

level country can be obtained. The places which have been chosen for mission stations are all at a distance from the river, a preference having naturally been given to the borders of the large lakes which lie along the base of the hilly country for the sake of the fine fish which these yield in abundance. The quantity of fish of very fine quality obtained from some of these lakes is enormous. The best fishing season is just as the winter commences, and in the course of a few weeks, some years ago, there were taken in Lake St. Ann's alone 40,000 of these "white fish" (*coregonus albus*), having an average weight of 3 to 4 lbs. each. The fish are preserved during the winter simply by being frozen, and afford a cheap and nutritious article of food.

In the upper part of the Saskatchewan country coal of fair quality occurs abundantly, and may hereafter be found very useful; it is quite fit to be employed in the smelting of iron from the ores of that metal, which also occurs in large quantities in the same strata. Building stone is wholly absent until quite close to the Rocky Mountains, but brick earth and potter's clay may be obtained in many parts of the country. The climate is more irregular than that of Red River, and partial thaws often occur long before the actual coming of spring and do great harm to the vegetation. The winter is much the same in its duration, but the amount of snow that falls decreases rapidly as we approach the mountains.

The North Saskatchewan freezes generally about the 12th November, and breaks up from the 17th to the 20th of April. During the winter season of five months the means of travelling and transport are greatly facilitated by the snow, the ordinary depth of which is sufficient for the use of sleighs, without at the same time being too great to impede horses. If proper roads were formed this facility would be greatly increased, and as a result there would be no season during which the country could be said to be closed for traffic.

Between Carlton and Edmonton there is no valuable timber to be found south of the river, the only trees growing there being small aspen poplars. To the north, however, and along the river above and below these points, the spruce, fir, pine, and birch occur abundantly. There is neither oak, ash, elm, maple, or any of the hardwood trees that are found at Red River in any part of the Saskatchewan. Only a few trees of the false sugar maple, from which the Indians make a coarse kind of sugar, being found in certain places.

The South Saskatchewan, which in its upper part is called Bow River, resembles the North Saskatchewan in size, volume of water, and its general direction, but it passes through a very different description of country.

After leaving the eastern limit of the country that is within the influence of the mountains (which may be considered to commence about 20 miles below where it receives Ispasquchow River), the South Saskatchewan flows in a deep and narrow valley, through a region of arid plains, devoid of timber or pasture of good quality. Even on the alluvial points in the bottom of the valley trees and shrubs only occur in a few isolated patches. The steep and lofty sides of the valley are composed of calcareous marls and clays that are baked into a compact mass under the heat of the parching sun. The sage and the cactus abound, and the whole of the scanty vegetation bespeaks an arid climate. The course of its large tributaries, Red Deer River and Belly River, are through the same kind of country, except in the upper part of the former stream, where it flows through rich partially wooded country similar to that on the North Saskatchewan.

Towards the confluence of Red Deer River and the South Saskatchewan, there are extensive sandy wastes. For 60 miles to the east of this point the country was not examined by the Expedition, but at the elbow the same arid description of country was met with, and it seems certain that this prevails throughout the entire distance. Below the elbow the banks of the river and also the adjacent plains begin to improve rapidly as the river follows a north-east course and enters the fertile belt. From the Moose Woods to its confluence with the North Saskatchewan it in no way differs from that river, which indeed is nearly flowing parallel with it, only 30 or 40 miles distant.

In the midst of the arid plains traversed by the South Saskatchewan, there are isolated patches of table land, upon the surface of which the vegetation becomes luxuriant, and pasture of fair quality may be found. The Expedition spent two weeks at the Hand Hills, which form one of these patches, for the purpose of recruiting the horses.

To the south of the river also, in lat.  $49^{\circ} 40' N.$ , at the Cyprées Hills, there is abundance of water and pasture, and also a heavily timbered slope facing the north, where spruce firs, pines, maple, and many kinds of shrubs flourish in abundance, while for hundreds of miles around in every direction there is no appearance of the plains having ever supported a forest growth.

In the commencement of August 1858, and previous to any attempt to cross the Rocky Mountains, I determined to examine the whole line of country along their base to