

in length, where at low water the level of the river water is from 11 to 15 feet above the sea, and, as the ordinary tides flow from 23 to 27 feet, the sea level at high water is from 8 to 12 feet higher than the waters of the river.

Thus there are two falls during every tide, viz, one outward and one inward, and vessels can only pass when the waters of the ocean and the river are on a level, and this occurs only for the space of about 10 minutes during each ebb and flow of the tide; at all other times it is either impassable or extremely dangerous. During great freshets, which generally happen between the beginning of April and the middle of May from the melting of the snow, the falls are absolutely impassable to vessels bound up the river, as the tide does not rise to the river level.

There is sufficient depth of water for large vessels as far as the falls, and beyond them the river St. John is navigable for small vessels as far as Fredericton, the capital of the province. Immense quantities of timber are rafted down from the forests of the interior to the city of St. John, which is also an entrepôt of the agricultural and mineral products of a wide extent of country.

Anchorage.—The best berth for vessels of war in St. John Harbor is on the west side, a little north of Sandy Point; in this part a vessel will be out of the strength of the tides, and will not swing to the flood until the water in the harbor has risen to the level of the water in St. John River, about 3 hours after the commencement of the flood. In this berth the traffic of steam vessels and rafts will be avoided.

Time Signal.—A time ball, painted black, with a gold band, is dropped daily, except on Sundays, at the observatory on the northern tower of the new custom-house, 112 feet above the ground and 123 feet above high water. The ball is hoisted half mast at 0h. 45m. p. m., close up at 0h. 59m. and dropped at 1h. 0m. p. m. according to the mean time kept at St. John.

Fog.—From observations taken from 1865 to 1885 it appears that the fog signal at the entrance to St. John Harbor was sounded during a total average annual period of 180 hours in July and the same time in August; during 144 hours in June and 96 hours in September. In the winter months, from October to April, the average time the signal was in operation was about 70 hours for each month, including the time sounded during falling snow.

Ice.—The navigation of St. John Harbor has never been known to be impeded by ice, nor does field ice drift into the entrance of the harbor from the Bay of Fundy.

Coal.—About 8,000 tons are usually kept in stock. Vessels are coaled slowly by lighters, but without interruption from weather.

Railway and Telegraph.—St. John is connected with Halifax and Quebec by the Intercolonial Railway; with Fredericton, New Brunswick, and the United States by other lines; a railway is also in course of construction which will give a shorter route to Quebec than the Inter-