

the levels were taken in English feet, in the other in French metres (3.281 English feet). Of the accuracy of these operations there can be no scepticism. The mean ocean surface line was perfectly established at New York, while the fluctuations of the lakes had been officially recorded for a series of years, so their mean height was simply a matter of careful calculation. It was in this deliberate manner that the elevations of the lakes have been established by the United States Government. Previous to these operations the U.S. records were about 3 feet 6 inches astray as to the altitude of lake Ontario; and nearly 8 feet as to lakes Huron and Michigan, referred to mean tide at New York as datum.

The heights recognised in Canada were arrived at by no such process. The datum taken was tide water at Three Rivers, since known to be 15 feet higher than the mean surface of the ocean. For the engineering work of the Dominion this datum was sufficiently satisfactory, and if the levels based upon it had been systematically and carefully taken, the recorded Canadian levels of the several lakes would shew the same differences as those of the United States, with the constant divergence throughout of being 15 feet lower. The table I append shews such not to be the case.

The fact is, the heights of the lakes of Canada, and previous to 1875 it was the same in the United States, had been formed by the adoption of several series of unconnected levels, arithmetically compounded to furnish the general result, hence the incorrectness which has prevailed. The following are the true heights of the several lakes above tide level in New York as determined by the United States operations above referred to. I give the decimals, that record being due from the extreme nicety and deliberation with which the figures are established.

Lake Ontario.....	246.60 feet above mean ocean level.
" Erie.....	572.90 " " "
" Huron and Michigan.....	581.30 " " "
" Superior.....	601.80 " " "

A comparison between the levels hitherto accepted and the true levels may thus be stated:—

LAKE.	Canadian Record.		United States Corrected Record.	
	Heights as hitherto accepted, based upon tide water, Three Rivers, as datum. Feet.	Heights adjusted to the true mean level of the Atlantic Ocean by the addition of 15 feet. Feet.	Being height established above mean level of the Atlantic Ocean at New York. Feet.	Difference in Canadian Record. Excess above true height. Feet.
Ontario.....	234.	249	246.60	2.40
Erie.....	564	579	572.90	6.10
Huron and Michigan ..	574	589	581.30	7.70
Superior.....	600	615	601.80	13.20

It will be seen by the above table that the difference of datum, 15 feet, is in no way maintained, and that the difference of level of each lake in every case varies more or less from the true elevation: thus the several lakes are relatively incorrectly described.

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