

How clean is the Bronx River? Snapping turtles help scientists figure it out

By Lela Nargi, The Washington Post, adapted by Newsela staff on 08.20.19

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Image 1. Paul Calle of the Bronx Zoo examines a hatchling snapping turtle that lives in New York's Bronx River. Researchers wanted to see how polluted the river was, so they tested some of its turtles. Photo by: Julie Larsen Maher/Wildlife Conservation Society

Hop in a canoe and paddle the 23 miles of the Bronx River in New York City. You'll snake and snarl through New York City's northernmost borough. You'll pass houses and parks and roads, then busier roads and taller apartment houses and grimy industrial buildings. Little herrings called alewives swim through the brownish water, big white egrets swoop to catch those fish in their beaks. Snapping turtles sun themselves on the shore near the Bronx Zoo.

You might think these animals are a sign that the river is healthy. But researchers at the Wildlife Conservation Society (WCS), which oversees the zoo, weren't so sure. That's because the Bronx River has a history of pollution.

"It takes a long time to clean up those messes," John Sykes, one of the researchers, says. "Looking at it with just your eyes might not tell you enough about its real status."

So Sykes and Paul Calle of the Bronx Zoo and other colleagues took blood and other samples from 41 of those sun-loving snapping turtles. These turtles are native to New York and can live almost

50 years. The researchers also sampled 28 red-eared sliders. These turtles are non-native invaders from the South and live half as long as snapping turtles.

Testing the health of turtles is a great way to determine the health of a river, too. That's because turtles live a long time. And they generally stay put, instead of migrating. This gives toxins in a river plenty of time to build up in the turtles' bodies, Sykes explains.

The Bronx River was once a pristine waterway fished by the Mahicans, Native Americans who lived near its banks. But by the mid-19th century, it was being pumped full of garbage, sewage and other waste. It became full of chemicals called PCBs, which were once found in paint, inks and caulk. Factories dumped lead and mercury into the river. These heavy metals can cause illness and deformities in people and animals.

In the 1970s, PCBs were banned in the United States. The ban helped make the Bronx and other rivers a little bit cleaner. In the 1960s and 1970s, the government started to restrict the use of mercury and lead in paint and other products. This was good for rivers, too.

How good? When Sykes got the turtles' tests back from the lab, he didn't see any signs of mercury.

"That was a surprise," he says.

He did see lead and PCBs, though. He thinks the turtles may still be absorbing these toxins from the river. That's because there's a "similar pattern in both the longer-lived snapping turtles and in the shorter-lived sliders [that] suggests that the toxin exposure is more recent," Sykes says.

That means the Bronx River still needs more cleaning up. But there is good news. The turtles are thriving in parts of the river.

"We even found a nest with recently hatched snapping turtles in it," Sykes says. Which tells him that even though there are still toxins in the ecosystem, "they do not seem to be preventing the turtles from living there and reproducing."

Sykes says he hopes the next time researchers study these turtles, they'll find even fewer toxins in their blood. That will be better news for the turtles — and the river.

