Restoring the K Walleye Fish

It's been 48 years since the state-record walleye was caught near Kankakee. Is there hope for a new record?

Story By Gary Lutterbie
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In 1961, a 14-pound walleye was caught in the Kankakee River near Momence. It was a state record, and a record that stands today.

Throughout time, the Kankakee River was known as an excellent walleye fisheries. J.R. Black, executive director of the Northern Illinois Anglers, remembers when the walleye fishing was similar to what the smallmouth bass fishing is today. The Kankakee River—originating near South Bend, Indiana and flowing into northeast Illinois where it joins the Des Plaines River east of Morris—supports one of the best smallmouth bass fisheries in the state and it is common for anglers to catch—and release all but their daily limit of three—10 to 20 smallies in a day (anglers should check the fishing regulations for length limits in the river stretch being fished).

In the 1950s and 1960s, people would catch their limit of walleye almost every time they went fishing. Six-pound walleye were common throughout the year, and many 10 pounders were taken during the spring just prior to spawning.

By the late 1970s, the walleye fishery had fallen off, and it remained poor throughout the 1980s and 90s. Only really dedicated walleye fishermen would pick up a walleye, and that occurred only occasionally.

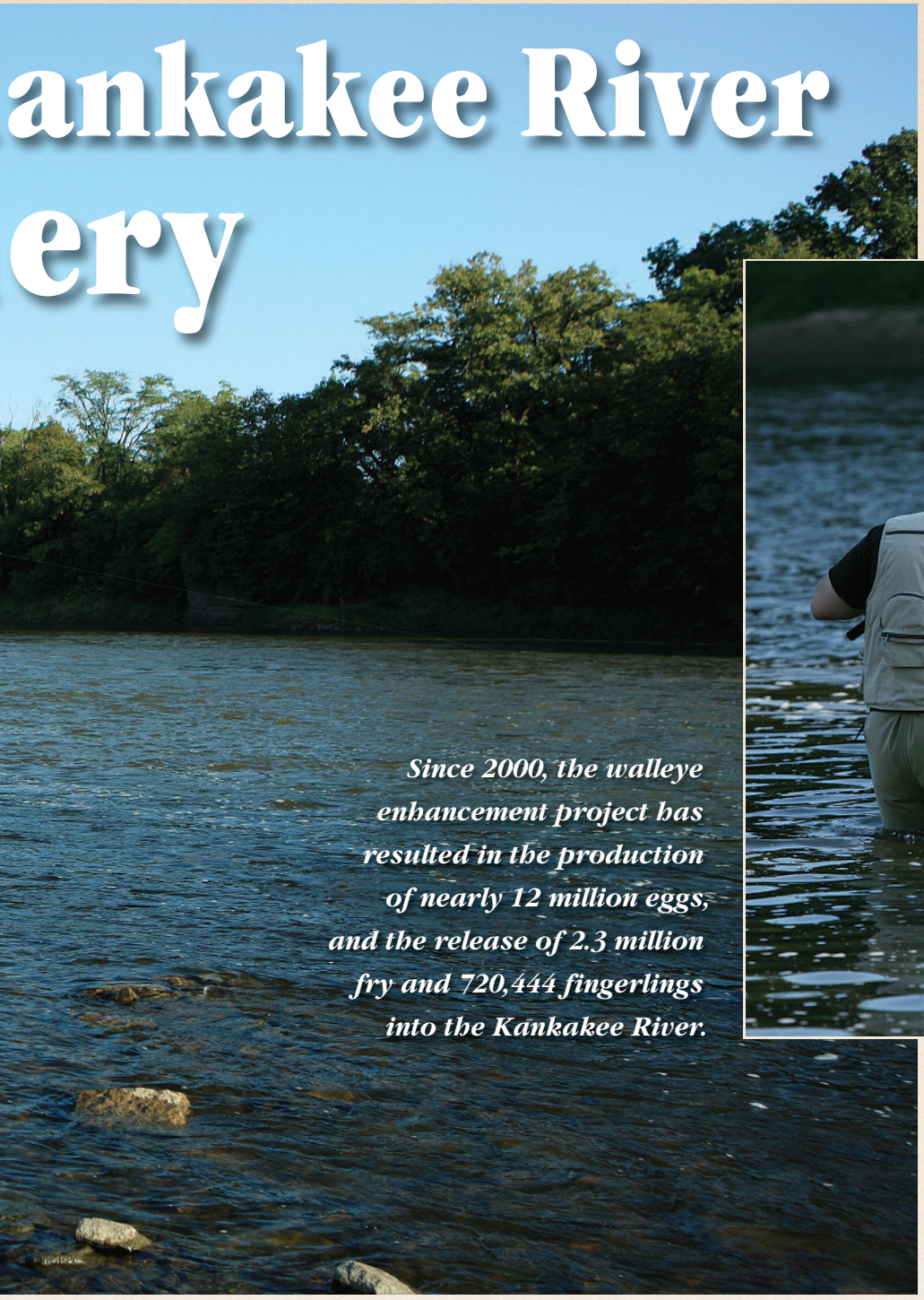
Electrofishing boat surveys conducted by the Department of Natural Resources during that time period confirmed that the walleye population had collapsed. Catch rates from such surveys are reported in terms of catch per hour of electrofishing. From 1975 through 2000 the CPH of electrofishing for walleyes was less than 1.0. A good catch rate would be 10 to 20 walleye per hour.

The exact reason why the walleye fishery collapsed is uncertain. Possible causes could be overfishing, water quality or habitat deterioration which can affect reproduction, growth and/or survival.

Something had to be done to restore this once-great fishery.

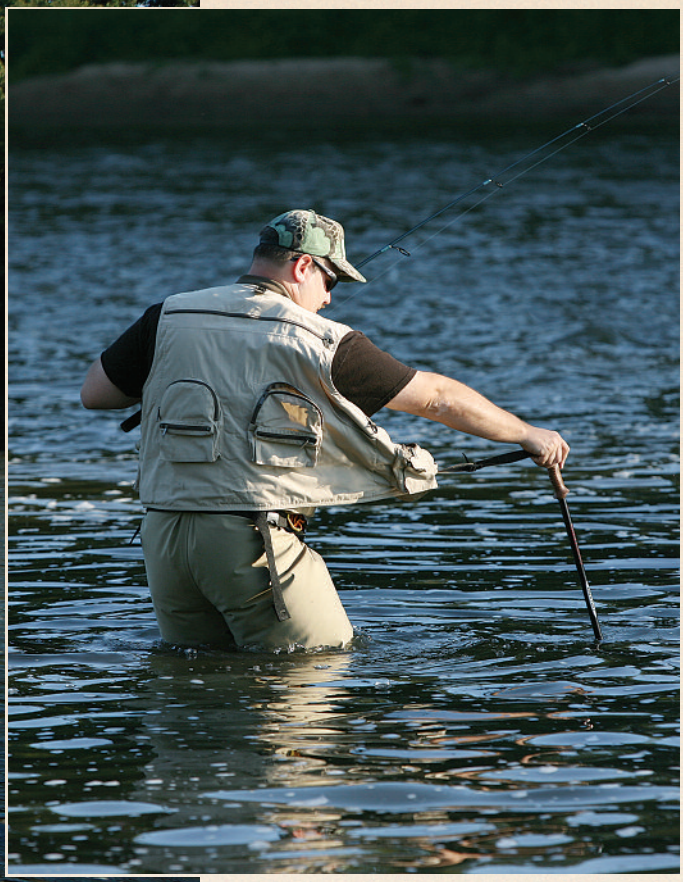
Stream fish populations usually deteriorate because of poor habitat or water quality. Since the habitat and water quality were still good in the

ankakee River ery



Since 2000, the walleye enhancement project has resulted in the production of nearly 12 million eggs, and the release of 2.3 million fry and 720,444 fingerlings into the Kankakee River.

Walleye angler Jay Damm began fishing the Kankakee River 10 years ago—without much luck. Today, thanks to restocking efforts, Damm proclaims "Now I actually expect to catch walleye—and I do."



Kankakee River (even though there are issues with sand), a decision was made to try a fish-stocking program to restore the walleyes.

The Kankakee River is one of only a few rivers in Illinois which supports a native walleye population. Because of this, it was important to maintain the genetic integrity of this population by using fish caught from the Kankakee River. Evidence exists that there may be two strains—a river run and a lake run—of walleyes and the use of walleyes from other lakes or rivers for stocking was unacceptable. The LaSalle State Fish Hatchery, only 25 miles from the Kankakee River, made arrangements to keep the adults, eggs, fry and fingerlings separate at the hatchery.

One more request was made of the hatchery staff: to be able to tell the difference between stocked walleyes and any produced naturally in the river. Prior to stocking, fish were treated with oxytetracycline hydrochloride, placing a fluorescent mark on their otolith, one of the small bones found in the inner ear of fish. Examining otoliths under a microscope using ultraviolet light would then reveal the presence or absence of fluorescent marks.

The goal of this project was to rebuild the walleye population to the point where it could maintain itself through natural reproduction. This would be realized when the survey catch remained above 20 walleyes per hour and most fish were unmarked, which would indicate natural recruitment to the population.

In March 2000, anglers along a 60-mile portion of the Kankakee River were asked if they could recall where they had caught walleyes during the spawning season. Several good leads were received, and stretches of the river were sampled using electrofishing.

Summary of the Kankakee-Iroquois River Walleye Enhancement Program

	2000	2001	2003	2004	2005	2006	2007
No. of Walleyes Collected	27	54	114	120	98	270	81
No./Hr. of Electrofishing (CPH)	1.59	10	23.3	26.7	26.5	77.1	16.8
No. Males	18	12	57	61	64	58	30
No. Females	9	15	57	41	29	33	23
No. Spent/Immature Females	4	4	48	20	3	18	34
No. of Yearling Walleye	0	27	0	18	1	160	0
Egg Production	1,023,000	2,060,000	784,000	1,830,000	1,321,000	2,890,000	1,890,000
Fry Production	625,000	1,110,000	325,000	1,024,000	500,000	1,611,000	1,123,000
Percent Hatching Rate	61	53.9	41.5	56	37.9	55.7	59.4
Fry Stocked in River	0	555,000	0	411,000	0	786,000	543,000
Fingerlings Stocked in River	78,000	85,000	94,195	80,200	90,000	97,000	90,832

Notes: High water affected collecting walleyes in 2002. The percentage in 2005 was low due to fish not being marked in 2004.

Walleyes use large, clean riffles with good current for spawning when water temperatures are between 40-50 degrees Fahrenheit, which usually occurs the first week of April. Females stage in deeper pools downstream of riffles, while males take up positions on the riffle awaiting the arrival of the females. As females move up on the riffles during low-light periods of the day, several males surround her, fertilizing the eggs as they are discharged. The adhesive, fertilized eggs stick to rocks in the riffle where the current both oxygenates and keeps them free of silt. Depending upon the water temperature, eggs will hatch in 10 to 20 days.

Rocky habitat provides walleye essential spawning grounds. Increasing sand and silt in the Kankakee River might be partly responsible for decreased natural reproduction.

Collection of walleyes, and the release of fry and fingerlings produced at the hatchery, began in 2000 and continued through 2007. The catch rate of walleyes in the Kankakee has increased every year since the stocking program began. In 2000, the catch rate was only two walleyes per hour, and by 2006 it had increased to one of the highest catch rates ever recorded in the state—77 per hour. Due to high water, the catch rate decreased in 2007, but remained within the goals of the program (see table).

Conversations with fishery biologists from Indiana led to the discovery that they also were planning to stock walleyes in their portion of the Kankakee River. The population in Indiana was even worse than in Illinois. In an effort to try and maintain the genetic integrity of the Kankakee walleye population, Illinois provided surplus OTC-marked walleye fingerlings to Indiana for stocking in their portion of the river.

Were biologists collecting, and fishermen catching, walleye as a result of the stocking program—or those from natural reproduction? Results of otolith analyses showed that between 2001 and 2006 the percentage of marked walleyes increased from 61 percent to 80 percent indicating that most were coming from the stocking program. Hopefully in the near future the Kankakee walleye population will reach a point where most of the fish collected will again be coming from natural reproduction.

According to J.R. Black, fishermen once again are heard saying that they are going walleye fishing, words that haven't been uttered on the Kankakee for almost 40 years. Once again, anglers are getting a chance to experience the fishing that their grandparents experienced.

Perhaps another state-record walleye is lurking in the shadows.

Gary Lutterbie is the DNR Region III streams biologist and is based in Gibson City. Assisting Lutterbie with the project were Mike Warnick, Region III fisheries technician and staff of the LaSalle Fish Hatchery, including Ed Hansen, manager, and Rick Bushman, assistant manager. Ron Brooks, Fisheries and Aquiculture Center at Southern Illinois University-Carbondale, read the otoliths for florescent markers.