

As we know only 13 of the 26 weirs and Locks were built, but the Hume Dam was fortunately followed by Dartmouth in 1972 after the Chowilla debate of 1967.

Two (2) weirs the Maude and the Redbank were built on the Murrumbidgee.

For the entire history of white settlement of the Murray Darling Basin, there has been successive floods and droughts, and although there was a period of economic depression from 1840 to 1850, records of extreme climate variations seem to only commence in 1870.

The droughts of the late 1800's all saw attempts by the various state governments to kick start the 1902 Corowa agreement, which included the SA government commencing construction on Lock 1 at Blanchetown, not completed till 1922. The plan to build Barrages in 1934 under an amended River Waters Agreement began and an early stage of the Snowy Mountains Scheme was completed in 1935, namely the Hume Dam. (2)

The Barrages were completed in 1940, and the Morgan-Whyalla Pipeline to supply SA's Iron Triangle was completed in 1944, which indirectly added to the prosperity of Broken Hill. The Menindee Lakes Scheme first proposed in 1894 was commenced in 1949, operational in 1960 and completed in 1968, is

also part of Broken Hill's water security, although it can supply South Australia when it's storage capacity is above 34%

A severe drought in 1944 – 45(2) saw the establishment of the Murray Valley League which realised the urgent need to restart the stalled Snowy Mountains Scheme, but 5 years of debate ensued before construction could begin and it would be 1966 before any water could be diverted from the east to west of the Great Dividing Range.

Through all this era of trials and tribulations the three State governments under their River Murray Waters Agreement, saw the need to establish permanent Irrigation Districts which they all knew would contribute to the long term prosperity of their respective economies.

River Navigation faded as the Railways linked the old river ports to the State Capital Cities, and successive floods and high river flows following World War 2 seemed to demonstrate that expansion to those Irrigation Districts and a large influx of private diverters was part of the solution to reducing the perceived negative effects of regular floods.

The New Age in Irrigation

Growth in water diverted for Irrigation expanded dramatically from the mid 1950's to 1990. Australia even embarked on an assisted migration scheme from many European countries, promoting the benefits of new lands, new prosperity, and a means to decentralize the growing Urban populations in the coastal cities.

Dairy Farming in Victoria began, in part, to give way to permanent fruit crops. The Citrus industry boom in South Australia, New South Wales and Victoria, the development of the Cotton Industry in the Queensland Darling Downs and Western Plains of NSW, and the Rice Industry across the Murrumbidgee and Murray Irrigation districts, were all based on the premise that conditions would never change.

But change they did, and lack of water was not front of mind for those communities and industries - salinity was. The irrigation practices were generally badly managed, and rising water tables soon became the scourge to profitable farming.

Additionally the effects of early broad acre settlement began to show in the form of increasing salinity in the major river courses and the need for increased dilution flows was being promoted as the solution.

As expansion demanded more of the available resource, Salinity Mitigation Schemes, Interception Well systems and Evaporation Basins became the solution to reducing, or at least maintaining, lower levels of salinity in the river channel for both Irrigation and Urban consumptive use.

1954 saw the opening of the Mannum-Adelaide pipeline,(2) as a means to Water proof the city from it's less than one year of annual reserves in the Mt Lofty Ranges.

Water Quality was in the forefront of the major water diverters, and more so in the Lower Murray from the Sunraysia in South-Western NSW and Victoria to Murray Bridge in South Australia, where a second Adelaide water supply pipeline was built to serve Mt Bold Reservoir and other Adelaide Hills townships.

The Snowy Mountains Scheme was finally completed in 1974 and this also diverted attention away from the growing use of water within the major

growing regions of Victoria, NSW and SA, as the system recorded 3 consecutive years of well above average rainfall and runoff.

The effects of salinity on soil and crop health, on the environment and human consumption, became the focus of the scientists, the agronomists, and the governments.

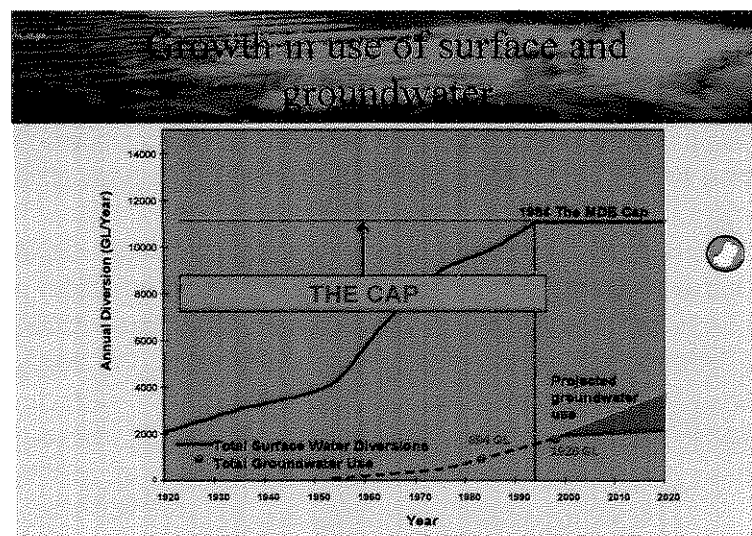
The tell-tail signs of the higher use of our average annual flows, with little attention to how we should manage our reserves for the logical “no rainy days”, was cast aside. The attention was how we must improve and use technology to lift irrigation efficiency, to reduce drainage and lower the runoff of highly saline water to our water courses.

It is entirely understandable that the upgrades to Irrigation supply systems to the farm gate, were mostly predicated on reducing seepage and degradation of adjoining farm land and the high maintenance costs to the water authorities bottom line.

This in turn, encouraged farmers to upgrade their on farm systems as can be demonstrated from the MIA in NSW across to the smaller permanent plantings in South Australia. It was rightly or wrongly considered that water savings be turned into increased acreage, hence a lift in overall productivity. A system which had consistently produced on average over 12,000 gigs per annum, was weakening to less than 8,000gigs p.a. and the reserves that had carried the system through the drought of the early 80's and 90,s were no longer being replenished.

It is also important to remember that our combined Upper Murray – Murrumbidgee storages were capable of storing one and a half years of average annual runoff, (appendix 1) so it was recognised back in the 1970's after South Australia had set it's cap in place, that other Murray Darling Basin States needed to follow suit.

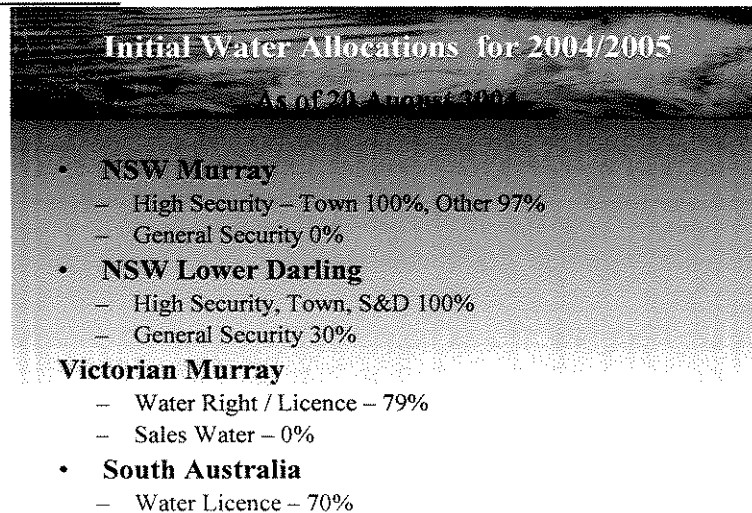
Figure 1; below demonstrates the lag time for a full cap to be set down.



The government did not see or was not aware, that it should have contributed to this reinvestment for the purposes of returning some of the savings to the environment bank in the major storages. Again it was flood minimisation that seemed to be the most important aspect of water resource management.

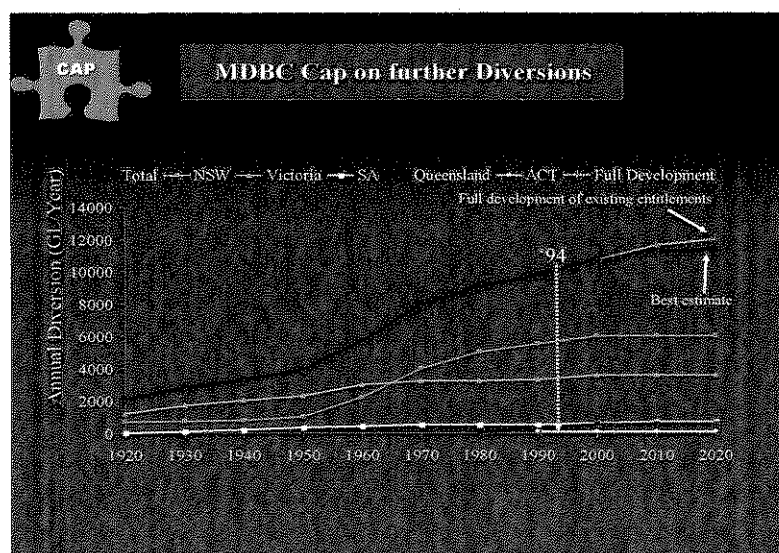
The information that was being logged had already started to show a decline in Rainfall and Runoff and the average flow into South Australia, 4,800 gigalitres per year, which was sufficient to maintain the opening of the Murray Mouth, had already declined over 5 consecutive years to around 2,000 gigs p.a. or less from 2001 to 2006.

Figure 2 below signifies the recognition of all the Major States reducing allocations 2005/ 06



The 2005/06 season of 2,400 gigs into South Australia was perhaps the blip in the records which showed a small recovery (perhaps assumed as a turn for the better) only to be followed by the worst year on record of 2006/07. This showed the grim reality of what nature was capable of, by taking the 116 years of records to a new low.

Figure 3; Water Trading between States does not impact until 2008

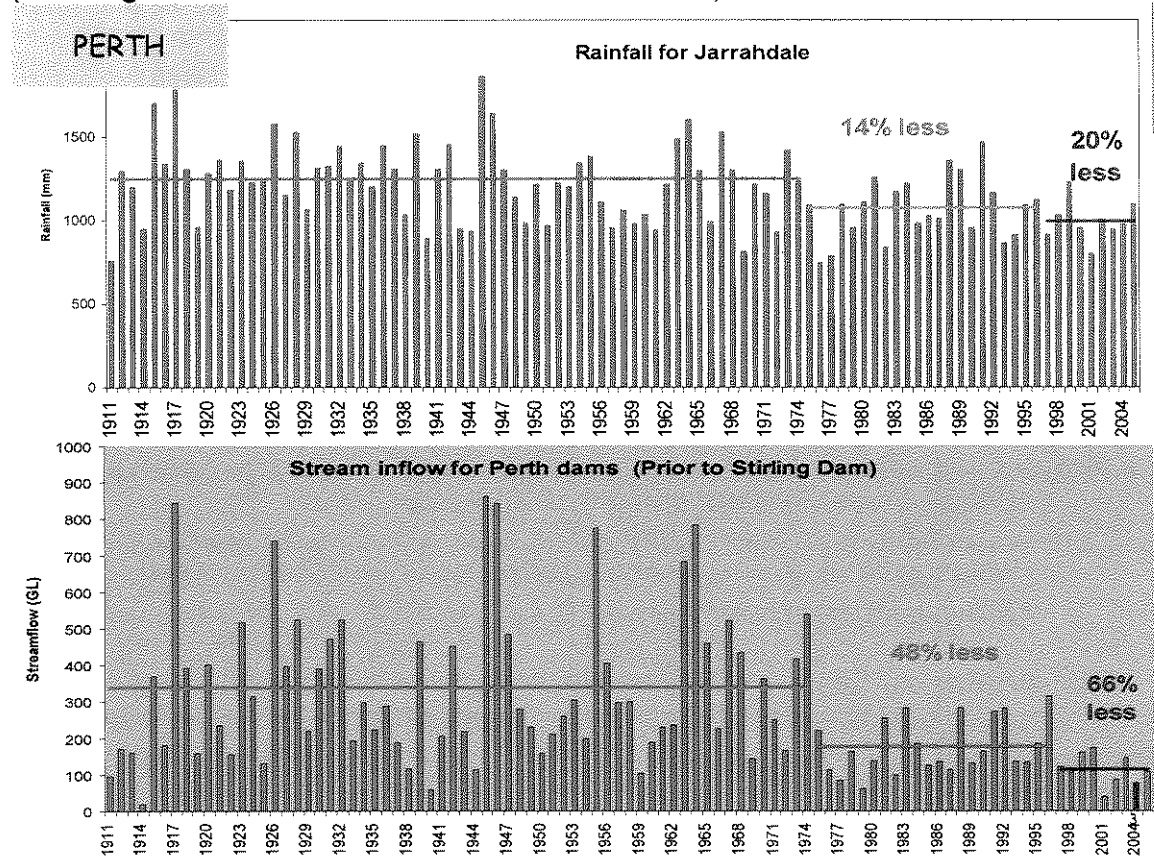


Is it Climate Change or just a cycle

The conditions in South Western and South Eastern Australia show a disturbing pattern of consistency when it comes down to records of rainfall and runoff since 1975

The graphs for Perth and Sydney have a pretty amazing correlation and the same records exist for the Grampians, the Melbourne hinterland and South Eastern Qld. Any study, any reference, will point to changes in Rainfall versus Runoff. Of the many reasons given we can look to Global surface temperature rise of 0.7deg C. We can look to a massive change in conditions of our polar ice caps and high mountain glaciers all over the world. This should not be a debate just about whether it is climate change or not, it should be a recognition that any changes in rainfall, temperature and dam storages, will effect our nations ability to sustain the development that we based on the short window of fifty(50), better than average years from 1950 to 2000. We had at our finger tips the history of the late 1800's to 1949, and since then, the records from 1975 across the entire south of our continent.

(refer Figure No. 4 below – Rainfall versus Runoff)



The rest of this story is very evident to most Australians and the conference presentation will graphically depict the real truth of how we must go forward.

The National Plan for Water Security is going to be only one of the many devices to place sustainable irrigation on the same footing as urban requirements, over the next 50 years.

The Future of the Murray Darling Basin faces many challenges as we juggle with the politics, the policies of State and Federal Governments, and the funding to sustain outdated government infrastructure.

Following both world wars, Governments established Irrigation communities, levied charges, but did not take heed to the required reinvestment from those fees, rates and taxes.

A User Pays society, is now a more evident accepted practice and full cost recovery, by now well established privately owned Irrigation Trusts and Boards, must compete in the water trading market. **Some coastal cities see the cost of purchasing inland licences as more attractive and cost effective** than the options they have, such as recycling, storm water harvesting and possibly piping water from a high rainfall area (such as Tasmania) that rural communities do not.

In this basic approach little thought is given to the economic value of sustainable, healthy communities that bring down consumer costs in the cities. What value per megalitre of water is placed on Environmental Conservation and sustainable rural communities?

The Climate Change debate may just be the catalyst to bring about a sensible compromise to our water management plans. The debate cannot rule out any one aspect of the need for efficient distribution systems, waste water recycling and reuse, stormwater capture, wetlands, ASTR, desalination for coastal cities and cloud seeding for all of our major catchments.

We have in the past 30 years made many advances. We have seen productivity and efficiencies in all phases of Irrigated Agriculture and the benefits that come with it. Australian farmers in the past 15 years have:-

- Pulled in their belts;
- Produced more with less, by becoming innovative,
- Taken on environmental protection as part of their farm management practices;
- Have become the most efficient farmers in the world, and
- Copped with the worst drought in 100 years,
- Managed to continue producing with little or no irrigation water, and we still expect more from them.

The question is, "can we adjust into the next phase of restructure and still maintain healthy and viable communities? I think history tells us we can.

References:-

- (1) **MDBC – Brief History of the M D Basin Agreement and Figures 1,2 & 3**
- (2) **Fresh History of the Lakes - Terry Sim & Kerri Muller**
- (3) **NWC – Distilled – Special Edition re AWR 2005 Level 2 report**
- (4) **Figure 4 – Wentworth Group of Concerned Scientists Nov 2006 - The State of Australia's Water – WA Water Corporation; & Ian Searle – House of Reps – Standing Committee August 2002**
- (5) **Murray Darling Association Website www.mda.asn.au**

Quotations

George Williams

“The constitution does not grant express power to the Commonwealth over rivers or systems such as the Murray-Darling. This is one reason the Howard Government has spent months trying to entice the States to cede their powers in return for a \$10 billion investment.”

“The underlying problem is Australia's dysfunctional federal system of government. Our 1901 constitution fails to set out clear responsibility for the Murray-Darling and other waterways. While the management of a river system that crosses state borders should be a matter for federal government, the constitution fails to say this.”

George Williams, **Anthony Mason Professor and director of the Gilbert + Tobin Centre of Public Law at the University of NSW.** July 26, 2007.

The Quote that follows, should be an aspiration that we all embrace if we are to successfully lead our future generations into the 21st century.

Quote from SAMDBNRM Board Strategic Plan.

Water

Vision: *We need water resources that are healthy, valued and supporting of communities and thriving ecosystems.*

‘A healthy living landscape meeting the social, environmental and economic needs of the community and ensuring the rights and wellbeing of future generations’.

The Murray Darling Association

Mission: *The Murray Darling Association's mission is to provide a focus for Local Government and community participation in the major natural resource management issues of the Murray-Darling Basin, ensuring a balance between Conservation and Sustainable Development.*

Appendix 1 of *Taking the Murray Darling Basin into the 21st century*

Major Dams and reservoirs in the MDB

Extracted from MDB RESOURCES 1997 (Page 36-37),
Source: ANCOLD 1990: Various MDBC and other sources

NEW SOUTH WALES

Hume	1936-61	3038GL	River Murray
Menindee	1960	2050GL	Darling (Current operating level is 1731)
Burrendong	1967	1678GL	Macquarie
Blowering	1968	1628GL	Tumut
Copeton	1976	1364GL	Gwydir
Wyangala	1936-71	1220GL	Lachlan
Burrinjuck	1927-95	1026GL	Murrumbidgee
Talbingo	1971	921GL	Tumut

JUST OUTSIDE the MDB BUT LINKED THROUGH the SNOWY MOUNTAIN SCHEME

Eucubene	1958	4798GL	Eucumbene
Jindabyne	1967	688GL	Snowy

VICTORIA

Dartmouth	1980	3906GL	Mitta Mitta
Eildon	1927-55	3390GL	Upper Goulburn
Mokoan	1971	365GL	Winton Swamp
Eppalock	1964	312GL	Campaspe

QUEENSLAND

Glenlyon	1976	261GL	Pike
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SOUTH AUSTRALIA

Goolwa Barrages	1940	1974GL	Murray near Mouth
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ACT

Corin	1968	75GL	Cotter
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There is also little sense in arguing with the Conservationists when all we are currently achieving, under their direction, is a lack of direction..

CUBBIE STATION / MENINDEE LAKES

There is most certainly a connection here.

Buy out Cubbie? Not wise and not necessary.

Change the trigger points by which water can be diverted both across Northern NSW and Queensland? YES.

This has the benefit of a better water sharing plan – at least between the irrigators and pastoralists from Dalby/Chinchilla all the way to Wilcannia.

Invest the dollars into upgrading the Menindee Lakes to better manage evaporation losses and provide better security and better quality water for Broken Hill.

Broken Hill Council is willing to look at a new deeper storage, in their own precinct approximately 15 K from the City. The site is called “Snake Gully”.

This can be augmented by water from the Lakes once the rehabilitation of the Lakes is complete.

The added benefits are :-

- Better managed tourism facilities in the Outback
- Better quality water for the Lower Darling in difficult times – such as we are currently experiencing.

THE BARMAN CHOKE

- A. We are assured that “River Murray Water” is doing extensive studies on the options to overcome this problem. They are trying to satisfy forestry ecology, seasonal demands as per irrigation downstream, and supplies to SA plus the environmental concerns of this Icon site.
- B. Having travelled and visited to this site twice now and listened to the arguments, it is apparent that the Choke itself should be left alone. Diversions North and South of the Choke are most definitely possible.
- C. The Yarrawonga Channel drops short of the Broken River which discharges into the River Murray below the Choke. A modification of this infrastructure would be both of benefit to the Yarrawonga System and the health of the Lower Broken River Catchment – with the added benefit in the design to move approximately 2,000-3,000 Mega Litres/day around the Choke and into the River Murray near Echuca.

The current practice of the northern escapes into the Edward system etc., is dependant upon the demands by Murray Irrigation Limited in any one season,

but still has the potential for upgrades to infrastructure to create a more efficient pathway for some extra diversions as and when required.

- D. There are also the plans to use the Lakes both East and West of the Choke, if permanent flooding of some parts of the Forest is not a regular occurrence. The wetting and drying cycles for Forest health makes this the least desirable option.

As you can see, our Members are focussed on many and various issues within the scope of water futures for their Community.

Mostly all discussions include solutions and community involvement – and it is to this end we seek your response.

It is our desired wish to be included in the processes that your Department will embark on. To this end we require an invitation to be on your team ‘so to speak’ whereby answers and actions are brought forward to our member Councils and their Communities.

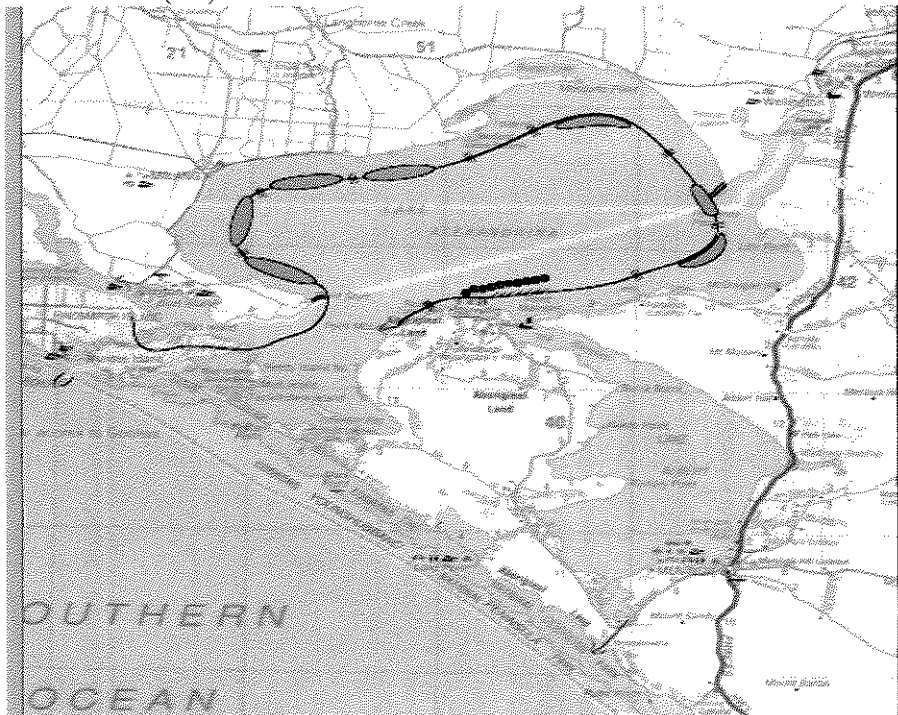
Your response, and the response from your Team to all the above is most eagerly awaited.

Yours Sincerely

RAY NAJAR

General Manager

Attachment ('a')



Restructuring of the Lower lakes System, draft 1 map.

The very thing that existed to sustain the lower lakes in a predominately fresh state, and keep the Coorong healthy even during a drought is no longer available,

(2) two main reasons;

1/. The Sth East Drainage scheme diverted the Southern lagoon's lifeline direct to sea.

2/. The Eastern Mount Lofty Streams will most likely never return to that natural state that is referred to previously.

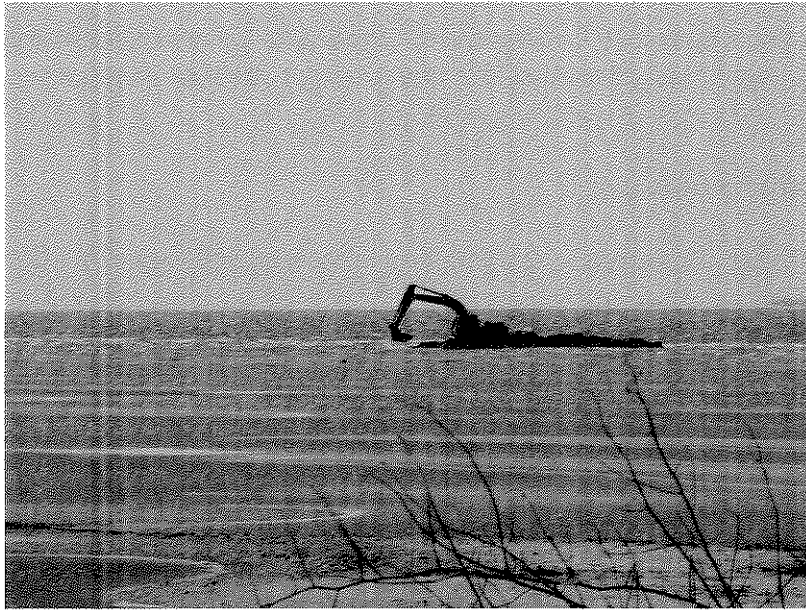
A third and more debatable reason;

Our Eastern state neighbors are not going to give up 25-30% of their Economic base, to see over 1,000gigs per annum disappear into space upstream of the current barrage structures.

12 Positive Aspects covering Environmental Flows in South Australia to Improve the Health of the Coorong and the Lower Lakes, by reducing the fresh water surface area by approx 65%;

1. Improved **fish breeding environment**, both fresh and salt water, due to an increase in habitat sites, partially created by dredging the lake bed to construct the barrier, to become a causeway corridor to future marina's
2. Greater areas of **feeder mud flats** Loveday Bay for wading birds (Under Ramsar)
3. Improved **water quality** in the Coorong, a major environmental shift from where we are today.
4. Reduction in **erosion** of the lake shores, plus rejuvenation of tidal plants.
5. Reduction of **EC levels at Milang, Clayton and Goolwa** by 50% and maintain a more consistent pool level at between .500 AHD to .700AHD
6. Reduction of **EC Levels in Lake Albert** by a minimum of 30%. (The Noonameena Pipeline)
7. **Constant discharge** through the Goolwa and Mundo Barrages with additional outlets at Pt. McLeay and Lake Albert into the Upper Coorong channel.
8. Major **daily tidal movements** through the Murray Mouth, 200+ gigalitres per day. *This returns some 40 to 50 square kilometres of indigenous fishing grounds adjacent to and south of Point McLeay. (Loveday Bay)*
9. Better and **safer navigation** from Wellington to Goolwa and to Lake Albert.
10. A reduction in **Evaporation losses** of approx 500 gigalitres seasonally to be used for **environmental flows** through the Coorong and Murray Mouth.
11. A new **population growth centre**, with the ability to have many thousand Waterfront properties and Marinas, serving the sea change of Australian life style and reducing water surface area not increasing it.
12. A major **expansion of the Boating & Tourism Industry** in South Australia, providing jobs and associated service industries.

Note; importantly there is no fear of creating an acid-sulphate soil problem, using the wet build method as depicted in the photo attached.



An excavator working in Lake Alexandrina to deepen pump intake line.

Attachment ('b')

“Slow the flow”- “Give the Irrigators a go” Rewritten 10/01/ 07

Options to the Wellington Weir Proposal.

The Murray Darling Association has voiced its opposition to the proposed Wellington Weir, and requests a full investigation of options it has discussed at consecutive meetings in Murray Bridge and Goolwa.

The Government's decision to prepare plans and commence construction of a low level weir below Wellington, seems assured to take place.

Up stream storage, based on current usage and discharges will be depleted by April 2007 and short of unseasonable rain events will require a temporary halt to irrigation in most Riverland Communities, as we move into winter. In this scenario, the Murray Darling Association's paramount concern is the on going sustainability of all River Communities as we progress towards the 07/08 season.

The means to extend this time frame, is to “Slow the flow” and commence some draw down of up stream pool levels above Lock 1. It is then possible to pulse the flow below Lock 1, subject to conditions and demand of urban users served by the Swan Reach, Mannum, Murray Bridge and Taillem Bend pumps.

Adelaide Reservoir stocks under current level 3 restrictions can support the metro area beyond June of 2007. It has been proven that a 30% reduction of normal average use is more than possible. **Other options available to S.A. Water are, an immediate review of Salisbury Plains Aquifer, and greater re-use of recycled water from Christies, Glenelg and Bolivar treatment plants.**

With Adelaide Metro regions current re-use of over 23% of its recycled water products, the highest of any Australian capital city, there is ample experiences and expertise to lift this number substantially and with immediate effect (given that the Wellington proposal doesn't and cannot take affect until December 2007).

A proposed desalination plant at Port Stanvac, (as has been called for since May 2005) even as a temporary installation can also offset some of Adelaide's urban demands for potable water.

Evidence that the Lakes and Lower pool Lock 1 will recover over the winter and spring period to an acceptable level of between 0.3 and 0.5 Australian Height Datum then provides some breathing space for the Riverland communities to manage on the predicted availability of the 550-600 gigalitres between Renmark and Morgan for the 07/08 season.

Adelaide supplies can be supplemented from October 2007 to January 2008 by the recharge of the Lakes from rain and the Eastern Mount Lofty streams of the Finnis, Currency Creek and the Bremer system.

A major draw back of the Wellington Weir to hold levels for Mannum and Murray Bridge pumps, is a sudden increase in salinity in that smaller pool, making this water unacceptable for potable use in Adelaide and other regions fed directly by the pipelines that do not have reservoirs to mix and lower the EC level to acceptable world health standards.

The actual cost of a weir structure that can be decommissioned and recommissioned at will, will prove to be far more expensive than the \$20 million plus that has been projected.

More effort to reduce losses along the rivers numerous back water still provide much more cost effective benefits in the long term and meet the requirements under the National Water Initiative- "Living Murray Works Program".

Careful investigation and consideration of the above measures can reduce the prospect of major economical decline to the whole State and the River and Lakes communities.

The Murray Darling Association National Board will convene in February to review the entire drought situation and its affect on all river communities.

Ray Najar
General Manager
Murray Darling Association

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www.mda.asn.au

Sent: Thursday, February 22, 2007 3:22 PM

Subject: Re: interesting **143 years on** and we still don't see the big picture.

Dear Merrill,

You are so right.

There is no denying that NSW will get the lion's share of the \$cake in all this but that should be expected considering they have always had the largest entitlements and greater regions in which to develop.

Like Victoria, South Australia has been investing and being supported by grants since the late 1960's when the Renmark scheme got off the ground & followed by many others since.

The big beneficiary in this should be some security for the Environment, while making it possible to continue improving our efficiency in Irrigation that will sustain those regional economies.

The Murray Goulburn system was always going to be a hard task but given that that the reliability of their storages and supply has just started to fail, they are also facing a wake up call.

The over allocation is of course worse in NSW and that will attract the biggest slice of the Structural re-adjustment packages.

As you say, they have all had 143 years of history from which to learn from and if the **parochialism** stays intact then we have all learned nothing, from the past.

I just hope we don't reach economic disaster again as happen in 1914, because if we do, it will cost the Australian economy a lot more than \$1billion a year for the next 10 years.

Regards

Ray Najar
General Manager
Murray Darling Association

What are a few of the solutions?

To build up our storage reserves we have many options including;

- 1/. Reduce our usage (yes with caution) and diminish our productive capacity provided that all aspects of community socio-economic change is meet with alternatives such as **the development of Australia's new wet north.**
- 2/. Engage the latest technology to run a "rain enhancement program" under the newly formed body headed up by Dr. Roger Stone. (May 14th 2007- National Task Force for Precipitation Enhancement Research)
- 3/. **Dramatically reduce the unproductive surface area** of fresh water storages across the entire basin. (MDA has requested funding support from the Federal Government to accurately document all evaporation losses in the Murray Darling Basin.

Downsize Murray plan

Water guru Mike Young has devised a drastic response to the crisis gripping the Murray-Darling: downsize the river system to cut loose irrigated areas and wetlands. Professor Young's tough-love recipe is sure to provoke howls of protest from farmers, business and environmentalists.

But the country's foremost water economist, who was ahead of the pack in predicting the emergency on the river, says parts of the existing system may have to be sacrificed if the Murray-Darling is to continue to flow. Professor Young, of Adelaide University and the Wentworth Group of Concerned Scientists on water and climate change issues, told *The Weekend Australian* that water loss to evaporation from the rivers now virtually equalled inflows, such as the decline in rainfall across the southern basin.

One option, requiring "careful, cold and technical" study, was to seal off areas where water pooled to limit evaporative losses and preserve the main river channels. This could include ecologically important wetlands, dams and lakes -- although Professor Young said he was not prepared to name which ones.

The river should be reconfigured into a much smaller waterway than it was now, he said. "We are running the Murray-Darling with half the amount of water we used to have," Professor Young said from Spain. "And we need to realise that all the weirs and irrigation plans, the dams and ... the rest are structured for a river that is twice as big. "We need to look carefully where there are downsizing opportunities for reconfiguration of the system, and do it in a quite cold, technical way, and do it publicly with an inquiry."

At the bottom end of the Murray, low water levels or action by the South Australian Government to preserve river flows has already closed off 33 wetlands. Winter rains have brought a reprieve for some of these areas, including the famed Banrock Station wetlands in the Riverland, northeast of Adelaide. Environmental flows to the Banrock Station site have resumed, generating a burst of new life among red gum trees, ducks and egrets.

Levels in the lower lakes near the Murray mouth have also recovered slightly, but scientists warn they remain at risk over South Australia's traditionally dry summer. Lake Alexandrina was still 25cm below sea level, while Lake Albert, which is being sustained by water pumped from the neighbouring waterway, was at minus 18cm. Both lakes could turn acidic if their levels fell beyond a metre below sea level.

Professor Young said the outlook for the river system remained bleak. Potentially, none of the 33 wetlands sealed off from the river in South Australia would be reopened to it. "We might decide not to water those again unless we get a flood," he said. "You might have to look at some of the icon sites and ... say, 'look, we just don't have enough water to keep all those going'. There are just ones we are going to have to let go."

South Australian Water Security Minister Karlene Maywald said basin-wide management would "reset the balance" at the local level. Professor Young said a 10 per cent reduction in rainfall had a three-fold effect on run-off into the rivers of the Murray-Darling. "Either we decide to not use the River Murray, or we decide to reconfigure it very differently," he said.

Australian 8/09/08

Motto:

Never make your opinions hard and inflexible

Try not to accept the errors of the dominant mythology

MDA:- We only put forward the verified facts on any and all issues.

Summary

There are apparent functions by the Australian Government already in – train and need to be acknowledged.

They are ;

- 1/. The Sustainable Rivers Audit.
- 2/. A National Water Resources Audit including ground water diversions.
- 3/. The Water Buy – Back program – 07/08 completed and 08/09 commenced.
- 4/. The Living Murray Program Stage 1 – 500 gigalitres by June 2009, including some river infrastructure upgrades.

The MDA is also aware that other functions are required urgently for any real and significant progress to be made.

What is lacking at present;

- 1/. The release of the data available on the National Water Resources Audit, for scrutiny and detail supplied.
- 2/. An Audit on all system evaporation losses across the entire basin.
- 3/. An Audit on Hillside and on-farm storages to take in the depth versus surface area for storage efficiency.
- 4/. The socio – economic effect on communities after water trading has effectively reduced the cap and extractions are tailored to the variability of each catchments water resources.
- 5/. The identification of retired assets that would not be practical to upgrade.
- 6/. The fast tracking of system “down sizing” to reduce evaporation losses. i.e. the Barren Box Swamp project.

The Murray Darling Association thanks the Standing Committee for the opportunity to present the ideas, that we would hope should provide some of the solutions to managing the system with less water.

As the effects of Climate Change and the drought continue to frustrate attempts by communities to remain sustainable, our association stands committed to assist in any way that it can.

The Murray Darling Association September 10th 2008

Appendix 'B'

The Hon. Malcolm Turnbull MP
Parliamentary Secretary to the Prime Minister

Draft Copy
as sent 08/12/06

Dear Malcolm,

It was very much appreciated that you gave me a few minutes of your extremely tight schedule at the Symposium Dinner last Monday night. This followed a brief meeting that I held with your Chief of Staff Ms. Margaret Johnson and Ms. Anna Heaney. They have taken copies of correspondence relating to one of the cloud seeding proposals for your information.

As you have requested, we outline in summary the issues that are most urgent for review, advice and discussion.

1. Wellington Weir proposal and preferred options
2. Cloud Seeding in the Alps to boost Reservoir capacities
3. Better use of funds and **not** the purchase of Cubbie Station
4. Upgrade infrastructure and operations of Menindee Lakes
5. Improvement of flows around the Barmah Choke

As to each of the topics above, may we outline where the Murray Darling Association can see the best options for the quickest possible solutions, the best use of public funds and longer term benefits to be achieved in both the Living Murray Programme and the Darling River revival plans, as sought by the majority of our member Councils – all of whom would like to be active participants under COAG National Water Initiative.

THE PROPOSED WEIR AT WELLINGTON

The majority of our Member Councils, both upstream and downstream of this site, do not see this idea as a preferred option for the following reasons:-

- (a) The current level of water stored in the weir pools from Lock 9 to the Barrages is approximately 3,000+ Giga Litres, and approximately 2,000 GL is held between Lock 1 and the Barrages. This is currently of good quality in terms of topping up Adelaide's reservoirs.
SA Water is currently ensuring that they can take advantage of this period until January 30th 2007 to maintain and exceed Adelaide's demands under Level 2 and Level 3 restrictions.
- (b) It is necessary to reduce flows in SA immediately and to watch demand between Lock 9 to Lock 1 upper pool. (Refer Slow the flow Document 'b')

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