Chris Hammer

River reform in Australia
Marina - Lower Lakes - South Australia - April 2009
The Murray-Darling Basin
The Riverina Plain
History of Development
Aboriginal Australia - pre 1788
Aboriginal fish traps - Brewarrina New South Wales
1778 - New South Wales claimed by the British
Australia at Federation - 1901
The Murray-Darling Basin
The Australia Constitution - 1900 - Section 100..

‘The Commonwealth shall not, by any law or regulation of trade or commerce, abridge the rights of the State or of the residents therein to reasonable use of the waters of the rivers for conservation or irrigation.’
Water use pre-federation

- Navigation
- Irrigation
- Town water
- Environment given no priority
Paddle steamer at Echuca
Murray River Agreement

• 1914
• States retain power over rivers
• Murray River water shared
• 26 weirs and locks planned for the Murray
• 9 weirs and locks on the Murrumbidgee
• Hume Dam
• Barrages on Lower Lakes
• Only applies to Murray - not tributaries
1946
Graphic depiction of the Murray system
Weir and lock near Renmark South Australia
1942 - Darwin bombed - Commonwealth gains taxing powers from states
Post World War Two

More and more infrastructure

• 1950s and 1960s - Snowy Mountains Scheme
• 1950s and 1960s - Menindee Lakes
• 1970s Dartmouth Dam…..
• More and more irrigation
The beginning of reform

- 1970s - Salinity
- 1980s - Scientific concern over decline in wetlands, forests and floodplains
- 1990s - blue-green algae
- 1980s and 1990s - The environment becomes a mainstream political issue
The Sums - 1994-95

• Average natural annual flow to sea - approximately 14,000 MCMs
• Approximately 10,780 MCMs diverted for human use
• Approximately 3,220 MCMs flowing to sea - about 27% of natural flows
• But - only 63% of irrigation entitlements used
The beginning of reform

• 1995 basin-wide cap on water
• Separation of land and water titles
• 1998-2004 Cross-border water trading
• 2002 Wentworth Group Blueprint
• 2004 National Water Initiative
The Millenial Drought - 2001 to 2010
2007 Reforms

- Proposal of a basin-wide plan
- New authority - Murray Darling Basin Authority - MDBA
- $10 billion dollar package
- $3.1 billion for water buy backs
- Water saved used for the environment
- ….but rejected by Victoria
- Agreed to in 2008 with an extra $3bn
October 2010 - Guide to the Plan released
Past actions
The Cap, National Water Initiative, The Living Murray, state initiatives

Water Act 2007

Guide to the proposed Basin Plan 2010

Proposed Basin Plan 2011

Consultation Period

Final Basin Plan 2012

2015 review ESLT and SDL amendments

Implementation, monitoring and evaluation of outcomes, and 10 yearly Basin Plan reviews
Public Meeting - Griffith - December 2011
Legislative Process

- 2007 Water Act - National Parliament
- 2012 - Basin Plan - Legislative Instrument
- States require complementary legislation
- Consensus essential rather than imposing laws
Key Objectives

• Keep Murray mouth open 9 years out of 10
• Sustain healthy and resilient environment throughout basin
• Provide water for agriculture, human consumption and industry
Key elements of plan

• Environmentally Sustainable Level of Take - ESLT
• Sustainable Diversion Limits - SDLs
• Environmental Watering Plan - EWP
• Adaptive Management
• Localism
Key elements of plan

• 2750 gigalitres/MCMs returned to environment (3,600 since 1995 cap)
• Sustainable Diversion Limits for each catchment
• 971 gigalitres/MCMs from Southern tributaries to contribute to Murray River - decided by market forces
Key elements of plan

• No compulsory acquisition - voluntary buy backs
• No return to natural river
• More money on infrastructure
• Environmental Water intensely managed
Implementation

- MDBA develops Environmental Watering Plan
- States develop catchment by catchment Environmental Watering Plans
- Local communities help implement EWPs
Modelling

- 2010 Guide - End-of-system flows
- 2011 Draft - multi-site modelling - 114 years of rainfall and river flow data
- 122 sites
- Modelling helps determine the ESLT
- Modelling helps guide EWP
Hydrological indicator sites
Reception

- Environmentalists want more water
- Irrigators want less water
- Federal opposition critical but wants a plan
- States split - SA wants more, NSW & VIC want less
Economics

• 2001-2008 drought - 70% less water but only 1% less GVIAP
• 2010 guide - loss of 13% of production - about $1 billion
• Loss of about 800 full-time jobs or 0.1% of basin workforce
• Benefits for tourism etc not quantified
Renmark House Boat
Canal development - Lower Lakes
Impact on Irrigation Towns

- Swiss-cheese effect - major concern
- Whole of entitlement buy-backs have negative impact
- Part entitlement buy-backs have positive impact
- Infrastructure positive impact
Drivers of reform

• Growing environmental awareness
• No government can ignore the environment
• Drought
• Adelaide’s water supply
• Need for greater certainty for irrigators
• Awareness there are limits to growth
La Niña - flooding last two summers