

The general valley is a narrow cut through clay, with cut banks on either side for most of the distance to the first branch.

The country on either side is covered by a mossy swamp with a sparse growth of black spruce and tamarack. The course of the river, from the mouth of the Washagami, is east-south-east, but above this it evidently takes another direction, changing its upward course toward the south and, as its head-waters lie between the heads of the Attawapiskat and Winisk rivers, it probably flows to the north-east for some distance before turning to the east. The upper part is an older channel and its course, as before mentioned, was probably through the Sutton Mill lakes valley to the shore of the bay, which was at that time not so far from the lake as at the present time. In the latter part of its course, it is now cutting down a new valley through marine clays which cover the underlying rocks to a depth varying from twenty to fifty feet. From the lowest rock exposure to the sea, the current is swift and it is constantly moving a large quantity of gravel and finer material towards its mouth, and into the bay into which it empties. Limestone in apparently horizontal beds is exposed at intervals in that section which lies between forty and one hundred miles from the sea. From the fossils collected it would appear that they are probably of Silurian age.

Above the Little Ekwan, the river issues from a wide valley which is cut through a higher plateau, but this valley gradually narrows before the Washagami is reached, and cut banks of clay, higher but somewhat similar to those in the river below, occur at many of the bends. These clays contain marine shells such as *Saxicava rugosa*, *Macoma calcarea*, *Mya truncata* and *Cardium ciliatum*. These were also found about 390 feet above tide at the highest point at which the clays were seen. In the bed of the river the living fresh water species noticed were :

*Anodonta Kennicotti* Lea, *A. marginata*, Say, and *Lampsilis luteolus* (Lamarck) var., as identified by Dr. Whiteaves.

The Washagami river is but a small stream, divided a few miles from the Ekwan into two branches. The northern branch comes from a long lake-valley running north and south, or parallel to that of Sutton Mill lakes, and this may also have been one of the outlets for a stream such as the upper part of the Ekwan. The lower part of this valley or the portion near the Ekwan, is now being cut into by the stream and a short new valley eroded.

The fall in the Ekwan from the mouth of the Washagami, as given by our barometric readings, is over 300 feet. North of this, to beyond