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**ABS: Accounting for Water**  
**An overview of the Water Account, Australia**

Steve May

Contributed presentation at the 60th AARES Annual Conference,  
Canberra, ACT, 2-5 February 2016

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# ABS: Accounting for Water

An overview of the Water Account, Australia

Presented by: Steve May



[www.abs.gov.au](http://www.abs.gov.au)

# Content of presentation

- Background to Environmental Accounts
- SEEA-Water - an international framework for water accounts
- *Water Account, Australia* (ABS cat. no. 4610.0)
  - History/overview
  - What's in it
  - Data sources
  - Comparing the ABS and BoM water accounts
  - Users and uses
  - Challenges and data gaps
  - Upcoming releases

# How much is water worth?

‘We never know the worth of water until the well is dry.’

18<sup>th</sup> Century English Proverb

# What are environmental accounts?

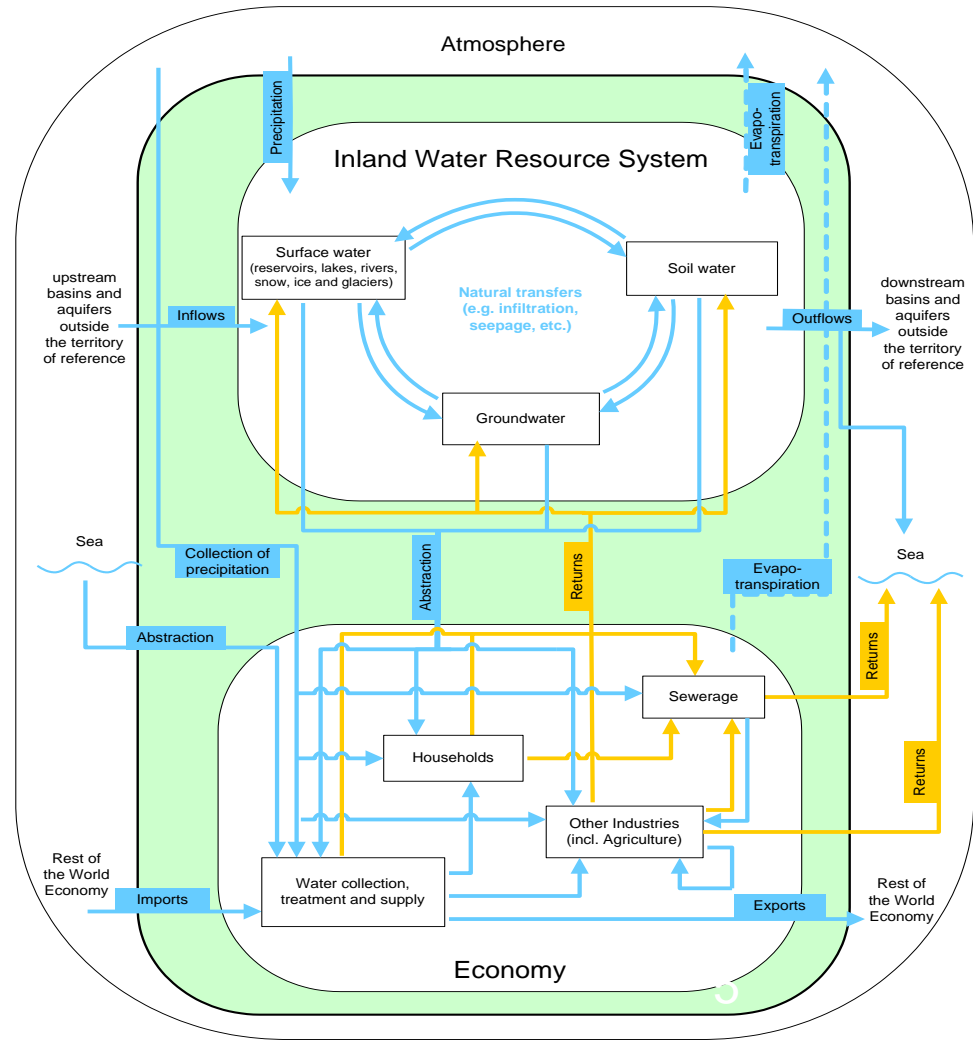
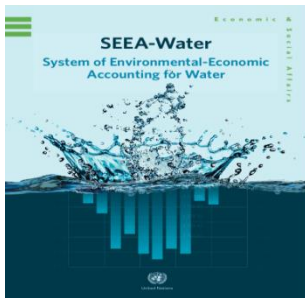
Environmental accounts provide a structured and standardised way to organise environmental information:

- Integrate environmental information with social and economic information;
- present comparable information in a systematic fashion, using standard definitions;
- encourage the development of comprehensive and consistent data sets over time; and
- provide a framework from which a range of indicators can be produced.

*System of Environmental Economic Accounts (SEEA) became an international statistical standard in February 2012*

# SEEA-Water

- Stocks and flows
- Economy and environment
- Volume and values



# SEEA-Water: Strengths

- It integrates water information with
  - Economic information from the SNA
  - Other environmental information via accounts (e.g. energy, land, forest, subsoil assets, pollution)
- Brings diverse professions together (hydrologists, economists, engineers, government decision-makers and policy developers, statisticians, etc.)
- Provides a complete system, so a wide variety of information and indicators can be produced over time



# Water Accounting in Australia

- Water Account Australia (ABS)
- National Water Account (BOM)
- State Accounts
- Water Resource Plans (from 2019) (MDBA)

## Related information

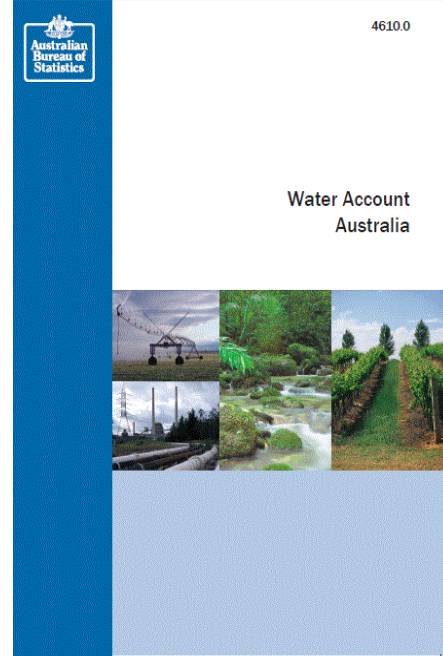
- Annual Climate statement (BOM)
- Water in Australia (BOM)

The BOM and State accounts can be mapped to the SEEA

# Water Account, Australia

## What is in the publication?

- Web-based publication (previously a .pdf file and hard copy)
- Downloadable spreadsheets
  - Summary tables
  - Monetary tables
  - Water Supply, Sewerage and Drainage
  - Agriculture
  - Physical Water Supply and Use
  - Experimental estimates of soil water use and household rainwater tank use
  - Time series, all states/territories



# Water Account, Australia - data sources



# Water Account, Australia

## Key data items

### Sources of Water

- Bulk supply
- Self extracted
  - Surface water
  - Groundwater
  - Desalination

### Recycled (reuse) supply and use

- Supplied to customers
  - Residential
  - Non residential (industry split)
  - Water suppliers (bulk supply)
- Own use
- Environmental flows

### Water supply and use

- Supplied to customers
  - Residential
  - Non residential (industry split)
  - Water suppliers (bulk supply)
- Own use
- Environmental flows
- Losses (i.e. real and apparent)

### Sewerage and drainage services

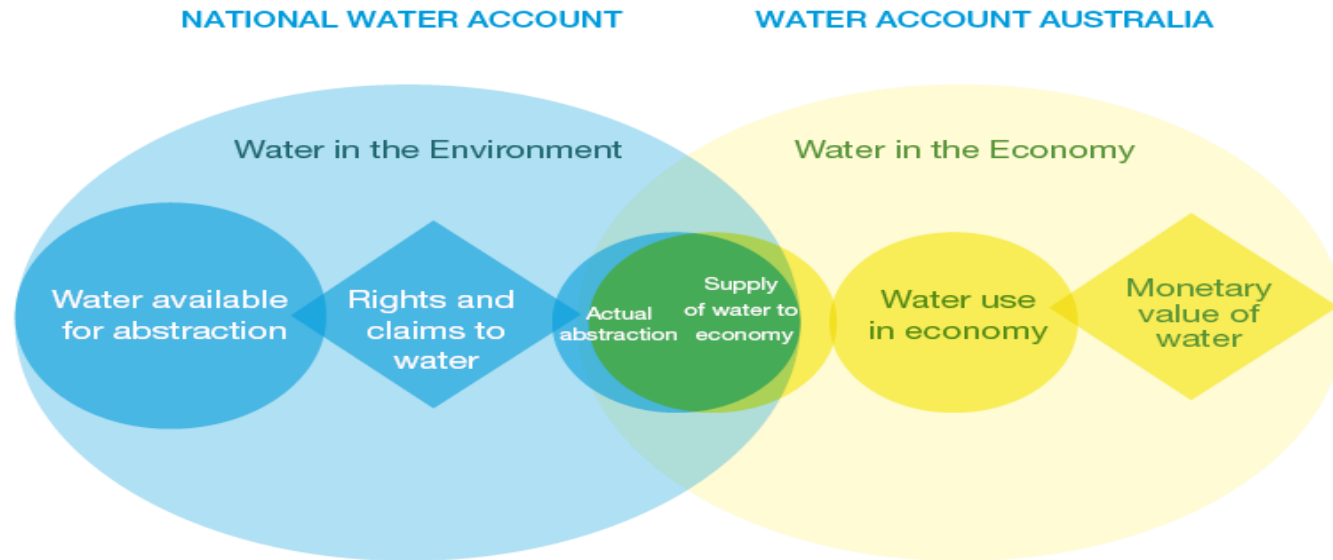
- Collection, treatment and discharges to the environment

### Financial

- Revenue and expenditure

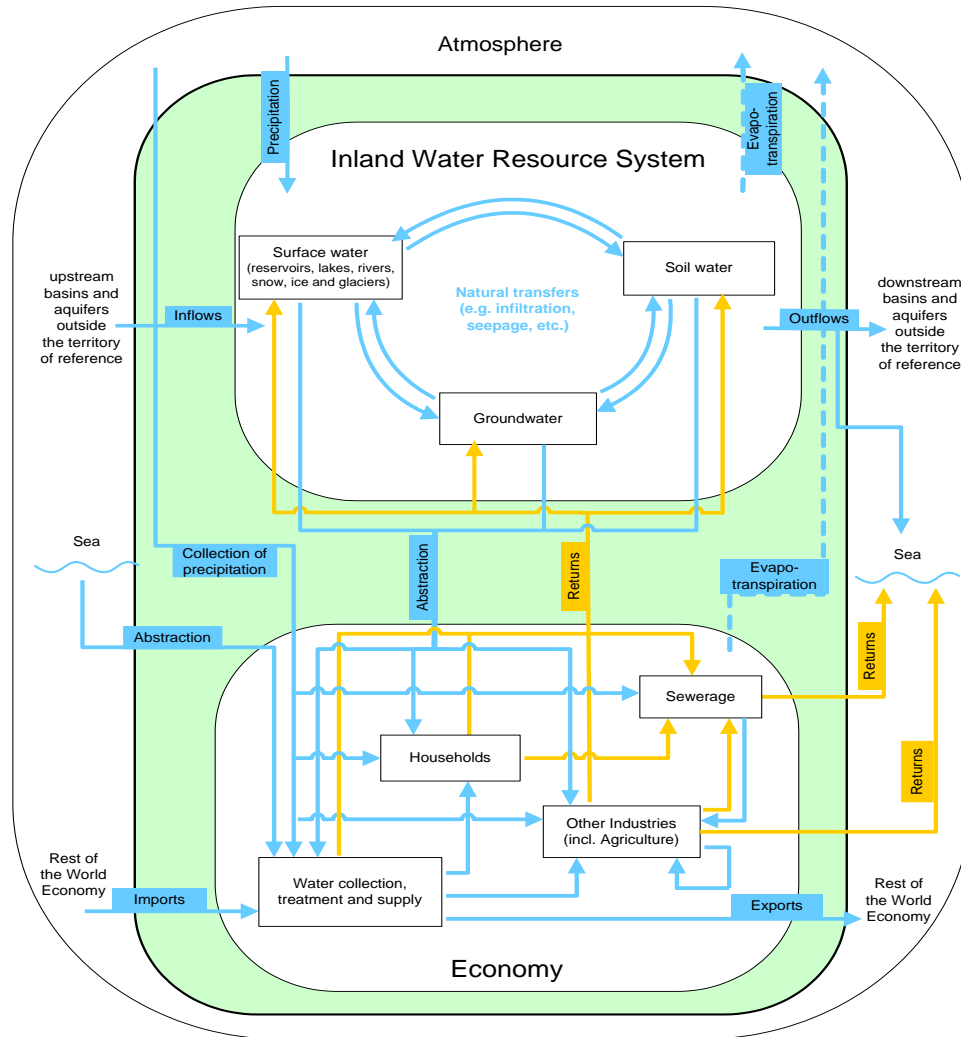
# Water Account, Australia

“Total abstraction” – the intersection of the accounts



**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



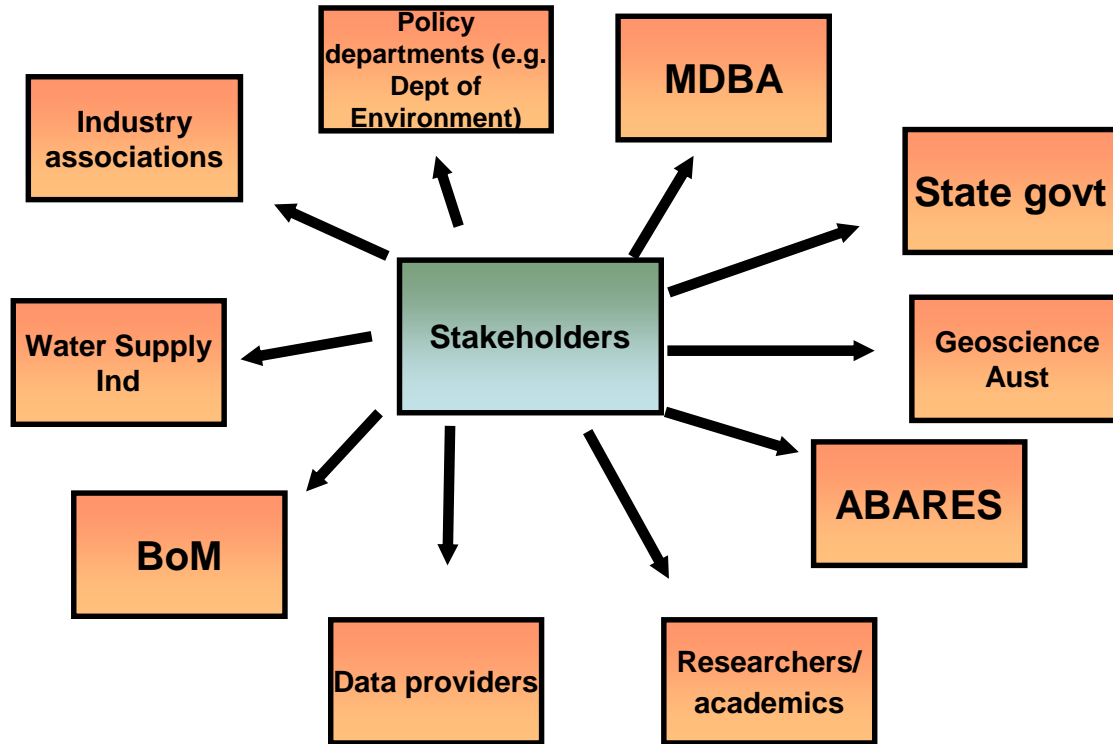
# Water Accounting in Australia

## “YOU COMPLETE ME”



# Water Account, Australia

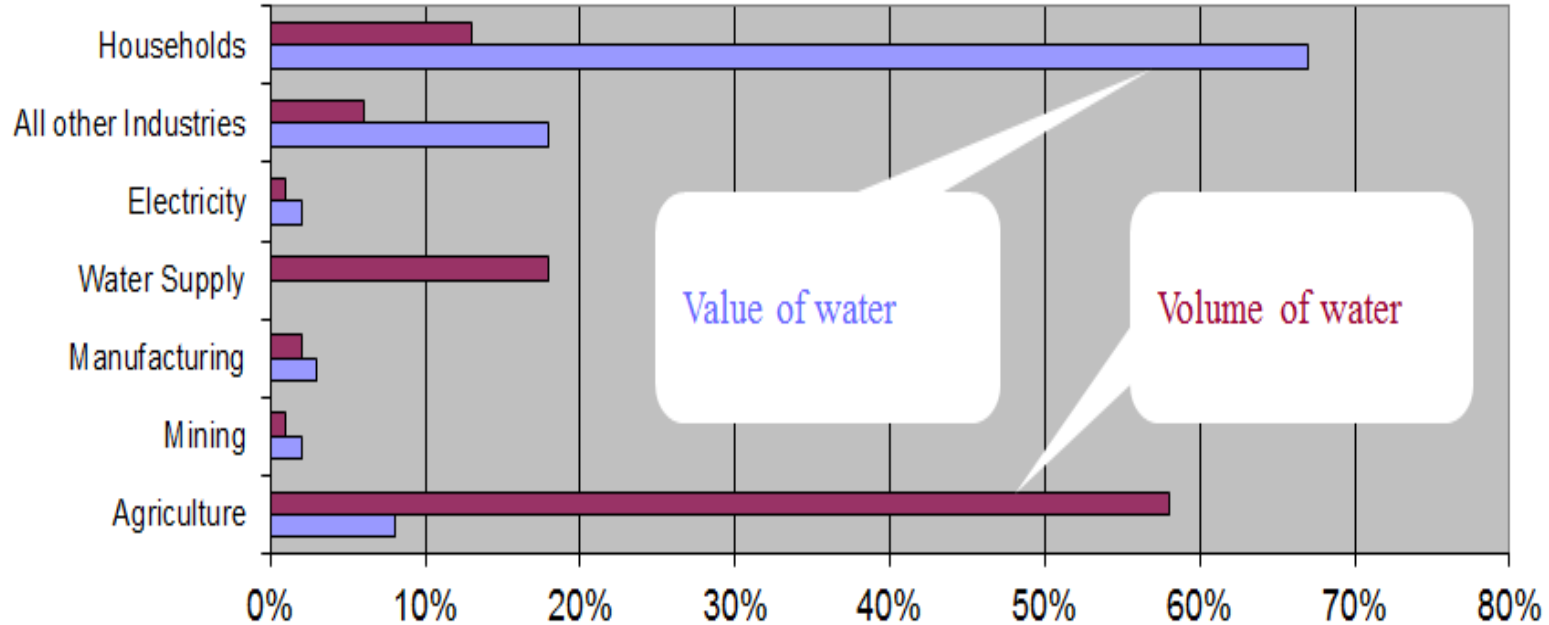
## Key users of the ABS Water Account





# Water Account, Australia

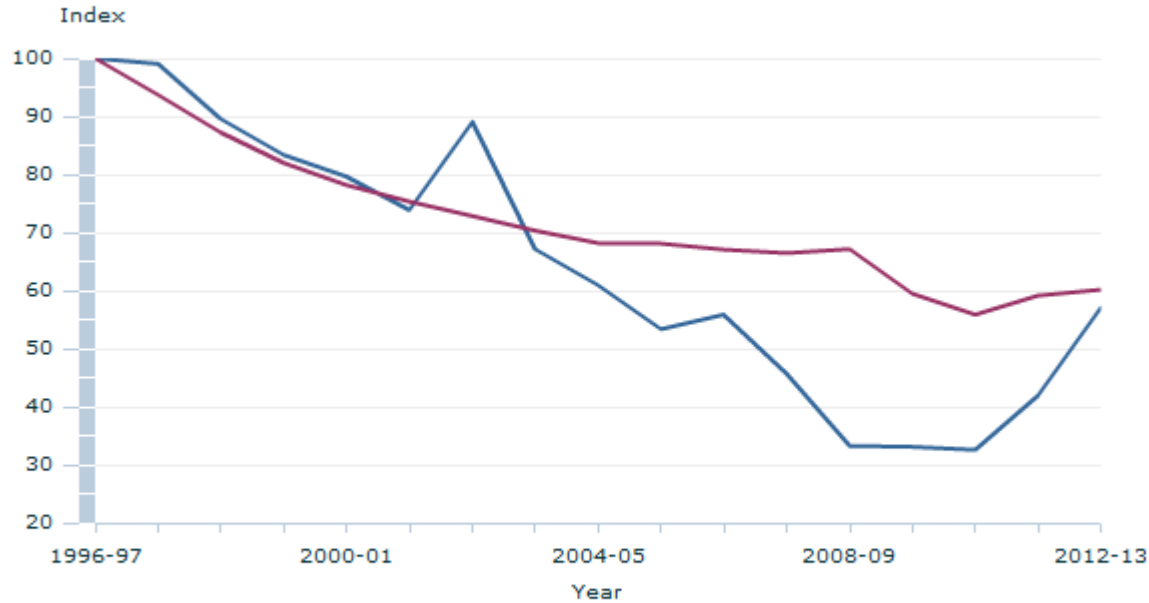
Monetary vs. physical use of distributed water (% of total use) – 2013-14



# Water Account, Australia

## Industry intensity of water use: 1996-97 to 2012-13

CHANGE IN WATER INTENSITY (a), Agriculture & all other industries, 1996-97 to 2012-13



■ Water Intensity Agriculture  
■ Water Intensity All Other Industries

# Water Use on Australian Farms

## (cat. no. 4618.0)

### KEY FIGURES

#### WATER USE ON AUSTRALIAN FARMS, year ended 30 June 2014

	Aust.	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	MDB	Non MDB
<b>AGRICULTURAL WATER USE</b>											
Agricultural businesses ('000)	128.5	41.1	30.8	26.8	13.3	11.9	3.9	0.5	0.1	50.9	77.5
Agricultural businesses irrigating ('000)	36.2	8.5	10.2	7.5	5.1	3.2	1.6	0.2	0.0	14.5	21.7
Total water use ('000 ML) (a)	11 561.9	4 506.0	2 677.6	2 957.8	763.2	343.9	255.7	57.2	0.4	8 024.7	3 537.2
Water applied for irrigation ('000 ML) (b)	10 730.9	4 295.1	2 519.9	2 702.9	704.6	259.4	231.3	17.5	0.2	7 736.4	2 994.5
Water applied for other agricultural purposes ('000 ML) (c)	831.0	210.9	157.8	255.0	58.6	84.5	24.4	39.7	0.2	288.3	542.7
Change in total water use from 2012-13 (%)	-3.1	-13.4	2.4	12.8	-9.4	6.1	-6.0	13.5	-2.4	-6.4	5.4

# *Water Account, Australia*

## **Forward strategies and Challenges**

- Broader awareness of the SEEA beyond ABS
- Maintain a regular time series
- Timeliness
- Spatial referencing
- Data-provider load – use of administrative data
- Research program
- Build, share and promote use cases

# *Water Account, Australia*

## Data Gaps

- Soil water use in agriculture (experimental estimates)
- Household rainwater tanks (experimental estimates)
- Discharges back to the environment
  - irrigation run-off
  - Environmental Flows and Environmental Water holders
- Discharges to sewerage (split by industry/households)
- Appropriate valuation of water and water infrastructure assets

# *Water Account, Australia*

## Coming soon....

- Australian-Environmental Economic Accounts, 2016 (April 2016)
  - Including a paper on “Valuation of Stock of Australia’s Water Resources”
- Water Use on Australian Farms, 2014-15 (April/May 2016)
- Water Account, Australia, 2014-15 (November 2016)

# Discussion and Questions

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