

Summary of flow rates of Gingin Brook and Lennard Brook to Feb 2014

This information is taken from the *Gingin Surface Water Allocation Plan Evaluation Statement 2011-2012* which considers flow data to November 2012.

I have used the latest telemetry readings from the WIR (Water information reporting) source of DOW.

The three relevant telemetry sites are:

- Bookine Bookine # 617003
- Gingin Brooke (town site) # 617058
- Molecap (Lennards Brook) # 617165

Bookine Bookine is situated in the western Gingin brook in the loop south of Gingin brook rd several kms before the conjunction of the Moore river.

Gingin brook (town site) measures the input from Moonda brook as well as the input from the Mirrabooka mound springs at the head of the brook. All licences to extract from both of these brooks are upstream from the telemetry point.

The Molecap telemetry site is north east of the rubbish tip but down stream of most of the licensed extraction but maybe not all.

Molecap is currently NOT working. I have no data from this point since June 2013. It was not recording from 2002 until mid 2008.

In preparation for the Evaluation Report DOW carried out ..."Ecological assessments of both Gingin Brook and Lennard Brook" in 2011 to..."provide the baseline information" presumably to maintain their good health.

Consequently the CLFT's(critical low flow thresholds) were changed from 10 to 8 ML/day (Gingin town) and 5 to 6.6(Molecap) The increase at Lennards

Brook implies less risk to good health at this site. This in spite of no flow data for years 2002-2008 and the last 8 months!

The lack of any investigation near Bookine Bookine suggests either

- No problems with health in this region of Gingin Brook
- Flow rate has deteriorated to such an extent that ecological health is not retrievable or in need of measurement
- DOW will extrapolate data collected from the 2011 study of Gingin Brook at the town site station

The Evaluation report summarises regional rainfall 1975-2011 compared to 2001-2011 trends.

- Total rainfall has declined between 5-10%
- Summer rainfall is stable to declining by 9%
- Winter rainfall has declined 6-10%

The Evaluation report summarises streamflow at the 3 sites by comparing 1975-2011 flows to 2001-2011 flow trends.

Gingin brook (town)

- Annual decline of 12%
- Summer decline of 12%
- Winter decline of 13%

The maximum daily flow reached has declined by 38% from 320ML to 200ML

Bookine Bookine

- annual decline of 44%
- summer decline of 39%
- winter decline of 44%

The maximum daily flow reached has declined by 65% from 2413ML to 838ML

(NB the huge total flows in this part of the Gingin brook albeit all in the winter from a system which is probably not perennial any more)

Lennard Brook

- annual decline of 14%
- summer decline of 6%
- winter decline of 18%

The maximum daily flow reached has declined by 62% from 108ML to 40ML (NB problem of the missing data)

Total annual flows at the 3 sites

Gingin brook (town site) includes input from Moondah brook.

YEARS	GINGIN/MOONDAH (TOWN SITE)	LENNARD BROOK	BOOKINE BOOKINE
1960s	12-18gL	5-7gL	n/a
1970s	11-18gL	5-7gL	20-70gL
1980s	10-13gL	6-7gL	17-60gL
1990s	11-15gL	7-8gL	20-70gL
2000-2007	10-12gL	7-8gL	12-27gL
2008-2013	7-10gL	4.5-6gL	5-17gL

ML=mega litre

gL= giga litre 1gL = 1000ML

TAKE HOME MESSAGE

It appears to me something is going on in the western section of Gingin brook. It is associated with the superficial and Leederville aquifers.

The community needs to lobby to have the Molecap monitoring station renewed.

The three sites are all showing flows at or well below the DOW set CLFTs

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