SUPPOSED EVIDENCES OF SUBSIDENCE OF NEW BRUNSWICK COAST. 13

that of New Brunswick, where the sea has eut back half-way to the heads of the estuaries, an increase of three or four feet in local high tide level might reasonably be expected. It does not appear, therefore, that the destruction of trees at the localities noted constitutes valid evidence of coastal subsidence.

On the other hand, as Professor Johnson suggested to me before field work was commenced, if the coast is now going down at a rate fast enough to be registered within the lifetime of trees of moderate size, the destruction of bordering forests should be seen in all parts of the area where submergence is in progress. An inspection of a number of estuaries along the drowned coast of New Brunswick, between Bathurst and Point du Chene, leads to the opinion that as a rule the forests surrounding salt creeks and marshes are not suffering from their proximity to the sea. The fringe of dead trees which we should expect to see is missing.

Forest Beds and Peat Bogs Reaching to Depths Below High Tide Level.-At a number of places along the coast of New Brunswick, peat bogs composed of fresh-water plants and containing roots of trees have been reported to extend to depths several feet below high-tide mark. Bogs of this type, composed of sphagnum and other swamp-loving plants, but generally treeless, cover vast areas on the lowlands near the coast, and are known as the "barrens." Their height is often not more than fifteen or twenty feet above sea-level. Since soundings have been known to penetrate them to a depth of over twenty feet, the impression has arisen that the bottoms of the bogs are so far below tide level as to indicate a subsidence of the coast. Among those who have studied the bogs and reported in detail upon them, the late Dr. Chalmers has published the largest amount of information. Criticism of his evidence naturally follows two lines: (a) Chalmers' statements of observation are so qualified as to admit of some doubt whether the peat ctually does extend below sea-level; and (b) in ease it does tend to that depth, the question arises whether it may not up explained in other ways than by supposing that the coast has gone down. In order to test both the facts and the interpretation of them as records of modern subsidence, I visited a few of the most