Water Reform and Water Markets in Australia 1994-2011

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Permanent and Temp Water Trades 1983-2010
Southern Murray Darling Basin

In 2010 ~ 1.5 MAF in Temp Trades, 1 MAF Permanent
Also Note Enviro Purchases in 2009 and 2010

In 2010
$3B in trades
15,000 transactions
Trades done in less than 2 weeks

Major Australian Water Reforms Since 1994

- **Policy Reforms**
  - 2004 National Water Initiative*
  - National Water Commission*
  - Water Rights Simplification
  - Water Markets*
  - $13B AUD Program = $200B US*
  - Sustainability
  - Mandatory Water Planning*
- **Urban Water Reform**
  - Consolidation of water providers
  - Independent Price Setter
- **Infrastructure**
  - Large Desal Plants in Every Major City*
  - Water Recycling
  - Interbasin Transfers
  - Rainwater Harvesting
  - Ag Infrastructure - $2B in Northern Victoria
- **Conservation**
  - Very little outdoor watering
  - Target 155 L/P/D
- **Science**
  - CSIRO Sustainable Yields Study*
- **Water Rights Reordering**
  - 1. Critical Human Needs
  - 2. Environmental Water
    - $3B AUD Federal Purchase
  - 3. All Other Uses

Darling River, New South Wales
The Driest Inhabited Continent

Lake Hume on Murray at 6% Full, ~ 2008

Murray Mouth Almost Closed

Toowomba, QLD 1/11

Broken Hill, NSW 9/09
1 Megaliter (ML) \(\sim\) 1 Acre-foot (AF)
  - Actually 1 ML = 0.8 AF
  - If $400/ML then = $500/AF
1 Gigaliter (GL) = 1000 Acre-feet (KAF)
$1 AUD = $1 USD
“Barbie” = Barbeque Grill
“Uni” = University
“Entitlement” = Perpetual Right to Water, in ML
“Allocation” = Annual Amount, either % or ML
“He has a kangaroo loose in his top paddock”
Oz – The Land where everything seems Odd
Highwayman Vic:—

"What, yours?—
Well, why don't you come and take it?"
Rainfall, Temperatures, Storage, Water Use

Rainfall Anomalies from 1900

Temperature Anomalies from 1900

Growth in Storage and Use from 1920

Growth in Total and State Use from 1920

Figure 2: Storage capacity and diversions in the Murray-Darling Basin versus time.
Water Reform Timeline 1994 - 2012

  - SPLIT IT, PRICE IT, TRADE IT, 
    Maximize NATIONAL Welfare
- 1995 – MDB CAP on Diversions
- 1998 – Pilot Interstate Water Trading
- 2004 – COAG Agrees on a National Water Initiative
  - Sustainable Diversion Limits
  - Commonwealth Env Water Holder Created
  - Buy from Willing Sellers
- 2008 – Murray Darling Basin Authority Created
- 2009 – Water for the Future
  - $13B to Water Reform
- 2010 – Guide to Basin Plan Announced
  - 30% Reductions Proposed
- 2011 – Windsor Inquiry and New Basin Plan
  - 27% Reductions
- 2012 Commonwealth Approval?
Murray – Darling Basin Overview

- Australia’s Only Major River System
- 4 States (QLD, NSW, VIC, SA) Plus ACT
- 1,000,000 km²
- 2500 km in length
- ~23,000 GL (~18MAF) ‘Usable Flow’
- Very Lossy System
- 14,500 GL at Confluence
  - 1000 GL Imported
- ‘Low Energy’ System
- Rain Fed + Some Snow
  - Summer Rain North
  - Winter Rain South
- Total Storage ~2x Flow
- 40% of Australia’s Irrigated Land
- 2m Inhabitants
- 30,000 Wetlands
  - 16 Ramsar
- Substantially Over Allocated
- 1915 Original Allocation
Temporary Transfers
Allocation Price $ (Left) - Allocations in % (Right)
For 4 Years: 2007 to 2011

Source: NWC (2010b), AWMR series.
Interstate Movement of Water 2008-09

Note: The movement of water to South Australia includes significant purchases for urban water users in Adelaide.
Source: NWC (2011b).
Net Interstate Trade 2003-2011 NSW, Vic, SA

Note: This figure understates the volume of interstate allocation trading, as it shows only each state’s net trade in (trade in minus trade out). Excludes trades into or out of Queensland.

Sources: NWC (2010b), AWMR series.
Total Volume of Permanent Purchases By Year

Note: Entitlement data prior to 2007–08 does not include internal irrigation and unregulated entitlement trades.

Sources: NWC (2010b), AWMR series.
Permanent Purchases in $ by Reliability

Note: Only regulated trades are presented.
Source: AWMR series.
Growth in Temp Water Trade 2001-2011

Note: Includes only trades of regulated water from the Lower Darling, NSW Murray, Murrumbidgee, SA Murray, Victorian Murray, Goulburn and Campaspe–Loddon systems. Excludes trades internal to irrigation districts.

Sources: NWC (2010b), Australian water markets report (AWMR) series.
Commonwealth Water Holder Purchases 2007-2011

Source: AWMR series.
Trade Results

Region: Northern Victoria Regulated
Zone: 1A Greater Goulburn
Product: Water Allocation Trade Room

Details of the last 4 AWE Trades and Pooled Exchanges

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Trade Online

Login: [ ]
PIN/Trader No: [ ]
Password: [ ]
Forgotten Password?

Last 7 Exchanges

Trade Tips

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For help and information about trading with Watermove follow this link to About Water Trading. It is important that you view our Terms and Conditions of trading before deciding to trade online.

To register to use the Watermove website click the link to Register above and complete the online form.

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Western Water Assessment

Windsor Parliamentary Report – May 2011

• Parliamentary Inquiry into Guide to Basin Plan begun November 2010
  • Impact on Regional Communities
  • Options for Water Savings Measures
  • Role of Govt, Ag, Research in Developing
  • Infrastructure and Tech for Water Efficiency

• 21 Recommendations
  • Identify Regs and Agreements which inhibit water management
  • Greater Rigor in making SDLs and include climate change
  • Engage Community More Respectfully
  • Cease all Water Purchases – “Swiss Cheese” Problem
  • Strategic, Localized Approach to Water Purchases
  • Assess Viability of Environmental ‘Works and Measures’
  • A ‘Plan for the Basin’ in additional to Basin Plan
  • Make CEWH a separate entity from SEWPAC
  • National Water Commission to audit CEWH

• New Basin Plan has Multiple References to Windsor Report

Tony Windsor, MP
Summary and Concluding Thoughts

- Original Water Reform was driven by Economics and Triple Bottom Line
  - Markets were critical part of Reform
- ‘Third Party Effects Explicitly Handled, Mostly…
  - Environmental Issues
  - Stranded Assets
  - But no so much for social issues
- Markets are very healthy
  - Billions of Dollars annually, Hundreds of Trades
- Absence of Return Flow Considerations makes markets much easier
  - License Systems Similarity to Colorado Big Thompson
  - Flatness of the Continent and High Salinity Issues reduce return flow considerations
- Nature of South Australia Senior Rights has induced Downstream flow
  - SA Permanent Plantings
  - Also Environmental Benefits to South Australia
- Commonwealth Environmental Water Holder has been major buyer
  - Will hold ~ 1/3 of all water ultimately
- Absence of Strong Municipal Demand reduces some tensions
- Commonwealth has Major $ to Assist and Federalism Alive and Well
  - But note that States willingly gave up water powers in Constitution
Some Sources

National Water Commission a good place to start….
Somewhere in the Darling River System During the Drought