

Swan River to meet the North Saskatchewan below Fort à la Corne. The general altitude of this first or most easterly prairie steppe may be estimated at 800 to 900 feet above the sea level.

The second or middle steppe, conterminous with the limit of the first just described, extends westward to the base of the third steppe, which may be defined by a line crossing the United States frontier not far from the "Roche Percée," in longitude  $104^{\circ}$  W.; thence passing in a north-westerly direction to near the elbow of the South Saskatchewan, and northwards to the Eagle Hills, west of Fort Carlton. The mean altitude of this second steppe is about 1,600 feet above the sea level.

The third and highest steppe extends to the base of the Rocky Mountains, and has a mean altitude of 2,700 feet.

The composition of the plains being, to a great depth, of soft materials, these steppes do not influence the river channels, so that the rivers rising in the Rocky Mountains traverse the plains with an uniform current, uncontrolled by the superficial features of the country. These rivers have, generally speaking, formed deep rather than wide valleys, their lateral extent being rarely proportionate to their steep and lofty banks; consequently, these valleys do not afford a great extent of alluvial land, or land of first quality, for agricultural purposes; and this is more particularly true of the western plain country, where the rivers traverse the higher plateaus.

The existence of a general law regulating the distribution of the woods in this portion of the continent suggested itself to us during our first summer's explorations, and subsequent experience during the seasons of 1858-9 fully confirmed it.

The fertile savannahs and valuable woodlands of the Atlantic United States are succeeded, as has been previously alluded to, on the west by a more or less arid desert, occupying a region on both sides of the Rocky Mountains, which presents a barrier to the continuous growth of settlements between the Mississippi Valley and the States on the Pacific coast. This central desert extends, however, but a short way into the British territory, forming a triangle, having for its base the 49th parallel from longitude  $100^{\circ}$  to  $114^{\circ}$  W., with its apex reaching to the 52nd parallel of latitude.

The northern forests, which in former times descended more nearly to the frontier of this central desert, have been greatly encroached upon and, as it were, pushed backwards to the north through the effect of frequent fires.

Thus a large portion of fertile country, denuded of timber, separates the arid region from the forest lands to the north, and the habit which the Indian tribes have of burning the vegetation has, in fact, gradually improved the country for the purpose of settlement by clearing off the heavy timber, to remove which is generally the first and most arduous labour of the colonist.

All the rivers which intersect the plains traversed by the Expedition east of the Rocky Mountains, with the exception of the Athabasca, flow into Lake Winnipeg and thence into Hudson Bay. The Athabasca, on the other hand, joins the McKenzie, which flows to the Arctic Ocean.

In describing the prairie country I shall successively treat of the lands adjacent to the different large rivers, not however with a view to scientific classification, but merely for the greater facility of indicating where lands fit for settlement are to be met with.

The most easterly stream flowing into Lake Winnipeg is the river of the same name. It flows wholly within the eastern rocky belt of country, and was descended by the Expedition with canoes on the way from Lake Superior. The country on both sides of this river is so rocky and covered with swamp as to afford but little extent fit for agricultural development.

Lake Winnipeg, which is the principal reservoir in which the waters of these rivers collect, has its outlet by Nelson River to Hudson Bay. It extends from latitude  $50\frac{1}{2}^{\circ}$  to  $54\frac{1}{2}^{\circ}$  N., but from lying somewhat obliquely, it is about 290 miles in length.

Its rugged eastern shore is principally composed of primitive rocks, while along the west the headlands are formed of beds of limestone, and the country in their rear is low and marshy.

Lake Winnipeg communicates with several other sheets of water, of which Manitoba and Wimpegoors lakes are the most considerable. None of these lakes are deep, and many parts of them are extremely shallow, but still they present fine stretches for future steam navigation, and from the facility of access which they give to the timbered districts they will doubtless prove of great value in opening up and settling the country.

Fish abound in these lakes, and the surgeon of Lake Winnipeg especially often reaches a large size without losing its rich and delicate flavour.

Next in order comes the Red River of the North, so called to distinguish it from a river of the same name in the state of Arkansas.