

the extreme western limit of the watershed. A stream enters the west bay, but it is a very small one fed by two or three large muskogs and small lakes lying immediately behind the first ridge, west of which again higher ridges are seen.

We climbed several hills to the west of these two bays and found them to be principally composed of horizontal beds of gneiss, broken and fissured by large dykes of pinkish granite. The most western hill was almost entirely granite, sending out wide dykes of pinkish coloured granites through the broken gneiss to the eastward.

Mattawa
River.

Mattawa River.—The largest stream joining the English River on the north side, below Lac Seul, is the Mattawa. This enters at what was formerly an Indian reserve, but where there is now only a Hudson's Bay Company's trading post called Mattawa. The river to which the name applies, is but a short strip of sluggish water connecting the English River and Shallow Lake. Above this there are two streams whose waters discharge by the Mattawa. The Trout Lake River empties into Little Shallow Lake lying to the east and thence flows to the north-east corner of Shallow Lake. At the extreme northern end of this lake is found the mouth of Red Lake River. These two are both fair sized streams, so that the flow of water in the Mattawa is considerable, but, owing to the large size of the channel, the current is very slight. From the river to the lake, a distance of four miles and a half, this strip of water occupies a wide valley enlarged into lake-like expansions, which apparently often serves as an overflow channel from the English River, at times of high water. As an example, during the summer of 1893, between June 30th and July 17th, the waters in the Shallow lakes and English River at Mattawa rose six feet; this rise was not occasioned by increased flow in the Trout Lake and Red Lake rivers, but altogether to the increase of volume in the English River, showing that the formation of the large channel of the Mattawa has been aided by the ebb and flow from freshets on the English River.

Occasional
reversal of
flow.

This channel is cut through soft stratified beds of sand and clay which occupy the lower country between the hills. The English River, below the junction, is held back by a rocky barrier of gneiss, which striking to the west, forms ridges running generally in that direction.

Shallow Lake.

Shallow Lake.—Shallow Lake is a long narrow strip of water, ten miles in length, lying north-and-south. From the south-western angle, a narrow arm runs westward about two miles, widening out and terminating in a round bay containing two small islands. In the main