

Riparian Corridor Management Plan

Manor Kill-Grogan Property Conesville, NY



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Introduction

Maintaining healthy and intact riparian areas is a high priority of the Catskill Streams Buffer Initiative (CSBI), as is improving the condition of degraded riparian buffers. Through the protection and enhancement of the riparian corridor we are protecting water quality, protecting and increasing habitat diversity, and offering some level of stabilization for stream banks through natural biological means. Well vegetated riparian buffers filter upland pollutants; provide rooting mass for bank stability, and lower stream water temperatures. Numerous streams in the Schoharie Creek Watershed have been walked with detailed mapping of the vegetation conducted within the riparian corridors, documenting various stream conditions, need for supplemental vegetation, presence of invasive species, and other conditions impacting the health of the riparian area. While 75% of the West of Hudson Watershed is forested, it is apparent that some riparian areas lack this protective cover.

The overall goal of the CSBI is to inform and assist landowners in better stewardship of their riparian (streamside) area through protection, enhancement, management, or restoration. The New York City Department of Environmental Protection and its partners (County Soil & Water Conservation Districts and Cornell Cooperative Extension) will assist private, riparian landowners throughout the West of Hudson Watershed by providing:

- 1) Riparian Corridor Management Plans to create awareness about riparian management issues specific to individual properties
- 2) Best management practice design and/or prescriptive measures and installation to encourage positive riparian stewardship and
- 3) Educational materials and activities as needed by landowners to understand the critical role of their buffer and how to maintain it in optimal functioning condition.

Any watershed landowner with property within the mapped buffer area can receive technical assistance and a Riparian Corridor Management Plan.

Site Visit Description / Existing Conditions

The Manor Kill Stream Management Plan (SMP) identifies the Grogan property along Potter Mountain Road in Management Unit 2 and states that the entire corridor would benefit from improved riparian buffers. Past agricultural/landscaping activities have resulted in minimal woody vegetation along the riparian corridor. Throughout areas of the reach, riparian buffers, when present at all, are limited in width and provide minimal benefits.



Aerial photo of Grogan Property showing 50ft buffer on both sides of the Manor Kill.

The Manor Kill flows west through Conesville paralleling Potter Mountain Road along the Grogan property. Aerial photography shows herbaceous cover along the entire north bank, the area where owners have expressed concern about erosion. After initial inventory and assessment of the reach, a more detailed analysis documented in the SMP identified a need for a riparian planting site on the right bank of the Grogan property. The lack of any deeply rooted vegetation is a factor in the high rates of erosion that have been observed throughout the watershed. The scope of the proposed project includes riparian buffer plantings along the right bank for a length of approximately 400 feet. The riparian buffer plantings are intended to enhance the overall ecological function of the riparian corridor and reduce chances of lateral migration within this reach.

Soils

Review of the general soil characteristics of the segment revealed that the segment was highly susceptible to bank erosion due to the thick unconsolidated layers of glacially deposited soils. Gravelly loams, soils loose in structure with little rock content, predominate the stream banks in this segment, corresponding to a natural susceptibility to erosion and entrainment. Healthy riparian buffers are critical in maintaining stability for this stream type. The soil type located within the project area is mostly Tunkhannock and Chenango (ThCK) 3-15% complex slopes, Alluvial Land (Al) 1.8%, Barbour and Tioga (BbB) 0-8% slopes, and Oquaga stony silt loam (OsC) 3-15% slopes. The Alluvial Land (Al) soils which make up 1.8% of the site consist of soils and of recent deposits of sand, silt, and gravel. Alluvial land soils are excessively drained to

very poorly drained. Drainage generally is very poor along the smaller streams and excessive in some cobble areas. Coarse fragments make up from less than 5 percent to as much as 90 percent of the soil material. Reaction ranges from very strongly acid to neutral. This makes this soil type variable for planting recommendations and will limit its use to mostly hydric grasses, forbs, and shrubs suited for those conditions. Tunkhannock and Chenango and Barbour and Tioga soils which make up the remainder of the planting site are suited for stands of Sugar maple, yellow birch, beech, red maple, white ash, black cherry, basswood, hemlock, white pine, and aspen.¹ So planting recommendations would lean towards using those species.

Landowner Issues / Concerns

Lorraine Grogan has expressed concerns about localized erosion, flooding, and an undersized culvert that resides on her property.

Landowner Goals

- 1) Minimize erosion
- 2) Improve flood conveyance
- 3) Improve aesthetics and appearance – keep wild
- 4) Improve habitat

Buffer Width of 50ft. is acceptable.

Recommendations – Best Management Practices (BMPs)

1 a.) As deep rooted woody vegetation is critical to maintaining bank stability, this site could benefit from enhanced buffer width and establishment of more woody vegetation.

Planting and maintaining a healthy buffer of trees and shrubs along the stream banks and floodplains is one of the most cost effective and self-sustaining methods for landowners to protect streamside property.

1 b.) Use willow stakes to prevent localized erosion. Bioengineering, the use of live vegetation, either alone or in combination with harder materials such as rock or (dead) wood, to stabilize soils associated with stream banks or hill slopes can be used at this location. Dormant materials such as willows quickly establish vegetation on the banks. Willow stakes are cut from living willow shrubs when the shrub is dormant (usually during the fall). The stakes, ranging from one to several feet long, are hammered or pushed into the stream bank where they will grow quickly and provide necessary bank stabilization where it is needed most.

1 c.) Use live fascines. Live fascines are a standard bio-engineering technique which involves the bundling and planting of dormant plant cuttings. The plant bundles sprout and develop a root mass that will hold the soil in place and protect the stream bank from erosion.

1. Schoharie County Soil Survey 1969 United States Department of Agriculture Soil Conservation Service, Cornell University

2) Increase native riparian vegetation and habitat. Plantings can include a variety of flowering shrubs, trees and sedges native to Schoharie County. Native species are adapted to our regional climate and soil conditions and typically require less maintenance than exotic species following planting and establishment.

3) Maintain root systems that hold soil in place by not mowing right to the stream edge. Degrading buffer zones can be improved by not mowing in the buffer zone. Keeping a buffer zone of trees and shrubs, especially in the first 50 to 100 feet, along stream banks helps to minimize erosion and protect property, filter pollutants, and increase habitat value.

4) Consider the NYC Department of Environmental Protection's Watershed Land Acquisition Program. DEP's Land Acquisition Program involves willing seller/willing buyer agreements. The lands acquired must meet various criteria established by the MOA for water quality protection purposes. DEP offers to purchase lands and conservation easements at fair market value, as determined by independent, professional appraisers. The City will pay assessed property taxes on fee acquisitions and on conservation easements; the latter will be in proportion to the value of the easement with respect to the overall vacant property.

Project Proposal

The scope of the proposed project includes riparian buffer plantings on the adjacent floodplain. The plantings are intended to reduce chances of bank erosion, while enhancing the overall ecological function of the riparian corridor.

The success of the plantings will be dependent upon the flood regime endured by the project in the period following project implementation. The plantings may need maintenance and repair over time to achieve their maximum bank stabilizing effect. More aggressive stabilization techniques, though beyond the scope of the proposed project, could be applied to the reach if acceptable conditions are not achieved by the vegetative treatments. SCSWCD could provide technical assistance in the event that the landowner elected to implement a more aggressive bank stabilization treatment.

The Schoharie County Soil and Water Conservation District will provide:

1. A Riparian Corridor Management Plan
2. Project Design for the Riparian Buffer Plantings
3. All Native Plant Materials including trees and willow stakes
4. Installation of Plant Materials
5. Japanese Knotweed Containment
6. A Landowner's Guide to Vegetation Management

Resources List (Appendix)

Manor Kill Stream Management Plan

http://www.catskillstreams.org/Manorkill_Stream_Management_Plan.html

Batavia Kill SMP Executive Summary

http://www.catskillstreams.org/pdfs/BataviaKillExec_Summ.pdf

Agriculture

Whole Farm Planning

Conservation Reserve Enhancement Programs

www.nycwatershed.org

NYS Department of Agriculture and Markets

2009 Agricultural Assessment Values per Acre

http://www.agmkt.state.ny.us/AP/agsservices/2009_General_Ag_Value_memo.pdf

Fascines

Ohio Stream Management Guide

http://www.dnr.state.oh.us/Portals/7/pubs/fs_st/stfs14.pdf

Forestry

Watershed Agricultural Council's (WAC) Watershed Forestry Planning Program

www.nycwatershed.org

Riparian Buffers

http://www.catskillstreams.org/stewardship_streamsideside_rb.html

Soils

USDA Web Soil Survey

<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>

Schoharie Stream Management Implementatation Funds

<http://www.catskillstreams.org/SWAC.html>

Stormwater Program - CWC

http://www.cwconline.org/programs/strm_wtr/strm_wtr.html

Watershed Land Acquisition Program

http://www.nyc.gov/html/dep/html/watershed_protection/html/landac.html