

RECURRENCE INTERVALS FROM ACTUAL FLOOD INFORMATION

Brian's analysis of previous floods from 1799 to 1992 from figures given in the Appendix 4 to Bill Bottomley website:

<http://www.billbottomley.com.au/wp-content/uploads/2015/11/appendices.pdf>

Also, there are no records of any floods submerging the bridge from 1992 to the present (2018).

Formula is $n+1/m$ where n = number of years of record and m =number of occurrences

Hawkesbury River Flood Level at Windsor Bridge*	Number of Occurrences	Recurrence Interval over 218 Years, per year
7.0 m	109	2.0 years
8.0 m	92	2.4 years
9.0 m	73	3.0 years
10.0 m	49	4.5 years
11.0 m	37	5.9 years
12.0 m	25	8.8 years
13.0 m	17	12.9 years
14.0 m	14	15.6 years
15.0 m	3	73 years
16.0 m	1	219 years
17.0 m	1	219 years
18.0 m	1	219 years
19.0 m	1	219 years
20.0 m	0	-

- the deck level of the Windsor Bridge over the Hawkesbury River is RL 7.0AHD (once in 1.8 years)
- the deck level for RMS Option 1 is about 9.8AHD (once in 4.2 years)
- the once in 5 year flood is approximately RL 10.7*AHD
- the once in 10 year flood is approximately RL 12.3*AHD

*See table below from Hawkesbury Floodplain Risk Management Study & Plan
Volume 1 - Main Report Revised Draft for Public Exhibition

By Bewsher July 2012

Report of Hawkesbury City Council's Floodplain Risk Management Advisory Committee

Flood event	North Richmond Bridge	*Windsor Bridge	Sackville Ferry	Lower Portland	Leets Vale	Webbs Creek Ferry
5 year	12.5	11.1	7.4	5.5	3.8	3.2
10 year	14.0	12.3				
20 year	15.3	13.7	10.2	7.5	5.2	4.4
50 year	16.4	15.7	11.7	9.1	6.5	5.6
100 year	17.5	17.3	12.9	10.3	7.6	6.7
200 year	18.9	18.7				
500 year	20.4	20.2				
1000 year	22.1	21.9				
PMF	26.5	26.4	23.0	22.3	17.9	16.3