

Consolidated Version

BULK ENTITLEMENT (RIVER MURRAY – FLORA AND FAUNA) CONVERSION ORDER 1999

Introduction:

This is a consolidated version of the Bulk Entitlement (River Murray – Flora and Fauna) Conversion Order 1999. It has been prepared from the original bulk entitlement (gazettal G24 17/07/1999) and all subsequent amendments made under Division 1 of Part 4 of the **Water Act 1989** (the Act) up to 01/07/2022 (for details of amendments included see Appendix 1). Copies of the original bulk entitlement and each subsequent amendment can be found at: <http://waterregister.vic.gov.au/water-entitlements/bulk-entitlements>.

This document has been created as a working record for staff of the Department of Environment, Land Water and Planning, and may also be a convenient record for members of the public. Unless referenced specifically in Appendix 1, this document does not contain information about temporary qualifications of rights made under section 33AAA of the Act, or any transfer made under Division 1 of Part 4 of the Act.

Wherever five stars (as shown below) appears in the document, this indicates that the relevant clause/sub-clause or schedule has been deleted.

* * * * *

Disclaimer:

The Department of Environment, Land Water and Planning does not provide any assurance of the correctness or accuracy of this record and any member of the public accessing it is referred to the instruments detailed in Appendix 1 from which it was compiled.

The Department of Environment, Land Water and Planning disclaims all liability for any loss which may be occasioned by any person relying on this record.

Water Act 1989

**BULK ENTITLEMENT (RIVER MURRAY – FLORA AND FAUNA)
CONVERSION ORDER 1999**

The Minister under the provisions of the Water Act 1989, makes the following Order –

PART 1 – INTRODUCTORY

1. CITATION

This Order may be cited as the Bulk Entitlement (River Murray – Flora and Fauna) Conversion Order 1999.

2. EMPOWERING PROVISIONS

This Order is made under sections 43 and 47 of the **Water Act 1989**.

3. COMMENCEMENT

This Order comes into operation on the day it is published in the Government Gazette.

4. DEFINITIONS

In this Order –

“**Act**” means the **Water Act 1989**;

“**Agreement**” means the Murray-Darling Basin Agreement as contained in Schedule 1 of the *Water Act 2007* (Commonwealth);

“**allocation to Victoria**” means the maximum Victorian allocation of water for the year July to June, determined by MDBA in accordance with the Agreement as follows:

- (a) MDBA calculates “the minimum amount of water estimated to be under the control of the Authority”. This is water in MDBA storages, estimated run-off from the catchment above Doctors Point, and estimated transfers from the Snowy;
- (b) MDBA subtracts allowances for losses from MDBA storages and along the River, and allowances for South Australia’s dilution entitlements, to work out water available for distribution or for holding in reserve;
- (c) South Australia gets one-third of the water calculated under (b) plus any imbalance from “special accounts”, up to its non-dilution entitlement of 1154 GL, and (if there is enough water) up to a further 835 GL as “minimum reserve”. Half of each of these amounts is subtracted from Victoria’s share;

- (d) Victoria's share is then adjusted for water spilt into NSW's share of storages, ceded or traded, and is adjusted up for estimated "useful State tributary inflows". These are inflows from the Ovens and other tributaries below Doctors Point, which can be used to meet entitlements, including South Australia's;
- (e) Diversion by Victoria since July is then added, to give the maximum Victorian allocation for the year July to June. (Inflows and commitments are only estimated to the end of May.)

"ATS 4747" means the Australian Technical Specification 'ATS 4747 – *Meters for Non-Urban Supply*' as published by Standards Australia and amended from time to time;

"distribution system" means a set of channels, pipes and other works, and the natural or modified waterways or wetlands, which are used to transport water from the River Murray to primary entitlement holders and bulk entitlement holders;

"distributor" means a person who operates and maintains a distribution system;

"Doctors Point" means the location of the Doctors Point stream gauging station on the River Murray near Albury;

"environment Minister" means the Minister administering the Conservation, Forests and Lands Act 1987 and includes, in relation to any provision, any person authorised by the environment Minister to act on behalf of the environment Minister in relation to that provision;

"Environmental Water Reserve Objective" has the meaning given in section 4B of the Act;

"Executive Director Water Resources" means the Executive Director Water Resource Strategy within the Department of Environment, Land Water and Planning;

"Extended Use Account" means the mechanism for recording the unused volume of water available to the Living Murray entitlement in the previous year and that is held in storage for use in the current year;

"FMID" means First Mildura Irrigation District;

"GL" means gigalitre(s); 1 GL equals 1000 megalitres;

"Goulburn-Murray Water" means the Goulburn-Murray Rural Water Corporation;

"Goulburn-Murray Water Connections Project" is a major irrigation modernisation project, also known as the Northern Victoria Irrigation Renewal Project (NVIRP), aiming to generate long term annual average water savings of 429 gigalitres by upgrading irrigation infrastructure in the Goulburn-Murray Irrigation District;

“headworks system” means the storages and associated water supply works on the River Murray and its tributaries (excluding the Goulburn, Campaspe and Loddon Rivers) listed in the Asset Register of the Goulburn-Murray Rural Water Corporation;

“high-reliability entitlements” are the entitlements set out in Table 1 of Schedule 1;

* * * * *

“icon site” means a significant ecological asset identified by the MDBA as an icon site;

“irrigation period” has the meaning given to it in section 3 of the Act;

“licence” means a licence granted under Part 4 of the Act;

“Living Murray entitlement” means the entitlement described in Table 2 of Schedule 5;

“Living Murray unregulated flow entitlement” means the unregulated flow component of this entitlement as specified in Table 2 of Schedule 5.”;

“Living Murray Water” means part or all of 500 GL recovered over 5 years as agreed to by the MDBA to address water over-allocation and to achieve ecological objectives in the Murray-Darling Basin;

* * * * *

“long-term average annual yield” means the average annual volume of water that would be expected from an entitlement if the system was operated over the long-term. It is estimated using water resource modelling run over a long-term climatic sequence.

“low-reliability entitlements” are the entitlements set out in Table 2 of Schedule 1;

“Lower Murray Urban and Rural Water” means the Lower Murray Urban and Rural Water Corporation (LMURW);

* * * * *

“MDBA” means the Murray-Darling Basin Authority;

* * * * *

“Minister” means the Minister administering the Water Act 1989, and in relation to any provision, includes any person authorised by the Minister to act on the Minister’s behalf in relation to that provision, or to whom the Minister has delegated the relevant power, discretion, function, authority or duty under section 306 of the Act;

“ML” means megalitre(s);

“Murray Valley” means the Murray Valley irrigation area;

“nominated delivery point” means the location at which an order for a volume of water is or will be supplied under this bulk entitlement as directed by the Water holder;

“Nyah pumps” means the pumps supplying the Nyah irrigation district;

* * * * *

“9 GL unregulated flow entitlement” means the 9 GL unregulated flow component of the entitlement as specified in Table 1 of Schedule 5.

“operating arrangements” means agreed arrangements made under clause 15B for the supply of water under this entitlement;

“primary entitlement” means a water share, licence or other water entitlement which a rural water authority is obliged to meet from its bulk entitlement;

“reliability of supply” means the probability of being able to supply a given volume of water in a year;

“resource manager” means any person appointed by the Minister under section 43A of the Act to be the resource manager for the River Murray;

“resources Victoria could divert in the current year” means the water that Victoria would plan on diverting from the River Murray in the current year if there was no cap; it consists of the allocation to Victoria, net of water for environmental flows in the River Murray and net of resource kept in reserve, as calculated under clause 8;

“River Murray” means the River Murray to which Victoria has access and which carries regulated water under the Agreement, consisting of:

- (a) the main course of the River Murray from Hume Dam to the South Australian border;
- (b) the main course of the Mitta Mitta River below Dartmouth Dam;
- (c) all effluents and anabranches of, or lakes or lagoons (including King’s Billabong) connected to, these main courses, other than those excepted by the MDBA;
- (d) the storages formed by Hume Dam and Dartmouth Dam and by weirs upstream of the South Australian border;

“River Murray entitlement holder” means a person holding a bulk entitlement under the Act to take water from the River Murray;

“River Murray Increased Flows” means releases of water to the River Murray made from the Snowy and deemed to be River Murray Increased Flows by MDBA in accordance Part V of Schedule F of the Agreement;

“RMIF Strategy” means a Strategy prepared in accordance with clause 20, Schedule F of the Agreement, for retaining and releasing River Murray Increased Flows;

* * * * *

“Storage Operator” means MDBA or Goulburn-Murray Water, as the case may be, in its capacity as operator and manager of storages and headworks on the River Murray;

“Torrumbarry” means the Torrumbarry irrigation area, including Woorinen and the Tresco irrigation district;

“unregulated flow” means the flow made available under an Unregulated Flow Advice as instructed by MDBA;

“upper tributaries” means the Murray above Lake Hume, the Mitta Mitta above Lake Dartmouth, the Kiewa and the Ovens, including the unregulated waterways running into these rivers or direct into the River Murray;

“Valley Cap” means the climatically adjusted cap on the total volume of water that can be taken under the low-reliability component of the Living Murray entitlement in any one year, as determined each year by the resource manager in accordance with Tables 2 and 3 of Schedule 5;

“Victoria’s Living Murray water obligations” means Victoria’s obligations set by the MDBA in respect of Living Murray Water;

“Victorian Mid-Murray Storages” means Lake Boga, Lake Charm, Kangaroo Lake and Kow Swamp;

“Victorian unregulated flow entitlement” means the unregulated flow component of this entitlement as specified in Table 1 of Schedule 5

“Victoria’s River Murray water accounts” means an annual report, required by the Minister, on compliance by River Murray entitlement holders with the terms of their bulk entitlements;

“water allocation” has the meaning given to it in section 3 of the Act;

“water allowed to Victoria under the Murray-Darling Basin cap” means the water that Victoria would have diverted under 1993/94 levels of development from the River Murray and its upper tributaries, as determined each year by MDBA and applied in clause 11 of this Order;

“water available under the Living Murray entitlement” means the water available to be taken as provided for in clause 6 of the Order;

“Water Holder” has the same meaning as provided for under section 3(1) of the Act;

“Water Holder commencement” means the day on which section 4 of the **Water Amendment (Victorian Environmental Water Holder) Act 2010** comes into operation;

* * * * *

“water share” has the meaning given to it in section 3 of the Act;

“year” means the 12 months from 1 July to 30 June.

4A OBLIGATIONS OF RESOURCE MANAGER

4A.1 Subject to sub-clause 4A.2, the obligations of the resource manager are the obligations set out in this Order and include the tasks set out in sub-clause 24.1

4A.2 Upon the appointment of an Authority under section 64GA of the Act to be responsible for making seasonal determinations in respect of the River Murray, the obligations relating to the making of seasonal determinations cease to be the obligations of the resource manager.

4B RULES RELATING TO SEASONAL DETERMINATIONS

Upon the appointment of an Authority under section 64GA of the Act to be responsible for making seasonal determinations in respect of the River Murray, the rules relating to the making of seasonal determinations for the purposes of section 64GB are the rules set out in this Order that would otherwise apply to the making of seasonal determinations by the resource manager.

PART 2 – ENTITLEMENT

5. CONVERSION TO A BULK ENTITLEMENT

5.1 The environment Minister’s existing entitlement to take 27.6 GL of water from the River Murray is converted to a bulk entitlement on the conditions set out in this Order.

5.2 Upon the Water Holder Commencement, the converted entitlement provided for under clause 5.1 is held by the Water Holder on the terms set out in this Order.

6. BULK ENTITLEMENT

6.1 The Water Holder may take from the River Murray and the distribution system in any year:

- (a) for the purpose of providing for flora and fauna needs:
 - (i) the Water Holder's share of the water available to meet the high-reliability and low-reliability entitlements as set out in Table 1 of Schedule 5, being the 'Flora & Fauna' entitlement;
 - (ii) water available under the Victorian unregulated flow entitlement as specified in Table 1 of Schedule 5;
 - (iii) water available under the 9 GL unregulated flow entitlement as specified in Table 1 of Schedule 5, being part of the Goulburn-Murray Water Connections Project entitlement; and
 - (iv) water available to meet the high-reliability and low-reliability entitlements as set out in Table 1 of Schedule 5, being part of the Goulburn-Murray Water Connections Project entitlement.

and,
- (b) for the purpose of meeting Victoria's Living Murray water obligations:
 - (i) the Water Holder's share of the water available to meet the high-reliability and low-reliability entitlements as set out in Table 2 of Schedule 5, being the Living Murray entitlement;
 - (ii) * * * * *
 - (iii) water set aside in the Extended Use Account, as provided for in this Order; and
 - (iv) water available under the Living Murray unregulated flow entitlement as specified in Table 2 of Schedule 5;

provided the amount taken does not exceed the Valley Cap; and
- (c) for the purpose as specified by the transferee, which will be either:
 - (i) meeting Victoria's Living Murray water obligations; or
 - (ii) providing for flora and fauna needs,

any water entitlement transferred to or water allocation assigned to the Water Holder, provided the amount taken does not exceed the Valley Cap Rules, if any, relevant to that entitlement.
- (d) water allocated to the Water Holder for the purpose of releasing and retaining Victoria's share of River Murray Increased Flows.
- (e) * * * * *

6.2 The water available to meet the entitlements in Schedule 1 is the lower of:

- (a) the resources Victoria could divert in the current year, and

- (b) the water allowed to Victoria under the Murray-Darling Basin cap, adjusted down for water diverted from the upper tributaries;

less any water required to meet entitlements not covered in Schedule 1 –

as determined by the resource manager in accordance with the provisions set out in Part 3.

PART 3 – WATER AVAILABLE

7. ADJUSTING THE ALLOCATION TO VICTORIA

- 7.1 The resource manager must ensure that allowances for any diversions which need to be met from the allocation to Victoria but which are not covered by the River Murray bulk entitlements are subtracted from the allocation to Victoria as follows:

- (a) If the estimates of run-off above Doctors Point or inflows from the Ovens River:
 - (i) have not already been reduced to allow for diversions, the resource manager must subtract the allowances shown in Schedule 2; or
 - (ii) are net of diversions, the resource manager must adjust the allocation to Victoria so the diversions assumed are equal to the allowances shown in Schedule 2.
- (b) If the diversions allowed for in Schedule 2 change or are more accurately estimated, the Minister may, after consultation with the River Murray entitlement holders, revise Schedule 2 accordingly.

- 7.2 The resource manager must add to the allocation to Victoria any water that comes from other sources, such as the Victorian Mid-Murray Storages, if that water has not already been included in the allocation to Victoria as “useful State tributary inflows”.

8. THE RESOURCES VICTORIA COULD DIVERT IN THE CURRENT YEAR

- 8.1 The resource manager must, in making seasonal determinations, make an initial assessment of whether the allocation to Victoria is sufficient to meet high-reliability entitlements in full, using the following steps. The resource manager must:
 - (a) subtract from the allocation to Victoria, adjusted in accordance with clause 7, any entitlements under clauses 9, and 10 for providing environmental flows in the River Murray;
 - (b) subtract from the result obtained under paragraph (a) sufficient provision to cover the losses associated with the operation of the Victorian Mid-Murray Storages;
 - (c) subtract from the result obtained under paragraph (b) the following entitlements not covered in Schedule 1:

- (i) water for additional distribution losses incurred by relevant River Murray entitlement holders, as allowed for in clause 13;
 - (ii) up to 40 GL to cover the shortfall in supply from the Goulburn system to the Broken Creek part of Murray Valley when Goulburn seasonal determinations are lower than River Murray determinations;
 - (iii) any water carried over from the previous year as allowed in the bulk entitlement orders of relevant River Murray entitlement holders.
 - (d) check if the remaining volume of water is equal to or more than the total off-take commitment for a high-reliability determination of 100%, including an early reserve volume of 218 GL.
- 8.2 In making the assessment in sub-clause 8.1, the resource manager must adjust the allocation to Victoria down in accordance with estimates of run-off and inflow which are lower than the minimum ones used by MDBA, if the River Murray entitlement holders jointly propose a more conservative basis for making estimates and the Minister agrees to the proposal in writing.
- 8.3 If the allocation to Victoria is assessed under sub-clause 8.1 to be insufficient to meet high-reliability entitlements fully, the resource manager must, in order to determine the resources Victoria could divert in the current year:
- (a) use the allocation to Victoria which has been adjusted down in accordance with lower estimates of run-off and inflow than those used by MDBA, if the Minister has agreed to a more conservative basis for making estimates under sub-clause 8.2; and
 - (b) draw on water that can be borrowed from environmental flow entitlements, in accordance with clauses 9 and 10.
- 8.4 If the allocation to Victoria is assessed under sub-clause 8.1 to be sufficient to meet high-reliability entitlements in full, the resource manager must, in order to determine the resources Victoria could divert in the current year:
- (a) consider the allocations to Victoria that MDBA would make in the current year and in the following year, if MDBA used estimates of run-off and inflows that:
 - (i) in the first year, are estimates for a two-year period with a 99% probability of being exceeded, less the estimates in sub-paragraph (ii), and
 - (ii) in the second year, are estimates for a one-year period with a 99% probability of being exceeded; and
 - (b) adjust the volume of water Victoria diverts in the current year, and consequently the volume of water Victoria carries over into the second year, so the allocation to Victoria in the second year (with run-off and inflows at 99% probability levels) is just sufficient to meet high-reliability entitlements in full;
- as described more fully in Schedule 3.

8A. OPERATION OF VICTORIAN MID-MURRAY STORAGES

- 8A.1 The resource manager must ensure that the Victorian Mid-Murray Storages are operated to maximise their water harvesting capability subject to operating arrangements established under sub-clause 8A.2.
- 8A.2 The resource manager must submit by 1 July each year an annual operating plan for the Victorian Mid-Murray Storages to the Minister, prepared in consultation with the relevant Catchment Management Authority, taking into account the seasonal conditions and including the following:
- (a) target filling curves for minimum and maximum operating levels for each storage;
 - (b) operating arrangements for each of the storages under a range of seasonal conditions;
 - (c) consideration of flood operation;
 - (d) consideration of the environmental water requirements necessary to maintain the environmental values of the Victorian Mid-Murray Storages, including relevant Ramsar listed values, as advised by the relevant Catchment Management Authority; and
 - (e) any other relevant matter.
- 8A.3 The resource manager must report on the operation of the Victorian Mid-Murray Storages against the conditions in the operating plan defined under sub-clause 8A.2.

9. LINDSAY RIVER DILUTION WATER

- 9.1 If MDBA has subtracted from the allocation to Victoria an amount, not exceeding 91.3 GL, for dilution flows in the Lindsay River, and if this amount includes an allowance for diversion by private diverters which is covered in Schedule 1, the resource manager must add that allowance to the allocation to Victoria.
- 9.2 If MDBA does not subtract the amount referred to in sub-clause 9.1 for dilution flows because alternative measures have been undertaken to handle saline inflows into the Lindsay River, the resource manager must:
- (a) subject to paragraph (c), subtract from the allocation to Victoria an amount equivalent to the volume of dilution flows saved by the alternative measures;
 - (b) make sure that any amount subtracted under paragraph (a) is not used in a way which counts as diversion for the purpose of determining whether Victoria has exceeded the water allowed to Victoria under the Murray-Darling Basin cap, or which otherwise adversely affects the reliability of River Murray bulk entitlements;

- (c) subject to consultation with the environment Minister, not subtract the full amount under paragraph (a), to the extent the allocation to Victoria would otherwise be insufficient to meet high-reliability entitlements in full.

10. BARMAH-MILLEWA FOREST WATER

- 10.1 In making seasonal determinations, the resource manager must take account of the entitlement to water for Barmah-Millewa forest prescribed in sub-clause 10.2, which is supplied out of the allocation to Victoria.
- 10.2 The entitlement referred to in sub-clause 10.1 is to:
 - (a) 50 GL a year, being a high-reliability entitlement, which, subject to 10.4, must be restricted by the resource manager in the same way as high-reliability water shares as set out in Table 1 of Schedule 1; and
 - (b) 25 GL a year being a low-reliability entitlement which, subject to 10.4, must be made available by the resource manager when the total natural inflow to Hume Reservoir for the preceding months, which vary from 30 months on 1 July in any one year to 35 months on 1 December, exceed the triggers in Table 1 of Schedule 6.
- 10.3 Unused amounts of the water allocated to the entitlements referred to in sub-clause 10.2, must be carried over by the resource manager if there is sufficient space in storages, subject to:
 - (a) the rules relating to spills and releases contained in Schedule 6; and
 - (b) the overdraw allowance determined by the Minister in consultation with the Water Holder.
- 10.4 The Minister in consultation with the Water Holder and River Murray entitlement holders, may:
 - (a) determine rules unrelated to the rules in Schedule 1 for restricting the high-reliability entitlement specified in sub-clause 10.2, provided the reliability of other entitlements is not changed significantly; and
 - (b) authorise MDBA, rather than the resource manager, to determine the restrictions and apply the rules referred to in this clause, keep the relevant accounts and supervise the borrowing of water allocated to the entitlement specified in sub-clause 10.2.
- 10.5 Apart from an amount of up to 10 GL each year that may be required by the Water Holder for low-level watering, all Victoria's water held for Barmah-Millewa forest will be available to be borrowed to support high-reliability entitlements in accordance with sub-clauses 10.6 and 10.7.

- 10.6 If the allocation to Victoria includes Victoria's accumulated water for Barmah-Millewa forest, the resource manager must:
- (a) deduct any allowance required by the Water Holder for low-level watering of the forest in the current year, up to 10 GL;
 - (b) retain in the allocation to Victoria the remaining amount of Victoria's accumulated water for Barmah-Millewa forest to the extent the allocation to Victoria would otherwise be insufficient to meet high-reliability entitlements in full;
 - (c) when there is sufficient water for fully meeting the high-reliability entitlements without having to borrow water held for Barmah-Millewa forest, subtract all the water for Barmah-Millewa forest, including any volume that had earlier been borrowed, before setting aside any additional water to meet high-reliability entitlements in the following year or providing any allocation for low-reliability entitlements in the current year.
- 10.7 The release triggers and targets specified in clauses 8 and 9 of Schedule 6 may be amended by the Minister subject to the agreement requirements set out in clause 10 of Schedule 6.

11. APPLYING THE CAP

- 11.1 If the volumes of water diverted each year in Victoria from the River Murray and from the upper tributaries increase, in comparison to the annual volumes that would have been diverted under 1993/94 levels of development as estimated by MDBA modelling, and the volume of accumulated overruns, less underruns, approaches –
- (a) the limit established in the Agreement;
- or, in the absence of any limit in the Agreement,
- (b) a limit of 20% of the long-term average annual Victorian diversions under 1993/94 levels of development, as estimated by MDBA's model after making any adjustments agreed by the MDBA – then action must be taken in accordance with this clause.
- 11.2 The River Murray entitlement holders must jointly recommend to the Minister such appropriate action to avoid the limit being reached as they see fit, and the Minister may approve such action, with any modifications the Minister considers necessary.
- 11.3 If no appropriate action is approved by the Minister under sub-clause 11.2:
- (a) If the volume of accumulated overruns less underruns reaches 15% of long-term average annual Victorian diversions, in the following year the water allowed to Victoria under the Murray-Darling Basin cap is deemed to be:
 - (i) subject to sub-paragraphs (ii) and (iii), the resources Victoria could divert in that year, plus an allowance for upper tributaries diversion, less a volume equal to 7% of long-term average annual Victorian diversions;

- (ii) the maximum to be the water required for an allocation of 80% for low-reliability entitlements; and
 - (iii) the minimum to be the water required for an allocation of 30% for low-reliability entitlements.
- (b) If the volume of accumulated overruns less underruns reaches 20% of long-term average annual Victorian diversions, in the following year the water allowed to Victoria under the Murray-Darling Basin cap is deemed to be the same as in paragraph (a), except that the minimum in sub-paragraph (iii) is deemed to be the water required for an allocation of 100% for high-reliability entitlements.
- (c) The Minister may vary the levels of allocation to low-reliability entitlements specified in sub-paragraphs (ii) and (iii) of paragraph (a), as long as the level in sub-paragraph (ii) is available between 40 and 60 years out of 100, and the level in sub-paragraph (iii) is available between 75 and 80 years out of 100, as estimated by modelling.

11.4 * * * * *

11.5 Any water diverted from the River Murray into Lake Boga for water quality or recreational purposes, must be counted as part of Victorian diversion when determining whether Victoria has exceeded the water allowed to Victoria under the Murray-Darling Basin cap under this clause.

11.6 If there are no estimates from MDBA modelling of the annual volumes that would have been diverted under 1993/94 levels of development, or for some other reason none of the capping arrangements in sub-clauses 11.1, 11.2 and 11.3 are able to be applied, the water allowed to Victoria under the Murray-Darling Basin cap in any year is deemed to be no greater than:

- (a) 1,780 GL multiplied by 10, minus the sum of the actual diversions (net of credits) from the River Murray by River Murray entitlement holders in each of the previous nine years – with the resulting volume adjusted up for water diverted from the upper tributaries;

or, if the volume established under paragraph (a) is less than the volume required for an allocation of 100% for high-reliability entitlements,

- (b) the volume required for an allocation of 100% for high-reliability entitlements.

12. MAKING SEASONAL DETERMINATIONS

In August and in each subsequent month until the maximum determination possible for River Murray bulk entitlements in Schedule 1 is reached, or at such other times as the resource manager believes it to be required, the resource manager must determine the water available to meet the entitlements in Schedule 1, and the Water Holder's share of that water, in accordance with the following steps. While taking account of any matter not referred to here that is relevant at the time, the resource manager:

- (a) must first adjust the most recent allocation to Victoria in accordance with clause 7;
- (b) must ascertain the resources that Victoria could divert in the current year, in accordance with clause 8;
- (c) must take the lower of:
 - (i) the resources Victoria could divert in the current year, as determined under paragraph (b), and
 - (ii) the amount of water allowed to Victoria under the Murray-Darling Basin cap, adjusted down for water diverted from the upper tributaries, as described in clause 11,to establish the total water available;
- (d) must subtract water for entitlements not covered in Schedule 1:
 - (i) water for additional distribution losses incurred by relevant River Murray entitlement holders, as allowed for in clause 13;
 - (ii) * * * *
 - (iii) up to 40 GL to cover the shortfall in supply from the Goulburn system to the Broken Creek part of Murray Valley when Goulburn seasonal determinations are lower than River Murray determinations;
 - (iv) * * * *
 - (v) any water carried over from the previous year by River Murray entitlement holders,to ascertain the water available to meet the entitlements in Schedule 1;
- (e) subject to sub-paragraph (d) must determine from the bottom lines of Tables 1 and 2 in Schedule 1 the volume next lower than the water available ascertained in paragraph (d), and the corresponding seasonal determination, having regard to –
 - (i) determinations may be made in 5% or smaller steps, not just in the 10% steps shown in Schedule 1, by interpolation; and
 - (ii) a determination may be made below 10% for high-reliability rights, by extrapolation;
 - (iii) a determination must not be lower than a determination made previously in the same year, unless the resource manager believes that it has to be lower to avoid Victoria running out of water before the end of the year;
 - (iv) the requirement to set aside an early reserve in accordance with the method detailed in clause 1 of schedule 3;
- (f) must inform the Water Holder and other River Murray entitlement holders of the seasonal determination made under paragraph (e), and at the same time make available all the calculations used to make the seasonal determination;

- (g) given the seasonal determination made in paragraph (f), must add up the off-take commitments corresponding to the entitlements for which the Water Holder is responsible as set out in Tables 1 and 2 of Schedule 1;
- (h) * * * *

13. ALLOWANCES FOR DISTRIBUTION LOSSES

13.1 If the months August to November are dry Goulburn-Murray Water may take additional water to cover distribution losses for Torrumbarry, as determined under this sub-clause, provided the losses which are incurred over a number of years on average keep to the allowances set out in Schedule 1, as required under sub-clause 13.2. The resource manager must:

- (a) in determining the water available in August, and subject to paragraph (b) in subsequent months through the year, set aside an allowance of 77 GL for additional Torrumbarry distribution losses;
- (b) if the streamflow recorded in the Loddon River at Appin South exceeds 2,100 ML in any month from August to November, reduce the allowance specified in paragraph (a) in the following month:
 - (i) to 38.5 GL after the first month it happens; and
 - (ii) to 0 GL if it happens in a second month;unless the River Murray entitlement holders jointly propose and the Minister agrees in writing to some other arrangement for reducing the allowance.

13.2 River Murray entitlement holders may incur losses which vary from year to year from the allowances for losses in Schedule 1, provided that on average over time actual losses stay within those allowances, in accordance with this sub-clause:

- (a) The maximum additional loss permitted in any one year is as follows:
 - (i) for Murray Valley, 10% of the allowance in Schedule 1 corresponding to the final seasonal determination for that year;
 - (ii) for Torrumbarry, 25% of the allowance in Schedule 1 corresponding to the final seasonal determination for that year, plus the amount allowed under sub-clause 13.1;
 - (iii) for Nyah irrigation district, 0.5 GL;
 - (iv) for Lower Murray Urban and Rural Water's irrigation districts, 5 GL;
 - (v) for Lower Murray Urban and Rural Water's water districts (Millewa, Carwarp and Yelta), 2.4 GL;
 - (vi) for FMID, 6 GL.
- (b) The resource manager must keep a running account of the losses incurred additional to the allowances in Schedule 1, and the allowances in Schedule 1 not used, each year, and in doing so:

- (i) for Murray Valley and Torrumbarry where the allowances in Schedule 1 vary with seasonal determinations, must use the allowances corresponding to the total volumes of water actually supplied to primary entitlement holders in the year in question;
 - (ii) must calculate actual losses by subtracting water supplied to primary entitlement holders from water taken from the River Murray.
- (c) The accumulated additional loss, net of unused allowance, is not permitted to rise above the following headrooms:
 - (i) for Murray Valley, 40 GL;
 - (ii) for Torrumbarry, 350 GL;
 - (iii) for Nyah irrigation district, 0.9 GL;
 - (iv) for Lower Murray Urban and Rural Water's irrigation districts, 9 GL;
 - (v) for Lower Murray Urban and Rural Water's water districts (Millewa, Carwarp and Yelta), 4.8 GL;
 - (vi) for FMID, 12 GL.
- (d) The maximum amounts of accumulated unused allowance, net of additional loss, that are allowed to be recognised by the resource manager are the same as the headrooms in paragraph (c).
- (e) In any year, the loss permitted to be incurred by a River Murray entitlement holder additional to the allowance in Schedule 1 corresponding to the final seasonal determination for that year, is the lower of:
 - (i) the maximum additional loss in any one year in paragraph (a), and
 - (ii) what is left from previous years of the headroom in paragraph (c).
- (f) Following completion of the Woorinen pipeline project, Torrumbarry losses includes an annual average volume of 600 ML, with a maximum of 1,200 ML in any year, to be supplied to the North Lake Drainage Basin for environmental purposes.

13.3 The Water Holder in conjunction with other River Murray entitlement holders must review the provisions of this clause five years from the commencement of this Order, and, after receiving a detailed submission, the Minister may modify any of the provisions of this clause.

14. * * * * *

PART 3A: THE LIVING MURRAY ENTITLEMENT

14A INCONSISTENCY

Where a provision of this Part is inconsistent with a provision of Parts 4, 5 and 6 of this Order, the provision of this Part prevail in relation to a Living Murray entitlement.

14B TAKING OF LIVING MURRAY ENTITLEMENT

14B.1 Subject to clauses 14C and 15B, the Water Holder may take water available under the Living Murray entitlement at any nominated delivery point on the River Murray, the distribution system or, subject to water trading rules, another declared system.

14B.2 The volume of water available in any given year shall not exceed the sum of:

- (a) the volume of water stored in the Extended Use Account; and
- (b) water available under Living Murray entitlement for the current year in accordance with Tables 2 and 3 of Schedule 5.

14C USE OF LIVING MURRAY ENTITLEMENTS

14C.1 The Water Holder must ensure that water available under the Living Murray entitlement is applied in accordance with the ecological objectives for use of Living Murray water as developed by the MDBA.

14C.2 Water available under the Living Murray entitlement and used at locations within Victoria, must be accounted for:

- (a) at the flow monitoring points specified in Schedule 3A or agreed to as provided for in clause 14G; and
- (b) using the methods detailed in clause 14G.

14C.3 Water available under the Living Murray entitlement and used at locations within New South Wales or South Australia, must be transferred to the relevant Minister in accordance with clause 14E.

14D * * * *

14E TRANSFER AND ASSIGNMENT

14E.1 The Living Murray entitlement cannot be transferred in whole or in part.

14E.2 Allocation available under the Living Murray entitlement cannot be assigned for a term longer than one year.

14E.3 The Water Holder may assign water allocation held under the Living Murray entitlement in accordance with the Act, provided that –

- (a) the assignment is consistent with any ecological objectives established by MDBA; and
- (b) if the assignment is not an assignment under 14E.4, the Water Holder is of the opinion that the assignment will benefit the Environmental Water Reserve Objective.

14E.4 In addition to clause 14E.3 of this Order, the Water Holder may assign all or part of the water allocation under the Living Murray entitlement to the –

- (a) South Australian Minister responsible for delivering water to icon sites in South Australia; or
- (b) the New South Wales Minister responsible for delivering water to icon sites in New South Wales,

provided that:

- (c) the assignment is consistent with any ecological objectives established by MDBA; or
- (d) in the case of an assignment under paragraph (a), after accounting for any losses in accordance with clause 14H.3, the water will be available at the South Australian border.

14F EXTENDED USE ACCOUNT

14F.1 The Water Holder may set aside in an Extended Use Account, that portion of the available water under the Living Murray entitlement that has not been used in that year, for use in the first six months of the following year, provided that –

- (a) using the volume between 1 July and 31 December of the following year (the year after the year in which the water was allocated) would be consistent with:
 - (i) any ecological objectives for the use of Living Murray water established by the MDBA; and
 - (ii) the EWR Objectives as stated in section 4B of the Act; and
- (b) use of the Extended Use Account will comply with the conditions of the Murray-Darling Basin Cap and the Valley Cap.

14F.2 The Extended Use Account will operate in accordance with the following conditions:

- (a) any water available under the Living Murray entitlement and unused on 30 June of each year will be set aside in the Extended Use Account for that year;
- (b) the volume available in the Extended Use Account will be held in storage until 31 December of the following year (the year after the year in which the water was allocated), after which the balance of the Extended Use Account will be set to zero; and
- (c) the volume in the Extended Use Account will not be subject to losses while being held in storage.

14F.3 Water assigned to the Water Holder for the purposes of meeting Victoria's Living Murray water obligations may also be set aside in the Extended Use Account, provided that –

- (a) the conditions in clause 14F of this Order are applied; and
- (b) the assigned water is able to be held in storage in the headworks system where the entitlement is held.

14F.4 When any headworks system reservoir spills, and that reservoir was holding part or all of the water available in the Extended Use Account, the resource manager must reduce the amount stored in the Extended Use Account by the amount of the spill, before reducing the amount stored under any water shares or entitlements listed in Schedule 1.

14G. WATER ACCOUNTING PROCEDURES

14G.1 The amount of water supplied to Victorian locations shall be calculated as the amount of water flowing past the flow monitoring points specified in Schedule 3A or agreed to as provided for in this clause, in excess of the flow that would have occurred had this water not been supplied.

14G.2 The Water Holder may establish additional flow monitoring points as are agreed to in writing by:

- (a) the MDBA, in the case of flow monitoring points on the River Murray; or
- (b) a distributor, in the case of flow monitoring points on a distribution system.

14G.3 The resource manager must keep a record of:

- (a) the volume in the Extended Use Account;
- (b) the volumes and sources of water allocated under clause 6.1 of this Order;
- (c) the volume of water supplied to the Murray River and the agreed volume of Murray River transmission loss associated with the supply;
- (d) the volume spilled from the Extended Use Account;
- (e) the volume of water available under the Living Murray entitlement at any time including the water in the Extended Use Account;
- (f) the amount of the Valley Cap, including the amount used in a year and the amount carried over (if any) from the previous year.

14G.4 Within 12 months of the commencement of this instrument, the Water holder, in consultation with the Storage Operator, must develop a program to calculate the losses caused by use of water allocated under this entitlement in the River Murray. This will include (listed in priority order):

- (a) losses caused by delivery of water through an icon site where a return flow occurs; and
- (b) losses caused by delivery of water through other priority Victorian sites as nominated by the Water holder, where a return flow occurs.

14H. WATER STORAGE AND SUPPLY COSTS

The Water Holder will be responsible for the costs associated with the storage and delivery of water under the Living Murray entitlement.

PART 4 – GENERAL CONDITIONS AND PROVISIONS

15. TAKING WATER

- 15.1 Subject to clause 15B of this Order, the Water Holder may take the water to which it is entitled under sub-clause 6.1(a) and sub-clause 6.1(e) of this Order at any nominated delivery point on the River Murray, the distribution system, or, subject to relevant water trading rules, another declared system.
- 15.2 The Water Holder may take the water to which he or she is entitled under sub-clause 6.1(b) subject to clause 14B.
- 15.3 The Water Holder may take water under the unregulated flow entitlements specified in sub-clauses 6.1(a)(ii), 6.1(a)(iii) and 6.1(b)(iv) subject to the following—
 - (a) water taken under the unregulated flow entitlements may only be accessed during periods when MDBA has declared the availability of unregulated flows in the River Murray;
 - (b) the volume of water taken under each unregulated flow entitlement in any year must not exceed the entitlement volumes specified in Tables 1 and 2 of Schedule 5;
 - (c) all unregulated flow entitlements have equal access to available flows, and if less than the maximum entitlement volume is available, the unregulated flow entitlements are to be restricted in equal proportion, unless otherwise agreed by the Water Holder and MDBA; and,
 - (d) water taken under the unregulated flow entitlements may only be taken at a location on the River Murray where there are unregulated flows declared in the same reach as that location.
- 15.4 In addition to the conditions under sub-clause 15.3, water taken under —
 - (a) sub-clause 6.1(b)(iv) of this Order being the Living Murray unregulated flow entitlement, and

- (b) sub-clause 6.1(b)(iii) of this Order being the 9 GL unregulated flow entitlement may only be taken downstream of the Goulburn River confluence.

15.4A Subject to clause 15B of this Order, the Water Holder may take the water it is entitled under sub-clause 6.1(d) of this Order in the River Murray below the Barmah Choke or another declared system, subject to:

- (a) its use being consistent with the RMIF Strategy and any ecological objectives established for the Murray-Darling Basin; and
- (b) any relevant trading rules.

15.5 If MDBA establishes rules whereby a proportion of any water ordered by Victoria but not taken, is counted as water taken, the Minister may, after consultation with the River Murray entitlement holders, establish arrangements whereby a proportion, being no greater than the proportion set by MDBA, of any water ordered by the Water holder but not taken, is counted as water taken for the purpose of clause 6.

15A RETURN FLOWS

15A.1 The Water Holder may apply to re-use or be credited for water used under this entitlement that is returned to the River Murray or another system in accordance with this clause.

15A.2 Before any re-use or credit can be granted, the Water Holder must –

- a) come to an agreement with the resource manager on the likely volume, timing and location of any return flow for the purposes of adjusting system operations; and,
- b) notify the resource manager if he or she intends to re-use any flows specified under paragraph (a).

15A.3 The resource manager must notify MDBA where an application under sub-clause 15A.1 is relevant to their system operations.

15A.4 Subject to clause 15A.5, the resource manager may grant approval of an application under sub-clause 15A.1 for -

- a) re-use by the Water Holder; or
- b) credit to the Water Holder in a nominated storage, where water returned under this entitlement was supplied to any person other than the Water Holder or stored for the resource manager's purposes during a regulated flow period.

15A.5 The resource manager may only grant approval under clause 15A.4 if –

- a) water supplied to and used by the Water Holder during the current water season has subsequently been returned to the River Murray or another system;

- b) the volume of water so returned has either:
 - (i) been measured by a meter that complies with ATS 4747; or,
 - (ii) been calculated by a method that has been agreed under clause 15B;
- c) any water re-used by the Water Holder or another person was used downstream of the place where the return flow occurred and within a reasonable time of the return flow;
- d) it can re-regulate the return flows downstream, with no material impact on other entitlement holders in the River Murray or another system;
- e) the volume of any water credited to the Water Holder under paragraph (b) is equal to that volume of returned water which was able to be used or stored; and,
- f) approval is consistent with any rules regarding the supply, use and accounting of return flows issued by the Minister from time to time.

15A.6 If the Water Holder and the resource manager cannot reach agreement within 6 months of an application under sub-clause 15A.1, either party may make a written request to the Minister to make a decision on the right to re-use return flows or the granting of water credits.

15A.7 Any decision made by the Minister in relation to sub-clause 15A.6 is final and binding on the parties.

15B OPERATING ARRANGEMENTS

15B.1 The Water Holder and the relevant distributors must endeavour to agree on operating arrangements for the supply of water under this entitlement and, within 12 months of 1 July 2011, must—

- a) review any existing operating arrangements; or
- b) develop new operating arrangements.

15B.2 The operating arrangements determined under sub-clause 15B.1 must:

- a) be consistent with the Environmental Water Reserve Objective;
- b) be consistent with the ecological objectives for the use of Living Murray Water where applicable to the supply of the Living Murray entitlement;
- c) include arrangements for water delivery:
 - i) during the irrigation period;
 - ii) outside the irrigation period; and

- iii) during periods of rationing caused by channel capacity constraints; and
 - d) include arrangements for the supply, use and accounting of re-use and water credits for return flows under clause 15A; and
 - e) consider the water quality risks associated with any planned return flows under this entitlement.
- 15B.3 The Water Holder must review the operating arrangements annually prior to 1 July of each year with the relevant distributors and may make any agreed changes.
- 15B.4 The Water Holder and the relevant distributors may agree to vary the operating arrangements following a review under sub-clause 15B.3, or at any other time in consultation with any other relevant River Murray entitlement holders.
- 15B.5 If the Water Holder and the parties have not reached agreement under clause 15B.4 within 3 months of 1 July, any party may give written notice to the other party requiring the matter to be determined in accordance with clause 18.
- 15B.6 The Water Holder, jointly with the Resource manager, must endeavour to agree on operating arrangements for the supply, accounting, trade and carryover of River Murray Increased Flows entitled under sub-clause 6.1(d) of this Order.
- 15B.7 These operating arrangements must be:
- i) consistent with the RMIF Strategy; and
 - ii) documented and submitted to the Executive Director Water Resources for approval prior to any use of River Murray Increased Flows and each time an amendment is made.

16. AMENDMENTS

- 16.1 Schedules 1 and 5 may, in accordance with section 64G of the Act, be amended periodically by the Minister.
- 16.2 The River Murray entitlement holders may jointly propose an amendment to –
- (a) any clauses in Part 3 if practical operations indicate a need for variation;
 - (b) Schedule 1 to take into account changed assumptions about the extent to which primary entitlements are likely to be used;
 - (c) Schedule 1 to take into account any changed estimates of distribution losses, in accordance with sub-clause 16.4;
 - (d) Schedule 3 to revise the method for calculating the Victorian reserve to take account of updated hydrological information or techniques or to keep the reliability of supply for high-reliability entitlements close to the target

reliability of supply set out in paragraph 3 of the Schedule, but not to alter that target reliability of supply;

(e) * * * *

and in doing so must explain the reasons for the proposed amendment and the likely implications for affected entitlement holders.

16.3 The Minister may –

- (a) subject to sub-clause 16.4, approve an amendment proposed under sub-clause 16.2; or
- (b) require the River Murray entitlement holders jointly to amend the proposal; or
- (c) at any time require the River Murray entitlement holders to make a joint proposal under sub-clause 16.2, if in the Minister's opinion it is necessary to make an amendment of the kind referred to in sub-clause 16.2.

16.4 The allowances made for distribution losses in Schedule 1 may, in accordance with sub-clause 16.2, be modified, but only in the following circumstances:

- (a) when a new bulk supply meter or new retail meters have been installed;
- (b) when information has been gained from experience of a year with less than 100% allocation for high-reliability entitlements.

16A * * * *

17. CHANGES MADE TO LONG-TERM WATER AVAILABILITY

17.1 When a proposal which would have a significant adverse effect on the quantity or reliability of supply of the allocation to Victoria, including any proposal relating to environmental flows, comes before the Minister, MDBA, the Murray-Darling Basin Ministerial Council, or any other decision-making forum of which the Victorian Government is a member or upon which it is represented, the Minister will:

- (a) if practicable, advise the Water Holder and other River Murray entitlement holders in writing at least two months before any decision is taken by the Minister, MDBA, the Ministerial Council or other forum; and
- (b) after giving advice under paragraph (a), consult and attempt to reach agreement with River Murray entitlement holders about alternative action to that which is proposed, which would not have a significant adverse effect; and
- (c) if it is not possible to agree on alternative action under paragraph (b), consult with and attempt to reach agreement with River Murray entitlement holders about ameliorative action, together with appropriate cost-sharing arrangements.

- 17.2 For the purpose of this clause a “significant adverse effect” includes:
- (a) an average annual net reduction of 10 GL or more in the allocation to Victoria; and
 - (b) an average annual net reduction of between 2 GL and 10 GL in the allocation to Victoria, if the proposal having this effect is likely to be the forerunner of proposals together having an effect of 10 GL or more.
- 17.3 “Ameliorative action” may include efficiency measures or other action to maintain existing resource availability and reliability of supply for entitlement holders.
- 17.4 Decisions by the Minister, MDBA, the Ministerial Council or other forum which have some adverse effect on resource availability but individually not a significant adverse effect will be reviewed by the Minister every two years from the date this Order commences, and whenever the accumulated reductions equal or exceed 10 GL, the Minister will:
- (a) advise the Water Holder and other authorities holding River Murray entitlements in writing;
 - (b) consult with and attempt to reach agreement with the holders of River Murray bulk entitlements about ameliorative action, including appropriate cost-sharing arrangements.

18. DISPUTE RESOLUTION

- 18.1 If any difference or dispute arises between the Water Holder, the Minister and, with their consent, any other River Murray entitlement holder, the resource manager, the Victorian storage operator, or any of them (the “parties”) concerning the interpretation or application of this Order, which is not resolved within 14 days of it arising, any party may give written notice to the others requiring the matter to be determined by an independent expert, if it is not otherwise resolved, within 14 days of that notice.
- 18.2 The independent expert will be either –
- (a) a person agreed on by the parties to the difference or dispute; or
 - (b) if those parties cannot agree, a person nominated by the President of the Institute of Arbitrators, Australia.
- 18.3 The independent expert must reach a conclusion on the matter within 30 days of it being referred, but has power to extend the period for reaching a conclusion on the matter by a further 30 days.
- 18.4 The independent expert must send a copy of the conclusion and its supporting reasons to each party to the difference or dispute.
- 18.5 In any difference or dispute to which the Minister is a party:

- (a) the independent expert must express the conclusion as a recommendation;
 - (b) the Minister must consider any recommendation made under paragraph (a) before deciding to give a direction under section 307 or to take any other action under the Act in relation to the difference or dispute.
- 18.6 In any difference or dispute to which the Minister is not a party, any conclusion by an independent expert is final and binding on the parties.
- 18.7 The apportionment of the costs of and incidental to every reference, including the costs of the independent expert, shall be at the discretion of the independent expert.

PART 5 – MONITORING WATER TAKEN

19. METERING PROGRAM

- 19.1 The Water Holder must propose to the Minister, within 12 months of the Water Holder Commencement, a metering program to determine –
- (a) the amount of water taken by the Water Holder from the River Murray and any distribution system; and
 - (b) any flows returned to the River Murray or another system –
- for the purpose of assessing whether or not the Water Holder complies with this bulk entitlement.
- 19.2 The Minister may –
- (a) approve the program proposed under sub-clause 19.1; or
 - (b) require the Water Holder to amend the proposed program; and
 - (c) require the Water Holder –
 - (i) to review the program approved by the Minister if, in the Minister's opinion, it is, at any time, no longer appropriate; and
 - (ii) to propose an amended program to the Minister.
- 19.3 The Water Holder must, at his/her cost, and in accordance with any guidelines issued from time to time by the Minister –
- (a) implement and maintain the approved metering program; and
 - (b) maintain metering equipment and associated measurement structures in good condition, ensure that metering equipment is periodically re-calibrated and, if rating curves are used to calculate flows, ensure that these curves are regularly checked and, if necessary, revised; and
 - (c) keep a record of all work undertaken under paragraph (b).

- 19.4 If the Minister at the request of MDBA, or if the resource manager, so requests in writing, the Water Holder must have the accuracy of metering equipment installed under sub-clause 19.3 tested.
- 19.5 Equipment must be tested in accordance with the relevant Australian Standards by a person or authority accredited for that purpose. If the equipment is found to be –
- (a) accurate, or inaccurate by no more than 5%, then the person making the request to the Water Holder must pay the cost of testing it; or
 - (b) inaccurate by more than 5%, the Water Holder must pay the cost of testing it.

20. REPORTING REQUIREMENTS

- 20.1 The Water Holder may be required to report on all or any of the following matters, as provided in this clause:
- (a) the daily amount of water taken under this entitlement at any nominated delivery points;
 - (b) the annual amount of water taken under this entitlement at any nominated delivery points;
 - (c) the amount of water returned at any nominated point;
 - (d) the location of any nominated delivery or return points used under this Order;
 - (e) the existence, amendment and implementation of the metering program approved under sub-clause 19.2;
 - (f) any transfer of this entitlement or assignment of water allocation under this entitlement;
 - (g) any transfer of an entitlement or assignment of water allocation to the Water Holder under the Act;
 - (h) any amendment to this bulk entitlement;
 - (i) any new bulk entitlement granted to the Water Holder with respect to the River Murray, including any supplied via the distribution system;
 - (ia) compliance with Victoria's Living Murray water obligations in so far as they relate to the River Murray;
 - (j) any failure by the Water Holder to comply with any provision of this bulk entitlement;
 - (k) any difficulties experienced or anticipated by the Water Holder in complying with this bulk entitlement and any remedial action taken or proposed.
- 20.2 The Minister may require the Water Holder to report on all or any of the matters set out in sub-clause 20.1 –
- (a) in writing or in such electronic form as may be agreed between the Water Holder and the Minister; and

- (b) within 14 days of receiving the Minister's written request.
- 20.3 The Water Holder must, for the period of the preceding year report in its Annual Report on each of the matters set out in sub-clause 20.1, except paragraph (a), and, with the approval of the Minister, any particular failure referred to in paragraph (j).
- 20.4 The Water Holder may be required to report to the resource manager from time to time, on all or any of the matters set out in sub-clause 20.1.
- 20.5 Any report under sub-clause 20.4 must be made –
- (a) in such form as may be agreed between the Water Holder and the resource manager; and
 - (b) unless the Water Holder and the resource manager agree otherwise –
 - (i) within 24 hours of the Water Holder receiving a request for a report on the matters set out in paragraphs (a) to (d) of sub-clause 20.1; or
 - (ii) within 14 days of the Water Holder receiving a request for a report on any matter set out in paragraphs (e) to (k) of sub-clause 20.1.

21. SHARING OF DATA

- 21.1 The Minister will use the Minister's best endeavours to ensure that all hydrological and other data required by the Water Holder to comply with this bulk entitlement are made available to the Water Holder.
- 21.2 The Water Holder must make available data collected for the purpose of the metering program and reporting under clauses 19 and 20 to any person, subject to the person paying any fair and reasonable access fee imposed by the Water Holder to cover the costs of making the data available.

PART 6 – FINANCIAL OBLIGATIONS

22. WATER STORAGE AND SUPPLY COSTS

- 22.1 Subject to sub-clauses 22.2, 22.3 and 22.4, the Water Holder does not have to make any payment for water storage and supply costs relating to this bulk entitlement.
- 22.2 Until the Minister decides otherwise under sub-clause 22.3, the policy in place at the commencement of this Order of charging the Water Holder for delivering flora and fauna water will be continued in accordance with sub-clause 23.1 – with any variations allowed for under sub-clause 23.2 – and any revenue thereby raised which is counted as covering storage and supply costs rather than distribution costs will be subtracted from the storage and supply costs that are shared between other River Murray entitlement holders.

- 22.3 The Minister may, after reviewing the arrangements in sub-clauses 22.1 and 22.2 in consultation with the Water Holder and other River Murray entitlement holders, approve alternative arrangements, under which the Water Holder makes a direct contribution towards water supply and storage costs relating to this bulk entitlement, in whatever circumstances or with whatever limits that the Minister may decide.
- 22.4 The Water Holder must pay any contribution towards water storage and supply costs arising from alternative arrangements approved by the Minister under sub-clause 22.3, to the Victorian storage operator or to such other person as is determined by the Minister.

23. WATER DISTRIBUTION COSTS

- 23.1 Subject to sub-clause 23.2, the Water Holder must pay the relevant distributor an annual charge for delivery of water taken from a distribution system in accordance with the following policy in place at the commencement of this Order:
- (a) where the distribution system is running at full capacity, the normal charge for water shares applies;
 - (b) when the distribution system is running below peak capacity, 50% of the normal charge applies;
 - (c) when the distribution system must outfall surplus water which can be redirected to a wetland, no charge applies.
- 23.2 The Water Holder and a distributor may agree on alternative arrangements for setting distribution charges to those in sub-clause 23.1 –
- (a) to take account of local circumstances, or
 - (b) to take account of the outcome of any review of water storage and supply contributions under clause 22.3 or of distribution charges under clause 23.3 –
- and in doing so should not set a charge for water taken during the irrigation period which is greater than the tariff for recovering distribution costs which applies to primary entitlement holders in the surrounding area.
- 23.3 The Minister may, after reviewing the arrangements in sub-clauses 23.1 and 23.2 in consultation with the Water Holder and distributors, approve alternative arrangements, under which, in any specified circumstances, the Water Holder pays no distribution charge, or pays a distribution charge which is lower than the tariff for distribution applying to primary entitlement holders in the surrounding area.

24. RESOURCE MANAGER'S COSTS

- 24.1 Depending on the outcome of a review under sub-clause 24.3 and subject to sub-clause 24.1A, the Water Holder may be required to pay to the Victorian storage operator for passing on to the resource manager, or if the resource manager so decides to the

resource manager directly, a fair and reasonable proportion of the costs incurred by the resource manager to –

- (a) determine the water available, and the allocations of water to holders of River Murray bulk entitlements and primary entitlements, in accordance with the provisions and process set out in Part 3; and
- (b) call meetings of the River Murray entitlement holders, where necessary; and
- (c) as required, liaise and work with MDBA about resource assessment and other water supply matters, on behalf of Victoria, and participate in MDBA water accounting processes; and
- (d) keep account of distribution loss overruns and underruns allowed under clause 13; and
- (e) call on the 30 GL supplement from the Goulburn referred to in sub-clause 12.3(c) of the Bulk Entitlement (Eildon-Goulburn Weir) Conversion Order 1995, or any equivalent allowance; and
- (f) prepare Victoria's River Murray water accounts; and
- (g) keep account of any permanent transfers or conversions of primary entitlements or bulk entitlements, and periodically advise the Minister of consequential amendments required to Schedule 1 under sub-clause 16.1; and
- (h) monitor whether River Murray bulk entitlement holders comply with the conditions of their bulk entitlements; and
- (i) investigate and mediate disputes between entitlement holders on the River Murray; and
- (j) assist River Murray entitlement holders as necessary to investigate and deal with significant unauthorised uses of water on the River Murray;
- (k) supervise the qualification of any rights to water made by the Minister during periods of declared water shortage under section 33AAA of the Act; and
- (l) accounts and report on the operation of the Victorian Mid-Murray Storages

24.1A Upon the appointment of an Authority under section 64GA of the Act to be responsible for making seasonal determinations in respect of the River Murray, any costs to be paid by the Water Holder must include a fair and reasonable proportion of the costs incurred by the Authority in carrying out its functions under section 64GB of the Act.

24.2 The proportion of the costs referred to in sub-clause 24.1 and, if relevant, sub-clause 24.1A is to be:

- (a) equal to the proportion that the Water Holder's bulk entitlement is of the total volume of entitlements; or
- (b) derived from such alternative basis as may be agreed in writing by the Minister, after consultation with the resource manager and River Murray entitlement holders.

- 24.3 The Minister may, after reviewing, in consultation with the Water Holder and other River Murray entitlement holders, the desirability of a contribution being made by the Water Holder towards the costs of the resource manager, approve an arrangement under which the Water Holder must make such a contribution in accordance with sub-clause 24.1.

25. DUTY TO KEEP ACCOUNTS AND PROVIDE ESTIMATES

- 25.1 The Water Holder is not obliged to make any payment to –

- (a) a distributor, under clause 23; or
- (b) the resource manager, or the Victorian storage operator for passing on to the resource manager, under sub-clause 24.1 –

unless the person to whom payment is to be made or, if payment is to be passed on, passed on to chooses to comply with the provisions of this clause relevant to those payments.

- 25.2 Separate accounts of all costs and payments must be kept –

- (a) a distributor, under clause 23; or
- (b) by the resource manager, in respect to sub-clause 24.1.

- 25.3 Accounts required to be kept under this clause must be made available for inspection by the Water Holder upon request.

- 25.4 A distributor and the resource manager must, by 1 February in any year, provide the Water Holder with estimates of the amounts payable by the Water Holder under clause 23 and sub-clause 24.1 respectively, for the following year and, if requested, for up to four years following that.

26. BILLING ARRANGEMENTS

- 26.1 In this clause, a distributor and the resource manager are each a “creditor”, and the Victorian storage operator is the “creditor” where it is collecting payments for passing on to the resource manager.

- 26.2 Subject to sub-clause 26.3, a creditor must invoice the Water Holder for annual amounts payable under clause 23 and sub-clause 24.1 at least once a year, and, if more often than once a year, in instalments.

- 26.3 Where the actual cost of any component of an amount payable is not known to the creditor at the time an invoice is prepared, the creditor:

- (a) may prepare an invoice based on the relevant estimate given to the Water Holder under sub-clause 25.4, broken down to the relevant period;

- (b) if an invoice is prepared in accordance with paragraph (a), must make a corresponding adjustment to an invoice or invoices prepared within a reasonable time after the component becomes known.

26.4 Unless the relevant creditor and the Water Holder agree otherwise –

- (a) invoices under clause 23 must be given to the Water Holder quarterly in arrears;
- (b) subject to paragraph (c), invoices under sub-clause 24.1 must be given to the Water Holder quarterly in arrears;
- (c) any invoices given to the Water Holder by the Victorian storage operator under this clause may be given in accordance with the usual business practices of the Victorian storage operator;
- (d) the Water Holder must pay the full amount of each invoice, within 28 days of receiving it.

Dated: 07 June 1999

Responsible Minister: P J McNamara

Minister for Agriculture and Resources

Note: An explanatory note that accompanies this Order is available from the Department of Natural Resources and Environment.

SCHEDULE 1: TABLES ALLOCATING SHARES OF WATER AVAILABLE

(clauses 6, 12 of the Order)

Table 1: High-reliability Entitlements (GL)

User group		High Reliability Entitlements (GL)		Off-take commitments for high-reliability seasonal determinations of									
				10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Goulburn-Murray Water	Murray Valley	160.559	At farm	16.056	32.112	48.168	64.224	80.280	96.336	112.392	128.448	144.503	160.559
			Losses	70.660	71.807	72.954	74.101	75.248	76.395	77.542	78.689	79.836	80.983
				86.716	103.919	121.122	138.324	155.527	172.730	189.933	207.136	224.339	241.542
	Torrumbarry	244.304	At farm	24.430	48.861	73.291	97.722	122.152	146.582	171.013	195.443	219.874	244.304
			Losses	62.979	64.934	66.888	68.843	70.798	72.752	74.707	76.662	78.616	80.571
				87.409	113.795	140.180	166.565	192.950	219.335	245.720	272.105	298.490	324.875
	Nyah	8.407	At farm	0.841	1.681	2.522	3.363	4.203	5.044	5.885	6.726	7.566	8.407
			Losses	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
				1.341	2.181	3.022	3.863	4.703	5.544	6.385	7.226	8.066	8.907
	Diversers, Dartmouth-Nyah	56.129		5.613	11.226	16.839	22.452	28.065	33.677	39.290	44.903	50.516	56.129
Not associated with land	372.752		37.275	74.550	111.826	149.101	186.376	223.651	260.926	298.202	335.477	372.752	
LMURW - Irrigation	Irrigation districts	127.690	At farm	12.769	25.538	38.307	51.076	63.845	76.614	89.383	102.152	114.921	127.690
			Losses	15.392	15.392	15.392	15.392	15.392	15.392	15.392	15.392	15.392	15.392
				28.161	40.930	53.699	66.468	79.237	92.006	104.775	117.544	130.313	143.082
	Millewa & Yelta	0.714	At farm	0.082	0.164	0.246	0.328	0.410	0.492	0.574	0.656	0.738	0.714
			Losses	4.800	4.800	4.800	4.800	4.800	4.800	4.800	4.800	4.800	4.800
				4.882	4.964	5.046	5.128	5.210	5.292	5.374	5.456	5.538	5.514
	Diversers, Nyah-S.A.	207.630		20.763	41.526	62.289	83.052	103.815	124.578	145.341	166.104	186.867	207.630
Not associated with land	2.257		0.226	0.451	0.677	0.903	1.128	1.354	1.580	1.805	2.031	2.257	
Other	0.537		0.054	0.107	0.161	0.215	0.269	0.322	0.376	0.430	0.484	0.537	
Grampians Wimmera Mallee Water		3.492		0.349	0.698	1.048	1.397	1.746	2.095	2.444	2.794	3.143	3.492
LMURW - Urban		30.971		3.097	6.194	9.291	12.388	15.485	18.583	21.680	24.777	27.874	30.971
Coliban Water		5.055	River	0.506	1.011	1.517	2.022	2.528	3.033	3.539	4.044	4.550	5.055
		1.230	Channel	0.123	0.246	0.369	0.492	0.615	0.738	0.861	0.984	1.107	1.230
Goulburn Valley Water		3.607	River	0.361	0.721	1.082	1.443	1.804	2.164	2.525	2.886	3.246	3.607
		0.128	Channel	0.013	0.026	0.038	0.051	0.064	0.077	0.090	0.102	0.115	0.128
North East Water		13.236	River	1.324	2.647	3.971	5.294	6.618	7.941	9.265	10.588	11.912	13.236
Water Holder	Flora & Fauna	29.609	River	2.961	5.922	8.883	11.844	14.805	17.765	20.726	23.687	26.648	29.609
	Snowy EWR	29.794	River	2.979	5.959	8.938	11.918	14.897	17.876	20.856	23.835	26.815	29.794
	Living Murray	9.589	River	0.959	1.918	2.877	3.836	4.795	5.753	6.712	7.671	8.630	9.589
Exchange rate trade	South Australia	17.519	SA border	1.752	3.504	5.256	7.008	8.760	10.511	12.263	14.015	15.767	17.519
	NSW	5.075	L Hume	0.508	1.015	1.523	2.030	2.538	3.045	3.553	4.060	4.568	5.075
Total		1,330.284		287.370	423.510	559.651	695.792	831.932	968.073	1,104.214	1,240.354	1,376.495	1,512.530

Table 2: Low-reliability Entitlements (GL)

User group		Low Reliability Entitlements (GL)		Off-take commitments for low reliability seasonal determinations of									
				10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Goulburn-Murray Water	Murray Valley	92.333	At farm Losses	0.100	0.200	0.300	0.400	0.500	0.600	0.700	0.800	0.900	92.333
				4.004	8.008	12.012	16.016	20.020	24.023	28.027	32.031	36.035	40.039
				4.104	8.208	12.312	16.416	20.520	24.623	28.727	32.831	36.935	132.372
	Torrumbarry	138.131	At farm Losses	24.154	48.308	72.463	96.617	120.771	144.925	169.080	193.234	217.388	138.131
				5.540	11.080	16.620	22.160	27.700	33.240	38.780	44.320	49.860	55.400
				29.694	59.388	89.083	118.777	148.471	178.165	207.860	237.554	267.248	193.531
	Murray diverters	11.921		32.488	64.975	97.463	129.950	162.438	194.925	227.413	259.900	292.388	11.921
	Mitta diverters	4.673		0.841	1.681	2.522	3.363	4.203	5.044	5.885	6.726	7.566	4.673
				33.328	66.656	99.985	133.313	166.641	199.969	233.297	266.626	299.954	16.595
	Not associated with land	40.148		0.891	1.781	2.672	3.563	4.453	5.344	6.235	7.126	8.016	40.148
Lower Murray Water	Irrigation districts	0.402		5.613	11.226	16.839	22.452	28.065	33.677	39.290	44.903	50.516	0.402
	Diverters, Nyah-S.A.	5.940		37.275	74.550	111.826	149.101	186.376	223.651	260.926	298.202	335.477	5.940
	Not associated with land	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Water Holder	Living Murray	98.835		9.884	19.767	29.651	39.534	49.418	59.301	69.185	79.068	88.952	98.835
	Flora & Fauna	3.816		0.382	0.763	1.145	1.526	1.908	2.290	2.671	3.053	3.434	3.816
Total		396.199		121.170	241.577	362.366	483.155	603.943	724.732	845.520	966.309	1087.098	487.822
Off-take commitments for 100% high reliability entitlements			from Table 1	287.370	423.510	559.651	695.792	831.932	968.073	1104.214	1240.354	1376.495	1512.530
Total off-take commitments				408.540	665.088	922.017	1178.946	1435.875	1692.805	1949.734	2206.663	2463.593	2000.352

Notes on Tables 1 and 2:

- Seasonal determinations may be made in intervals of 1% by interpolation between the values shown or extrapolation below 10% (or above 100% for the losses), not just in the 10% intervals shown.
- Murray Valley and Torrumbarry have fixed losses of 69.513 GL and 61.024 GL (including 0.352 GL for Tresco) respectively, plus two variable loss components as follows:
 - for high-reliability rights, variable loss varies from zero at zero allocation, increasing linearly to 11.470 GL for Murray Valley and to 19.547 GL for Torrumbarry at an allocation of 100%;
 - for low-reliability rights, variable loss varies from zero at zero low allocation, increasing linearly to 40.039 GL for Murray Valley and to 55.400 GL for Torrumbarry at an allocation of 100% to low-reliability entitlements; and these losses may be allocated as required to deliver water carried over in these irrigation areas based on the equivalent maximum allocation in each area (calculated as the seasonal determination + carryover).
- Allocations against the 22.1 GL of high-reliability entitlement added to Table 1 in November 2009 for Snowy EWR commenced when the Lake Boga-Lake Kangaroo-Lake Charm component of the Victorian Mid-Murray Storages was first deemed by the Resource Manager to have been operated in accordance with clause 8A (which occurred on 1 April 2010).
- Broken Creek entitlements are generally supplied from the Goulburn System, including town supplies for Numurkah and Nathalia and relevant environmental entitlements, hence are not included in Tables 1 and 2, but receive Murray allocation regardless of whether they are supplied from the Murray or Goulburn System.

5. The allocation to the Murray Valley and Torrumbarry losses shown may be increased up to the maximum accumulated unused loss volume available for each in order to allow for delivery of allocation carried over in these districts from the previous year.
6. These tables do not show changes in water share volumes as a result of trade since 1 March 2014, or entitlements to unregulated flows in the River Murray or River Murray Increased Flows.

SCHEDULE 2: ALLOWANCES FOR OTHER DIVERSIONS (clause 7.1)

Table 1: Volumes assumed for diversion from potential River Murray resources other than under the River Murray bulk entitlements (GL), as at 1 July 1998

Stream or area	Licences	Proposed urban BEs	Assumed diversion
Murray above Lake Hume	4.6	0.8	3.0
Unregulated streams in Mitta valley	5.3	0.2	2.0
Kiewa	14.4	0.8	6.0
Unregulated streams in Ovens basin	15.3	4.0	8.0
Regulated Ovens system	26.7	7.8	16.0

SCHEDULE 3: METHOD FOR DETERMINING THE VICTORIAN RESERVE (clause 8.4)

1. In making seasonal determinations for the Murray System, the resource manager must set aside an early reserve each year to improve the early season water allocation in the subsequent year in accordance with the following method:
 - (a) when the seasonal determination reaches 30% of high-reliability entitlements, half of the resource improvement will be used to further increase the water allocation in the current (first) year, while the other half must be set in reserve for the subsequent (second) year;
 - (b) when the volume in early reserve reaches 218 GL, all resource improvement will be used to further increase the water allocation in the current year up to 100% of high-reliability entitlements.
2. When Victoria has sufficient resources to meet 100% of the high-reliability entitlements in the current year, any additional resource improvement is set aside together with water reserved in accordance with clause 1 until the total volume of the reserve is sufficient to deliver a water allocation of 100% of high-reliability entitlements in the subsequent year.
3. The method for determining the reserve once seasonal determinations for high-reliability entitlements in the current year are 100% is set out in paragraph 5, and is calculated as the amount of resources Victoria could divert in the current year and still meet high-reliability entitlements in the following year, using the allocations to Victoria that the MDBA would make over a planning period to the end of May in the following year if the MDBA used estimates of inflows that have a 99% probability of being exceeded, both over the two-year period and in the second year by itself.
4. Once there is sufficient resource to ensure the current and following years' high-reliability entitlements are met, any additional resource will be allocated to meet low-reliability entitlements in the current year up to a maximum determination of 100% of these entitlements. When sufficient resources have been allocated to meet these entitlements any additional resource will be carried over for use in the following year.

5. Method

The resources Victoria could divert in the current year (item L plus item M) are derived from a water balance over two years, involving items A to Z, such that there is just enough water to meet high-reliability entitlements fully in the second year.

FIRST YEAR ASSESSMENT – from current month to end of May

- A. Victoria's share of current volume in store in Dartmouth, Hume, L Victoria and Menindee Lakes, less dead storage.
- B. plus Victoria's share of useful MDBA inflows to May this year, including transfers from the Snowy.

These inflows are the 99% probability of exceedance inflows for the two years to May of the second year, minus the 99% probability of exceedance inflows for the second year, to May. For Menindee, just water in transit. Add the minimum

Snowy transfers for the first year. Spills from storages which cannot be used are not counted.

- C. plus the change in water in transit.
- D. minus Victoria's share of MDBA losses to May in the first year – evaporation from storages and transmission losses.
- E. minus Victoria's contribution to South Australian dilution flow in the first year.
- F. minus water spilt into NSW's share of storages, ceded, or traded.
- G. minus any water taken out for Lindsay or Barmah.
- H. plus the useful Victorian tributary inflow.

This is the portion of estimated drought inflows to the Murray from the Ovens R, Goulburn R Broken Ck, Loddon R, Campaspe R and Barr Ck that can be harvested to the end of May in the first year.

- I. minus Victoria's share of South Australian non-dilution entitlement in the first year.
- J. plus Victoria's diversion since July.
- K. to get **Victorian resources in the first year.**

This is the allocation that MDBA would make to Victoria if it assumed the inflows under B, except that the minimum reserve has not been subtracted.

- L. minus the water required to meet Murray entitlements in the first year other than those in Schedule 1, including:
 - Barmah/Millewa forest water and any saved Lindsay water
 - additional distribution loss in particular years, c.13
 - supplement to the Broken Creek part of Murray Valley, c.8.1(c)(ii)
- M. minus **the resources Victoria could divert to meet all Schedule 1 entitlements in the first year and the volume in the early reserve. This is determined by trial and error so that second year carryover (item Z) is not negative.**

The minimum volume equates to 100% of high-reliability entitlements and the maximum equates to 100% of high-reliability plus 100% of low-reliability entitlements. It may be limited by availability of water in Lakes Hume and Dartmouth as opposed to Menindee Lakes and Lake Victoria, or by maximum possible usage for the rest of the year.

- N. to get **the Victorian reserve at the end of the first year.**

It is also the starting resource for the second year.

SECOND YEAR ASSESSMENT – from June in second year to end of May

- O. plus Victoria's share of MDBA inflows for next year, including transfers from the Snowy.

These inflows are the 99% probability of exceedance inflows for the 12 months from June to May in the second year. For Menindee, zero. Add the minimum Snowy transfers in the second year.

- P. plus the change in water in transit.
- Q. minus Victoria's share of MDBA losses for the second year – evaporation from storages and transmission losses.
- R. minus Victoria's contribution to South Australian dilution flow in the second year.
- S. minus water spilt into NSW's share of storages, ceded, or traded.
- T. minus any water taken out for Lindsay or Barmah.
- U. plus the useful Victorian tributary inflow.

This is the portion of estimated drought inflows to the Murray from the Ovens R, Goulburn R Broken Ck, Loddon R, Campaspe R and Barr Ck that can be harvested in the second year.

- V. minus Victoria's share of South Australian non-dilution entitlement, second year.
- W. to get **Victorian resources in the second year.**

This is the allocation that MDBA would make to Victoria if it assumed the inflows under O, except that the minimum reserve has not been subtracted.

- X. minus the water required to meet Murray entitlements in the second year other than those in Schedule 1, including Barmah/Millewa forest water and any saved Lindsay water.
- Y. minus **the water required to meet high-reliability entitlements (those in Table 1 of Schedule 1) in the second year.**
- Z. to get **the Victorian carryover at the end of May in the second year.**

There should be no carryover until all Schedule 1 entitlements in the first year are fully met (item M). If the carryover is negative, then the value in item M should be reduced – or if it is at its minimum value, the two year assessment is not applicable and a one year assessment in accordance with sub-clause 8.2 should be used.

SCHEDULE 3A: FLOW MONITORING POINTS

Monitoring point
Broken Creek: Rice's Weir
Gunbower: Torrumbarry
Barmah: as nominated by the MDBA
Lindsay Wallpolla: Wentworth Lock 9
Hattah: Chalka Creek
South Australian/Victorian Border

SCHEDULE 4:

*

*

*

*

*

SCHEDULE 5: QUANTIFICATION OF ENTITLEMENT

Table 1- Volume of Flora and Fauna environmental entitlement

Program / Source	Volume (ML)			Comment
	High-reliability	Low-reliability	Unregulated flow	
Flora and Fauna entitlement	28,846	1,292	0.0	Trading zone 7
	763	2,524	0.0	Trading zone 6
	174	77	0.0	Trading zone 6B
Victorian unregulated flow entitlement	0.0	0.0	40,000.0	Unregulated Flow entitlement Recognises historic use River Murray system Carryover does not apply
Goulburn-Murray Water Connections Project	0.0	0.0	9,000.0	Unregulated Flow entitlement River Murray downstream of Goulburn River confluence Carryover does not apply
Goulburn-Murray Water Connections Project	3,903.9	0	0	Trading zone 6
Goulburn-Murray Water Connections Project	11,885.0	1,966.5	0	Trading zone 7
TOTALS	45,571.9	5859.5	49,000.0	

Table 2 – Volume of Living Murray entitlement

Program / Source	Volume (ML)			Comment
	High-reliability	Low-reliability	Unregulated flow	
Living Murray water / Torrumbarry Irrigation Area	0	58,537	0	Low-reliability entitlement River Murray system - below Choke Valley Cap applies
Living Murray water / Murray Valley Irrigation Area	0	40,298.3	0	Low-reliability entitlement River Murray system - above Choke Valley Cap applies
Living Murray water / Broken Creek	0	3,014.6	0	Low-reliability entitlement Broken Creek system Valley Cap applies
Living Murray water / Torrumbarry Irrigation Area	2,080	0	0	High-reliability entitlement River Murray system - below Choke

Living Murray water / Murray Valley Irrigation Area	3,630	0	0	High-reliability entitlement River Murray system - above Choke
Living Murray water / Murray Valley Irrigation Area	3,879	0	0	High-reliability entitlement River Murray system - above Choke Extended Use Account does not apply
Living Murray unregulated flow entitlement	0	0	34,300	Unregulated Flow entitlement River Murray downstream of Goulburn River confluence Extended Use Account and carryover do not apply
TOTALS	9,589	101,850	34,300	

Table 3 – Volumes available under the Valley Cap under different water allocation scenarios

Allocation to low-reliability water shares	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Valley Cap Volume (in that year)	4320	8639	12959	17278	21598	25918	30237	34557	38876	43196

Rules for the operation of the Valley Cap

- The Valley Cap is a maximum limit on the amount of water that can be taken under the Living Murray entitlement in any one year, and only applies to the Living Murray entitlement.
- The volume of water available under the low-reliability component of the Living Murray entitlement in any one year will be the lesser of :
 - the amount of water allocated under the entitlement in that year (including water in the Extended Use Account); and
 - the amount determined by applying the Valley Cap (including any amounts carried over from the previous years).
- The Valley Cap is climatically variable, so that the amount available under the Valley Cap in any one year will vary according to the amount of water available to be allocated to low-reliability water shares as specified in Table 2 in that year.
- Where the water taken under the Living Murray entitlement in any one year is less than the amount of the Valley Cap in that year, the Valley Cap is increased by the unused portion in the subsequent year.
- The total amount available under the Valley Cap in any one year may be more than the amount specified in Table 2, because amounts accumulated in previous years can be added to the amount available in that one year.

SCHEDULE 6 OPERATING RULES FOR THE BARMAH-MILLEWA FOREST ENVIRONMENTAL WATER ALLOCATION

DEFINITIONS

In this Schedule:

“**Basin Plan**” means the *Basin Plan 2012* (Commonwealth);

“**BMFEWA**” means the Barmah-Millewa Forest Environmental Water Allocation;

(Note that each State has its own individual BMFEWA account)

“**General Security**” means a category of access licence referred to under section 57 of the *Water Management Act 2000* (NSW);

“**High Reliability Water Share**” means a class of Victorian water share defined by how often full seasonal allocation is expected to be available. Allocations are made to High Reliability Water Shares before Low Reliability Water Shares;

“**Manager of the BMFEWA**” means the State department or agency whose responsibility it is to manage licensed environmental water that is held by that State (that is, the NSW Department of Planning, Industry and Environment – Environment, Energy and Science; and the Victorian Environmental Water Holder);

“**MDB Agreement**” means the Murray-Darling Basin Agreement, as amended from time to time in accordance with that agreement and as set out in Schedule 1 to the *Water Act 2007* (Commonwealth);

“**Objectives and Outcomes document**” means the document *Objectives and outcomes for river operations in the River Murray System*, as approved by the Basin Officials Committee in accordance with clause 31 of the MDB Agreement, which sets out the objectives and outcomes for operating the River Murray System;

“**Operator**” means the operator of the River Murray System (that is, the Murray-Darling Basin Authority – River Operations);

“**State**” means either the State of New South Wales (NSW) or Victoria;

“**Water Resource Manager**” means the State department or agency who is responsible for determining state water allocations in the Murray System (that is, Goulburn-Murray Water in Victoria and the NSW Department of Planning, Industry and Environment – Water in NSW);

“**water year**” means any period of 12 calendar months beginning on 1 July in any year and ending on 30 June in the following year.

BMFEWA OPERATING RULES

1. Allocation

1.1 Credit of allocation to the BMFEWA

Annual allocations credited to the BMFEWA are supplied half each by New South Wales and Victoria. The total annual maximum allocation creditable consists of two components:

- (a) a 100 GL high-security allocation; and
- (b) a 50 GL lower-security allocation.

1.2 High-security allocation

The BMFEWA account for each State is credited 0.5 GL for each 1 per cent increase in the seasonal determination of High Reliability Water Shares in the Victorian Murray System, up to a maximum credit of 50 GL to each State's BMFEWA.

1.3 Lower-security allocation

Lower-security allocations are made according to the triggers shown in Table 1 below. The triggers refer to the total natural inflow to Hume Reservoir calculated over the preceding period specified in the table for each assessment date. The lower-security water allocation is credited to the BMFEWA account in its entirety when a trigger is exceeded (apart from 1 July, which is preliminary only – see sub-clause 1.4). The credit is shared equally between NSW and Victoria, resulting in a credit of 25 GL to each State's BMFEWA account (*see explanatory note 1.3*).

Table 1: Exogenous triggers for lower-security allocation

Assessment date	Period preceding assessment date (months)	Trigger (GL)
1 July*	30	8,650
1 August	31	8,988
1 September	32	9,243
1 October	33	9,253
1 November	34	9,267
1 December	35	9,280

*Preliminary only (*see sub-clause 1.4*)

1.4 Timing of lower-security allocation

Allocations are made at the start of the month based on inflows for the preceding months as prescribed in Table 1. Any lower-security allocation made in July is preliminary only and is made to ensure that sufficient resources are reserved for a subsequent formal allocation. If the trigger is exceeded only in July, then no lower-security allocation is made. However, if the trigger is exceeded in any of the months from 1 August to 1 December, the allocation is made even if the trigger is exceeded in only one month.

1.5 Allocation limit

Any allocation increase to a State's individual BMFEWA account is limited to the volume that will bring each State's share of the BMFEWA account to 350 GL (*see explanatory note 1.5*).

2. Carryover

Subject to the limit in sub-clause 1.5, the unused water in the BMFEWA account will be carried over from one water year to the next.

3. Overdraw

The BMFEWA can be overdrawn by up to 100 GL (50 GL from each State) to ensure adequate water is available for forest watering, provided a State has sufficient reserves. A State may overdraw independently. An overdraw will forfeit credits to the BMFEWA that occur in the water years following the water year in which the overdraw occurs until the volume of forfeited credits reaches the overdraw amount (*see explanatory 3*).

4. Evaporation loss

The BMFEWA is reduced by evaporation. The evaporation loss to be applied to the BMFEWA is determined as a fraction of the total loss from the Hume and Dartmouth Reservoirs. The fraction of the evaporation loss to be attributed to the BMFEWA is calculated as the non-borrowed, carried-over component of the BMFEWA divided by the total storage in the two reservoirs. BMFEWA evaporation losses will be shared pro-rata between each State's share of the non-borrowed, carried-over components of the BMFEWA. If applying an evaporation loss to a State's share of the BMFEWA account will result in it going negative, the account will be reduced to nil (*see explanatory note 4*).

5. Borrow and payback

5.1 Borrow and payback triggers

Each State's share of the BMFEWA can be borrowed for consumptive use by that State, subject to the following rules:

- (a) each State can borrow that volume of water necessary to increase its allocation to its target allocation; and
- (b) water borrowed is paid back when it is no longer required to supply the target allocation (*see sub-clause 5.2*); and
- (c) an amount of up to 10 GL each year that may be required by the Victorian Environmental Water Holder for low-level watering is not available for borrowing.

(See explanatory note 5.1)

5.2 Target allocation

The target allocation for Victoria is 100 per cent of Victorian Murray High Reliability Water Share. The target allocation for New South Wales is normally 30 per cent of NSW Murray General Security allocation but this can be increased to 50 per cent under exceptional circumstances (*see sub-clause 5.3*).

5.3 NSW exceptional circumstances

In NSW, exceptional circumstances is defined to arise when the average NSW Murray General Security end of November allocation (including carryover) for the four years up to and including the current water year would otherwise have been less than 50 per cent. However, exceptional circumstances cannot be declared in consecutive years (*see explanatory note 5.3*).

5.4 Forest watering while borrowing

The non-borrowed component of the BMFEWA can be released for delivery even if there is a component of the BMFEWA which remains borrowed.

5.5 Borrowing in the fifth year of drought

Each State will consider, consult and give reasons before making a decision to borrow water in the fifth year of drought when a release might be made under sub-clause 8.2 of these rules (*see explanatory note 5.5*).

5.6 Borrowing for other environmental purposes

If the relevant Water Resource Manager agrees, a State may borrow from their respective share of the BMFEWA for other environmental purposes provided that:

- (a) the required water has not already been borrowed for consumptive use;
- (b) the Operator is notified and given the necessary information and time to assess the proposal and to make representations to the Water Resource Managers before the decision to borrow proceeds;
- (c) water is not required in that year by the Barmah-Millewa Forest, as determined by the Managers of the BMFEWA; and
- (d) the required water can be repaid at the start of the following water year (*see explanatory note 5.6*).

6. Spillage

6.1 Priority of spills

When Hume Reservoir physically spills, water will first spill from South Australia's storage right, then from other spillable accounts in accordance with State arrangements (*see explanatory note 6.1*).

6.2 Spillage limit

A State's share of the BMFEWA cannot spill below 100 GL plus an additional volume if water was borrowed by the State in the previous year. This additional volume is equal to the maximum borrowed by that State in the previous year excluding water borrowed under sub-clause 5.6 and is limited to 100 GL for each State (*see explanatory note 6.2*).

6.3 Account imbalances

If the States' shares of the BMFEWA are unequal when the account spills, water spills first from the State with the bigger account until the States' accounts are in balance. Spillage for each individual State's BMFEWA account continues until each individual State's spillage limit is reached.

7. Internal spills

Each State's share of the BMFEWA is stored on their respective sides of the storages. The States' shares of the BMFEWA will not be affected by internal spills in Hume or Dartmouth.

8. Release triggers

8.1 Trigger flows

- (a) Subject to clause 10, releases are made from the BMFEWA under the trigger flow conditions specified in sub-clauses 8.2 to 8.5.
- (b) The trigger flows are the monthly flows in the River Murray downstream of the Yarrawonga Weir in the preceding months. In interpreting these triggers, the usable component of the BMFEWA is defined as the total allocation credited to the BMFEWA, less twice the volume borrowed by the State with the highest borrow. A four-month flood is defined as four consecutive months in the period June to December (inclusive) where the monthly flow downstream of Yarrawonga is at least:
 - 500 GL/month for June, July, August, September, October and November; and
 - 400 GL/month for December.

8.2 October release for a five-year drought

Releases are triggered in October if the four previous years, as well as the current year, have passed with no release under clause 8 or without a four-month flood.

8.3 October release following a September flow

Releases are triggered in October if the September flow exceeded 500 GL/month, the usable component of the account is ≥ 400 GL, and a four-month flood has not already occurred in the current year.

8.4 November release following an October flow

Releases are triggered in November if the October flow exceeded 500 GL/month, the usable component of the account is ≥ 400 GL, and a four-month flood has not already occurred in the current year.

8.5 December release

Releases are triggered in December if the flow exceeded 500 GL/month for both October and November, and a four-month flood has not already occurred in the current year.

9. Release targets

9.1 Target flows

Subject to clause 10, releases for the Barmah-Millewa Forest will attempt to achieve the target flows downstream of the Yarrawonga Weir specified in sub-clauses 9.2 and 9.3.

9.2 Normal target flows

The normal target flows downstream of the Yarrawonga Weir are 500 GL/month for October and November, and 400 GL/month for December.

9.3 Special target flows

Except for releases triggered under sub-clause 8.2, if three years pass with no flow of ≥ 660 GL/month in any one month from August to November, then the target flow is increased from 500 GL/month to 660 GL/month at Yarrawonga:

- (a) for October if a release starts in October; or
- (b) for November if a release starts in November (*see explanatory note 9.3*).

9.4 Reduction of target flows for fifth year drought

The targets for releases triggered under sub-clause 8.2 must be reduced if the flow in either October or November is less than 300 GL/month.

10. Amendment of release triggers and targets

These operating practices for making releases (clauses 8 and 9) can be varied from time to time to improve environmental outcomes:

- (a) in a given year by agreement between the Managers of the BMFEWA in consultation with Water Resource Managers in the States, and in consultation with the Operator, or
- (b) as a permanent change to a rule agreed between the States that is consistent with the Basin Plan and MDB Agreement. Any such permanent change will be subject to each States' legislative amendment process (*see explanatory note 10*).

11. Accounting for releases

11.1 Accounting for releases from the BMFEWA

Releases from the BMFEWA are calculated as the difference between the releases from Hume Dam to meet the target flows required under clause 9 and the releases that would have been made to meet all other requirements (*see explanatory note 11.1*).

11.2 Sharing of releases between the States

Until one State's ability to release is exhausted, releases are shared between the States in amounts which tend most to equalise the States' remaining Barmah-Millewa Forest environmental water accounts (including water that has been borrowed). When one State's ability to release is exhausted, water can continue to be released from the other State's account.

A State's ability to release water is exhausted if:

- (a) all its remaining account has been borrowed; or
- (b) its account is empty and its overdraw limit (being the maximum permitted volume for overdraw, as specified in clause 3) has been reached (*see explanatory note 11.2*).

11.3 Use of returning flows

BMFEWA water, leaving the forest and returning to the upper River Murray, is not protected as it passes downstream and can be used by NSW and Victoria according to the MDB Agreement.

12. Barmah-Millewa Forest EWA and special accounting

For the purposes of special accounting under the MDB Agreement, the BMFEWA will be treated in accordance with the Objectives and Outcomes document.

Appendix to Schedule 6 – Explanatory Notes

Additional information required for some clauses of the BMFEWA Operating Rules is provided below as explanatory notes.

1.3 Lower-security allocation

Hume natural inflows are the inflow that would have occurred to Hume Reservoir but for the influence of the Dartmouth Dam and the Snowy Scheme, inflows to the Hume Reservoir are calculated by water balance and are adjusted for the net impact of the Snowy Scheme and the impoundments and losses in Dartmouth.

If the cumulative Hume natural inflows for the past 31 months at 1 August exceed 8988 GL, then a lower-security allocation of 50 GL is made. If the inflow is less than this trigger volume, then no allocation is made this month but it may be made in subsequent months if inflows increase and the corresponding trigger in those months is exceeded.

1.5 Allocation limit

The BMFEWA can contain a maximum of 700 GL at any time. This limits each State's share of the account to a maximum of 350 GL. When any new allocation is added to the account, the credited volume is limited to the volume that will bring each State's share of the account to 350 GL. Once an allocation has been made, water not credited because of the 350 GL limit is not available for topping up the BMFEWA later in the season.

3. Overdraw

Each State can independently overdraw a maximum of 50 GL irrespective of whether the other State is overdrawing. Provision of overdraw allows each State to bring their next year's allocation forward on the basis of a pro-rata share of reserve so that the BMFEWA can be released in the current year. For this to occur, a State must have sufficient water in reserve (excluding the BMFEWA and the mandatory reserve) for the BMFEWA to be overdrawn without affecting the current year's or next year's allocation for other users.

For NSW to have sufficient reserves, it must have made a General Security allocation of 100 per cent. For Victoria to have sufficient reserves for maximum overdraw, it must have made an allocation greater than 100 per cent of High Reliability Water Share.

Decisions to overdraw will be made by the relevant State member of Basin Officials Committee, informed by advice from the relevant State Managers of the BMFEWA and Water Resource Managers.

4. Evaporation loss

Evaporation losses from BMFEWA are calculated on the basis of pro-rata losses from the volume of the Hume and Dartmouth reservoirs at the end of the month.

The loss adjustment in any month will be the total net evaporation from the Hume and Dartmouth reservoirs divided by the total storage volume in Hume and Dartmouth and multiplied by "the water volume of the BMFEWA less the water borrowed less the water credited to the account in the current year".

For example, for a given month if Hume storage = 1600 GL, Dartmouth storage = 2200 GL, Hume evaporation loss = 18 GL, Dartmouth evaporation loss = 12 GL, BMFEWA = 550 GL (NSW = 240 GL, Victoria = 310 GL), Borrow from the BMFEWA = 20 GL (NSW = 13 GL, Victoria = 7 GL) and the current year's allocation to the BMFEWA = 150 GL (75 GL from each State), then the BMFEWA losses for that month = $(550-20-150) \times (18+12) / (1600+2200) = 3$ GL.

This is calculated as follows:

$$BM_{Loss} = \frac{(Hume_{Loss} + Dartmouth_{Loss}) \times \text{Max}(0, BM_{EWA} - BM_{Borrow} - BM_{CurrentYearAllocation})}{(Hume_{Storage} + Dartmouth_{Storage})}$$

Evaporation losses are shared pro-rata between each State's share of the non-borrowed, carried-over components of the BMFEWA except when a State's share of the account is negative. A State's share of evaporation becomes nil when a State's share of the account is negative. For each State, pro-rata loss is calculated as follows:

$$BM_{Loss}(VIC) = BM_{Loss} \times \frac{(VIC_{EWA} - VIC_{Borrow} - VIC_{CurrentYearAllocation})}{\text{Max}(0.001, BM_{EWA} - BM_{Borrow} - BM_{CurrentYearAllocation})}$$

$$BM_{Loss}(NSW) = BM_{Loss} \times \frac{(NSW_{EWA} - NSW_{Borrow} - NSW_{CurrentYearAllocation})}{\text{Max}(0.001, BM_{EWA} - BM_{Borrow} - BM_{CurrentYearAllocation})}$$

In the above example, evaporation loss for NSW's share of the account would be $3 \times (240-13-75) / (550-20-150) = 3 \times 0.40 = 1.20$ GL and for Victorian share of the account would be:

$$3 \times (310-7-75) / (550-20-150) = 3 \times 0.60 = 1.80 \text{ GL.}$$

5.1 Borrow and payback triggers

Decisions to borrow under this clause are expected to be made by the relevant State Water Resource Manager.

The 10 GL set aside under sub-clause 5.1(c) may be used by the Victorian Environmental Water Holder for low-level watering when there is a shortage of access to other environmental water. This is intended to be used under exceptional circumstances with the support of Victoria's Basin Officials Committee member.

5.3 NSW exceptional circumstances

For the purpose of defining *NSW exceptional circumstances*, the four-year average November allocation for NSW is calculated as the sum of the November General Security allocation and the November carryover (expressed as a percentage) for the last three years plus the carryover for current year (expressed as a percentage) and projected General Security allocation in November for the current year, all divided by four. This can be mathematically expressed as follows:

$$\frac{\sum_{i=1}^3 (Carryover_{Nov, year i} + GenSecAllocation_{Nov, year i}) + Carryover_{current year} + ProjectedGenSecAllocation_{Nov, current year}}{4}$$

If this four-year average November allocation is less than 50 per cent, NSW is considered to be under exceptional circumstances for the purpose of managing the BMFEWA.

5.5 Borrowing in the fifth year of a drought

Prior to making a decision to borrow in the fifth year of a drought, the States must consult with each other and document why they decided to borrow or not borrow. The decision remains an individual State decision. Subject to any State specified obligations, it is expected this decision be made by the relevant State member of Basin Officials Committee with advice from State Water Resource Managers and Managers of the BMFEWA.

5.6 Borrowing for other environmental purposes

Prior to any borrowing for other environmental purposes, Managers of the BMFEWA must agree to the terms of the borrow and payback with the relevant State Water Resource Manager.

6.1 Priority of spills

Victoria and NSW have different entitlements that can be debited for physical spills from Hume Dam. Consequently, the priority order of spilling will differ slightly in each State. Each State's order of priority for physical spills may be specified in State instruments, however, these are expected to reflect previous commitments that eligible BMFEWA spills after any eligible River Murray Increased Flows and before any consumptive water eligible for spilling.

Based on current State arrangements, when Hume Reservoir physically spills, and after debits are made to any volumes of South Australia's Storage Right in accordance with the Agreement, the applicable State accounts will be debited for spills in the following order:

Priority of debits when Hume Reservoir spills	Applicable to	
	VIC	NSW
1. Any River Murray Increased Flows eligible for spill	Y	Y
2. NSW Murray Additional Allowance carried over from the previous year	N	Y
3. BMFEWA carried over from the previous year	Y	Y
4. In equal proportions, credits made in the current year to NSW Murray Additional Allowance and BMFEWA subject to the volume of BMFEWA being no less than the sum of 100 GL and any volumes borrowed for consumptive purposes in the previous year	Y*	Y
5. Any remaining water in either the NSW Murray Additional Allowance and BMFEWA subject to the volume of BMFEWA being no less than the sum of 100 GL and any volumes borrowed for consumptive purposes in the previous year	Y*	Y
6. Victorian accounts that are subject to spill	Y	N

**The NSW Murray Additional Allowance applies only to NSW, so for Victoria these spills are debited exclusively from the BMFEWA.*

6.2 Spillage limit

When BMFEWA spills following the Hume spills, a State's share of the BMFEWA spills down to a limit of 100 GL if that State has not borrowed any water in the previous year. If a State has borrowed in the previous year, the spillage limit for that State is increased by its maximum borrow until it reaches 200 GL.

For example, if a State has borrowed more than 100 GL in the previous year, this State's BMFEWA account spills down to 200 GL rather than 100 GL. If the other State did not borrow in the previous year, its share of the account will spill down to 100 GL.

9.3 Special target flows

Special target flow of 660 GL applies for one month only. The special target flow is not tried in November if an attempt was already made in October to achieve the special target, irrespective of the success or failure. However, if the flood is initiated in November, the special target is attempted in November.

In the fifth year of drought, special targets are often not met because of limited water resource availability due to a long dry spell. For this reason, the special target flow of 660 GL is not attempted during the fifth-year flooding.

10. Amendment of release triggers and targets

A permanent change to the release triggers and/or targets should involve a review of the long-term impacts, taking into account clause 10.28 of the Basin Plan ('No net reduction in the protection of planned environmental water') and clause 49 of the MDB Agreement ('Authority to be Informed of New Proposals'). All relevant Water Resource Plans need to be updated as per clause 10.09 of the Basin Plan ('Identification of planned environmental water and register of held environmental water').

It is acknowledged that any proposal for permanent change could not be implemented in Victoria unless it was able to be reflected in Bulk Entitlement instruments for which change is subject to a regulated process under the *Water Act 1989*.

Permanent changes should be incorporated into this document, and details of the changes added to the revision history in ***Error! Reference source not found.***, Appendix A.

11.1 Accounting for releases from the BMFEWA

The following example illustrates how releases from the BMFEWA and other Directed Releases from Hume Dam are accounted, however more detailed information is included in the RMS Environmental Watering Manual and the Objectives and Outcomes document for the River Murray System.

Assume that a total volume of 300 GL was released from Hume Reservoir to meet the target flows at Yarrawonga for Barmah-Millewa flooding. If a release of 200 GL was required to meet the downstream requirements for irrigators, other environmental sites and SA supply, then releases from the BMFEWA (or another appropriate environmental account) would be 300 GL - 200 GL = 100 GL. This is because the downstream demand of 200 GL would have been released anyway even if Forest flooding had not been initiated.

11.2 Sharing of releases between States

Examples given in *Table 2* illustrate the sharing of the BMFEWA releases between States.

Table 2: Examples of sharing of BMFEWA releases between States

	NSW (GL)	Victoria (GL)
Initial Account	300	200
Borrowed Water	100	0
Available Overdraw	0	50
Example 1: Sharing a release of 100 GL		
Releases	100	0
Final account	200	200
Example 2: Sharing a release of 300 GL		
Releases	200	100
Final account	100	100
Example 3: Sharing a release of 400 GL		
Releases	200	200
Final account	100	0
<i>Note: Borrowed water cannot be released</i>		
Example 4: Sharing a release of 450 GL		
Releases	200	250
Final account	100	-50
<i>Note: States may have different overdraws</i>		

Note: Final account = Initial account - Releases

**SCHEDULE 7: GOULBURN-MURRAY WATER CONNECTIONS PROJECT
ENTITLEMENT**

*

*

*

*

*

APPENDIX 1

Below is a list of all the amendments made to the **Bulk Entitlement (River Murray – Flora and Fauna) Conversion Order 1999** under Division 1 of Part 4 of the Act to date. A summary of the purpose of each amendment and details about which sections were changed in each case is provided below.

Additional information on Bulk and Environmental Entitlement can be accessed from the Victorian Water Register website at <http://waterregister.vic.gov.au/water-entitlements/bulk-entitlements> or by contacting the Department of Environment and Primary Industries Customer Service Centre on 136 186.

Government Gazette details	Amendment citation and summary of changes
G3 20 January 2005	<p>Bulk Entitlement (River Murray – Flora and Fauna) Conversion Amendment Order 2005</p> <p><i>Purpose:</i> To reflect the merger of Sunraysia Rural Water Authority and Lower Murray Water Authority; to reflect the merger for Wimmera Mallee Rural Water Authority and Grampians Region Water Authority; to reflect water savings which have been realised from the recent commissioning of a pipeline to supply to the Woorinen Irrigation District from the River Murray and from the Improved Measurement of Small Volume Supplies in Irrigation Districts (IMSVID) Water Savings Project; and to enable the appropriate accounting of these savings to provide increased environmental flows.</p> <p><i>Amendments:</i> Substituted: 4, 11.1(b), Schedule 1 Inserted: 8.1(b)(iv), 12(d)(iv), 13.2(f)</p>
G 6 8 February 2007	<p>Bulk Entitlement (River Murray – Flora and Fauna) Conversion Further Amendment Order 2006</p> <p><i>Purpose:</i> To amend the Bulk Entitlement to change the streamflow value of 1,000 ML on the Loddon River at Appin South specified in sub-clause 13.1(b) of the Bulk Entitlement Order, to 2,100 ML as a result of the changed flow regime due to increased environmental flow requirements specified in the Bulk Entitlement (Loddon River – Environmental Reserve) Order 2005.</p> <p><i>Amendments:</i> Substituted: 13.3(b)</p>
G26 28 June 2007	<p>Bulk Entitlement (River Murray – Flora and Fauna) Conversion Amending Notice 2007</p> <p><i>Purpose:</i> To amend the Bulk Entitlement as a consequence of the Murray water system becoming a declared water system, the consequences of which include certain rights to water being converted into new entitlements, including a new entitlement to meet Victoria's Living Murray water obligations.</p> <p><i>Amendments:</i> Substituted: 4, 6.1, 7.1, 8.1, 8.1(b)(iii), 8.1(b)(iv), 10.1, 10.2, 10.3, 10.4, 10.6(c), 12, 12(d)(iii), 12(d)(iv), 12(e), 12(e)(i), 12(e)(ii), 12(e)(iii), 12(f), 12(g), 15.1, 15.2, 16.1, 20.1(g), 23.1(a), 24.1(a), 24.1(k), 24.2, Schedule 1, Schedule 5</p>

Government Gazette details	Amendment citation and summary of changes
	<p>Inserted: 4A, 4B, 6.4, 6.5, 12(d)(v), 14A, 14B, 14C, 14D, 14E, 14F, 14G, 14H, 20.1(ia), 24.1A, Schedule 3A, Schedule 6</p> <p>Repealed: 6.1(c), 8.1(b)(ii), 12(d)(ii), 12(h), 14, 16.2(e)</p>
<p>G29 16 July 2009</p>	<p>Bulk Entitlement (River Murray – Flora and Fauna) Amending Order 2009</p> <p><i>Purpose:</i> To amend the bulk entitlement as a consequence of water savings being transferred from Goulburn-Murray Water to a new environmental entitlement to meet Victoria’s Living Murray Water obligations.</p> <p><i>Amendments:</i> Substituted: 4, 6.1(b), Schedule 1, Schedule 5</p>
<p>G48 26 November 2009</p>	<p>Bulk Entitlement (River Murray – Flora and Fauna) Conversion Further Amending Order 2009</p> <p><i>Purpose:</i> To amend the bulk entitlement to reflect the revised water sharing arrangements in the Broken System as a result of decommissioning Lake Mokoan and the creation of an unregulated entitlement for the River Murray of 34.3 GL and a high-reliability water entitlement for the Snowy River of 22.1 GL.</p> <p><i>Amendments:</i> Substituted: 4, 6.1(b)(ii), 6.1(b)(iii) 7.2, 8.1, 10.2(b), 10.6(c), 11.3(a)(ii), 11.3(a)(iii), 11.3(c), 11.6(a), 12, 12(d)(iii), 12(e)(ii), 12(e)(iii), 12(f), 12(g), 13.1(a)(i), 13.2(a)(ii), 13.2(b)(i), 13.2(e), 14B.2(b), 16.1, 23.1(a), 24.1(j), 24.1(k), Schedule 1, Schedule 3, Schedule 3A, Schedule 4, Schedule 5, Schedule 6</p> <p>Repealed: 11.4, 12(d)(iv)</p> <p>Inserted: 6.1(b)(iv), 8A, 24.1(l)</p>
<p>G25 23 June 2011</p>	<p>Bulk Entitlement (River Murray – Flora and Fauna) Conversion Amending Order 2011</p> <p><i>Purpose:</i> To amend the bulk entitlement to include an unregulated flow entitlement for the environment in the River Murray in recognition of Victoria’s historic use of Murray unregulated flows for environmental watering. The development of this entitlement was an outcome of the Northern Region Sustainable Water Strategy (NRSWS)(2009)(Action 4.18).</p> <p><i>Amendments:</i> Substituted: 4, 6.1(a), 6.1(b)(ii), 6.1(b)(iv), 13.1(a), 13.1(b)(i), 14B.1, 14B.2(b), 14E, 15, 19(b), 20.1(a), 20.1(b), 20.3(c), 20.3(d), 20.1(f), Schedule 5</p> <p>Repealed: 14D, Schedule 4</p> <p>Inserted: 15A, 15B,</p>
<p>S206</p>	<p>Bulk Entitlement (River Murray – Flora and Fauna) VEWB Amendment 2011</p>

Government Gazette details	Amendment citation and summary of changes
29 June 2011	<p><i>Purpose:</i> To amend the bulk entitlement to make necessary changes as a result of the commencement of the Victorian Environmental Water Holder.</p> <p><i>Amendments:</i> Substituted: 4, 5, 19.1, 20.3, Schedule 1</p>
S249 1 July 2013	<p>Bulk Entitlement (River Murray – Flora and Fauna) Amendment Order 2013</p> <p><i>Purpose:</i> To amend the bulk entitlement allocate water recovered under Lower Murray Water’s Robinvale Irrigation System modernisation program (1,150 ML) and works undertaken by New South Wales as part of the Living Murray Initiative (3,879 LM). The amendment also includes changes resulting from implementation of Carryover Review 2012, including incorporation of the early reserve policy.</p> <p><i>Amendments:</i> Substituted: 8.1(d), Schedule 1, Schedule 3, Schedule 5 Inserted: 12(e)(iv)</p>
G23 5 June 2014	<p>Bulk Entitlement (River Murray – Flora and Fauna) Amendment Order 2014</p> <p><i>Purpose:</i> To amend the bulk entitlement to increase the entitlement to reflect water shares purchased to recover water for the environment, 1.032 GL of high-reliability and 3.894 GL of low reliability water shares, as part of the Shepparton Irrigation Area Modernisation Project and subsequently surrender. This order also formalises the Water Holder’s entitlement to River Murray Increased Flows.</p> <p><i>Amendments:</i> Substituted: 4, 6.1(a)(i), 6.1(b)(i), Schedule 1, Schedule 5 Repealed: 6.1(b)(ii) Inserted: 6.1(d), 15.4A, 15B.6, 15B.7</p>
S256 28 June 2019	<p>Bulk Entitlement (River Murray – Flora and Fauna) Amendment Order 2019</p> <p><i>Purpose:</i> To amend the bulk entitlement to allocate a 9 gigalitre unregulated flow component arising from the water recovery achieved by the removal of the Greens Lake storage from the regulated Goulburn System. This forms part of the environment’s share of the Goulburn-Murray Water Connections Project Stage 1.</p> <p><i>Amendments:</i> Substituted: 4, 15.3, 15.3(c), 15.4, Schedule 5 Inserted: 4, 6.1(a)(iii)</p>
	<p>Bulk Entitlement (River Murray – Flora and Fauna) Further Amendment Order 2019</p>

Government Gazette details	Amendment citation and summary of changes
<p>S256 28 June 2019</p>	<p><i>Purpose:</i> To amend the bulk entitlement to include water recovery from the Goulburn-Murray Water Connections Project Stage 1 and to add additional definitions.</p> <p><i>Amendments:</i> Substituted: 4, 15.1, 6.1(b)(i), 15.1 Inserted: 4, 6.1(e), 16A.1 16A.2, Schedule 7</p>
<p>G22 2 June 2022</p>	<p>Bulk Entitlement (River Murray Environmental Water Allocation Operating Rules) Minor Amendment Notice 2022</p> <p><i>Purpose:</i> The purpose of this Order is to make minor amendments required as a consequence of the Operating Rule Change to Use of the Barmah-Millewa Forest Environmental Water Allocation (BMFEWA) Sustainable Diversion Limit (SDL) adjustment project. This is one of eight operational rule change projects within the approved package of Sustainable Diversion Limit adjustment projects and is being jointly undertaken by Victoria and New South Wales with the support of the Murray-Darling Basin Authority and the other Basin States. The project involves changes to the BMFEWA release triggers to prevent a release being triggered if a four-month flood has already occurred. Amendments to the BMFEWA operating rules contained in Schedule 6 to the Order are required as a consequence of this.</p> <p>In addition, a number of other minor changes are being incorporated into the operating rules in the Orders. The most significant of these changes is to reflect the shift of responsibility for BMFEWA-related decision making from the Murray-Darling Basin Commission (now the Murray-Darling Basin Authority) to Victoria and New South Wales. In the process of redrafting the operating rules, further clarification to the existing rules is also being provided.</p> <p><i>Amendments:</i> Substituted: 10.7, Schedule 6</p>
<p>G25 23 June 2022</p>	<p>Bulk Entitlement (River Murray – Flora and Fauna) Amendment Order 2022</p> <p><i>Purpose:</i> To amend the Bulk Entitlement (River Murray – Flora and Fauna) Conversion Order 1999 to ensure the volume of water entitlement issued to the Water Holder from the Connections Project match the commitments to return 279 GL to the environment. The changes are needed following a review of the entitlements issued to environmental beneficiaries because of changes to the long-term diversion limit equivalent factors updated in August 2019.</p> <p><i>Amendments:</i> Substituted: 4, 6.1(a), Table 1 of Schedule 5 Revoked: 6.1(e), 16A, Schedule 7</p>