ABS: Accounting for Water

An overview of the Water Account, Australia

Steve May

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

Presented by: Steve May
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.’

18th 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
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

- ABS Collections/Surveys
- Annual Reports (Water Providers)
- Water Supply and Use
- State Water Accounts/Reports
- Performance Reports (Water industries)
- Government Agencies/Departments
- Industry Associations
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

- Industry associations
- Water Supply Ind
- BoM
- Data providers
- Researchers/academics
- MDBA
- State govt
- Geoscience Aust
- ABARES

Policy departments (e.g. Dept of Environment)
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

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