# New study finds stream restorations increase home values

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A new coat of paint and some nice shrubs are common ways to add curb appeal and, potentially, value to your home. New research from the College of Agriculture, Health and Natural Resources finds that some

less common fixes could also help homeowners increase their bottom line.

Professor Charles Towe from the Department of Agricultural and Resource Economics recently published a paper in Environmental and Resource Economics finding that urban stream restorations provide a much more significant increase in home values than previously known.

This study incorporates an understanding of how streams are selected for restoration, a novel advancement in this kind of research.

Towe began studying this question more than a decade ago when the National Science Foundation poured funding into environmental issues in the Baltimore area. He and an interdisciplinary team looked at the impact of stream restoration projects.

In Baltimore, like in many other northeastern urban communities, urban planners didn't consider the environmental impacts of their construction decisions. This lack of consideration has manifested in problems with storm water management today. Additionally, many of these streams are filled with trash and pollution.

"It's basically taking what could be a dump and making a park out of it," Towe says.

Many streams in the Baltimore area also have fallen into disarray as their banks continue to erode by forceful storm waters. This can lead to trees and other debris falling into the stream, the destruction of fish habitat, degrading water quality, and contributing to non-point nitrogen and phosphorous pollution.

Nitrogen and phosphorous can cause significant damage when they reach larger bodies of water like Chesapeake Bay. These contaminants can

deplete oxygen levels in the water, killing species like the blue crab, a critical part of Maryland's economy. These pollutants can also lead to the proliferation of toxic algal blooms.

Towe's paper identified streams that would be optimal locations for reducing nitrogen pollution and increasing the value of homes near the streams. These stream restoration efforts work to make streams more effective parts of storm water management systems and reduce non-source point nitrogen and phosphorous pollution.

Using a distance band model, Towe compared the prices of homes sold before the stream restoration and resold after the restoration, controlling for other factors that could influence price.

He found homes within 1,000 feet of a restored stream saw an average 15% increase in resale value. Those within 2,000 feet saw an average 11% increase. Houses more than 3,000 feet from the stream did not see significant changes.

These results are a significant departure from previous research which had only ever found a 1% or 2% increase.

While this work focused on Baltimore County, Towe says the results can be generalized to other older northeast urban areas with similar infrastructure. The study could help policy makers communicate the long-term value of stream restoration to the community and other decision makers.

"It really helps fill the gap so municipalities know that if you're going to spend $6 million doing a stream restoration—here's what you might expect in return to the community," Towe says. "A lot of stuff we do in the environmental space does accrue benefits over a longer term."

Sociologists on the team also investigated how residents feel about these restorations. They found that projects like stream restorations make people feel their local government values them and they do see the value in repairing these amenities.

This paper did not address what kind of restoration had the most significant impact on property values, something Towe plans to continue to explore in future research.

According to Towe, this type of interdisciplinary collaboration represents the future for addressing complex environmental issues.

"This is one of the ways to think about addressing climate issues going forward," Towe says. "You've got to put different scientists from different perspectives together to have them discuss. If you're looking for policy relevant outcomes that are going to improve certain outcomes, then you're going to need for different groups of people to speak."

**More information:** Charles Towe et al, A Valuation of Restored Streams Using Repeat Sales and Instrumental Variables, *Environmental and Resource Economics* (2021). DOI: 10.1007/s10640-021-00575-9

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