



Science
Societies

Constructed Salt Marshes Provide Important Services in New York City

September 4, 2023



Lead author and Brooklyn College of the City University of New York graduate student Nirmela Govinda samples constructed urban wetlands in Newtown Creek, a Superfund site

in New York City. Photo by Sarah Durand.

There is great interest in restoring and/or creating ecosystems to provide a wide range of services to society, ranging from better water and air quality to recreational and aesthetic opportunities. Wetlands have been successfully created and restored for multiple purposes, but little work has been done in ultra-urban environments with high pollutant loads, high demand for ecosystem services, and limited space.

A group of researchers from New York evaluated denitrification, an important water quality maintenance function, in four constructed salt marshes and a series of wetland habitat basins in Newtown Creek, an urban Superfund site in New York City. The marsh habitats were created through a unique collaboration among LaGuardia Community College of the City University of New York, the New York City Department of Environmental Protection, and the Newtown Creek Alliance.

The team's results suggest that constructed wetlands can support wetland vegetation, soils, and microbial life and contribute to nitrogen removal under ultra-urban conditions. These wetlands also provide aesthetic and recreational ecosystem services and strengthen communities by facilitating new partnerships among diverse municipal, academic, and community groups.

Adapted from Govinda, N., Groffman, P.M., Durand, S.E., Zarnoch, C.B., & Elkins, W. (2023). Denitrification potential of surface soils of constructed wetlands in

Newtown Creek, an urban superfund site. *Journal of Environmental Quality*.

<https://doi.org/10.1002/jeq2.20495>

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