

Collecting water supply data

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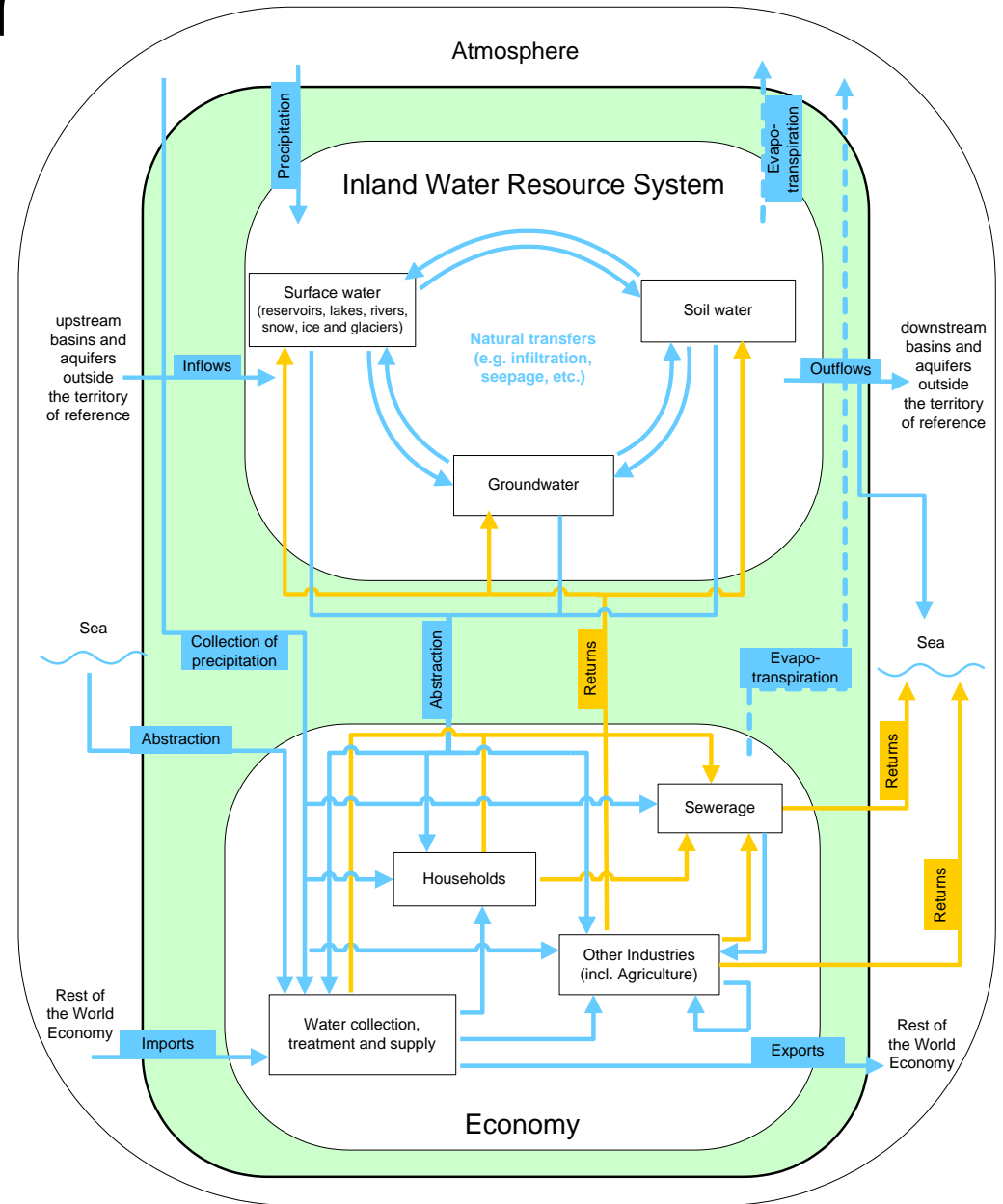
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Outline of presentation

- Purpose for running a survey collection
- Linking questions to IRWS
- Making sense of reported data
- Issues not specified in SEEA-W

SEEA-Water

- Economy and environment
- Stocks and flows
- Monetary and physical
- Pollution
- Water quality



Standard physical water supply & use tables – SEEA-W

Physical use table

		Industries (by ISIC categories)						Physical units			
		1-3	5-33, 41-43	35	36	37	38,39, 45-99	Total	Households	Rest of the world	Total
From the environment	1. Total abstraction (=1.a+1.b=1.i+1.ii)										
	1.a. Abstraction for own use										
	1.b. Abstraction for distribution										
	1.i. From water resources:										
	1.i.1 Surface water										
	1.i.2 Groundwater										
	1.i.3 Soil water										
	1.ii. From other sources										
	1.ii.1 Collection of precipitation										
	1.ii.2 Abstraction from the sea										
Within the economy	2. Use of water received from other economic units										
3. Total use of water (=1 + 2)											

Physical supply table

		Industries (by ISIC categories)						Physical units			
		1-3	5-33, 41-43	35	36	37	38,39, 45-99	Total	Households	Rest of the world	Total
Within the economy	4. Supply of water to other economic units <i>of which:</i>										
	4.a. Reused water										
	4.b. Wastewater to sewerage										
To the environment	5. Total returns (=5.a+5.b)										
	5.a. To water resources										
	5.a.1. Surface water										
	5.a.2. Groundwater										
	5.a.3. Soil water										
	5.b. To other sources (e.g. sea water)										
6. Total supply of water (=4+5)											
7. Consumption (=3-6)											

Note: Grey cells indicate zero entries by definition.

From SEEA-W to International Recommendations for Water Statistics (IRWS)

Annex 1 List of recommended data items

E. Abstraction of water

The volume of water removed or collected by economic units directly from the environment, per year.

- E1. Inland water resources
 - E 1.1 Surface water
 - E 1.2 Groundwater

From SEEA-W to International Recommendations for Water Statistics (IRWS)

E 1.1 Surface water

The volume of water removed or collected by economic units from artificial reservoirs, lakes, rivers, wetlands....

- E 1.1.1 Artificial reservoirs
- E 1.1.2 Lakes
- E 1.1.3 Rivers
- E 1.1.4 Wetlands
- E 1.1.5 Snow, ice & glaciers

SEEA-W Capturing data – supply side

Water supply by industry

- Survey vehicle – Water Supply and Sewerage Services
- Sample - @ 400 Water service providers
- Data item (volumes reported by state)

5 What was the volume of water extracted from each source between 1 July 2008 and 30 June 2009?

Note

- Please provide **only** the total volume of water actually extracted from these sources, **not** the amount that this organisation may have been entitled to extract.

Excluding

- Reuse water (report in Part 4)
- Water obtained from other water suppliers (include in Questions 2 and 3)

(a) Inland surface water

Including

- Dams
- Lakes and rivers

Excluding

- Sea or ground water

Volume
(Megalitres)

(b) Ground water

Including

- Saline ground water for desalination
- Ground water extracted as a result of 'Aquifer Storage and Recovery'

Excluding

- Inland surface water or sea water
- Dams
- lakes and rivers

(c) Sea water for desalination

Including

- Water extracted from estuaries

Excluding

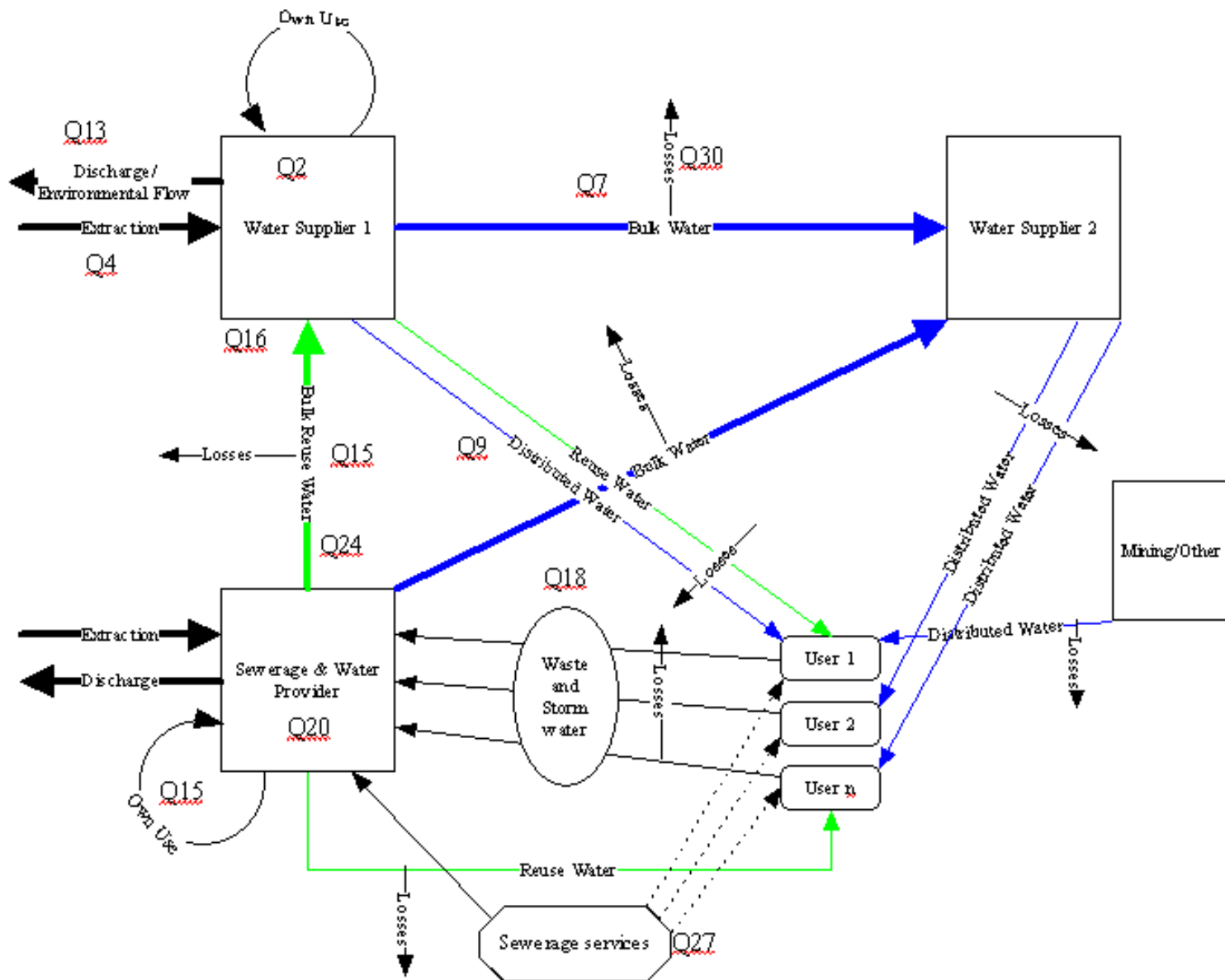
- Inland surface water or sea water
- Dams
- lakes and rivers

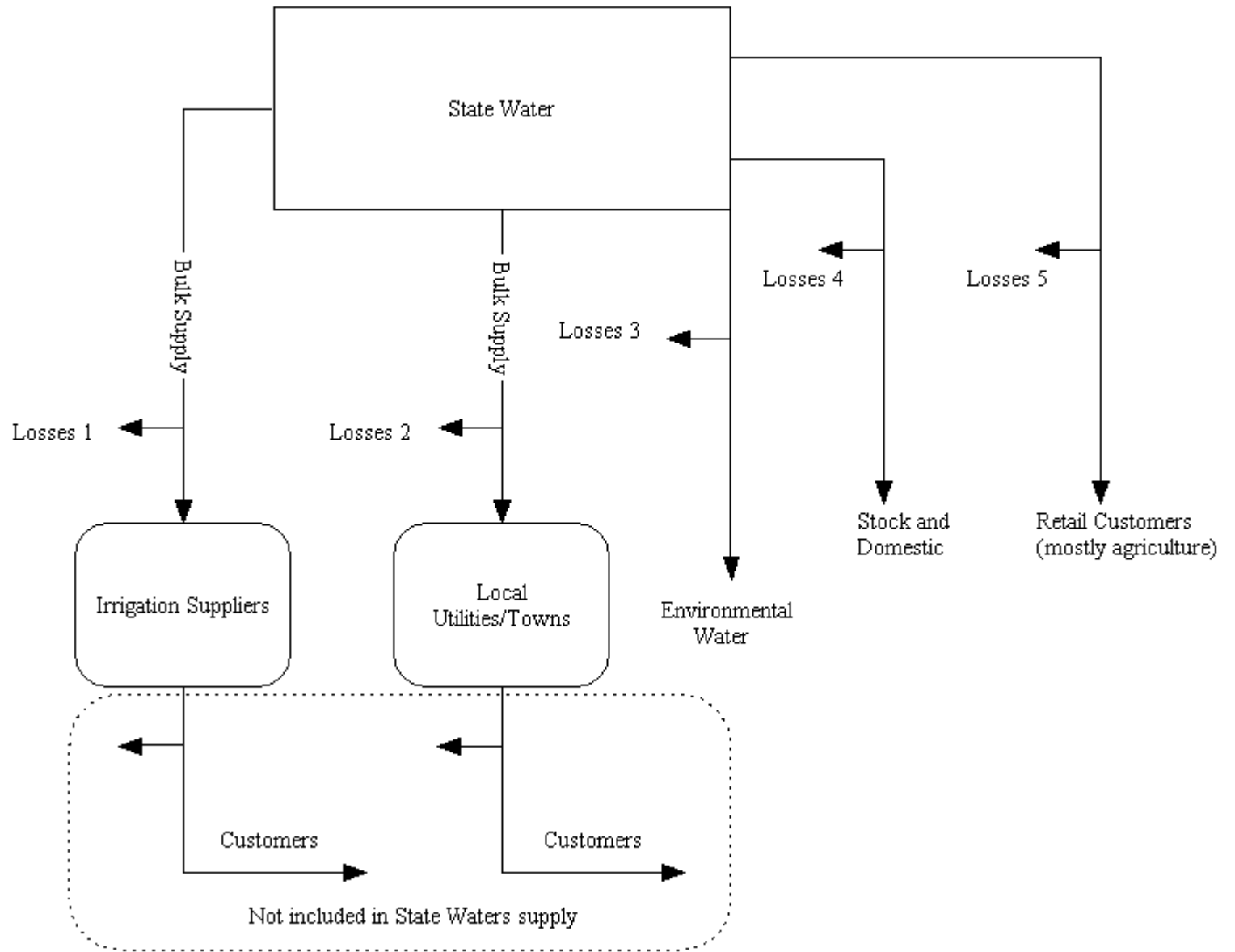
(d) Other sources

(e) Total volume extracted (sum of (a) to (d))

Reporting units – supply side data quality issues

- Making sense of supply relationships
- Making sense of customer relationships
- Metering issues – drainage and stormwater
- Unit level water balance
- Unit coverage (administrative data)
- Reporting water losses





SEEA-W Capturing data – use side

Water use by industry

- Survey vehicle – Energy Water and Environment Survey (EWES)
- Sample - @14,000 excludes micro, non-employed units
- Data item (volumes reported by state)

2 Please identify the volume (in Kilolitres, kL) and source of water intake by this business during the reporting period – (continued)

(b) Self sourced water

Definition

- **Self sourced water** is water extracted directly from the environment for use.
- **Mine dewatering** is the process used to remove excess runoff and groundwater seepage into mines.
- **Produced formation water** is the naturally occurring water that exists within oil and gas reservoirs.
- Water used from groundwater includes mine dewatering, produced formation water, pit dewatering and water from bores, springs, wells etc.

(i) No self sourced water intake by this business Go to Question 3

(ii) State breakdown of self sourced water

Surface water (from rainfall capture, dams, rivers and lakes) Kilolitres (kL)	Groundwater (from produced formation water, mine dewatering, bores, springs and wells etc.) Kilolitres (kL)
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Institutional arrangements

- Administrative arrangements
- Scope and coverage
- Data substitution (*complete units*)
- Data substitution (*partial units*)

Common problems – Supply side

Measurement (i.e. not metered)

● Problem

- Water supplied to remote properties
- Stormwater, drainage water
- Discharges to the environment
- Self-extracted water

● Solution

- Imputation strategy using specific models, substitution, donor units and water balances

Reporting errors

● Problem

- Allocations versus actual deliveries
- Bulk received versus self-extracted
- Own-use versus supplied to customers
- Kilotres versus Megalitres

● Solution

- Data editing strategy

Common problems – Supply side

Partial or non-responses

- Problem
 - No meter – no data
 - Environmental manager versus Financial manager
 - System failure to provide data (i.e. ABNs. Industry split)
- Solution
 - Imputation strategy using specific models, substitution, donor units key ratios and water balances

The information on this form will be used to compile a water account for Australia which shows the physical flows of water from the environment through the economy. In preparing the water account, environmental accounting principles are applied to the information provided. In particular, the information provided will be used in two theoretical water balance equations — distributed water and recycled (reuse) water — where the source and supply side of the equations should theoretically balance (that is, equal zero). You may find it helpful to transcribe your responses to the questions throughout the form into the balance equations given below. There are spaces for you to provide comments relating to imbalances in the water balance equations.

1. Distributed water balance equation

Question:

Distributed water sources:

Water received from other water suppliers

(a) Water received **Q. 10**

Self extracted water:

(b) Inland surface water **Q. 12a**

(c) Groundwater **Q. 12b**

(d) Sea water for desalination **Q. 12c**

(e) Other sources **Q. 12d**

(f) Total distributed water sourced (sum of (a) to (e))

Distributed water supply:

(g) Supplied to other water suppliers **Q. 14**

(h) Supplied to domestic or residential customers **Q. 16a**

(i) Supplied to non-residential customers **Q. 16b**

(j) Used by own organisation **Q. 18**

(k) Supplied for environmental flows **Q. 22e**

(l) Water losses **Q. 36d**

(m) Total distributed water supplied (sum of (g) to (l))

(n) Distributed water balance ((f) minus (m))

(o) Comments on distributed water balance for this organisation.

2. Reuse water balance equation

Question:

Recycled (reuse) water sources:

(a) Recycled (reuse water) received from other water suppliers **Q. 24**

(b) Wastewater/sewage collected **Q. 26a**

(c) Other wastewater collected **Q. 26b**

(d) Stormwater collected **Q. 26c**

(e) Drainage water collected **Q. 26d**

(f) Total recycled (reuse) water sourced (sum of (a) to (e))

Recycled (reuse) water supply:

(g) Supplied to other water suppliers **Q. 30a**

(h) Supplied to domestic or residential customers **Q. 30b**

(i) Supplied to non-residential customers **Q. 30c**

(j) Used by own organisation **Q. 32**

(k) Supplied for environmental flows **Q. 22e**

(l) Wastewater/drainage discharged to the environment **Q. 34d**

(n) Total recycled (reuse) water supplied (sum of (g) to (m))

(n) Distributed water balance ((f) minus (n))

(o) Comments on recycled (reuse) water balance for this organisation.

Issues encountered but not clearly specified in SEEA-W

- Non-reservoir storage
 - Water extracted for groundwater replenishment or storage purposes (i.e. aquifer recharge)
- Dam spill-overs
 - Spilled-over water from dams yet not used
 - Classification – discharge water, environmental flows, in-stream use
- Specific environmental flows
 - Rules based /environmental provisions

Thank you – Questions?