

was as low in Lake Ontario as it was in 1831. The best authorities on hydraulics show that no harm can result from deepening the several channels, for it is a theory of permanent motion that a change of *regimen* being made at any point of a river, its effect is extended up and down stream, decreasing as it goes until points are reached where it disappears entirely, and the river remains unaffected.

In the following it is endeavored to give a part of the latest and most reliable information relating to the Great Lakes. The lately completed lake surveys made by the United States have reduced to exactness much that was previously only approximate.

The water surface of the Great Lakes, with the land draining into it, presents the total drainage basin of over 270,000 square miles, assembled as follows:

	Area of Water Surface, Square Miles.	Area of Water Shed, Square Miles.	Aggregate Area of Basin, Square Miles.
Lake Superior	31,200	51,600	82,800
St. Mary's River	150	800	950
Lake Michigan	22,450	37,700	60,150
Lake Huron and Georgian Bay.....	23,800	31,700	55,500
St. Clair River	25	3,800	3,825
Lake St. Clair.....	410	3,400	3,810
Detroit River.....	25	1,200	1,225
Lake Erie	9,960	22,700	32,660
Niagara River	15	300	315
Lake Ontario.....	7,240	21,600	28,840
	95,275	174,800	270,075

The combined areas of the lakes exceed the area of England, Wales and Scotland.

The accompanying figure is a carefully drawn chart of the lakes, and compilations showing area of water surface, water shed and aggregate areas of basin; line of greatest depth and longitudinal sections on that line, with heights and depth referred to sea level. The length of shore line of the lakes and their connecting rivers is about 5,400 miles. The elevation of the mean surface of the lakes above mean sea level is as follows:—

Lake Ontario	246 $\frac{8}{10}$	feet.
Lake Erie.....	572 $\frac{9}{10}$	"
Lakes Huron and Michigan.....	581 $\frac{3}{10}$	"
Lake Superior.....	601 $\frac{8}{10}$	"