

spawn is at times dragged ashore by the seine; but such masses of spawn are probably dislodged by storms, and as a rule the seine will not interfere with spawn, unless in localities chosen by the various kinds of bass.

It is precisely such shallows as those here referred to, with beaches of sand or pebble, in which seining is carried on. The net is, as it were, thrown around the fish within a short distance of shore, and is pulled to land. Before being hauled in both ends are secured on shore, and the net forms a complete inclosure, capturing everything within its sweep and extending in some cases as much as 1,000 feet, with 12 feet depth in the middle, though the dimensions are often less than these. Captures in the seine are of a very varied nature, and as the meshes are loose, and not usually fully open, as in a fixed net, like a pound, many fish are entangled which are of no value for market purposes. Young fish, included in this mixed catch, are mostly injured, and may be thrown ashore as useless. Further, the constant use of seines, sweeping over the shallows, has a very unfavourable effect on the shoals of small fish. They are disturbed in their migratory movements and driven into deeper water, where they are exposed to the attacks of larger fish. Indirectly, as well as directly, the schools of fry are injuriously affected. Professor Ramsay Wright has referred* to the capture of immature whitefish by herring seine nets, and pointed out that the surplus fish are used as manure when the market is glutted. Similarly, Dr. H. M. Smith,† in his report already referred to, speaks of ground where whitefish formerly spawned in considerable numbers and, where the young now appear to congregate at times, on which quantities are taken for bait, measuring $1\frac{1}{2}$ to 3 inches long. The fishermen when using the seine can hardly know the extent of injury they inflict; for when very young, our valuable good fishes are transparent, minute, and almost invisible in the meshes of the net.

That valuable fry are thus disturbed, injured and destroyed, there can be no doubt. It is impossible to avoid this where seining is carried on. But the destruction of the young of inferior species, usually regarded as worthless, is most harmful. These small fishes, or minnows, are the favourite food of pike-perch or pickerel, salmon-trout and other predaceous fish. The abundance of these more valuable kinds depends largely on the abundance of smaller varieties on which they largely live. The term minnow applied to these small fishes is used indiscriminately and embraces nearly twenty species, including some of the more valuable food fishes.

As compared with the fixed pound net, inshore, through the meshes of which the very small fry mentioned readily pass without injury, or again, with the gill-net hanging with fully extended meshes in deeper water, the seine is by far the most injurious from the point of view here considered.

*Rep. Ont. Game and Fish Comm., 1892, p. 469.
†Bull. U.S. Fish Comm., 1890, p. 210.

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