

Hence to find the depth of water on the sill of the dry dock at any tide, add 7.7 feet to the height of high water as given in the tide tables.

The levels at Father Point and at South-west Point, Anticosti, are referred to bench marks cut on the surface of the solid rock, above high water mark, in the vicinity of the tide gauges. At St. Paul Island, and Forteau Bay in the Strait of Belle Isle, the iron plate at the top of the iron column of the diploidscope is used as a bench mark. In all cases the elevation of the bench mark itself is taken as 100.00, and all the levels in connection with the tide and the zero of the gauges are referred to this elevation. The true height of the low water datum and mean sea level will thus be determined eventually from the tidal observations themselves. It is also important to ascertain the range of the tide at these stations, so that in using them as reference stations for other ports, the range of the tide may be found in comparison by means of a ratio. In this way the height of the tide, as well as the time, will be brought into relation with the principal stations.

For the summer observations of 1896 the following points were made use of as bench marks:—

Carleton, Que.—Top of pile in the angle between, south side of wharf and front of freight shed. Zero of gauge 15.01 feet below top of this pile.

Neguac, N.B.—Bench mark cut on the south-east corner of the lighthouse at Lower Neguac. Zero of gauge 9.37 feet below this bench mark.

Cape Tormentine.—Bolt in rock at head of the railway wharf, about 200 feet south of the track. Zero of gauge at 12.80 feet, and zero of wharf gauge board at 10.80 feet, below this bench mark.

Charlottetown.—On Peake Bros.' building, corner of Water and Queen streets. North end of sandstone window-sill of the most northerly window of the east front. Zero of the gauge at 18.18 feet, and zero of the wharf gauge board at 16.18 feet, below this bench mark.

Pictou.—On the Custom house; west end of the sandstone door-sill at the south side of the building. Zero of the gauge at 19.84 feet, and zero of the wharf gauge board at 18.84 feet, below this bench mark.

Souris, P.E.I.—Circular hole cut in red sandstone and marked B.M., about 90 yards west of shore end of Knight's wharf. Zero of the gauge below this mark 8.00 feet before July 16th, and 6.00 feet after that date.

I have, sir, the honour to remain,
Your obedient servant,

W. BELL DAWSON,
In charge of Tidal Survey.