

## WATER-POWERS.

Small water-powers might be developed at several places within the area. On Whitefish creek, in Argyle township, there are two falls each with a level difference of about 15 feet, and by the erection of suitable dams storage reservoirs of considerable size could be created. The rapid at the outlet of Lloyd lake in Midlothian township has a fall of 25 to 30 feet, and the high hills which surround Lloyd lake would permit of the storage of almost any desired amount of water. The outlets of Montrose, Austen, and Midlothian lakes are also characterized by rapids of size sufficient to develop some water-power, but the country round the outlets is so low and flat that the necessary dams would be very expensive. On Nighthawk creek, about a mile below Austen lake, the creek flows through a deep gorge. A dam at this point would back up the water on Austen lake as high as might be desired.

## FLORA AND FAUNA.

Matachewan district is well forested. The deep covering of drift has been very favourable to the growth of good-sized trees, more especially in the dryer areas. The excessive moisture of the muskeg-covered parts is commonly a great deterrent to growth, so that they are covered only by sparse growths of stunted spruce and tamarack. The sandy nature of the soil in the dryer areas has resulted in the growth of an unusual proportion of good-sized jack pine, suitable for tie timbers. The best timber of this type was seen along the banks of Whitefish creek, in Bannockburn, Argyle, and McNeil townships. In more clayey soils, good-sized spruce and balsam are characteristically found. Individual trees of red and white pine are scattered throughout the area, more particularly near Niven's line, but there are not enough of them to add any value to the timber estimates.

The white pines are commonly found as large individuals up to 3 feet or more in diameter, towering over the rest of the forest growth. They are clearly the remains of an earlier forest growth destroyed by fire many years ago. A white pine 33 inches in diameter inside the bark, felled in cutting the Midlothian-Montrose township line, showed 215 annual rings, whereas the average large trees of the forest growth in the vicinity do not exceed 150. It is clear that the pines must have been good-sized trees, 6 or 8 inches in diameter, when the others began their growth; and the uniformity that exists in the size of the surrounding timber indicates that all of these trees began their growth about the same time. The occurrence of rare individuals of white spruce as large as the pines themselves shows that it is not impossible for these trees to attain a large size when protected from fire. It, therefore, appears evident that the large pines are the remnants of an earlier forest growth, the survivors of a fire that took place about one hundred and twenty-five years ago. That the pines are more resistant to fire than the spruces, jack pines, balsams, etc., is easily seen in recently burned parts of the district, where the white and red pines stand green and vigorous, whereas every other tree has been killed. As the greater number of bush fires are ground fires, except when urged by high winds, the cause of the resistivity of the pines would appear to be due either to their deeper