

22. WATER USE & AVAILABILITY IN AUSTRALIA – KEY FINDINGS

ISBN 0 642 37112 1

March 2001

Replaces Fast Facts 9

WATER IN A DRY LAND

Australia is a dry island continent typified by droughts, but also floods. Rainfall and consequently river flow and groundwater recharge is extremely variable. Access to an adequate supply of good quality water is essential to the economic and social well being of all Australians.

The National Land and Water Resources Audit has produced Australian Water Resources Assessment 2000, an audit of Australia's water resources that considers all water users, including the environment. It includes surface water and groundwater use and availability (Fast Facts 22), and water quality (Fast Facts 23).

WATER USE

Each year Australians use enough water to fill Sydney Harbour 48 times – a total of 24 000 GL¹. Most (19 100 GL) comes from surface water, the rest (5 000) from groundwater.

Some 75% of water is used for irrigation in agriculture, a further 20% is used by the urban and industrial sectors, and 5 % for other rural uses (domestic and stock).

Table 1: Australia's mean annual water use (GL)

	Irrigation	Urban Industry	Rural	Total use
NSW	8643	1060	305	10008
Vic	4451	987	339	5777
Qld	2976	1052	561	4591
WA	710	1027	59	1796
SA	819	292	53	1164
Tas	276	186	9	471
NT	53	87	39	179
ACT	5	63	4	72
Total	17935	4754	1369	24058

Across Australia, average water use has increased by 65% since the early 1980s. The greatest increase in water use by volume in water use was in Queensland and New South Wales.

Of the water diverted for use, on average, 77% actually reaches the consumer, the remainder is lost to seepage or evaporation.

DEFINING AUSTRALIA'S WATER RESOURCES

To better understand water use and water availability, Australia's water resources are divided into management areas for reporting purposes.

Surface water resources are divided into

- 12 drainage divisions
- 246 river basins
- 325 surface water management areas

Groundwater resources are divided into

- 69 groundwater provinces
- 538 groundwater management units

¹ A gigalitre (GL) is 1,000,000,000 litres

WATER AVAILABILITY

Using information provided by State and Territory water management agencies, the Australian Water Resources Assessment 2000 describes surface water and groundwater allocation to all users, including for the first time, the environment.

Using a definition of sustainable flow and sustainable yield (see below), it reveals that Australia's water resources are under pressure

- 26% of Australia's surface water management areas were assessed to be at a high level of development and approaching or beyond sustainable extraction limits.
- 34% of Australia's groundwater management units were assessed to be at a high level of development and approaching or beyond sustainable extraction limits.

DEFINING SUSTAINABILITY

SURFACE WATER SUSTAINABLE FLOW REGIMES: the volume and pattern of water diversions from a river that include social, economic and environmental needs

GROUNDWATER SUSTAINABLE YIELD: the volume of water extracted over a specific time frame that should not be exceeded to protect the higher social, environmental and economic uses associated with the aquifer

TABLE 2: *The number of Surface Water Management Areas and Groundwater Management Units at low, medium or high levels of development according to the definition of sustainable flow or sustainable yield.*

	Number of surface water management areas	Number of groundwater management units
Low development : less than 30% of nominated sustainable flow regime	195	274
Moderate development : between 30% and 70% of nominated sustainable flow regime	46	81
High development : between 70% and 100% of nominated sustainable flow regime	50	104
Overdeveloped: more than 100% of nominated sustainable flow regime	34	57
Total assessed	325	516 ¹

¹ 22 groundwater management units were not assessed

Note: this information is based on the best available data provided by the State and Territory water management agencies.

DEVELOPING AUSTRALIA'S WATER RESOURCES

More than half (55%) of Australia's water is supplied by the 34 surface water management areas that are considered overdeveloped. These Areas will need careful management to achieve a balance between productive and environmental demands for water.

- In southern Australia, water use is approaching extraction limits. Development opportunities are more likely to involve improved water use efficiency and water trading
- In northern Australia, water resource development potential is yet to be fully assessed