



Policy Pioneers Conference

*'The Murray-Darling Basin Commission –
Leading Water Reform in Australia'*

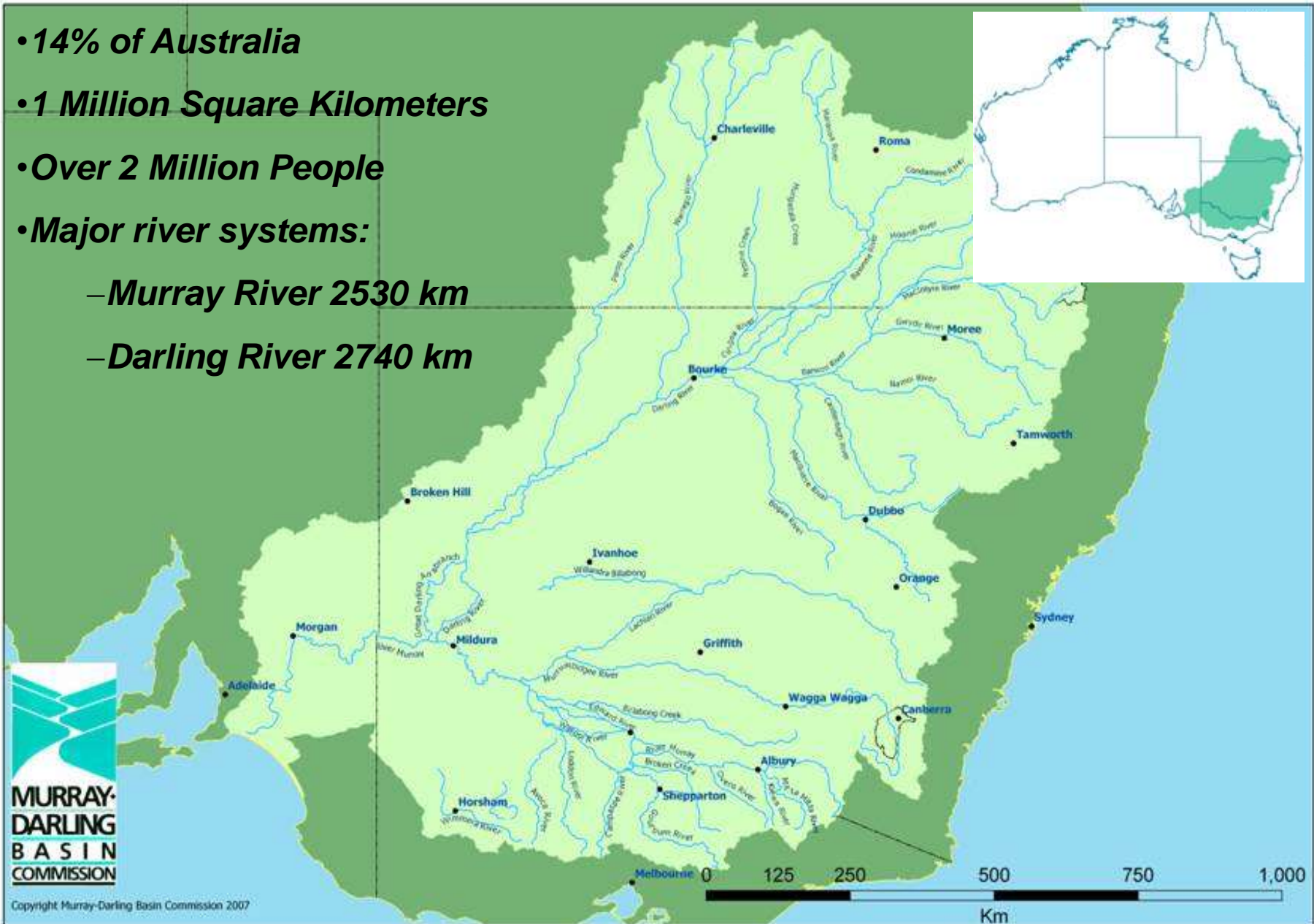
Wendy Craik

Chief Executive

Murray-Darling Basin Commission

Murray-Darling Basin

- *14% of Australia*
- *1 Million Square Kilometers*
- *Over 2 Million People*
- *Major river systems:*
 - *Murray River 2530 km*
 - *Darling River 2740 km*

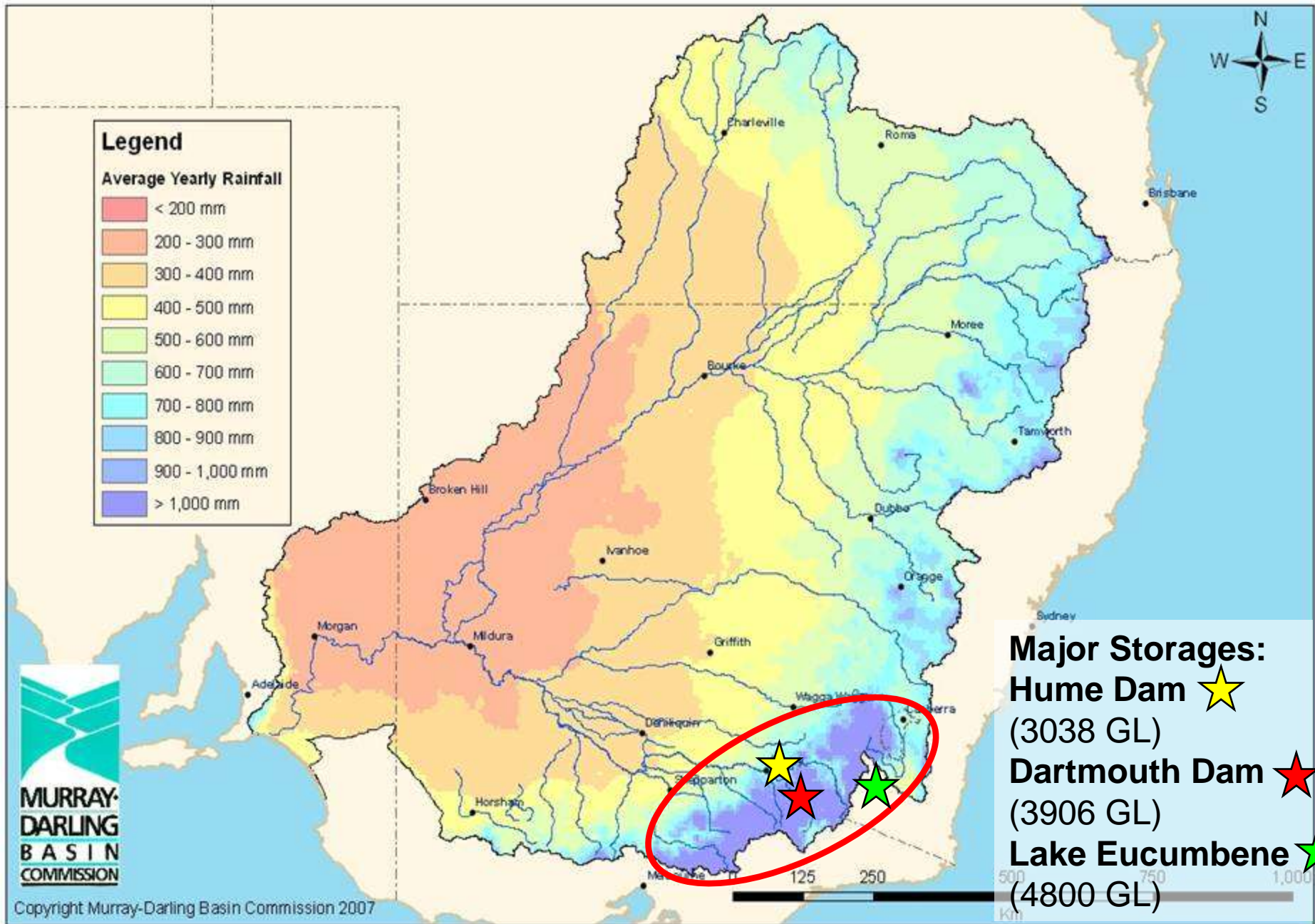




MDB / Canada Size Comparison

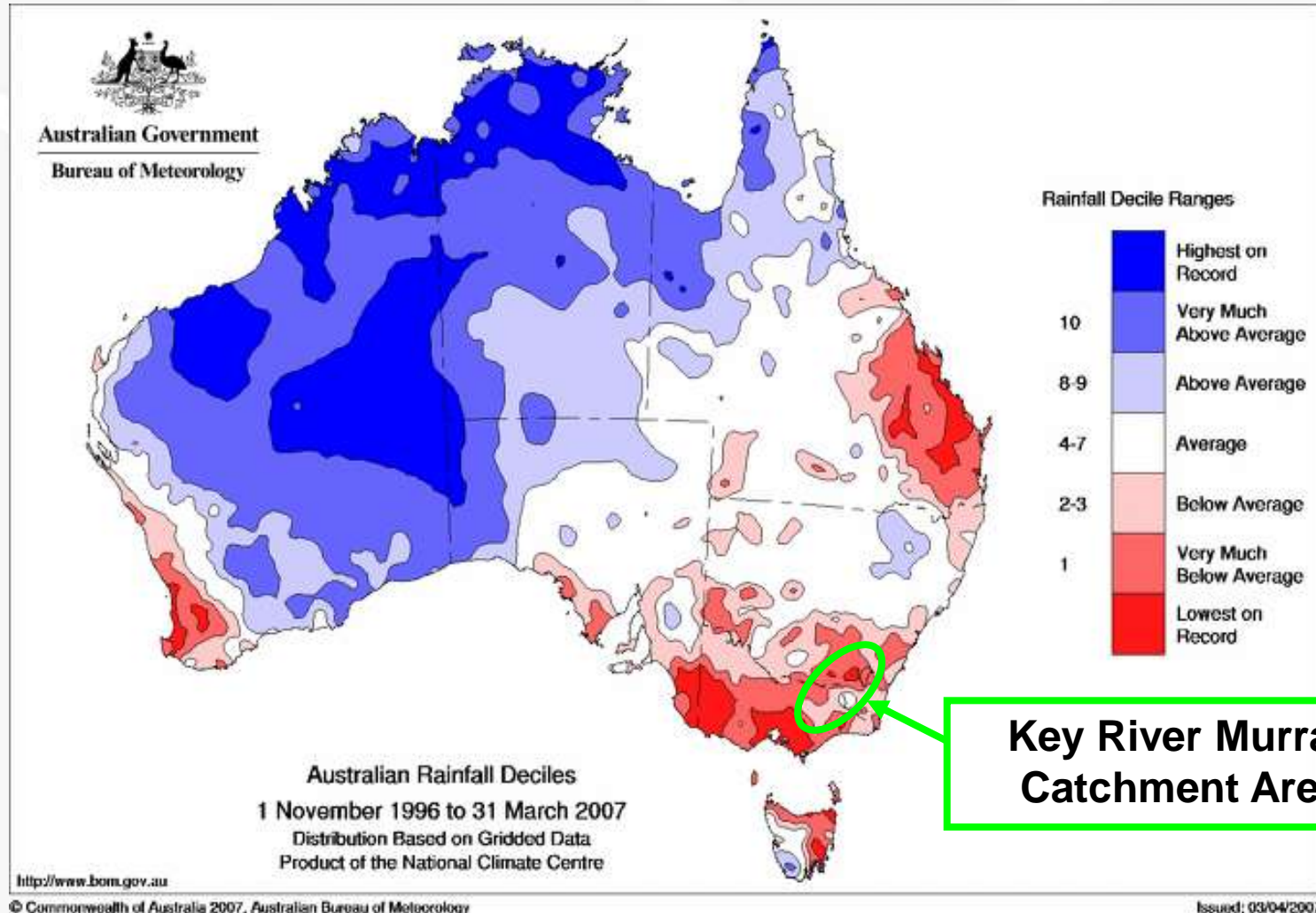


Rainfall Distribution in the Basin



A Record Drought

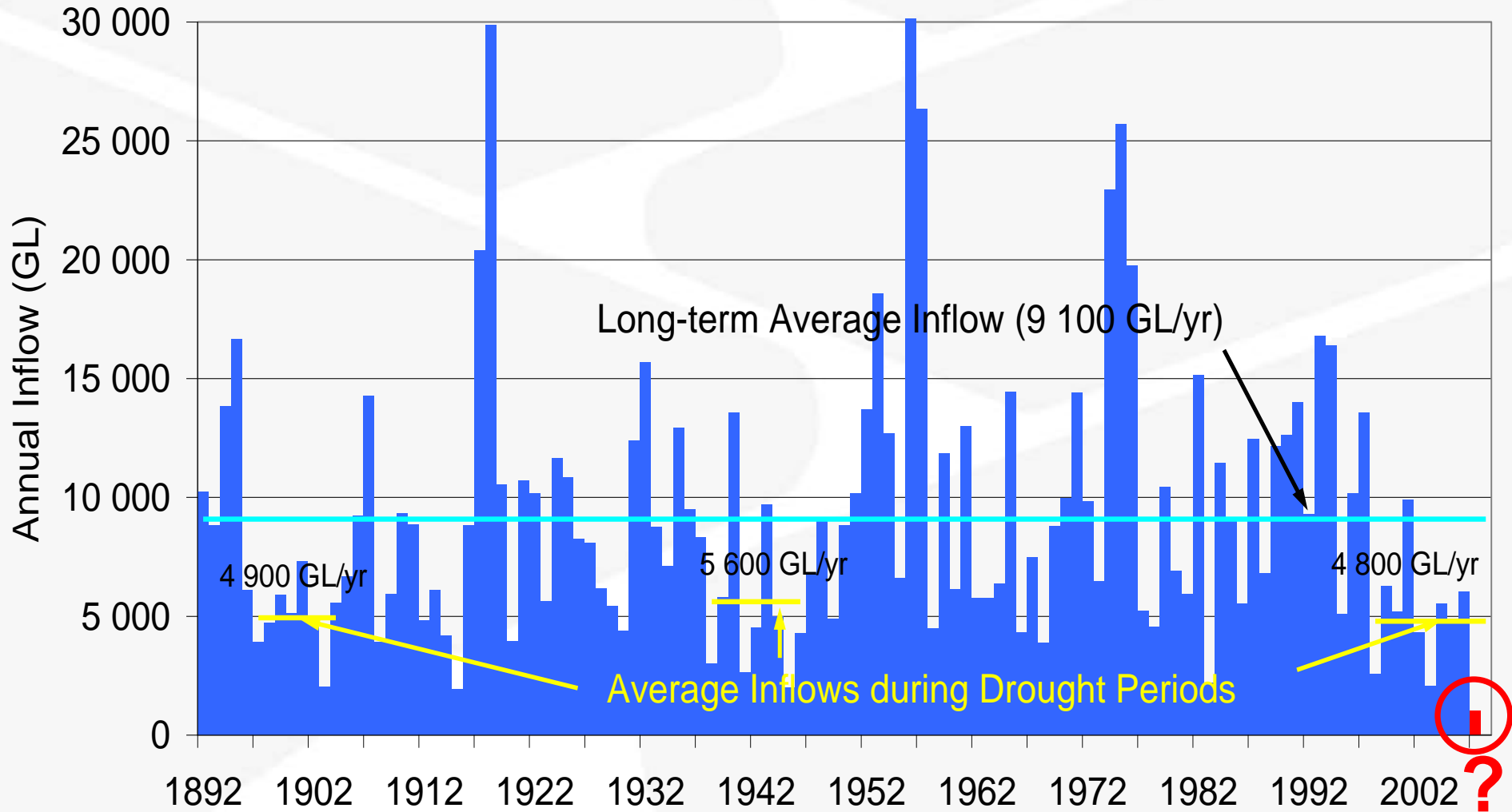
10 years November 1996 – March 2007





Total Murray System Inflows

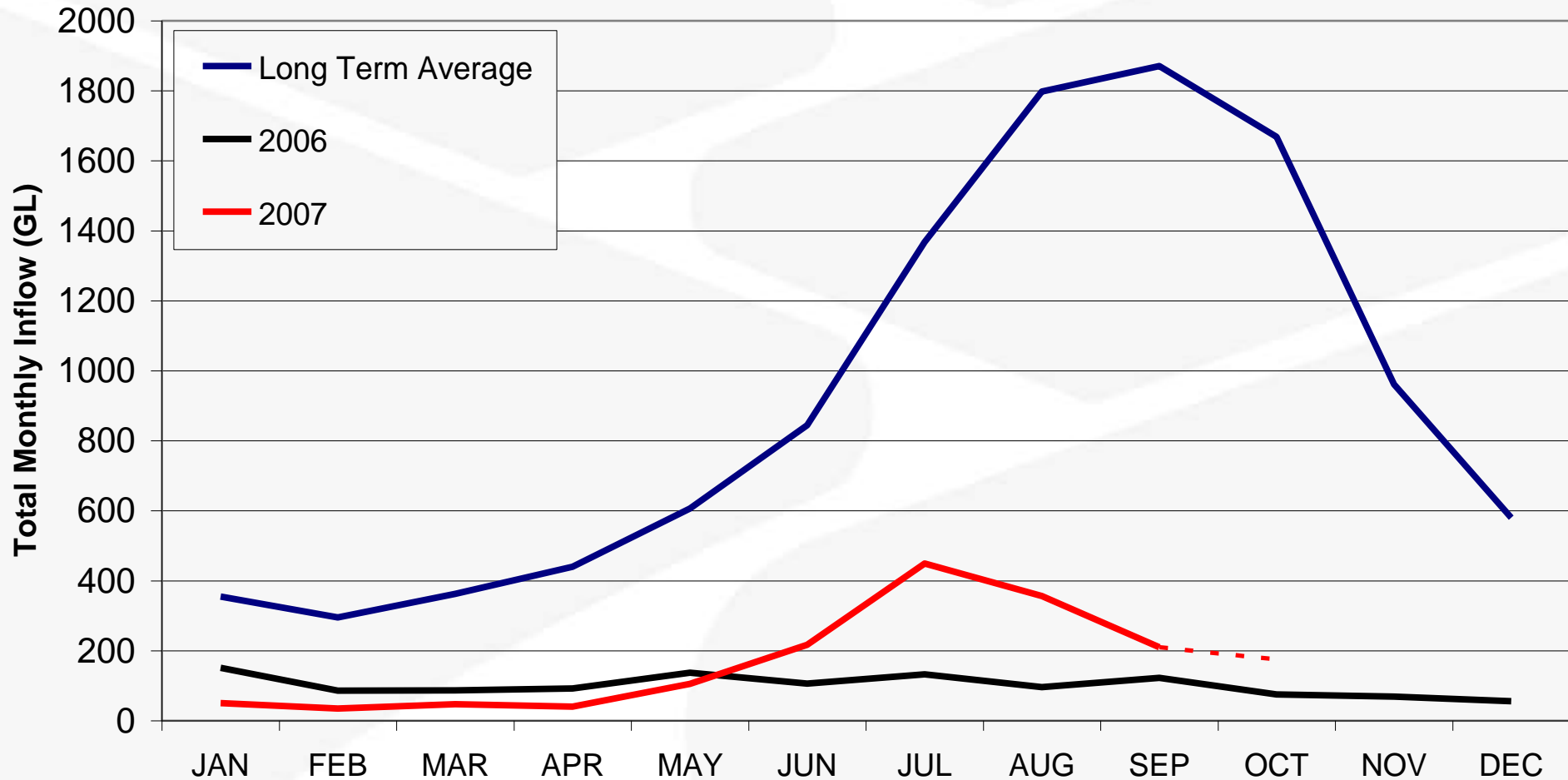
Total River Murray System Inflows (excluding Darling River)
Modelled Annual Inflows - current conditions





River Murray Inflows

Total Inflows to the River Murray (excluding Snowy)
Long Term Average and Selected Years





How Critical is the Situation?

- Storages are at record lows
- Inflows are at record lows
- Through the 'wettest' part of the year
- Small chance of avg inflows for 07/08
- It will take multiple years to recover storage
- The outlook is grim
- **The impacts on communities, irrigators and the environment will be significant**



MDBC Structure

Six Governments

Federal

NSW

VIC

SA

QLD

ACT

Murray–Darling Basin Ministerial Council

Murray–Darling Basin Commission

One independent president

Two commissioners from each Government

Community
Advisory
Committee

Commission Office

Technical and Administrative Secretariat



MDBC Governance

Murray–Darling Basin Ministerial Council

Murray–Darling Basin Commission

Corporation
Advisory
Committee

River Murray
Water
Committee

Natural
Resource
Management
Committee

Commission
Strategy
Committee

The Living
Murray
Committee

Australian
Corporation
Committee

Many lower-level 'Inter-jurisdictional' committees are in place, each with ownership of a specific area of MDBC Business

Bottom up, consensus based
policy development



The MDBC has many 'On the Ground' Successes

Day to Day River Management:

- | | |
|---------------------|---------------------------------|
| 1. River Operations | 4. Interstate Water Trade |
| 2. Asset Management | 5. Drought Contingency Planning |
| 3. Water Accounting | |

Sustainable Resource Management:

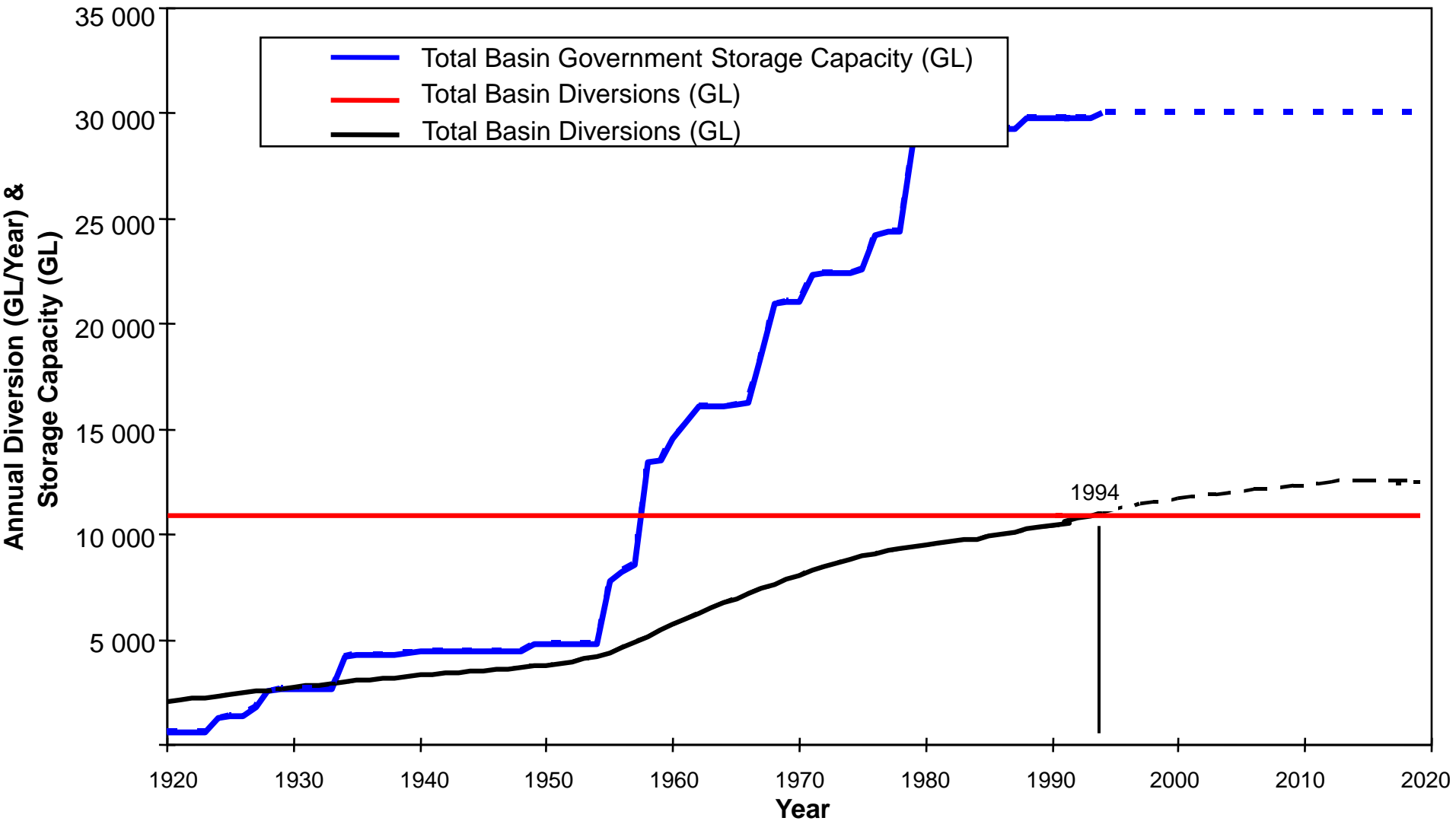
- | | |
|-----------------------------|------------------------------|
| 6. The Cap on Diversions | 7. Basin Salinity Management |
| 7. The Living Murray | 10. Native Fish Strategy |
| 8. Water Quality Monitoring | |

Planning for the Future:

- | | |
|--------------------------------|-------------------------------------|
| 11. Sustainable Rivers Audit | 14. Risks to Shared Water Resources |
| 12. Northern Basin Project | 15. Water Policy Development |
| 13. Integrated Basin Reporting | |

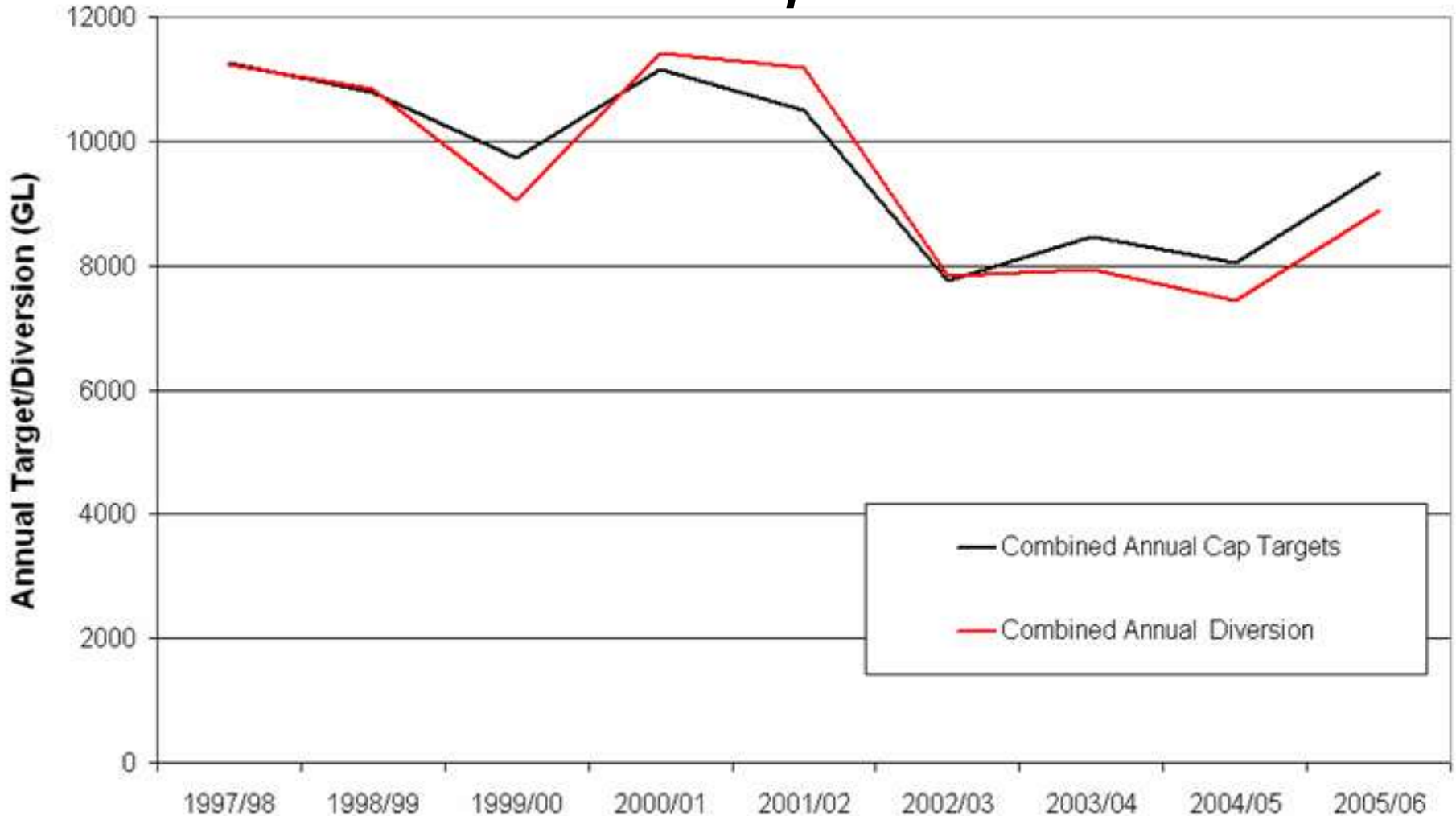


The Cap on Diversions



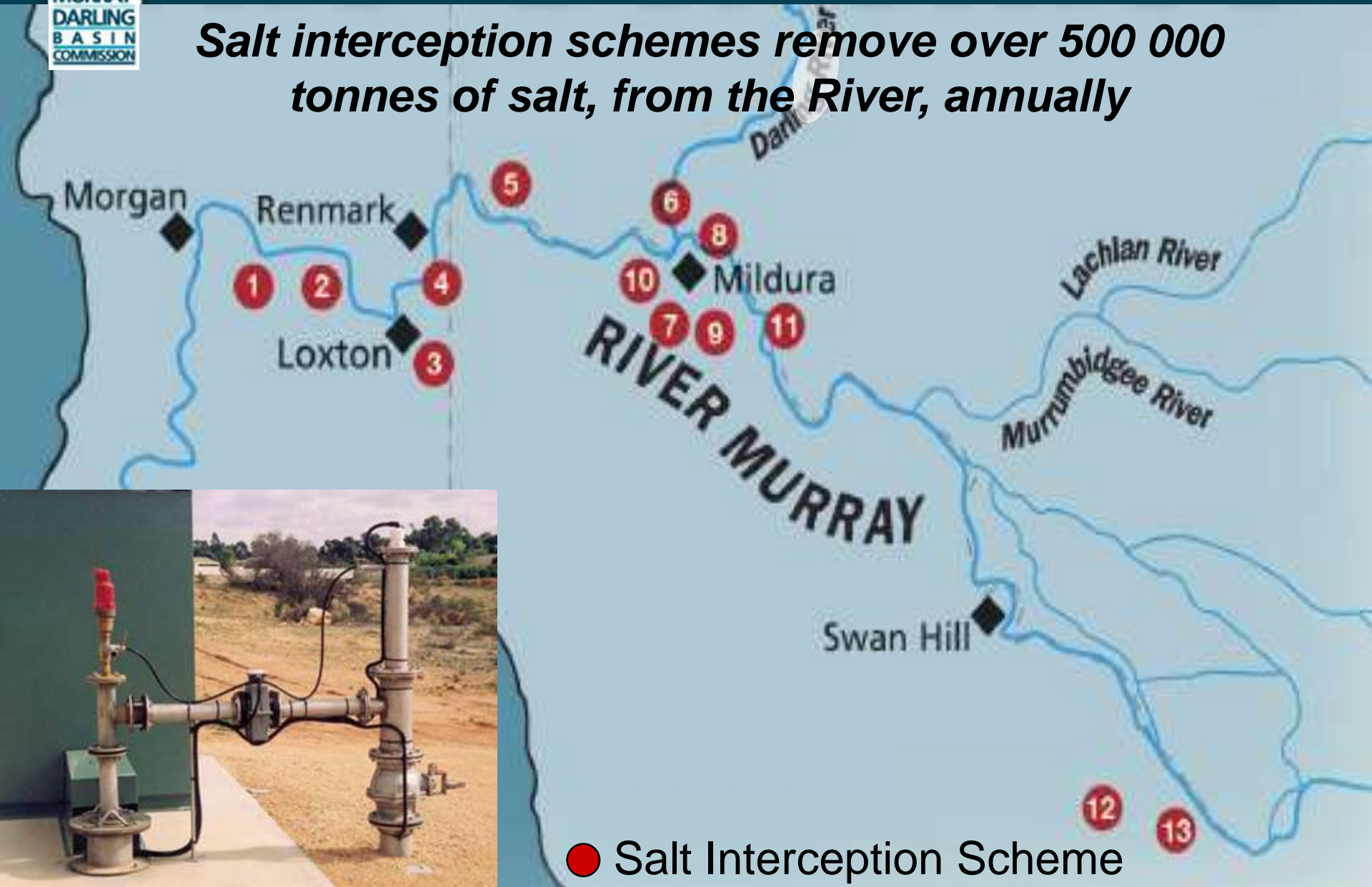
The Cap on Diversions

“The Cap limits extractions at the 93/94 levels of development”



Basin Salinity Management Strategy

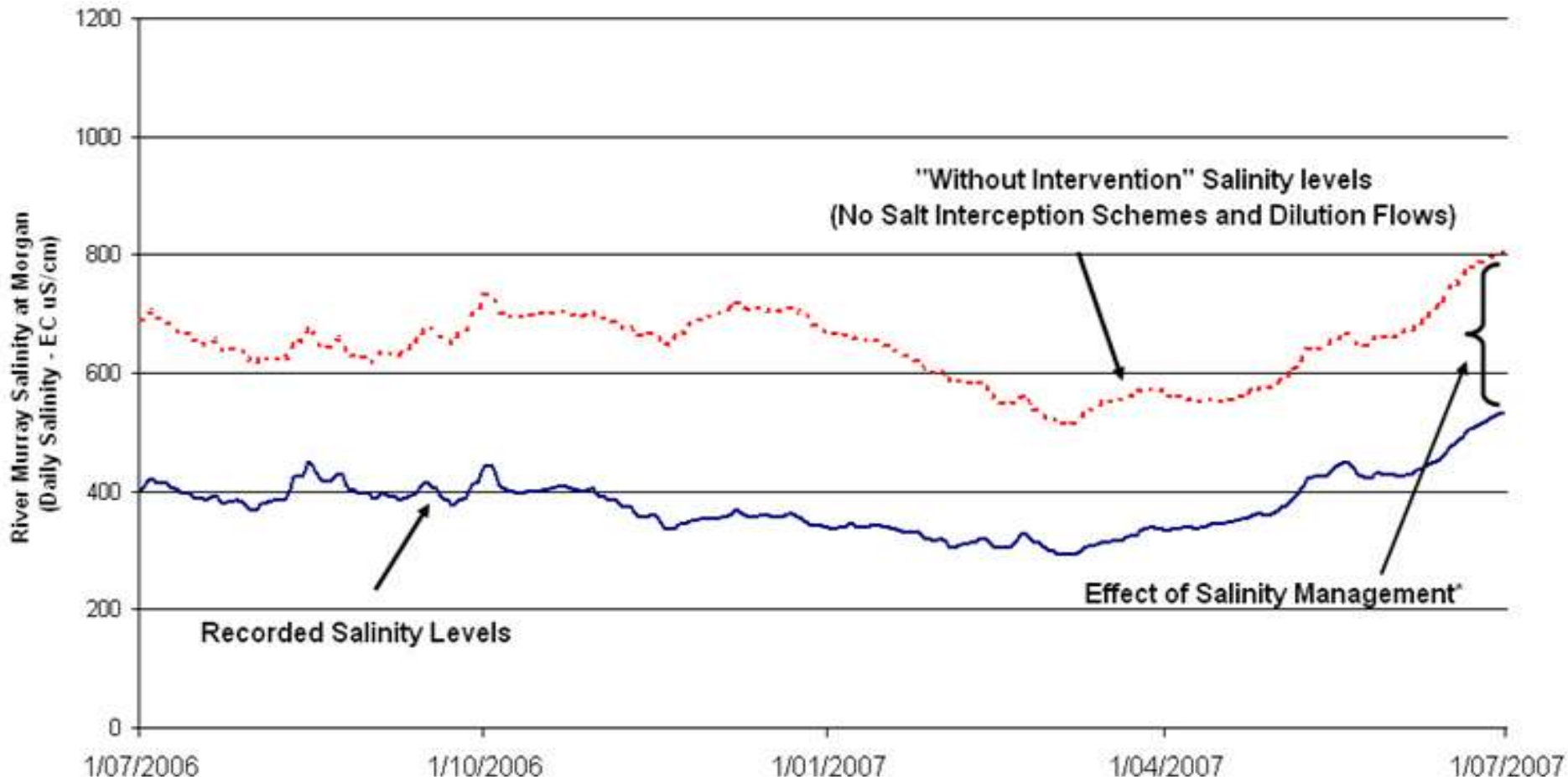
Salt interception schemes remove over 500 000 tonnes of salt, from the River, annually





The Basin Salinity Management Strategy

“The BSMS has significantly reduced salinity levels at Morgan”



* Salinity effect ranges between 220 EC (20th percentile) and 303 EC (80th percentile) for this period.

SOUTH AUSTRALIA

The Great Anabranch of the Darling River

Darling River

Chowilla Floodplain (including Lindsay-Wallpolla)

4

River Murray

3

Hattah Lakes

2

Gunbower, Koondrook-Perricoota Forests

Barmah-Millewa Forest

1

Edward River

Wakool River

Murrumbidgee River

Goulburn River

Mitta Mitta River

Murray Mouth, Coorong & Lower Lakes

5

VICTORIA

First Step Decision
500 GL of water recovery
\$500 m for water recovery
\$150 m for Environmental Works & Measures
Additional funds provided by Australian government in 2006

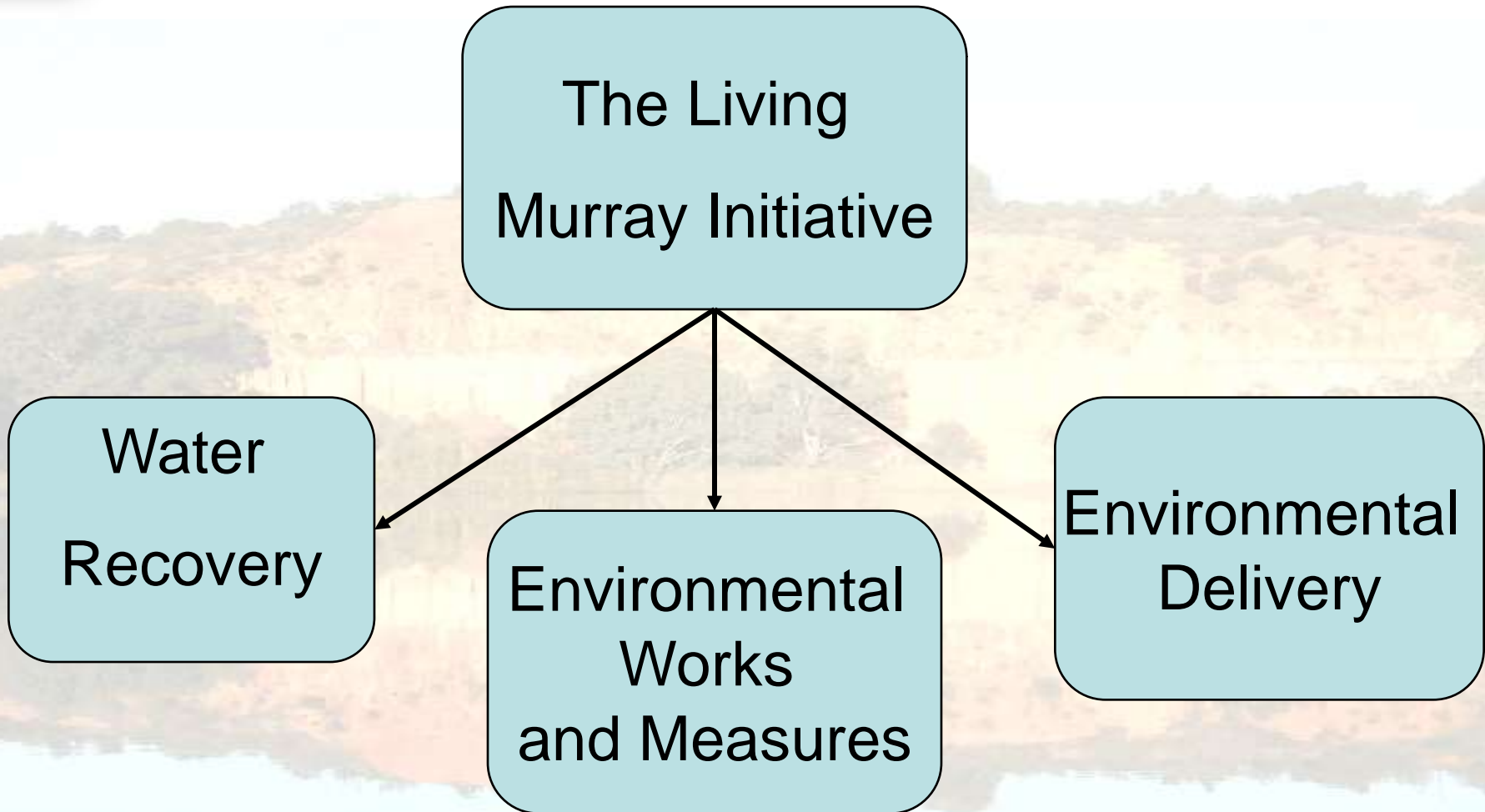
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River Murray Channel

Murray-Darling Basin

Six icon sites identified for their high conservation, recreation, cultural, heritage and economic value

The Living Murray





TLM Pilot Water Purchase



MEDIA RELEASE

Date: 13 August 2007

First phase of water purchase pilot closes early because of strong response

A Murray-Darling Basin Commission call to irrigators, water brokers and others in the southern Basin to sell water entitlements has closed only four weeks into an eleven-week pilot project.

Chief Executive Dr Wendy Craik AM said the MDBC had received more than enough expressions of interest to meet the project's aim of buying up to 20 gigalitres (or about 0.2% of the average water diversion from the southern Basin) at market prices.

"We are delighted with the response," Dr Craik said. "However, this is just the first phase of the pilot and much still needs to be done. For example, we now need to arrange the conveyancing or transfer of ownership of the water entitlements."

Any recovered water will be used eventually for The Living Murray Environmental Watering Plan to improve ecological conditions at the so-called "icon sites". It will result in healthier wetlands and help wildlife such as waterbird breeding.

"However, I want to stress that because of the current prolonged drought, little water is likely to be available from these entitlements in 2007/08," Dr Craik said.

The Living Murray program was established in 2002 in response to evidence showing a decline in the health of the River Murray system.

The program's "First Step" focuses on improving the health of the six "icon sites" along the river. It aims to recover up to 500 gigalitres of water for the environment by June 2009 through improving water infrastructure and by buying water entitlements from willing sellers.

"Recovering water by developing and implementing infrastructure projects, which the partner governments are also doing, can produce many lasting benefits but can be expensive and can take a long time to implement," Dr Craik said. "On the other hand, buying water entitlements within existing market safeguards and rules can be done quickly and cost effectively."

She said the pilot project had already taught the MDBC some valuable, practical lessons.

"We have learnt that people appreciate the opportunity to submit non-binding expressions of interest and that they liked receiving feedback rapidly - in this case, within a week. No doubt, we will learn more from the pilot as it proceeds."

Dr. Craik said the Ministerial Council may agree to more such market based measures in The Living Murray program in the next two years, along with infrastructure water savings projects.

Media contact: Sam Leone, MDBC Media Liaison Officer, phone 0407 006 332

Murray water order filled early

IRRIGATORS have rushed to sell water to the Murray Darling Basin Commission for the Murray, forcing it to close its 20,000 megalitre environmental water order seven weeks early.

Nearly 200 irrigators from across NSW, Victoria and South Australia have offered to sell water to the Murray at prices ranging from \$750-\$3500 a megalitre, filling the order, which had been due to close on September 28.

Chief executive Wendy Craik said although little water would be available this year due to the low allocations, the success of the pilot meant further on market purchases would certainly be considered. Farmers have opposed on market purchases for the environment fearing the prospect of Governments with deep pockets competing with agriculture for increasingly scarce water resources.

■ For the full story log on to www.stockandland.com

Water plan success

A PILOT project to buy back water from the River Murray has closed after only four weeks because of a better than expected response.

The Murray-Darling Basin Commission put out the call to irrigators and water brokers in a bid to buy back 20 gigalitres of water over 11 weeks, but achieved the target within four weeks.

Commission chief executive Dr Wendy Craik said they were "delighted" with the response.

The project aims to recover up to 500 gigalitres of water by June 2009.

Farmers rush to cash in rights

Selina Mitchell

FARMERS have rushed to cash in their water entitlements, selling 20 billion litres worth under a scheme that aims to revive the Murray River.

The call for water sales has closed four weeks into an 11-week pilot being conducted by the Murray-Darling Basin Commission. About 180 irrigators have offered their water for sale, for up to \$3500 a megalitre.

The popularity of the pilot is in stark contrast to a failed attempt by the Howard Government to

buy water from irrigators for the environment, undertaken earlier this year. The failed scheme relied on farmers finding extra water through efficiency measures such as fixing leaky pipes, but the commission pilot simply invited irrigators to sell water entitlements at market prices.

It is this less complex purchase system that is likely to be used to deal with over-allocation under a \$10 billion federal take-over of the Murray-Darling now before parliament.

The water purchased in the pilot will be used to address

environmental issues at wetlands and red gum forests along the Murray.

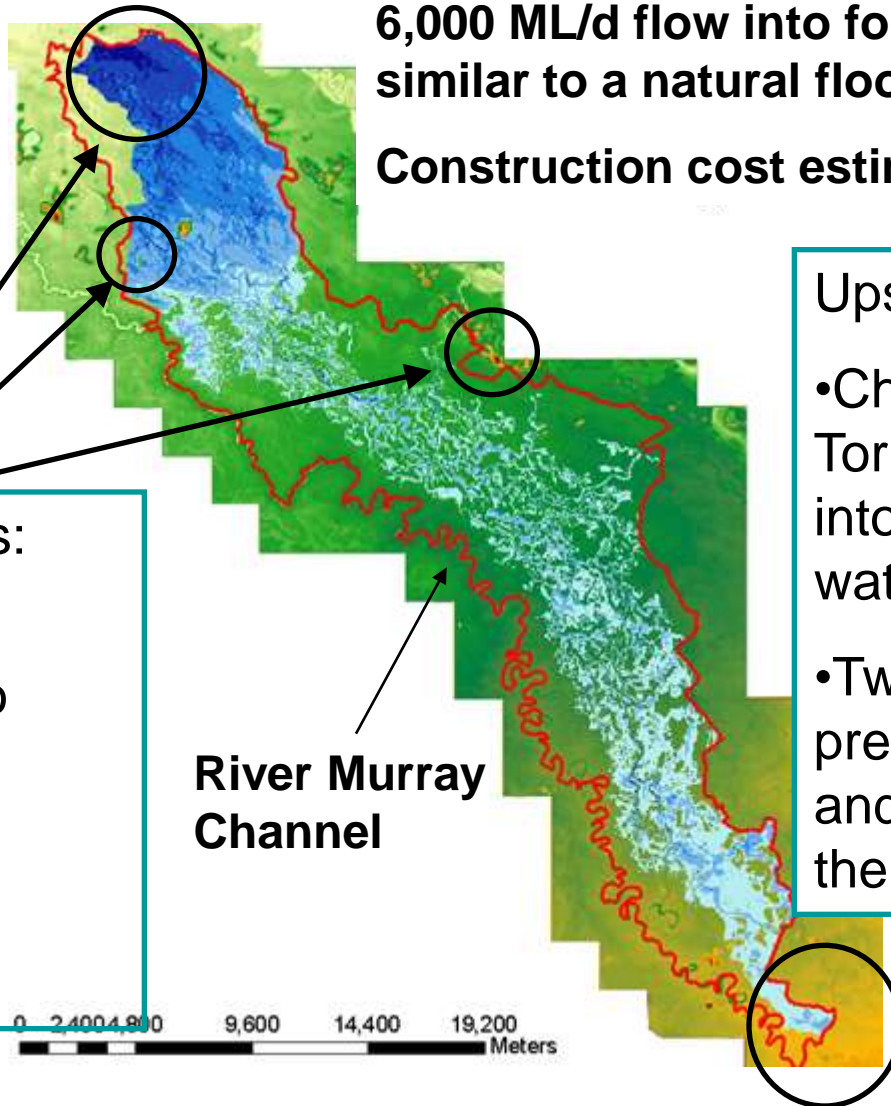
An increasing number of irrigators are investigating the sale of their entitlements because of the drought, experts said yesterday. "They need the cash and as the dry continues, more and more people will want to sell," the managing director of Percat Water, Bob O'Brien, said.

According to the August drought report, storages in the Murray-Darling Basin are about 2000 billion litres less than at this time last year.



Koondrook Forest Flood Enhancement Project

6,000 ML/d flow into forest achieves flooding similar to a natural flood of 30 to 40,000 ML/d
Construction cost estimated to be \$40 million



Upstream works

- Channel from Torrumbarry weir pool into forest to deliver water
- Two regulators to prevent short circuiting and return of flows to the River Murray

Downstream works:

- Channel to return flows from forest to River Murray
- Five regulators to contain water and control outflows

River Murray Channel

0 2,400 4,800 9,600 14,400 19,200 Meters

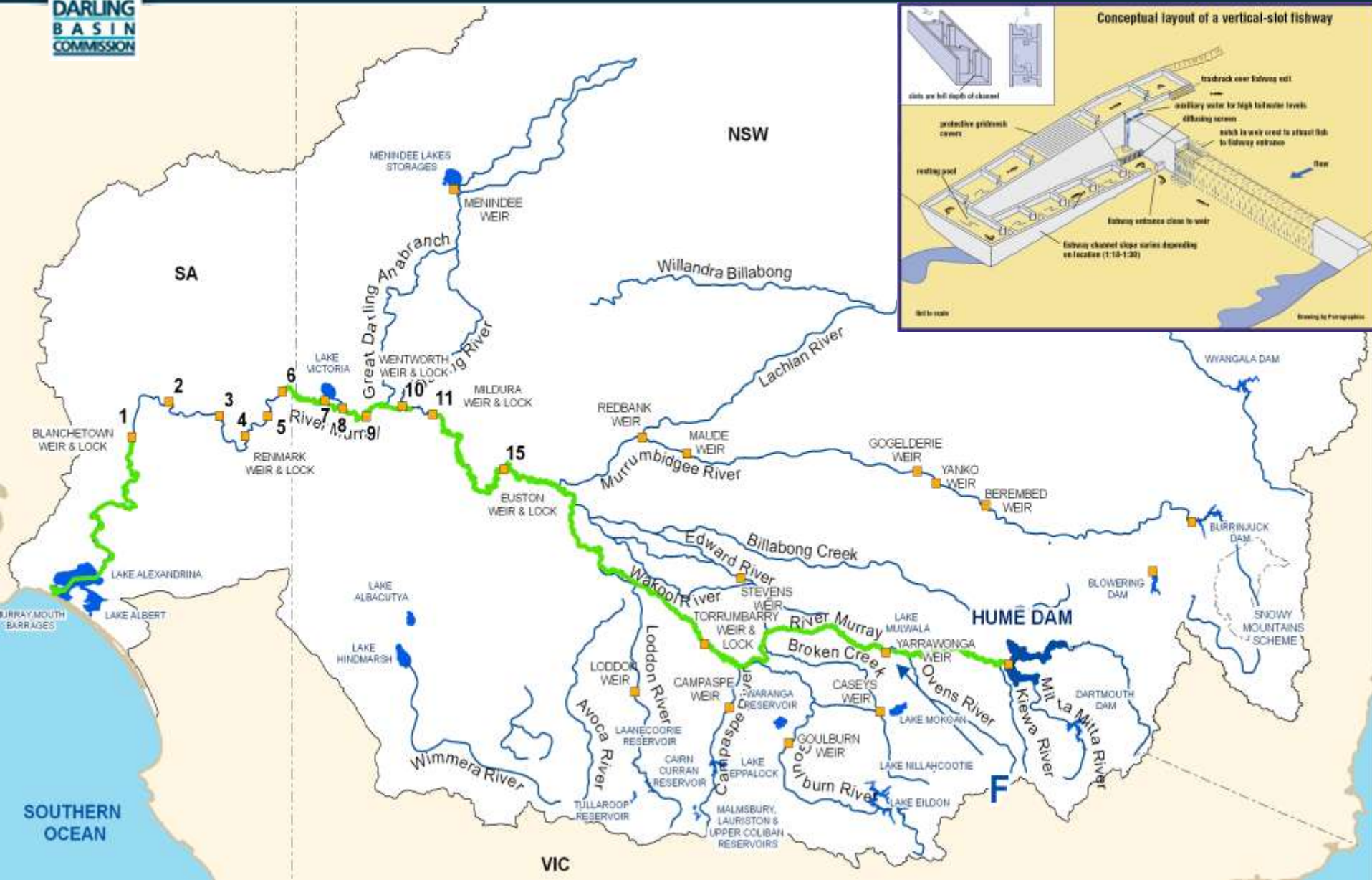
Lake Wallawalla Inlet Regulator

Cost ~ \$1.4m

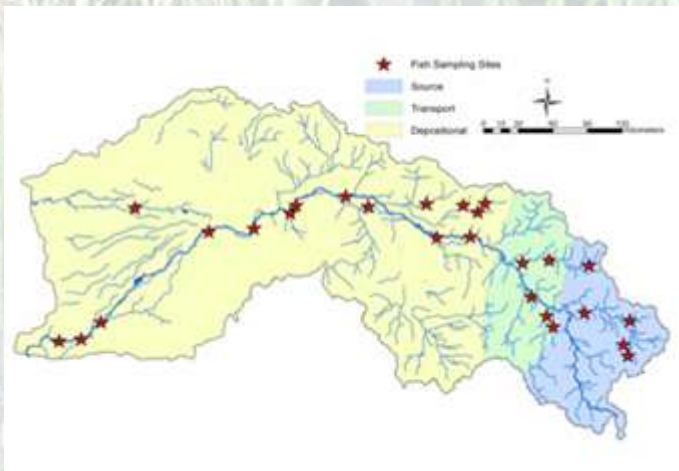
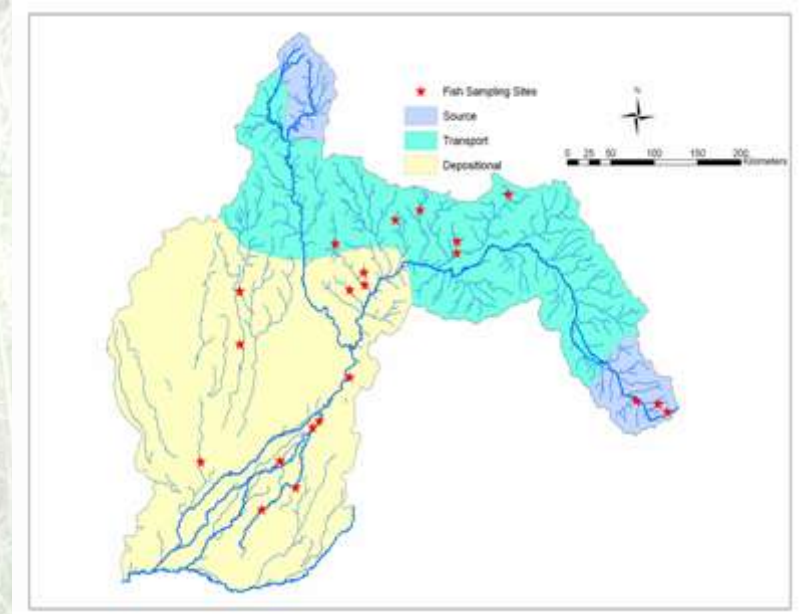


Native Fish Strategy

'Sea to Hume' Fishway Project

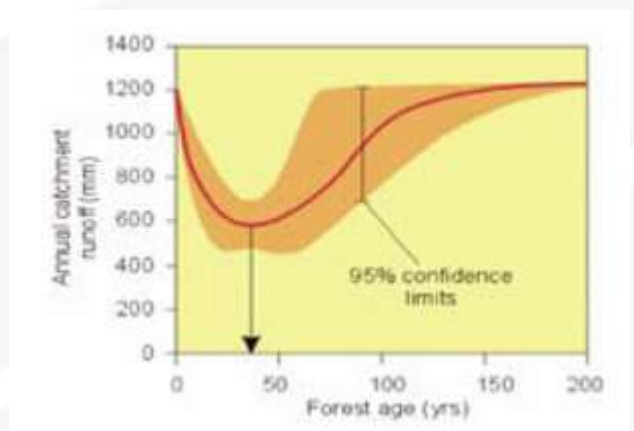
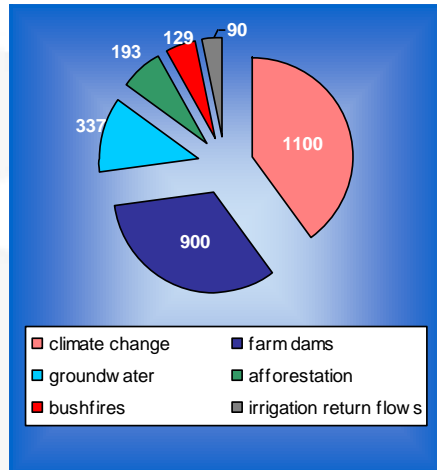
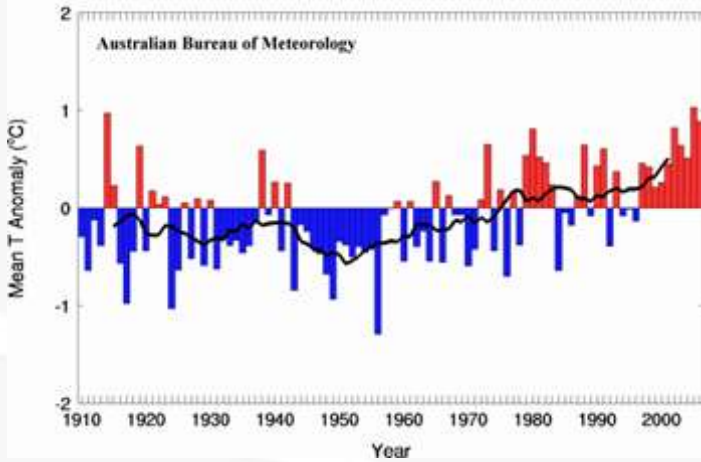


Sustainable Rivers Audit



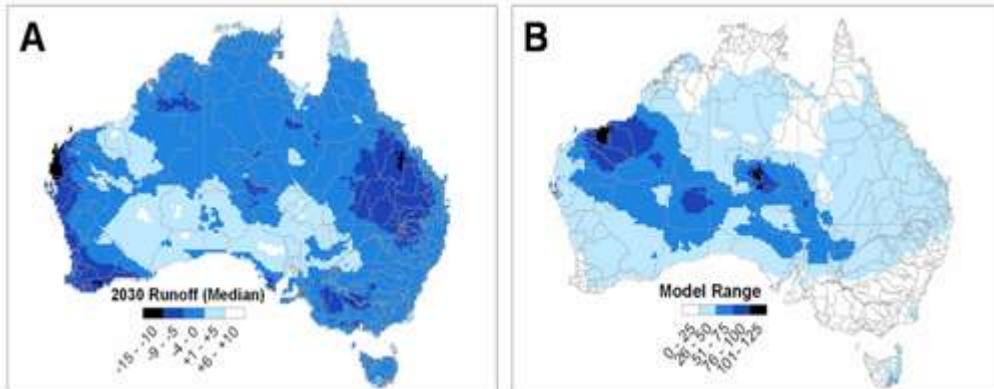
“A reproducible Basin-wide assessment of ecological condition”

Murray Darling Basin Annual Mean T Anomaly (base 1961-90)

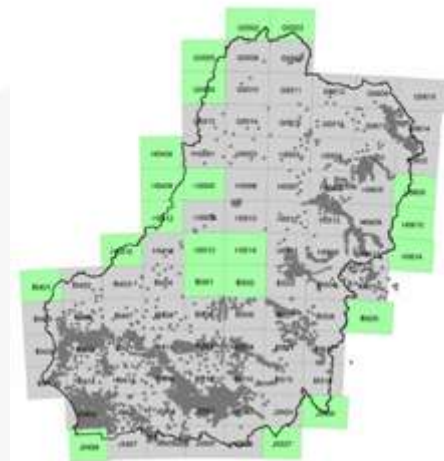


Risks to Shared Water Resources

Runoff Projections

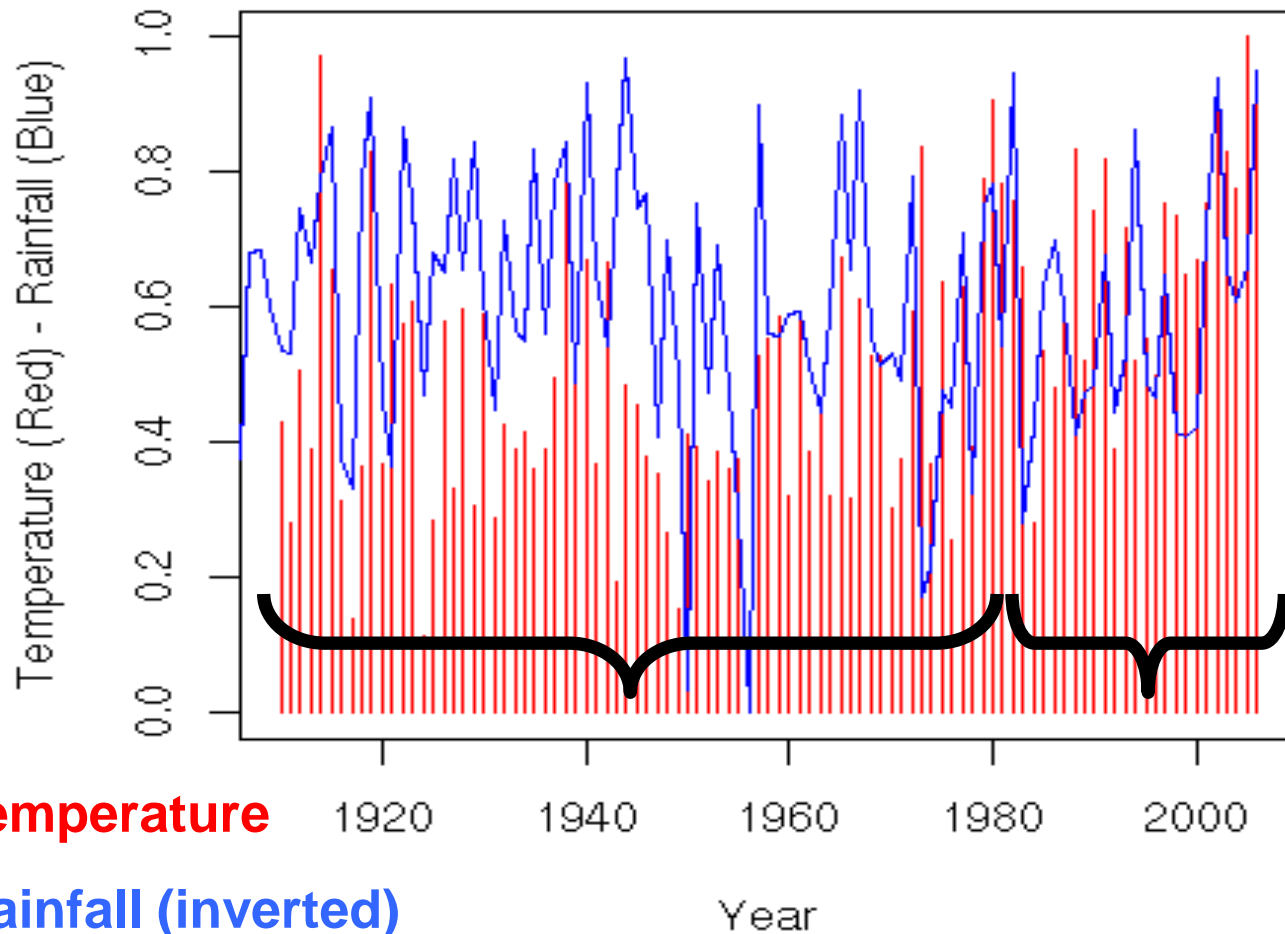


Murray Darling Groundwater Status Report: Mapsheets with Borehole Data



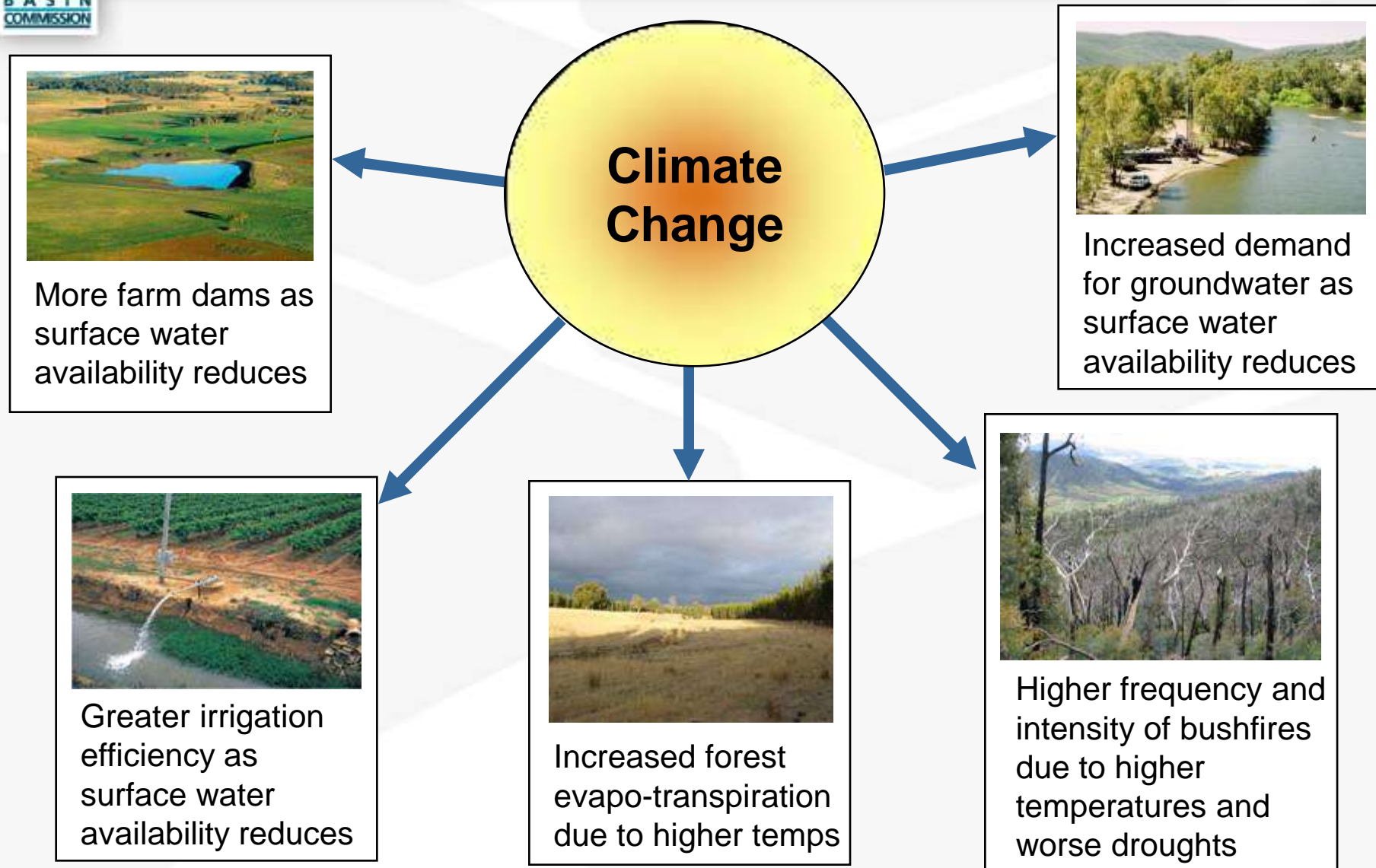
Changed MDB Rainfall Patterns

Normalised Rainfall and Temperature



A different relationship is evident since the early eighties

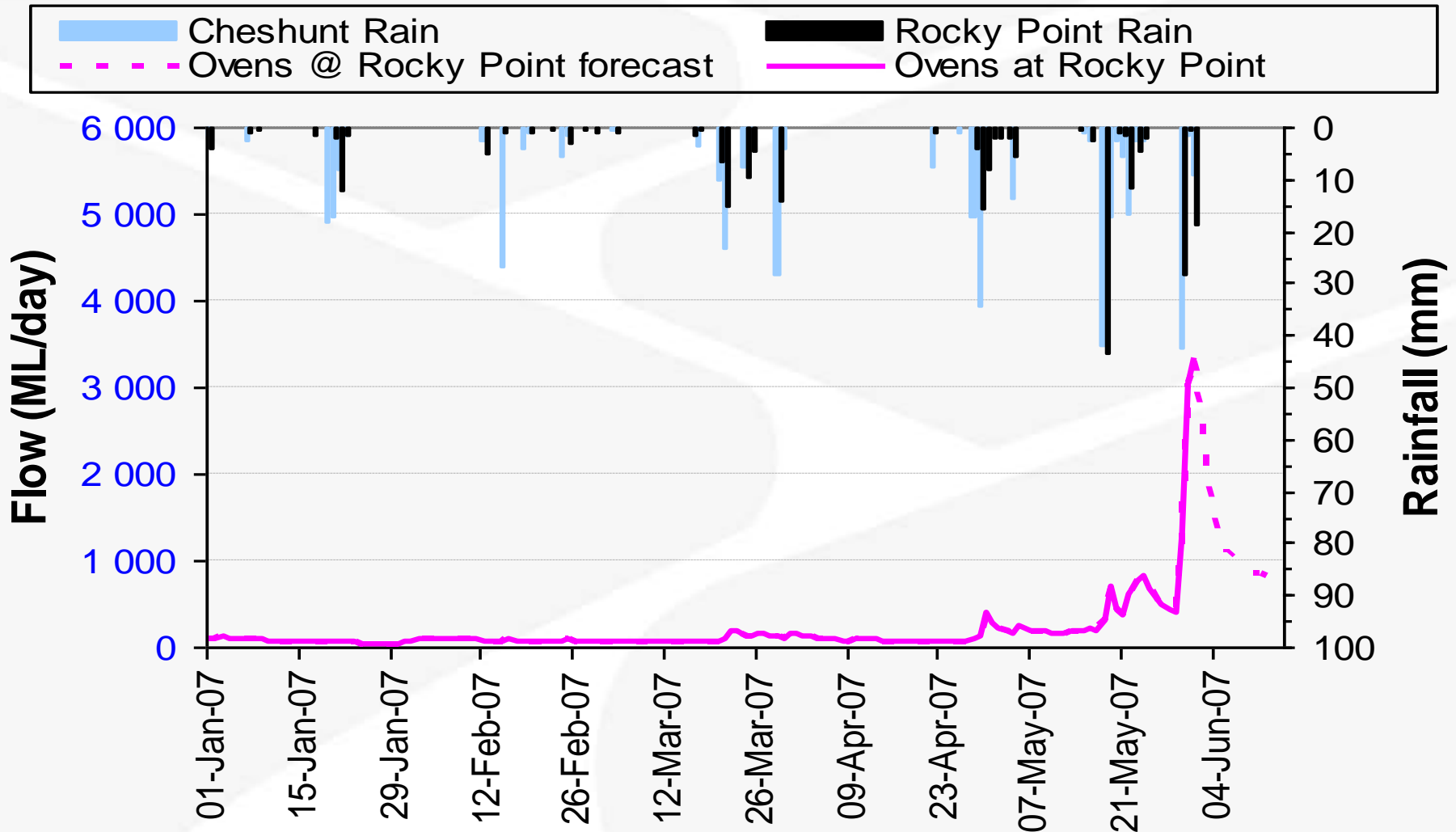
Climate Change: Impacts on Other Risk Factors





Dry Catchment Impact on Runoff

Ovens River: Flow and Rainfall



Other Risks: Bushfires

2006 CSIRO study found possible future increased bushfire risk across SE Australia, which may follow from climate change

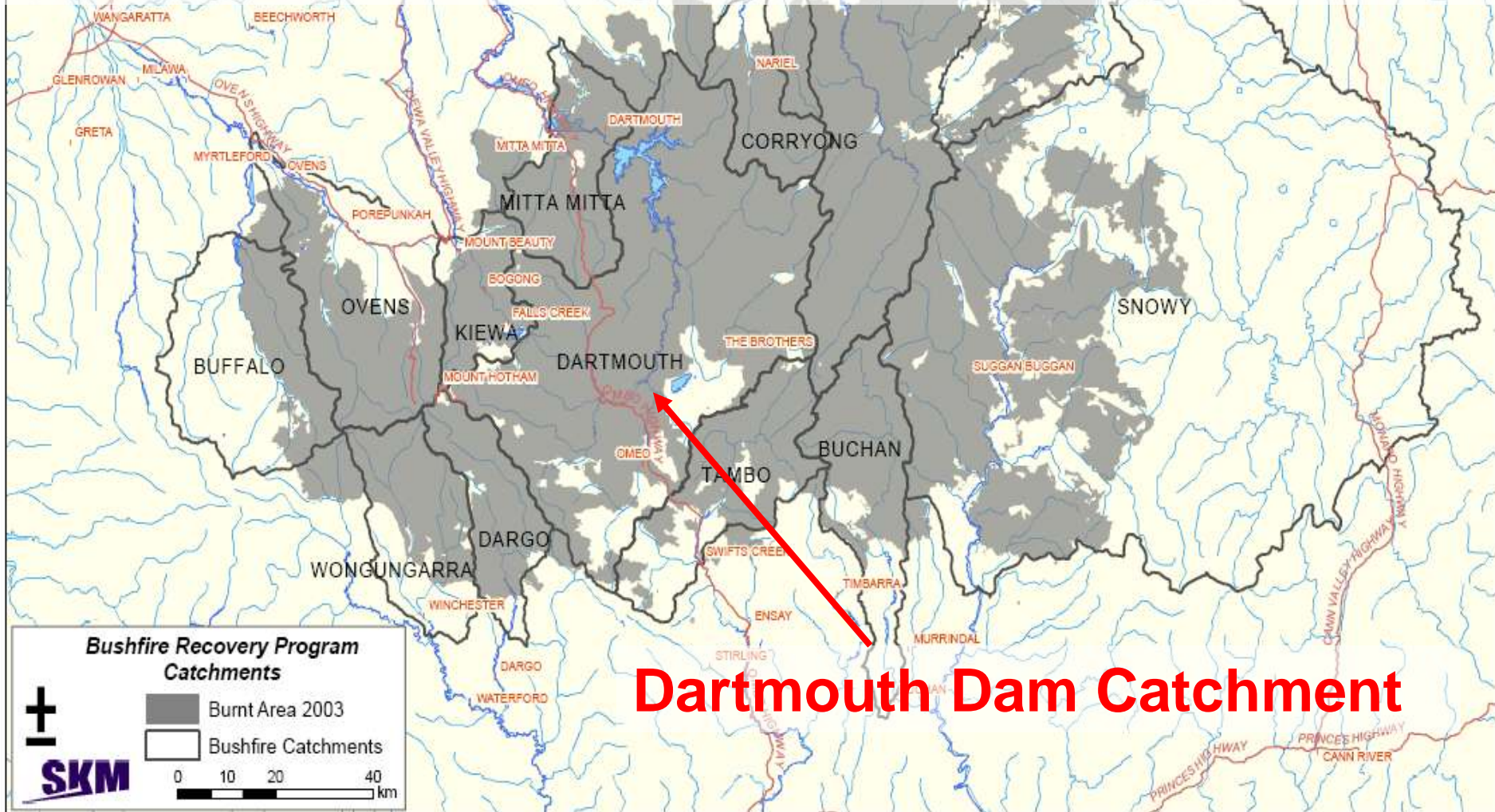
Key finding	2020	2050
Fire-weather risk likely to increase in SE Australia	4 – 25%	15 – 70%
Annual average of very high to extreme fire danger days in Canberra (presently 23.1 days)	25.6 – 28.6 days	27.9 – 38.3 days

Source: CSIRO 2006

2003 Victorian Bushfires

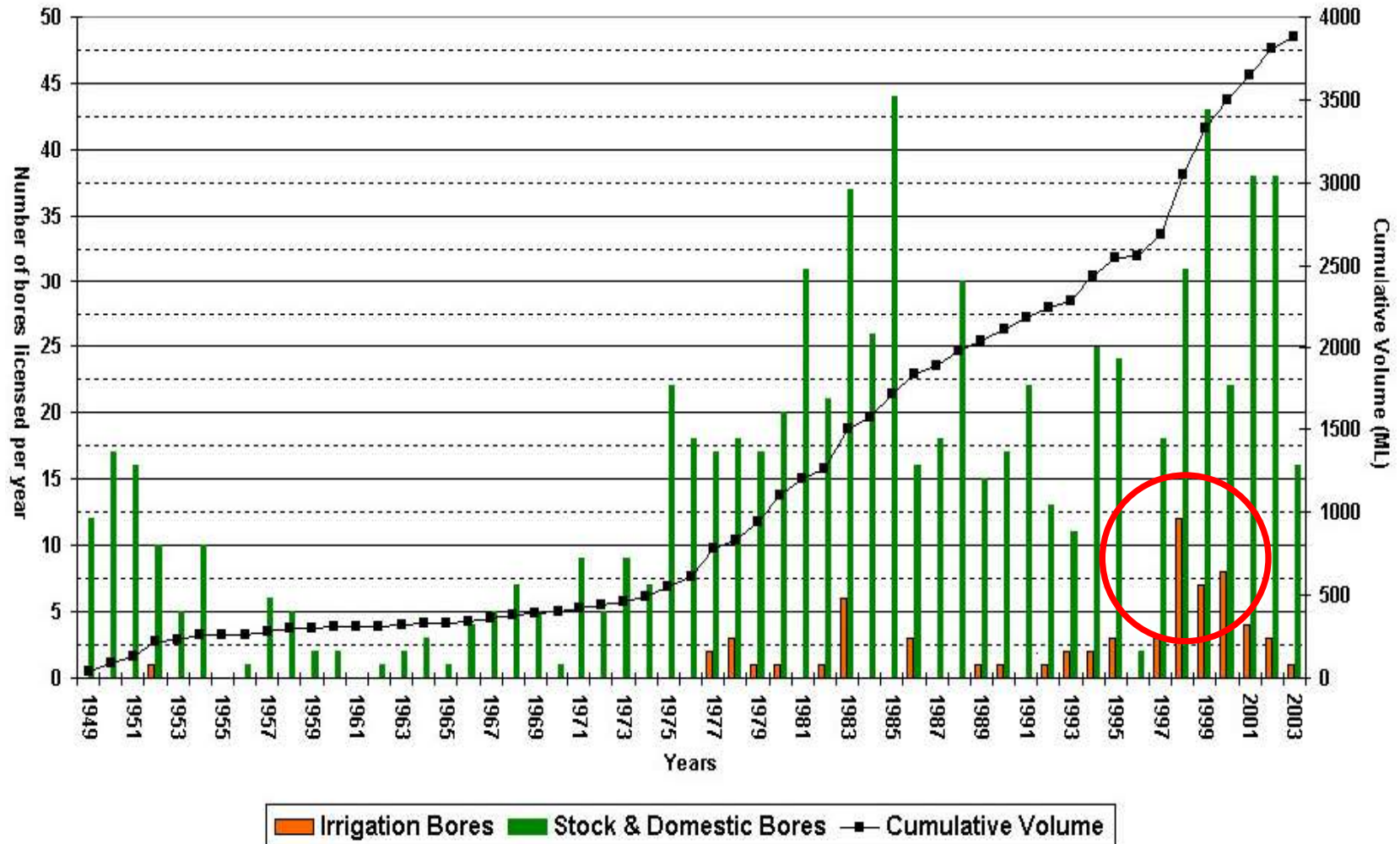
Data supplied by: VicMap,
Forestry Victoria (DSE),
LPI NSW, NSW Parks and Wildlife

Up to 1237 GL/yr Yield Reduction in 20 years,
across the bushfire affected area



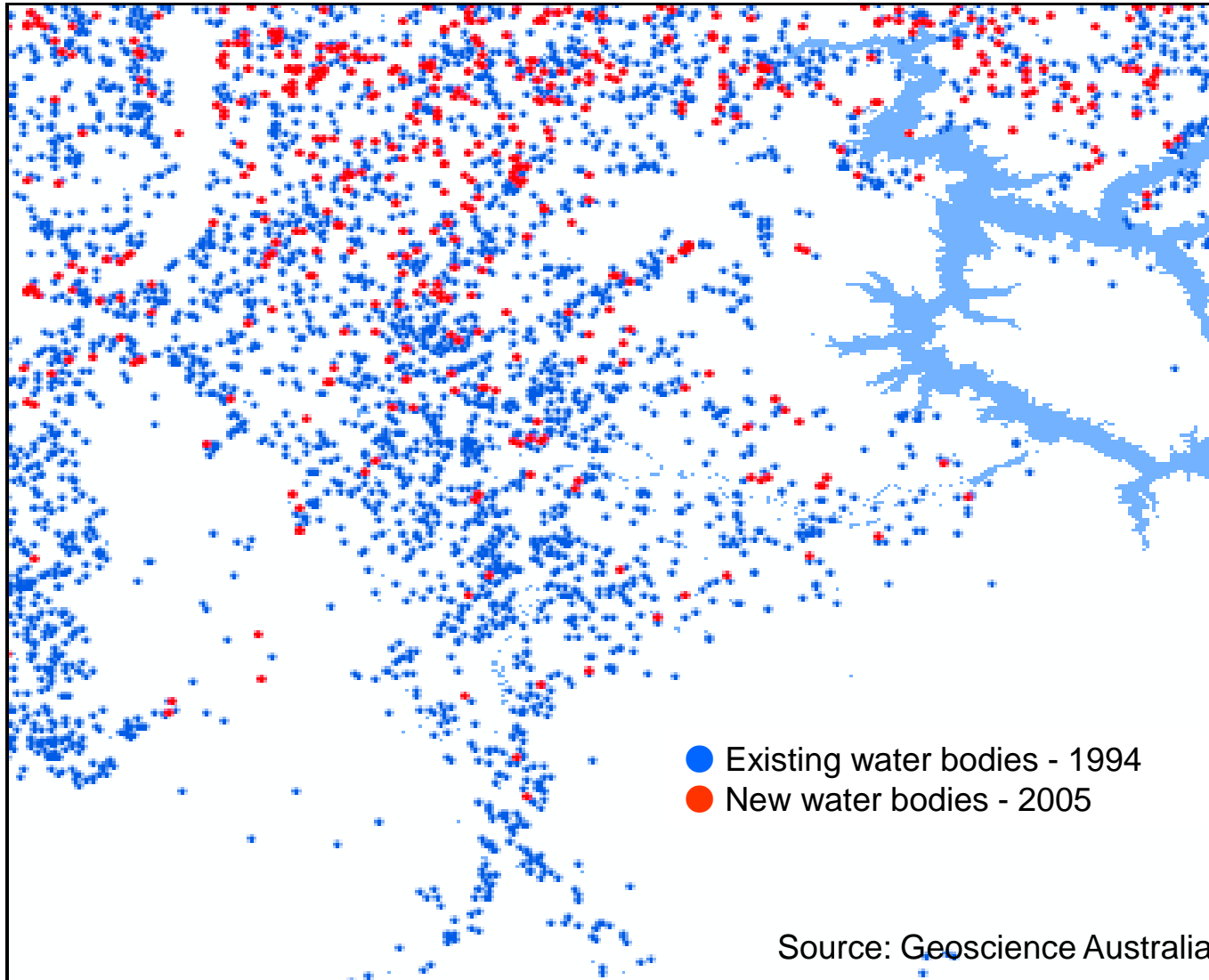
Other Risks: Groundwater

Bore Numbers and Cumulative Volume in the Yass Catchment



Other Risks: Farm Dams

Growth in Water Bodies Between 1994-2005



The MDB Risks Framework

Define the objective - Is the risk a threat to:

1. The integrity of existing water access entitlements?
2. The achievement of environmental objectives?

Analyse the risk:

1. Hydrologic impacts
2. Environmental impacts
3. Economic and social impacts

Evaluate the risk:

1. Assess the impacts against agreed criteria
2. Are the impacts acceptable?

Develop a policy response

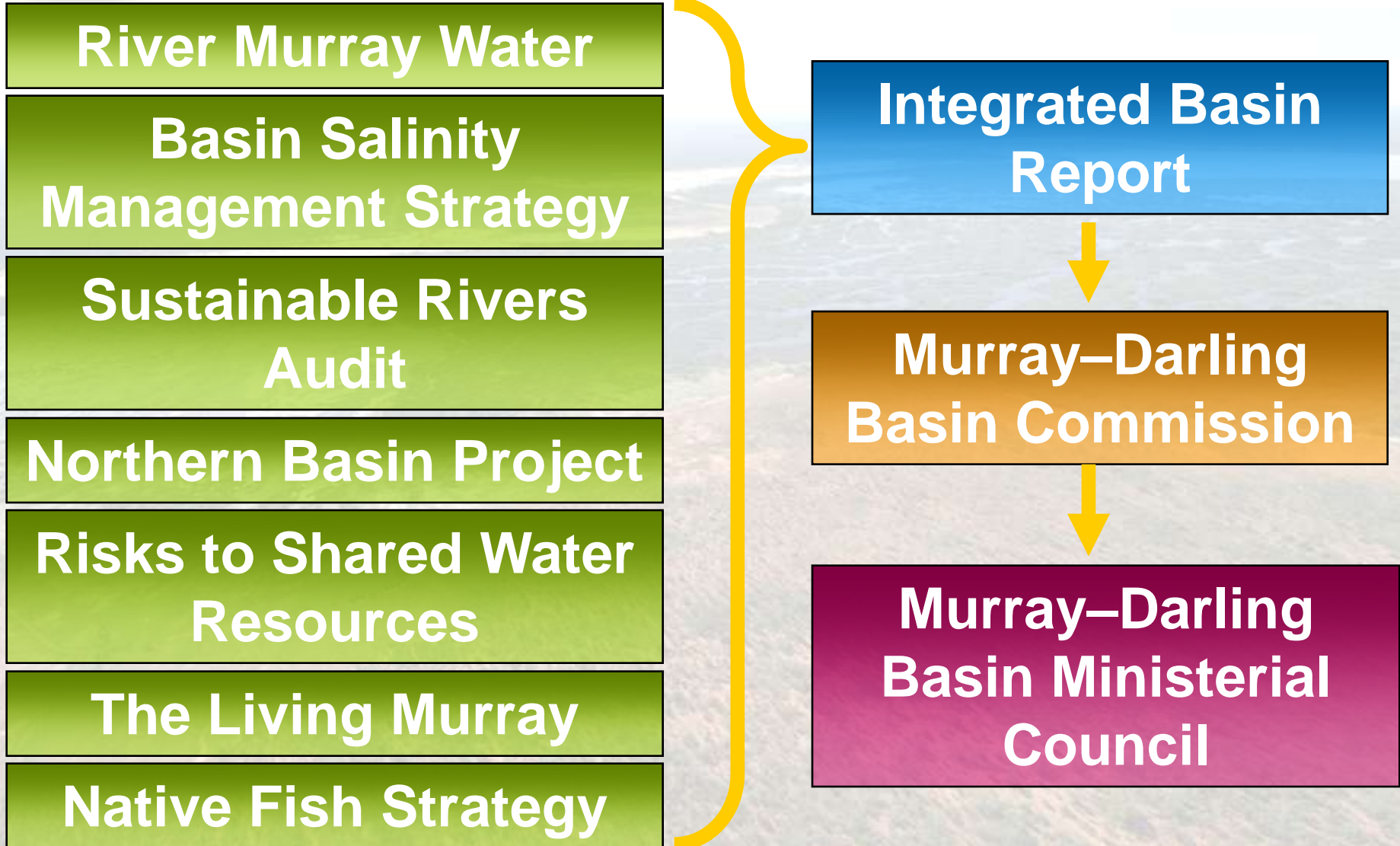
Communicate and Consult

Monitor and Review



Integrated Basin Reporting

“Coordinating data and reporting for decision-makers”



MDBC Policy Development

Combining
Technical and
Secretariat
Skills

Agreed Rights
and
Responsibilities

Unanimous
Decision
Making

Community
Consultation

**MDBC
Strengths**

Bottom Up
Policy
Development

Independent
Auditing

Ongoing
Financial
Commitmen
†



Independent Audit of Key Programs

Day to Day River Management:

- | | |
|---------------------|---------------------------------|
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Does The MDBC Model Work Well?

Positive	Negative
Unanimous decision making	Long time-frame for decisions
Durable decisions	Sometimes lowest common denominator
Robust long term commitment	Subject to short term political will
All partners make a financial commitment	Financial contributions necessarily complex
Cumbersome, but effective governance arrangements	

What Does the Future Hold?

- **The Drought is a long way from over**
- Natural flow regimes are affected by river regulation and water use
- Past decisions have been made on a 'wet' premise
- Flows and storages are at record lows
- Risks are growing and compounding
- Increasing concerns about sustainability
- We must not delay our response

www.mdbc.gov.au

