

PART FIVE

glossary



Algal blooms

A proliferation of microscopic algae in rivers and lakes, stimulated by the input of nutrients such as phosphorus and nitrogen.

Annual cropping

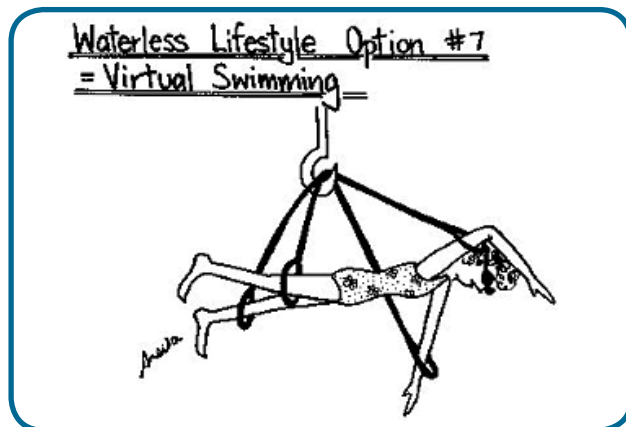
A system where one crop is grown each year.

Aquifer

A geological formation, group of formations, or part of a formation that stores and/or allows movement of groundwater.

Arid zone

Those areas in Australia that receive less than 250 mm or 350 mm of rainfall each year.



Biodiversity

Variety of lifeforms including the different plants, animals and microorganisms, the genes they contain, and the ecosystems they form. Biodiversity is usually considered at three levels: genetic, species and ecosystem.

Bore

A hole of uniform diameter (usually 150 mm to 160 mm) drilled vertically into the ground to tap an aquifer. It contains a pipe through which groundwater can be pumped or can flow to the surface by artesian pressure.

Broad-acre farms

Commercial farms over a large area. Produce includes crops, wool, beef and sheep meat. Farming is usually under dryland conditions.

C3 and C4 plants

C3 plants comprise more than 95% of the plant species on Earth. (Trees, for example, are C3 plants).

C4 plants, such as the common marsh grasses and other herbaceous plants, are abundant in arid, hot environments. They include such crop plants as sugar cane, corn and soybeans and are the second-most prevalent photosynthetic type.

The C3 and C4 refer to how these classes of plants assimilate carbon dioxide into their systems. During the first steps in CO₂ assimilation, C3 plants form a pair of three carbon-atom molecules. C4 plants, on the other hand, initially form four carbon-atom molecules.

The important difference between C3 and C4 species for rising carbon dioxide levels is that photosynthesis in C4 species is saturated with carbon dioxide at present levels, while C3 species continue to increase for photosynthesis as carbon dioxide rises.

Catchment

An area of land where runoff from rainfall goes into the one river system.

Climate variability

The natural year-to-year and season-to-season variation of the climate system.

Direct household water consumption

Water that we use in day-to-day activities (watering gardens, cleaning, food preparation, in toilets and bathrooms).

Diversion

Surface water diverted for use from the resources of a surface water river basin for supply to both within-basin consumers and consumers external to the basin.

Drainage division

The drainage divisions are a series of non-overlapping polygons covering the whole of the Australian continent and some other areas such as the Protected Territories. A drainage division may include areas that have no recorded surface runoff. The system of drainage divisions and river basins were defined by the former Australian Water Resources Council and were recently revived under the auspices of the Agriculture and Resources Management Council of Australia and New Zealand.

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Dryland salinity

The accumulation of salts in soils, soil water and groundwater. This can be a natural phenomenon, but it can also be caused by clearing of native vegetation. Dryland salinity differs, in origin, from wetland (irrigation) salinity.

Ecosystem

A community of organisms, interacting with each other, plus the environment in which they live and with which they also interact (examples are a pond or forest).

Environmental flows

River flows allocated for the maintenance of aquatic and riparian systems.

Environmental water requirements

Description of the flow regimes (e.g. volume, timing, seasonality, and duration) needed to sustain the ecological values of aquatic ecosystems including their processes and biological diversity.

Evaporation

The process of water changing from a liquid to a vapour.

External water footprint

This is the water used in other countries to grow food and produce goods that we then import.

Gigalitre (GL)

1000 megalitres.

Greywater

Water that has not been contaminated by toilet and industrial discharge. It includes water from bathtubs, dishwashing machines and clothes washing machines, as well as water from commercial laundries and carwashes.

Groundwater

Water occurring below the ground surface.

Groundwater management unit

A hydraulically connected groundwater system that is defined and recognised by state and territory agencies. This definition allows for management of the groundwater resource at an appropriate scale at which resource issues and intensity of use can be incorporated into local groundwater management practices.

Hydrology

The scientific study of water both on and below the surface, including the geographical distribution of such water.

Internal water footprint

This is made up of the individual's direct water consumption, plus all of the water that is used in domestic activities.

Megalitre (ML)

1000 000 litres

Mean annual flow

The average annual streamflow passing a specified point on a stream.

Mean annual runoff

The streamflow generated as a result of direct precipitation on the area of interest.

Potable

Water suitable for drinking.

Pressure

In confined aquifers (those under a confining layer) the groundwater is stored under pressure. When it is intercepted (e.g. by a bore) the groundwater rises under pressure to a level above the top of the aquifer.

Recharge

Rainfall that moves through the soil, beyond the roots of plants, to replenish the aquifer.

Recycled water

Water derived from sewerage systems, or industry processes, that is treated to a standard that is appropriate for its intended use.

Riparian zone

Vegetated corridor along streams and rivers.

Salinity

The total amount of water-soluble salts present in a soil horizon.

Semi-arid zone

Lands where rainfall is too low and unreliable for crops to be grown with certainty.

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Sewage

Urine, faeces and other wastes disposed of in toilets into a sewerage system.

Sewerage

A physical arrangement of pipes and plant for the collection, removal, treatment and disposal of liquid waste.

Siltation

Deposition of sediments from water in channels, reservoirs and harbours.

Surface runoff

The proportion of rainfall that is not immediately absorbed by the soil and thus flows across the surface.

Surface-water management area

Areas defined by the state and territory water-management agencies for the purposes of reporting on surface-water resources. The boundaries of the reporting units commonly coincide with the Australian Water Resources Council river basins. In a number of cases the reporting units represent subdivisions of these river basins.

Third pipe systems/dual reticulation

Systems used to supply recycled water for uses such as garden watering and toilet flushing.

Transpiration

The process by which water absorbed by plants, usually through the roots, is evaporated into the atmosphere from the plant surface, principally from the leaves.

Turbidity

In relation to water, a measure of the concentration of particulate particles.

Water cycle

The cyclic sequence of events by which water moves from the land and sea to the atmosphere, then back to the Earth's surface as precipitation, returning to the atmosphere or oceans as evapotranspiration, runoff or groundwater flow.

Water footprint

A person's water footprint is all of the water that the person requires to live and carry out activities in an average year. The water footprint has an internal and an external component.

Water Intensity

Water intensity refers to the water consumed per square metre of space.

Water table

The water table is the upper surface of groundwater. The soil profile is fully saturated below the water table and unsaturated above it.

Water use

This refers to the water that is not directly consumed. It is the water required to grow our food and produce manufactured goods. This water is embodied in the food and goods that we purchase.

► This glossary has been sourced from the following:

- National Land and Water Resources Audit, *Australian water resources assessment 2000*, NLWRA, Canberra, 2001.
- Victorian Government White Paper, *Securing our water future together*, 2004.
- D Smith, *Water in Australia*, Oxford University Press, Australia, 1998.