United States Department of Agriculture

A Watershed Success Story

Precision Approach to Expanding Riparian Buffers

The Challenge:

The greatest threat to New England rivers is stormwater pollution from the land. The Merrimack River watershed in New Hampshire and Massachusetts ranks 1st in the country for loss of private forested lands due to development pressures, 4th for threats to water quality, and 7th for loss of habitat for species at risk. Climate change is predicted to increase total stormwater runoff by 33 percent for the East Coast by 2100 due to increased rainfall and frequency of flooding. Recent studies show that the most effective way to prevent stormwater pollution and degradation of water quality is to create and maintain a mixed riparian buffer comprised of trees, shrubs, and grass. Riparian buffers help prevent stormwater runoff and other sources of pollutants from entering waterways.

Volunteers help plant trees and shrubs at the Aggregate Industries site along the Merrimack River in Manchester, NH. (Courtesy photo by Willow Cheeley)

The Solution:

A unique partnership of watershed organizations, communities, and forestry and land conservation programs in two States used the power of forests to maintain water quality and reduce stormwater impacts. The Merrimack River Watershed Council (MRWC) leveraged a $268,764 Federal grant from the Forest Service, U.S. Department of Agriculture, and matching funds from the Commonwealth of Massachusetts to strategically expand riparian buffers where they could make the greatest difference. MRWC used Geographic Information System (GIS) analysis to identify subwatersheds with roughly 5 percent impervious cover, such as asphalt, within a 100-meter buffer zone of the Merrimack River. They also used GIS to identify regions with species at risk, flooding, or high nutrient load.

Resulting Benefits:

This project provides a model for identifying appropriate watersheds for restoration of riparian buffers. It also demonstrates how landowners and communities can work together to show measurable improvements in riparian buffers. Increasing forested riparian buffers addresses two national Forest Service themes: Conserve and Manage Working Forest Landscapes, and Enhance Public Benefits from Trees and Forests.

> ***This project provides a model for identifying promising watersheds for restoration.***

MRWC worked with interested towns and private landowners to expand well-managed riparian forest buffers. This work involved restoration plantings on 1,600 feet of riparian buffer. Companies participating in this project subscribed to a 3-year water management agreement with the MRWC to maintain these enhanced riparian buffers. MRWC also made presentations about buffer protection bylaws at a conference attended by approximately 30 conservation commission members.

Sharing Success:

The project received widespread local print news coverage, and MRWC created a project brochure. The University of New Hampshire developed outreach plans and unique project briefs for subwatersheds. They held 6 outreach events with 48 attendees, conducted 3 workshops, and hosted woodlot visits with local property owners to discuss the riparian buffers. In some cases, they also helped property owners draft forest stewardship plans. This activity might inspire more watershed associations and organizations to take part.

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