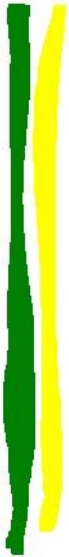




Water Accounting Australia's Experience

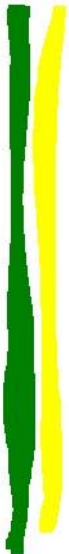
Gemma Van Halderen
Head, Environment Statistics Program
Australian Bureau of Statistics

May 2006

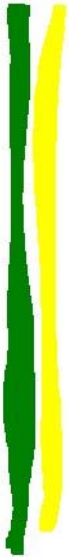


Presentation outline

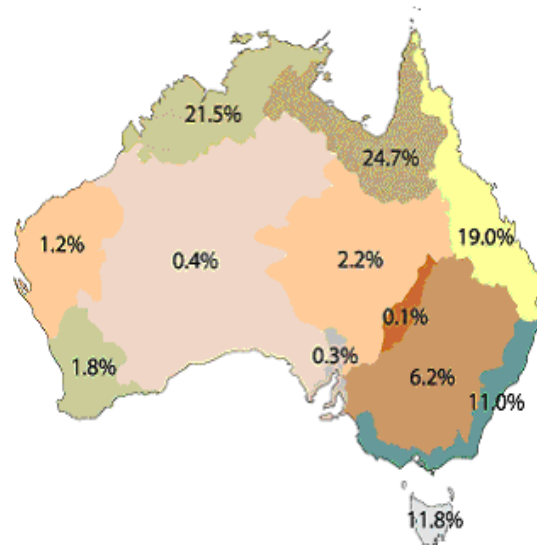
- Why are water accounts needed
- What accounts have been produced
- How are they produced
- Improvements being considered



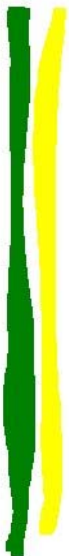
Why are water accounts needed in Australia?



- Demand for water is increasing
- Water is of such national significance that it is high on the agenda of all Governments in Australia



What water accounts have been produced in Australia?



- Australia has been producing reports which have a lot in common with SEEA for four decades
- Reports have been called Water Resource Assessments and have been produced by water resource management authorities
- Since 2000, the ABS has been producing National Water Accounts consistent with SEEA

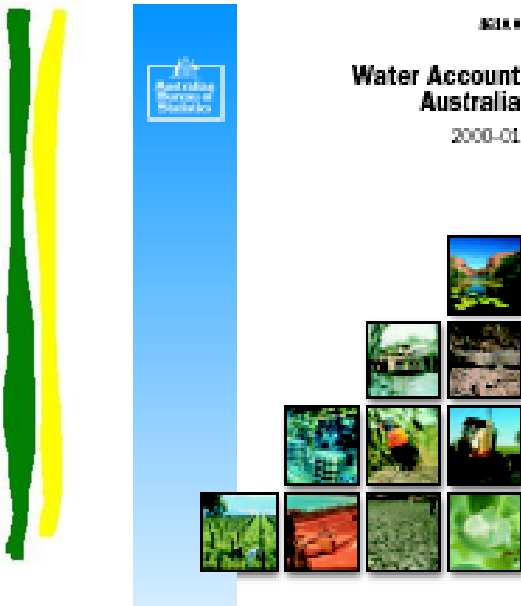


What water accounts have been produced in Australia?

- 1963 Review of Australia's Water Resources (AWRC 1965)
 - 1975 Review of Australia's Water Resources (AWRC 1977)
 - 1977 The First National Survey of Water Use in Australia (DNDE 1981)
 - 1985 Review of Australia's Water Resources and Water Use (AWRC 1987)
 - 1995-96 Water in the Australian Economy (AATSE 1999)
 - 1993-94 to 1996-97 Water Account, Australia (ABS 2000)
 - 2000 Australian Water Resource Assessment (NLWRA 2001)
 - 2000-01 Water Account, Australia (ABS 2004)
- Forthcoming*
- 2004-05 Australian Water Resource Assessment (NWC, June 2006, update December 2006)
 - 2004-05 Water Account, Australia (ABS, November 2006)

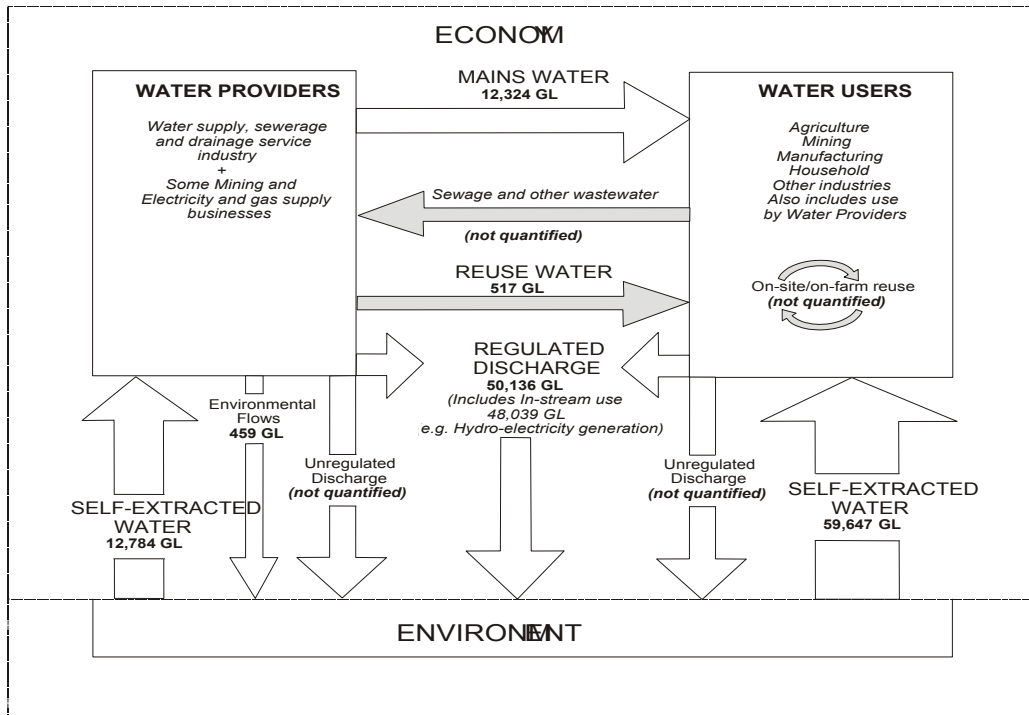


Water Accounting at the ABS



- 2000-01 Water Account
 - Released May 2004
 - 11 Chapters
 - Mostly water supply and use in the economy
 - Plus some information on water stocks, “environmental” flows and water trading
 - Data for Australia and for each of the Australian states (except NSW and ACT are combined)
 - Previous edition released in 2000

Water accounting - ABS



Industry	Self-extracted(b) ML	Mains water(c) ML	Reuse water(d) ML	In-stream(e) ML	Water consumption(a) ML
Agriculture					
Livestock, pasture, grains & other	3 471 109	1 905 485	191 879	—	5 568 474
Dairy farming	1 210 701	1 571 863	51 855	—	2 834 418
Vegetables	422 008	117 033	16 670	—	555 711
Sugar	555 668	753 129	1 875	—	1 310 671
Fruit	491 250	296 557	14 825	—	802 632
Grapes	345 371	364 190	19 576	—	729 137
Cotton	2 502 002	404 090	2 085	—	2 908 178
Rice	133 986	1 692 674	124 501	—	1 951 160
Total	9 132 095	7 105 022	423 264	—	16 660 381
Services to agriculture; hunting & trapping	2 770	1 027	104	—	3 901
Forestry & fishing	378 389	5 245	7 145	367 756	23 022
Mining	479 635	49 196	5 441	127 430	400 622
Manufacturing	295 825	553 700	16 536	—	866 061
Electricity & gas(f)	49 116 399	122 937	4 991	47 543 867	1 687 778
Water supply, sewerage & drainage services(g)	12 767 205	1 768 650	23 056	—	1 793 953
Construction	3 414	14 665	—	—	18 079
Wholesale & retail trade	833	81 248	265	—	82 346
Accommodation, cafes & restaurants	5 283	45 794	734	—	51 811
Transport & storage	3 846	50 660	250	—	54 756
Finance, property & business services	852	85 437	56	—	86 345
Government administration	4 200	50 895	1 279	—	56 374
Education	10 955	34 826	719	—	46 500
Health & community services	2 611	38 165	64	—	40 840
Cultural, recreational & personal services	131 327	231 230	32 492	—	395 049
Household	95 512	2 085 768	167	—	2 181 447
Environment	—	459 393	—	—	459 393
Total	72 431 152	12 783 858	516 563	48 039 054	24 908 659



How are water accounts produced in Australia?

- Data sources and methods used in the ABS water accounts have changed over time
- First done with information supplied from water management authorities and limited data from non-ABS surveys as well as the ABS Agricultural Census data on **irrigated area**.
- Second used these sources again along with additional information from the ABS mining and manufacturing surveys
- Third will use the sources from the 1st and 2nd accounts along with information from ABS Agriculture and Water Supply Surveys on **volume** of water used.

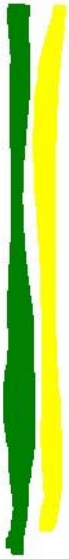


ABS survey coverage for 2004-05 Water Accounts = 99.9% of total consumption

	Consumption % total	Water (ML)			Economic (\$)	
		Mains Water	Self - Extracted	Reuse Water	Regulated Discharge	\$
Agriculture	66.9	AS	AS	WPS		
Livestock, pasture, grains & other	33.4	AS	AS	WPS		
Dairy farming	17	AS	AS	WPS		
Vegetables	2.2	AS	AS	WPS		
Sugar	5.3	AS	AS	WPS		
Fruit	3.2	AS	AS	WPS		
Grapes	2.9	AS	AS	WPS		
Cotton	11.7	AS	AS	WPS		
Rice	7.8	AS	AS	WPS		
Services to agriculture	0.01			WPS		
Forestry and fishing	0.1			WPS		
Mining	1.6	Min. S	Min. S	WPS	Min. S	
Manufacturing	3.5	Man. S	Man. S	WPS	Man. S	
Electricity and gas	6.8	EGIS	EGIS	EGIS	EGIS	EGIS
Water supply sewerage & drainage	7.2	WPS	WPS	WPS	WPS	WPS
Services and administration	3.3	SIS	SIS	WPS		SIS
Households	8.8	WPS		WPS		
Environment	1.8	WPS		WPS		
Total Water Consumption	100	WPS		WPS		
SURVEYS	%					
Agriculture Survey	66.9					
Water Provider Survey	17.8					
Service Industry Surveys	3.3					
Electricity and Gas Industry Survey	6.8					
Min and Man Survey	5.1					
Total	99.9					



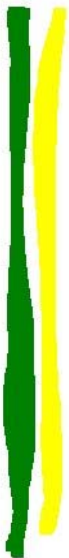
Other data sources



- Government agencies
 - Bureau of Meteorology
 - Bureau of Rural Sciences
 - CSIRO
 - State government water management departments
- Industry associations
- ABS Household Surveys
- University researchers



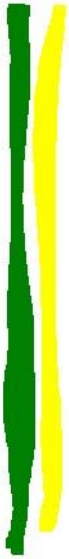
Review process



- Review process is integral to the production of the Australian Water Accounts
- Estimates are reviewed twice - preliminary and 2nd estimates are reviewed before estimates are finalised (ie final estimates)
- This gives the ABS and end users confidence in the results



Improving the ABS Water Accounts

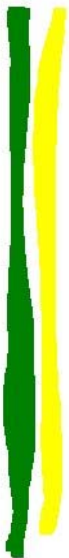


Process

- ABS Water Statistics User Group
- National Water Initiative Expert Advisory Panel of Water Accounting
- Advisory Board for ABS' Centre of Environment and Energy Statistics



Improving the ABS Water Accounts



Planned improvements for 2004-05

- Addition of monetary accounts
- More geographic detail
 - State/Territory and Surface Water Management Areas
- Incorporation of water trading and allocation/entitlement information
- "Mini" Water Account for 2002-03
- (possibly) water emission accounts



Final Comments

- ABS continues to build expertise and experience in producing Water Accounts using SEEA
- Continual improvement and extension
 - coverage of stocks
 - regional level
 - monetary
 - frequency
- Well received by policy makers
 - integral to Australian Water Resource Assessments