

Historical Documentation of Lake Sturgeon *Acipenser fulvescens* in the Cuyahoga River, Ohio.

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Prior to considering any population restoration efforts, the Ohio Department of Natural Resources Division of Wildlife requires certain conditions be met to ensure that efforts are appropriate and have a high likelihood of success. One condition is that there be evidence that a species was previously documented utilizing the habitat/water body being considered for restoration, and that species is no longer present in that habitat. Preferred documentation takes the form of catalogued specimens or records from past fish sampling surveys; however, in certain circumstances other forms of documentation, such as recorded incidental catches and written contributions from historical archives, are acceptable for establishing species presence.

Lake Sturgeon are uncommon in the Lake Erie basin, and there are ongoing efforts to restore spawning populations to tributaries that once supported lake sturgeon. Spawning populations are currently believed to be extirpated from many Lake Erie tributaries, including the Cuyahoga River, Ohio. The following are excerpts from scientific- and popular-literature that makes the case for the historical presence of lake sturgeon in the Cuyahoga River.

“Cuyahoga River (41°30', 81°43'). The river supported a spawning run until approximately 1850, when pollution destroyed the spawning grounds in the lower reaches of the river (Kirtland 1850, as cited in Trautman 1957; USDI 1967; White, pers. comm. 1979).”

Goodyear, C.S., T.A. Edsall, D.M. Ormsby Dempsey, G.D. Moss, and P.E. Polanski. 1982. *Atlas of the spawning and nursery areas of Great Lakes fishes*. Volume nine: Lake Erie. U.S. Fish and Wildlife Service, Washington, DC FWS/OBS-82/52.

“Lake sturgeon are known to migrate long distances to access foraging and spawning habitat, avoid seasonally unfavorable conditions, and to allow time for gonadal maturation prior to spawning. However, construction of dams in North America from the 1800s to mid-1900s created barriers limiting access to foraging and spawning habitat, fragmenting populations and in some cases resulting in extirpation of lake sturgeon from their native ranges (e.g., Cuyahoga River, Ohio; Auer 1996b).”

Shaw, S. L. (2010). *Lake sturgeon (Acipenser fulvescens) population attributes, reproductive structure and distribution in Namakan Reservoir, Minnesota and Ontario* (Doctoral dissertation, MSc Thesis, South Dakota State University, Brookings, South Dakota).

"In 1825, Kirtland wrote that the smallmouth bass were so abundant in the Cuyahoga River (Cleveland) during the spawning run that they were captured for commercial sale using guns. He also stated that muskellunge and sturgeon ascended the Cuyahoga River for many miles."

"By 1869, streams were increasingly polluted with oil and brine. Oil contaminated Lake Erie from top to bottom for nearly a mile at the mouth of the Cuyahoga River. Muskellunge and sturgeon were now all but gone, and the walleye and smallmouth occurred in greatly reduced numbers."

White, A. M. (1987). 13/History of Changes in the Lake Erie Fishery. pas AGENCY, 116.

*"It should be noted that in the early days, the species composition differed markedly from the present. Carp and Goldfish had not yet been introduced into Lake Erie and the Gizzard Shad was not abundant. It was the large, fine food species that were abundant. These species, such as Lake Sturgeon, Lake Muskellunge, Northern Pike, Smallmouth Blackbass, Walleye and numerous species of redhorses (*Moxostoma spp.*) flourished in the clean unpolluted lake, streams and marshlands.*

The Cleveland area fauna of 1797 persisted until at least 1820 although a slight decline was evident. Charles Whittlesey (160) wrote that a member of Cleveland's survey party of 1797 had revisited the Cleveland area in 1820, and found that the Cuyahoga River was virtually unchanged from what he had originally observed.

Changes Between 1820 and 1855

By 1820 nearly every stream and river in the Cleveland Metropolitan Area was blocked by mill dams. These dams affected many species of fishes in various ways, as indicated by the early decline of several species. The first result was the drastic decline of the Lake Muskellunge and Northern Pike populations. Unable to reach the upstream marshlands because of dams, they were unable to spawn. Likewise, the stream spawning populations of Lake Sturgeon also declined although populations of adults persisted for years because this fish is particularly long-lived (probably over 100 years), and because during this period it had little commercial value.

The Cleveland area was fortunate in having during the 1820-1850 period one of Ohio's outstanding naturalists, Jared Potter Kirtland. This man left for posterity a highly accurate account of fish populations in Ohio and especially in the Cleveland area, in his writings published primarily in the Boston Society of Natural History and in the Family Visitor (for bibliography of Kirtland, see Trautman (147), pp. 628-630). Kirtland, in 1850, pointed out the drastic modifications in the fish fauna during this period. He stated,

"still greater changes if possible have occurred with the finny tribes. The sturgeon has nearly forsaken this [south] shore of the Lake..."

White, A.M., Trautman, M. B., Kelty, M. P., Foell, E. J., Gaby, R. 1975. Water Quality Baseline Assessment for the Cleveland Area – Lake Erie, Volume II, The Fishes of the Cleveland Metropolitan Area Including the Lake Erie Shoreline. EPA-905/9-75-001, Page 55.

“4. LAKE STURGEON, Acipenser fulvescens

SCIENTIFICALLY EXTRIPATED

This large species, sometimes attaining a weight of 200 pounds, was an important food source before 1900. It spawned in large numbers in streams such as the Cuyahoga River prior to 1830. According to Kirtland (95), spawning runs had ceased in the Cuyahoga on or before 1850 and the numbers of individuals in the open lake had drastically declined. This decrease in numerical abundance is obviously the result of stream obstructions which prevented sturgeons from reaching the upstream spawning grounds. The deterioration of the Cleveland shoreline accounts for its early avoidance of the areas near the shore.

After 1900, sturgeon populations which remained continued to decline. In the early 1900’s only a few specimens were taken per year by commercial fishermen and by 1930 the species was considered extremely rare, only occasional specimens being observed per year.

No documented specimens have been recorded in the Cleveland area for several years. A concerted effort to collect one was made during this study but none was taken.”

White, A.M., Trautman, M. B., Kelty, M. P., Foell, E. J., Gaby, R. 1975. Water Quality Baseline Assessment for the Cleveland Area – Lake Erie, Volume II, The Fishes of the Cleveland Metropolitan Area Including the Lake Erie Shoreline. EPA-905/9-75-001, Page 79.

“In quite recent years, the mullet, redhorse, bass, catfish, bullhead, sturgeon, shad and other varieties were caught in great numbers. Sturgeon, five, six and seven feet in length, were often the prey of fishermen.”

Coates, William R. 1924. A History of Cuyahoga County and the City of Cleveland. The American Historical Society, Chicago and New York, 1924.

“At least 6 former lake sturgeon spawning populations in tributaries on the U.S. side of Lake Erie have been extirpated (Cuyahoga, Huron, Maumee, Raisin, and Sandusky rivers, and Cattaraugus Creek), and the upper Niagara River is thought to have a very small remnant population.”

Petition to List U.S. Populations of Lake Sturgeon (*Acipenser fulvescens*) as Endangered or Threatened under the Endangered Species Act, May 14, 2018.

"The Cuyahoga River was a great source of recreation; clean and good for fishing and swimming. In the days before they straightened and deepened it they used to have terrific floods. Once after a big flood Jacob went down to his river farm and discovered that the receding water had left a sturgeon. He came home and took his children to see it. I heard them talk about it many times, it was such an enormous fish. They never knew its measurements, but I've read that the Great lakes sturgeon could grow to a length of ten feet."

Booth, Florence M. 1971. The Merckles of Independence Ohio. Cuyahoga Valley National Recreation Area archives.

"The Cuyahoga River at Cleveland, once the host to the ebullient sturgeon, actually caught fire one day."

Russel, Franklin. 1971. The Legend of a Lake. American Heritage Magazine, Vol. 22, Issue 3, April 1971.

Recreational angling catches:

Long-lost sturgeon making a comeback in Cuyahoga River. The Plain Dealer (Cleveland, OH), D'Arcy Eagan, Reporter, September 13, 2001, Page D7.

Agency Information:

The Northeast Ohio Regional Sewer District, Ohio Environmental Protection Agency, and Ohio Department of Natural Resources Division of Wildlife have conducted various fish sampling/aquatic community assessment work in the Cuyahoga River for decades. Sampling by NEORSRD began in 1988 and continues to the present. Work by ODNR has been more intermittent, often through specific research projects in the lower Cuyahoga. No incidental catches or sightings of Lake Sturgeon in these efforts have been recorded.