

## Lake Whitefish and Lake Herring Fisheries in the Detroit River – a History

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Lake whitefish (*Coregonus clupeaformis*) and lake herring or cisco (*C. artedii*) historically supported vigorous commercial fisheries in the Detroit River. In fact, Detroit ranked second only to Chicago in 1872 for handling over 3.4 million pounds of fresh fish that included mostly lake whitefish and lake herring (Milner 1874). Much of the fresh fish market in Detroit was taken from spawning runs of lake whitefish and lake herring that ascended the river each fall. These fisheries were conducted between the mouth of the Detroit River and the city of Detroit prior to 1841 (Hubbard 1887) and were considered among the most lucrative in the Great lakes (Milner 1874).

From Milner (1874, p. 12-13)

“These fisheries, known as ponds, are amongst the most extensive establishments of the lake. Large numbers of white-fish are kept alive in them, from the fall of the year to late in the winter, when they are taken out, and sold in the market at good prices. The best ponds are situated at islands in the middle of the river, where there is an ample circulation of water, keeping the fish in vigorous, healthy condition for months.

The pond is merely an enclosure in the river, made by driving piles close together, and afterward sheathing the inside with planks, leaving joints of three-quarters of an inch width, to allow the free circulation of water through the pond. At one end of the pond a gate is put in, hinged at the bottom of the river to a mud-sill, and the upper portion, floating at an angle of about 45°, projects a foot or more above the surface, closing the entrance to the pond. By pushing the gate beneath the surface, with a pole, it is opened to the extent of one, two, three, or more feet, according to the depth the top of the gate is pushed down.

The accompanying plate (Fig. 1) represents one of the best arranged and conducted fisheries on Detroit River. The buildings for the men, the net-house, and the store-house, with the windlass-sheds, are all in view. It will be seen that the fishing is carried on by sweeping a seine in front of the pond, that is drawn in by horse-power. When the brails come on shore the men haul the seine until the bag is reached, when the leads are thrown over the top of the gate, which is then pushed down leaving an open space at the surface, of two feet, through which the fish are emptied into the pond without being touched by the hand, or taken above the water.

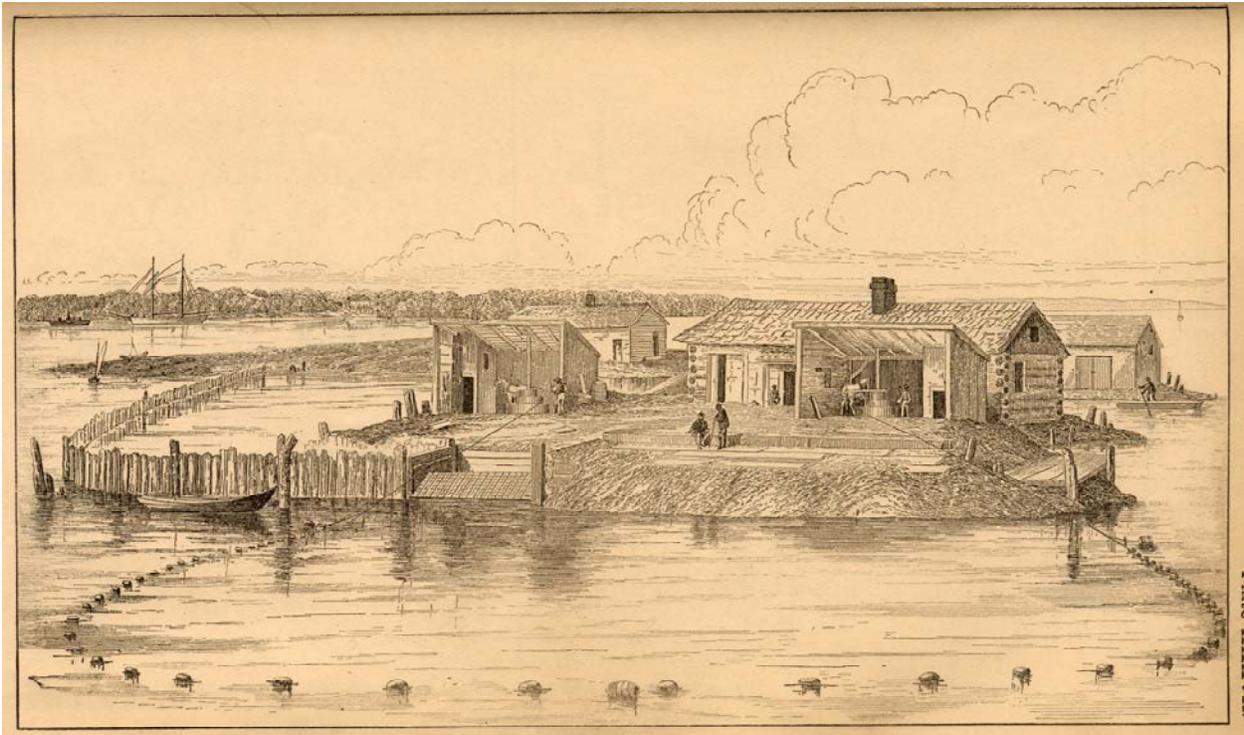


Figure 1. Grassy Island Pond-Fishery, Detroit River (from Milner 1874, Plate XXXVII).

At this fishery the seines in use are about one hundred rods long. A gang of thirty men are employed from September to the middle of November, working in two relays, night and day, and averaging about one sweep of the seine every hour. In each pond from twenty-five to forty thousand white-fishes, and a number of other species, are penned up every season.

There are nine ponds belonging to American proprietors, and seven belong to Canadians.”

Early fish propagation efforts in North America concentrated on lake whitefish, and Detroit river fishermen, such as Nelson W. Clark, were amongst the first pioneers in 1869, along with Seth Green (New York), and Samuel Wilmot (Ontario) elsewhere in the Great Lakes (Milner 1874). Practices, such as ponding and penning, utilized by the commercial seine fisheries since 1855 (Hubbard 1887) were also adopted by the early propagationists (Figs. 2-4; Baird 1884; Clark 1886; Kumlien 1887; Clark 1902). By 1872, both Nelson and Wilmot were conducting whitefish propagation efforts on the U.S. and Canadian sides of the Detroit River (Milner 1874). The Clark fisheries were conducted out of Ecorse, Michigan downstream from the city of Detroit and were run by Nelson and George Clark from fishery grounds off Grassy Island, which is just off shore from Ecorse. Nelson Clark conducted his propagation efforts in Clarkston, Michigan beginning in 1869, but operations moved to Northville, Michigan in 1874 under his son, Frank N. Clark, and became the basis for the U.S. federal hatchery system on the Great Lakes (Todd 1986). The state of Michigan founded a hatchery in Detroit in 1875 (Bissell 1887) that moved to the corner of Champlain Street and Campau Avenue in 1883 (Bissell 1890).



Figure 2. Pond fishery, Detroit River: Inclosure for keeping fish. (from Kumlien 1887, Plate 181).

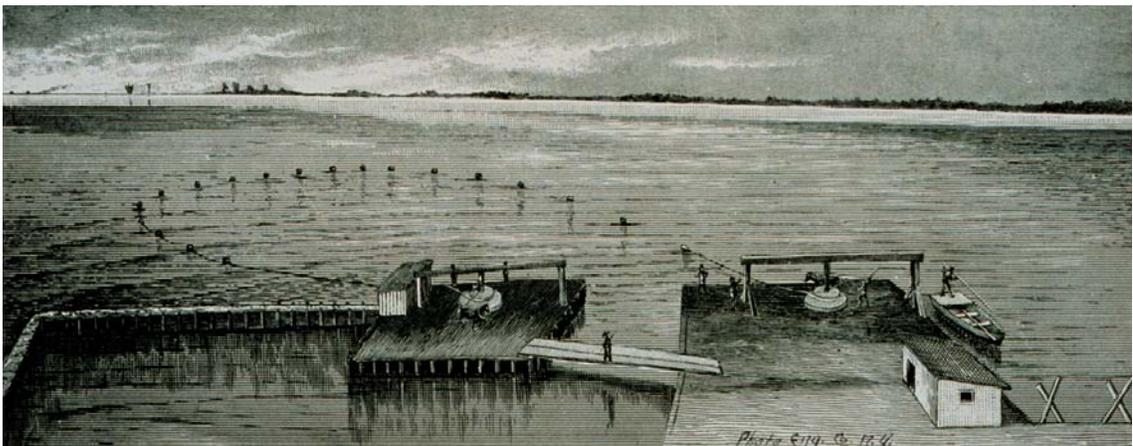


Figure 3. Hauling in herring seine at Herbert's Fishery, Detroit River: inclosure for keeping fish alive (from Kumlien 1887, Plate 180).



Figure 4. Overhauling the seine at Grassy Island fishery, Detroit River (Original 1882 photo used for the lithograph in Kumlien 1887, Plate 182).

Whitefish were known to run up the Detroit-St. Clair rivers as far as Cottrelville, 12 miles up the St. Clair River (Milner 1874). General understanding in those days was that the spawning run congregated at the “head” of Lake Erie in waters of the western basin (Smith 1917b). Weather conditions could affect the size of this aggregation because rough water would force the fish deeper and away from the traditional spawning grounds (Smith 1917b). The Detroit River spawning run was considered the best in the Great Lakes (Clark 1902).

The lake whitefish fishery in the Detroit River was successful for decades and steadily increased throughout the latter 1800s (Hubbard 1887). Low water in 1895 caused abandonment of the fishery operation at Stony Island (Bowers 1897). Also, in 1895, a fishery in front of Fort Wayne (slightly downriver from downtown Detroit) was destroyed by land fill by the federal government, though a fishery at Grassy Island and two at Belle Isle were still in operation in 1895 (Bowers 1897). The spawning runs were still good in 1895, although shallow water hampered getting the seines in (Bowers 1897). Fishing for lake whitefish along the Detroit River was better in 1904 than in 1903, and the Sandwich, Ontario (Windsor) hatchery was able to completely fill its capacity (Parker 1905).

Both the fishermen and the fish culturists recognized that the success of the Detroit River lake whitefish population was related to the ideal spawning conditions there. They noted, that lake whitefish eggs were “cast on reefs and ledges of limestone rock, sometimes honey-combed

and resembling a petrified sponge in form, sometimes on a solidly paved cobblestone bottom, the latter sometimes interspersed with boulders. Indeed, it seems almost necessary that grounds of this nature must be used if any of the ova are to survive or escape the many dangers with which they are beset. . .” (Bowers 1897).

To increase shipping traffic in the Detroit River, the U.S. government began large-scale engineering works in 1905 to increase the size of the shipping channels (Figs. 5, 6). Following this, large catches of whitefish in Lake Erie from Monroe Pier, Michigan and along the Canadian shore at the mouth of the Detroit River were still being obtained in 1911, but few fish ascended the river in comparison with the enormous runs of previous years. This observation, and ongoing dredging, blasting, and damming in the river alarmed those concerned with the lake whitefish spawning runs, and comments in fish commission reports of the next few years show this. “In view of the continued decline in the whitefish fishery in the Detroit River, the contemplated construction of a ship canal in the proximity to the fishery off Grassy Island, and the consequent abandonment of the station at that point, it is doubted if future results will justify the continuance of operations here (Bowers 1913).” “The whitefish fisheries of the Detroit River have been undergoing a steady decline for years, resulting in corresponding decreases in egg collections at Grassy Island and Belle Isle in that River. A deep-ship canal is now in course of construction which will cut through a portion of Grassy Island, completely destroying the fishing grounds now operated by the Bureau in that River. . . In view of the heavy expense involved in the use of the Detroit Station . . . it does not appear advisable, in view of the existing condition of the fisheries in the Detroit River, to continue the hatching operations at Detroit (Smith 1915).”



Figure 5. Bed of the Detroit River inside the coffer dam at Stony Island, Detroit River, ca. 1910.



Figure 6. The Livingston Cut under construction in the Detroit River ca. 1910.

Ultimately, by 1915 and 1916, the results of the engineering work in the Detroit River were only too apparent to the hatchery operators. “The former prolific fishing ground at Grassy Island, in Detroit River, which has been available for the Bureau’s operations since 1899, has now been destroyed by the dredging operations of the Government for the opening of a deep waterway. At Belle Isle, the only remaining whitefish field in this river, fishing was conducted under the supervision of the State warden . . . (Smith 1917a).” “Collections were made as usual in the Detroit River at the Belle Isle fishery, and the old Grassy Island fishery was operated again for the first time since the dredging of the river channel. The results of the work at the latter point demonstrated conclusively that it has been permanently destroyed as a whitefish spawning ground (Smith 1917b).” The hatcheries on the Detroit River in Detroit, Michigan and Sandwich (Windsor), Ontario continued operations for several years after the destruction of the spawning grounds in the Detroit River, but lake whitefish eggs were obtained from elsewhere (Todd 1986).

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