

Water Accounting in Australia



Linking people, the economy and the environment

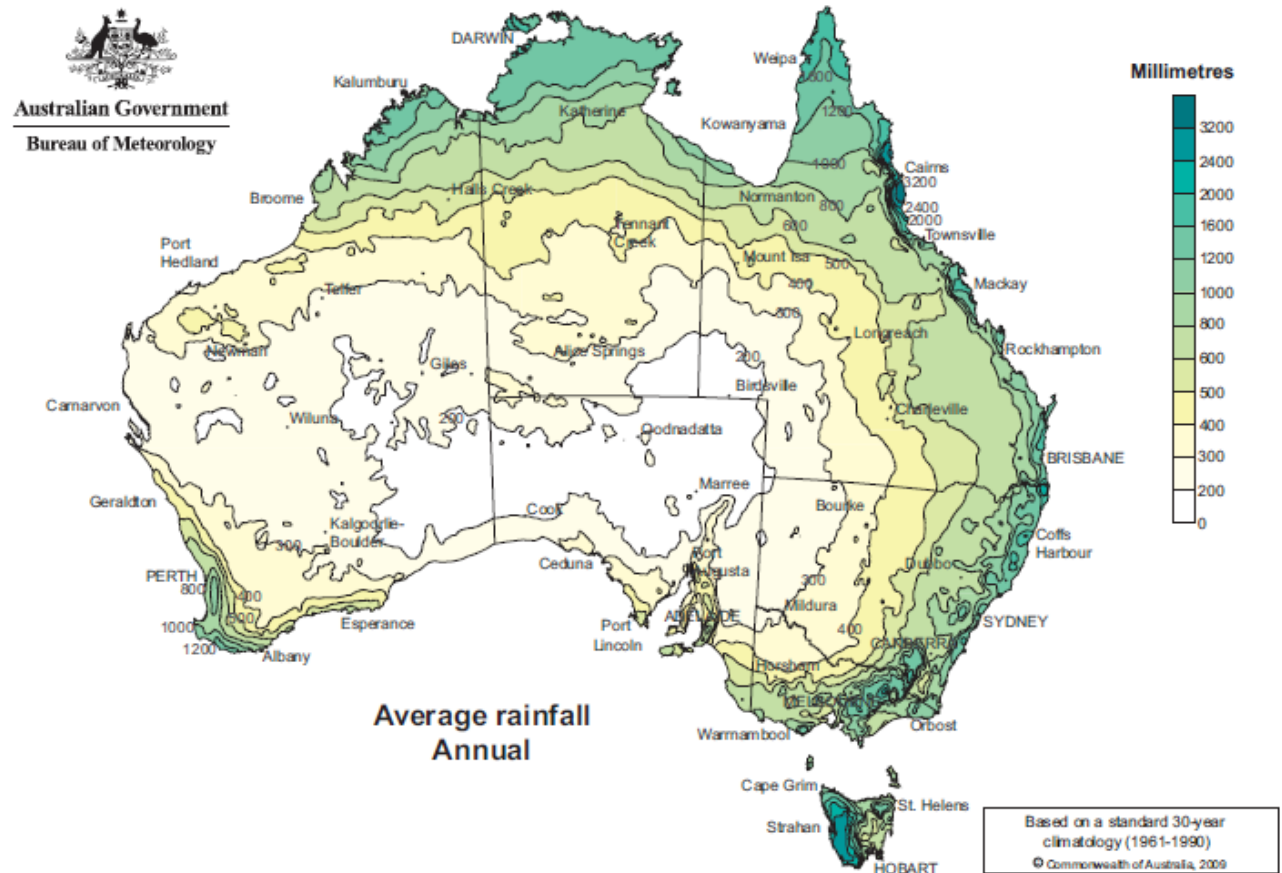
Karen Connaughton, Director, Environmental Accounts, ABS

Water brings us all together





Australia's climate



Australian water policy

- 1985 – Review of Australia’s Water Resources and Water Use (AWRC)
- 1994 COAG – water reform framework
- 2004 COAG – National Water Initiative (NWI) established to address the following concerns:
 - Availability of water for agriculture
 - Availability of water for human consumption
 - Ecological sustainability
 - Productivity and regulation of the Water Supply Industry
 - Water prices and return on assets



Many users and producers of water data

- Government agencies responsible for:
 - Water, meteorology, hydrology, statistics, agriculture, environment, energy (especially hydro-power), planning, finance, geology
 - National, state/provincial or local government
- Water suppliers and wastewater treatment
- Water research organisations
(e.g. government agencies, universities)
- Non-government organisations
(e.g. water industry associations, farmer associations, conservation groups, etc)
- Investors (individual, public and private)



Institutional arrangements

- Water policy in Australia is supported by many government agencies (national and state level)
- Water Act 2007
 - Jurisdictional harmonisation (MDBA established)
 - Commonwealth Environmental Water Holder established
 - ACCC enforces water charge and water market rules
 - **BoM are given responsibility for water information functions including a National Water Account!!**



Water Account Australia

History

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- 1985 – Review of Australia’s Water Resources and Water Use (AWRC)
 - 1994 – COAG Water Reform Framework
 - **2000 – 1st *Water Account Australia* (ref period 1993-94 to 1996-97)**
 - **2004 – 2nd *Water Account Australia* (ref period 2000-01)**
 - 2004 – National Water Initiative
 - **2006 – 3rd *Water Account Australia* (ref period 2004-05)**
 - 2007 – The Water Act 2007
 - **2010 – 4th *Water Account Australia* (ref period 2008-09) –
1st in a series of annual accounts**
 - 2012 – SEEA adopted as international statistical standard
 - 2013 – ABS given official leadership role for SEEA-implementation in Australia

Water Accounting in Australia

- Water Account Australia (cat. no. 4610.0)(ABS)
- National Water Account (BOM)
<http://www.bom.gov.au/water/nwa/>
- State Accounts, e.g. Victorian Water Account (DSE)
<http://www.water.vic.gov.au/monitoring/accounts>

Related information

- Annual Climate Report (BOM)
- AWRA (BOM)

The BOM and Victoria accounts can be mapped to the SEEA



ABS vs BOM water account

NATIONAL WATER ACCOUNT

WATER ACCOUNT AUSTRALIA

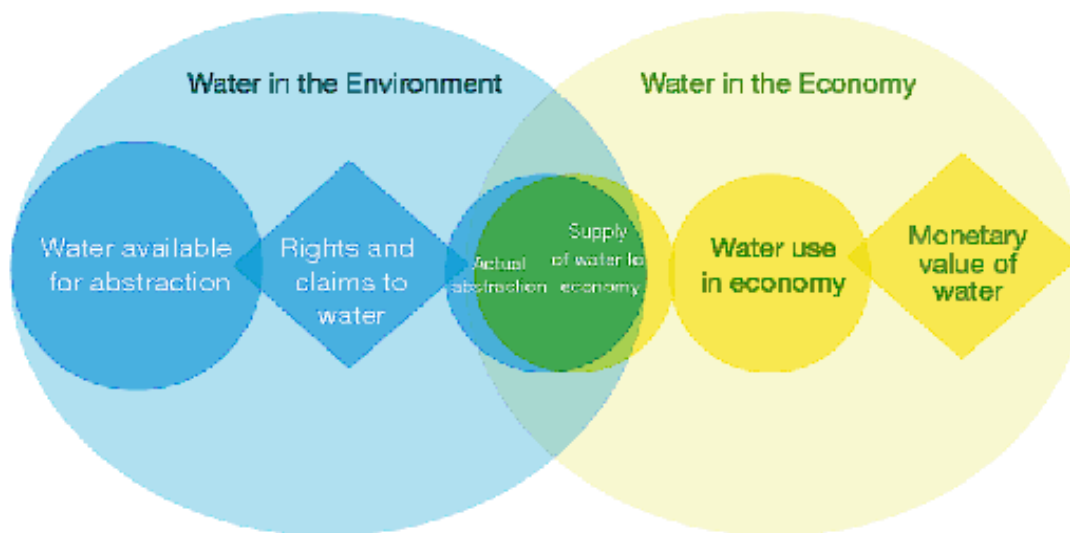


Figure 1. The aspects of, and intersection between, the National Water Account and the Water Account Australia

Source: Australian Bureau of Statistics and Bureau of Meteorology

Water policy questions

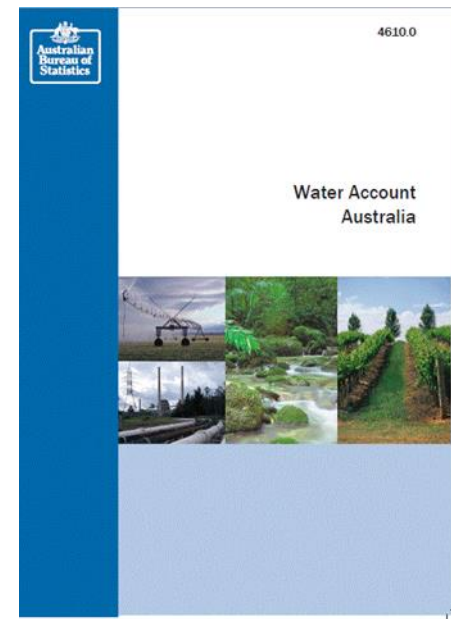
- Is water flowing to the highest value users?
- Are water providers achieving full cost recovery?
- Are water markets open and efficient?
- Are water uses and the water supply infrastructure the supports this economically efficient and sustainable?
- Is there consistency in water pricing across sectors and between jurisdictions?
- Are environment and other public benefit outcomes being achieved?
- What are the economic, environmental and social impact of changes in water resources allocation and use?



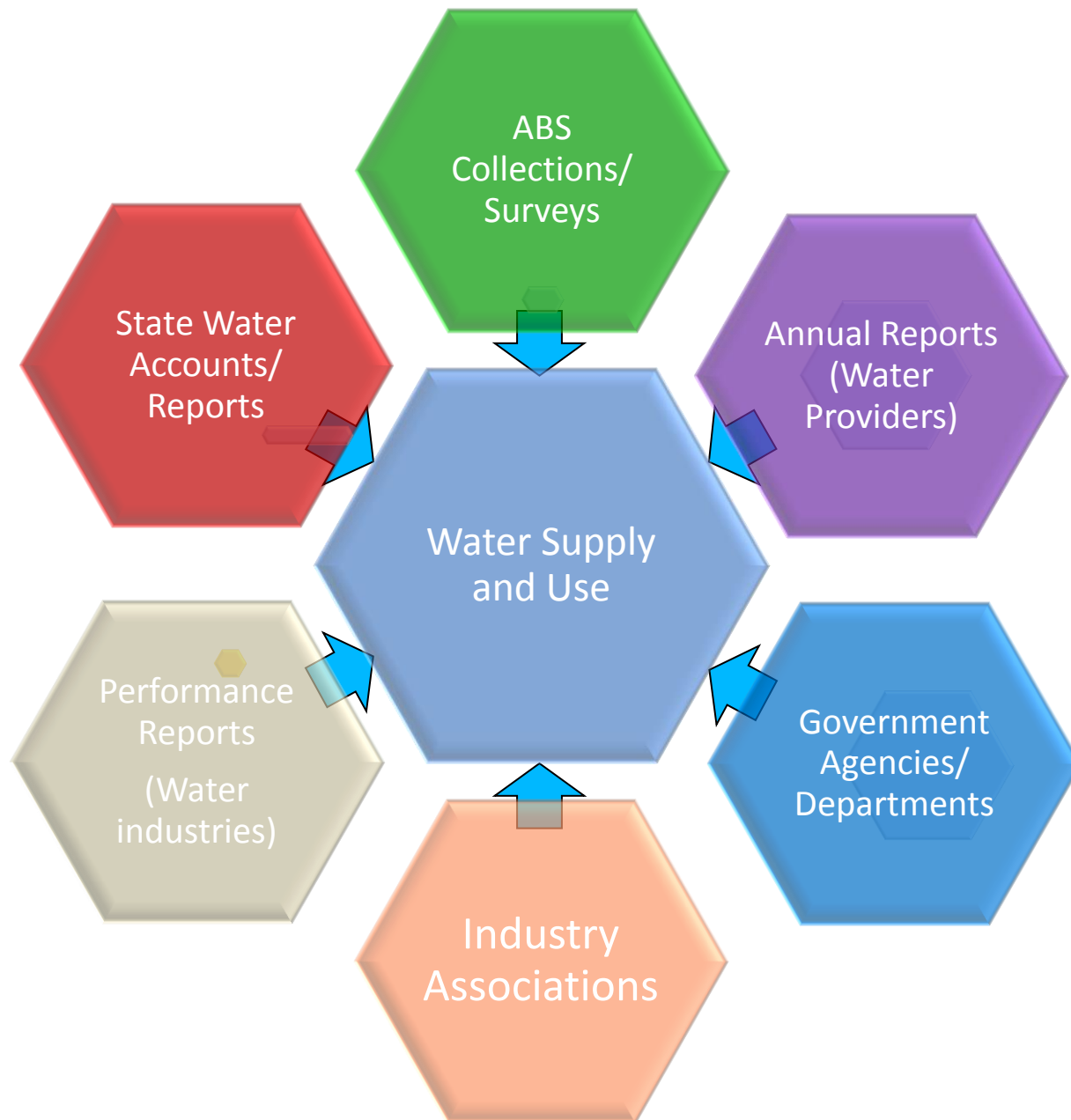
Water Account Australia

What is in the publication?

- Physical Supply and Use Tables
- Corresponding monetary flows and implicit prices
- Additional industry detail (*i.e. Agriculture, Water Supply Industry*)
- National Accounts and water intensity measures
- Gross Value of Irrigated Production
- Data produced at the national, state/territory and selected drainage divisions

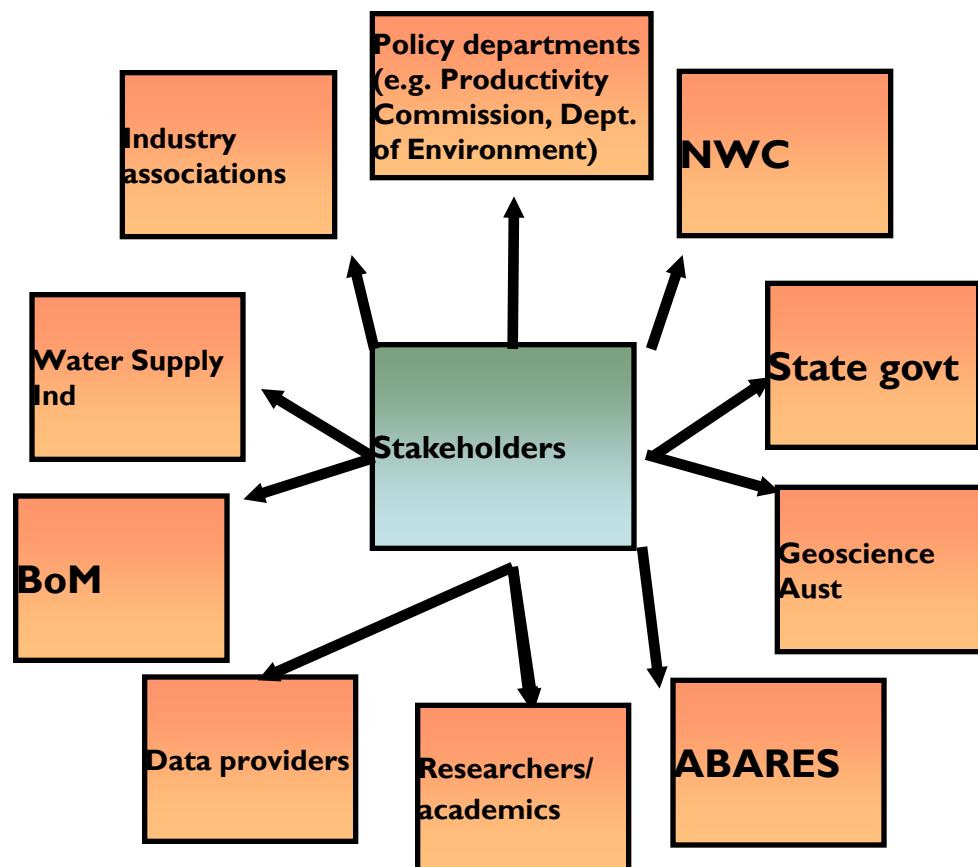


Water Account Australia - Data sources



Water Account Australia

Key users of the ABS Water Account



Australian water accounts - policy applications

- ABS Water Accounts relatively new tool for policy makers and researchers
- Potential in decision-making and analysis yet to be fully realised



Australian water accounts – example of policy applications

- Models developed to estimate the impact of increased water prices on water use in the southern MDB
- In short-term, demand for irrigation water unresponsive to water price
- In long term, respond by altering the crops they irrigate
- however, investment in on-farm water saving technology unlikely to be justified in terms of water saved.

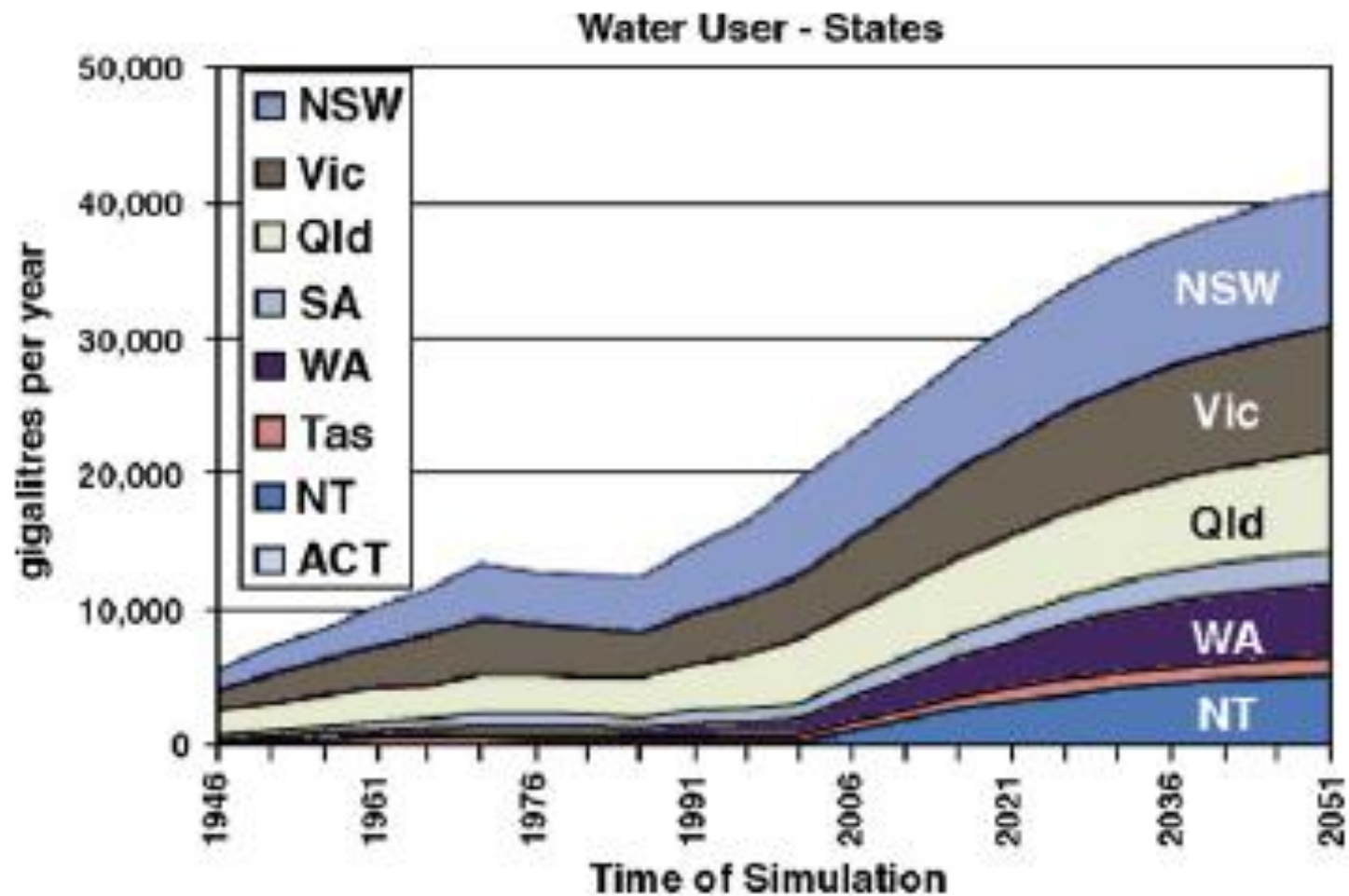


Australian water accounts – examples of policy applications

- Assessing impact of restrictions of water availability in MDB
- Effect of population increase on Australian economy and price of water
- Australian industry – water use
- Input-output analyses

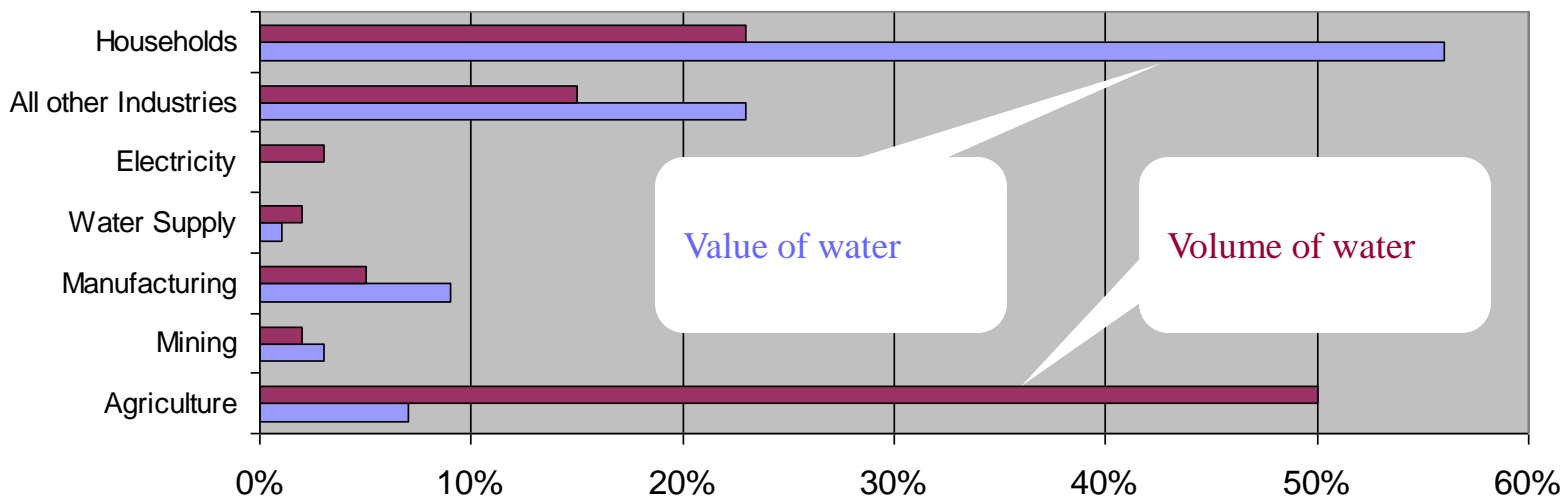


Australian water accounts – forecasting demand



Water Account Australia

Monetary vs. physical use of distributed water (% of total use)



2008-09



Water Account Australia

- Timeliness – data available 15 months after reference period
- Data-provider load
- Consistency/quality of data from different sources
- Combining and linking monetary water accounts with physical water accounts
- Appropriate valuation of water and water infrastructure assets

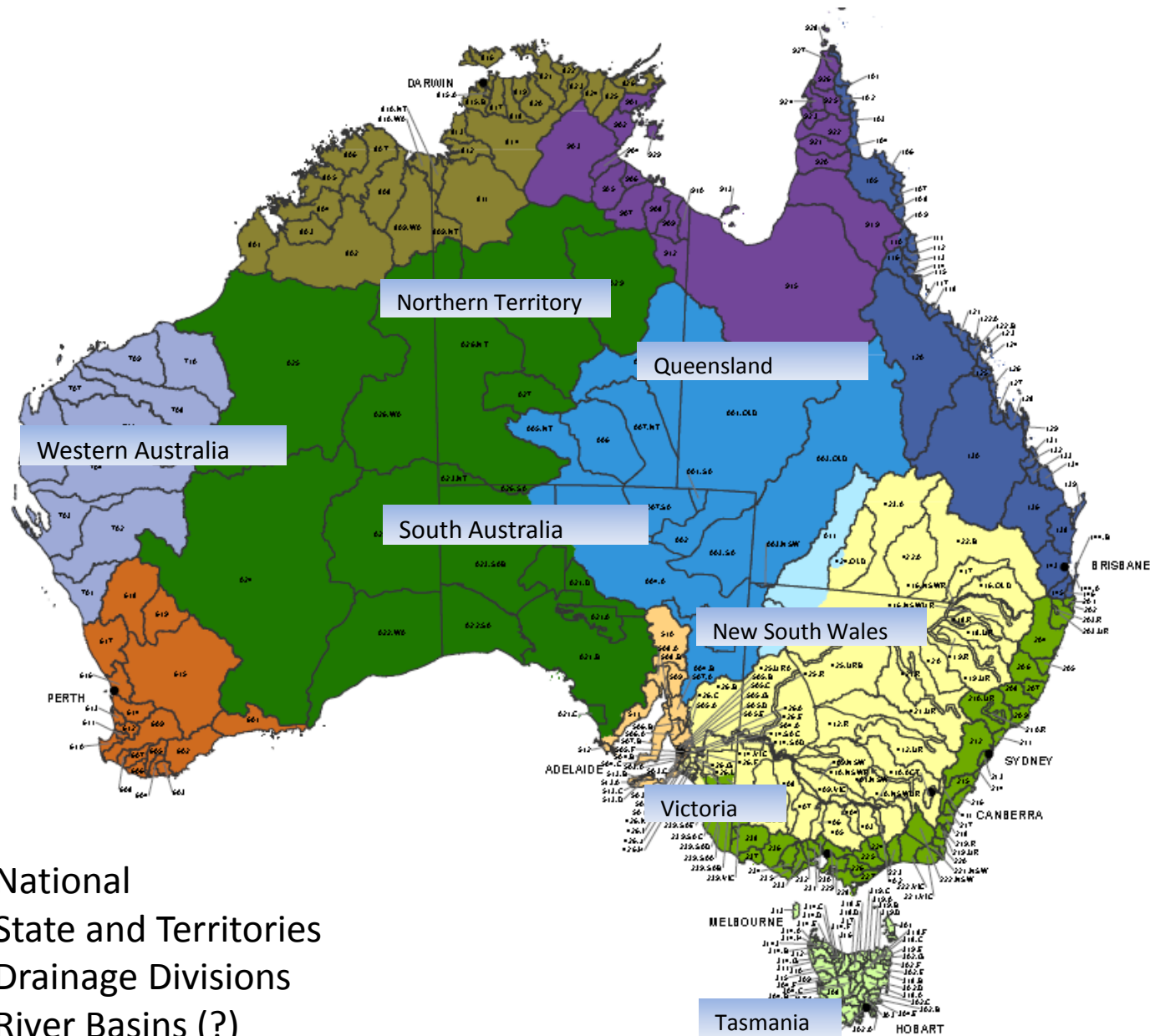


Water Account Australia

- Greater disaggregation of industry data
- Spatial referencing – economic data is related to enterprises and there can be poor spatial referencing
- Separate identification of water supply and sewerage services
- Data Gaps
 - Rain-fed agriculture
 - Household rainwater tanks (now in)
 - Discharges back to the environment (especially from irrigation run-off)



Spatial dimensions



- National
- State and Territories
- Drainage Divisions
- River Basins (?)

Water Account Australia

- Presentation – SEEA format
- Broader adoption of the SEEA beyond ABS
 - BOM, National Water Commission, states/territories
- Licence volumes Vs actual abstraction
- Treatment of losses
- Treatment of environmental flows, Environmental Water Holders
- Rural “distributed” water
- Indicators



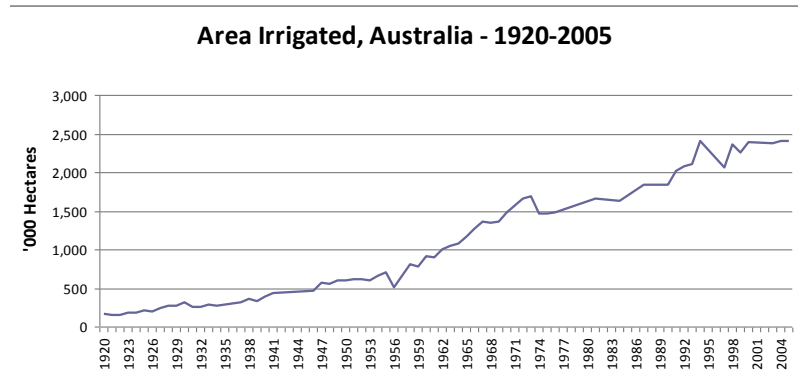
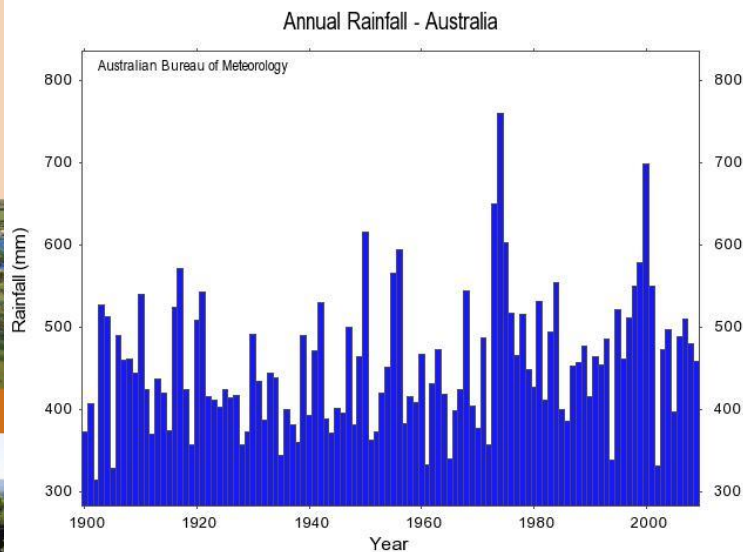
Water Indicators

ABS INDICATORS released:

- GROSS STATE PRODUCT BY INDUSTRY WATER CONSUMPTION
- WATER CONSUMPTION PER CAPITA/HOUSEHOLD
- HOUSEHOLD EXPENDITURE PER CAPITA
- INDUSTRY GROSS VALUE ADDED PER GL CONSUMED
- GROSS VALUE OF IRRIGATED AGRICULTURAL PRODUCTION PER GL CONSUMED



It is not the first time you produce data that is important



- It is the 10th time (or better still the 100th)
- The water data landscape is littered with “one-off” case studies
- The ABS Water Account Australia is gaining more traction in government because of its longevity and now that it is annually produced



Discussion and Questions

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