



**Submission to**

House of Reps Standing Committee on Regional Australia

**The Murray Darling Basin Inquiry**

**December 2010**

**Ray Najar – General Manager**

## Introduction

The Basin Plan Guide is just that, a guide. It is a document that, rightly or wrongly, is a basis we needed to have, to begin the debate on how the future of the Murray Darling Basin can be framed, so that **the triple bottom line** approach can be molded and formed so that our communities can remain sustainable and grow in the decades to come. This Guide is setting a foundation for this purpose.

**Quote:- The Water Act 2007 states;**

**'must optimise the economic, social and environmental outcomes and maximise the net economic return...'**

Local Government knows only too well the need for healthy, sustainable communities. I am sure that the Guide in its present form, does not give the confidence to progress down the road it is suggesting we take. The Murray Darling Association, formed out of Local Government, has an obligation to ensure that any plan to be implemented in future, protects those communities.

None of us are above learning all that we should know; however, today we seem to be heading into a society of too many rules and a lack of common sense. The Basin Plan Guide is not perfect. In effect it is asking us to do more with less. I can tell you through my long experience with the Basin, we have been taking this approach since the early 1970's.

Many of us go through life guided by our peers, learning as we go, experiencing good times and bad. I have come to believe there is nothing better than the baptism of fire when you step out of normal conventions of thinking of what is generally believed at the time to be good, and to the benefit of all. I feel it is my duty today to impress on our government the Macro Issues will deliver a sustainable regional perspective.

### **So what of our Goals?**

For most of us, it is improving the conditions and the lives of those we represent. We speak for those who cannot, for whatever reason, stand up for themselves and speak direct to the government about what they would like to achieve.

As leaders we all want to make things better not just for now, but for the future of your communities, regions and our country.

Sometimes what we believe puts us in the line of fire from those who are opposed to your view. That we should make those statements, or express a point of view that we know will cause derision, is essential and the core of our democracy.

Courage and conviction is and has always has been my mantra. My old high school motto 'seek truth without fear' has stayed with me these past 50 years.

Today, tomorrow and the future is about all of those things. Today we are here because we have a common purpose. We have a need to see that whatever direction and policy is placed in our area of responsibility is fair, just and takes in all the issues, takes on board the understanding of what the future holds. If we do nothing or not enough, consider what the future can hold if we make the wrong turn in the road now.

We have begun our journey of choice with principles and objectives to guide us.

This is not to say that we have not made progress or cannot do more, but it seems that the goal posts have moved. How far they move shifts dramatically the position we take and depends on which part of bureaucracy is involved and the problems they seek to resolve.

But without a guide for all to follow, how can all these entities be sure of an outcome that can be measured against all needs and indeed expectations? Then there are the difficulties in resource exchange and sharing, coordination of objectives between Federal and State Ministries. What has become dramatically apparent is a dysfunction between bureaucracies and the gravity of this dysfunction is weighing heavily on the Basin communities.

I give you examples of this dysfunction now, not to over dramatise the situation but merely to represent the high cost of this lack of coordination and lack of realisation of the tools we have to fix the problems. Does the Productivity Commission realise or understand that using only a Water Buy-Back system alone is creating a generation of 'refugees' from what could become a decaying, regional agricultural area, from the producers to the stakeholders down the chain.

#### **A direct extract from the Act;**

##### **Sec 255 in the Act does not authorise compulsory acquisition of water access rights**

To avoid doubt, nothing in:

- (a) this Act; or
- (b) the regulations; or
- (c) any other instrument made under this Act;

authorises or allows the Commonwealth, the Authority, the Commonwealth Environmental Water Holder or any other agency of the Commonwealth to compulsorily acquire a water access right or an interest in a water access right.

Ladies and Gentlemen, lives have been lost, families and communities terminally eroded. Yet the Department of Environment & Water has not sought enough sites that could revitalise and repair 80 to 100 years old, irrigation and management systems to generate enormous water resource savings forever, sparing communities from the reduced water allocations, and allow the precious water resource to meet the requirements of any future Basin Plan.

I am sure during this enquiry you will have many ideas and factual examples of how it is possible to achieve a balance between the Environment and the future Sustainable Development of our Basin Communities.

Some re-engineering of old and outdated systems will be the way to reducing evaporation and distribution losses, just as metering is essential for what is used for both environmental and productive use. ( Supporting documents 1 & 2 covers some of the solutions that need study consideration and action)

Let us not forget that we will always need to cover critical human needs as our population grows as surely it must.

Food production is no less important than a healthy environment and it is possible to achieve both if one agenda does not, try at worst, to hijack the other or the very least misunderstand the goals of the other.

We could compare our plight at the present with a raging bushfire that will slowly and relentlessly kill us all if unchecked. Let us learn the lessons from the outcomes by the Victorian Bushfire Royal Commission where they determined it is local intelligence and management that is at the core of better control solutions and outcomes.

How do we combine Federal and Local Government resources with the local understanding of specific regions and locations, or fundamentally how do we draw together the divide between city and rural community know-how?

We must somehow try to structure ways that will get the attention of many city centric voters that think milk only comes in bottles and cartons that our fruit and vegetables can be imported and our cotton shirts should only be made in China.

Do we want to continue to lose our capacity to sustain ourselves? I don't think so, therefore we need to engage more with our local politicians that represent us here in Canberra and elsewhere to seek and apply all that we have in our arsenal to solve this dire problem.

As the General Manager of the Murray Darling Association, you can be assured that we stand ready to serve you and represent your needs at this critical time.

Similarly we stand to help the government with solutions and encourage them to do their homework.

I would like to thank the Local Government members of our association that have the resources and vision to activate what ever initiative is available to them to sustain and build health and vitality in the Murray Darling Basin.

I trust that we can all leave a future plan in place, knowing that our efforts to date and into the future will make a difference to the benefit of all.

## **Additional Notes;**

### **ABOUT THE MURRAY–DARLING BASIN AUTHORITY - FACT SHEET 3:**

1/. The Murray–Darling Basin Authority (MDBA) is the Commonwealth agency that manages the Murray–Darling Basin’s water resources **in the national interest.**

#### **Improving irrigation infrastructure**

2/. The Australian Government, working with the Basin states and industry, is also investing significant funding to improve the water-use efficiency of irrigation infrastructure in the Basin. **A portion of the water savings generated by this work will also be used to reduce any gap between current diversions and the SDLs.**

**3/. SDLs will be developed by the Murray–Darling Basin Authority (MDBA), taking into account:**

- environmental water requirements
- an environmental watering plan (included in the Basin • Plan)
- **social and economic analysis**
- a water quality and salinity management plan (included • in the Basin Plan).

SDLs will be based on the best available science (**environmental, economic and social**) and on the principles of ecologically sustainable development. For example, if there are threats of serious or irreversible environmental damage, the lack of full scientific certainty should not be used as a reason for postponing (**any**) measures to prevent environmental degradation.

***COAG, 1992.***

***Ecological Sustainable Development means using, conserving and enhancing our natural resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, is improved.***

## **Supporting Documentation;**

**1/. Submission to the senate hearing – September 2008 (Attached)**

**2/. Lower Lakes upgrade – powerpoint Abridged version 2004 (Attached)**

**3/. Notes Extracted from the Menindee Lakes ESD – September 2002, below.  
(PAGES - 6 & 7)**

**4/. ANCID CHART - reports on Evaporation and Distribution Losses - paper 2002  
(PAGE- 8)**

**5/. Expanded response to MDBA Basin Plan Guide. (Attached)**

# THE MENINDEE LAKES ECOLOGICALLY SUSTAINABLE DEVELOPMENT PROJECT

## 1 PROJECT AREA (Page 37)

The Menindee Lakes are a series of interconnected ephemeral lakes located on the lower reaches of the Darling River in far western New South Wales.

Prior to the construction of a series of block banks and regulators, the lakes naturally filled during high river flows in the Darling River and then receded to form a series of pools.

High evaporation rates then dried the lakes out, depending upon subsequent flow events.

The New South Wales (NSW) Government enhanced the storage capacity of the lakes in the 1950's and 1960's to improve the security of water supply.

The Menindee Lakes are operated according to the Menindee Lakes Storage Agreement Act and the Murray-Darling Basin Agreement.

**The lakes are leased by the Murray-Darling Basin Commission (MDBC)** from DLWC. When the water storage exceeds 640 gegalitres, the water resources are under the control of MDBC. The water resources revert to the control of DLWC whenever the total storage falls to less than 480 gegalitres until it rises again to exceed 640 gegalitres.

The scheme is operated to meet the water demands from downstream users in New South Wales (eg. the lower Darling River and the Great Darling Anabranch), **and to supply South Australia as part of the Murray-Darling Basin Agreement.**

The total inflow to the lakes is shared equally between NSW and Victoria.

The debiting of released volumes is dependent upon the purpose of release.

Menindee township and Broken Hill also rely on releases from the lakes for water supply. The Menindee Lakes therefore have significant economic importance at both a local and state level.

The area also has important environmental and cultural conservation values.

For example:

- the wetland habitat provides a refuge for migratory birds and a breeding area for native fish;
- Kinchega National Park, covering over 44 000 hectares, adjoins the Lakes; and,
- numerous sites of Aboriginal significance are known to exist, particularly burials around the shoreline.

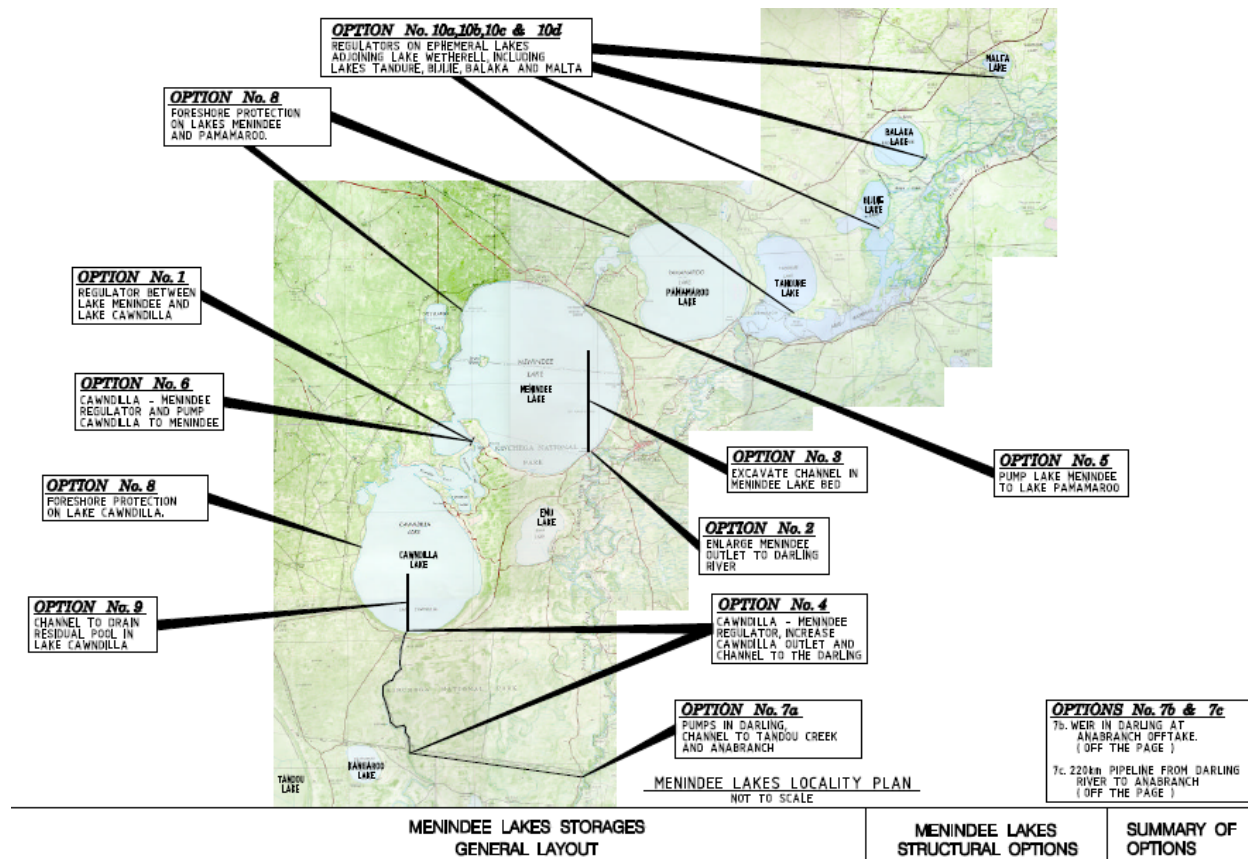
Etc.

**Page 665 of the Menindee ESD shows works options;**

To progress the Government's efforts in better "water resource measurement" and to gain the most water savings for dollars(\$'s) spent, we recommend as follows;

Options 1,2,3,4 and 9 with options 10b, 10c and 10d as future works and 10a once the Broken Hill water security measure is finalized.

Broken Hill's water security should be treated as a separate and specific item to the upgrade of the efficient water management structures needed to bring the Menindee Lakes operations up to best practice.



## 1.2 Report

The purpose of a block bank between Menindee and Cawndilla is to exclude water from Cawndilla (which it normally enters via Cawndilla Creek) until Menindee is completely full, thus reducing the evaporation area during that period.

Three possibilities for final release of water into Cawndilla have been considered. The most elementary being breach of the block bank followed by its reconstruction. The second being a permanent regulator of 5,000 ML/day capacity, capable of filling Cawndilla reasonably quickly and being compatible with an increase of Cawndilla's outlet capacity to 5,000 ML/day, which in conjunction with the existing Menindee Outlet can supply the entire downstream requirements.

The third, being a permanent regulator of 12,000 ML/day capacity, capable of fast filling Cawndilla, and compatible with an increase of Cawndilla Outlet capacity to 12,000 ML/day which on its own can supply the entire downstream requirement, thus allowing quick reduction of evaporative area.

Taken from ANCID Report paper 2002

Table 22 - System Delivery Efficiency (portion of diversions from headworks delivered to consumers) - 2001/2002

	O3: Water Distribution Efficiency			
	O3.1: Distribution Efficiency Compared with Similar Systems			
	T2-O.5	T2-O.5	T2-O.8	T2-O.8
	Portion of Diversions Delivered to Customers			
	Own System Past average %	Own System 2001/2002 %	Average for Same Carrier Type 2001/2002 %	Dominant Carrier Type in System
Coleambally	80	79	77.8	Channels
Murray Irrigation	82	83	77.8	Channels
West Corrgan	90	90	77.8	Channels
Narromine Irrigation	ND	ND	77.8	Channels
Bundaberg	93	92	77.8	Channels
Burdakin-Haughton	84	85	77.8	Channels
Dawson Valley	93	92	77.8	Channels
Eton	83	80	95.8	Pipes
Mareeba-Dimbulah	74	89	77.8	Channels
Mary River	85	80	77.8	Channels
Nogoa-Mackenzie	93	79	77.8	Channels
St George	79	80	77.8	Channels
Pioneer Valley	100	100	100.0	Natural
Cressy-Longford	100	100	77.8	Channels
Southeast (Tas)	89	82	95.8	Pipes
Winnaleah	99	100	95.8	Pipes
G-MW Murray Valley	69	77	77.8	Channels
G-MW Shepparton	71	83	77.8	Channels
G-MW Central Goulburn	71	76	77.8	Channels
G-MW Rochester	88	90	77.8	Channels
G-MW Pyramid-Boort	88	84	77.8	Channels
G-MW Torrumberry	68	72	77.8	Channels
G-MW Woorinon	ND	85	77.8	Channels
G-MW Swan Hill Pumped	85	92	95.8	Pipes
G-MW River Diverters	100	100	100.0	Natural
Bacchus Marsh	74	74	95.8	Pipes
Macalister	67	ND	77.8	Channels
Werribee	82	78	77.8	Channels
Sunraysia	90	100	95.8	Pipes
Wimmera-Mallee	50	84	77.8	Channels
Ord Irrigation	72	85	77.8	Channels
South West (WA)	71	76	77.8	Channels
Weighted average	78	79		
Business totals				
SunWater (Qld)	89	97	ND	ND
Goulburn Murray (Vic)	76	74	78	Channels

Average losses equal to or greater than 23%.





***Recommendations to Improve the  
Health of the Coorong and the  
Lower Lakes***

***Prepared by Ray Najar for the  
MDA feasibility study.***

***December 2004***

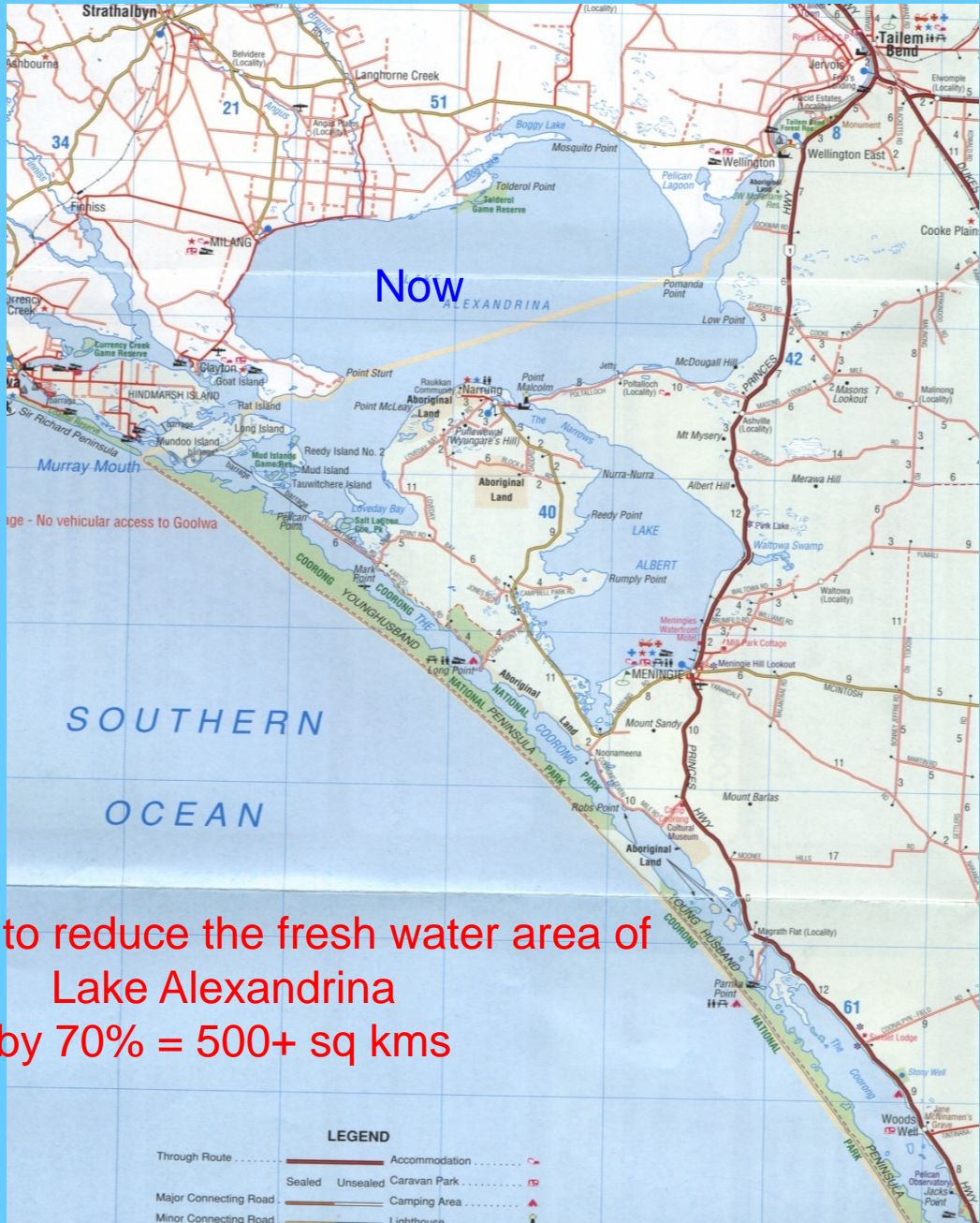
***Abridged Version – 24 slides of 53***

# Project Title: **Lakes Evaporation Loss**

- **Aim: To save 500 Gigalitres of Murray River *fresh* water that is currently lost through evaporation in Lake Alexandrina each year.**
- **Current Phase: Investigation (December 2004)**
- **Objective: To gather as many points as view as possible with the aim to making a recommendation as to if this project should be considered further.**
- **85% becomes a salt water Tidal Basin with controlled releases of fresh water supplied from the River Murray, when available.**



Existing Lower Lakes with approx surface area of 900sq kms  
 Lake Albert = 178 + sq kms Lake Alexandrina = 722+ sq kms



The aim is to reduce the fresh water area of  
 Lake Alexandrina  
 by 70% = 500+ sq kms



## *Recommendations to Improve the Health of the Coorong and the Lower Lakes*

### *Prior to White Settlement:-*

- The Indigenous people, the Ngarrindjeri people, fished, canoed and waded across these areas unimpeded.
- The only Environmental threats were floods, droughts and storms.
- The Coorong flourished because, the balance of the South East inflows and the tidal movements through a 300 metre wide, 6 to 8 metre deep, river mouth to the sea, provided all the right ingredients for fish to breed and migrate, and the migratory flocks of birds fed well on crustaceans and water plant food.
- When droughts were present the tidal movement was felt at Wellington as even Captain Charles Sturt recorded a daily rise there, while camped. He did this, to see if the depth would have been sufficient for large vessels, even a port inland from the sea, which of course at that time he recorded it was not.



# *Recommendations to Improve the Health of the Coorong and the Lower Lakes*

## *Trends in South Australia:-*

- Planned Population growth to 2mill by 2050
- A growing city demands a growing water supply and we trust that “Water Proofing Adelaide” will provide some of those needs.
- With the current advent of Global Warming we are seeing the effects of Climate change.
- The gradual changes to the Ecological cycle is evident in the declining numbers of birds that visit the Coorong and its immediate environment.
- The increase in lakes Salinity will push Agricultural activity into a gradual decline and resulting in an accelerated increase of land salinization.
- The size (width and depth) of the Murray Mouth has gradually reduced from 500metres to less than 100m’s
- Many species of native fish are in decline in the Coorong





# *Typical bridge connection to Alternate Highway 1, 3 sites required (min)*



We can avoid a repeat of this development saga by proper consultation and investigation.

**“Look at the benefits that this bridge is providing this State already.”  
To discard the concept out of hand will not resolve the long term issues.**



# *Recommendations to Improve the Health of the Coorong and the Lower Lakes*

## *Issues and Concerns:-*

- The lack of knowledge concerning the behaviour of the Murray Mouth prior to the construction of the barrages.
- The threats to the Environment by the reversal of 65 years of barrage operations. (Can Ramsar be flexible to reverse the current trend of health decline)
- Would we be offending any Native title concerns ?
- The Coorong under Ramsar, is known to have deteriorated in its ability to support plant, bird and fish life, from a change in practices both at the southern and northern ends.
- Little knowledge of what happened when droughts were present prior to the construction of the barrages and how large were the tidal movements?
- To what extent did the tidal effect have on the Coorong and over what distance?
- Can the proposed Tidal Flux be managed to prevent even greater silting occurring in the upper end of the Coorong?
- Will the morphological model currently being developed be able to simulate the variation of natural conditions for a given years full cycle of all weather events.



# *Recommendations to Improve the Health of the Coorong and the Lower Lakes*

## *Issues and Concerns:- (cont)*

- Is there the **will** to have the current Ramsar Agreement reversed such that restoration can be made for a return to conditions not dissimilar to the early 70's and even before the construction of the barrages. (on the up side the Ramsar agreement would be reinstated once reparations are complete)
- Can the Money raised through development, help pay to restore the environment back to those earlier conditions.
- Will there be opposition to more bridges being constructed from the mainland to the causeway?
- What could be the impact of a large population influx on and near to the lake, and how would it be different to current mainland Marina's and development of water front properties.
- Will the costs be greater than the benefits?
- Are we certain that the increased shipping that would occur through the Murray Mouth to the sea, would be safe?
- Will it be possible to manage a future and potentially large flood as in 1956?





*Typical sand/mud bar at low tide  
adjacent to Tauwitcherie Barrage April 1997*



# 2003 C/W 2004

Figure 3: Total System Storage (indicative forecast for this season)

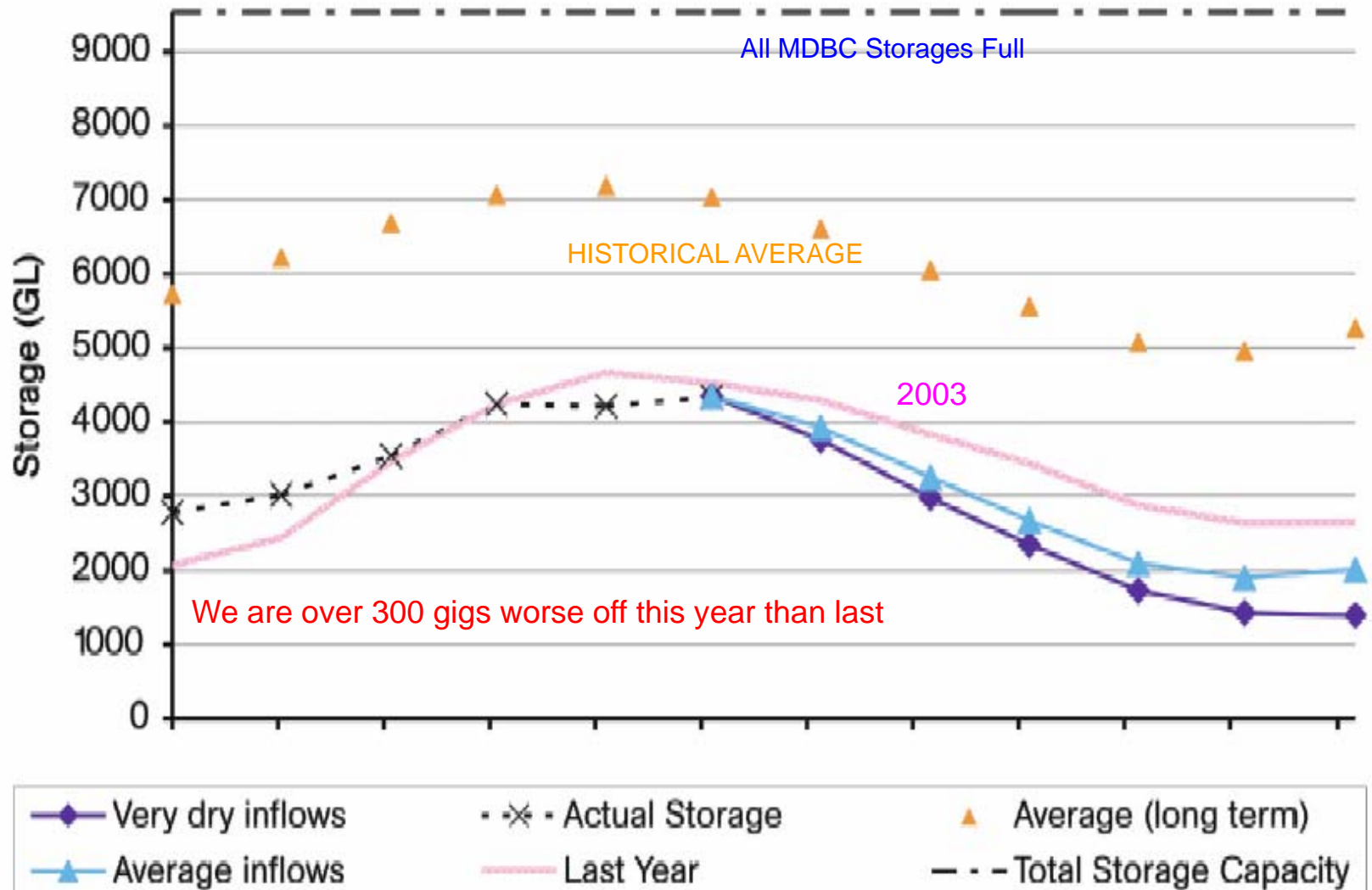
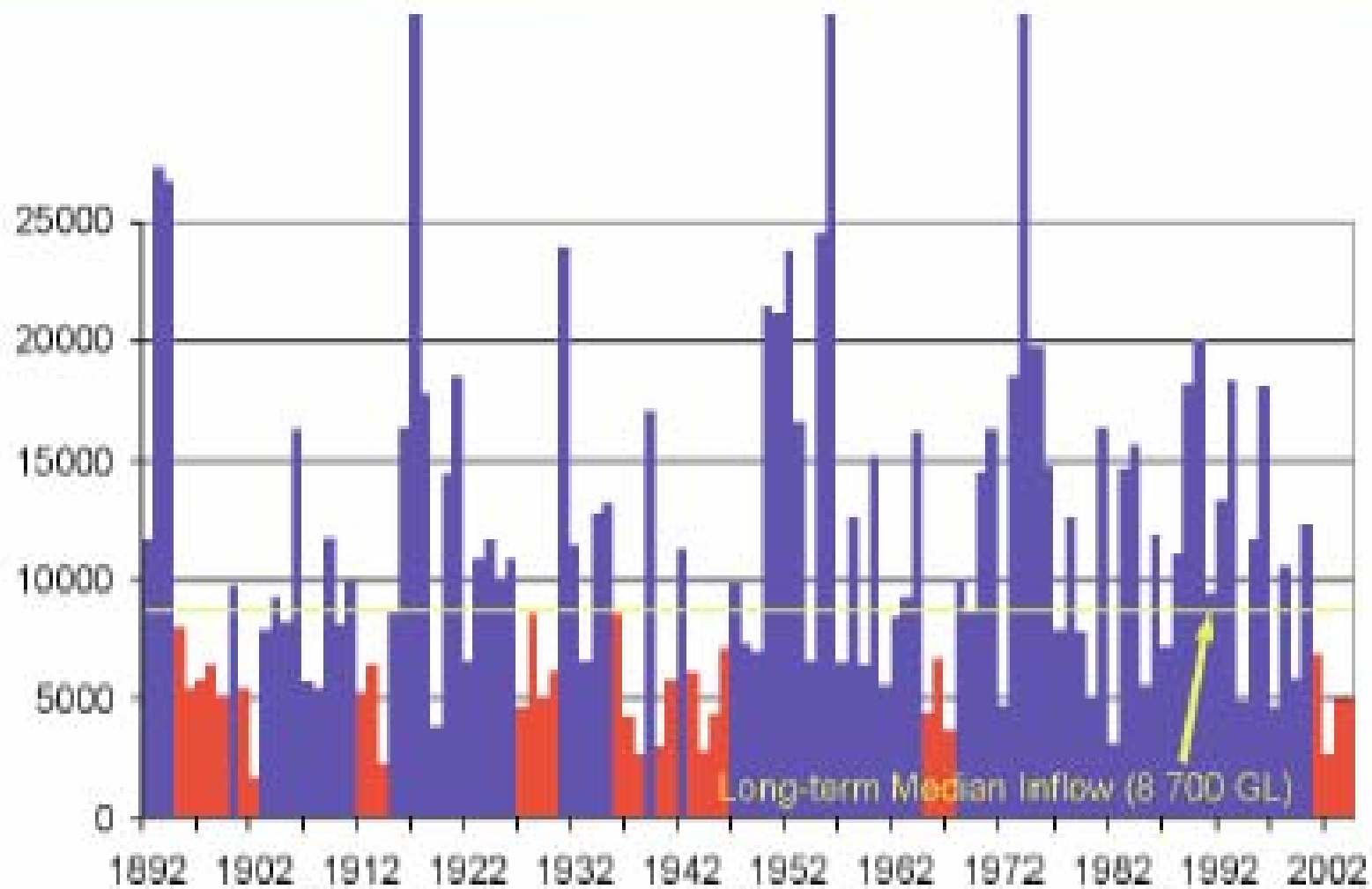


Figure 1: River Murray System inflows showing extended drought periods





## *The Northern Storages\**

•Beadmore	Qld	101gigs
•Leslie	Qld	108gigs
•Glenlyon	Qld	253gigs
•Pindari	NSW	312gigs
•Copeton	NSW	1,364gigs
•Split Rock	NSW	397gigs
•Keepit	NSW	423gigs
•Burrendong	NSW	1,678gigs
• <u>Windamere</u>	NSW	<u>368gigs</u>
• <u>Totals</u>		<u>5,004gigs</u>

- \*Tributaries of the Darling River Only*

*Not including Many smaller public and larger private storages, nor the Menindee lakes, and not controlled by the MDBC.*



## *The Southern Storages\**

*Note that MDBC storages = 9,300gigs*

Dartmouth	Vic	3,906gigs
Hume	NSW/Vic	3,038gigs
Lake Victoria	NSW	680gigs
Burrinjuck	NSW	1,026gigs
Blowering	NSW	1,631gigs
Eildon	Vic	3,390gigs
Lake Eucumbene	NSW	1,875gigs
Snow-Murray(pt)	NSW	828gigs
Other(Tumut/Toma)	NSW	3,500gigs
<u>Totals</u>		<u>19,874gigs</u>

*\*Tributaries of the Murray River, West of the Hume are not included. Many smaller public and private storages. Menindee Lakes (1,916gigs) on the Darling above 640 gigs is additional to SA when available.*



# *The Palm in the UAE*

*Lake Alexandrina causeway requires 15 million cubic metres  
this project claims to be 75 million cubic metres*



## **Circling the World**

If all the fill materials used to build one Palm island were placed end to end, a wall two meters high and half a metre thick could circle the world three times.



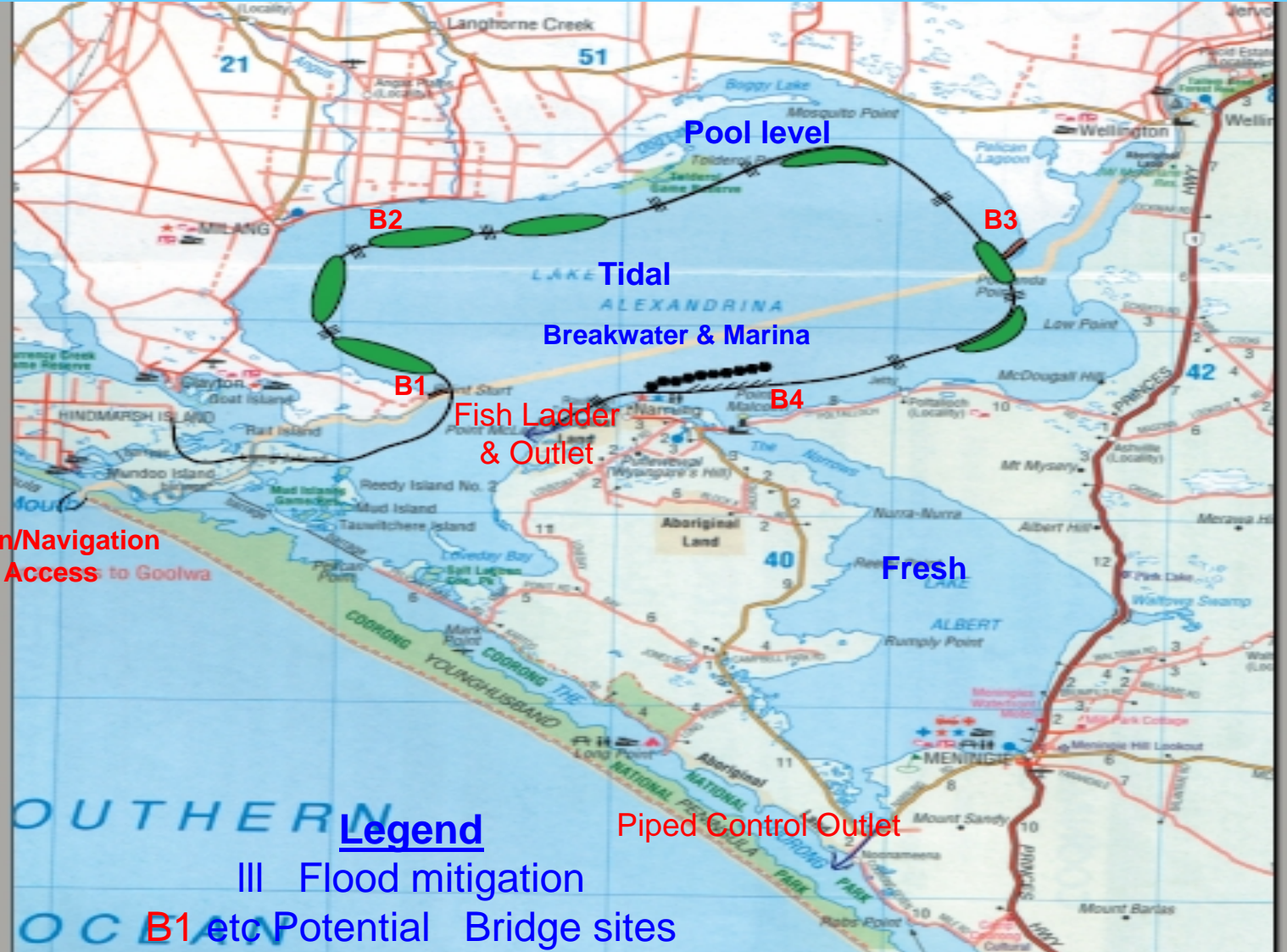


The Proposal requires a great deal of lateral thinking  
Do the benefits out way the dis-benefits

1. This Proposal is not dissimilar to the Twin Lakes system proposed by KBR – Halliburton, who have been engaged in a study of the region for approx 5years.
2. Some of the similarities include passing fresh water through Lake Albert into the Coorong via a multiple pipeline adjacent to Noonameena.
3. This proposal envisages, **diverting a major portion of the flow past the Township of Goolwa** retaining the Goolwa and Mundoo Barrages.
4. KBR has not set out to offer the social perspective that this proposal does nor does it imply population growth potential from the water savings.
5. KBR is vitally concerned regarding the Technical issues and the importance of the morphological model being developed.
6. The trial simulations, to ascertain what silt load if any will remain inside the mouth, as is currently happening under the no flow conditions of the river, is critical to the debate.



The Proposal is to construct a Main road that has a total length of 75kms and incorporates four new bridges to provide access to Tourism and residential development and an alternate route for Highway One. Assuming better than average population growth, consideration for a major transport corridor from Mt Barker to Goolwa and Milang is probable.







## *12 P0sitive Aspects covering Environmental Flows in South Australia to Improve the Health of the Coorong and the Lower Lakes*

1. Improved **fish breeding environment**, both fresh and salt water, due to an increase in habitat sites.
2. Greater areas of **feeder mud flats** 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 .600 AHD to .800AHD
6. Reduction of **EC Levels in Lake Albert** by a minimum of 30%. (The Noonameena Pipeline)

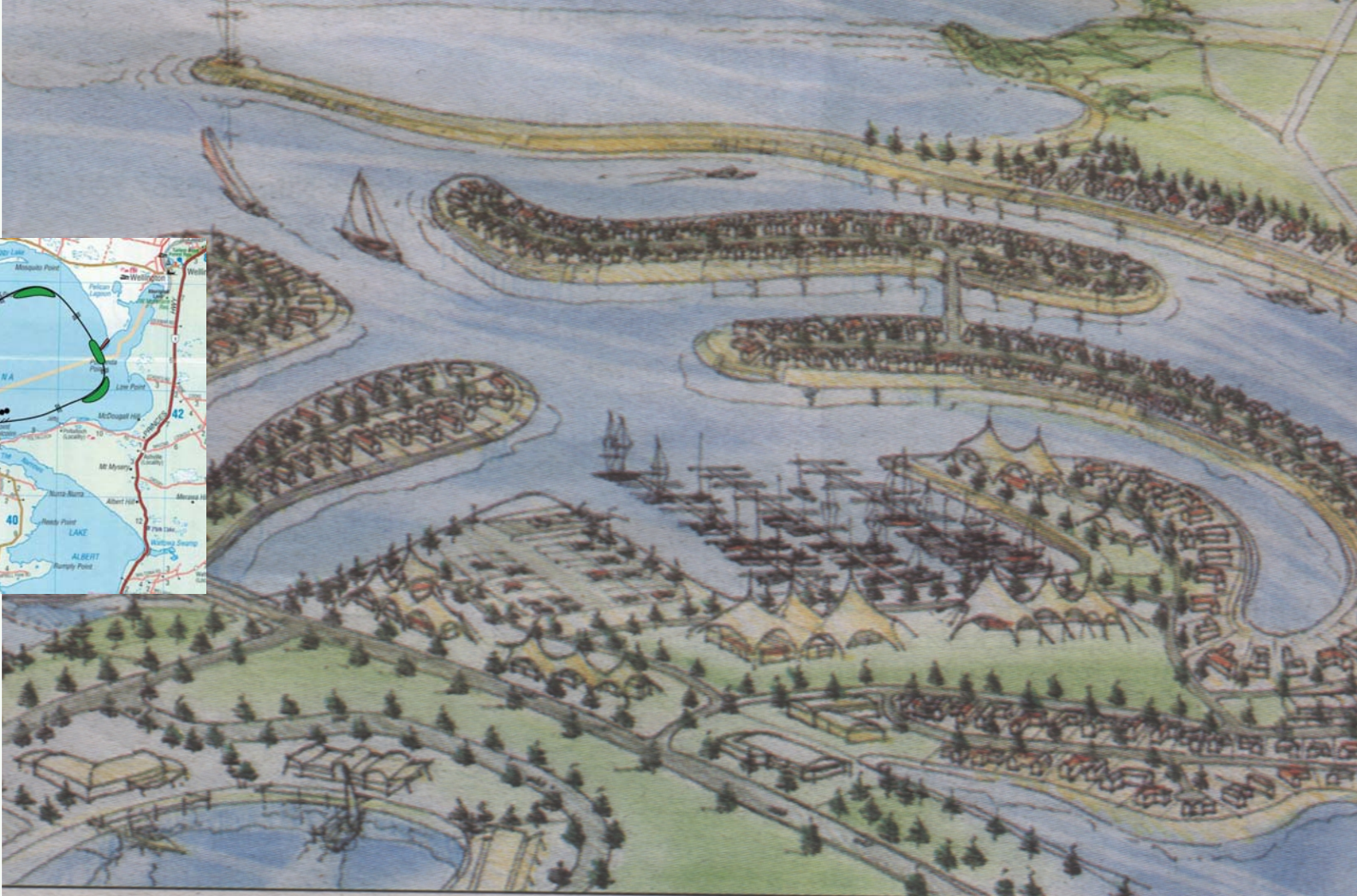


## *12 P0sitive Aspects covering Environmental Flows in South Australia to Improve the Health of the Coorong and the Lower Lakes (cont'd)*

7. **Constant discharge** through the Goolwa and Mundo Barrages with additional outlets at Pt. McLeay and Lake Albert into the Upper/nth'n 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.*  
(Groin prevents sand ingress, hence no dredging \$'s)
9. Better and **safer navigation** from Wellington to Goolwa and to Lake Albert.
10. A reduction in **Evaporation losses** of approx 500 gigalitres per annum to be used for **environmental flows** through the Murray Mouth.
11. A new **population growth centre**, with the ability to have many thousand Waterfront properties and Marinas.
12. A major **expansion of the Boating & Tourism Industry** in South Australia, providing jobs and associated service industries.



# *Proposed Marina @ Ceduna 50% sold off the plan & awaiting approval*



**APPEALING:** An artist's impression of the Ceduna Keys Marina project.

Taken from Advertiser 27 - 09 - 04





# *Recommendations to Improve the Health of the Coorong and the Lower Lakes*

## **Potential to repay all development costs:-**

- With the completion of the basic core embankment causeway, pre invited developers can begin to engage with all departments regarding the planning for Water front properties and Marina's.
- The value of the sites would vary from \$150,000 to \$250,000. This would also cover all improvements required to rehabilitate degraded environmental sites and reinstate lost biodiversity to the region.
- **At an average cost of \$200K, this equates to just 5,000 sites to raise the approx \$1billion.** (Consider No of sites on Qld. South Coast)
- When the first of 4 bridge sites are complete uninterrupted access can be achieved for developers to commence work.
- The Indigenous people, the Ngarrindjeri people, would be consulted as to the proposed sites for the new bridges and the location of the residential development sites and have their own requirements for potential Tourism at Raukkan and Hindmarsh Island. **(Indicated a desire for direct access into the Coorong)**



# *Typical node Development Up-market Home units as in Encounter Lakes*



Encounter Lakes Victor Harbour



# 70% + of Lake Alexandrina reverts to a Tidal basin



**There are benefits and dis-benefits, but rather than wait to watch this region continue to degrade let us do some hard yards and really test our capacity for change**

## LEGEND

Through Route	Sealed Road	Unsealed Road	Minor Connecting Road	Accommodation	Caravan Park	Camping Area	Lighthouse
.....	————	————	————	.....	.....	.....	.....



# *Acknowledgements*

- The Murray Darling Basin Commission – Storage and Salinity Forecasts; Select photos
- The E&WS Lake Albert Study 82/62 -1983
- Indigenous Basin-wide Gathering Conference papers 19-21 May 2004
- Aboriginal Lands Trust – Mr. John Chester
- Ramsar – Convention on Wetlands of International Importance
- CSIRO – Water for a Healthy Country
- The RAA – Maps
- The Adelaide Advertiser.
- The Murray Darling Association – G. M's photos





# Thank you

This is a complex task but the problem cannot be fixed in isolation.

The Environmental flow issue has many anchors and without lifting **them all**, as the ship cannot progress, nor may we, just as sure as lightning rarely strikes twice in the same place.

