

injury received from an unusual succession of high tides, due, perhaps, to a series of storms of very great severity. If a downward movement of the coast is now in progress, and is so rapid as to be recorded during the short lifetime of a tree, we might reasonably expect to find, in a situation like this one, trees in all stages of destruction and of burial by the advancing salt marsh.

In one other place, of those which I visited in 1911, is there perhaps a record of forest destruction through submergence. At the head of the southeast branch of Saint Simon inlet, near the railway that runs to Shippigan, the low upland bordering the salt marsh is occupied by many stumps and dead trees. The suggestion of subsidence here in modern time is strengthened by the discovery of a number of stumps farther out on the marsh itself, entirely surrounded by *Spartina* and other halophilous plants, and of a black stratum of leaf mould or swamp deposit containing birch bark, beneath three feet of salt marsh material, near the edge of the creek, about 300 feet out from the margin of the upland. Some of the stumps are charred, as if by fire. Most of them, however, bear axe marks, as if the forest had been cut while living; for there is no apparent reason why a tide-killed forest should have been visited by the woodsman in a district where standing timber is abundant and little fuel is used. The encroachment of the salt marsh upon the forest border, therefore, must have taken place within the two centuries or so of occupation of the district by the French. A series of borings indicates that the buried stratum of leaf mould, at its greatest depth, is not more than four and a half feet below the surface of the marsh. As Professor Johnson points out, there are a number of ways to account for slight submergence without subsidence. The local high tide surface may creep up over a low upland border and bury it with a few feet of salt marsh in a district, for instance, where the widening and deepening of passageways across barrier beaches allows a constantly increasing play of the tides, or where the same result is accomplished in a single great storm, as at Marshfield, Massachusetts, in 1898.¹ On a rapidly retrograding coast like

¹D. W. Johnson: Botanical evidence of coastal subsidence. Science, vol. 33, 1911, pp. 300-302.