Glossary

Above-cap water

Water that is left over after limits on diversions have been reached. It also includes unregulated flows which cannot be kept in storage.

Adaptive management

Systematic process of continually improving management policies and practices.

Afforestation

The establishment of a forest by artificial methods, such as planting and direct seeding, on land where a forest would not have grown naturally.

Anabranch

A section of a river or stream that diverts from the main watercourse channel (or main stem) and rejoins the river downstream.

Aquifer

A layer of underground sediments which holds groundwater and allows water to flow through it.

Azolla

A native aquatic fern which grows in waterways in dense patches; its presence usually indicates high levels of nutrients.

Back-trade

Generally trade is permitted provided the traded water can readily flow to the destination trading zone. Trade is permitted in the opposite direction ('back-trade') if previous forward trade has opened up an opportunity.

Barmah Choke

A natural geographical constriction of the River Murray near the town of Barmah. The choke restricts the delivery of irrigation and environmental water and it may be possible to bypass the choke to alleviate channel capacity constraints to enable more effective delivery of water.

Baseflow

The component of streamflow supplied by groundwater discharge (or simulated from other environmental water).

Bulk entitlement (BE)

The right to water held by water corporations and other authorities defined in the *Water Act 1989*. Includes source bulk entitlements and delivery bulk entitlements.

Carryover

Allows entitlement-holders to retain ownership of unused water into the following season (according to specified rules).

Catchment

See river basin or system.

Catchment management authorities (CMAs)

Government authorities established to manage regional and catchment planning, and waterway, floodplain, salinity and water quality management.

Climate change

An extended period (typically decades or longer) where there is a statistically significant change in the 'usual' characteristics (averages and/or variability) of a place's climate.

Consumptive use

Water that is provided for all human uses (ie. nonenvironmental uses).

Critical human needs

The amount of water required to supply Stage 4 restricted demand in urban areas, domestic and stock needs and operate the distribution system to deliver that water.

Dead storage

Water held in the bottom of a storage that is below the elevation of the lowest constructed outlet.

Delivery bulk entitlement

Provides a set volume of water each year, subject to defined restrictions during periods of water shortages.

Delivery share

An entitlement to have water delivered to land in an irrigation district and a share of the available channel capacity in a delivery system. It is linked to land and stays with the property if the water share is traded away.

Desalination

Removing salt from water sources – normally for drinking purposes.

Distribution losses

See system operating water.

Diversions

The removal of water from a waterway via a pump. See also extractive use.

Drainage water

By-product of the distribution of irrigation water. Opportunistic reuse of drainage water is governed by rural water corporations through supply by agreements (sometimes called 'drainage diversion licences').

Drought response plan

Used primarily by urban water corporations to manage water shortages, including implementation of water restrictions.

Dry spell tolerance

The maximum period of time a species can cope with minimum flows or water levels without losing its ability to recover post-drought.

EC units/level

EC stands for electrical conductivity and is a measure used to indicate the salinity levels in water.

Effluent

Sewage that flows out of a sewage treatment plant.

Environmental Contribution Levy

An amount payable by urban and rural water corporations under the Water Industry Act 2004 to promote the sustainable management of water and address adverse water-related environmental impacts.

Environmental flow regime

The timing, frequency, duration and magnitude of flows for the environment.

Environmental water reserve

The share of water resources set aside to maintain the environmental values of a water system.

Environmental flow studies

The study of the flow requirements of particular basin's river and wetlands systems used to inform policy decisions on the management and allocation of water resources.

Environmental entitlement

An entitlement to water currently held by the Minister to achieve environmental objectives in waterways.

Environmental manager

The government agency responsible for environmental outcomes for a relevant waterway. Could be the Department of Sustainability and Environment or catchment management authority.

Evapotranspiration

Water transfer to the atmosphere through direct evaporation from a surface and transpiration from an organism. For example, this can happen from evaporation of soil moisture, or transpiration through plants.

Extractive use

Water that is extracted for any human (consumptive) use or for the environment (for example, to water a wetland).

'Fit for purpose' supplies

Water that requires no further treatment for intended use.

Floodplain

Lands which are subject to overflow during floods. Often valuable for their ecological assets.

Flow component

Components of a river system's flow regime that can be described by timing, seasonality, frequency and duration (for example, cease to flow and overbank flows).

Freshes

Small and short peaks in flow; a 'flush' of water through a waterway.

Icon sites

There are six sites designated by the Living Murray Initiative as sites of importance: Barmah-Millewa Forest, Gunbower-Koondrook-Perricoota Forest, Hattah Lakes, Chowilla Floodplain/Lindsay-Wallpolla Islands, Lower Lakes/Coorong/ Murray Mouth and the River Murray Channel.

Gigalitre (GL)

One billion (1,000,000,000) litres.

Greenhouse effect

The enhanced warming of the Earth's atmosphere (global warming) attributed to increased atmospheric concentrations of the so-called greenhouse gases such as carbon dioxide and methane.

Greywater

Household water which has not been contaminated by toilet discharge, and can be reused for non-drinking purposes. Typically includes water from bathtubs, dishwashing machines and clothes washing machines.

Groundwater

All subsurface water, generally occupying the pores and crevices of rock and soil.

Groundwater management area (GMA)

Defined areas from which water is extracted from an aquifer, generally where groundwater has been or has the potential to be well developed.

Groundwater management plans

Created for water supply protection areas that have been proclaimed under the Water Act 1989 to ensure equitable and sustainable use of groundwater.

Headworks

Large dams, weirs and associated works used for the harvest and supply of water.

High-reliability water share

Legally recognised, secure entitlement to a defined share of water, as governed by the reserve policy.

Hydrological modelling

Simplified, conceptual representations of a part of the hydrologic cycle, used primarily for prediction of water behaviour within catchments and associated water supply systems.

Inflows

Water flowing into a storage or a river.

In-stream

The component of a river within the river channel, including pools, riffles, woody debris, the river bank and benches.

Licensing authority

Administers the diversion of water from unregulated waterways and the extraction of groundwater on behalf of the Minister for Water.

Living Murray Initiative

A water recovery project focussed on improving the environmental health of six icon sites in the Basin.

Low-reliability water share

Legally recognised, secure entitlement to a defined share of water, as governed by the reserve policy. Previously known as sales water.

Megalitre (ML)

One million (1,000,000) litres.

Murray-Darling Basin Cap

The limit set on the volume of surface water able to be diverted from each of the Basin's major river systems.

Non-residential water

Urban water use in industry, commercial/institutional buildings, open spaces (parks and gardens) and the distribution system.

Non-revenue water

Water within the urban reticulated system that is used to cover system losses/ leaks and non-chargeable activities such as fire services.

Passing flows

See system operating water.

Permanent trade

Transfer of ownership of a water share or licence.

Permissible consumptive volume (PCV)

The maximum volume of water permitted to be allocated in groundwater management areas. Previously called permissible annual volumes (PAVs).

Qualification of rights

The Minister of Water declares a water shortage and qualifies existing water entitlements to reallocate water to priority uses.

Recharge (to groundwater)

The process where water moves downward from surface water to groundwater due to rainfall infiltration or seepage/leakage.

Recycled water

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

Refugia

Areas where plants and animals can take refuge, during times of climatic upheaval or biological stress. Refugia provide conditions suitable for survival of species that may be declining elsewhere.

Regulated systems

Systems where the flow of the river is regulated through the operation of large dams or weirs.

Reliability of supply

The volume and frequency with which water is allocated to entitlement-holders or water users. Key indicators for water shares are the frequency of full allocation and zero allocation years; for urban customers, the frequency of water restrictions.

Reservoir

Natural or artificial dam or lake used for the storage and regulation of water.

Reserve policy

Governs the balance between water allocated to entitlement-holders in a given year or kept in reserve for the following year.

Residential use

Water use in private housing.

Reticulation

The network of pipelines used to deliver water to end users.

Return flows

The portion of an allocation that the entitlement-holder

returns to the bulk supply system.

Riparian area

The interface between land and a stream. Important because of its influence on aquatic ecosystems.

River basin or system

The land into which a river and its tributaries drain.

Run-off

Precipitation or rainfall which flows from a catchment into streams, lakes, rivers or reservoirs.

Salinity

The total amount of water-soluble salts present in the soil or in a stream.

Seasonal allocation

The volume of water allocated to a water share in a given season, expressed as a percentage of total entitlement volume.

Sewage

Wastewater produced from household and industry. **Sewerage**

The pipes and plant that collect, remove, treat and dispose of sewage.

Source bulk entitlement

A type of bulk entitlement held by water corporations to provide a share of inflows, storage capacity (if applicable) and releases.

Spillable water account

An accounting method for carryover to ensure entitlement-holders only lose their carryover when storages physically spill.

Stormwater

Run-off from urban areas. The net increase in run-off and decrease in groundwater recharge resulting from the introduction of impervious surfaces such as roofs and roads within urban development.

Stranded assets

Distribution infrastructure left with too few customers to pay for its maintenance when water entitlements delivered by that asset are traded to other systems.

Streamflow management plan

Plans prepared for a water supply protection area to manage the surface water resources of the area.

Sustainable diversion limit

The upper limit on winter-fill diversions within a unregulated river sub-catchment, beyond which there is an unacceptable risk to the environment.

Surface water

Fresh water that is visible above ground in rivers, wetlands and storages.

System operating water

Water released out of storages to operate river and distribution systems (to deliver water to end users), provide for riparian rights and maintain environmental values and other community benefits.

System reserve policy

See reserve policy.

Tagging of entitlements

Ensuring entitlements retain all of the characteristics (including reliability) of the source system when they are traded for use in another system.

Temporary trade

Transfer of ownership of a seasonal allocation.

Termination fee

One-off payment made by a entitlement-holder as a condition of surrender of a delivery share. Aims to address the risk of 'stranded assets'.

Transpiration

The transfer of water into the atmosphere from an organism (for example, the leaves and stems of plants).

Unbundling

Separation of traditional water rights into a water share, delivery share and a water-use licence.

Unincorporated groundwater areas

Areas with limited groundwater resources or use, which are not defined as groundwater management areas and do not have a defined permissible consumptive volume.

Unregulated systems

River systems with no large dams or weirs to regulate flow.

Water corporations

Government organisations charged with supplying water to urban and rural water users. They administer the diversion of water from waterways and the extraction of groundwater. Formerly known as water authorities.

Water entitlement

Volume of water authorised to be stored, taken and used under specific conditions.

Water entitlement-holder

Group or individual holding a water entitlement.

Water market

Market in which the trade of entitlements and allocations is allowed under certain conditions.

Water plans

Outline the services water corporations will deliver over a three-year regulatory period and the prices that they will charge.

Water right

Previously rights to water held by irrigators. As a result of 'unbundling', these have now been separated into a water share, delivery share and water use licence.

Water share

A water share is a legally recognised, secure share of the water available to be taken from a water system. It can be traded permanently or leased.

Water supply protection area (WSPA)

An area declared under the Water Act 1989 to protect the groundwater and/or surface water resources in the area. Once an area has been declared, a water management plan is prepared.

Water-use licence

Authorises use of water on a specific parcel of land.

Wetlands

Inland, standing, shallow bodies of water, which may be permanent or temporary, fresh or saline.

Winter-fill licence

A licence that permits the taking of water from a waterway during the winter months (normally 1 July and 31 October).

Yield

The quantity of water that a storage or aquifer produces.

Acronyms

ABA	allocation bank account	MDB
ACCC	Australian Competition and Consumer Commission	ML
AUL	annual use licence	N/A
BE	bulk entitlement	NRSWS
BSMS	Basin Salinity Management Strategy	NRM
COAG	Council of Australian Governments	NVIRP
CEWH	Commonwealth Environmental Water Holder	NWI
СМА	catchment management authority	PCV
CSIRO	Commonwealth Scientific and Industrial Research Organisation	REALM
DSE	Department of Sustainability and Environment	Rivers SAM
DPI	Department of Primary Industries	SDL
EC	electrical conductivity units (salinity)	SEACI
EEA	Environmental Effects Act 1978	SFMP
EES	Environmental Effects Statement	SWA
ESC	Essential Services Commission	SWS
EPA	Environment Protection Authority Victoria	TBD
EWR	environmental water reserve	VEAC
ETS	Emission Trading Scheme	VEFMA
GL	gigalitre	
GMA	groundwater management area	VEWH
GMU	groundwater management unit	VRHS
HRWS	high-reliability water share	
IVT	inter-valley transfer	VSHRE
LRWS	low-reliability water share	WaterM

MDB	Murray-Darling Basin
ML	megalitre
N/A	not applicable
NRSWS	Northern Region Sustainable Water Strategy
NRM	natural resource management
NVIRP	Northern Victoria Irrigation Renewal Project
NWI	National Water Initiative
PCV	permissible consumptive volume
REALM	Resource Allocation Models
RiVERS	River Values,
SAM	Southern Annular Mode
SDL	sustainable diversion limit
SEACI	South East Australia Climate Initiative
SFMP	streamflow management plan
SWA	spillable water account
SWS	sustainable water strategy
TBD	to be determined
VEAC	Victorian Environment Assessment Council
VEFMAP	Victorian Environmental Flow Monitoring and Assessment Framework
VEWH	Victorian Environmental Water Holder
VRHS	<i>Victorian River Health Strategy</i> (to be replaced by VSHREW)
VSHREW	Victorian Strategy for Healthy Rivers, Estuaries and Wetlands
WaterMAP	water management action plan
WSPA	water supply protection area

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