

At most of these the banks are high and the river still apparently follows its original course. At the Roche Capitaine however, and at Des Joachims, secondary channels have been made and the waters diverted. This feature is especially well seen at Des Joachims where the present channel of the river is comparatively new and the course of the old channel lies to the north following the depression occupied by McConnell Lake and coming into the present channel at the head of the Deep River, to the north of the village of Des Joachims in a well defined depression, while the shallow nature of the present channel is indicated by the long line of foaming rapids which come in from the south. The difference in elevation between the foot and the head of these rapids is about forty feet. It is probable that at some time in the history of the river, perhaps at the close of the Glacial period, great accumulations of sand, gravel and boulders blocked the old channel at a point some three miles above the present foot of the rapids or near the mouth of the Dumoine river, and thus diverted the stream. Possibly the same thing occurred at the Roche Capitaine, since here the second channel is seen to the north of the large island in the river, this channel being now largely dry at ordinary stages of the water.

Indications of this blocking of the old course of the Ottawa is seen in the great accumulations of boulders near the village of Mattawa, which represent terraces of morainic origin, modified by the agency of the waters of the river. This evidently had some effect upon the river channel at this place, since Dr. A. E. Barlow in his report on the region says that "a well defined old river-channel occurs running through the rear portion of the village between the main street and the railway station which has evidently been followed by the Mattawa or its antecedent stream. It leaves the Mattawa about a mile above its mouth and reaches the Ottawa at the foot of the rapid nearly three-quarters of a mile below"*

About twenty miles west of Pembroke the river makes a sudden bend to the south at what is known as High View. Just above this on the north side is a bold headland known as Oiseau rock, which rises abruptly from the surface of the stream