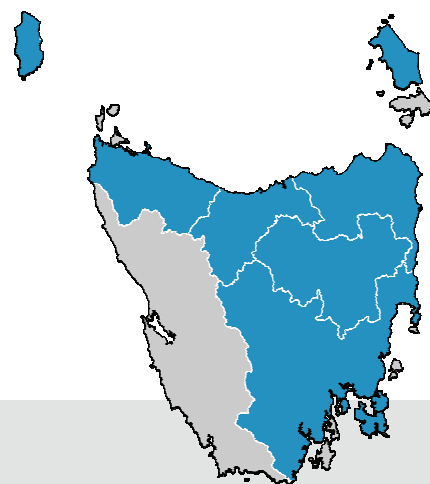




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## Water-related terminology for Tasmania: glossary, acronyms and units of measure

A supporting document for the CSIRO Tasmania Sustainable Yields Project

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# Water-related terminology for Tasmania

Reporting of the CSIRO Tasmania Sustainable Yields Project is covered by a range of products including a suite of region reports and a suite of technical reports – this document supports both products. Entries are grouped for glossary terms, acronyms and units of measure. For citation details of these reports see the back cover of this document. All are available online at <[www.csiro.au/partnerships/TasSY.html](http://www.csiro.au/partnerships/TasSY.html)>.

## Glossary

Term	Definition
<b>aquifer</b>	<p>Rock or sediment in a formation, group of formations, or part of a formation which is saturated and sufficiently permeable to transmit economic quantities of water to wells and springs.</p> <p>Reference: NWC (2009) Water Dictionary. National Water Commission, Canberra, viewed 17 June 2009 &lt;<a href="http://dictionary.nwc.gov.au/water_dictionary">http://dictionary.nwc.gov.au/water_dictionary</a>&gt;.</p>
<b>baseflow</b>	<p>The component of streamflow supplied by groundwater discharge.</p> <p>Reference: NWC (2009) Water Dictionary. National Water Commission, Canberra, viewed 17 June 2009 &lt;<a href="http://dictionary.nwc.gov.au/water_dictionary">http://dictionary.nwc.gov.au/water_dictionary</a>&gt;.</p>
<b>catchment</b>	<p>A drainage area, especially of a reservoir or river.</p> <p>Source: Macquarie Dictionary.</p>
<b>consumptive use</b>	<p>Use of water for private benefit consumptive purposes including irrigation, industry, urban and stock and domestic use.</p> <p>Reference: NWC (2009) Water Dictionary. National Water Commission, Canberra, viewed 17 June 2009 &lt;<a href="http://dictionary.nwc.gov.au/water_dictionary">http://dictionary.nwc.gov.au/water_dictionary</a>&gt;.</p>
<b>dam permit</b>	<p>Approval under Part 8 of the Water Management Act 1999 to undertake dam works (NB: a dam permit does not take effect until a water licence to take water is obtained).</p> <p>Reference: NWC (2009) Dictionary of terms for water access entitlements and transactions. National Water Commission, Canberra, viewed 17 June 2009 &lt;<a href="http://www.nwc.gov.au/www/html/555-dictionary-of-terms-for-water-access-entitlements-and-transactions.asp?intSiteID=1">http://www.nwc.gov.au/www/html/555-dictionary-of-terms-for-water-access-entitlements-and-transactions.asp?intSiteID=1</a>&gt;.</p>
<b>discharge</b>	<p>(a) Flow of groundwater from the saturated zone to the earth surface.</p> <p>(b) Flow of surface water out of a defined catchment.</p> <p>Reference: NWC (2009) Water Dictionary. National Water Commission, Canberra, viewed 17 June 2009 &lt;<a href="http://dictionary.nwc.gov.au/water_dictionary">http://dictionary.nwc.gov.au/water_dictionary</a>&gt;.</p>
<b>ecosystem</b>	<p>A dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.</p> <p>Reference: NWC (2009) Water Dictionary. National Water Commission, Canberra, viewed 17 June 2009 &lt;<a href="http://dictionary.nwc.gov.au/water_dictionary">http://dictionary.nwc.gov.au/water_dictionary</a>&gt;.</p>

Term	Definition
<b>end-of-system streamflow</b>	Water that flows out of the catchment (generally to the sea). It is equal to the non-extracted water minus any losses to evaporation and takes into account diversions into or out of the catchment. For catchments with numerous rivers discharging to the coast, it is the sum of all of these.
<b>environmental water provision</b>	Water allocated to support environmental outcomes and other public benefits. Environmental water provisions recognise the environmental water requirements and are based on environmental, social and economic considerations, including existing user rights. Also referred to as 'Environmental Flows' by this project.  Reference: NWC (2009) Water Dictionary. National Water Commission, Canberra, viewed 17 June 2009 < <a href="http://dictionary.nwc.gov.au/water_dictionary">http://dictionary.nwc.gov.au/water_dictionary</a> >.
<b>estuary</b>	The part of the mouth or lower course of a river in which its current meets the sea's tides, and is subject to their effects.  Reference: NWC (2009) Water Dictionary. National Water Commission, Canberra, viewed 17 June 2009 < <a href="http://dictionary.nwc.gov.au/water_dictionary">http://dictionary.nwc.gov.au/water_dictionary</a> >.
<b>evapotranspiration</b>	Process of moisture loss to the atmosphere from plants by transpiration and evaporation.  Reference: NWC (2009) Water Dictionary. National Water Commission, Canberra, viewed 17 June 2009 < <a href="http://dictionary.nwc.gov.au/water_dictionary">http://dictionary.nwc.gov.au/water_dictionary</a> >.
<b>extractions (or extracted water)</b>	Water extracted for consumptive use.  <i>Note: see also non-extracted water.</i>
<b>groundwater</b>	Water occurring naturally below ground level (whether in an aquifer or otherwise).  Reference: NWC (2009) Water Dictionary. National Water Commission, Canberra, viewed 17 June 2009 < <a href="http://dictionary.nwc.gov.au/water_dictionary">http://dictionary.nwc.gov.au/water_dictionary</a> >.
<b>groundwater assessment area</b>	An area within which groundwater assessments are made. Typically it corresponds to the extent of an underground aquifer.
<b>groundwater dependent ecosystems</b>	Ecosystems that are dependent on groundwater for their existence and health.  Reference: NWC (2009) Water Dictionary. National Water Commission, Canberra, viewed 17 June 2009 < <a href="http://dictionary.nwc.gov.au/water_dictionary">http://dictionary.nwc.gov.au/water_dictionary</a> >.
<b>groundwater recharge</b>	Inflow of water to a ground water reservoir from the surface. Infiltration of precipitation and its movement to the water table is one form of natural recharge.  Reference: NWC (2009) Water Dictionary. National Water Commission, Canberra, viewed 17 June 2009 < <a href="http://dictionary.nwc.gov.au/water_dictionary">http://dictionary.nwc.gov.au/water_dictionary</a> >.
<b>inflows</b>	Surface water runoff flowing into a defined catchment.  Reference: NWC (2009) Water Dictionary. National Water Commission, Canberra, viewed 17 June 2009 < <a href="http://dictionary.nwc.gov.au/water_dictionary">http://dictionary.nwc.gov.au/water_dictionary</a> >.

Term	Definition
<b>irrigate</b>	To supply land with water and thereby promote vegetation by means of canals, especially artificially made, passing through it.  Source: Macquarie Dictionary.
<b>irrigation right</b>	A right under the Irrigation Clauses Act 1973 to be supplied with water for irrigation. Irrigation rights are issued by the Irrigation Entity and are granted from the Entity's bulk Water allocation. Irrigation rights are linked to land, and held by the occupier of the corresponding land.  Reference: NWC (2009) Dictionary of terms for water access entitlements and transactions. National Water Commission, Canberra, viewed 17 June 2009 < <a href="http://www.nwc.gov.au/www/html/555-dictionary-of-terms-for-water-access-entitlements-and-transactions.asp?intSiteID=1">http://www.nwc.gov.au/www/html/555-dictionary-of-terms-for-water-access-entitlements-and-transactions.asp?intSiteID=1</a> >.
<b>leaching</b>	The passage of water past the plant root zone causing the flushing of accumulated salts from the root zone. (Can be induced by application of more irrigation water than is needed to supply the plant evapotranspiration requirement).  Reference: NWC (2009) Water Dictionary. National Water Commission, Canberra, viewed 17 June 2009 < <a href="http://dictionary.nwc.gov.au/water_dictionary">http://dictionary.nwc.gov.au/water_dictionary</a> >.
<b>non-extracted water</b>	The water remaining in the catchment after extractions have been taken.
<b>permeability</b>	The measure of the ability of a rock, soil or sediment to transmit a fluid. The magnitude of the permeability depends largely on the porosity and the connectedness of pore spaces.  Reference: NWC (2009) Water Dictionary. National Water Commission, Canberra, viewed 17 June 2009 < <a href="http://dictionary.nwc.gov.au/water_dictionary">http://dictionary.nwc.gov.au/water_dictionary</a> >.
<b>Ramsar Convention</b>	An intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.  Reference: Ramsar Secretariat (2009) The Ramsar Convention on Wetlands, viewed 10 November 2009, < <a href="http://www.ramsar.org">http://www.ramsar.org</a> >.
<b>runoff</b>	Flow of surface water from a given area resulting from the effects of rainwater.  Reference: NWC (2009) Water Dictionary. National Water Commission, Canberra, viewed 17 June 2009 < <a href="http://dictionary.nwc.gov.au/water_dictionary">http://dictionary.nwc.gov.au/water_dictionary</a> >.
<b>streamflow</b>	The flow in a river or stream at any one particular point in the catchment.  <i>Note: see also end-of-system streamflow and total streamflow.</i>
<b>surety</b>	The probable availability, actual or relative, of a water allocation in any year allowing for the natural variability of the water supply.  Reference: NWC (2009) Dictionary of terms for water access entitlements and transactions. National Water Commission, Canberra, viewed 17 June 2009 < <a href="http://www.nwc.gov.au/www/html/555-dictionary-of-terms-for-water-access-entitlements-and-transactions.asp?intSiteID=1">http://www.nwc.gov.au/www/html/555-dictionary-of-terms-for-water-access-entitlements-and-transactions.asp?intSiteID=1</a> >.

Term	Definition
<b>surface water</b>	<p>Includes:</p> <ul style="list-style-type: none"> <li>(a) water in a watercourse, lake or wetland; and</li> <li>(b) any water flowing over or lying on land: <ul style="list-style-type: none"> <li>(i) after having precipitated naturally; or</li> <li>(ii) after having risen to the surface naturally from underground.</li> </ul> </li> </ul> <p>Reference: NWC (2009) Water Dictionary. National Water Commission, Canberra, viewed 17 June 2009 &lt;<a href="http://dictionary.nwc.gov.au/water_dictionary">http://dictionary.nwc.gov.au/water_dictionary</a>&gt;.</p>
<b>total streamflow</b>	All of the water in rivers and streams within the catchment.
<b>vesicle</b>	A small cavity in an igneous rock formed by the expansion of a bubble of gas during the solidification of the rock.
<b>water allocation</b>	<p>A quantity of water that a licensee is entitled to take and use under a Water Licence.</p> <p>Reference: NWC (2009) Dictionary of terms for water access entitlements and transactions. National Water Commission, Canberra, viewed 17 June 2009 &lt;<a href="http://www.nwc.gov.au/www/html/555-dictionary-of-terms-for-water-access-entitlements-and-transactions.asp?intSiteID=1">http://www.nwc.gov.au/www/html/555-dictionary-of-terms-for-water-access-entitlements-and-transactions.asp?intSiteID=1</a>&gt;.</p>
<b>water licence</b>	<p>An authority under Part 6 of the Water Management Act 1999 to take water from a watercourse, lake or well. The licence is held by a person as personal property.</p> <p>Reference: NWC (2009) Dictionary of terms for water access entitlements and transactions. National Water Commission, Canberra, viewed 17 June 2009 &lt;<a href="http://www.nwc.gov.au/www/html/555-dictionary-of-terms-for-water-access-entitlements-and-transactions.asp?intSiteID=1">http://www.nwc.gov.au/www/html/555-dictionary-of-terms-for-water-access-entitlements-and-transactions.asp?intSiteID=1</a>&gt;.</p>

## Acronyms

Acronym	Description
APET	Areal Potential Evapotranspiration
ASRIS	Australian Soil Resource Information System Database
BMWSS	Burnie Mill Water Supply System
BRS	Bureau of Rural Sciences
BTWSS	Burnie Town Water Supply System
CFEV	Conservation of Freshwater Ecosystem Values
CMB method	Chloride mass balance method
COAG	Council of Australian Governments
CSE UA	Central South East Unincorporated Area
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DEWHA	Department of the Environment, Water, Heritage and the Arts
DPIPWE	Tasmanian Department of Primary Industries, Parks, Water and Environment
E	Total extraction volume
E/B	Extraction divided by baseflow
E/R	Extraction divided by recharge
EOS	End-of-system
FSR	Flow Stress Ranking
GAA	Groundwater assessment area
GCM	Global climate model (also known as a General Circulation Model)
GMU	Groundwater management unit
ICV	Integrated Conservation Value
ISC	Index of Stream Condition

Acronym	Description
LAI	Leaf area index
LWRRDC	Land and Water Resources Research and Development Corporation
MAP	Mean Annual Precipitation
MDB	Murray–Darling Basin
MDBC	Murray–Darling Basin Commission
MDBSY	Murray–Darling Basin Sustainable Yields
NEM	National Electricity Market
NWC	National Water Commission
QDERM	Queensland Department of Environment and Resource Management
REM	Resource and Environmental Management Pty Ltd
RSF	Recharge scaling factors
RWSC	Rivers and Water Supply Commission
SILO	0.05 degree gridded climate data for the whole of Australia. Developed by Queensland Department of Environment and Resource Management (QDERM)
SKM	Sinclair Knight Merz
SRA	Sustainable Rivers Audit
SRMS	scaled root mean square
SW–GW	Surface water–groundwater
TEFF	Tasmanian Environmental Flows Framework
TEMSim	Tasmanian Electricity Market Simulation Model
TIDB	Tasmanian Irrigation Development Board
TRCI	Tasmanian River Condition Index
WAVES	Water Atmosphere Vegetation Energy and Solutes model. Developed by CSIRO Land and Water.
WIMS	DPIPWE’s Water Information Management System

## Units

Unit	Description
GL	Gigalitre, which is one billion ( $10^9$ ) litres
m AHD	Metres above Australian Height Datum
m ASL	Metres above sea level
m BGL	Metres below ground level
ML	Megalitre, which is one million ( $10^6$ ) litres

# Tasmania Sustainable Yields Project reports

## Region reports

- CSIRO (2009) Water availability for Tasmania. Report one of seven to the Australian Government from the CSIRO Tasmania Sustainable Yields Project, CSIRO Water for a Healthy Country Flagship, Australia.
- CSIRO (2009) Climate change projections and impacts on runoff for Tasmania. Report two of seven to the Australian Government from the CSIRO Tasmania Sustainable Yields Project, CSIRO Water for a Healthy Country Flagship, Australia.
- CSIRO (2009) Water availability for the Arthur-Inglis-Cam region. Report three of seven to the Australian Government from the CSIRO Tasmania Sustainable Yields Project, CSIRO Water for a Healthy Country Flagship, Australia.
- CSIRO (2009) Water availability for the Mersey-Forth region. Report four of seven to the Australian Government from the CSIRO Tasmania Sustainable Yields Project, CSIRO Water for a Healthy Country Flagship, Australia.
- CSIRO (2009) Water availability for the Pipers-Ringarooma region. Report five of seven to the Australian Government from the CSIRO Tasmania Sustainable Yields Project, CSIRO Water for a Healthy Country Flagship, Australia.
- CSIRO (2009) Water availability for the South Esk region. Report six of seven to the Australian Government from the CSIRO Tasmania Sustainable Yields Project, CSIRO Water for a Healthy Country Flagship, Australia.
- CSIRO (2009) Water availability for the Derwent-South East region. Report seven of seven to the Australian Government from the CSIRO Tasmania Sustainable Yields Project, CSIRO Water for a Healthy Country Flagship, Australia.

## Technical reports

- Graham B, Hardie S, Gooderham J, Gurung S, Hardie D, Marvanek S, Bobbi C, Krasnicki T and Post DA (2009) Ecological impacts of water availability for Tasmania. A report to the Australian Government from the CSIRO Tasmania Sustainable Yields Project, CSIRO Water for a Healthy Country Flagship, Australia.
- Harrington GA, Crosbie R, Marvanek S, McCallum J, Currie D, Richardson S, Waclawik V, Anders L, Georgiou J, Middlemis H and Bond K (2009) Groundwater assessment and modelling for Tasmania. A report to the Australian Government from the CSIRO Tasmania Sustainable Yields Project, CSIRO Water for a Healthy Country Flagship, Australia.

Ling FLN, Gupta V, Willis M, Bennett JC, Robinson KA, Paudel K, Post DA and Marvanek S (2009) River modelling for Tasmania. Volume 1: the Arthur-Inglis-Cam region. A report to the Australian Government from the CSIRO Tasmania Sustainable Yields Project, CSIRO Water for a Healthy Country Flagship, Australia.

Ling FLN, Gupta V, Willis M, Bennett JC, Robinson KA, Paudel K, Post DA and Marvanek S (2009) River modelling for Tasmania. Volume 2: the Mersey-Forth region. A report to the Australian Government from the CSIRO Tasmania Sustainable Yields Project, CSIRO Water for a Healthy Country Flagship, Australia.

Ling FLN, Gupta V, Willis M, Bennett JC, Robinson KA, Paudel K, Post DA and Marvanek S (2009) River modelling for Tasmania. Volume 3: the Pipers-Ringarooma region. A report to the Australian Government from the CSIRO Tasmania Sustainable Yields Project, CSIRO Water for a Healthy Country Flagship, Australia.

Ling FLN, Gupta V, Willis M, Bennett JC, Robinson KA, Paudel K, Post DA and Marvanek S (2009) River modelling for Tasmania. Volume 4: the South Esk region. A report to the Australian Government from the CSIRO Tasmania Sustainable Yields Project, CSIRO Water for a Healthy Country Flagship, Australia.

Ling FLN, Gupta V, Willis M, Bennett JC, Robinson KA, Paudel K, Post DA and Marvanek S (2009) River modelling for Tasmania. Volume 5: the Derwent-South East region. A report to the Australian Government from the CSIRO Tasmania Sustainable Yields Project, CSIRO Water for a Healthy Country Flagship, Australia.

Post DA, Chiew FHS, Teng J, Vaze J, Yang A, Mpelasoka F, Smith I, Katzfey J, Marston F, Marvanek S, Kirono D, Nguyen K, Kent D, Donohue R, Li L and McVicar T (2009) Production of climate scenarios for Tasmania. A report to the Australian Government from the CSIRO Tasmania Sustainable Yields Project, CSIRO Water for a Healthy Country Flagship, Australia.

Viney NR, Post DA, Yang A, Willis M, Robinson KA, Bennett JC, Ling FLN and Marvanek S (2009) Rainfall-runoff modelling for Tasmania. A report to the Australian Government from the CSIRO Tasmania Sustainable Yields Project, CSIRO Water for a Healthy Country Flagship, Australia.

## Contact Us

Phone: 1300 363 400  
+61 3 9545 2176

Email: [enquiries@csiro.au](mailto:enquiries@csiro.au)

Web: [www.csiro.au](http://www.csiro.au)

## Enquiries

More information about the CSIRO Tasmania Sustainable Yields Project can be found at [www.csiro.au/partnerships/TasSY.html](http://www.csiro.au/partnerships/TasSY.html). This information includes the full terms of reference for the project and all associated reporting products.

More information about the *Water for the Future Plan* of the Australian Government can be found at [www.environment.gov.au/water](http://www.environment.gov.au/water).

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