



GEOLOGICAL AND NATURAL HISTORY SURVEY OF CANADA.
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MAP
SHOWING WOODED AND PRAIRIE TRACTS &c.
in part of
NORTHERN ALBERTA
and portions of the Districts of
Assiniboia and Saskatchewan,
NORTH WEST TERRITORY.
J. B. TYRRELL, B.A., F.G.S.
1887.

LEGEND

- Regions generally wooded.
- Regions partly wooded and with scattered trees and spruce.
- Wooded river valleys.

Information as to the character of the country derived in part from the Reports of Dominion Lands Surveyors.

Geographical Miles.
Statute Miles.
Natural Scale: one inch = 40 miles.
HEIGHTS IN FEET ABOVE SEA LEVEL.

Note.
Main topographical outlines from Dominion Lands Surveyors, with additions from Survey of Indian Reserves and Timber Lands, topography and many hydrographical details from surveys by J. B. Tyrrell 1885-36, E. H. Hamilton 1882, and D. H. Dowling 1882, of the Geological Survey Branch.

Wagon trail.
Cattle trail.
Fish trails surveyed.
Fish trails unsurveyed.
Homes situated on large prairie tracts.
Outline lines.
Hydrographical boundaries definitely ascertained.

NOTES.

It is possible to drive almost everywhere with horses and wagons.

In the forest area the surface over considerable areas is rough and uneven, often consisting in the western portions, of high ridges of coarse yellow sand, covered with spruce and pine. Between these ridges are marshy tracts, either covered with moss or having a close growth of spruce and larch. The general character of the country is that of a coniferous forest, in parts of which the trees are large and valuable, but in other parts they are too small to be of any service. Considerable areas have been burnt over and turned into a wilderness of dead tree-trunks, scattered irregularly upon the surface. In the valleys of the streams there are many pretty little grassy intervals, too small to pick out in lighter color on the Map.

The trees growing in this area are White Spruce (*Picea alba*), which constitutes the principal timber tree of this region. In the bottom and on the sides of valleys, and around lakes, this tree often grows to more than two feet in diameter. A fine grove lies south and south-west of Back Lake, and there is some good timber in the northern part of the Beaver Hills. In the forests of these places it is mixed with some firs of Balsam Fir (*Abies balsamea*), which is also growing in the Saskatchewan valley, from a short distance below the mouth of Brazen River. Black Spruce (*Picea nigra*) does not grow to so large a size as the white spruce, and is generally found on higher sandy land, around the borders of swamps and marshes, though it is also growing in some places in the valley of the Saskatchewan.

Black Pine or Cypress (*Pinus Murrayana*) finds its eastern limit in this forest area. It grows on dry sandy ridges and plains, in places usually more or less thinly wooded. On the Red Deer River it descends to within eight miles of the crossing of the Calgary and Rocky Mountain House trail. It is growing on the sandy ridge between Battle and Blind Man rivers, and on the banks of the Saskatchewan, as far down as the mouth of White Mud Creek. It was nowhere seen to come east of the 114th meridian.

Tamarac (*Larix americana*) grows in some places up to 18 inches in diameter. It can be found in almost all the wet bogs and swamps in the bottoms of valleys and ancient depressions, growing with spruce. There are some good trees in the northern portions of the valley of the Saskatchewan.

Canada Birch (*Betula papyrifera*) grows to a large size throughout this area, but it is nowhere very plentiful. Balsam Poplar (*Populus balsamifera*) and Aspen (*P. tremuloides*) are also common everywhere, the latter in some places in the Beaver Hills growing to five feet in circumference.

The forest area grades imperceptibly into the less thickly wooded or partly wooded country, though any line drawn between them must be more or less arbitrary. In general, the line here drawn is just outside the limits of the coniferous woods. The forest area stretches furthest towards the north-east on the tops of the hills and ridges, while between them many of the valleys are almost entirely open and grassy for long distances into the otherwise thickly wooded region. This partly wooded area, and western portion of the "Fertile Belt," consists essentially of poplar woods in groves of greater or less extent, more or less widely separated by areas of fertile grassy prairie. On the upland the wood consists almost entirely of small aspen and willow, while the bottoms of the valleys are generally overgrown with Balsam Poplar. In those valleys, too, white spruce is almost always found growing on the steeper hill-sides and in the more sheltered recesses, the northern exposures being almost invariably more thickly wooded than the southern. Besides the above named-trees, canoe birch is growing on the sides of most of the larger valleys, and ash-leaved maple (*Acer glabrum*) grows to a fair sized, but very bony tree in the valley of Battle River as far west as "The Maple," in township 46, range 15, and some scattered trees are also growing on the north side of Sounding Lake and in the valley of Ribstone Creek. None were seen north of Battle River. This district is everywhere plentifully supplied with good water, either collected in beautifully clear willow- skirted ponds, or running in bright cool brooks towards the Saskatchewan or Battle rivers, which flow in deep wide valleys, and carry toward the superfluous water of this extensive area. The land is generally a sandy clay, having sufficient sand to make it warm and easy to work, but rarely so much so as to make it very light and poor. Everywhere the surface is mixed with a large quantity of decayed vegetable matter, turning the soil to a rich loam, which could be profitably tilled for many years without artificial manure.

Throughout this district there are a few tracts of considerable extent, some of the larger of which have been indicated on the Map.

The Plains are an essentially wooded region lying to the south and east of the edge of the wooded country. They are here naturally divided into two parts by the Red Deer River, which flows southward in a very deep and rough valley. The sides of this valley are often quite bare, but poplar and spruce are generally growing in sheltered recesses and lateral gullies, while on the alluvial intervals there are some fine groves of Cottonwood (*Populus monilifera*) and Balsam Poplar (*P. balsamifera*). West of the river the surface is lightly undulating, though several conspicuous hills rise to a considerable height above the general level. It is drained by several small streams, flowing in valleys, that become rapidly deeper towards their mouths, where they are generally filled with a thick growth of spruce and balsam poplar. The soil of this district is a rich sandy loam, covered with a close sward of short nutritious grass. Immediately east of the Red Deer River the Hand Hills rise to a height of 1,500 feet above the river, having an abrupt, almost mural, escarpment towards the west 600 feet in height. In the recesses of the hill-side there is a small amount of good poplar.

East of the Hand Hills the country is level or undulating, and imperfectly drained by several small streams that flow in shallow valleys. Between these brooks the rainfall is collected by larger or smaller lakes, many of which are fresh, but many others are saline and quite bitter, and around these there is often in dry seasons a white efflorescence consisting largely of sulphate of soda. The soil of these Plains is generally a sandy clay, mixed with a much smaller amount of organic matter than the soil of the country farther north. The surface is usually covered with short, nutritious "buffalo grass."

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