

# Mary Basin

## Mary Valley Water Supply Scheme Operations Manual

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# Chapter 1 Preliminary

## 1 Short title

- (1) This operations manual may be cited as the Mary Valley Water Supply Scheme Operations Manual.
- (2) Reference in this document to 'this manual' means the Mary Valley Water Supply Scheme Operations Manual.

## 2 Interpretation of words used in this manual

The dictionary in attachment 1 defines particular words used in this manual.

## 3 Water supply scheme

The extent of the Mary Valley Water Supply Scheme is defined in Attachment 2 of the Mary Basin Resource Operations Plan, as it has effect for the purposes of the Water Plan (Mary Basin) 2006.

## Chapter 2 Operating rules

### 4 Operating levels of storages

The licence holder must not—

- (a) release or supply water from a storage when the water level in that storage is at or below its minimum operating level specified in table 1; or
- (b) release water from Borumba Dam to supply medium priority water allocations when the water level in Borumba Dam is less than or equal to 123.74 metres AHD.

**Table 1 – Operating levels of storages**

Storage	Minimum operating level (m AHD)
Borumba Dam	111.47
Imbil Weir	76.26

## Chapter 3 Water sharing rules

### 5 Announced allocation

- (1) The licence holder must—
  - (a) determine an announced allocation for each priority group for use in defining the share of water available to be taken under water allocations in that priority group;
  - (b) use the water sharing rules specified in this chapter to calculate announced allocations throughout the water year;
  - (c) calculate and set the announced allocation for each priority group to take effect on the first day of each water year;
  - (d) following the commencement of a water year—
    - (i) recalculate the announced allocation to take effect no later than five business days following the first day of every month; and
    - (ii) reset the announced allocation if a recalculation indicates that the calculated announced allocation would—
      - (A) increase by five or more percentage points; or
      - (B) increase to 100 per cent; and
  - (e) make public the details of the announced allocation, including parameters for determining the announced allocation, on the licence holder's website within five business days of—
    - (i) setting an announced allocation under subsection (1)(c); or
    - (ii) the first calendar day of every month when resetting the announced allocation under subsection (1)(d); and
- (2) The announced allocation must—
  - (a) not be less than zero or greater than 100 per cent;
  - (b) be rounded to the nearest per cent; and
  - (c) not be reduced during a water year.

### 6 Calculation of announced allocation

- (1) When the announced allocation for medium priority water allocations is greater than zero per cent, the announced allocation for high priority water allocations must be 100 per cent.
- (2) When the announced allocation for medium priority water allocations is zero per cent, the licence holder must determine the announced allocation for high priority water allocations using the following formula—

$$AA_{HP} = 100 \times \left[ \frac{(UV - TOA + DIV_{HP})}{HPA} \right]$$

- (3) The licence holder must determine the announced allocation for medium priority water allocations using the following formula—

$$AA_{MP} = 100 \times \frac{[UV + IN + DIV_{MP} + DIV_{HP} - (HPA + TOA)]}{MPA}$$

- (4) The parameters used in the formulae for the announced allocation are defined in table 2.

**Table 2 – Announced allocation parameters**

Term	Definition
AA <sub>HP</sub>	Announced allocation for high priority—the percentage of the water allocation volume for high priority water allocations that may be taken in the current water year.
AA <sub>MP</sub>	Announced allocation for medium priority—the percentage of the water allocation volume for medium priority water allocations that may be taken in the current water year.
HPA	High priority allocation—the total nominal volume of high priority water allocation.
MPA	Medium priority allocation—the total nominal volume of medium priority water allocation.
UV	<p>Useable volume—useable storage volume is the useable storage volume of Borumba Dam.</p> $UV = (CV - MOV - SL)$ <p><i>UV = 0 if (CV - MOV - SL) is less than zero</i></p> <p>Where—</p> <ul style="list-style-type: none"> <li>• CV is the current volume of the storage.</li> <li>• MOV is the minimum operating volume of Borumba Dam (MOV = 1200 megalitres).</li> <li>• SL is the projected storage loss from the storage for the remainder of the water year. The storage loss depth to be used for Borumba Dam is given in table 4. The storage loss volume is calculated by using the value for the current month multiplied by the current surface area of the storage.</li> </ul>
IN	Inflow—in determining the announced allocation for each year, a projected minimum inflow of 11,000 megalitres is currently assumed over the water year. Values for inflow during the water year are to be interpolated from table 3.
TOA	Transmission and operational loss allowance—is an allowance for the transmission and operational losses expected to occur in running the system to the end of the water year. TOA is dependent on announced allocation and can be interpolated from table 5.
DIV <sub>HP</sub>	<p>The total volume of water taken under high priority water allocations in a water year up to the time of assessment of the announced allocation.</p> <p>At the beginning of the water year: <math>DIV_{HP} = 0</math>.</p>
DIV <sub>MP</sub>	<p>The total volume of water taken under medium priority water allocations in a water year up to the time of assessment of the announced allocation, less any water taken during a stream flow period under section 8 of this chapter.</p> <p>At the beginning of the water year: <math>DIV_{MP} = 0</math>.</p>

**Table 3 – Inflows**

<b>Month in which announced allocation is calculated</b>	<b>Inflow (ML)</b>
July	11 000
August	10 924
September	10 785
October	10 393
November	9 813
December	8 517
January	7 611
February	6 396
March	4 349
April	1 494
May	1 258
June	800

**Table 4 – Storage losses**

<b>Month in which announced allocation is calculated</b>	<b>Storage losses (mm)</b>
July	1250
August	1185
September	1101
October	995
November	871
December	727
January	587
February	451
March	335
April	223
May	132
June	61

**Table 5 – Transmission and operational losses (ML)**

AA	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
0.00	4 366	4 031	3 681	3288	2879	2514	2120	1698	1356	978	627	306
0.20	6 176	5 697	5 166	4519	3911	3365	2827	2295	1845	1358	881	433
0.40	7 987	7 363	6 651	5750	4943	4216	3533	2893	2334	1738	1134	559
0.60	9 798	9 029	8 135	6981	5975	5067	4239	3491	2822	2118	1388	686
0.80	11 609	10 694	9 620	8213	7007	5918	4945	4088	3311	2499	1641	813
1.00	13 419	12 360	11 105	9444	8040	6769	5651	4686	3800	2879	1895	940

## 7 Taking water under a water allocation

- (1) The total volume of water taken under a water allocation in a water year must not exceed the nominal volume for the water allocation.
- (2) The volume of water taken under a water allocation in a water year, other than during stream flow periods, must not exceed the nominal volume of the water allocation multiplied by the announced allocation and divided by 100.
- (3) During a stream flow period for the zone to which a water allocation applies, water may be taken under the water allocation in addition to that which may be taken under subsection (2).

## 8 Stream flow period

- (1) A stream flow period for a zone is a period of time that starts and ends at such time that the licence holder notifies under subsection (2).
- (2) The licence holder must notify the water allocation holders for the zone of the start and end of a stream flow period for a zone.
- (3) The licence holder may start a stream flow period for a zone when the announced allocation for medium priority water allocations is equal to or less than 80 per cent, the storage level in the Mary Barrage is at least 2.0 metres AHD, and—
  - (a) for zone MVASA—the flow at the Home Park gauging station (gauging station number 138014A) is expected to reach at least 100 megalitres per day;
  - (b) for zone MVASB—the flow at the Mary River at Gympie gauging station (gauging station number 138020A) is expected to reach at least 100 megalitres per day;
  - (c) for zone MVASC—the flow at the Moy Pocket gauging station (gauging station number 138111A) is expected to reach at least 100 megalitres per day; and
  - (d) for zone MVASE—the flow at the Mary River at Gympie gauging station (gauging station number 138020A) is expected to reach at least 100 megalitres per day.
- (4) The licence holder must end a stream flow period for a zone within 24 hours when the requirements in subsection (3) for the zone are not being met.

## Chapter 4 Seasonal water assignment rules

### 9 Maximum water use

- (1) The maximum volume of water that may be taken in a zone in a water year is the maximum allowable water use volume indicated in table 6 for the zone; and
- (2) The total volume of water that may be taken in a zone in a water year is the total volume of water used under water allocations for all priority groups managed and distributed by the licence holder for the zone.

### 10 Seasonal water assignment rules

- (1) The licence holder may consent to a seasonal assignment of a volume of water provided that the total volume that may be taken in a zone in a water year does not exceed the maximum allowable water use in table 6 for each zone.
- (2) The licence holder must not approve a seasonal assignment of a volume of water held under a water allocation with the purpose 'distribution loss'.
- (3) The licence holder is responsible for dealing with applications for seasonal water assignment where the licence holder distributes water to the assignee.

**Table 6 – Maximum allowable use volume**

Zone	Maximum allowable water use volume (ML)
MVASA	13 327
MVASB	23 269
MVASC	6 129
MVASD	20
MVASE	2 294

# Attachment 1 Dictionary

Term	Definition
AHD	The Australian Height Datum which references a level or height to a standard base level.
Announced allocation	For a water allocation managed under a resource operations licence, this means a number, expressed as a percentage, used to determine the maximum volume of water that may be taken in a water year under the authority of a water allocation.
Assignee	The person or entity to whom an interest or right to water is being transferred (e.g. seasonally assigned).
High priority water allocation	A water allocation within a priority group for which the water allocation security objective (performance indicator) is in the range specified in the Water Plan (Mary Basin) 2006.
Licence holder	The holder of the resource operations licence for the Mary Valley Water Supply Scheme.
Medium priority water allocation	A water allocation within a priority group for which the water allocation security objective (performance indicator) is in the range specified in the Water Plan (Mary Basin) 2006.
Minimum operating level	The level or elevation of water within the ponded area of a dam weir or barrage below which water cannot be released or taken from the infrastructure under normal operating conditions.
Minimum operating volume	The specified minimum volume of water within the ponded area of a storage, dam, or weir below which water cannot be released or taken from the infrastructure under normal operating conditions.
Megalitres (ML)	One million litres.
Performance indicator	A measure that can be calculated to assess the impact of water allocation and management decisions on water entitlements and aquatic ecosystems.
Ponded area	Area of inundation at full supply level of storage.
Water use	Refers to actual consumption of water.



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