

National Water Account Australian Experience

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Road Map

- Who we are?
- Australian Conditions
- Australian Water Sector and its Challenges
- What is the NWA and its purpose?
- What is the water accounting standards and its purpose and use?
- What is the water accounting concept?
- Who is using the NWA?
- Conclusion and Summary



Where we work

Bureau of Meteorology

- Regional Office
- Forecasting Office
- Information Office
- Airport Meteorological Unit
- Defence Meteorological Support Unit
- Defence Weather Service Office
- Staffed Observing Office
- Solar Observatory
- National Meteorological and Oceanographic Centre



8h
most visited
website in
Australia



Australian Government
Bureau of Meteorology

Outcomes and outputs



Safety

- Cyclone warning
- Flood warning
- Marine weather warning
- Heatwave warnings ...



Sustainability

- El Nino and La Nina
- Water resource assessment and account
- Sea temperature and currents
- Climate monitoring ...



Well-being

- Temperature and wind
- Rainfall and sunshine
- UV protection
- Coral bleaching ...



Prosperity

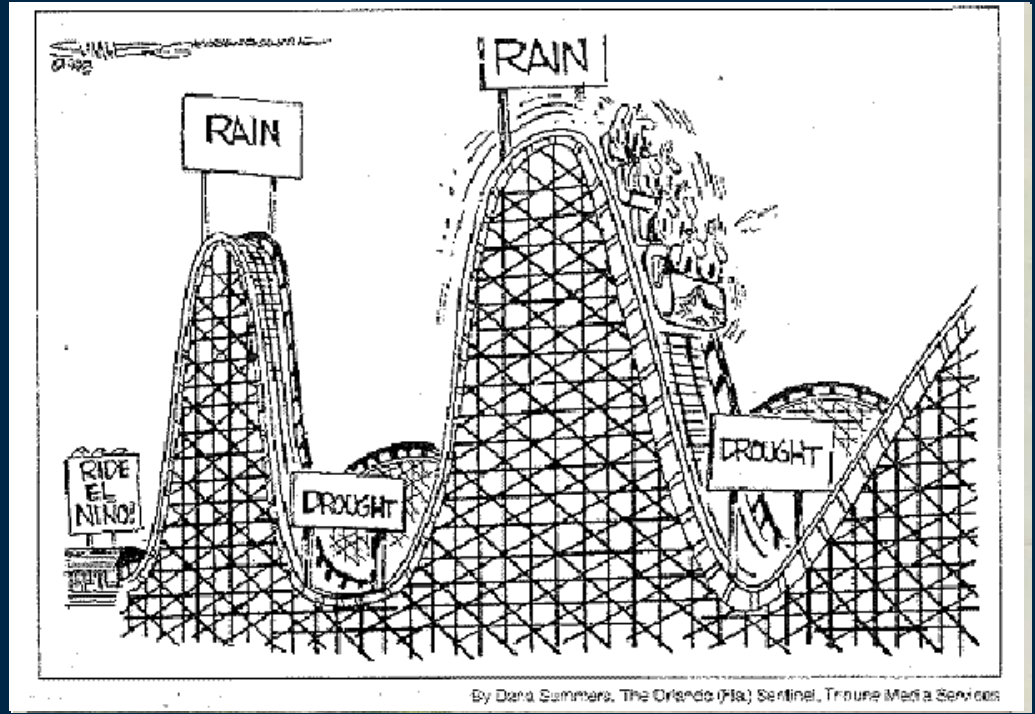
- Aviation forecasts
- Disaster mitigation
- Commercial weather services
- Information infrastructure ...



Australian Government
Bureau of Meteorology

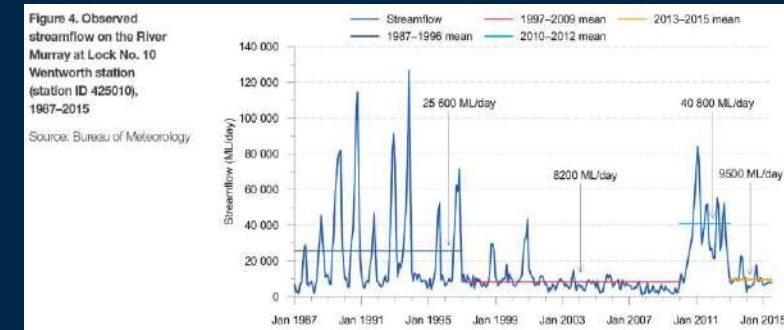
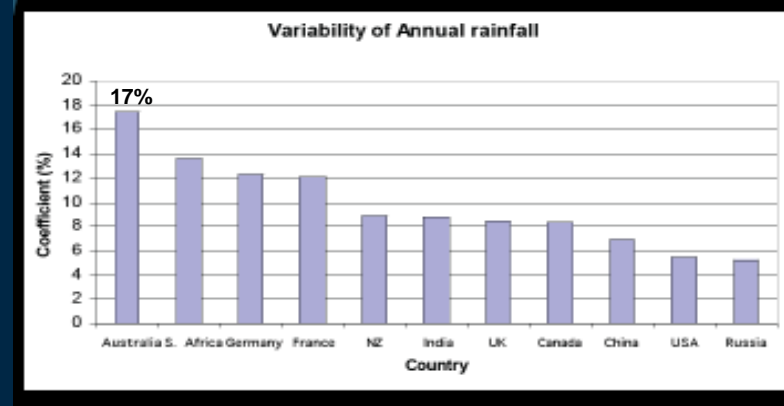
Highly variable rainfall

We frequently lurch from drought to flood and back

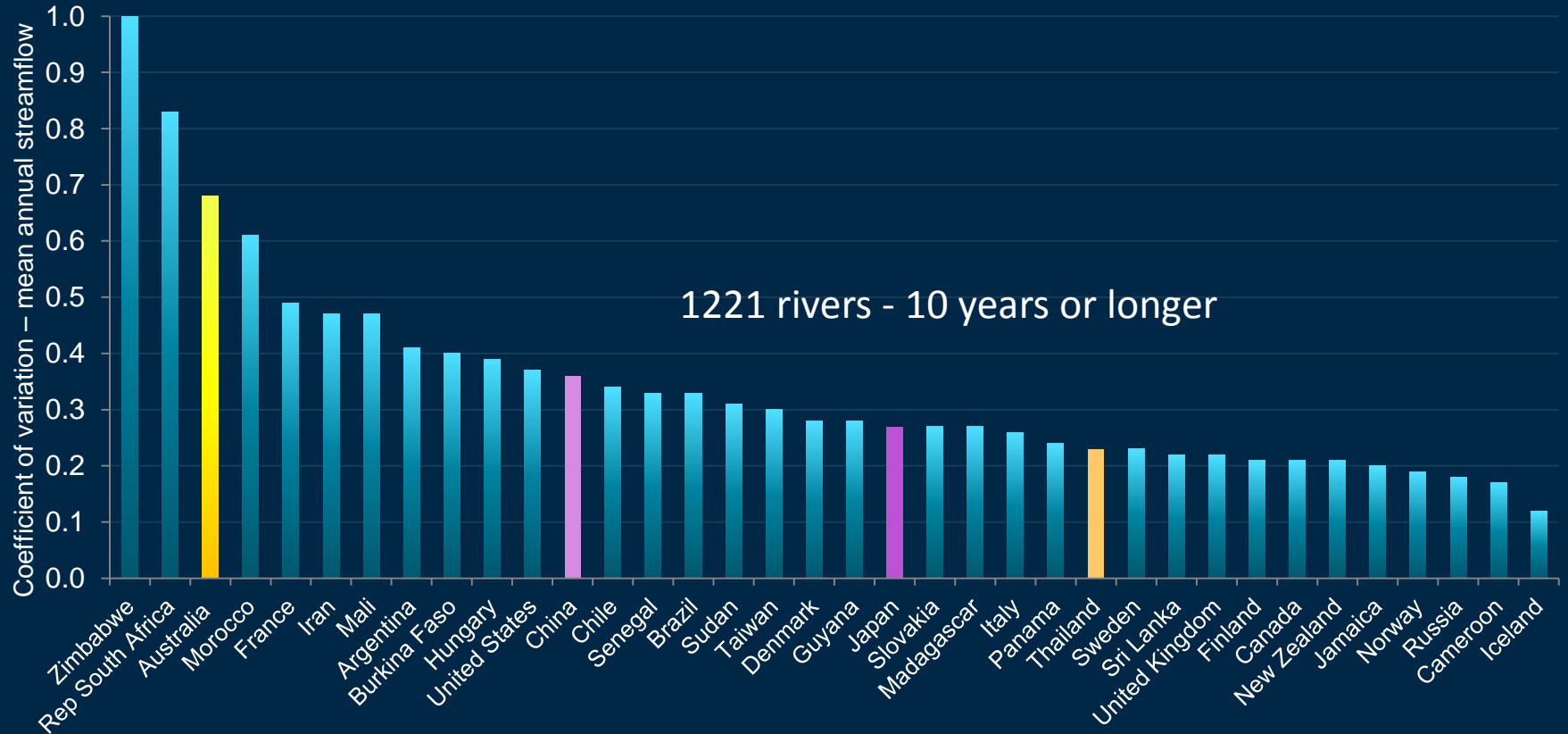


Water Resources Management Challenges

- Intensification of the hydrological cycle
- highly variable rainfall from region to region and year to year (>than double of China).
- Population & Urbanization
- Rainfall affects streamflow and groundwater replenishment,
- Long-term changes in climate further exacerbate the challenges
- frequent drought-flood problems.
- Water shortages – imbalance S&D
- Economic developments
- Data monitoring, availability and connectivity



highly variable streamflow



Water Sector

Actors in the Water Sector

Many players with varied roles



Australian Government

- National policy development
- Performance assessment
- Structural adjustment
- Environmental water



State governments

- Water planning
- Water entitlements
- Environmental protection
- Price regulation



Water utilities

- Water supply
- Water treatment
- Drainage
- Cost recovery



Local government

- Water restrictions
- Flood management
- Regional planning
- Drainage



Industry

- Water consumers
- Water trading
- Professional services
- Infrastructure



Public

- Water consumers
- Recreation
- Conservation
- Judging governments

Polarisation in the water sector

Some battlelines:

- Irrigation v Environment
- Urban v Rural
- State v State
- State v Federal
- Resources v Agriculture
- Augmentation v Conservation
- Desalination v Recycling
- Regulation v Markets



Lack of water information

Seemingly simple questions, answers unavailable in 2006

- How much water is available?
- What is the water availability outlook?
- How much water is being traded?
- How much water is being allocated?
- Who is entitled to use water and how much are they using?
- How much is the water in our rivers and aquifers changing?
- How much water is being lost to evaporation and leakage?



New Bureau Water Information Service – *Water Act 2007*

Water Act 2007,

to ***collect, hold, manage, interpret and disseminate*** Australia's water information.



- **The Bureau's NEW responsibilities :**
 - issuing national water information standards
 - collecting and publishing water information
 - conducting regular national water resources assessments
 - **publishing an annual National Water Account**
 - providing regular water availability forecasts
 - giving advice on matters relating to water information
 - enhancing understanding of Australia's water resources.



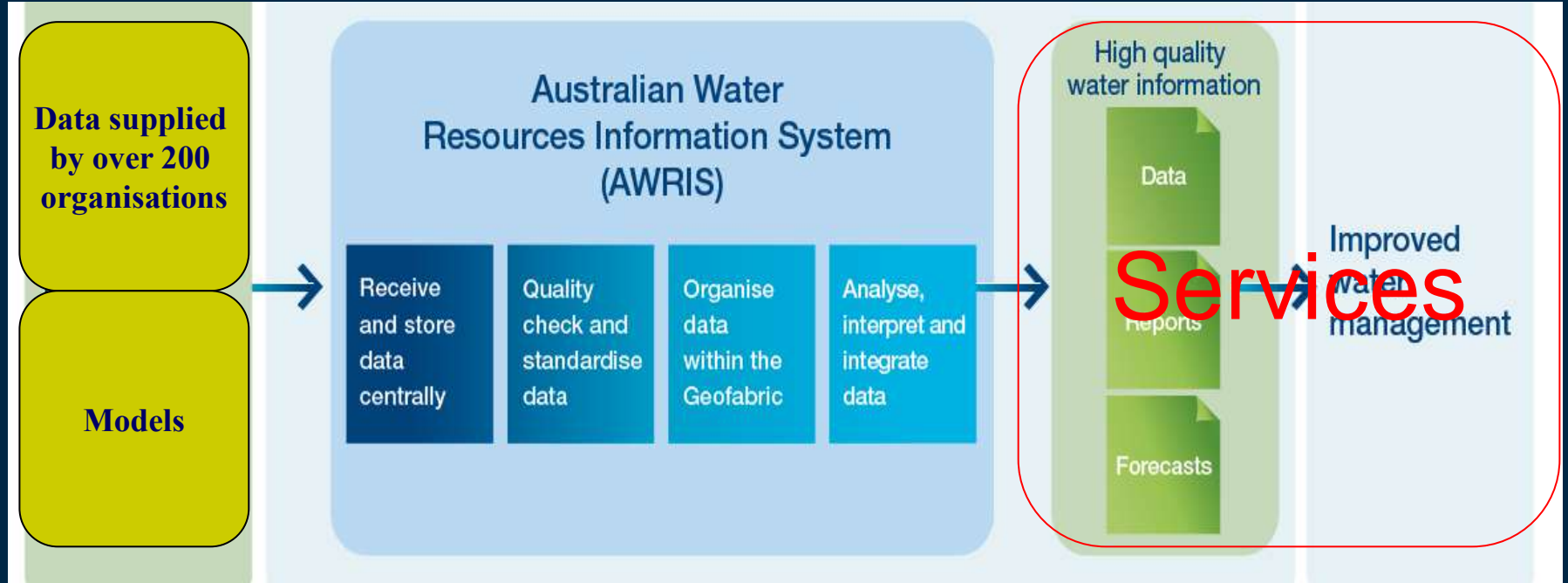
Water Act 2007

No. 137, 2007

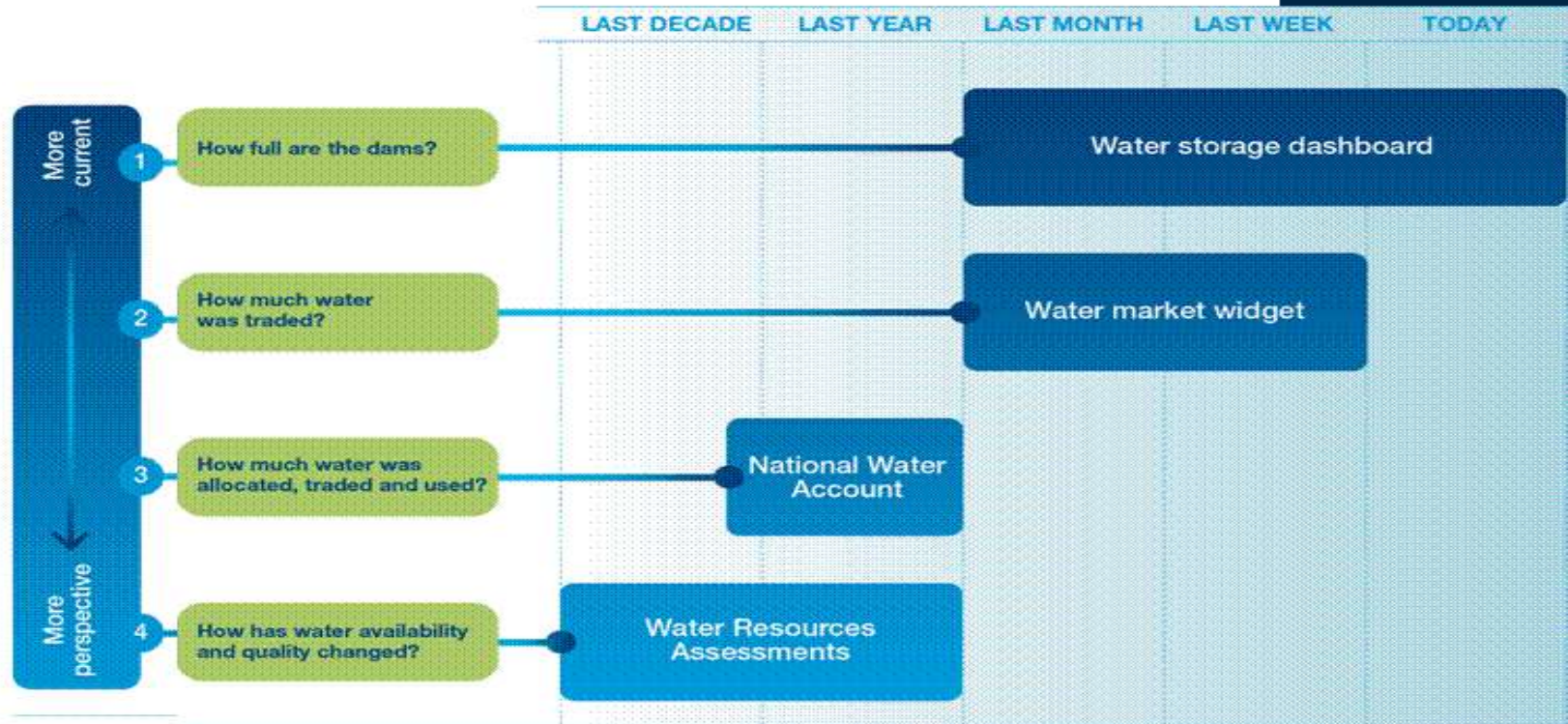
An Act to make provision for the management of the water resources of the Murray-Darling Basin, and to make provision for other matters of national interest in relation to water and water information, and for related purposes

View Statute on Austlii and on the Australian Government website for details of the Act and its operation

The Bureau's Water Information



21st century water reporting & Forecasting informing decisions

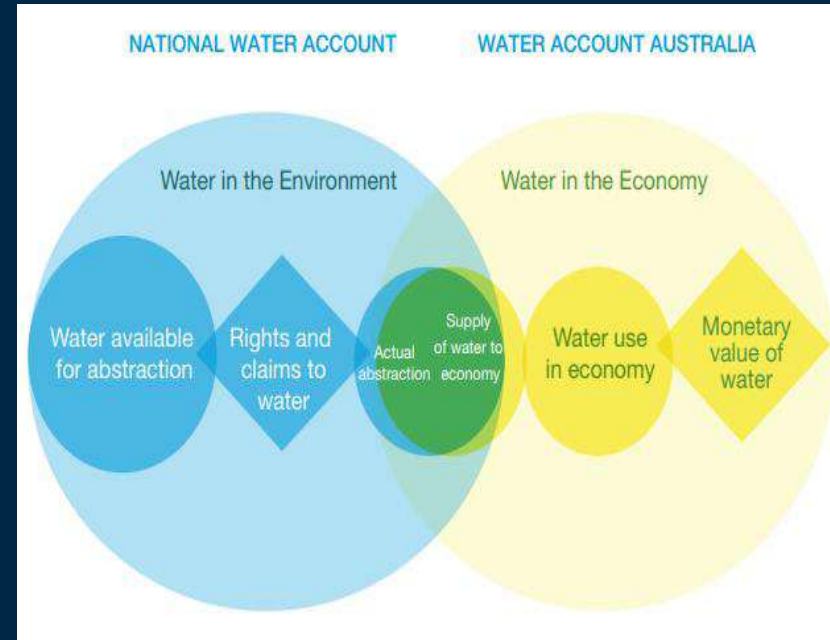


National Water Account

Overview

Australian Government Water Accounting

- emphasize different aspects of Australian water resources and the use.
- The **National Water Account** (hydrological region) focuses on:
 - the volume of water in the environment,(availability, the rights to abstract and the actual abstraction) over time.
 - climate and weather impacts on water availability, along with water management policies and practices.
- The **Water Account Australia** (jurisdictional basis) shows:
 - how much water is used by human activity (flows of water from the environment to the water supply industry and other economic activities), particularly agriculture and the flows of water from the water supply industry to households and businesses.
 - records the monetary values associated with water supplied and used in the economy and is able to link water use to the economic data in the System of National Accounts (Indicator Gross Domestic Product)
- The area of intersection between the accounts is the **amount of water abstracted from the environment by the water supply industry and other economic activities**.



actual water abstraction = water abstracted for own use (agricultural irrigation) plus water abstracted for supply to others

Why a National Water Account?

- Addresses key questions and discloses national consistent information on the amount of water that is:
 - Entitled
 - Available
 - Allocated
 - Accessed for use
 - Traded
 - Lost



Under the *Water Act 2007* the Director of Meteorology has the obligation to publish NWA

Water accounting

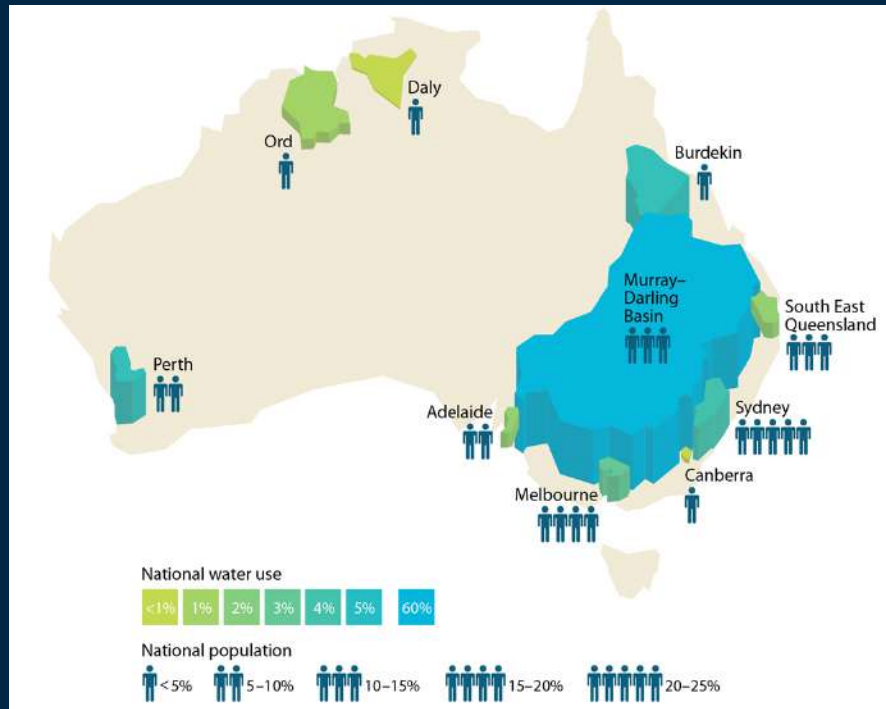
- **Marriage** of science of water with rigour of financial accounting
- **Water accounting statements** for water assets and water liabilities
 - Assets and liabilities; stocks and flows
- **Financial analogy**: appendix of financial records in a company annual report
 - Used to tell a story of the financial viability and health of a company
- Independent, standardised, quality assured, authoritative
- **Guided** by Australian Water Accounting Standards (AWAS)
- **Australia first** to initiate and adopt the framework



National Water Account

10 nationally significant regions coverage:

- 80% of population
- 70–80% of water supplied for use
- 70% of urban water supply
- Almost all water trading
- Most agricultural areas



Development of Australian Water Accounting Standards

What is water accounting?

Water accounting is a systematic process of identifying, recognising, quantifying, reporting, and assuring information about:

- » water
- » the rights or other claims to that water
- » the obligations against that water

Development of Australian Water Accounting Standards

Has it origins in the National Water Initiative (2004)

- To support public and investor confidence in the amount of water being traded, extracted for consumptive use and recovered and managed for environmental and other public benefit outcomes.



Development of Australian Water Accounting Standards

2006

- Stocktake report on Australia's water accounting practices
- "signs of some good practice, (but) water accounting in Australia is at an immature phase and being developed in an ad-hoc fashion"
- Reports primarily focused on the needs of management and not external users.
- **Recommended water accounting be developed as a discipline**

2007

- National Water Accounting Development Project and Committee established
- User information requirements and **financial accounting analogy**
- **Pilot program** involving water managers and practitioners

2008

- BoM given responsibility for water accounting development and production of National Water Account

Development of Australian Water Accounting Standards

2009

- Water Accounting Conceptual Framework
- Preliminary Australian Water Accounting Standard

2010

- Pilot program extended
- Exposure Draft of Australian Water Accounting Standard 1

2011

- Partnership with Auditing and Assurance Standards Board
- Assurance standard development commenced

Development of Australian Water Accounting Standards

2012

- Exposure draft of the assurance standard
- Effects Analysis of adopting Australian Water Accounting Standard 1
- Australian Water Accounting Standard 1

2013

- Australian Water Accounting Standard 2: Assurance Engagements on General Purpose Water Accounting Reports

Who has been involved?

Testing of the Water Accounting Conceptual Framework

Pioneer Valley (QLD)

Murrumbidgee (NSW)

Lower River Murray (SA)

River Murray Operations (MDBA) Goulburn-Broken Catchment (VIC)

Testing the iterations of the Australian Water Accounting Standards

National Water Account (Bureau)

Harvey Water [Irrigation company] (WA)

Hydro Tasmania (TAS)

Minerals Council of Australia

Northern Territory Power and Water (NT)

Amcor [Manufacturing company]

ActewAGL (ACT)

Commonwealth Environmental Water Holder

Department of Water (WA)

Office of Water (NSW)

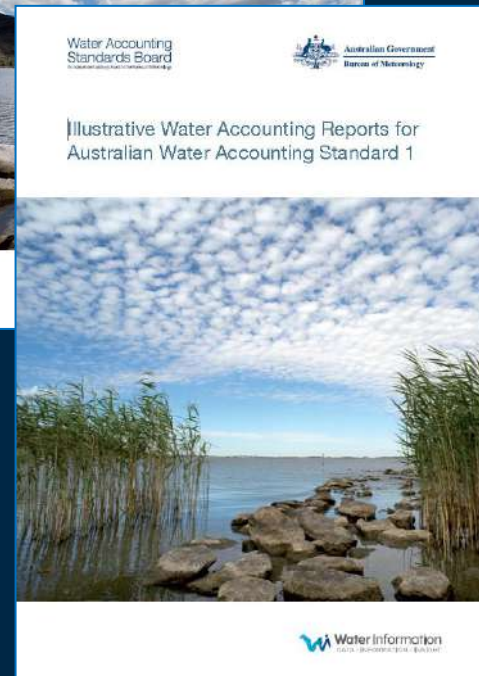
Murray-Darling Basin Authority

Department for Water (former) (SA)

Department of Environment and Resource Management (former) (QLD)

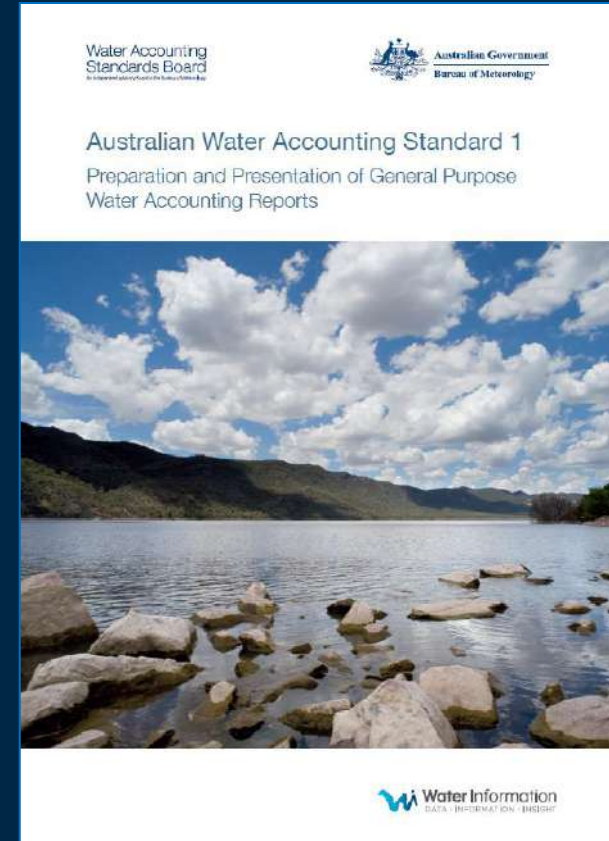
A standardised approach to reporting

- Australian Water Accounting Standard 1 is for the **preparation and presentation** of a General Purpose Water Accounting Report
- General Purpose Water Accounting Report is for the **common information needs** of a wide range of users
- Prepared on the basis to deliver a **consistent, comparable, auditable reports** for the users who are unable to command this information themselves and provide investment confidence



Objective of General Purpose Water Accounting Reports

- A general purpose water accounting report shall **provide information to users** of that report that will be useful in **making and evaluating decisions about the allocation of resources**
- Better information leads to better decisions



What is in a General Purpose Water Accounting Report?

- Contextual Statement
- Accountability Statement
- Statement of Water Assets and Water Liabilities
- Statement of Changes in Water Assets and Water Liabilities
- Statement of Water Flows
- Note Disclosures

Statement of Water Assets and Water Liabilities

Provides information that enables users to **understand the nature and volumes of water resources** of a *water report entity* and the nature and volumes of **present obligations** against these water resources.

- Water assets
- Water liabilities
- Net water assets

Statement of Water Assets and Water Liabilities
as at 30 June 2X11

	Notes	2X11 ML	2X10 ML
WATER ASSETS			
Surface water assets			
Lake Robinson	2a 2g	42 570	51 290
Lake Pimpampa	2a 2g	333 900	544 684
Lake Carson	2a 2g	1 088 000	2 102 067
Lake Kanooka	2a 2g	181 500	291 457
Lake Ballet	2a 2g	47 840	50 433
Lake McDonald	2a 2g	95 289	99 076
Lake Williamson	2a 2g	380 800	378 759
Ansley Reservoir	2a 2g	15 593	15 180
Lake Watson	2a 2g 2i	68 103	72 294
Total surface water assets		3 053 594	3 595 240
TOTAL WATER ASSETS		3 053 594	3 595 240
WATER LIABILITIES			
Allocation water liability			
Environmental water liability – Sheahan River	2b	373	8 034
Environmental water liability – Lake Faulkner	2c	1 400	1 300
Total allocation water liability		1 773	9 334
TOTAL WATER LIABILITIES		1 773	9 334
NET WATER ASSETS		3 051 821	3 585 906
Net water assets at the beginning of the reporting period		3 585 906	3 541 539
Change in net water assets		(534 085)	44 367
NET WATER ASSETS AT THE END OF THE REPORTING PERIOD		3 051 821	3 585 906

Statement of Changes in Water Assets and Water Liabilities

Provides information that **enables users** to understand **the changes in nature and volumes of water resources** of a *water report entity* and the nature and volumes of **present obligations** against these water resources.

- Water asset increases / decreases
- Water liability increases / decreases
- Change in net water assets

Statement of Changes in Water Assets and Water Liabilities
for the year ended 31 December 2X11

	Notes	2X11 ML	2X10 ML
WATER ASSET INCREASES			
Precipitation	2c	66 980	86 206
Inflows	2c	453 827	501 554
Increase from surface water licence			
– Burns Reservoir	2b 2c	18 250	18 250
Increase from groundwater licence			
– Hamer Basin	2b 2c	10 000	10 000
Increase from groundwater licence			
– Pura Mound	2b 2c	6 000	6 000
Inter-segment transfers	2c	20 094	0
TOTAL WATER ASSET INCREASES		575 151	622 010
WATER ASSET DECREASES			
Evaporation	2d	151 632	151 632
Outflow	2d	128 019	138 703
Terra Firma water supplied to customers	2d	255 312	243 845
Losses	2d	19 360	16 940
Inter-segment transfers	2d	20 094	0
Forfeiture – Burns Reservoir	2b 2d	0	825
Forfeiture – Pura Mound	2b 2d	154	0
Forfeiture – Hamer Basin	2b 2d	2 000	80
TOTAL WATER ASSET DECREASES		576 571	552 025
Unaccounted-for difference	2e	(4 108)	(25 602)
CHANGE IN NET WATER ASSETS	4a	(5 528)	44 383

Benefits of adopting Australian Water Accounting Standard 1

Report preparers

- Meeting several reporting obligations with a **single report**
- Greater **public understanding** of water resource planning
- Possibility to **aligning financial accounting** information with water information
- Demonstration of **responsible stewardship** of a natural resource
- Ability to improve the understanding of the **water system** being managed

Benefits of adopting Australian Water Accounting Standard 1

Report users

- **Improved** decision-making
- Greater understanding of **water management planning** decisions
- Ability to effectively and efficiently **compare investment opportunities**
- **Enhanced confidence** as information is presented in a relevant and comparable manner and independently assured

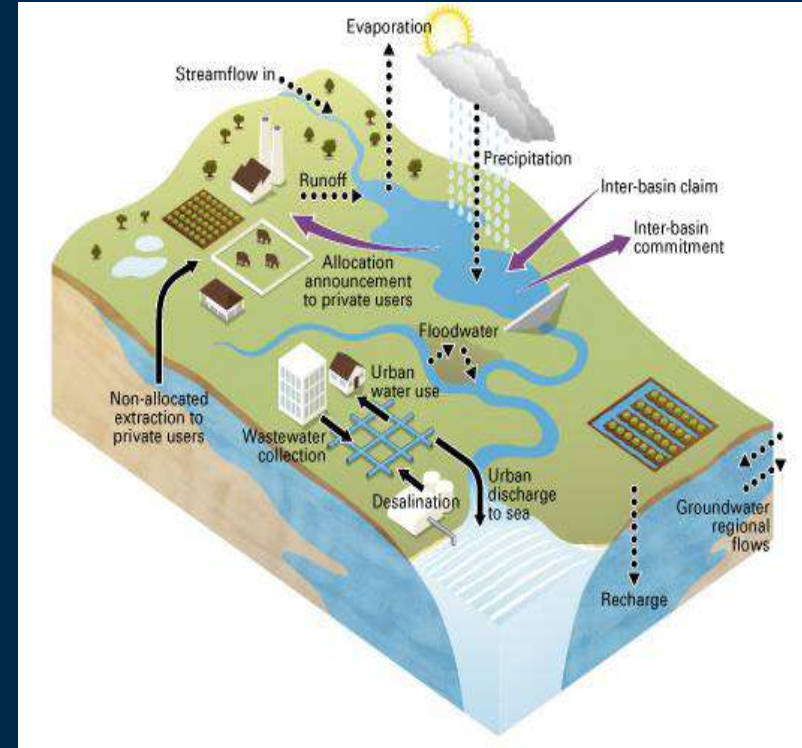
Water Accounting Standards Board

- Further information and documentations:
www.bom.gov.au/water/standards/wasb

National Water Account: Accounting concepts

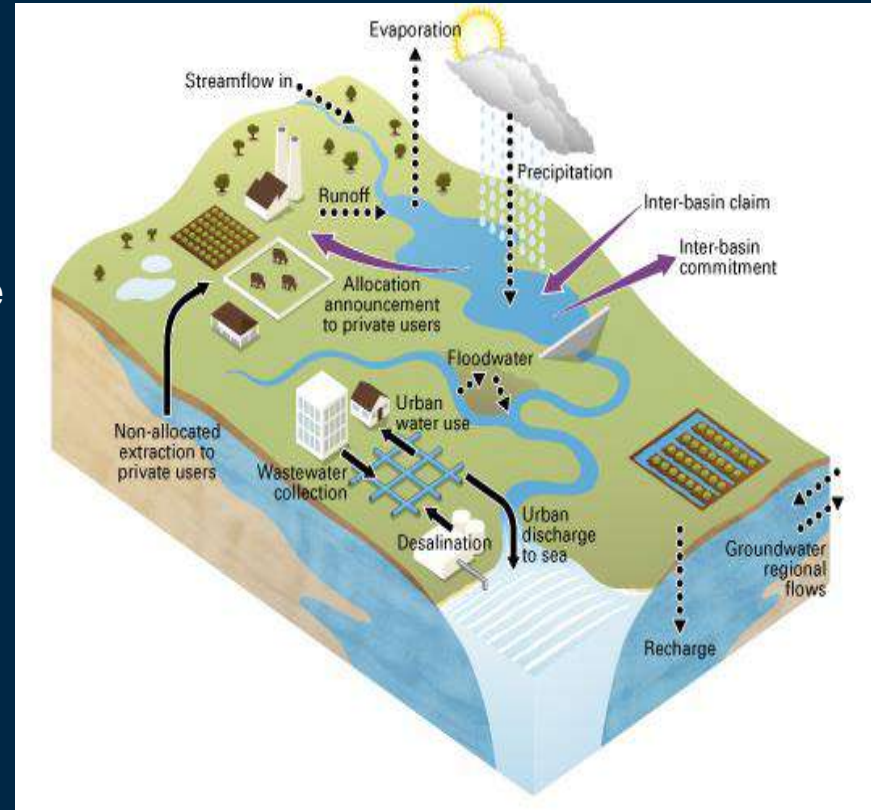
Concepts—water accounting

- Whole of system assessment
- Across utility boundaries
- The water account reports on the stocks and flows of water.
- The 'unit of currency' in these statements is megalitres (ML) (not \$)
- it is prepared on an accrual basis.
 - Well, this means that these **increases and decreases** are recognised **when the claim or obligation is recorded** rather than **when actual flow occurs**, which could be weeks or months later.



Concepts—water accounting

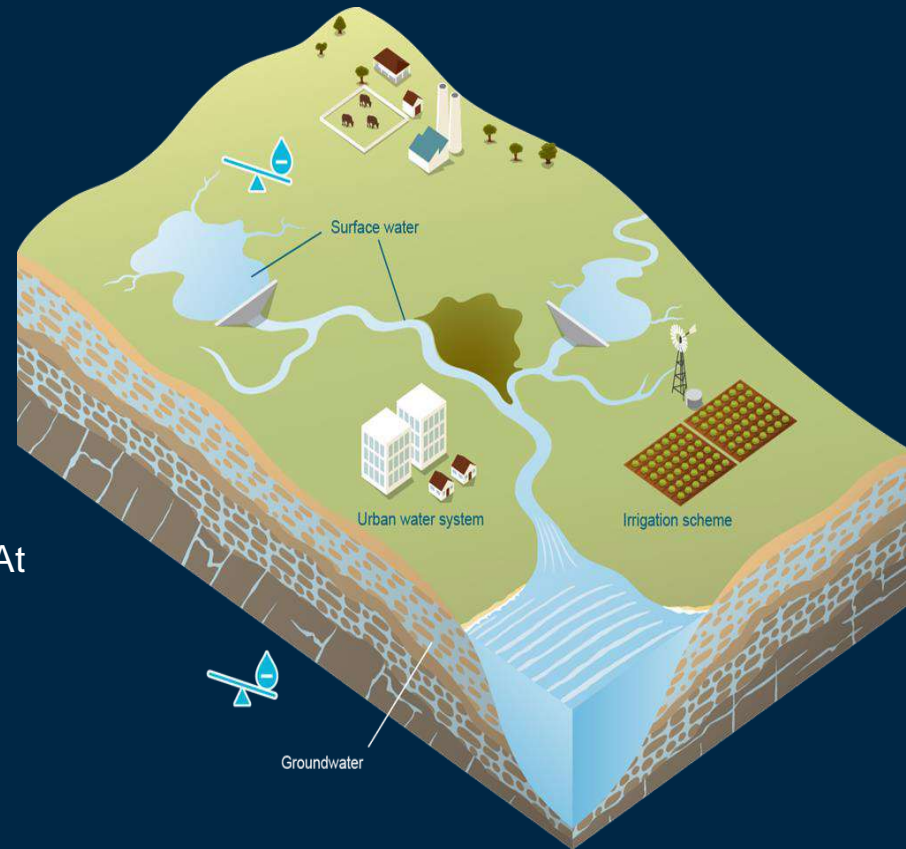
- **Water Assets and water liabilities**
 - Water you have in your possession and control and the water someone else can claim
- **Physical water** such as surface water or extractable groundwater.
- **Non-physical water**
 - It's a claim to water which is physically located outside the region – an inter-basin claim
 - This could be a individual user or urban systems claim – such as Adelaide's rights to water from the River Murray.



Concepts—water accounting

Statement of water assets and water liabilities

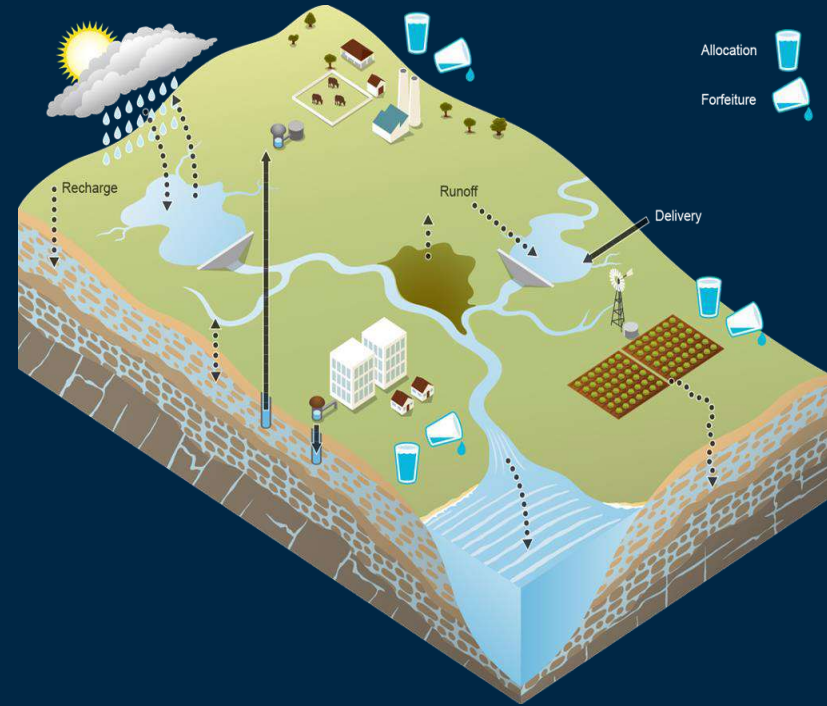
- The SWAWL is analogous to a balance sheet.
- It presents:
 - how much water is available in each water store/system in a region, and
 - how much water is still owing—a water liability. At the start and end of a year.
- **Assets minus liabilities = net water assets.**
- Net water assets can indicate the health of a region.



Concepts—water accounting

Statement of changes in water assets and water liabilities

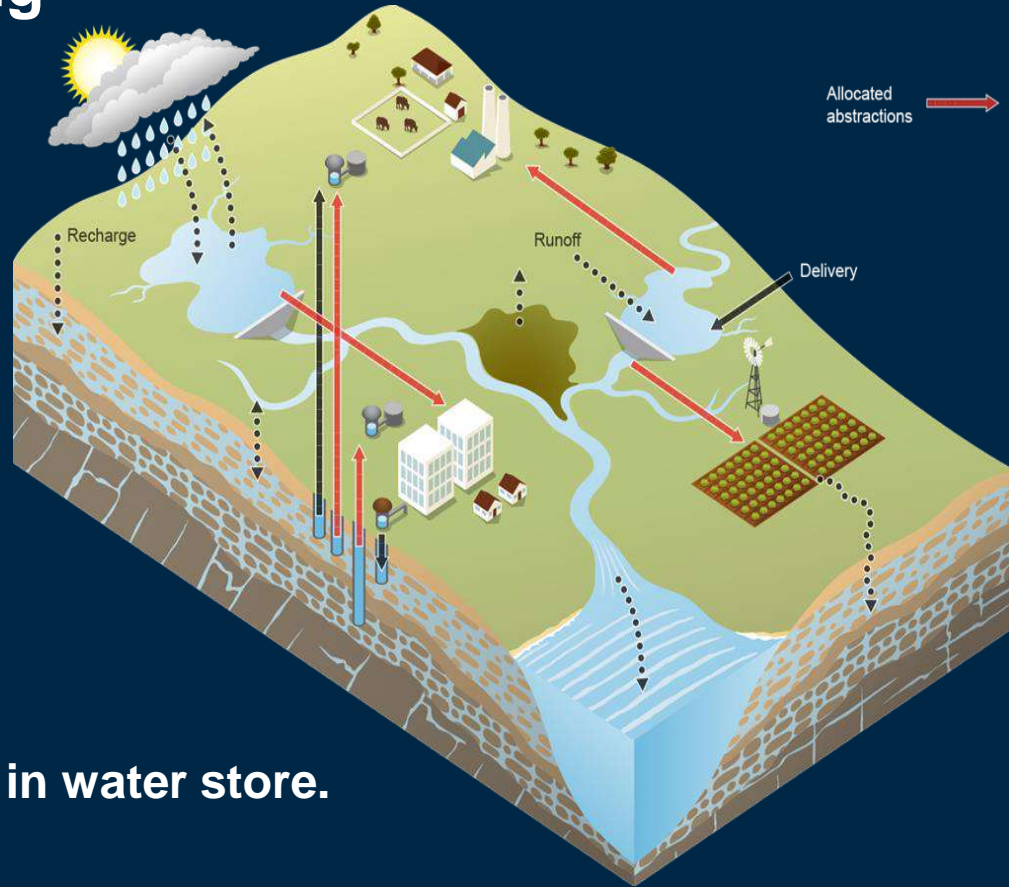
- is like an income statement.
- It presents the changes to water assets and water liabilities that occurred during the year.
- It is prepared on an **accrual basis**, that is, the changes are recognised when a claim to water or obligation to deliver is recorded, not when the actual flow occurs.
- **Changes in water assets minus changes in water liabilities = change in net water assets.**



Concepts—water accounting

Statement of water flows

- is like a **Cashflow** statement.
- It presents the actual inflows and outflows to and from the water stores that occurred during the year.
- **Inflows minus outflows = change in water store.**



Data requirements

What data are required?

- Climate data
- Metered data – flows, transfers
- Modelled data – runoff, groundwater movement
- Licence data



Data providers

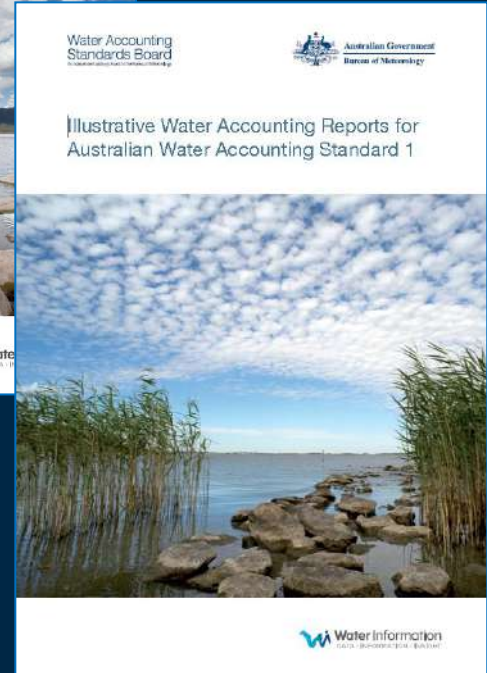
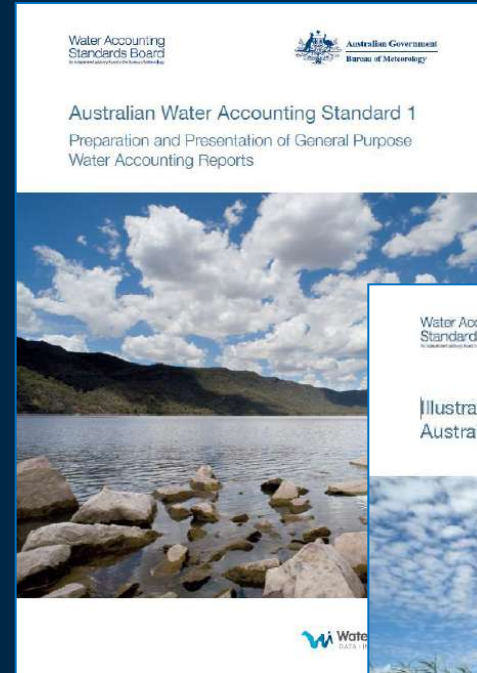
Data providers

- More than 45 Reporting Partners
 - utilities
 - local government
 - water service providers
 - irrigation bodies
 - lead water agencies
 - corporation

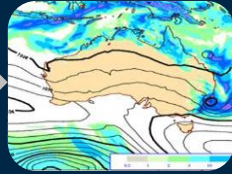


How is NWA produced?

- Data internally sourced and from more than 45 external reporting partners
 - Utilities
 - Local government
 - Water service providers
 - Irrigation bodies
 - Lead water agencies
 - Corporations
- Combination of hydrology and financial accounting model
- Guided by Australian Water Accounting Standards (AWAS1)

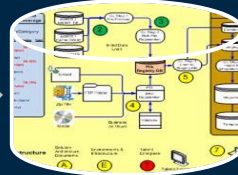


National Water Account:



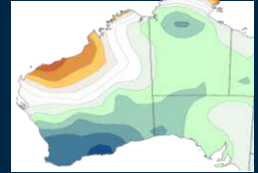
Climate
information

Hydrologic
models

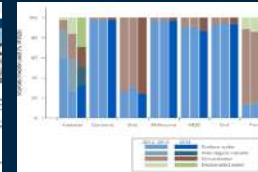


Data storage

Reporting partners



Reports



Perspective



Decision-
making

Who is using the Australian Water Accounting Standard 1?

- Bureau of Meteorology
 - Annual National Water Account
 - 10 nationally significant management regions

www.bom.gov.au/water/nwa

National Water Account 2012

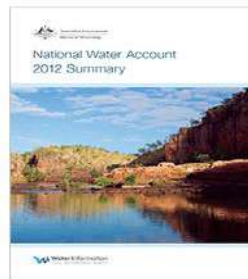
The 2012 Account contains a set of water accounting reports for nine nationally significant water management regions.

It covers a one year period, from 1 July 2011 to 30 June 2012.



2012 Account regions

- Adelaide
- Canberra
- Daly
- Melbourne
- Murray-Darling Basin
- Ord
- Perth
- South East Queensland
- Sydney



Who is using the Australian Water Accounting Standard 1?

Bureau of Meteorology

Region overview Contextual information Water Accounting Statements Notes Accountability statement		
Murray–Darling Basin		
Statement of Water Assets and Water Liabilities		
as at 30 June 2012		
	2012 ML	2011 ML
Water assets		
Surface water		
1.1 Storages	21,187,196	19,131,462
1.2 Unregulated river	–	–
1.3 Regulated river	1,326,012	1,306,337
1.4 Lakes and wetlands	1,811,372	1,925,145
1.5 Inter-region claim on water	919,776	470,066
1.10 Other surface water assets	19,952	18,131
Total Surface water	25,258,308	22,851,141
Groundwater	4,013,615	1,354,226
Total water assets	29,271,923	24,205,367
Water liabilities		
Surface water liability	6,999,878	6,780,362
Groundwater liability	2,498	2,139
Total water liabilities	7,002,376	6,782,501
Opening net water assets	17,422,866	8,820,615
Add/(Less): Change in net water assets	4,846,681	8,602,251
Closing net water assets	22,269,547	17,422,866

Water use

a. Environmental benefit

Introduction

Environmental Water Provision in the Daly region comes under the following environmental water management scenario: planned unregulated water.

Environmental water legislation

The perennial nature of both the Katherine and Daly rivers is maintained throughout the year by groundwater discharge from the Tindall and Ooloo aquifers. These rivers flows are critical for both environmental purposes and social and cultural values as they protect a variety of dependant ecosystems and maintain flow at a number of culturally important sites.

Both the [Water Allocation Plan for the Tindall Limestone Aquifer, Katherine 2009-2019](#) and the [Draft Water Allocation Plan for the Ooloo Aquifer](#) make provisions to maintain environmental flows in the Katherine and Daly rivers based on findings by [Erskine et al., 2003](#). This report provides recommendations for the maintenance of minimum streamflows to protect aquatic flora and fauna and ensure that riparian vegetation is supplied at times of extreme water stress. These plans also recognise that social, cultural and environmental values are often intrinsically linked and in accordance with Section 22B of the Water Act, have recognised water for environmental and cultural benefit as a beneficial use.

Further information on the Daly region's environmental water legislation is provided in the [Environmental water management](#) section of the 'Contextual information'.

Environmental water provisions

Tindall Limestone Aquifer, Katherine

Part 4 of the Tindall Plan describes the environmental provisions in place to preserve the groundwater discharge from the Tindall Aquifer flows into the Katherine and Daly Rivers. Due to the highly variable rainfall of the region the Plan has made provisions for three different scenarios; very dry, dry and normal to wet years. Recharge rates and groundwater discharges in each of these scenarios has been defined using modelled flow rates on 1 November.

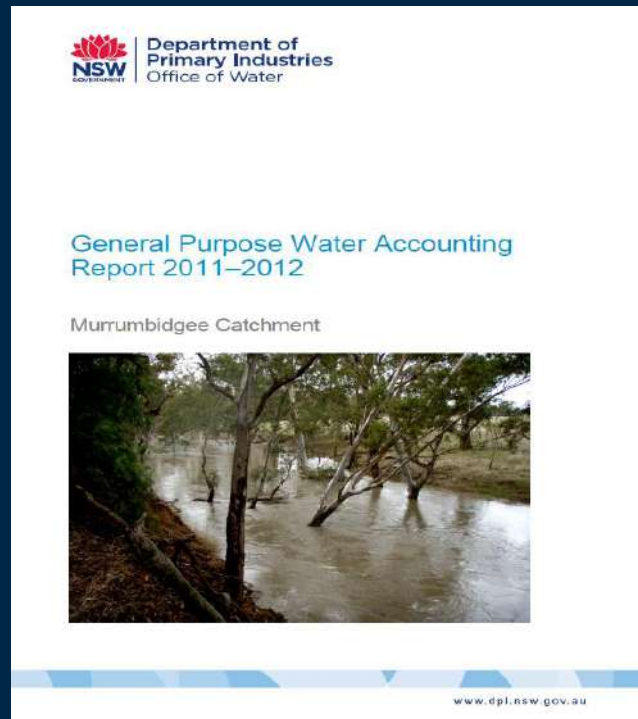
The environmental provisions indicated in the Tindall Plan are as follows;

- During very dry years, 87% of the groundwater discharging into the Katherine River will be reserved for environmental and other river-based public benefit outcomes whilst 13% is available for extraction. Very dry years are defined as those years for which modelling predicts that the flow in the Katherine River at Katherine Railway Bridge on 1 November, will be less than or equal to 0.6 m³/s. Modelling indicates that at a 1 November instantaneous flow of 0.6 m³/s, 87% of annual discharge from this water source represents 29,043 ML.
- During dry years, 80% of the groundwater discharging into the Katherine River will be reserved for environmental and other river-based public benefit outcomes, whilst 20% is available for extraction. Dry years are defined as those years for which modelling predicts that the flow in the Katherine River at Katherine Railway Bridge on 1 November will be greater than 0.6 m³/s and less than or equal to 1 cumec. Modelling indicates that at a 1 November instantaneous flow of 0.7 m³/s, 80% of annual discharge from this water source represents 31,088 ML, and that at a November 1 instantaneous flow

Who is using the Australian Water Accounting Standard 1?

- NSW Office of Water
 - General Purpose Water Accounting Reports for all Murray-Darling Basin regulated river catchments
 - 8 reports produced for 2011-2016 period
 - 6 year history

www.water.nsw.gov.au/Water-management/Water-availability/Water-accounting/default.aspx



Who is using the Australian Water Accounting Standard 1?

NSW Office of Water

General Purpose Water Accounting Report 2011-2012 – Murrumbidgee catchment

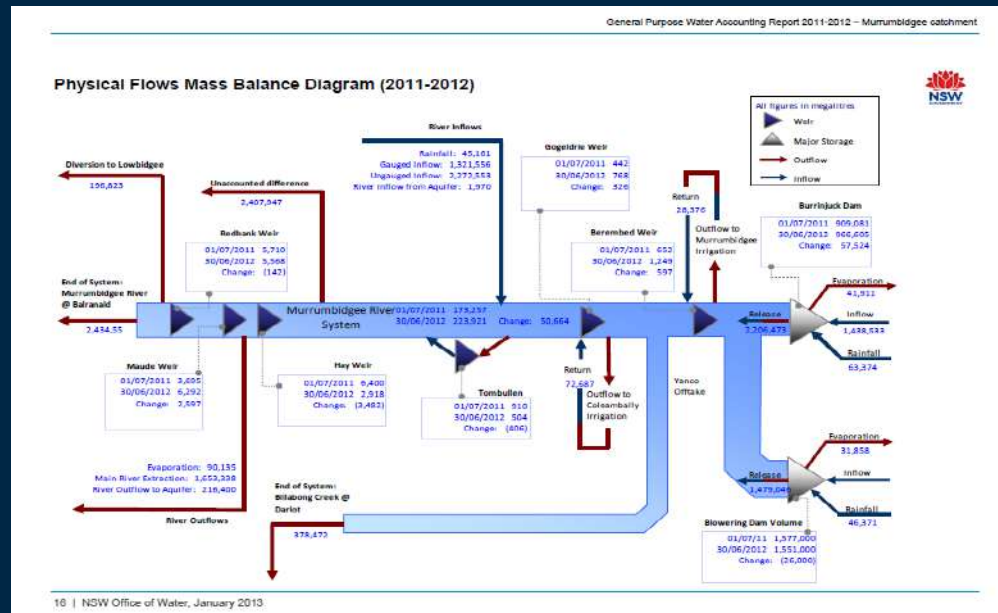
Murrumbidgee catchment

Changes in Water Assets and Water Liabilities

For the year ended 30 June 2012 (1 of 3)

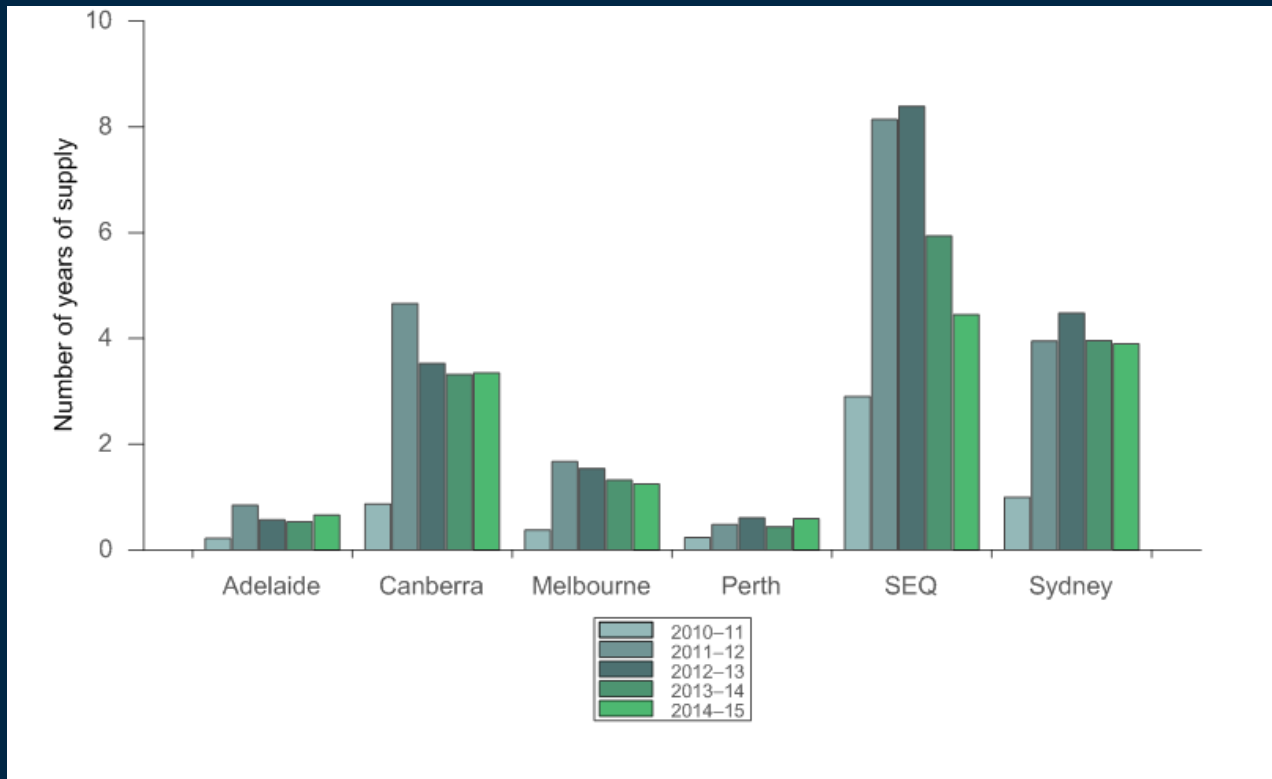
1. Changes in Surface Water Storage (Physical Water Balance)

				2011-2012	2010-2011
Surface Water Storage Increases					
Blowering Dam					
Inflow					
Natural Component	A	3		763,523	995,613
Downy Accountable Component	A	3		175,000	754,000
Rainfall	B	4		46,371	62,980
Burrinjuck Dam					
Inflow	A	3		2,142,334	2,206,274
Rainfall	B	4		63,374	73,353
River					
Rainfall	C	7		45,161	60,227
Heightened Tributaries	A	3		1,121,356	1,306,369
Unimproved Tributaries	C	4		2,173,636	741,000
Natural Flow					
Downstream Irrigation	A	8		72,687	41,707
Return					
River Inflow from Aquifer	D	6		26,370	3,909
River Inflow from Storage Releases	D	20		1,970	6,023
	A	11		2,485,510	2,736,515
Total Surface Water Storage Increases (Flow)				11,118,694	9,805,714
Surface Water Storage Decreases					
Blowering Dam					
Evaporation	B	4		31,858	30,343
Storage Release	A	11		1,479,046	973,973
Burrinjuck Dam					
Evaporation	B	4		41,911	40,664
Storage Release	A	11		2,081,588	1,631,518
Other					
Transparency	24			121,540	34,416
Transparency	24			58,485	96,949
River					
Evaporation	C	7		90,135	90,200
End of System Flow	A	12			
Barland					
Other					
INT				2,422,470	2,307,051
Barland				12,083	37,731
Other					
INT				371,013	367,712
Divisions to Lowbidgee	A	13		7,459	9
Excavations from River	A	14		1,488,778	1,271,140
Excavations from River	C	17		4,460	4,560
River Outflow to Aquifer (Method 'A' Accounting)	D	24		116,400	249,464
Total Surface Water Storage Decreases (Flow)				8,740,009	5,002,616
Unaccounted Volume (Balancing Item) (U_{flow})	D	27		2,407,947	140,713
Net Surface Water Storage Inflow (Flow: Flow_{inc} - Flow_{dec})				2,478,685	4,803,100



Use case: Water available from storages to meet supply needs

- Adelaide and Perth: less than one-year needs
- SEQ and Sydney: highest water availability



Who uses the NWA some examples ...

- **Reporting:**

- **Commonwealth Environmental Holder:**

- use of storage information and environmental release for their own reporting

- **Department of Environment:**

- use of recycled water use information across regions to support **parliamentary brief**
 - Information feed into **policy development**, including Northern Australia White Paper and the Agricultural Competitiveness White Paper

- **Energy Australia:**

- refer to NWA as commitment to regulatory reporting and how this can contribute to their understanding of the Sydney region and water risk

- **Water NSW:**

- internal communication, presentation and research. Climate and storage behavior are used to assess Sydney's supply and demand

- **Research:**

- Macquarie University, Australia: PhD thesis on the **state of water resources**

- Xiamen University, China: comparative research paper on **Corporate Water Accounting Standards**

For more details visit <http://www.bom.gov.au/water/nwa>

Benefits:

- Provides answers to key questions on water: **available, entitled and used, traded, and lost on a standard format**
- Increase **transparency** of water management and **accountability** across the country
- Provides **comparable information**: spatially and temporally
- **Guides** policy makers, regulating authorities and other water managers on **water resources planning**
- **Improved awareness** of general public on the status of water availability and use
- highlights **gaps and inconsistencies** in data and knowledge, allowing improvements to be made to water information base.



Photo: Thomson reservoir (Alison Pouliot)

Summary (Take Home messages)

- Australian National Water Account—integrated, detailed, standardised
- Answers customer and other stakeholder questions on water resources management and planning
- Addresses water security, and changing supply and use in metropolitan cities and irrigation areas
- Provides data checking and quality control for other products
- Provides national comparison



National Water Account

- Available on-line
- <http://www.bom.gov.au/water/nwa/2014/>
- Video summary provided
- https://www.youtube.com/watch?feature=player_embedded&v=q6ZPHMAPsP0

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National Water Account 2014

The 2014 Account contains a set of water accounting reports for ten nationally significant water management regions.

It covers a one year period, from 1 July 2013 to 30 June 2014.



 21%
Total water use
2013-14

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2014 Account

- National overview
- Adelaide
- Canberra
- Daly
- Melbourne
- Murray-Darling Basin
- Ord
- Perth
- South East Queensland
- Sydney

Pilot Account

- Burdekin

National Water Account 2014

- National overview
- About the 2014 Account
- Quick Guide (2.2Mb) 
- Glossary
- Copyright
- Partnerships
- Feedback

National Water Accounts

Related links

- About the National Water Account
- Frequently Asked Questions
- Information Sheet (211Kb) 
- National Water Account Committee
- National Water Account history
- Water accounting standards
- Companion Guide (4.9Mb) 

Water links

-  Water Act 2007
-  Water Regulations 2008
-  Water market information
-  Water Dictionary
-  Publications
-  News
-  Contact Us

A photograph taken from inside a dark cave, looking out through a large, irregular opening. The cave walls are dark and textured. Outside the opening, a bright blue sky with some white clouds is visible above a body of water. The water is a deep blue, and the surface is slightly rippled. The overall scene is bright and clear, contrasting with the dark interior of the cave.

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- Australian Landscape Water Balance
- Water forecasting—from floods to seasonal forecasts
- Groundwater Information Suite
- AWRA community modelling system

Thank You

Water Accounting Webinar 2017

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National Water Account

2013–14 year