How destroying wetlands raises borrowing costs for local governments

The financial world is slow to appreciate natural capital. But waiting until disaster strikes results in lost wealth for municipal bondholders.

September 1, 2025

By Claudio Rizzi

When it comes to global warming, some of the best tools we have to protect communities from disaster are natural ecosystems like forests, wetlands and coastal habitats. Yet these ecosystems are vanishing at record speed — and financial markets aren't always quick to reflect their loss in asset pricing. That is, until disaster strikes.

In a study with Ryan Lewis, I examine how wetland loss affects the borrowing costs of local governments in the United States. Wetlands not only act as carbon sinks but also serve as natural sponges, absorbing excess rainwater and reducing the risk of downstream flooding. They are also remarkably effective at filtering pollutants, particularly from agricultural runoff and heavy metals.

When wetlands are destroyed, these protections are lost, and flood and water pollution risks rise. This has financial implications. Local governments (counties, municipalities and school districts) often raise money for public works by issuing municipal bonds. Investors, in turn, demand higher interest rates (or yields) to compensate for perceived risk. Our research shows that when wetlands are lost, bond yields rise, meaning local governments must pay more to borrow.

The evidence points squarely to flood risk and water quality as key drivers of bond yield changes. In fact, the largest increases in borrowing costs occur in areas prone to extreme floods. Also, we find that pollutants tied to agricultural runoff, like nitrates, spike when upstream wetlands disappear.

However, this increase in borrowing costs is not immediate. Financial markets seem slow to price in ecosystem loss — until a major flood brings the risk into focus.

We find that municipal bond yields increase by about 6-8 basis points after a flooding event, revealing that wetland loss becomes financially salient only once damage occurs.

$ 74 billion

Estimated decrease in municipal bond values

Not all areas are affected equally. States with climate adaptation plans are less exposed to these financial penalties, while counties with limited concern for climate risk see much steeper costs. Bond yields rise more in places more reliant on local tax revenues, underscoring how proactive planning can cushion the blow.

Despite these findings, many investors still overlook the financial implications of nature loss. But in flood-prone regions, the consequences are already visible in real-estate markets: house prices decline when upstream wetlands are lost.

As climate change fuels more frequent and intense flooding, we expect this to be increasingly reflected in both bond and housing markets, affecting local communities not just environmentally but financially too.

MORE INFO: "The market value of natural capital: evidence from wetland changes and immobile assets" by Claudio Rizzi and Ryan Lewis (2025). *This project received funding from the European Union's 2023 Research and Innovation Programme under the Marie Sklodowska-Curie Grant Agreement No. 101152801. Views and opinions expressed are, however, those of the authors only and do not necessarily reflect those of the European Union or European Research Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.*

This article is included in *IESE Business School Insight* online magazine No. 170 (Sept.-Dec. 2025).

READ ALSO:

The case for nature-based solutions, and how to finance them

What is the environmental impact of hydraulic fracturing?

Claudio Rizzi

Assistant Professor of Financial Management at IESE Business School. His research focuses on sustainable and climate finance, with a particular interest in the role of nature and biodiversity loss on financial markets.