



Metropolitan Water Reclamation District of Greater Chicago

# Press Release

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## Study tracks fish activity in Chicago's flourishing waterways



*A team of researchers and scientists with the MWRD, Shedd Aquarium and Purdue University bring fish to shore along the South Branch of the Chicago River and then implant a tracking device so they can learn more about fish activity.*

A new study offers potential insight into the activity of fish swimming in the Chicago area waterways.

Thanks to emerging technology and the precise and delicate hands of fish experts and researchers from the Shedd Aquarium, dozens of fish collected by the Metropolitan Water Reclamation District of Greater Chicago (MWRD) recently were implanted with transmitter devices to track their movement. Over two days in the South and North branches of the Chicago River, MWRD aquatic biologists and environmental research technicians brought more than 80 select fish ashore. They turned them over to Shedd and Purdue University scientists who carefully monitored and examined the fish before performing a nimble surgery and releasing them back to the water.

The research project is a collaboration between Shedd Aquarium, Purdue University, and Illinois-Indiana Sea

Grant, and the MWRD is partnering to help with the fish captures through electrofishing.

The MWRD and other partners have tagged different fish species before, but they now have a better understanding of the fish activity with the fish equipped with electronic transmitters that link to about 30 installed sensors along the river.

“We appreciate the opportunity to participate in this unique study that gives us new understanding into the life of a Chicago River fish and how changes in season and the waterways impact their activity,” said MWRD President Kari K. Steele. “Thank you to our partners at the Shedd Aquarium, Purdue University and the Illinois-Indiana Sea Grant for initiating this innovative research that sheds light on fish populations and improving water quality.”

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## Study tracks fish activity in Chicago's flourishing waterways, *cont.*



*Freshwater Research Director Karen J. Murchie and Urban Freshwater Research Biologist Austin Happel from the Daniel P. Haerther Center for Conservation and Research at the Shedd Aquarium, implant an electronic transmitter (right) into fish swimming in the South Branch of the Chicago River.*

The study focuses on blue gill, bass and carp. Scientists want to study how the fish interact with the waterway during the winter, how changing water quality affects their diets and behavior, where they travel in spawning seasons in spring and summer, how they interact with new floating islands in the South Branch and along the Urban Rivers' "Wild Mile" of floating vegetation on the North Branch.

MWRD scientists caught more than 50 fish for study on the South Branch. Shedd scientists transported the fish to a makeshift table in front of the Chicago Park District's Eleanor Boathouse at Park 571, where they used a transcutaneous electrical nerve stimulation (TENS) device connected to sticky pads and electrodes to stun the fish. At the same time, another scientist would pump out refreshing river water up from a bucket down the fish's mouth to pass through its gills to keep the fish alive. They then made a tiny incision behind the pelvic fin and inserted the transmitter. The humane procedure did not involve any sedatives, chemicals or anesthesia, and after measurement and a waiting time for observation, the healthy fish were all returned to the water.

Data collected from the study will contribute towards the Great Lakes Acoustic Telemetry Observation System (GLATOS) at [glatos.glos.us/projects](http://glatos.glos.us/projects), but it is one of many ways the Shedd makes fish information available to the public. Users can also benefit from sharing what they find and learn more about local fish on the i-Naturalist Great Lakes Fish Finder app. Users can look up and identify fish, submit sightings and join a community of Great Lakes enthusiasts to help classify what they find. The Great Lakes Fish Finder ([inaturalist.org/projects/great-lakes-fish-finder](http://inaturalist.org/projects/great-lakes-fish-finder)) is an initiative of Shedd Aquarium's Daniel P. Haerther Center for Conservation and Research designed to engage more people with their water environment and the aquatic life that calls this region home.

"By combining cutting-edge technology with the invaluable knowledge of fish experts, we have unlocked a wealth of in-

formation about the behavior of fish in the Chicago waterways," said Vice President Patricia Flynn. "This knowledge will play a pivotal role in our ongoing efforts to preserve and protect the region's aquatic ecosystems."

The MWRD conducts fish monitoring periodically throughout its service area, which includes the Chicago, Calumet, and Des Plaines River Systems. The number of fish species found in the Chicago Area Waterway System (CAWS) has drastically increased since the 1970s when monitoring of the fish population first began through electrofishing surveys. Since the beginning of monitoring fish populations in 1974, the number of different fish species has skyrocketed from 10 to 77, including 60 that have been counted since 2000. According to a recent study by the Shedd and MWRD, since 2001, a total of 19 new species were collected, of which only one was considered invasive. The study shows a gradual increase in both the total number of fish and fish species in Chicago's waterways. Results indicate that local Chicago waterways are more ecologically productive and conducive to aquatic life and less degraded than they once were. While many fish species counted since 2000 are non-native, more than 30 of the 60 fish spotted in the CAWS are considered gamefish.

In February, 2022, the Shedd published additional research in *Science of the Total Environment*, confirming that efforts to reduce contaminants and improve water quality in the CAWS correlate with increases in fish diversity in waterways like the Chicago River and Calumet River systems. The research showed that the improvements to wastewater handling and treatment directly led to these important fish recoveries in the local waterways. Together, policy and water management strategies continue to increase the health of Chicago's waterways, which serve as a critical economic, recreational and cultural asset to the city and subsequently create environments conducive for aquatic life.

### ***Recovering Resources, Transforming Water***

*Established in 1889, the Metropolitan Water Reclamation District of Greater Chicago (MWRD) is an award-winning, special purpose government agency responsible for wastewater treatment and stormwater management in Cook County, Illinois. Learn more at [mwrld.org](http://mwrld.org).*