Alliance to Save Hinchinbrook, PO Box 2457, Townsville, Q 4810, hinchinbrookallliance@gmail.com 0427 724 052

THREE GRAPHS and TABLE: DURATION OF NAVIGABLE WATER FOR TRAILERABLE VESSELS USING THE PUBLIC BOAT RAMP AT "PORT HINCHINBROOK" (OYSTER POINT NEAR CARDWELL) FOR EVERY LOW TIDE THROUGHOUT THE YEAR

The graphs and table were prepared for the Alliance to Save Hinchinbrook (ASH) using predictive data obtained from the 2009 Queensland Tide Tables for Cardwell, referenced to the Port of Lucinda. There are generally two tides per day. The difference in tide times and heights between Cardwell and Lucinda is not significant for the purpose.

Each graph covers the first two weeks in the months of January, March and May 2009. The tidal range varies within each month (from springs to neaps) and through the year. The highest and lowest spring tides occur in January and February; the least variation occurs in May.

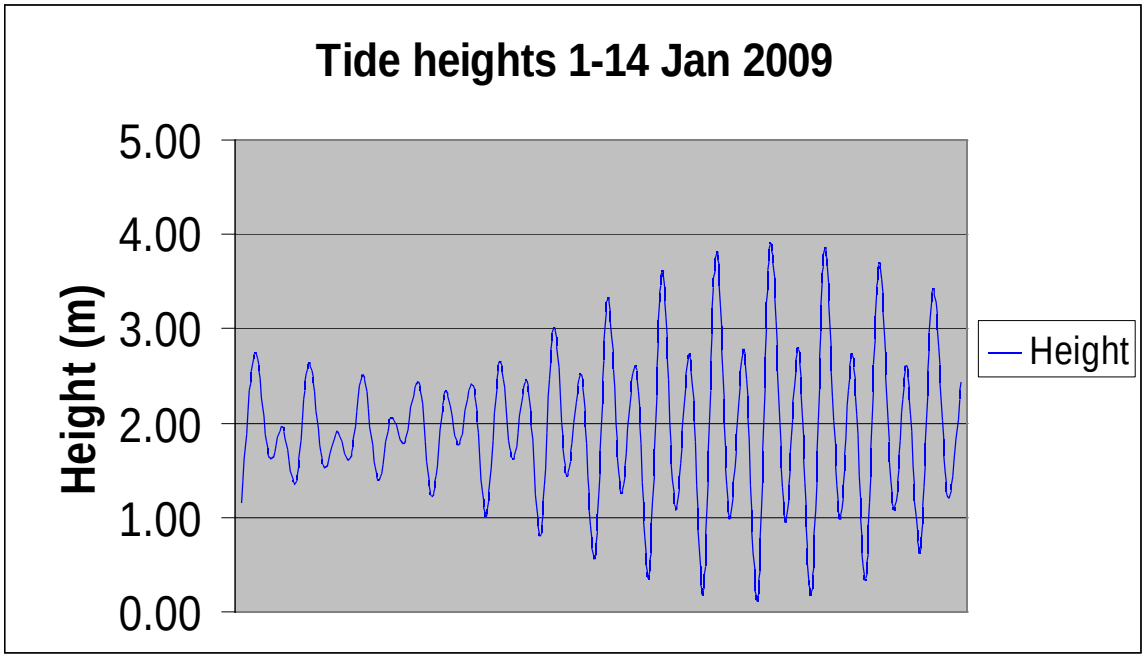
The graphs illustrate that tidal range has little influence on how many times the tide drops below **two metres**. This is not surprising, because two metres is close to the depth at Mean Water. For craft of two metres draft there would be some period each day (including at night) when there would be insufficient water for convenient passage, affecting a minority of the yachts berthed in the privately owned "Port Hinchinbrook" marina.

For vessels of **one metre** draft the available water is seldom too shallow to float.

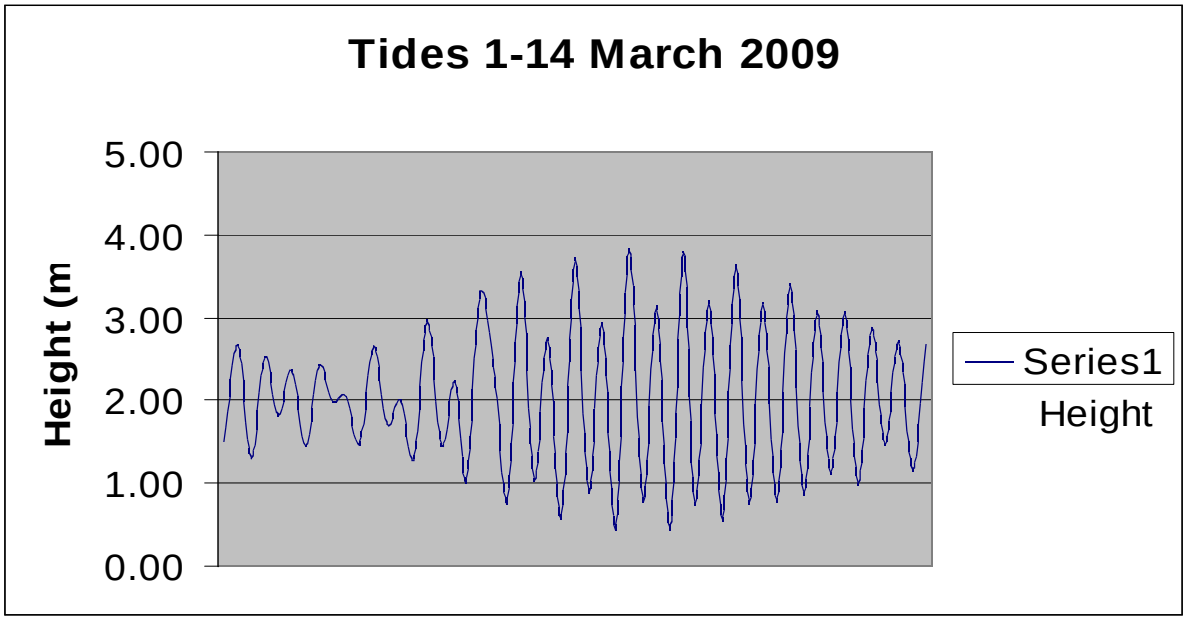
The underlying assumption is that the "Grande Canal" does not dry at heights above zero metres or LAT. This would be a "drying height"; not surprising in view of the original technical advice of the Queensland Harbours and Marine Department (1977).

Should silting above LAT occur it would indicate that the boat ramp is simply in the wrong place. A possible solution would be to provide a second smaller boat ramp on the development site close to the mouth of Stoney Creek, for trailerable craft operators desirous of launching at low tide.

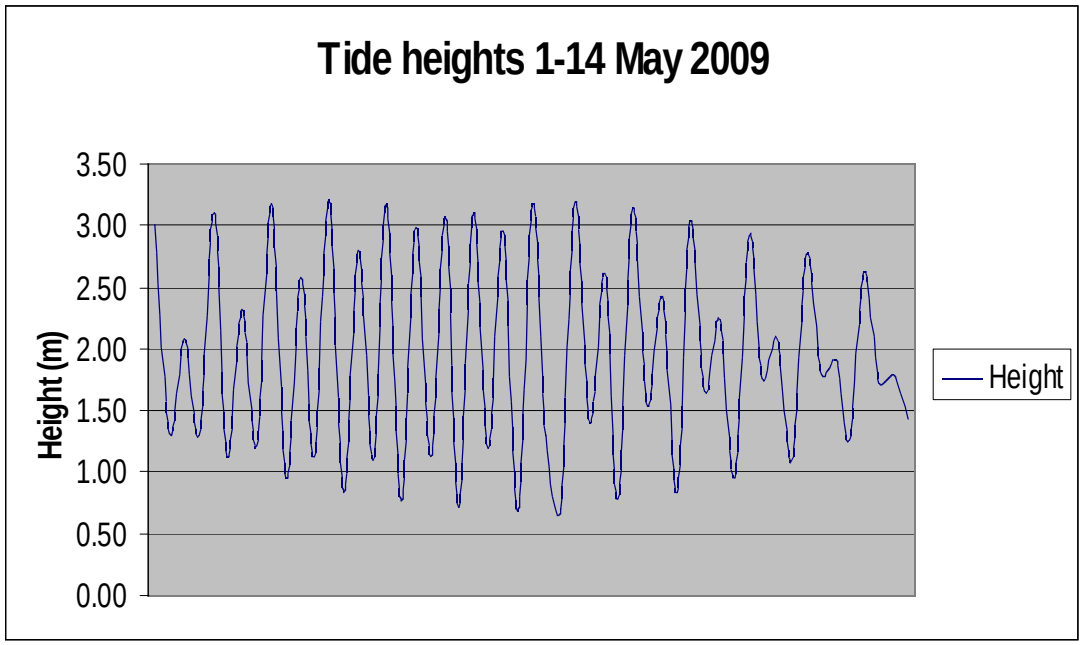
JANUARY



MARCH



MAY



Another way of examining the depth availability is shown in Table 1 (below).

For approximately half the year there is never less than **one metre** of water above Lowest Astronomical Tide (LAT). On the occasions when the depth falls below one metre, it is for a period of time ranging from half an hour to three hours.

On 28 days in 2009 the sub-one metre tides occurred twice, for a **total time** of 2 ½ to 4 ½ hours. On days when two tides occur, one is likely to be at night.

From Table 1 (below) it is clear that there is a **very high frequency (over 95% of the time) of navigable water for dinghies, runabouts and shoal draft vessels** (including many yachts and power boats) , even if the bottom of the access channels are "completely" silted up, ie zero water at LAT.

TABLE I

The empty cells indicate those days when the tide does not fall below 1m above LAT, a total of 425 hours for the year, or approximately 5% of the total time (including night).

The numbers in Table 1 denote the **total time in hours** for which the tide level on that day fell below 1 metre above LAT.

# denotes days when two sub-1m tides occurred. Each sub-1m. tide occurs for approximately half of the time shown for that day.

Examples:

- on July 1st the depth was less than one metre for one period of one hour;
- on October 1st the depth was less than one metre for both occurrences of low tide, totalling one hour for the two occasions.
- On the 15th, 16th, 17th and 18th of the first five months of the year, the depth always exceeded one metre.

date	***JAN***	***FEB***	***MAR***	***APR***	***MAY***	***JUN***	***JUL***	***AUG***	***SEP***	***OCT***	***NOV***	***DEC***
1						0.5	1	2	2	1#	2.5	2.5
2						1	1	2	2	2#	3	3
3					0.5	1	1	2.5	2.5	3#	3	3
4		0.5			1	1.5	1	2.5	2.5	3#	3	2.5
5				1	1.5	1.5	1.5	2.5	2	2#	2.5	2
6		2		2	1.5	1.5	1.5	2.5	2	2#	1.5	1.5
7	1.5	3	2	2	2	1.5	1.5	2	1	2#		
8	2	4#	4	3	2	1	1.5	2		1		
9	3	4#	4	3	1.5	1	1					1
10	4	4#	4	2	1.5	0.5	1				1.5	2
11	4.5#	3#	4	1	0.5							
12	4	2	2							0.5	2#	2
13	3.5								1	2#	2#	2.5
14	3								2	3#	2	2.5
15								1	2.5#	4#	2.5	2.5
16								2.5	3.5#	4#	2.5	2.5
17							1	3	4.5#	3#	2.5	2.5
18						1	2	3.5	5#	3#	2	2
19						2	3	4	5#	2.5#	2	1.5
20					1	2	3.5	4	4#	2.5	1	
21		0.5			2	2.5	4	3.5	3	2		
22		1		1	2	3	5	3	1.5	1.5		
23	1.5	2		1	2	3	4	0.5				
24	2	2	1	2	2	3	3.5	0.5				
25	2.5	2	2	2	2	2.5	3					
26	2.5	1	2	2	2	1						0.5
27	2.5	0.5	2	2	2						0.5	
28	2		1	1	1						1	2
29	1									1	1.5	2.5
30								1	1	1	2	3
31							1	1.5	1	1.5		3.5
TOTAL HOURS	**39.5**	**31.5**	**28**	**23**	**28**	**31**	**42**	**46**	**49**	**47.5**	**40.5**	**47**