

particles. Many of this batch of fingerlings measured fully three inches in length. The growth of fishes, especially young fishes, varies extremely; thus brook trout are usually two inches long when four months old; three inches when eight or nine months old, and five inches when a year old. Lake trout are six inches long at the end of the first year, and black bass at the same age are four to six inches. Salmon, when confined in ponds, are often stunted in growth, thus 3,000 salmon fry were planted in a small lake near Louisburg, Cape Breton, in 1888. In 1889 they were three or four inches long, and in 1891 (in their third year) some were caught with the fly, but were not more than eight inches in length. A similar experiment at the Restigouche Hatchery, resulted in producing young salmon, seven inches long in the third year, and ready to descend to the sea.

Discretion is not always shown in the planting of fish suited to the waters selected. Carp have been a questionable benefit, black bass in some waters have been far from a blessing, and that splendid game fish, the maskinonge, proves to be a veritable fresh-water shark in some lakes. "If planted in many of the small inland lakes (says Mr. Annin, jr., Superintendent of N.Y. State Hatcheries) the result will be that perch, pickerel and bass fishing would be greatly damaged." If predacious fish abound, it is useless to attempt stocking with a better class fish. The fry are inevitably exterminated. In Chautauqua Lake, N.Y., the U. S. authorities wisely decided to clean out that voracious ganoid, the bill fish (*Lepidosteus*), and in two seasons over 4,000 of these useless fish were captured in seines, pounds and traps, such extermination being often necessary before stocking begins. For some years the pike perch or doré (*Lucioperca* or *Stizostedion*) were hatched at Sandwich and at Ottawa. The first batch, about one million, were hatched in 1881, but partly on account of difficulties in securing ample supplies, this species was, after ten or eleven years, no longer embraced in the Government operations. Black bass too, for a time, were hatched at Newcastle, and German carp were also included, for one or two seasons, under the mistaken idea that it would introduce "into ponds and waters (to quote Mr. S. Wilmot's report) now depleted a highly esteemed description of food fish hitherto unknown in our country." A thousand young carp were, with the late Prof. Baird's

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