

Water Accounting in Australia

London Group Meeting, Denmark

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Michael Vardon and Stuart Peevor

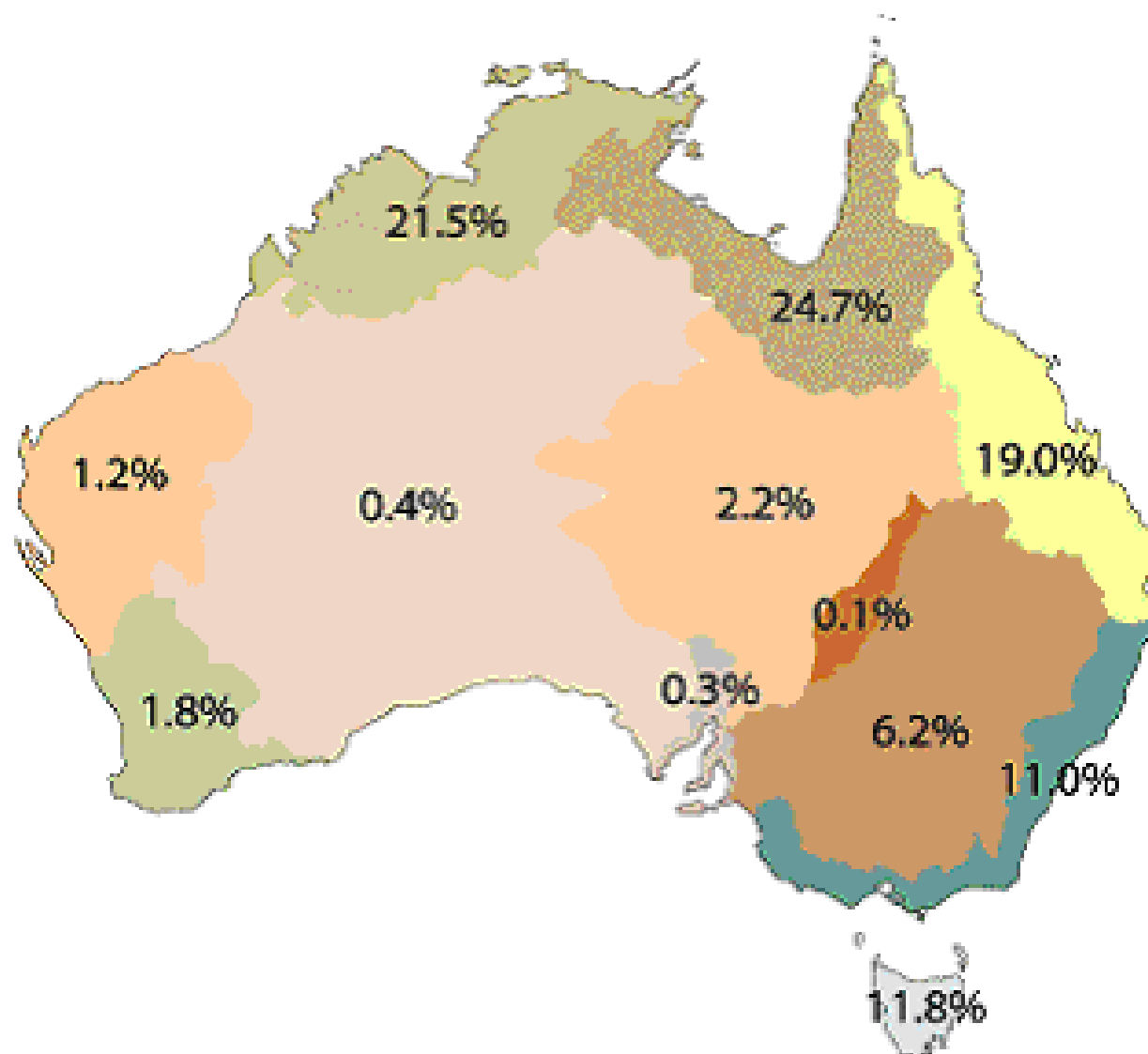


Presentation Overview

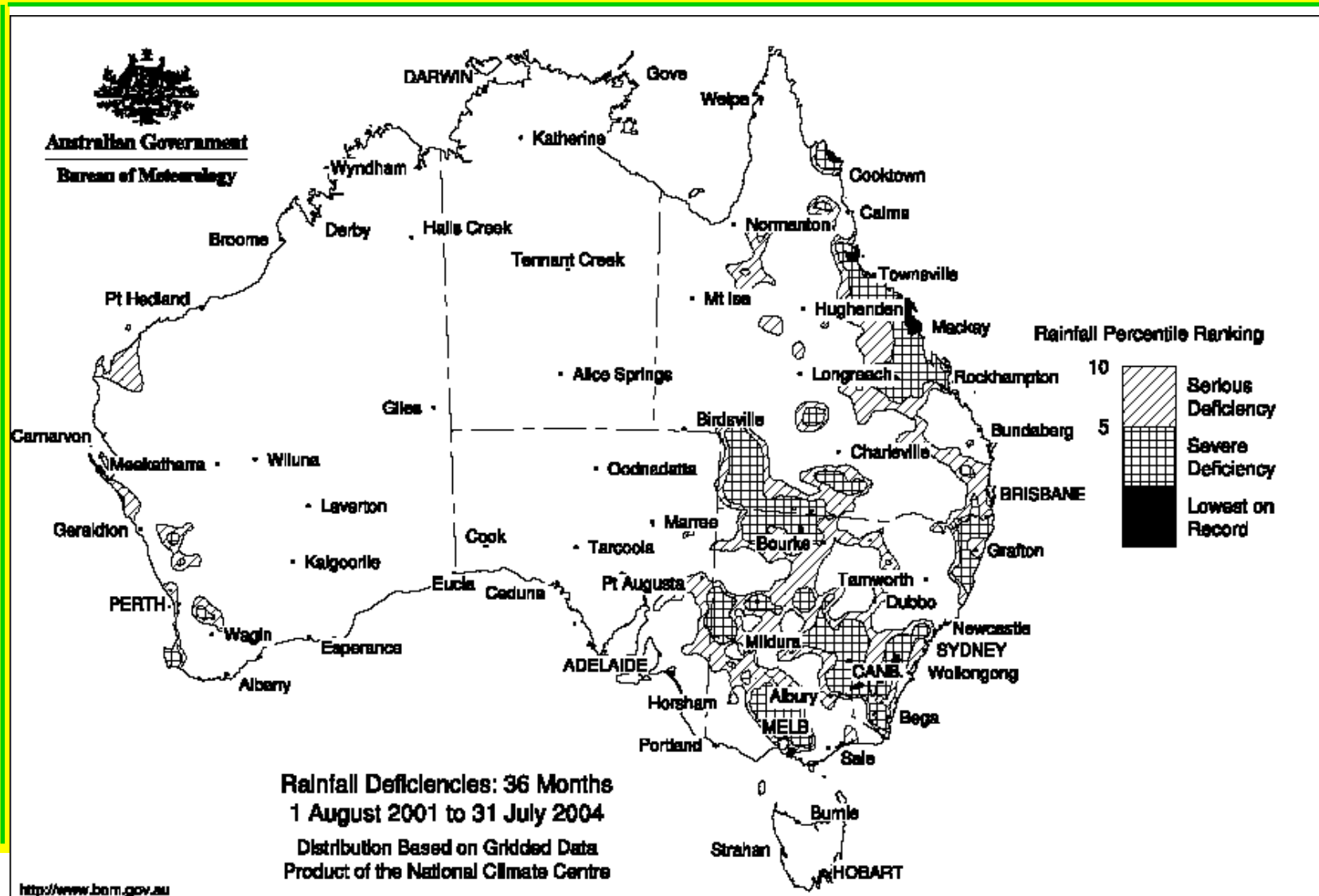
- Background
- Results
- Problems
- Improvements
- Water Information Development Plan
- Use
- Forward Work Plan

Mean annual runoff

387000 GL



Drought in Australia

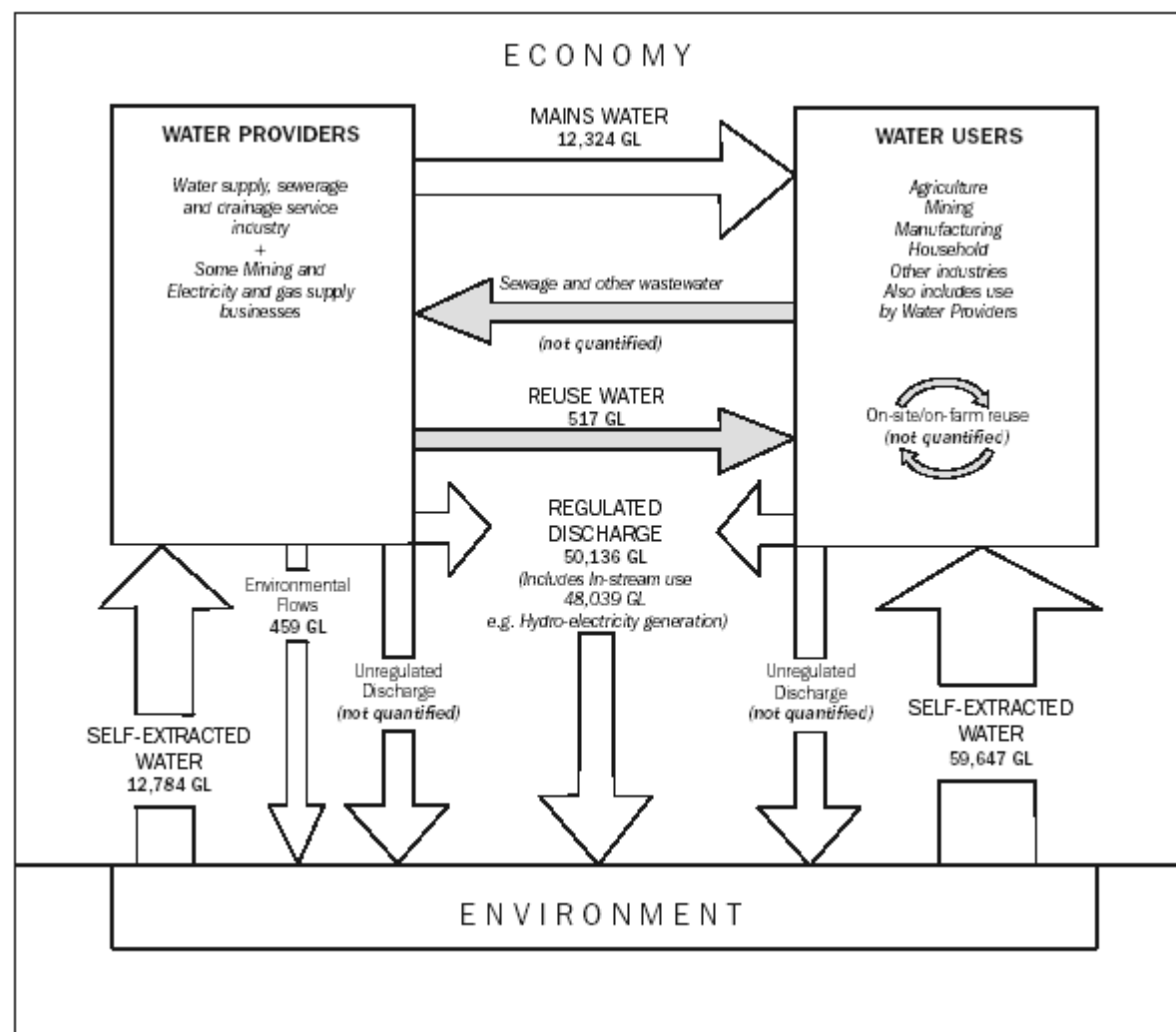


2000-01 Water Account



- 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 supply and use in Australia



Water use in Australia, 2000-01

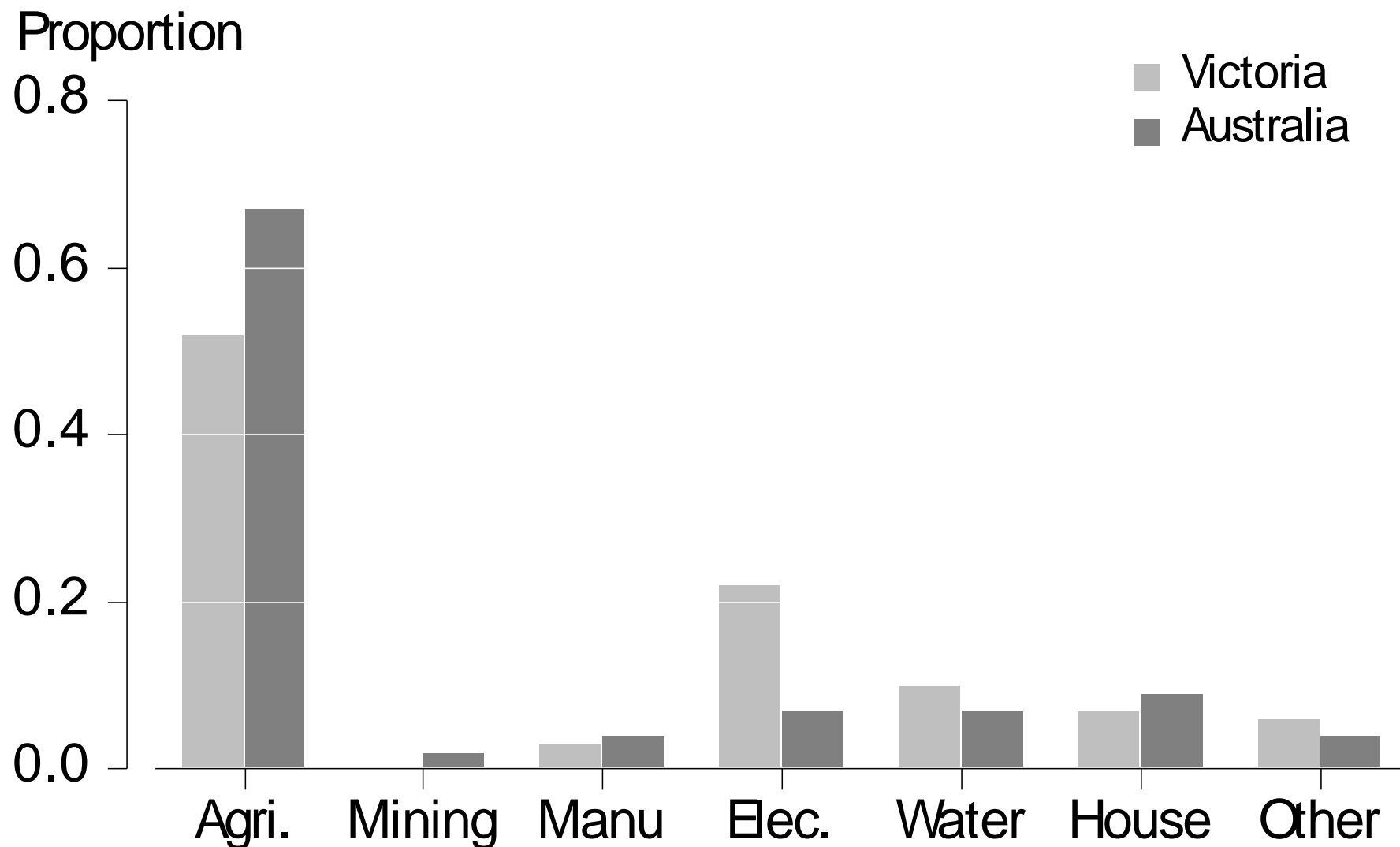
- Total water extracted – 72,431 GL
- Water used in-stream (almost all for hydro-electricity) – 48,039 GL
- Water consumption – 24,909 GL
 - 67% by agriculture
 - 9% by households
 - 7% by electricity and gas industry
 - 7% by water supply industry (includes system losses)
 - 4% by manufacturing
 - 2% by mining
 - 3% by all others

Water consumption by state – 2000-01

Australia 24,909 GL (100%)

- NSW/ACT – 9,425 GL (37%)
- Vic. – 7,140 GL (29%)
- Qld – 4,711 GL (19%)
- SA – 1,647 GL (7%)
- WA – 1,409 GL (6%)
- Tas. – 417 GL (2%)
- NT – 160 GL (<1%)

Water consumption – Victoria compared to Australia, 2000-01

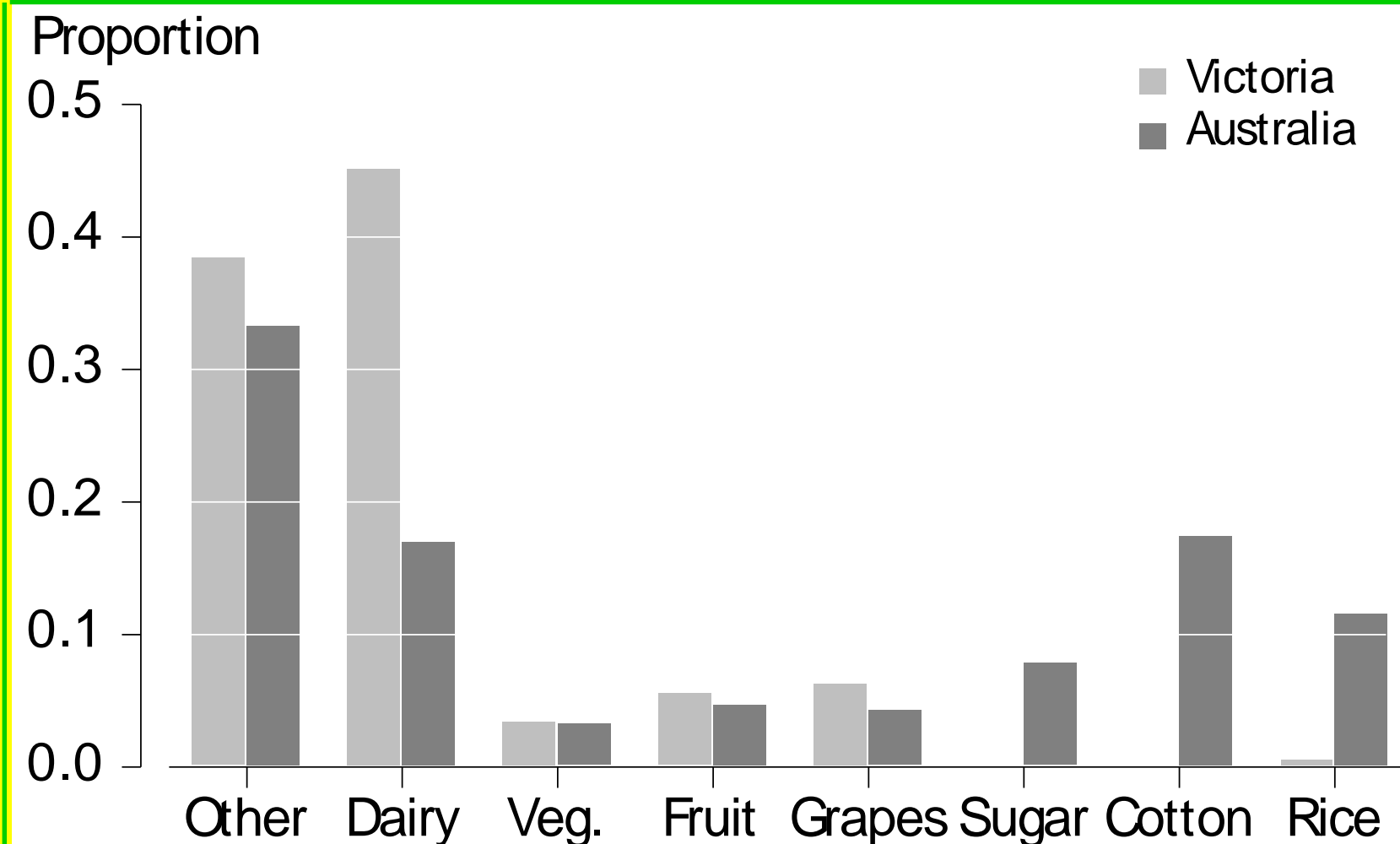


Agriculture water use in Australia, 2000-01

Total water use by agriculture – 16,660 GL

- Cotton – 2,908 GL (17%)
- Dairy – 2,834 GL (17%)
- Rice – 1,951 GL (12%)
- Sugar – 1,311 GL (8%)
- Fruit – 803 GL (5%)
- Grapes – 729 GL (4%)
- Vegetables – 556 GL (3%)
- Other – 5,568 GL (33%)

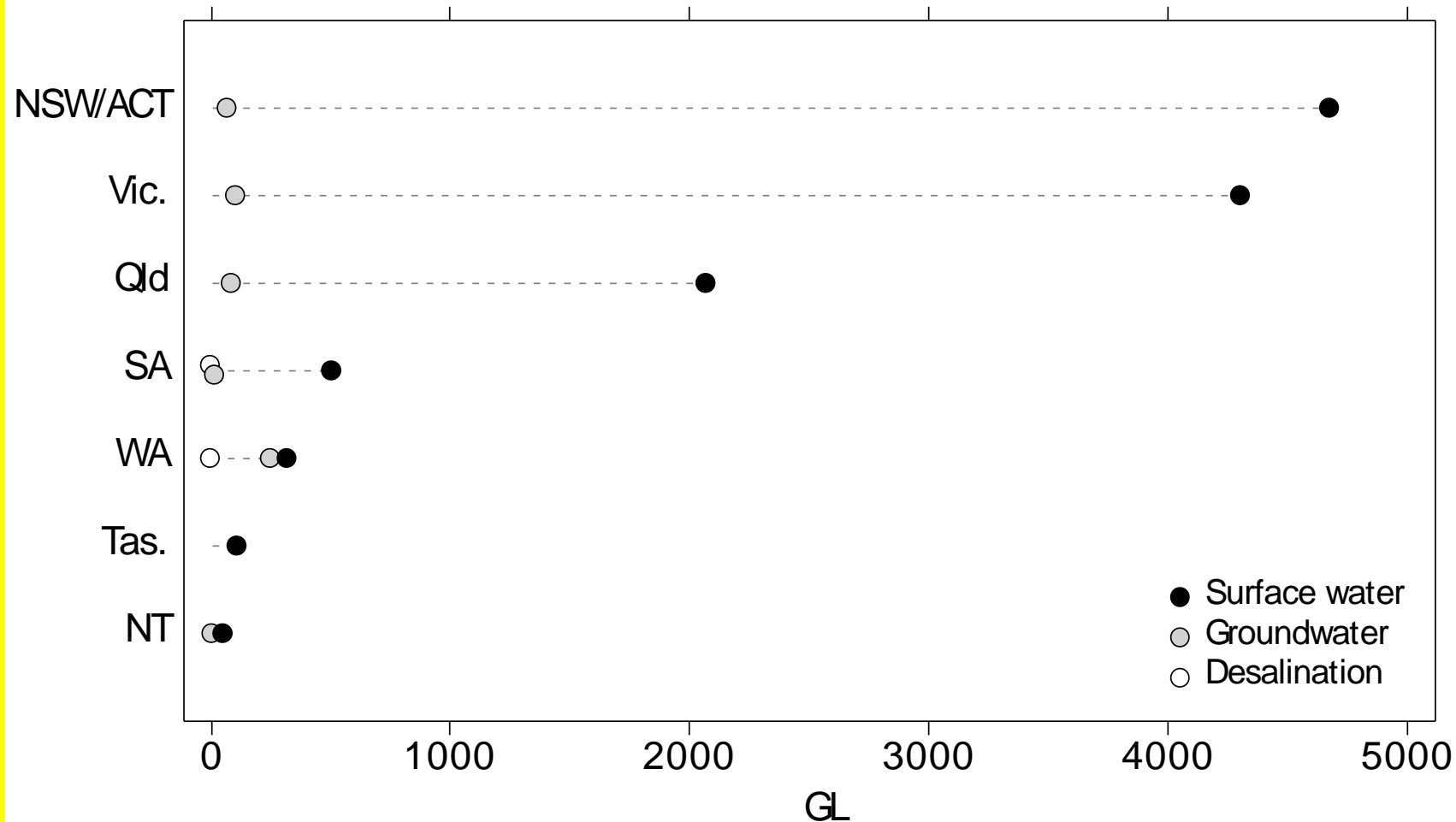
Agriculture water consumption in Victoria compared to Australia, 2000-01



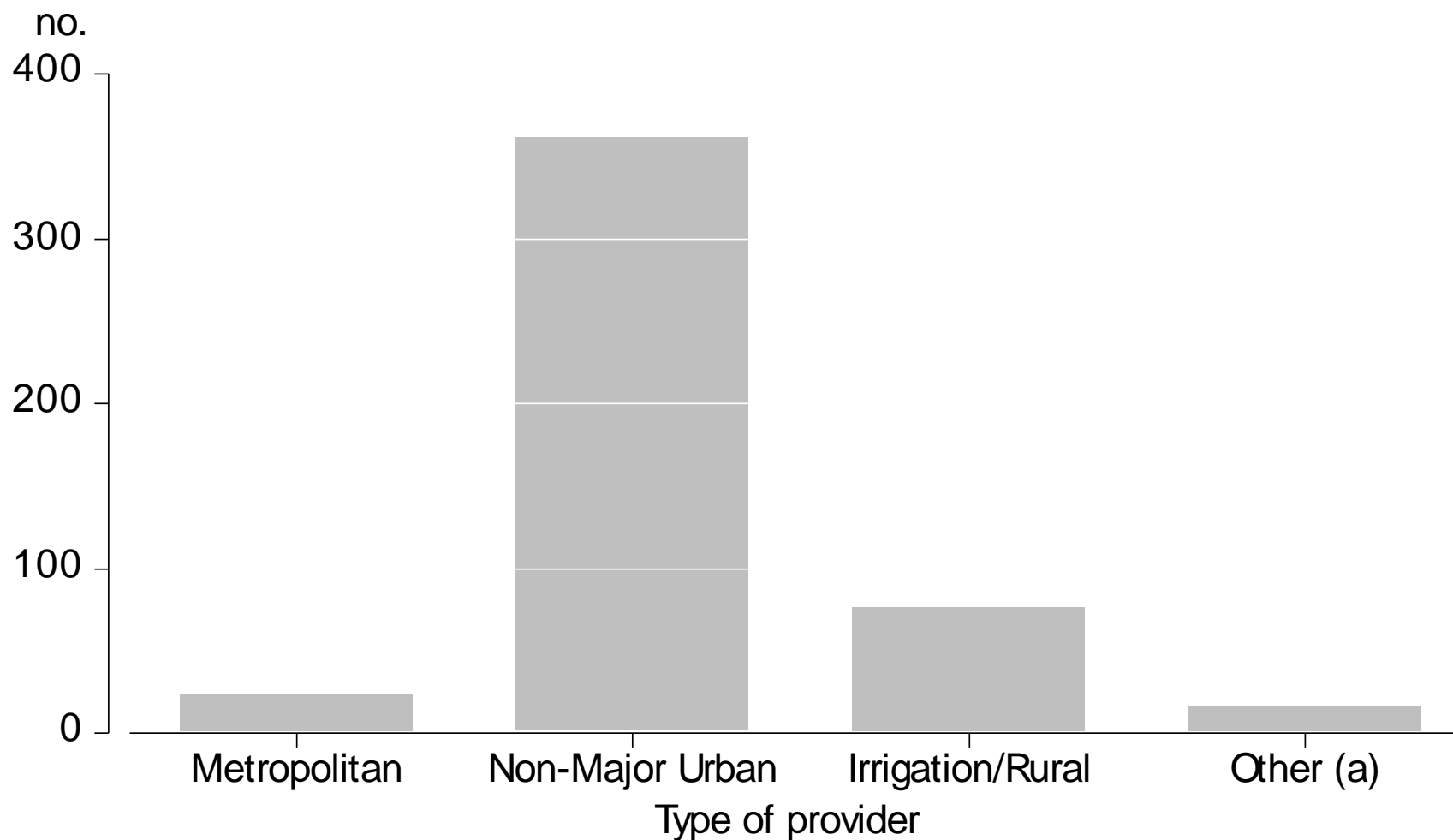
Water supply industry, 2000-01

- 479 water providers
- Supplied 12,784 GL
- 1,769 GL of system water losses
- 1,837 GL of regulated discharge (62% of this to ocean)
- Very important to understand the industry

Source of mains water, 2000-01



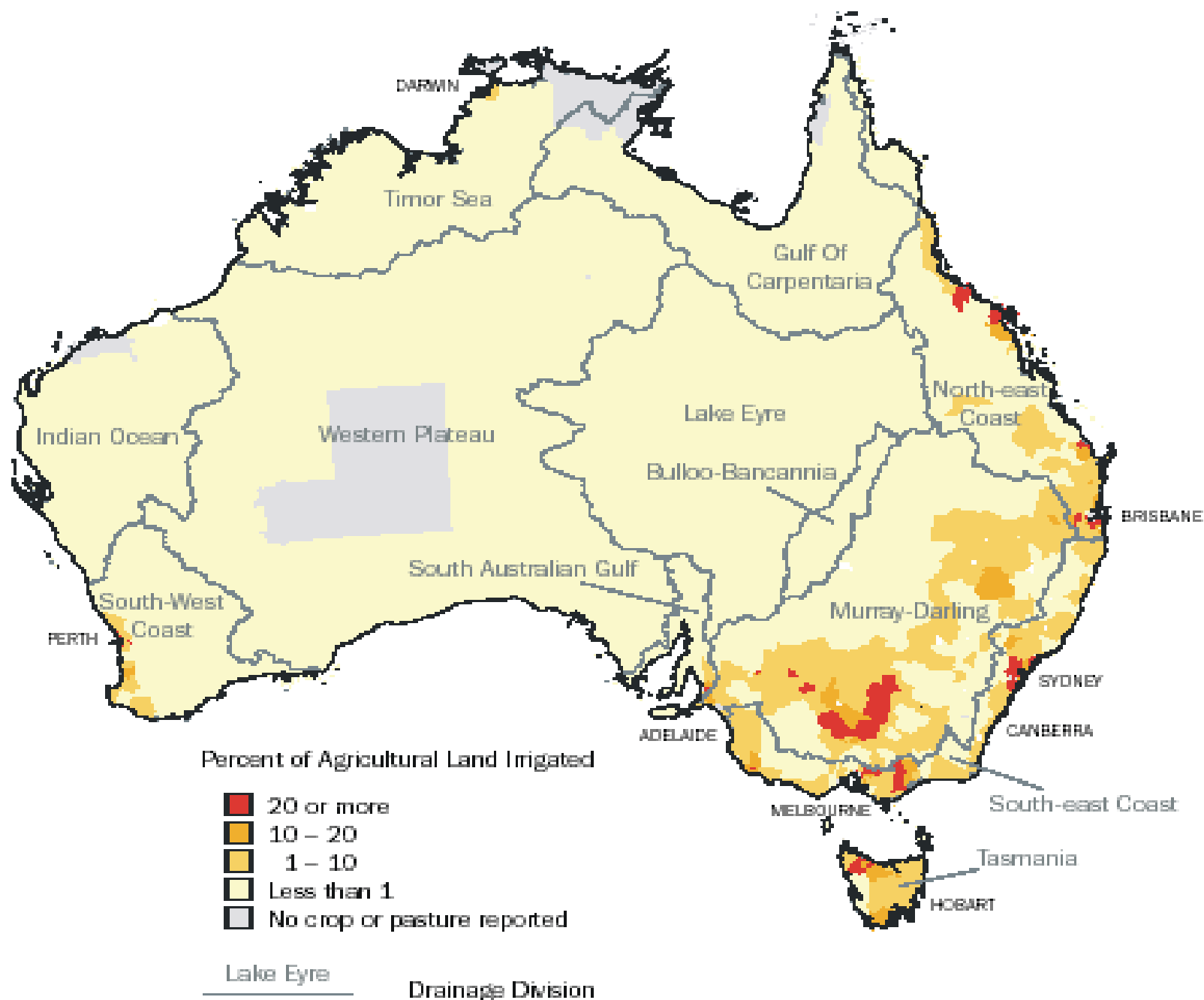
Water providers by type, 2000-01



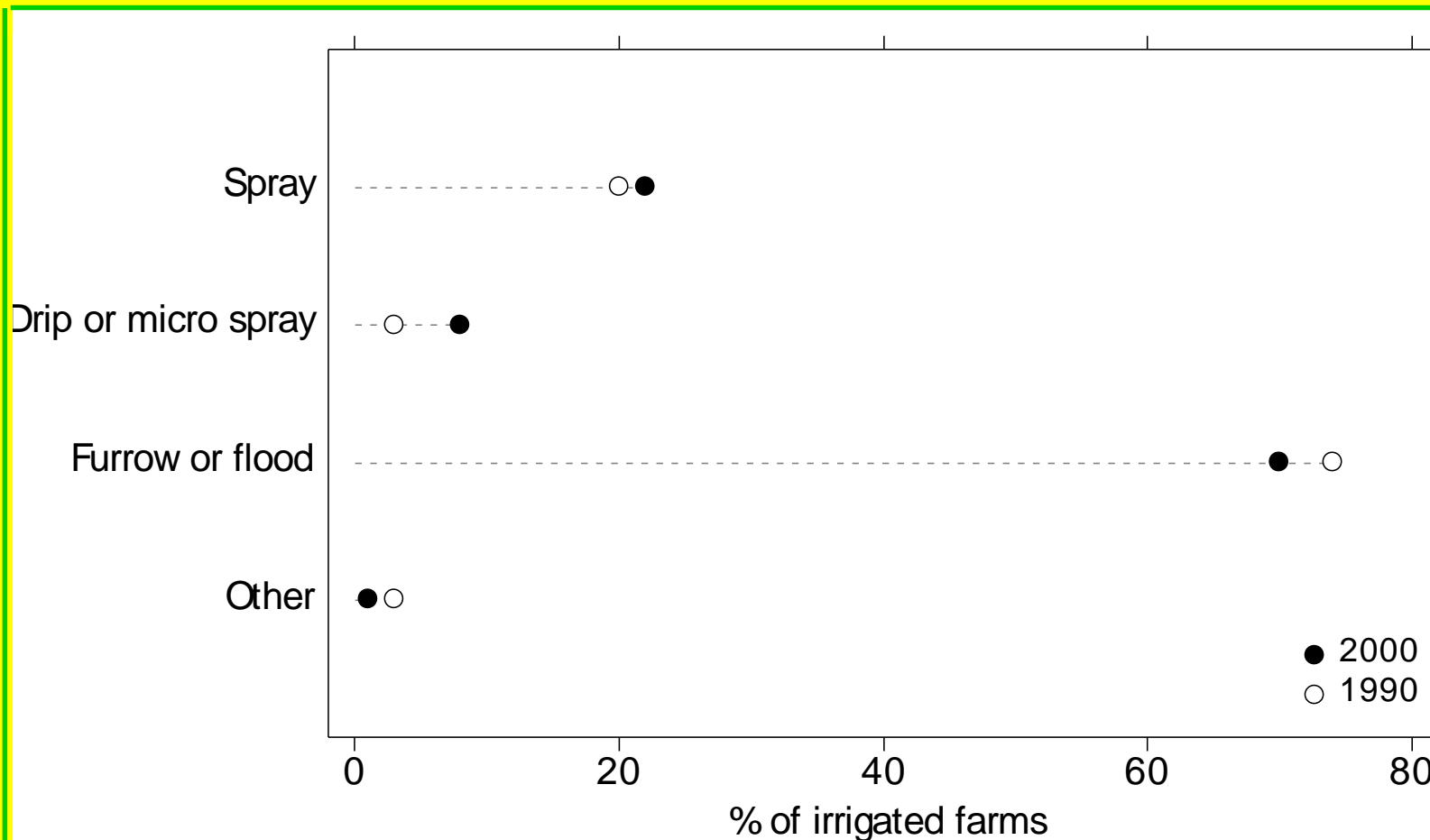
Extra information

- The Australian water account contains a range of information to assist with interpretation and understanding of data

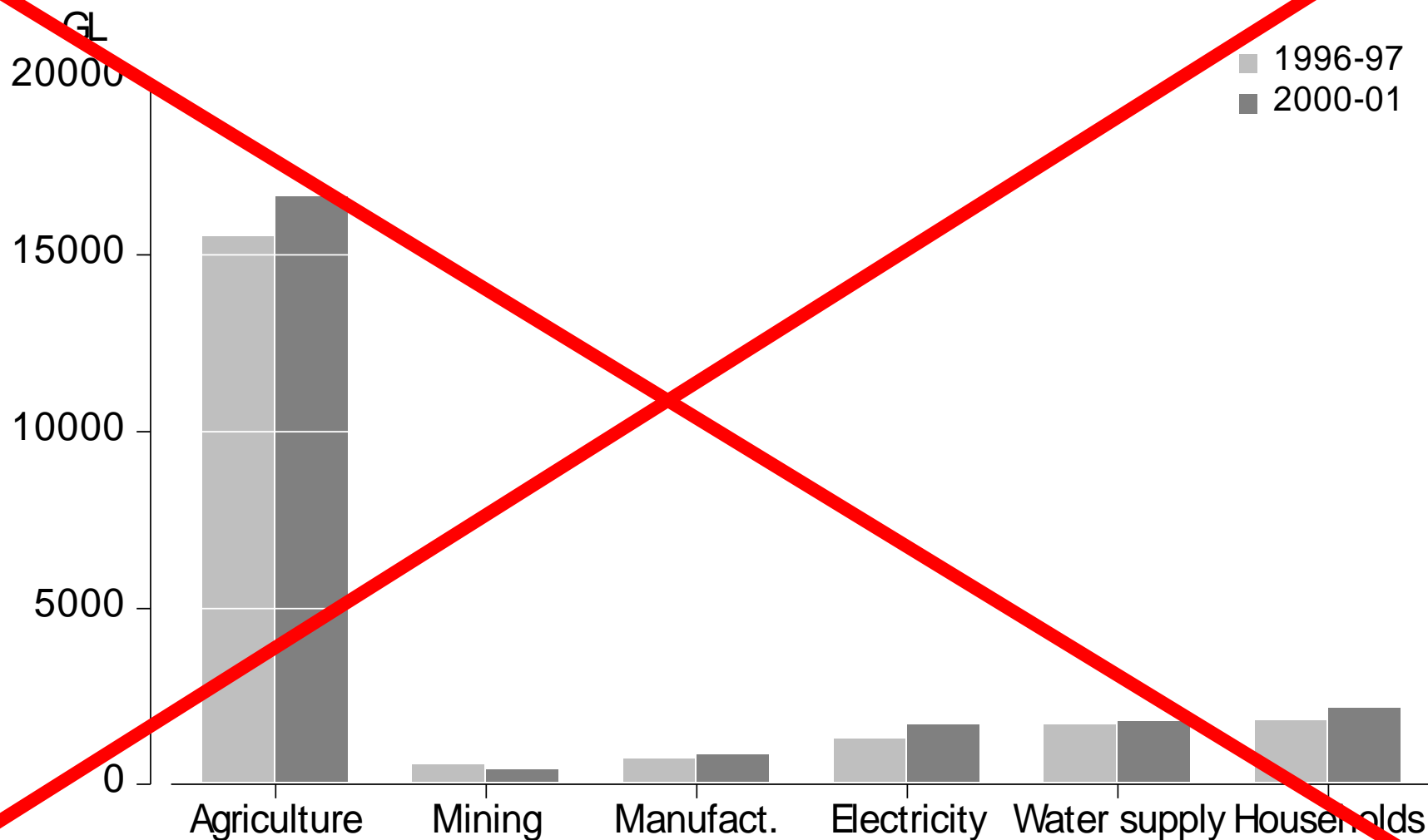
Irrigation areas in Australia, 2000-01



Irrigation methods, 1990 and 2000



Water consumption in Australia, 1996-97 compared to 2000-01



Comparisons between 1996-97 and 2000-01

The data in the two editions of the water account are not strictly comparable because of differences in:

- Climate
- Data sources
- Metering of water use
- Methods and definitions

Errata

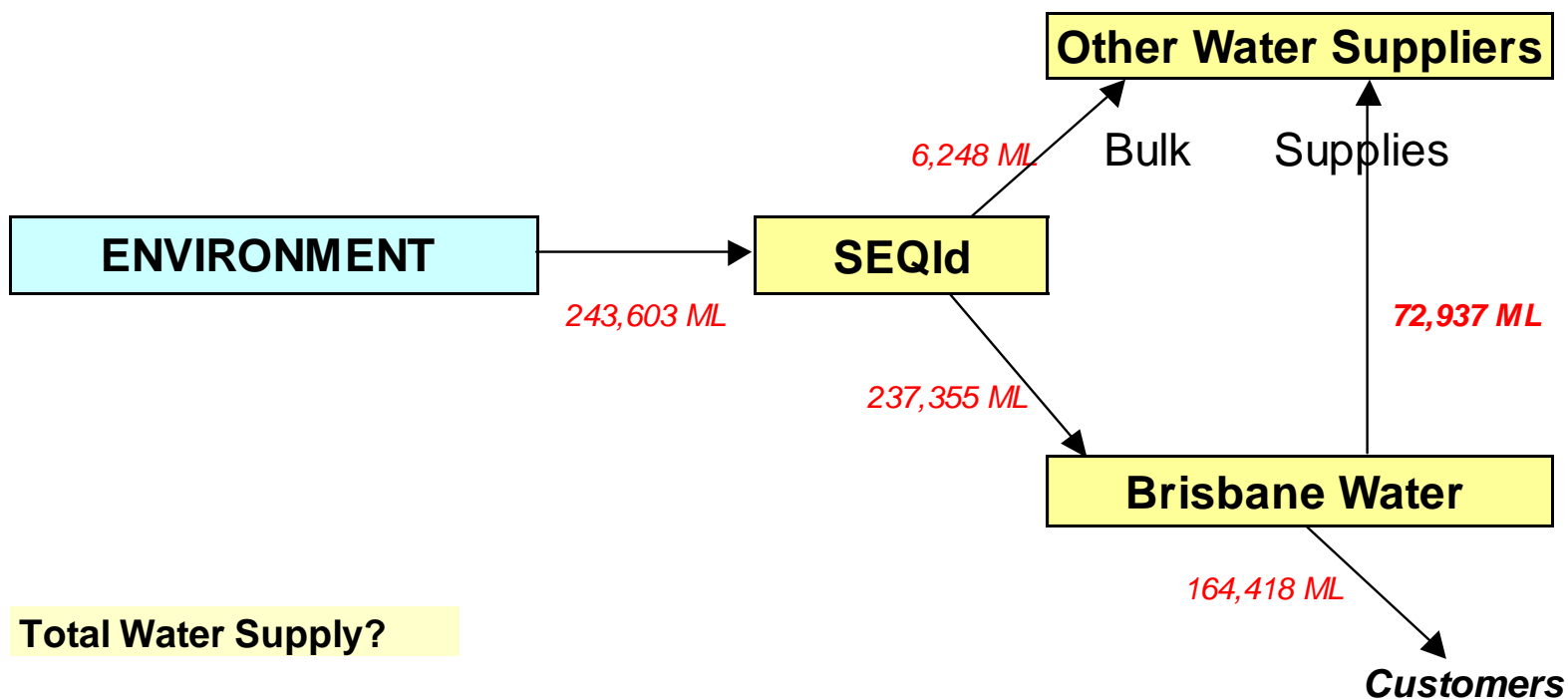
Tables

- 1.3 Water consumption, employment and IGVA.
- 9.8 Rainwater tanks
- 10.9 Surface water stocks

Problems

- A 100 or more data sources
- Dozens of agencies
- Different classifications/definitions
- Still a need to rely on modelling to fill some cells
- A regular source for data on water stocks is not apparent
- Need to be careful about double counting

Queensland water reporting



Total Water Supply?

SEQLD Reports:

237,355 (includes 72,937 supplied **THROUGH** Brisbane Water
6,248 - they get Sales)

243,603

Brisbane Reports:

72,937 * because owns infrastructure
164,418

237,355

Next edition on the Water Account

Next account in respect of 2004-05

Then four yearly

Content similar in to 2000-01 but with some
improvements

Planned improvements (1)

- Reduced time between reference period and publication
- Data for river basins/water catchments
- More industry splits, especially for the “other agriculture” category
- More information on economics/finance (but not necessarily a monetary account)
- More ABS survey data

Survey Coverage

	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			WPS		
Manufacturing	3.5			WPS		
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
Total	94.8

Planned improvements (2)

Better coordination and understanding of of data suppliers and data users

Water Information Development Plan – matching data suppliers to data users

Data providers	Data Users							
	ABS	NLWRA	BRS	DAFF	DEH	PC	States	Public
Primary								
ABS	X	X	X		X	X	X	
ABARE	X	X	X	X	X			
CSIRO	X	X		X	X		X	
State agencies	X	X		X	X		X	
Secondary								
EA ABS NLWRA								SoE Water Ac. Theme reports

Water Information Development Plan –

assessing current data suppliers area of activities

	ABS	WSAA	ANCID	BoM
Agriculture	X		X	
Industrial	X			
Water Supply	X	X	X	
Households	X	X		
Physical resource				X

Who is using the water account and
how is being used?

Use of ABS water accounts

Governments

- Australian (national) government
- Various state governments and their agencies
- National Land and Water Resources Audit (Mk 1)
- Bureau of Rural Sciences

Industry groups

- ANCID, WSAA, AWA
- Individual water authorities
- Academics/researchers

Government Water Policy

Securing Australia's Water Future

Last week (13 September 2004) the Prime Minister announced a range of water initiatives that the government would implement if re-elected in October

If re-elected the government will invest \$200 million over 5 years to support:

- Water accounting
- Strategic groundwater assessment
- Working with local communities to improve the
- conservation of high environmental value water systems.
- Water efficiency labelling

<http://www.liberal.org.au/documents/ACFA511.pdf>

Policy on on Water Accounting

“Water accounting: a nationally consistent system for collecting and processing water-related data is needed to create confidence in decisions by investors in the water market and the water industry more broadly, and to improve the setting of sustainable flow levels in rivers. Such a system would involve automated data collection at monitoring stations, national standards for water accounting and metering, and improved hydrologic modelling of priority water sources”

<http://www.liberal.org.au/documents/ACFA511.pdf>

Sophisticated users of ABS water accounts

Analytical work

- Lenzen, M. (2004) – *Nature preparation and use of water accounts in Australia.*
- Wittwer, G. (2003) – *An outline of TERM and modifications to include water usage in the Murray-Darling Basin* (TERM = The Enormous Regional Model).
- Foran, B. and Plody, F. (2002) – *The future of water* (Ch. 6 in *Future dilemmas*).
- Lenzen, M. and Foran, B. (2001) – *An input-output analysis of Australian water usage.*
- Centre for International Economics (2004) - *Implications of water reforms for the national economy*

Lenzen, M. and Foran, B. (2001)

An input-output analysis of Australian water usage.

- 30% of Australia's water use was devoted to domestic food production and a further 30% to food exports
- If by 2050 Australia's population grows to 25 million people and per-capita expenditure doubles, the annual water requirement for Australia may more than double to 50,000 GL per annum

Centre for International Economics (2004)

Implications of water reforms for the national economy

- Irrigation contribution to the economy is \$12.4 billion (2.3 per cent of Australia's GDP)
- irrigation directly and indirectly contributes around 171 000 employee (2.6 percent of total employment)
- Reducing water use in the Murray-Darling Basin by 10% (=540 GL) is estimated to result in the loss of 400-900 jobs and \$88 million to GDP

Environment and Energy Statistics Forward Work Plan for Water

- A subset of a larger work plan
- Few resources for expansion of work in 2004-05, but more scope in 2005-06.
- Centre for Environment and Energy Statistics will advise ABS on overall priorities (more later about this)

Contact details

Michael Vardon

michael.vardon@abs.gov.au

02 6252 7348

Stuart Peevor

stuart.peevor@abs.gov.au

02 6252 7042