

# RIPARIAN RESTORATION PROJECT

# MUSCONETCONG RIVER- BETHLEHEM TOWNSHIP

## Riparian Forest Buffers

Communities of trees, shrubs and other plants growing along streams and lakes.

## Buffer Benefits

Protect and enhance the water quality of streams and their aquatic environments by filtering non-point source pollutants such as sediment and nutrients from storm water runoff. Buffers also reduce streambank erosion and provide improved wildlife and fisheries habitat.

Additional Buffer Information:  
[www.northjerseyrcd.org](http://www.northjerseyrcd.org)  
or  
[www.rce.rutgers.edu/njriparianforestbuffers](http://www.rce.rutgers.edu/njriparianforestbuffers)



North Jersey  
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Objectives of the Riparian Forest Buffer Projects were to demonstrate:

1. Effective site design utilizing naturally-occurring plant communities
2. Design flexibility that can incorporate such things as aesthetics, recreation & environmental benefit to a waterway in a natural area
3. The use of native plants & establishment of a warm season grass stand
4. Control streambank erosion
5. Remove and eliminate invasive species

Waterway Buffered: Musconetcong River

Location: Warren County Rod & Gun Club Bethlehem Township, Hunterdon County

Description: The buffer area directly borders the Musconetcong River in Bethlehem Township. The property is accessible through an existing 265-acre township-owned preserve with passive recreational trails in it that will continue through the buffer area. The property, a 500 foot wide parcel along the River is owned by Warren County Rod and Gun Club. Until 2005 the fields along the river area were in agricultural production. The initial site preparation included removal of multi-floral rose from the project area. The completed buffer consists of 1,110 native trees representing 32 different species & 110 native shrubs representing 10 different species.

Size: 2,310 feet long , 125 feet wide (average), 11.6 acres

Planting Dates: April 2006 and June 2006

Total Cost:   **\$ 43,969.23**  
                          \$ 9,060.00   in-kind volunteer labor support  
                          \$ 34,909.23   Grant and CREP program funds



Site prior to planting August 2003

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### Dominant Trees & Shrubs Planted

#### Trees: (brief listing)

- Aspen
- Basswood
- Black cherry
- Hackberry
- Box elder
- Hawthorn
- Pin Oak
- Pawpaw
- Red Maple
- Sugar Maple
- Shadbush
- Sycamore
- Swamp White Oak
- Yellow Birch

#### Shrubs:

- Inkberry holly
- American holly
- Cranberry
- Elderberry
- Grey Dogwood
- Winterberry
- Southern arrow-wood
- Chokecherry
- Nannyberry
- Highbush Blueberry

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**Project Partners & Volunteers:** This riparian forest buffer demonstration is part of a larger regional project, coordinated and implemented by North Jersey RC&D. The project design was created by and initial planting installed by Eco-Bound, Inc. Additional volunteers assisting with the project included township residents and the Musconetcong Watershed Association members. These volunteer participants were invaluable in the planting and establishment of this site.

**Project Funding:** Originated from U.S. Environmental Protection Agency Nonpoint Source Pollution 319h grant program administered by the NJ Department of Environmental Protection through a grant awarded to the North Jersey RC&D. Additional funds were secured through the Conservation Reserve Enhancement Program (CREP).

### Design Components

1. Buffer Installation: deer resistant species along with adding tree protection shelters
2. Create a riparian forest buffer habitat along river in areas that were historically agriculture property. Establish a stand of native warm season grass
3. Hiking trail
4. Removal of invasive plant species



After planting May 2006