

that the ill-effects reappear in the following season, the eggs and brood of the fish, permitted after confinement to ascend to the spawning grounds, being very inferior and clearly affected detrimentally. The eminent Scottish authority, Professor W. C. McIntosh, some years ago described flounders that became egg-bound and swollen while confined in salt-water tanks; and ultimately they sickened and died.

The results, in all cases, are not so unfavourable. Sir J. G. Maitland kept some sea-salmon fry from March, 1881, when they were hatched, until 1884, and took the eggs and milt, so that he secured young salmon fry of small parent fish (smolts) which had never been to sea. Dr. Francis Day has told us that some of the young brood had attained a length of $5\frac{1}{2}$ inches in 1886. The retention of sea-salmon in fresh water is found usually to retard their growth, and in one of the earliest experiments (at Lier, in Norway) the weight reached in five years was under two pounds, less than one-tenth of that normally reached by migratory salmon. Sea-salmon planted in Lake Huron prior to 1883 were reported by the late Mr. Wilmot to be smaller than those found along the coast. The ouananiche of Lake St. John, P.Q., like their land-locked congeners in Lake Onawa and other waters in Maine, and the Chamcook Lakes in New Brunswick, are smaller than sea-salmon. In many cases access to the sea is possible; but if from some geological or other natural cause the fish were originally prevented from descending to the sea, the catadromous habit appears not to have been resumed, partly no doubt owing to the abundance of food in their fresh-water habitat. Land-locked smelt are very often abundant in waters containing land-locked salmon, and they afford an ample supply of food. Pacific salmon exhibit the same phenomenon, of which Kennerley's salmon is an example; but the spring salmon artificially land-locked in California in 1875 or earlier, bred, and their progeny reached a weight of eight or ten pounds, though on account of scarcity of food, another series were found in nine years to barely reach a weight of two pounds. The spring salmon or quinnat is a large species ranging from 15 to 50 or 60 pounds or even more. The salmon retained at Tadousac, and in certain small lakes adjacent to the Restigouche proved to be