



New York State  
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

## Hudson River Estuary Program

# Tools for Watershed Protection: Stream Buffers

### What are stream buffers?

Stream buffers, also known as riparian buffers, conserve the areas adjacent to streams and rivers. Buffers differ greatly, as do the streams they border, ranging from flat floodplains to steep gorges. When functioning properly, they serve as a vegetated, protective area between a body of water and human activity.

### What are the benefits of stream buffers?

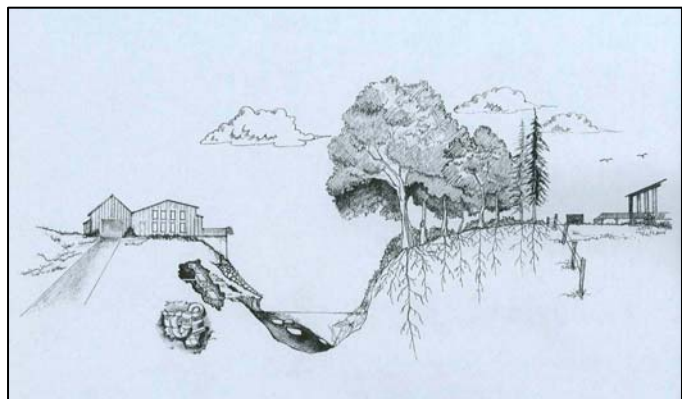
A healthy vegetated buffer helps improve stream health and water quality by: filtering and slowing pollution runoff; preventing soil erosion; providing upland habitat; contributing essential nutrients to the food chain; providing woody debris for in-stream habitat, and shading the stream to keep water temperatures down. Buffers also help absorb flood waters to protect human life and property.

### What's the difference between healthy and unhealthy buffers?

A healthy buffer has many different species of native trees, shrubs and grasses with minimal encroachment and human disturbance.

Varying buffer widths correspond to different purposes in support of human needs and the ecosystem, but in general, the wider the better.

Unhealthy buffers have: plants with weak root systems, such as grass growing to the water's edge; invasive plant species, such as Japanese knotweed; grazing animals; inadequate buffer widths; hardened shorelines, and impervious surfaces, such as pavement.



An example of an unhealthy buffer—left and a healthy buffer—right  
(Amy Flavin, NYCDEP)



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## Protection options

Property owners can protect streams and buffers by allowing native trees, shrubs and vegetation to grow, while reducing pavement, lawn areas, farm animal usage, and removing invasive plant species. Municipalities can enact local watercourse buffer ordinances, conservation overlays, and implement buffer protections through State Environmental Quality Reviews (SEQR), while conservation groups and land trusts can purchase conservation easements to legally protect stream buffers.

More information on these techniques is available in the NYSDEC Handbook: *Conserving Natural Areas and Wildlife in Your Community: Smart Growth Strategies for Protecting the Biological Diversity of New York's Hudson River Valley*.



Installing a tree tube during a "Trees for Tribs" buffer planting project on Wappingers Creek, Poughkeepsie

## Restoration options in the estuary watershed

Grant opportunities through the Hudson River Estuary Program and the Catskill Watershed Corporation Stream Corridor Protection Program support both protection and restoration of streams. Several restoration programs also support landowner or community projects: the Hudson Estuary "Trees for Tribs" initiative; United States Department of Agriculture Conservation Reserve Enhancement Program (agriculture applications), and New York City Department of Environmental Protection Streamside Assistance Program. Some of these programs extend into other watersheds as well.

## Hudson Estuary "Trees for Tribs"

Hudson Estuary "Trees for Tribs" is a program developed to reforest unhealthy stream buffers along tributaries (a.k.a. "tribs") in the Hudson River Estuary watershed. Projects occur in both the spring and fall. Participants must submit an application and provide volunteer labor for planting and annual vegetation monitoring, if applicable. Hudson Estuary "Trees for Tribs" staff will: conduct a site analysis; provide free native trees and shrubs, as well as tree tubes and weed mats for tree protection; prepare the site (if feasible); coordinate and participate in the planting, and provide other technical assistance. Hudson Estuary "Trees for Tribs" staff also make presentations and provide guidance for community planning.

## Find out more about stream buffers and Hudson Estuary "Trees for Tribs"

Contact the Hudson River Estuary Program  
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TREES FOR TRIBS

Hudson  Estuary

The Hudson River Estuary Program's "Trees for Tribs" initiative started in 2007. In just two years, it has been responsible for planting more than 30,000 feet of stream buffers along the estuary's tributaries with 12,000 native trees.