

\$100,000 on wing dams to divert water into one channel so that the river will be navigable for small, light draft steamers. The floods of the last year or two, together with recent fires have been especially severe, and have destroyed many of the dams and shifted others.

The steamers can ascend these rapids only when there is an even average flow of water. At present the water is usually very low or very high. Inasmuch as the development of this country depends, for the present at least, on communication by water, the importance of preserving stream flow is manifest.

Besides this direct effect on navigation, these tumbles are filling the beds of smaller creeks and tributaries with gravel and driftwood, spoiling them for driving purposes. In many cases they are tearing away acres of good alluvial land in the flats towards their mouths.

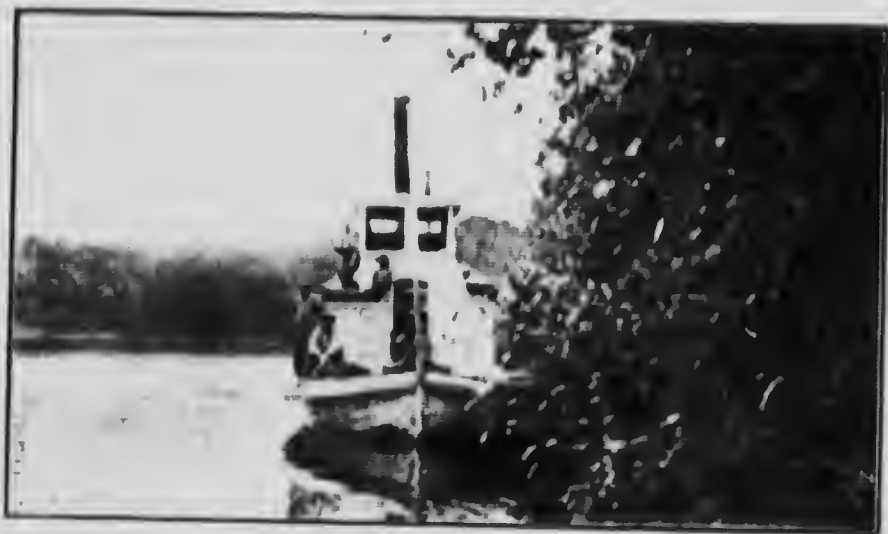


Photo F. McVickar, 1911.
PLATE 17.—Steamer on Lesser Slave River.

The recent fires have another effect which, while not felt so directly at present as the floods, is yet in the long run more disastrous in its consequences. I refer to erosion. In that part of this report dealing with soil conditions, the northern face of the Swan hills is described as a large area of land much broken by cross-ridges and deep ravines, but covered to a considerable depth with a fine clay loam soil mixed with stones. This region is a spruce site of the first quality, but since the second fire, which occurred in 1910, erosion is rapidly stripping off this fertile soil and laying bare the underlying boulder-clay.

Great as the damage already done by fire is, it is insignificant when compared with possibilities for destruction which are rapidly becoming probabilities as the country fills up.

When it is considered that practically the whole interior country of the Swan hills is covered with a stand of young timber which will double its yield in twenty years, and that the increasing use of the Klondike trail as a route to enter the Peace River country is jeopardizing this stand more and more every year, it is easy to see how imperative is the necessity of adequate fire-protection. In the same way, the Waldshaw trail is a constant menace to the pine and spruce areas on Martin mountain.

Within a few years the prairie lands over toward the Peace will be filled. When this time comes, the tide of immigration which at present neglects the Lesser Slave