

River Murray System Operational Update

May 2007 – Issue 3

Welcome to the third edition of the Murray-Darling Basin Commission's Operational Update for the River Murray System. These updates provide information on river operations and outlooks to fill the gap between our Drought Updates and Weekly Reports. They focus on critical aspects of river operations during the current drought. This Update includes operational plans to the end of May 2007.

In brief

Key developments since the last update are as follows:

- Every effort is being made to conserve water resources in upper storages for the next irrigation season – **particularly by reducing regulated flows along the River Murray to very low rates (at some locations, less than usual minimum flow);**
- Despite near average rain so far in 2007, inflows to the River Murray have remained at a record low;
- Storage reserves are at record low volumes for this time of year (post-Dartmouth);
- Weir pool levels will be maintained as far as possible near Full Supply Level.

Latest News

Reduction in Murray Flow

River flows along the River Murray downstream of Hume Dam have been reduced over recent weeks as water demands have declined. River levels are now much lower than usual for this time of year with the aim of conserving precious water resources in upper Murray storages for 2007/08.

Further reductions in releases from Hume Reservoir and Yarrawonga Weir may be implemented over the coming weeks. If tributary inflows remain low then river flows between Hume and Wentworth will gradually decline, at some locations to below the usual minimum flow rates.

The flow to South Australia has also been significantly reduced as it has already received most of its restricted entitlement for 2006/07.

Rain since January 2007

There were some reasonable falls of rain along the River Murray over the past few months. Falls in upper catchment areas have been near average, however, unregulated inflows to Hume and Dartmouth remain extremely low due to the effects of dry catchments. Inflow to the River Murray System (excluding Snowy Scheme

releases and Menindee Lakes inflows) in April was about 40 GL. This is a new record low for April with previous minimum being 68 GL in April 1923. There has now been 11 consecutive months of new minimum monthly inflows.

Improvements since January

The recent cooler conditions and rain have led to some improvements in storage volume. MDBC storage at the end of April 2007 is about 810 GL "gross" or 600 GL "active" (6.9% of active capacity), which is significantly more than previously anticipated. A large proportion of this increase is due to the early release of water from the Snowy Mountains Scheme that had been expected next season (2007/08), and will therefore not increase water availability for the Murray.

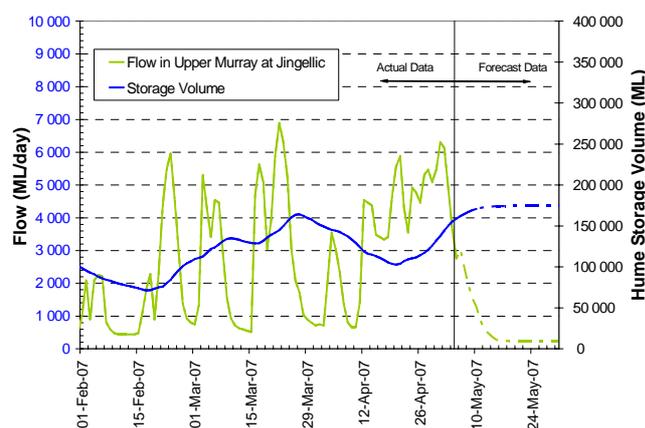
Total MDBC storage volume remains at a record low for the post-Dartmouth period, and compares with the two previous lowest levels as follows:

- 1 134 GL (active) in April 1983 (post-Dartmouth period) at the end of the 1982/83 drought; and
- 489 GL (active) in April 1968 (pre-Dartmouth) at the end of the 1967/68 drought.

The current low water reserve presents unprecedented challenges for river operation and consumptive and environmental users in 2007/08.

Storage in Hume Reservoir fell to a low point of 2.3% of capacity by mid February, but then increased to a temporary high of 5.4% by late March (see **Figure 1**). This temporary rise was mainly due to reduced release from Hume Dam (in response to reduced downstream losses and demand), in addition to increased release from the Snowy Mountains Scheme. Storage in Hume is now 5% of capacity, and is expected to rise over the coming months.

Figure 1. River Murray at Jingellic and Hume Storage (forecast is for continuing dry conditions)



The higher than expected release from the Snowy Mountains Scheme has also enabled the release from Dartmouth Reservoir to be reduced earlier than planned under the worst case scenario. Storage in Dartmouth Reservoir is now 462 GL (11.9 % capacity), about 200 GL higher than that forecast in December 2006.

Lake Victoria storage has gradually fallen to 225 GL (33% capacity) but with the recent rain it is expected to increase to 240 GL (36% capacity) over the coming weeks.

Outlook for May 2007

River Flows and Levels

Reduced water requirements have enabled the flow downstream of Hume Reservoir at Doctors Point to be reduced to the normal minimum of 1 200 ML/day, and it may be reduced further over the coming weeks (**Figure 2**). The release from Yarrowonga Weir has been gradually reduced to 2 300 ML/day and is expected to be reduced to 1 800 ML/day in the near future. The impacts of reducing below 1 800 ML/day are being explored.

During March and April, the flow downstream of Torrumbarry Weir varied between about 2 000 and 3 000 ML/day mainly as a result of fluctuations in the rate of diversion to National Channel upstream of the weir (**Figure 3**). It is expected to be reduced to about 1 500 ML/day during May if inflows remain low.

At Swan Hill, the river level is currently 0.76 m (gauge height) but if dry conditions follow, is forecast to fall below the usual target minimum level of 0.60 m by mid May. Recent rain has led to an increase in flow at Euston to 3 700 ML/day, however, without further significant rain, it is forecast to recede to about 1 500 ML/day by late May (see **Figure 4**).

On the Edward River, flow downstream of Stevens Weir is currently 450 ML/day but will be reduced to 200 ML/day during May. Flow into the Wakool River system was ceased on 30 April by the NSW Department of Natural Resources. NSW has also announced that release from Menindee Lakes to the lower Darling River has recently been reduced to zero in order to conserve resources in the lakes for local supplies and for Broken Hill.

In consultation with South Australia, and in line with managing that State's lower than usual water availability for 2006/07, flow to South Australia has been reduced from 6 900 ML/day in February to 2 000 ML/day by end of March (Figure 5). Flow was then further reduced to about 1 800 ML/day in early April, and is expected to be maintained at about this rate during May.

Further downstream, flow at Lock 1 declined from 5 400 ML/day in late January to 100 ML/day by mid April. The recent rain has temporarily increased the Lock 1 flow to 800 ML/day but it is forecast to gradually decline to about 300 ML/day.

Figure 2. Flow at Albury and Yarrowonga (forecast is for continuing dry conditions)

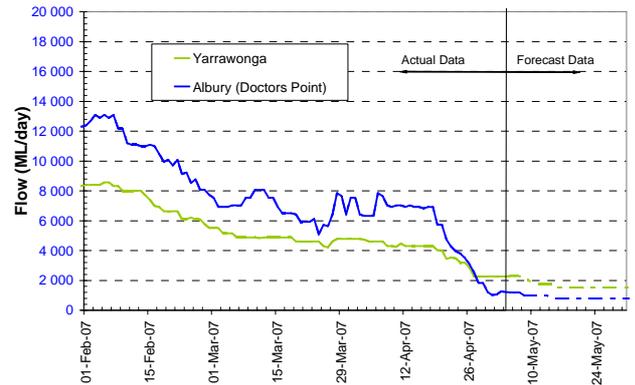


Figure 3. Flow at Barmah and Torrumbarry (forecast is for continuing dry conditions)

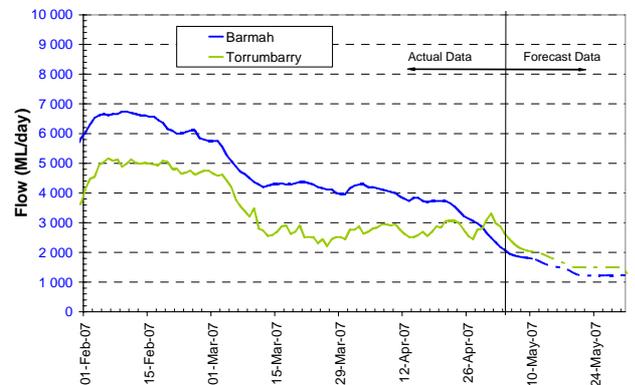


Figure 4. Flow at Euston and Wentworth (forecast is for continuing dry conditions)

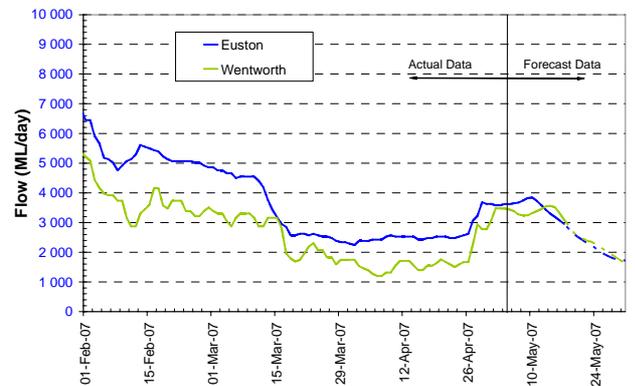
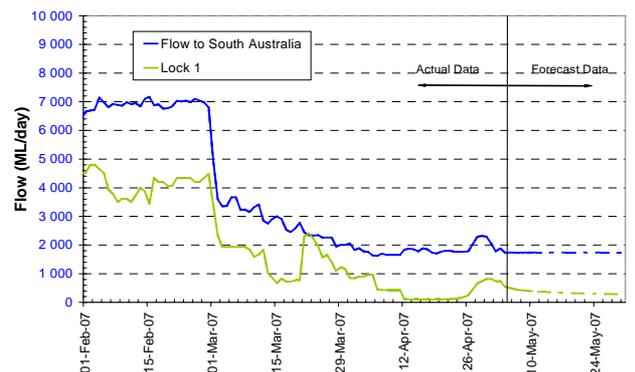


Figure 5. Flow at South Australian border and Lock 1 (forecast is for continuing dry conditions)



The water level of the Lower Lakes declined from 0.39 m AHD in late January to 0.10 m by late April, which is 0.65 m below Full Supply Level. A temporary rise in lake level to 0.13 m occurred in late April as a result of local rain. If future conditions are dry, the level may gradually fall to near sea level, or lower, by June or July 2007.

As river flow rates are now either near or significantly below usual minimum flow rates at many locations, river users are advised to take this into account when planning any river activities.

Lake Mulwala and other Weir Pools

Over the past few months, the level of Lake Mulwala and other weir pools have been held at the high end of their operating ranges to provide more flexibility to meet any short-term peak irrigation demands. However, the upper sections of weir pools (well upstream of the weir) have experienced reduced water levels due to the very low flow rates. If tributary inflows downstream of Hume Reservoir remain low over the coming months, then water stored in Lake Mulwala and some other weir pools may be gradually released to assist in meeting downstream flow requirements.

The drawdown of weir pools would assist with conserving resources in upper storages for 2007/08. The extent of drawdown of weir pools will depend on river conditions, rates of inflow from tributaries, and any issues associated with water supply or low river flows and levels. Improvements in tributary flows may be used to refill weir pools from time to time.

RMW and State agencies understand that the extent and timing of drawdown of any weir pools, and reductions in flow below the usual minimum flow targets, is particularly important to local communities. Weir pools located in the more intensely developed areas of the river would be lowered as a last resort, and as much notice as possible will be provided before proceeding.

Steven's Weir Pool on the Edward River is normally lowered at the end of the irrigation season. This year it is planned to maintain it near full for a longer period of time than usual if conditions remain dry. The weir pool will then be gradually lowered over the winter months to assist in meeting downstream water requirements.

Outlook for June 2007 and beyond

If there is no further significant rain, river flows from Albury to Lock 7 and into South Australia are to be regulated at rates below the usual target minimum to assist in maximising water availability for 2007/08. Contingency Planning is being undertaken by the Murray-Darling Basin Commission in consultation with relevant State and Australian government agencies.

River Murray Water is liaising closely with State agencies of South Australia, Victoria and New South Wales in order to:

- monitor river conditions and water supply issues as river flow rates are reduced below the usual minimum rates; and
- assess the impacts of very low flow rates, and changed water quality, on local communities, and implement an operational response if possible.

Due to the effects of record low inflow and storage level conditions, current river operations are finely balanced and need to be kept under constant review. Without further significant rain, it is possible that actions not previously experienced will need to be implemented in order to manage resources.

Outlook for Starting Irrigation Allocations for 2007/08

Initial irrigation allocations at the start of 2007/08 are expected to be extremely low or possibly zero, assuming the current projected storage reserve for end of May 2007, and assuming no significant improvement in inflow conditions (for example, a repeat of 2006/07 inflows). Under severe conditions such as those, available water would firstly be allocated to meet essential supplies.

Once essential supplies are met, the priority would then be for meeting carry-over of any unused allocations from 2006/07 in each State. Significant improvements to system inflows would be required before high security irrigation allocations could be made by the States. Further improvements in inflows would then be required before allocations for low security entitlements could be made. Allocation announcements will be made by the relevant State water agencies of South Australia, Victoria and New South Wales via the normal processes.

For further information

For more up-to-date river flow information, River Murray Water regularly issues flow forecasts for one week ahead (see web page below). The River Murray Water Weekly Report (see web page below) will provide advice on changes to flow rates as they are implemented.

The following information reports and updates can be found on the MDBC website:

MDBC Drought updates:

www.mdbc.gov.au/rmw/drought_updates

RMW Weekly Reports and Flow Forecasts:

www.mdbc.gov.au/rmw/river_information_centre

or contact Sam Leone, Communications Unit for further information on 0407 006 332