

CREDIT FOR GOING GREEN

Meeting Water Quality Standards with Buffers

Restored or constructed buffers can be used as water quality best management practices (BMPs) in development, redevelopment, restoration, or other land use change projects. This science-based tool provides pollutant reduction performance curves that can be used to receive pollutant removal credits under regulatory permits issued by the NPDES Stormwater Permit Program for municipal separate storm sewer system (MS4) communities. Municipal staff and boards can promote this tool as a way to protect water quality, while achieving other benefits like habitat provision and flood mitigation.



WHAT'S NEW	WHY IT'S IMPORTANT	WHEN TO APPLY
<ul style="list-style-type: none"> • Science-based approach to assigning pollutant removal credits for buffer restoration or construction • Ability to compare the performance of restored or constructed buffers to other water quality BMPs • Tool to enhance water quality protection in development, redevelopment, restoration, and other projects involving land use change • Opportunity to meet water quality standards while getting additional benefits <p>Restored buffers are water quality BMPs with multiple benefits.</p>	<ul style="list-style-type: none"> • Helps communities meet municipal separate storm sewer systems (MS4) permit requirements • Offers a statewide framework to account for pollutant removal credits for restored or constructed buffers • Restored or constructed buffers reduce the pollution flowing into wetlands and water bodies • Leverages the many opportunities for buffer restoration in New Hampshire <p>Restored or constructed buffers help communities meet regulatory requirements.</p>	<ul style="list-style-type: none"> • You are engaged in development or redevelopment projects with opportunities for buffer restoration or construction • Your community is considering new or updated ordinances related to restored or constructed buffers • You are collaborating on a watershed management plan and want to identify structural BMPs that will help meet pollution reduction targets • Your community is creating a nitrogen management budget <p>There are many opportunities to use this.</p>

About buffers & their benefits

Buffers are upland, vegetated areas adjacent to wetlands and surface waters. Healthy, intact buffers protect water quality by reducing the pollution entering water bodies. They also provide other benefits, including the provision of wildlife habitat, flood and storm surge protection, streambank stability, and nutrient cycling.

This tool supports the use of restored or constructed buffers in development, redevelopment, restoration, and other projects involving land use change. It cannot be used to receive MS4 permit credits for existing buffers. There are many opportunities to restore buffers in New Hampshire. In the Great Bay watershed, these municipal maps can help focus efforts to restore buffers for water quality and other benefits. These maps were created by the Buffer Options for the Bay (BOB) project. More science and information about the role of buffers in New Hampshire policy and land use is on BOB's web site at www.bufferoptionsnh.org.

About this tool

The capacity of buffers to protect water quality is widely acknowledged in scientific literature. However, until now there has not been a way to quantify the ability of restored or constructed buffers to reduce pollution or for communities to receive credit for their use under MS4 permits. As a result, buffer restoration or construction has not been considered alongside other structural best management practices (BMPs) in projects involving land use change.

This tool was created through an expert panel process. It integrates 1) science-based recommendations for calculating the pollutant removal rate of restored or constructed buffers in projects involving land use change; and 2) a system for assigning pollutant removal credits for land use change projects that include restored or constructed buffers. Specifically, the tool calculates removal efficiencies for total nitrogen (TN), total suspended solids (TSS), and total phosphorus (TP) for restored or constructed buffers. See this technical report for more on how this tool was developed and how it can be used.



When to use this tool

This tool is appropriate for land use change projects that require regulatory permits issued under the NPDES Stormwater Permit Program for New Hampshire's MS4 communities. It can be applied in situations in which a community needs credit for its MS4 permit and there are opportunities for buffer restoration or construction. It can also be used to calculate the pollutant load reduction service from an existing buffer if that information is of interest to the landowner. This tool cannot be used to credit existing buffers or for plans to restore buffers narrower than 20 feet or those on slopes steeper than 15%. Nor can it be used to get additional credit for buffers wider than 100 feet. However, there is extensive scientific support for the conclusion that wider buffers support a variety of other highly desirable services.

For more information

For more information about this tool, contact Dr. James Houle at the University of New Hampshire Stormwater Center: james.houle@unh.edu

For more about efforts to conserve buffers in the Great Bay watershed, contact Steve Miller of the Great Bay National Estuarine Research Reserve: Steve.Miller@wildlife.nh.gov

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