

A TRIP IN THE LITTLE FORK, NETT RIVER COUNTRY, MINNESOTA

BY

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On May 13th Mr. Charles Hartman, Register of the Duluth Land Office, and myself set out from the Indian Agency at Nett Lake, Minnesota, on a trip in the Little Fork and Nett Lake river valleys. We had camping outfit and had hired three Indians with canoes to take us from place to place as we desired. We left the agency at about 2 P. M. and canoed westward five miles across Nett Lake and descended Nett river. That night we stayed at Glen Thompson's homestead on the west side of the Bois Fort reserve. The next day we camped where the D. R. L. & W. Ry. Co. switch from the main line at Kinnmount crossed Nett river in the logging days of 1908 on the reservation. At this juncture we sent two Indians back to the agency for more supplies. This delayed us a day, most of which was spent in camp and in visiting the country in the vicinity of the same. May 16th and 17th found us at the falls on Nett river. On the 18th we went on down the river to where it joins the Little Fork to Dead Man's rapids and on Monday I walked overland to Celler's rapids still further up stream. On the 21st we descended the Little Fork 65 miles to the town of Little Fork. Here we paid off the Indians and Mr. Hartman and myself proceeded on to Big Falls on the Big Fork river by railway, some 20 miles southwest of Little Fork post office. We spent the 22d at Big Falls and then took the evening train northward for home by way of International Falls. Mr. Hartman stopped a day at the latter place, but I went on the first train south from Ranire over the D. R. L. & W. Ry., arriving at Nett Lake May 23.

We had been out in all less than ten whole days. We had traveled more than 200 miles by water and a little less than 100 miles by railroad. We also saw much country that has hitherto received but little mention.

From its confluence with Little Fork river from where it leaves Nett lake, Nett river is a very crooked, much meandering stream. It is some fifty miles in length as it runs, while a footman can walk from its mouth to its source in one day by cutting across the meanders. The general direction of the stream is north of west. Sixteen miles from where it leaves Nett lake, as it runs, are a series of pronounced falls, three in number. The distance between the first falls and the third is approximately one mile. The first and second falls are over Laurentian granites and allied Archaeon rocks. The third falls are over upturned lower Huronian rocks along fault lines, crossing the river at right angles to its course.

Nett river has but little fall from where it leaves Nett lake to the fall line. Its banks do not average four feet in height and much of the region adjacent to the river is a swamp. There is evidence that in very recent geological time Nett lake extended to the falls and covered an area of 500,000 acres instead of $\frac{3}{4}$ of a township as it does now. Furthermore, should an earth disturbance raise the falls twelve feet, it would convert the region back into a huge lake and the lowering of the same falls twelve feet would soon make Nett lake dry.

On account of the little fall in Nett river in its upper course and its numerous meanders, the stream is blocked by thirteen log jams in as many miles.

Nett lake and river have 17,000,000 feet of pine tributary to it and as many million feet of hardwood, not to say anything about the cords of pulp wood. It is proposed to dam Nett river at the upper falls, the dam to be four feet in height. The river at present is forty to sixty feet wide and very shallow most of the year, especially at the intake from the lake. This would raise it so that logs could be driven down it. The numerous meanders of the stream are also proposed to be cut through, thus shortening the stream and increasing its flow-current. This improving the river should not exceed \$6,000.

A mention of the falls has been made. The three falls each aggregate approximately fifteen feet respectively. These could be utilized for generating water power and I judge that each is capable of producing 10,000 horsepower. These, no doubt, will be used in the installing of mills and electric plants, when the region becomes settled.

Below the falls in Nett river the stream has incised its channel till near its confluence with the Little Fork, its banks are fifty feet high. And as a consequence, its tributary side streams make the region have quite a bluff appearance. Throughout its entire course its channel is incised in glacial material except at the falls and the few rapids. Its banks below the falls are mostly in clays of the Lake Agasiz series.

Little Fork river has a considerable fall, but is also a much meandered stream. At one place a meander is between 7 and 9 miles around while a trail across its neck is less than forty rods. The stream is nearly 100 feet wide and rather deep. It has numerous rapids but no falls. Its rapids are in places where the stream cuts across the upturned edges of fault blocks of Huronian and Archaean rocks. The rapids were once falls, but have been worn down to rapids by the rapid current and ice action. The more rapid current accounts for the falls of this stream being worn down to rapids while those of Nett river are still falls. The country adjacent to the stream (Little Fork river) is not swampy from Celler's landing to Little Fork post office. Northward from there, however, it crosses the "Great Muskeg." The Little Fork country is settled near the river, as is lower Nett river. The valley of this stream, for the most part, is incised in clays of glacial age, mostly of the Lake Agasiz stage, though the meandering stream itself is cut in deposits laid down by itself on its own valley floor.

The timber of the region amounts to many hundred millions of feet B. M. The industry of the region today is in the main lumbering. We passed 1,000,000 feet of logs in the river on our trip, all being driven northward to Rainy River and International Falls to be sawed into lumber or made into paper. The timber adjacent to the river is mostly hard wood and cedar. Three acres of cedar poles at the mouth of Nett river netted \$1,400 as it stood in the woods. A homesteader or a buyer of land along either of these streams will usually have timber enough on the land to pay for clear-

ing up and improving the land, furnish a handsome living for the settler while clearing same.

The soil in the region is varied, but ranges from a sand-loam clay, black-loam soil to peat-loam soil, usually underlaid with clay, making it rich in plant life. We made repeated inquiries of the settlers as to the crops. Dent and Northwestern corn were said to mature. Wheat yielded well, as did rye and barley. Clover and grasses also yielded two to three tons per acre. There is no reason why people who go into this region for the purpose of making a living farming should not succeed. But too many men have taken up land with no other intention than to sell it to the timber people (or any other possible buyer) as soon as they could prove up on same. Improvements, therefore, are not what they should be and too few settlers have cows and chickens in a country where both do well and bring profitable returns. Furthermore, there is no reason why farmers who intend to farm and make a home should not go to this region. There are some homesteads yet to be had. In addition, land is cheap that is owned privately or by the state of Minnesota.

In a mineral way nothing is known of this region. Float coal is said to have been found in the stream beds, but no veins have ever been located. Quartz rock formation, exposed both on the Little Fork river near the town of the same name and also on the Big Fork river near Big Falls, is often sprinkled with gold that is said to assay well. Placer deposits have also been found that run high in gold locally. Geologically speaking, the region seems to be underlaid with Lower and Middle Huronian rocks (Couchiching formation) plus Archaean rocks. The Huronian rocks are likely to contain iron deposits. In fact iron boulders have been found in many places and all the streams are impregnated with iron.

The region is crossed by the Minnesota and International Railroad, the terminal points being Bamidji and International Falls with the towns and railroad centers of Little Fork in Little Fork valley and Big Falls in the Big Fork region. Otherwise the region is practically in the virgin state.

