

# Mary Basin

## Lower Mary Water Supply Scheme Operations Manual

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# Chapter 1 Preliminary

## 1 Short title

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

*Table 1 – Operating levels of storages*

Storage	Minimum operating level (m AHD)
Mary Barrage	0.15
Tinana Barrage	-0.5

### 5 Operation of Mary Barrage and Tinana Barrage fishways

The licence holder may release water through any fishway installed on the Mary Barrage or the Tinana Barrage.

## Chapter 3 Water sharing rules

### 6 Prohibition on taking water

- (1) Taking water for irrigation use under medium priority water allocations from the water impounded by or supplied from the Mary Barrage on the Mary River is prohibited when the water level in the impoundment of the Mary Barrage on the Mary River is equal to or less than EL 1.0 metre AHD.
- (2) The prohibition under subsection (1) continues until the water level in the impoundment of the Mary Barrage on the Mary River is equal to or greater than EL 1.2 metres AHD.
- (3) The licence holder must notify all holders of water entitlements—
  - (a) when the taking of water will be prohibited under this division; and
  - (b) when the prohibition under this division has ceased.

### 7 Announced allocation

- (1) The licence holder must—
  - (a) determine an announced allocation for medium priority water allocations 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 medium priority water allocations 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
  - (f) advise the resource operations licence holder for the Teddington Weir Water Supply Scheme of the announced allocation.
- (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.

### 8 Calculation of announced allocation

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

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

(2) The parameters used in the formula for the announced allocation are defined in table 2.

**Table 2 – Announced allocation parameters**

Term	Definition
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.
BW	Bulk water—the volume of bulk water available to be transferred to the Teddington Weir Water Supply Scheme. BW = the sum of the nominal volumes of HP water allocations located in Zone TESTW of the Teddington Weir Water Supply Scheme at the time of the calculation of the announced allocation, minus 6819.
BWT	Bulk water transferred—The volume of water transferred from this water supply scheme to the Teddington Weir Water Supply Scheme at the time of the calculation of the announced allocation.
HPA	High priority allocation—the total nominal volume of high priority water allocation located in Zone LMRS1 of this water supply scheme.
MPA	Medium priority allocation—the total nominal volume of medium priority water allocation located in this water supply scheme and the Teddington Weir Water Supply Scheme.
UV	Useable volume—useable storage volume is the sum of the useable storage volume of Mary Barrage and Tinana Barrage. $UV = \text{sum}(CV - MOV - SL)$ for each storage $UV = 0$ if $(CV - MOV - SL)$ is less than zero  Where— <ul style="list-style-type: none"> <li>CV is the current volume of each storage.</li> <li>MOV is the minimum operating volume of Mary Barrage and Tinana Barrage as stated in attachment 1 of the Lower Mary Water Supply Scheme Resource Operations Licence.</li> <li>SL is the projected storage losses from the storage for the remainder of the water year. The storage loss depths to be used for Mary Barrage and Tinana Barrage are 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 29,430 ML is currently assumed over the water year. Values for inflow are given in table 3 for each month of the water year.
DIV <sub>HP</sub>	Diverted volume of high priority water allocation—the total volume of water taken under high priority water allocations located in zone LMRS1 of this water supply scheme in a water year up to the time of assessment of the announced allocation.  At the beginning of the water year: $DIV_{HP} = 0$ .
DIV <sub>MP</sub>	Diverted volume of medium priority water allocation—the total volume of water taken under medium priority water allocations located in Zone LMRS1 of this water supply scheme in a water year, up to the time of assessment of the announced allocation.

Term	Definition
	At the beginning of the water year: $DIV_{MP} = 0$ .
RE	Reserve volume—the storage volume set aside to provide future supply of high priority water allocation one year beyond the end of the current water year (the year to which the announced allocation applies). The high priority reserve (RE) in this water supply scheme is 1809 ML.

**Table 3 – Inflows**

Month in which announced allocation is calculated	Inflow (ML)
July	29 430
August	27 660
September	26 950
October	25 320
November	23 400
December	21 090
January	15 100
February	8 650
March	4 300
April	4 300
May	3 100
June	1 690

**Table 4 – Storage losses**

Month in which announced allocation is calculated	Storage losses (mm)
July	250
August	236
September	191
October	122
November	51
December	0



Month in which announced allocation is calculated	Storage losses (mm)
January	0
February	0
March	0
April	0
May	0
June	0

## 9 Taking water under a water allocation

The total volume of water taken under a medium priority water allocation in a water year must not exceed the nominal volume of the water allocation multiplied by the announced allocation and divided by 100.

## 10 Rules for bulk water transfer to the Teddington Weir Water Supply Scheme

- (1) The licence holder must commence the transfer of water from the Mary Barrage to Teddington Weir when—
  - (a) requested by the resource operations licence holder for the Teddington Weir Water Supply Scheme; and
  - (b) the storage level of the Mary Barrage is greater than 1.0 metre AHD; and
  - (c) the storage level of Teddington Weir is less than 7.96 metres AHD.
- (2) The volume of water transferred under subsection (1) in a water year must not exceed a volume of water equivalent to the sum of the nominal volumes of all medium priority water allocations located in zone TESTW of the Teddington Weir Water Supply Scheme.
- (3) In addition to the transfers made under subsection (1), the licence holder must commence the transfer of water from the Mary Barrage to Teddington Weir when—
  - (a) requested by the resource operations licence holder for the Teddington Weir Water Supply Scheme; and
  - (b) the storage level of the Mary Barrage is greater than 0.5 metres AHD; and
  - (c) the storage level of Teddington Weir is less than 7.7 metres AHD.
- (4) The licence holder may commence the transfer of water from the Mary Barrage to Teddington Weir when—
  - (a) the transfer is agreed to by the resource operations licence holder for the Lower Mary River Water Supply Scheme and the resource operations licence holder for the Teddington Weir Water Supply Scheme; and
  - (b) the storage level of the Mary Barrage is less than 0.5 metres AHD; and
  - (c) the storage level of Teddington Weir is less than 7.7 metres AHD.
- (5) The combined volume of water transferred under subsection (3) and subsection (4) in a water year must not exceed a volume of water equivalent to the sum of the nominal volumes of all high priority water allocations located in zone TESTW of the Teddington Weir Water Supply Scheme, minus 6819 megalitres.
- (6) The licence holder must not transfer water from the Mary Barrage to Teddington Weir when—

- (a) the storage level of the Mary Barrage is equal to or less than 1.0 metre AHD; and
- (b) the storage level of Teddington Weir is greater than 7.7 metres AHD.

## Chapter 4 Seasonal water assignment rules

### 11 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 5 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 zone LMRS1.

### 12 Seasonal water assignment rules

- (1) The licence holder may consent to the arrangement for a seasonal assignment of a volume of water provided that the total volume of water that may be taken in a zone in a water year does not exceed the maximum allowable water use volume in table 5 for the 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 to the assignee.

*Table 5 – Maximum allowable use volume*

Zone	Maximum allowable water use volume (ML)
LMRS1	34 462

## 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).
Barrage	A barrier constructed across a watercourse to prevent the inflow of tidal water.
EL	Elevation level.
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.
Irrigation use	The use of water for irrigating crops or pastures.
Licence holder	The holder of the resource operations licence for the Lower Mary 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.
Zone	A geographic location defined by a reach of a watercourse. Zones define the location of a water allocation and operational arrangements under this licence and associated operations manual. Zones are defined in the Water Plan (Mary Basin) 2006.



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