

and supplies 75% of the river discharge at Shuswap Falls, the remainder being contributed mainly by the only two creeks of consequence between the Lake and Shuswap Falls, Cherry Creek and Eight-mile Creek. Apart from a small area of flat land at each end the shores rise quickly and are densely wooded. After a fall of 38 feet at the Lake outlet, the river flows on even grade through the 20 odd miles to the gorge above Shuswap Falls where, with a series of rapids extending over half a mile, the river drops 70 feet in that distance.

The river discharge averages 350 to 400 second feet during January, February and March, rising to a peak in the middle of June of between 6,000 and 13,000 second feet, dropping thence uniformly to 2,000 second ft. in August, and then gradually to 400 second feet in December.

During November and December minimum temperature hovers around 32° F., and during January and February fluctuates between freezing point and 10° below zero. Maximum temperature rises uniformly from 40° F. in March to a peak of 90° in July, and then falls also uniformly to 40° at the end of November. Ice conditions on the river are at their worst between the third week in December and the second week in February, anchor ice forming periodically accompanied by frequent flow of frazil. The river channel is usually free of ice by the middle of March.

The development, in design, is divided into four progressive phases to take shape in turn, as increasing market calls shall require. The first, with an overflow intake dam containing 16,000 cubic yards of concrete, a net head of 130 feet, and one line of 3,750 feet of 96 inch steel pipe to the Power House at Shuswap Falls, will provide 4,000 continuous H.P. with a peak capacity of 7,000 H.P. The second, with two lines of 96 inch pipe at Shuswap Falls, and storage provided by raising the surface of Sugar Lake 18 feet, will supply 8,000 continuous H.P. with a peak capacity of 13,250 H.P. The third, with three lines of 96 inch pipe at Shuswap Falls, and storage provided by raising the surface of Sugar Lake 40 feet, will supply 12,000 continuous H.P. with a peak capacity of 19,880 H.P. The fourth phase, by the installation of an additional plant at the foot of the Sugar Lake dam, operating under a head of 70 feet and using, as it passes, the water being drawn from storage to feed the Shuswap Falls plant 20 miles lower down the valley, will bring the grand total of power to be provided by the development to 28,000 continuous H.P. with a peak capacity of 28,880 H.P. The dam at Sugar Lake will be placed and designed to allow of an eventual increase of height to 80 feet to provide storage for the possible doubling of that output.

The prospective light and power market in the Okanagan Valley is attractive. That demand, coupled with the electrification of the proposed 180 miles of extensions, through the district, of the Canadian Northern Pacific Railway Company, will amply justify the prosecution of the development. The produce shipped from the valley in 1912 amounted to 1,900 carloads. There are at present 17,400 acres of planted orchards in the Okanagan of which only 32% are over five years of age. On a conservative basis, assuming even no further planting, expert calculation definitely places the export of fruit alone in the year 1920 at 7,000 carloads, allowing liberally for orchard losses by disease and misadventure, and in the year 1925 at 12,000 carloads.