

# Seasonal Watering Plan 2022-23

## Section 6



# Section 6 – Further information

## 6.1 Acronyms and abbreviations

**AHD** – Australian Height Datum (also see Glossary entry)

**BGLC** – Barengi Gadjin Land Council Aboriginal Corporation

**BLCAC** – Bunurong Land Council Aboriginal Corporation

**CEWH** – Commonwealth Environmental Water Holder

**CEWO** – Commonwealth Environmental Water Office

**CMA** – Catchment management authority

**DELWP** – Department of Environment, Land, Water and Planning

**EVC** – Ecological vegetation class

**FSL** – Full supply level

**GLaWAC** – Gunaikurnai Land and Waters Aboriginal Corporation

**GWMWater** – Grampians Wimmera Mallee Water

**IVT** – Inter-valley transfer

**MDBA** – Murray-Darling Basin Authority

**MDWWG** – Murray Darling Wetlands Working Group

**ML** – Megalitre (also see glossary entry)

**NVIRP** – Northern Victoria Irrigation Renewal Project

**NVRM** – Northern Victoria Resource Manager

**RMIF** – River Murray Increased Flows

**SAC** – Snowy Advisory Committee

**VEFMAP** – Victorian Environmental Flows Monitoring Assessment Program

**VEWH** – Victorian Environmental Water Holder

**VMFRP** – Victorian Murray Floodplain Restoration Project

**WetMAP** – Wetland Monitoring Assessment Program

**WMPP** – Wimmera-Mallee Pipeline Project

## 6.2 Glossary

**Acid sulphate soils** – Naturally occurring soils containing high quantities of iron sulphates. These soils are stable when inundated but can generate sulphuric acid (and severe environmental impacts) when exposed to air.

**Adaptive management** – An iterative decision-making process based on continuous learning that aims to improve outcomes over time.

**Allocation (of water)** – The specific volume of water made available against a water entitlement in a given water year.

**Australian Height Datum (AHD)** – Height above sea level.

**Azolla** – A native aquatic fern that grows in waterways in dense patches. Its presence usually indicates high levels of nutrients.

**Bank erosion** – The wearing away of the banks of a stream or river (as distinct from erosion of the bed).

**Bank slumping** – When a coherent mass of loosely consolidated materials or rock layers that form part of the river bank moves a short distance down a slope. Bank slumping is usually associated with bank erosion.

**Bankfull flow** – A flow of sufficient size to reach the top of the riverbank, with little flow spilling onto the floodplain.

**Biodiversity** – The variety of plant and animal species in a particular habitat or environment.

**Biofilm** – A slimy film of bacteria, other microbes and organic materials that covers underwater surfaces including rocks and snags.

**Blackwater** – A natural occurrence caused by the breakdown of organic matter in a waterway leading to discolouration. In some cases, the breakdown of organic matter can deplete oxygen in the waterway, which if severe can stress or kill fish and other animals that breathe underwater.

**Brackish water** – Water that is moderately salty but not as salty as seawater. It may result from the mixing of seawater with freshwater, as in estuaries.

**Carryover** – Unused water allocation that entitlement holders are allowed to retain for use in subsequent years, according to specified rules.

**Catchment management authority (CMA)** – A Victorian statutory authority responsible for the integrated planning and coordination of land, water and biodiversity management in a designated catchment and land protection region. Victoria's CMA's are listed in '6.3 Contact details'.

**Cease-to-flow** – The period in which there is no discernible flow in a river and partial or total drying of the river channel.

**Cold-water pollution** – A phenomenon caused by cold water being released (usually from large dams) into rivers. Such releases have the potential to disrupt ecological processes (such as fish breeding) that are influenced by temperature.

**Commonwealth Environmental Water Office** – The office that manages water entitlements recovered by the Australian Government through a combination of investments in water-saving infrastructure, water purchases and other water-recovery programs. The entitlements are held by the Commonwealth Environmental Water Holder.

**Confluence** – The point where a tributary joins a larger river (called the main stem) or where two streams meet to become the source of a river of a new name.

**Consumptive water** – Water owned by water corporations or private entitlement holders held in storages and actively released to meet domestic, stock, town and irrigation needs.

**Diadromous fish** – Fish that migrate between freshwater and saltwater to complete specific parts of their life cycle.

**Deficit in supply** – The situation when the available volume of environmental water is insufficient to meet identified requirements to deliver water for the environment.

**Drawdown** – Water released or allowed to evaporate from a dam, reservoir or wetland to lower the water level. Drawdowns in dams and reservoirs are usually done for operational or maintenance purposes and may be done in wetlands to support specific ecological outcomes.

**Ecological vegetation class** – A standard unit for classifying vegetation types in Victoria, based on floristic, structural and ecological features.

**En route (water)** – Water that has been released from a storage and is moving downstream to meet an urban, irrigation or operational need.

**Environmental flow study** – A scientific study of the flow requirements of a particular river and/or wetland system that is used to inform decisions about the management and allocation of water resources.

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**Environmental objective** – A measurable environmental outcome sought from deliberate management actions (such as the application of water for the environment) in a particular system. An environmental objective may take years or even decades to achieve.

**Environmental water entitlement** – A legal right to take and use water for the purpose of maintaining an Environmental Water Reserve or improving the environmental values and health of the water ecosystem. It covers an environmental entitlement, environmental bulk entitlement, water share, section 51 licence or supply agreement.

**Environmental water management plan** – A plan developed by a waterway manager setting long-term environmental objectives and the water regime required to support those objectives.

**Estuary** – A partially enclosed body of water along the coast where freshwater from rivers and streams meets and mixes with saltwater from the sea.

**Expected watering effect** – The physical, chemical, biological or behavioural effect expected from a potential action to deliver water for the environment. Each potential action will have one or more expected watering effects.

**Fishway** – A series of pools built like steps to enable fish to travel past an artificial obstruction (such as a dam or weir).

**Fledging** – The stage at which a young bird becomes independent and can fly and leave its nest.

**Flow component** – A component of a river system's flow regime that can be described by its magnitude, timing, frequency and duration (for example, cease-to-flow and overbank flow).

**Fresh** – A small, short-duration increase in flow magnitude within a river. A fresh can occur in any season and usually lasts from several days to a couple of weeks.

**Geomorphology** – The scientific study of landforms and the processes that shape them.

**Groundwater** – Water held underground in the soil or in pores and crevices in rock.

**Headwater** – A tributary stream of a river close to or forming part of its source.

**Headworks system** – A collection of water storage infrastructure (such as reservoirs, diversion weirs and channels) that support the harvest and distribution of water within one or more catchment regions.

**Heritage river** – A river listed under the *Heritage Rivers Act 1992* and part of a river and river catchment area in Victoria that has significant nature conservation, recreation, scenic or cultural heritage attributes.

**High-reliability entitlement** – A legally recognised, secure entitlement to a defined share of water. The full allocation of a high-reliability entitlement is expected in most years.

**Hydrology** – The study of the properties of the water and its movement in relation to land.

**Inter-valley transfer** – The transfer of water between river systems to meet demands as a result of water trade between river systems.

**Irrigation release** – The release of water for irrigation purposes.

**Juvenile** – A stage of life at which an animal or plant is not yet fully mature.

**Land manager** – An agency or authority responsible for conserving natural and cultural heritage on public land including parks and reserves (such as Parks Victoria and DELWP).

**Low flow** – A relatively stable, sustained flow in a river, generally being its minimum natural level for that season.

**Low-reliability entitlement** – A legally recognised, secure entitlement to a defined share of water. The full allocation of a low-reliability entitlement is expected only in some years.

**Macroinvertebrate (also called a waterbug)** – An aquatic animal without a backbone that can be seen with the naked eye. Worms, snails, mites, bugs, beetles, dragonfly larvae, shrimps and freshwater crayfish are all macroinvertebrates.

**Macrophyte** – An aquatic plant that is either emergent (growing out of the water, such as phragmites), submergent (growing under the water, such as ribbon weed) or floating (such as floating pondweed).

**Managed release** – A deliberate release of stored water for the environment to deliver a potential watering action and associated environmental outcomes.

**Megalitre** – One million (1,000,000) litres.

**Midden** – A site of cultural significance where Aboriginal people left the remains of their meals and other domestic waste.

**Millennium Drought** – One of the worst droughts recorded since post-contact settlement, it went from about 1995 to 2012.

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**Operational release** – A release of water from a water supply storage to support the operation of the water distribution system or to make water available to consumptive water users.

**Overbank flow** – a flow event that exceeds the capacity of the river channel and inundates adjacent floodplain habitats.

**Passing flow** – A release of water from a water supply storage to operate a river and distribution system — often to help deliver water for environmental or consumptive uses — and to maintain environmental values and provide other community benefits. The volume of a passing flow is generally determined by inflows to the storage.

**Permanent trade** – The transfer of ownership of a water share or licence.

**Potential action to deliver water for the environment** – An environmental flow component that has been identified for a particular system in a particular year.

**Program partner** – An organisation responsible for delivering a part of the environmental watering program. Program partners include waterway managers, storage managers, land managers and environmental water holders. In some areas, Traditional Owners, scientists and community members may also be program partners.

**Pulse** – Water released to increase the flow magnitude for a short duration, usually to cue an ecological response (such as to trigger fish movement).

**Ramsar-listed wetland** – A wetland listed as internationally significant under the Convention on Wetlands of International Importance signed in Ramsar, Iran in 1971.

**Reach** – A section of a river, generally defined in an environmental flow study.

**Recruitment** – The process by which individuals are added to a population (such as when plants and animals mature from their early life stages to breeding ages).

**Regional waterway strategy** – An eight-year action plan prepared by a CMA for the rivers, wetlands and estuaries in its catchment. It provides a single regional planning document for waterways in the area.

**Remnant vegetation** – Patches of native trees, shrubs and grasses remaining after disturbance.

**Return flow** – The portion of an environmental water delivery that flows back into the river channel or out the end of a river system and is available for use further downstream. Return flows may be captured and stored for later reuse, but are more commonly used as it moves downstream.

**Riffle** – A shallow section of stream where water flows at a higher velocity; turbulence increases, and the surface is disturbed.

**Riparian vegetation** – plants that grow along the banks of waterways: that is, in the zone between the waterway and adjacent land.

**Salt wedge** – The transition zone of saltwater and freshwater environments that occurs when a freshwater river flows directly into saltwater.

**Seasonal watering plan** – The VEWH's annual operational document, that outlines potential actions to deliver water for the environment across the state in the forthcoming water year.

**Seasonal watering proposal** – An annual proposal outlining the regional priorities for the use of water for the environment in each water year that is submitted by waterway managers to the VEWH for consideration in its seasonal watering plan.

**Seasonal watering statement** – An authorisation from the VEWH to allow a CMA or Melbourne Water to apply water from specific environmental entitlements to deliver the watering actions specified in the seasonal watering plan.

**Shared benefits** – The many cultural, economic, recreational, social and Traditional Owner benefits of delivering water for the environment.

**Shared risk** – A risk associated with the environmental watering program that is shared by two or more agencies and that requires coordinated management by more than one agency.

**Slackwater habitat** – Areas of a river or stream with little or no current. These areas may be immediately downstream of an obstruction (such as a rock) or at the margins of the channel, and they are often important areas for waterbugs, fish larvae and small-bodied fish.

**Spawning** – The process of fish releasing eggs and sperm to reproduce.

**Stakeholder** – An organisation or individual with an interest in the environmental watering program that is engaged by a program partner during planning, delivery or reporting.

**Storage manager** – An organisation appointed by the Minister for Water to operate major water storages in a particular river basin to deliver water to entitlement holders.

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**System operating water** – Water managed by storage managers, held in storages and actively released to ensure the system can deliver consumptive water and water to meet other needs.

**Terrestrial vegetation** – Land-based plants.

**The Living Murray program** – The intergovernmental program that holds an average of 500,000 ML of water for the environment a year for use at six iconic sites along the Murray River.

**Tier 1** – Potential actions to deliver water for the environment that are required this year to achieve intended environmental objectives, given current environmental conditions and the planned strategies to deliver water for the environment under each climate scenario.

**Tier 1a** – The subset of tier 1 watering actions that the waterway manager proposes to deliver with predicted supply under each climate scenario.

**Tier 1b** – The subset of tier 1 watering actions that the waterway manager does not expect to be able to deliver if available supply is exhausted on tier 1a actions.

**Tier 2** – Potential watering actions that are generally not required every year to achieve intended environmental objectives but are needed over the long term. At the time of developing a seasonal watering plan, tier 2 potential watering actions are not considered necessary to deliver in the current year under specific climate scenarios, but they are likely to be needed in coming years and may be delivered in the current year if environmental conditions change or to take advantage of operational circumstances.

**Trade** – see **Water trading**

**Translocation** – The movement of living organisms from one area to another area where they are given free release.

**Tributary** – A smaller river or creek that flows into a larger river.

**Unregulated (entitlement)** – An entitlement to water declared during periods of unregulated flow in a river system, usually when high rainfall causes river flow to exceed consumptive and system storage demands.

**Unregulated flow** – A natural streamflow that cannot be captured in a major reservoir or storage.

**Victorian Environmental Water Holder (VEWH)** – The independent statutory body responsible for holding and managing Victorian water for the environment entitlements and allocations.

**Victorian environmental watering program** – The overarching program by which all actions to deliver water for the environment are planned and delivered and in which all environmental watering partners are involved.

**Water Act 1989** – The legislation that governs water entitlements and establishes the mechanisms for managing Victoria's water resources.

**Water entitlement** – The right to a volume of water that can (usually) be stored in reservoirs and taken and used under specific conditions.

**Water allocation** – See Allocation (of water).

**Water for the environment** – Water available for environmental purposes including entitlements held by the VEW, passing flows and unregulated flows.

**Water trading** – The process of buying, selling or exchanging rights to water. A water trade can be a permanent transfer of ownership of a water entitlement or the trade of an annual water allocation. The Minister for Water sets rules for water trading in Victoria. For the purposes of the seasonal watering plan, the term 'trade' refers to the purchase, sale or transfer of annual water allocation.

**Water year** – The twelve-month period from 1 July to 30 June that is used for allocating, managing and reporting the use of water entitlements.

**Waterway manager** – The agency or authority (such as a CMA or Melbourne Water) responsible for the environmental management of a catchment or waterway.

**Waterway** – A river, wetland, creek, floodplain, estuary or other body of water.

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## 6.3 Contact details

For further information about the *Seasonal Watering Plan 2022-23*, please contact the VEWH.

### **Victorian Environmental Water Holder**

Ground floor, 8 Nicholson St, East Melbourne, Victoria 3002  
PO Box 500, East Melbourne, Victoria 3002  
(03) 9637 8951  
[general.enquiries@vewh.vic.gov.au](mailto:general.enquiries@vewh.vic.gov.au)  
[www.vewh.vic.gov.au](http://www.vewh.vic.gov.au)

For specific information about each system and details about specific seasonal watering proposals, please contact the relevant waterway manager.

### **Corangamite CMA**

64 Dennis Street, Colac, Victoria 3250  
PO Box 159, Colac, Victoria 3250  
1800 002 262  
[info@ccma.vic.gov.au](mailto:info@ccma.vic.gov.au)  
[www.ccma.vic.gov.au](http://www.ccma.vic.gov.au)

### **East Gippsland CMA**

574 Main Street, Bairnsdale, Victoria 3875  
PO Box 1012, Bairnsdale, Victoria 3875  
(03) 5152 0600  
[reception@egcma.com.au](mailto:reception@egcma.com.au)  
[www.egcma.com.au](http://www.egcma.com.au)

### **Glenelg Hopkins CMA**

79 French Street, Hamilton, Victoria 3300  
PO Box 502, Hamilton, Victoria 3300  
(03) 5571 2526  
[ghcma@ghcma.vic.gov.au](mailto:ghcma@ghcma.vic.gov.au)  
[www.ghcma.vic.gov.au](http://www.ghcma.vic.gov.au)

### **Goulburn Broken CMA**

168 Welsford Street, Shepparton, Victoria 3630  
PO Box 1752, Shepparton, Victoria 3630  
(03) 5822 7700  
[reception@gbcma.vic.gov.au](mailto:reception@gbcma.vic.gov.au)  
[www.gbcma.vic.gov.au](http://www.gbcma.vic.gov.au)

### **Mallee CMA**

Agriculture Victoria Centre, Corner Koorlong Avenue and Eleventh Street, Irymple, Victoria 3498  
PO Box 5017, Mildura, Victoria 3502  
(03) 5051 4377  
[reception@malleecma.com.au](mailto:reception@malleecma.com.au)  
[www.malleecma.com.au](http://www.malleecma.com.au)

### **Melbourne Water**

990 La Trobe Street, Docklands, Victoria 3008  
PO Box 4342, Melbourne, Victoria 3001  
131 722  
[enquiry@melbournewater.com.au](mailto:enquiry@melbournewater.com.au)  
[www.melbournewater.com.au](http://www.melbournewater.com.au)

### **North Central CMA**

628–634 Midland Highway, Huntly, Victoria 3551  
PO Box 18, Huntly, Victoria 3551  
(03) 5448 7124  
[info@nccma.vic.gov.au](mailto:info@nccma.vic.gov.au)  
[www.nccma.vic.gov.au](http://www.nccma.vic.gov.au)

### **North East CMA**

Level 1, 104 Hovell Street, Wodonga, Victoria 3690  
PO Box 616, Wodonga Victoria 3689  
1300 216 513 or (02) 6043 7600  
[necma@necma.vic.gov.au](mailto:necma@necma.vic.gov.au)  
[www.necma.vic.gov.au](http://www.necma.vic.gov.au)

**West Gippsland CMA**

16 Hotham Street, Traralgon, Victoria 3844  
PO Box 1374, Traralgon, Victoria 3844  
1300 094 262  
[www.wgcma.vic.gov.au](http://www.wgcma.vic.gov.au)

**Wimmera CMA**

24 Darlot Street, Horsham, Victoria 3400  
PO Box 479, Horsham, Victoria 3402  
(03) 5382 1544  
[wcma@wcma.vic.gov.au](mailto:wcma@wcma.vic.gov.au)  
[www.wcma.vic.gov.au](http://www.wcma.vic.gov.au)

For specific information about the other environmental water holders in Victoria, please contact one of the following organisations.

**Murray–Darling Basin Authority**

33 Allara Street, Canberra City, ACT 2601  
GPO Box 1801, Canberra City, ACT 2061  
(02) 6279 0100 or 1800 630 114  
[www.mdba.gov.au](http://www.mdba.gov.au)

**Commonwealth Environmental Water Office**

John Gorton Building, King Edward Terrace, Parkes, ACT 2600  
GPO Box 858, Canberra, ACT 2061  
(02) 6274 1111  
[ewater@environment.gov.au](mailto:ewater@environment.gov.au)  
[www.awe.gov.au/water/cewo](http://www.awe.gov.au/water/cewo)

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ISSN: 2203-6539 (Print)

ISSN: 2203-6520 (Online)

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