tance. From Springfield to Oromocto few occur, from Oromocto to Oak Point they are large and numerous, and below Oak Point there are but few.

IV. Points to be Ascertained.

While the St. John offers no such striking phenomena as the Petitcodiac and other streams near the head of the Bay of Fundy, yet, when its great size and remarkable outlet and the striking tides of St. John harbour are considered, it should, from the tidal standpoint, be one of the most interesting of rivers. A comprehensive study of its tides at various representative points should tells us: (1) The difference of time between high water and low water at such points and high water and low water at St. John. (2) The proportion which the range of tide bears to the corresponding tide at St. John. (3) The nature of the tidal rise and fall. (4) The effects of varying cross-section, depth, presence of islands and tributaries on the extent and time of tide. (5) The effect of the remarkable outlet. (6) The effect of varying depth of river with changing seasons on the preceding. (7) The effect of winds. There is at present practically no information, at least in print, to be had on any of the above points. To get anything like complete data, on even one of the above points, would demand much time and patience. What follows can only pretend to be somewhat disjointed information on nearly all of the above heads. It must be remembered that all of the following notes were made at low summer level. Towards the end of the summer of 1896 the river fell to a very low level. To fix the level by a semi-permanent reference point, on August 9th I found mean water level of Fredericton to be twenty-four feet two inches below the south-west corner of the west pier of the iron railway bridge. From the levellings of the New Brunswick railway, Mr. Moses Burpee found that a certain reference point at Fredericton was forty-four feet ten inches above mean sea-level at St John. Prof. Dixon has kindly aided me by levelling from Mr. Burpee's reference point to the corner of the pier mentioned, and finding the latter to be three