

# WATER AVAILABILITY IN THE NSW MURRUMBIDGEE VALLEY IN 2006-07



NSW Government

DEPARTMENT OF NATURAL RESOURCES

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## INTRODUCTION

This information paper provides an update on water availability for the 2006/07 irrigation season.

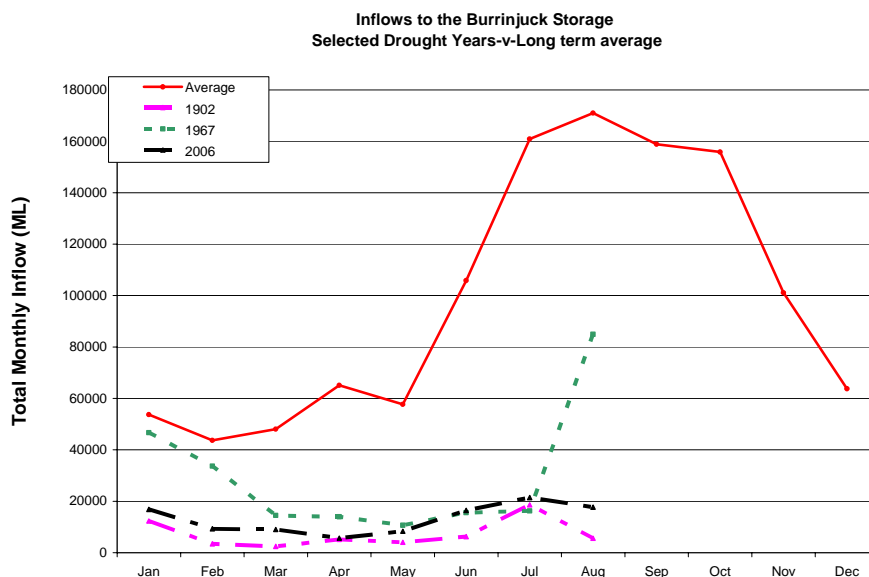
The allocations for general security water users in the Murrumbidgee valley have generally been below average levels over the last 5 years. The average allocations at the end of the season has been about 48% in the years 2001-02 to 2005-06 compared to the long-term average of 86 %.

Corresponding to the pattern of well below average rainfall for the past 6 months, the Murrumbidgee catchment area inflows into Burrinjuck and Blowering reservoirs have been extremely low.

Inflows to the entire Murrumbidgee system over the five years from July 2001 to June 2006 have been the lowest on record. Average inflows over this period were 990 GL/yr only 39% of the long-term average of 2500 GL/yr. (A Gigalitre (GL) is 1000 Megalitres).

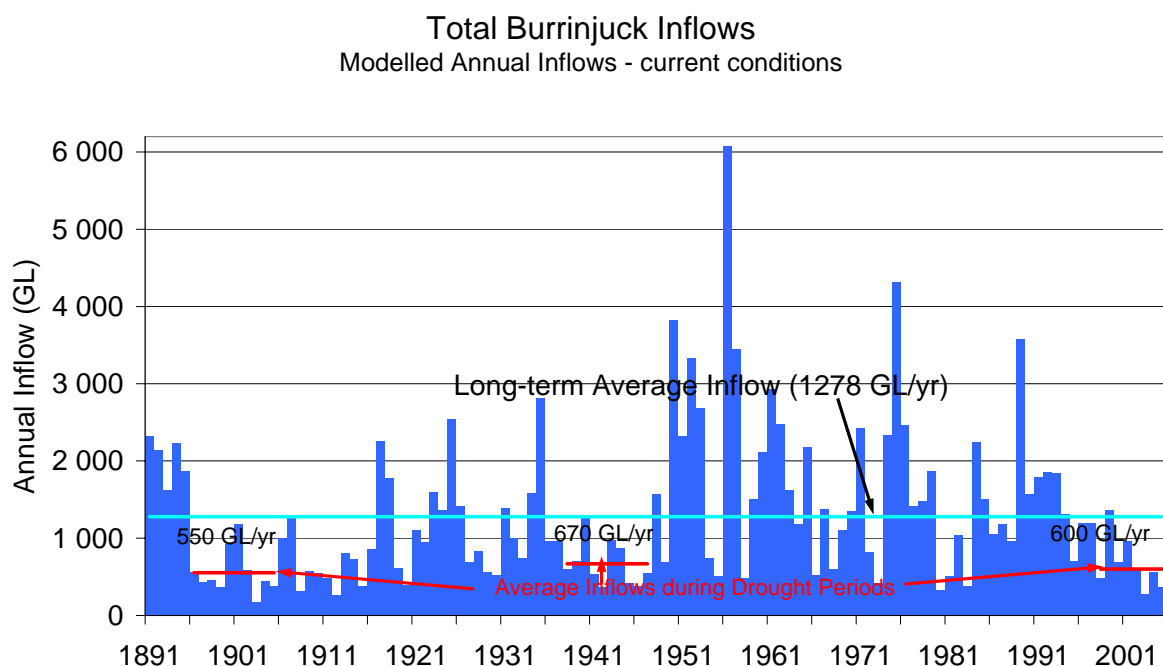
Tributary inflow to the Murrumbidgee River below the major storages during July this year was just 40 GL, the lowest volume recorded since records began in 1891, and less than 11% of the long term average for July of 365 GL.

From February to July this year, inflow to Burrinjuck Dam was 70 GL, or 15% of the 115 year average. The previous minimum for a similar period was 40 GL in 1902 and 50 GL in 2004. In August inflows were also very low, being about 17 GL, or 10% of the long term average of 170 GL.



## Historical annual inflows to the Burrinjuck Dam (1891 – 2006) comparing major droughts

The plot below compares historical 5-year drought inflows to Burrinjuck Dam, showing that only the Federation drought had lower inflows than the current period.



## WATER RESOURCES

At 15<sup>th</sup> September 2006 the available water resource was:

- 95 percent of high security entitlements
- 18 percent of general security entitlements
- general security carryover, equivalent to 12.8 percent of entitlements

## WHAT WATER IS WHERE

Murrumbidgee Valley major water storages, Burrinjuck and Blowering currently are currently at 31% and 55% of capacity respectively.

Burrinjuck storage volume is now 30% lower than at the same time last year, whereas Blowering dam is almost 25% higher due to increased inflows from the Snowy Scheme over the past several months. The early season Snowy inflows do not make more water available for use this year, as these are typically flows that would have otherwise been transferred throughout the year.

Storage	Storage at the end of August 2005 (GL)	Storage at the end of August 2006 (GL)
Burrinjuck	471	326
Blowering	730	963
D/S Storages	47	34
Total available	1248	1323 *

\* Note there is more water this year than last, with the difference being the early Snowy inflows

## HOW MUCH WATER IS AVAILABLE TO VALLEY IRRIGATORS

At 15 September 2006:

	Volume GL		Comment
Total resources	+1828		Includes water in storages and in the river, future minimum inflows (d/s tributaries and in storages), future Snowy inflows, and usage to date
System losses	359	-359	Evaporation from storages & Evaporation and seepage losses from the river
IC Losses	260	-260	Loss entitlement for MI and CI
Carry over from last year	263	-263	
High Security	342	-342	95% of the total High Security entitlements
Contribution to environment & other requirement as per WSP	253	-253	Storage reserve, Environmental accounting (EWA1 & 2), replenishment, end of system flow requirement etc
Total Available		351	

### CURRENT OPERATION

Releases from Blowering Dam have increased in the past weeks due to the continuing dry weather increasing demand. Burrinjuck is currently releasing riparian flows as determined by the Murrumbidgee Water Sharing Plan rules and Blowering is releasing 5100 ML/d.

With the current low allocation and the uncertainty of further rain within the next week coupled with vexing on-farm irrigation decisions, State Water over the next few weeks will use water stored in Tombullen and draw down all weir pools to create airspace and conserve water in the Dams in an effort to maximise water availability for the general security water users..

## **POTENTIAL FOR PRE FEBRUARY DELIVERABILITY**

### **What is the worst case scenario for restrictions?**

For restrictions to get worse require that the period when irrigation releases are required is shortened and this could only occur if there is significant prolonged rainfall.

## **OUTLOOK**

**Outlook from the rainfall projections suggests a continuation of well below normal rain for the next few weeks.**

Historical flow records show the likelihood is for continuing dry or average inflow conditions. There is a very low chance of getting 'wet' conditions.

Under continuing drought conditions the pre February deliverability will not change. Deliverability will improve if there are significant inflows to Burrinjuck Dam or Snowy Scheme inflows are able to be made more quickly than currently forecast.

## **CHANCES OF ALLOCATION INCREASES**

Given that recent conditions have been dry in the extreme, the inflow probabilities will be less than normal. The historical inflows to the valley have been analysed, and preliminary statistics, based only on the driest one third of all years, have been used to re-assess the probabilities of allocation increases. Under these circumstances, there is a 9 in 10 chance that the allocation will be 23% by November, a 3 in 4 chance of 29% allocations and a 1 in 2 chance that 36 % will be available.

Using inflow records from all years, including the wetter ones, the following allocation probabilities have been calculated.

There is a 9 in 10 chance that allocations will be greater than 26 % by November, 32% by March and 33 % by June. There is a 3 in 4 chance that 32% will be available by November, 42 % by March and 44 % by June and 1 in 2 chances that 42 % will be available by November, 59 % by March and 62 % by June.

For more information contact:

Department of Natural Resources  
27-33 Chelmsford Place  
Leeton 2705  
Ph 0269530700

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