

FACT SHEET NO. 1

WATER IN THE BROKEN SYSTEM



Produced by Goulburn - Murray Water and Department of Sustainability and Environment

OUR CATCHMENT



Flowing on the northern side of the Great Dividing Range, the Broken River and its main tributary, Hollands Creek, rise in the Merrijig, Strathbogie and Wombat ranges. The catchment area is 772 386 ha (7,724 km²) and its highest point rests more than 900 metres above sea level.

The Broken River generally flows in a northerly direction. Downstream from Benalla, the river turns west towards the Goulburn River. The Broken and Goulburn rivers meet to the south of Shepparton.

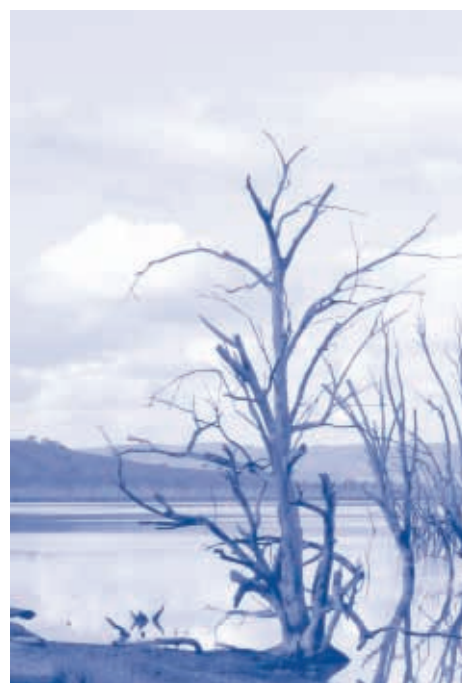
The Broken Creek runs with release or overflow water from the Broken River at Casey's Weir. The creek flows north westerly to Katamatite to join the Boosey Creek and then westerly to meet the Murray River near Barmah.

RAINFALL

Rainfall in the Broken Catchment varies from 1,000 mm per year in the upper catchment to less than 500 mm per year in the lower catchment. The highest recorded annual rainfall is double the average while the lowest recorded annual rainfall is around 2.5 times less than average.

Annual Rainfall	Min (mm)	Av (mm)	Max (mm)
Lake Nillahcootie	396	950	1,716
Benalla	268	671	1,251
Dookie			
Agricultural College	222	552	1,022
Nathalia			
Post Office	163	428	912

Source Rainman v4.3



For more information please call 1800 013 357

GOULBURN-MURRAY
WATER

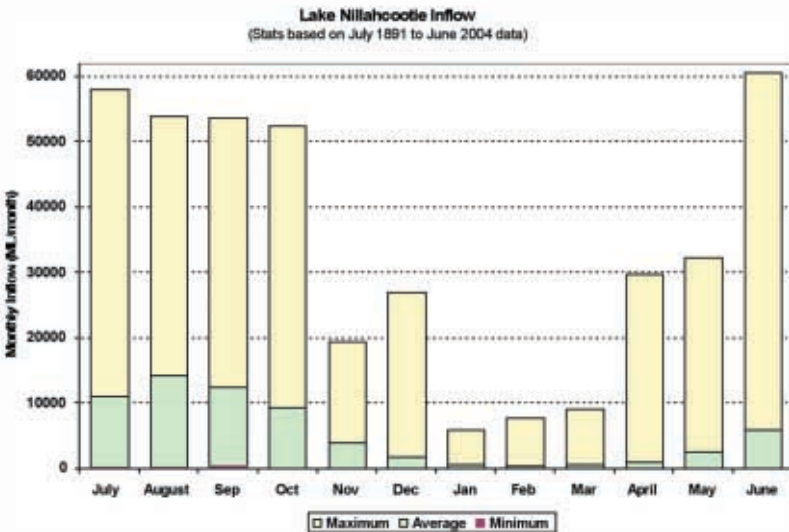


State Government
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FLOW VARIABILITY – A PART OF THE BROKEN SYSTEM



Variation in the volume of water flowing into the system is characteristic of the Broken Catchment.

In an average year, around 280,000 ML flows into the Broken System, but annual flows can be as low as 18,000 ML (1943/44) and as high as 1,172,000 ML (1917/18).

On average, the highest inflows are recorded in the months from July to October, but in dry years this period can produce the low inflows normally expected in Summer.

DROUGHT

We have seen dry periods in the Broken Catchment before – especially in the 1930s to mid 1940s. The lowest annual inflow to Lake Nillahcootie occurred in the 1943/44 season, when only 5% of average inflow occurred.

The 2002/03 drought brought about the second lowest recorded volume of inflow at Lake Nillahcootie when flow was measured at only 6% of the average.

The table below shows the ten lowest years of annual inflow into Lake Nillahcootie.

Nillahcootie Inflow (ML)

Rank	Year	Annual Flow	% of Average
1	1943/44	3026	5%
2	2002/03	3993	6%
3	1944/45	5864	9%
4	1982/83	7761	12%
5	1940/41	8444	13%
6	1914/15	8523	13%
7	1937/38	13113	20%
8	1919/20	13258	20%
9	1902/03	13785	21%
10	1929/30	14341	22%

FLOODS IN THE BROKEN SYSTEM

In October 1993 heavy rainfall caused Benalla's highest recorded flood level and 1,500 people were evacuated. At its peak the flow was almost 50% higher than the next highest recorded flood level (1916).

Benalla Flood Warning System

After the 1993 floods, flood warning systems were put in place to give residents and businesses time to prepare for the rising waters.

The Bureau of Meteorology (BOM) now manages flood warnings for the Broken River based on data received from a network of flow monitoring sites in the Broken Catchment.

The BOM system alerts communities to risks of flooding and individuals are responsible for planning their own response.

Further information on flood responses in the Benalla region can be obtained from the Benalla Rural City Council <http://www.benalla.vic.gov.au>

