Ref 05/1610
March 2005

River Murray System - Drought Update

DROUGHT CONTINUES DESPITE RECENT RAIN

Although the last four months have seen some good localised inflows to the Murray and Darling Rivers, the extended period of low inflows continues at the Basin scale and the River Murray remains in the midst of a serious drought.

Storage levels and irrigation allocations remain low and the outlook is grim. Figure 1 shows that it will take a significant change to very wet conditions for the current trend to be broken and the pressure on communities and the environment to be eased. (Figure 1 shows the outlook for 2005-06 under dry and average conditions).

THE RECENT RAIN

Lower Darling River

In December 2004, heavy rain across the Barwon, Gwydir and Namoi River catchments produced flooding in the Upper Darling, but only yielded minor inflows to Menindee Lakes. The volume in storage peaked at 440 GL, 27% of capacity, and the Lakes remain in NSW control, and not available to help meet the demands of the River Murray System. Commission control of Menindee Lakes will resume when significant inflows next push the volume in storage above 640 GL.

The storage level in the lakes is again falling and the northern monsoon season has not produced much in the way of flow in the Darling since December 2004.

Upper Murray

In February 2005, an unusual weather pattern brought a cold snap and widespread rain across Victoria. The rainfall produced record February inflows to the Murray from several tributaries. There was also a small boost to storages along the Murray, at a time of year when storage levels would normally fall. Despite this welcome but temporary relief, volumes in storage remain low.

Importantly, water availability is driven by long-term weather patterns and inflows to the River Murray over the last four years remained the lowest on record at the end of February 2004.

IMPACTS OF THE DROUGHT

Low Storage Levels

At the end of February, total system storage was 3 800 GL. This is a small improvement over the same time last year, but still 1 800 GL below average for this time of year. Based on historical records, there is only a 30% chance that winter/spring inflows will be sufficient for Hume Reservoir to fill and spill during 2005. Such low storage levels have implications for irrigators and the environment alike.

Environment Suffers from Combined Impacts

The peak February flows provided natural flooding to some low lying areas of the Barmah-Millewa and Gunbower-Perricoota Forests. However, there are still large areas of the floodplain, particularly along the River Murray below Swan Hill, that have not been flooded for long periods.

In effect, the environment is suffering from a double blow in that for the first time it is subject to the full impact of both a highly regulated and utilised river system and an extended period of drought. These impacts have been experienced separately in the past – i.e., river regulation and increasing diversions since the 1970's; and long drought periods in the 1890's and 1940's – but now they are occurring together.

Figure 2 shows the difference in the peak flows past Euston during the early 1900's, 1940's and since the late 1990's. The absence of small floods under the combined effect of regulation and drought over the past eight years is sobering. Such floods are critical to the health of the river's wetland, lake, floodplain and estuarine ecosystems.

This is reflected by the number of stressed or dying River Red Gum and Black Box trees across the lower Murray floodplain. The proportion of trees surveyed that were considered stressed, has risen from an already high level of 50% to 75% over the last two years.

Irrigation Allocations Stay Low

Figures 3 and 4 illustrate the low level of irrigation allocations in NSW and Victoria over recent years. There have been some small improvements in allocations over the last few months, however these may be too late to be useful this season and may need to be carried forward to 2005/06. If storage levels remain low, irrigators will face continuing low allocations well into the next irrigation season.

Whilst South Australia has received its Entitlement Flow this year, salinity levels in the Lower Lakes continue to rise because only about 100 GL has flowed over the barrages to the sea compared with the median flow of 3000 GL per year.

OUTLOOK

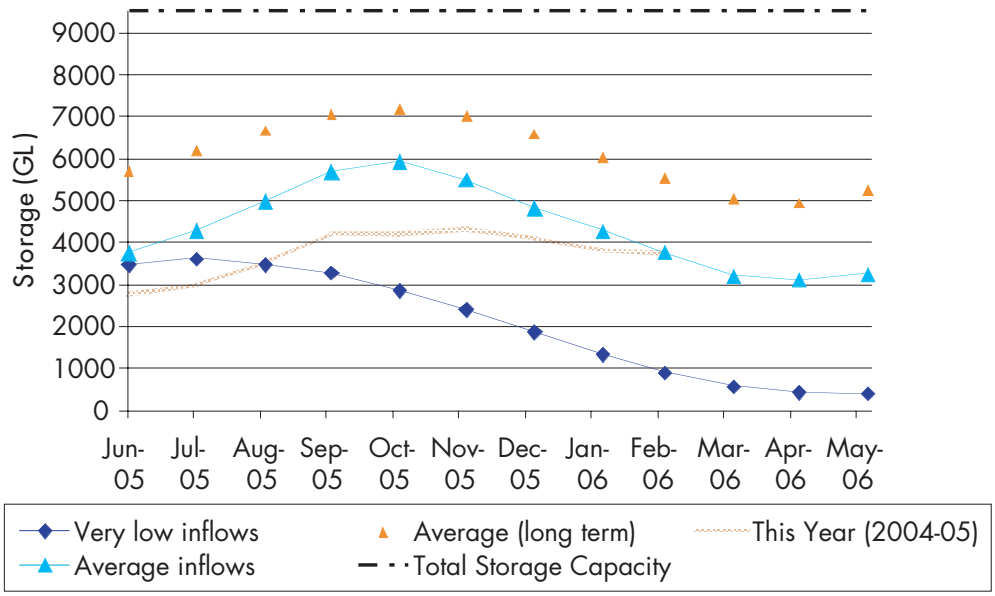
The outlook for total system storage for 2005-06 is shown in Figure 1 and indicates that even under average conditions, the volumes in storage will remain well below average levels.

With headwater storages in the River Murray and its tributaries at low levels, the prospects of a flood that will replenish the storages and the environment this year are reduced. A substantial improvement in inflows, sustained over many months, is required before the drought will be broken.

Past river flow records reveal that streamflows over March, April and May tend to be well correlated with the subsequent winter/spring inflows. Actual flows received in these three months in 2005 will therefore be critical in influencing the outlook for the 2005/06 season. That is, if March, April and May are dry, then it is more likely that we will receive low inflows for the remainder of the 2005/06 season.

For further information go to the MDBC website at www.mdbc.gov.au or ring 02 6279 0100.

Figure 1 Total System Storage (outlook for 2005-06)



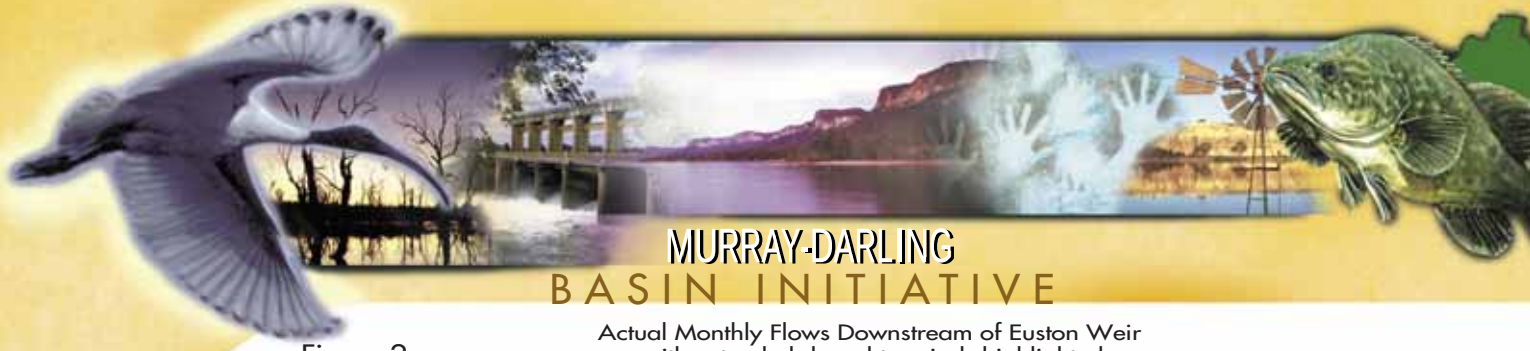


Figure 2

Actual Monthly Flows Downstream of Euston Weir
with extended drought periods highlighted

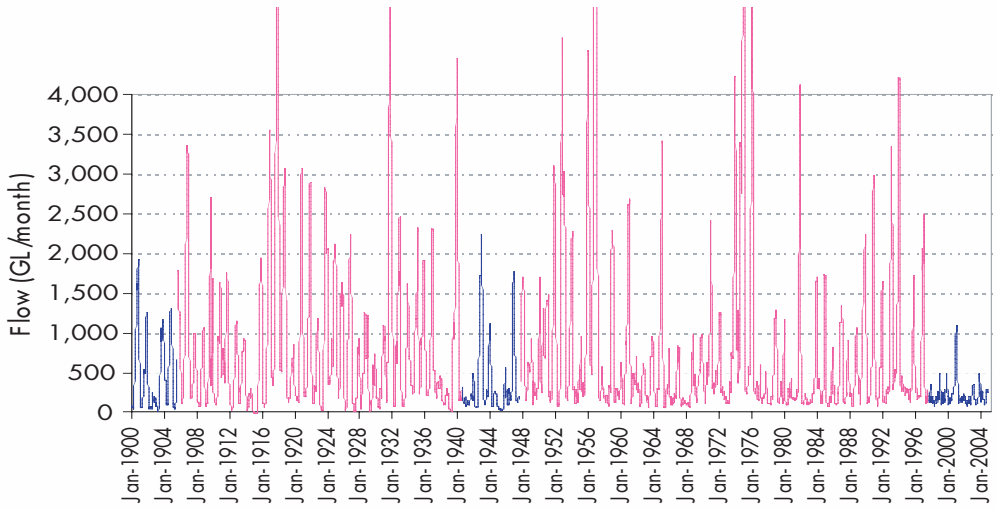


Figure 3

Actual NSW Murray February Irrigation Allocation

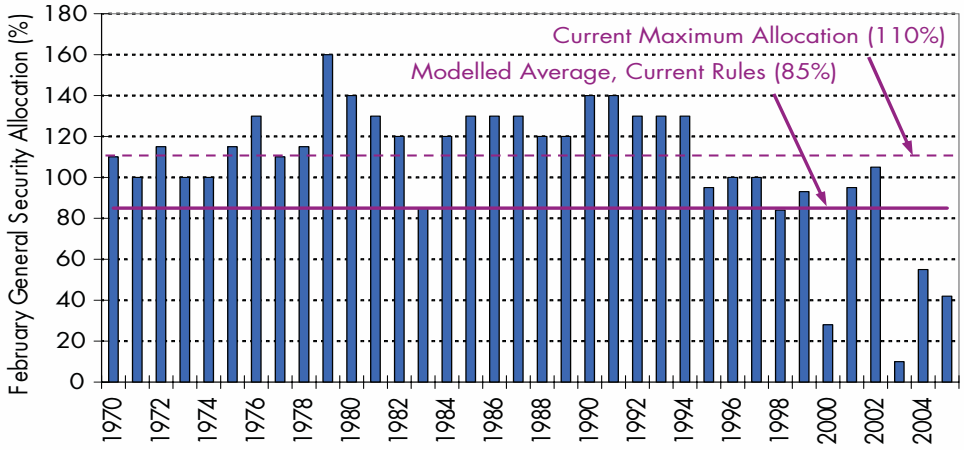
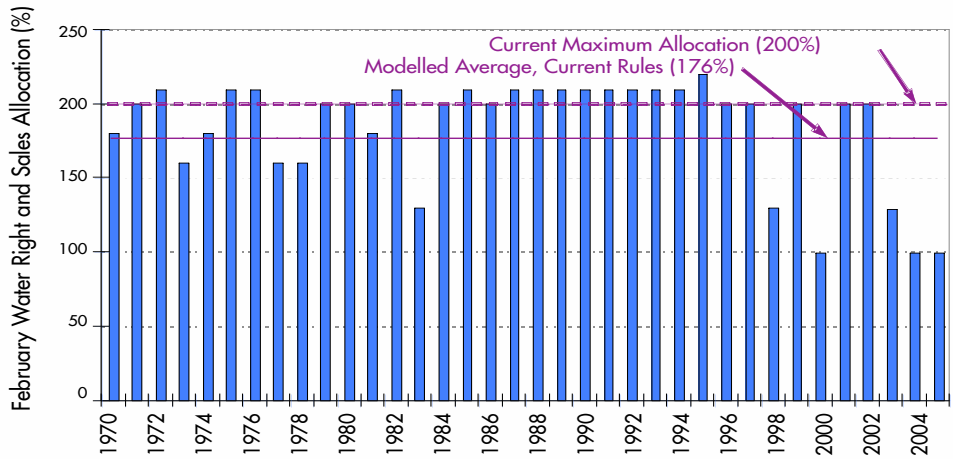


Figure 4

Actual Victorian Murray February Irrigation Allowance



Our values: courage; inclusiveness; commitment; respect & honesty; flexibility; practicability; mutual obligation.

Our principles: integration; accountability; transparency; effectiveness; efficiency; full accounting; informed decision-making; learning approach.

MURRAY-DARLING BASIN COMMISSION
www.mdbc.gov.au