

Scientists warn restoration-based environmental markets may not improve ecosystem health

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While policymakers across of the globe are relying on environmental restoration projects to fuel emerging market-based environmental programs, an article in the July 31 edition of *Science* by two noted ecologists warns that these programs still lack the scientific certainty needed to ensure that restoration projects deliver the environmental improvements being marketed.

Markets identify the benefits humans derive from [ecosystems](#), called ecosystem services, and associate them with economic values which can be bought, sold or traded. The scientists, Dr. Margaret Palmer and Dr. Solange Filoso of the University of Maryland Center for Environmental Science Chesapeake Biological Laboratory, raise concerns that there is insufficient scientific understanding of the [restoration](#) process, namely, how to alter a landscape or coastal habitat to achieve the environmental benefits that are marketed.

"Both locally and nationally, policymakers are considering market-based environmental restoration programs where the science does not yet conclusively show that environment health will improve once the 'restoration' is completed," said Dr. Palmer. "These programs may very well make economic sense, but the jury is still out whether or not the local environment will ultimately benefit."

At present, the demand in ecosystem service markets is driven by

regulations that require those who harm the environment to mitigate or provide offsets for their environmental impacts. But in the regions throughout the world, including the Chesapeake Bay, many people hope that voluntary markets will expand outside of a regulatory context and result in a net gain of ecosystem services rather than just offsets for lost ecosystem services.

Examples include markets for flood protection created by restoring floodplains or wetlands and markets for improving water quality by restoring streams or rivers.

The scientists outline what should be done before markets expand further: recognize that restoration projects generally only restore a subset of the services that natural ecosystems provide, complete a limited number of projects in which direct measurements are made of the response of biophysical processes to restoration actions, and identify easily measured ecosystem features that have been shown to reflect the biophysical processes that support the desired ecosystem service.

"There is an inherent danger of marketing ecosystem services through ecological restoration without properly verifying if the restoration actions actually lead to the delivery of services," said Dr. Filoso. "If this happens, these markets may unintentionally cause an increase in environmental degradation."

More information: The article, "Restoration of Ecosystem Services for Environmental Markets," appears in the July 31 edition of *Science*.

Source: University of Maryland Center for [Environmental Science](#) ([news](#) : [web](#))

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