The Status of Indiana Streams and Fish from 1800 to 1900

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Abstract

Early accounts of settlers remark about the clarity and beauty of Indiana streams and the abundance of fish. In the second quarter of the 1800's extensive changes occurred, changes resulting from clearing of land for agriculture and an ill-fated state program of canal building which was to facilitate transport of agricultural products to the Eastern states.

It is appropriate, if somewhat belated, in 1976 to look into the past and ask ourselves "What were the rivers and streams like way back before settlers from the south and east came to what is now Indiana?" Actually, this question has become a familiar one to those working in the area of aquatic ecology during the past decade, a period of unparalleled environmental soul-searching. We would like to, if we could, be transported back in time to observe first hand with our modern background the river primeval and examine the changes which accompanied the settling of Indiana.

Unfortunately, the first reliable scientific records about the nature of the fish populations as a whole date only from the 1870's when David Starr Jordan was just beginning in Indianapolis what was to become a distinguished career in higher education. While teaching at Shortridge High School and Butler University, Jordan and a colleague Herbert E. Copeland avidly collected fish from the White River and began studies of the life history of certain darters. They also collected at the Falls of the Ohio River near Jeffersonville, attempting to make sense out of the much earlier, hasty work of Rafinesque (1820). Jordan's first paper (1875) (subsequently republished in the Biennial Report of State Fish Commission, 1892) described the various species he had personally examined from the White River, the Wabash River, and the Ohio River. Taxonomic uncertainty abounded. The list was updated and clarified by Jordan (1877) and ultimately appeared with altered terminology in the excellent summary of Eigenmann and Beeson (1894).

This early scientific period was dominated by scientists who relentlessly sought to collect and catalogue new species of fish wherever they could be found, but few records remain as to abundance except in the most general terms. However, it was evident that the river at that time was not pristine, for Jordan noted in an address to the State Fish and Game Convention on December 19, 1899 ". . . That there never were such (smallmouth) bass streams as in Indiana, and that White River is the best bass stream they have ever known. I think probably nothing better could be done—if we could devise a way—than to bring the bass back, and where there are now a dozen scattering fish put two or three thousand." The seeds of an extensive stocking program were thus already sown prior to 1900. A few years earlier, the First Annual

Report of the Commission of Fisheries of Indiana (1883) carried Jordan's "Catalogue of the Fishes of Indiana" in an Appendix, but mostly discussed the coming availability of a great new species which would put fish back into Indiana lakes and streams—the carp. The Commissioners also discussed a recent fish-kill extending 20 miles downstream from Kokomo on Wildcat Creek, the result of pollution from a straw-board factory. If a new straw-board factory being constructed then at Anderson were to run its refuse into White River, they continued, "then it is "goodby fish" from Anderson to the Ohio River."

These few remarks are quite enough to convince one that extensive changes in the aquatic community had already occurred by the last quarter of the 1800's. In order to obtain a glimpse of what the rivers and fish were like before Jordan's time it is necessary to delve into diaries, travel notes, and historic papers. In 1800 there were perhaps 5000 whites in what was to become the state of Indiana, most in scattered small communities near rivers. Until 1815 few written accounts of the rivers and streams are available, although French fur-traders had lived in harmony with the Indians for at least a century previously. Indian opposition to settlers moving north of the Ohio River had been dealt with by that date and settlers entered in increasing numbers because of the rich agricultural lands.

Caleb Lownes in a letter to Oliver Wolcott (Sec. Treas. under Presidents Washington and Adams) wrote in 1815 (see McCord, 1970) . . . "The first rate lands lie on the Wabash all the way to the lakes on the most beautiful stream in my recollection—it is about 250 yards wide at this place (Vincennes) and preserves its width very nearly for 400 miles. . . . It is a beautiful and valuable stream—the water generally perfectly clear and transparent—exhibiting a clean gravelly bottom—It abounds with fish of various kinds—Bass-Pickerel, Pike-Perch-Catfish &c. The Catfish are of every size up to 122½ lb. one of this size was caught (at Fort Harrison 80 miles above this)—The perch (probably smallmouth bass) are from 12 to 20 in length-this appears to be dealing in the marvelous but it is nevertheless correct—a large White fish about 2½ feet long with very little bone was yesterday caught by a gentlemen on a party said to be excellent."

Most of these early accounts focused on the fertility of the land and the rivers were examined mostly from their ability to provide sites for mills and water for floating boats loaded with future produce. Thus, Enoch Honeywell writes in his diary (see McCord, 1970); "Apr (May) 1816. saw ft Harrison. there is about 12 families living in and near the fort and 10 to 12 more at 6 miles distance southeast 2 at 8 miles south, which are all of 25 miles. The river here is 50 to 60 rods wide, very deep, clayey banks, always navigable for keel-boats except over the grand rapid below Vincennes in low water. In freshes it inundates its banks very bad; on the west side the river here it floods about a mile, but the soil being light the water soon drains of or soaks in."

By far the finest early account of the area is that of David Thomas (1819). Had his interest in rivers and lakes been half that of his

interest in vegetation and wild life we would have a very detailed, clear account of aquatic life, indeed. Nevertheless, some illuminating comments about the Wabash River as far north as Otter Creek were made.

"The water of the Wabash forms a good lather with soap, At Pittsburgh, for washing, the river water was good, but it becomes harder in its descent. At Cincinnati an increase of lime was evident; and near the mouth of the Wabash, the water of the Ohio was hard" . . .

"The Wabash has a gentle current, except at the Rapids, twenty-three miles below Vincennes" . . .

"The Wabash is four hundred yards wide at its mouth, three hundred at Vincennes, and two hundred at Fort Harrison. It is fordable in many places."

"Whenever a high piece of land appears on one side of the River, the opposite shore is low and sunken; and from Raccoon Creek, fifteen miles above Fort Harrison to the mouth of the river, I believe there is no exception to this remark.

There is one inconvenience attending this country, exclusive of the overflowing of the Wabash. All its tributary streams after a heavy shower of rain, rise above the banks; and overflow the low land adjoining, which on all, is of considerable extent. In time of high water, it is one of the most difficult countries to travel through, I ever saw. I have known it for more than four weeks at one time, that no person could get away from Union Prairie without swimming his horse, or going in a boat."

"The Wabash abounds with fish of many kinds; which, in the months of April, May and June, may be readily caught with the hook and line."

"The Gar or Bill fish is more than two feet in length. It is quite slim. The bill is about six inches long, tapering to a point. Its scales are very close, thick, and hard."

"The strength of this fish is great. In a small creek which flows into the Wabash, I discovered a considerable number, and caught several in my hands; but was absolutely unable to hold one."

There are three kinds of Cat-fish: the Mississippi cat, the mud cat, and the bull head. Some of the first have weighed one hundred and twenty pounds. The mud cat is covered with clouded spots and is a very homely fish. The head is very wide and flat. Some have weighed one hundred pounds.

"The real sturgeon is found in the Wabash, though the size is not large. These have been taken from twenty to sixty pounds weight.

"The shovel fish or flat nose is another species of sturgeon. It weighs about twenty pounds.

"The pond pike is taken in ponds from one to three feet long, but very slim. It is an excellent fish. (Northern pike)

"The river pike is large and highly esteemed, but scarce. (Muskellunge)

"The drum or white perch weighs from one to thirty pounds. It is shaped like the sunfish.

"The black perch or bass is excellent, and weighs from one to seven pounds. (Smallmouth bass)

"The streaked bass is scarce. (White bass)

"The Buffalo fish is of the sucker kind, and very common. Weight from two to thirty pounds.

"The rock Mullett is sometimes seen three feet long. It is slim and weighs from 10 to 15 pounds. (Smallmouth buffalofish?)

"The red horse is also of the sucker kind. It is large and bony, weighing from five to fifteen pounds.

"The Jack pike or pickerel is an excellent fish, and weighs from six to twenty pounds." (Walleye pike)

In another communication, I found the silver-sides noticed without any description. "It weighs from three to six pounds."

The eel is frequently taken in the Wabash, and weighs from one to three pounds. I was told that no fish was found in these waters of a good quality for pickling; and the facts, that mackerel are brought over the mountains from Philadelphia, and white fish from Detroit, tend to confirm that statement.

"The fresh water clam or muscle is so plenty, as to be gathered and burnt for lime. Twenty years ago, I am told, no other kind of lime was procured."

"Craw fish, which resembles the lobster, is very common in the low lands of this country. It is a size larger than the common crab. It works in the ground, and throws up heaps of earth about six inches high, and hollow within. These little mounds are very numerous, and the surface of the ground resembles a honey comb."

Thomas commented also upon the frequency of sick people, many of them newcomers, and gives some recommendations to the traveler and new settler, among which: "Let no temptation prevail on the emigrant to go fishing in warm weather. Of the smell of the shores I have spoken. To be wet is imprudent; and to be exposed to the chilling damps of the night, greatly increases the danger. But fresh fish are unwholesome, except for a slight change of diet. We know of no new settlement that has been healthy, where the inhabitants live chiefly on fresh fish. If, however, fish must be eaten, buy them; any price is cheaper than health; and if fishing must be done, do it in cloudy weather; but at night be comfortably sheltered."

The great clarity of water was remarked upon by more than one observer.

". . . This beautiful little river (the Whitewater) waters nearly one million of acres of fine land, and owes its name to the unusual transparency of its water. A fish or a pebble can be seen at the depth of twenty feet." (Brown, 1817 in McCord, 1970).

General John Tipton, one of the men charged with selecting a site for the new state capitol crossed Fall Creek where he "saw plenty of

fine fish . . ." (Tipton, 1820), and described an oxbow lake near what is now the Marion County line as ". . . a beautiful clier pond or lake about 60 yards wide seeming nearly from n to s the water clier the Bottom gravley a plenty of fish" as well as Spring Lake near Martinsville . . . "Saw a beautiful lake, 1 mile long and 100 yds. wide, clier water, sandy bottom . . . I am told the river in a high stage runs into it."

"It was in the month of April (1825) when I first saw the Wabash River . . . Schools of fishes—salmon, bass, redhorse, and pike—swam close along the shore, catching at the blossoms of the red-bud and plum that floated on the surface of the water, which was so clear that myriads of the finny tribe could be seen darting hither and thither amidst the limpid element, turning up their silvery sides as they sped out into deeper water." (Cox, 1860).

Fish were plentiful and easy to obtain at this time.

"At John Stitt's mill below town (Crawfordsville), on Sugar river, there is a fish-trap, and in one night we caught nine hundred fish, the first Spring we were in the country (1825), most of them pike, salmon, bass, and perch. Some of the largest pike and salmon (Walleye) measured from two to four feet in length, and weighed from twelve to twenty-five pounds." (Cox, 1860).

Rafinesque (1820) stated "Fishes are very abundant in the Ohio, and are taken sometimes by the thousands with the seines. . . . The most usual manners of catching fish . . . are, with seines or harpoons at night and in shallow water, with boats carrying a light, or with the hooks and line, and even with baskets."

Species of fish which Rafinesque regarded as abundant or common in the Ohio River included: drum, the three species of black bass, bigmouth buffalo, shovelnose sturgeon, channel catfish, yellow bullhead, goldeye, mooneye, emerald shiner, golden shiner, log perch, greenside darter, and fantail darter. Hook and line fishing was too slow for the settler and, in addition to seining, spearing and gigging were popular in clear water streams containing an abundance of fish.

Dunn (1910) records the abundance of fish in the White River according to early residents of Indianapolis as follows:

"George W. Pitts commented "There was no end of fish in the streams in those days. I went up to McCormick's dam (just above the Country Club) four miles above town on the river one day and sat down at a chute that had broken out and where fish were running through. There were wagon loads of fish, and I threw out with my hands eighty-seven bass, ranging in size from one pound up to five."

"Amos Hanway says there were 'bass, salmon (walleye and/or sauger), redhorse, ordinary suckers, quillbacks, or as they were sometimes called spearbacks, perch, pike, catfish, etc. The biggest salmon I ever caught weighed sixteen pounds. I once caught a pike that measured four feet and two inches (Muskellunge); at another time a gar-fish that measured over three feet, and a blue catfish that weighed sixteen and a quarter pounds. The finest rock bass (large-

mouth bass) I ever took was one which weighed eight and a quarter pounds, and that was near Waverly; while the biggest river bass (smallmouth bass) I ever lifted from the water weighed six and one-fourth pounds.'" He went on to say that once in Morgan County, above the Cox dam, when the fish were running, he and his brother Sam "at one haul seined twelve barrels of fish, and there were thirty fish that averaged, undressed, ten pounds each. They were mostly bass and salmon, but there were also large redhorse, white perch, quill-backs and ordinary suckers."

The importance of an abundance of excellent fish is stressed. Flint (1826, in Lindley, 1916):

"The streams, and especially those that communicate with lake Michigan, are abundant in fish of the best qualities. The number and excellence of the fish, and the ease, with which they are taken, are circumstances of real importance and advantage to the first settlers, and help to sustain them, until they are enabled to subsist by the vails of cultivation."

Great changes were to occur between 1830 and 1845, as Cox (1860) poignantly writes:

"I can well recollect when we used to wonder if the youngest of us would ever live to see the day when the whole of the Wea plain would be purchased and cultivated; and our neighbors on the Shawnee, Wild Cat, and Nine Mile prairies were as shortsighted as we were, for they talked of the everlasting range they would have for their cattle and horses on those prairies—of the wild game and fish that would be sufficient for them, and their sons, and their sons' sons. But those prairies, for more than fifteen years past, have been like so many cultivated gardens, and as for venison, wild turkies and fish, they are now mostly brought from the Kankakee and the lakes."

The changes, of course, came about as the direct and indirect result of a rapidly increasing population and establishment of extensive agriculture which led, in turn, to the exportation of surplus agricultural goods. In 1800 the population of Indiana was only 5,641 (Melish, 1822 in Lindley, 1916). In 1810 it was 24,520; in 1815, 68,784; and in 1820 it was 147,178 including whites, free blacks, and slaves, but not counting indians. These early residents found a ready market for their surplus agricultural products in New Orleans and floated them on flatboats down the Wabash and White Rivers to the Ohio and then on to New Orleans during the spring floods. However, by 1827 the New Orleans market became saturated and ways were sought to transport the goods to and from the eastern markets (Esarey, 1912). By this time, steamboats were regularly plying Wabash waters up to Terre Haute and, sometimes, Ouiatanon south of Lafayette.

An effort began to create navigable waters throughout the state, but the physical clearing of the land itself acted against this need.

"Unquestionably White River is not so easily navigable now as it was ninety years ago, though probably as much water passes out through its channel in the course of a year as there did then. The

flow is not so steady because of the clearing of the land and improved drainage make the surface water pass off more rapidly. And this has increased the obstructions in the streams, for the soil, sand, and gravel wash much more easily from cleared land. Moreover, in the natural state, most of the timber that got into the river came from the undermining of banks on which it stood, and this usually did not float away but hung by the roots where it fell. But after the axmen got to work, every freshet brought down logs and rails which formed drifts at some places. Some logs stranded as the water went down, decayed, became waterlogged, and made bases for sand and gravel bars." (Dunn, 1910)

Erosional pollution as an important altering factor soon had a powerful ally when the state began an extensive, but unrealistic program of canal building from 1828 to the mid 1850's. Beginning at Fort Wayne in 1828, the Wabash and Erie Canal crept steadily westward toward the mouth of the Tippecanoe River, which was considered the head of navigation for the Wabash. By 1834 about one thousand Irishmen were at work when they weren't drinking or fighting. By this time the entire state clamored for canals. An appropriation was asked to open almost every stream in the state large enough to float a canoe (Esarey, 1912).

The upper portion of the Wabash and Erie Canal was in operation by July 4, 1835, but the tolls were inadequate to keep it in repair. The wooden aqueducts were already rotten. In 1836 construction was begun on the Whitewater canal and when completed in 1839 it included two large dams. Also in 1836, several sections of canal were constructed on the White River and a 19 mile section on Pigeon Creek near Evansville which, when completed, went completely dry.

Meanwhile, the Wabash and Erie Canal crept southward, reaching Lafayette in 1843 and Terre Haute in 1847. As originally planned, the canal was to connect with the Wabash River at Terre Haute. However, it was decided to extend it on to the Ohio River via the lower portion of the Central Canal which was to be constructed to Indianapolis. Thus, the canal proceeded southeast to the Eel River, on past Worthington and Bloomfield, and to Maysville just west of Washington. It continued on south through Petersburg, crossed the Patoka and finally linked up with the canal at Pigeon Creek.

Throughout the 1840's difficulties were encountered in supplying sufficient water to that part of the canal south of Lafayette and, as a result, so-called "feeders" were developed from tributaries all along the canal. The problem was particularly aggravating below Terre Haute and dams were constructed across Splunge Creek, Adams Creek near Monrovia, and Birch Creek at Saline City. The six square mile reservoir at the latter site was subject to frequent acts of sabotage because it was believed to be the cause of a malaria outbreak and finally was drained completely.

The aggregate damage to stream habitat during this period can only be inferred since few descriptive records exist, but it must have been significant, and, as it soon turned out, completely for naught.

Navigation was abandoned south of Terre Haute in 1860 and by 1870 little more than a succession of stagnant pools marked the site of the canal (Esarey, 1912), a casualty of gross fiscal mismanagement and competition from railroads.

Thus by the time Jordan arrived in Indiana in 1874, extensive alterations in the native fish populations had already occurred, alterations at first resulting from clearing land for fields and building dams for grist mills and a bit later the wholesale destruction of habitat in a gigantic state effort to provide better commercial links between the fledgling state of Indiana and the eastern seaboard. Jordan was in time, however, to witness the first side effects of industrial development in Indiana, a development which would superimpose an additional heavy burden on the waters of Indiana.

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