## River Regulation.

good idea of the broad, general features of the topography.

On a contour map the striking feature is what may be called a table-land or plateau varying not more than 200 ft. in elevation above sea-level, from 1,500 to 1,700 ft., near the northerly limit of the peninsula, with slopes abrupt to the east and north, abrupt also for the first few contours to the west and south, but after that gradual to the west and more gradual to the south-west and south. The rim of water, with its very extended shore line of lakes and connecting channels is, not considering the Niagara River or Lake Ontario, almost level, varying only about 9 ft. from Georgian Bay, El. 581, to Lake Erie, El. 572. The 1,500 ft. contour encloses only about 550 square miles. Practically all of the larger rivers of the Peninsula but one rise within or near this contour; the Nottawasaga and branches, and the Beaver to the north, the Saugeen and branches, and the Maitland to the west, and the Grand River and its tributaries to the south. The uppermost branch of the Thames rises further down the slope, about at the 1,300 ft. contour. A smaller but important river, to the north, is the Sydenham, which rises between the 1,100 and the 1,200 ft. contours; and there is another Sydenham River in the flat country of Lambton and Middlesex counties, a sluggish stream rising a little above the 800 ft. contour.

The characteristic of the rivers of the Peninsula is that their drainage areas are most extensive toward their sources, and narrower and smaller in the lower, flatter country where many smaller streams flow directly to the lakes; and that their declivity, after leaving the head plateau, is also greatest in the upper part of their course. The headwater drainage areas are the chief factors in governing flow; a large run-off there is quickly carried down and overflows the river's banks in the lower country.

Precipitation appears to be largest on the western slope of the Peninsula, over 40 inches of water per annum, due to the prevailing west winds. The air is saturated with moisture in its travel over the lakes, strikes the up-slope of the ground, is deflected to colder strata, and rain or snow results. There is larger precipitation, especially snowfall, also on the head plateau. Before settlement this was covered to great extent with dense, heavily wooded swamps, retainers of snow until late in the spring and natural slowly drainage reservoirs, replenished with each rainfall, giving ideal condition for conservation of stream flow. The swamps have now been mostly drained and other forestation removed. The cleared and drained land appears, most of it, not to be of great agricultural value, and might in itself give as good or better economic return as forest, including swamps with good tree growth under this classification. The