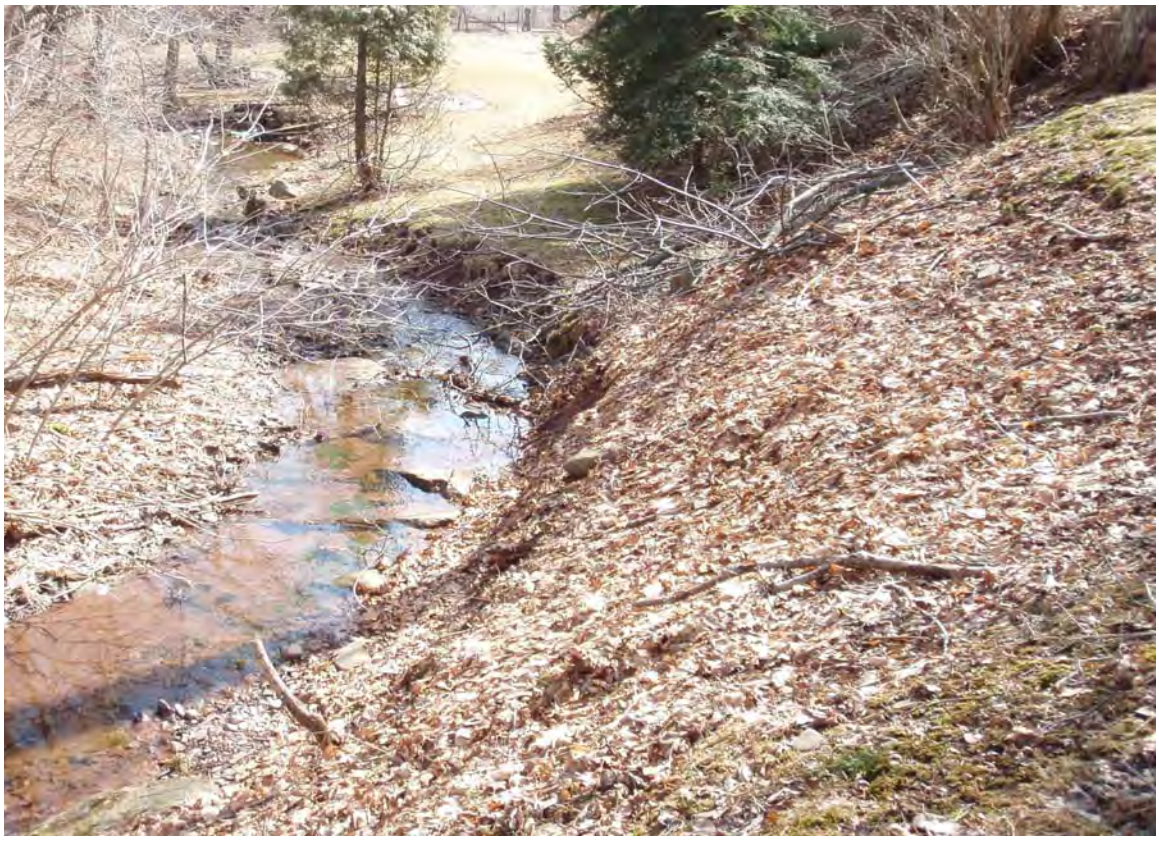
Riparian Corridor Management Plan

Batavia Kill

McRoberts Property – East Windham, NY



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Introduction to the Catskill Streams Buffer Initiative

Maintaining healthy and intact riparian areas is a high priority of the Greene County Soil and Water Conservation District (GCSWCD) Catskill Streams Buffer Initiative, 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 streambanks 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 Catskills 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 Catskill Streams Buffer Initiative 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:

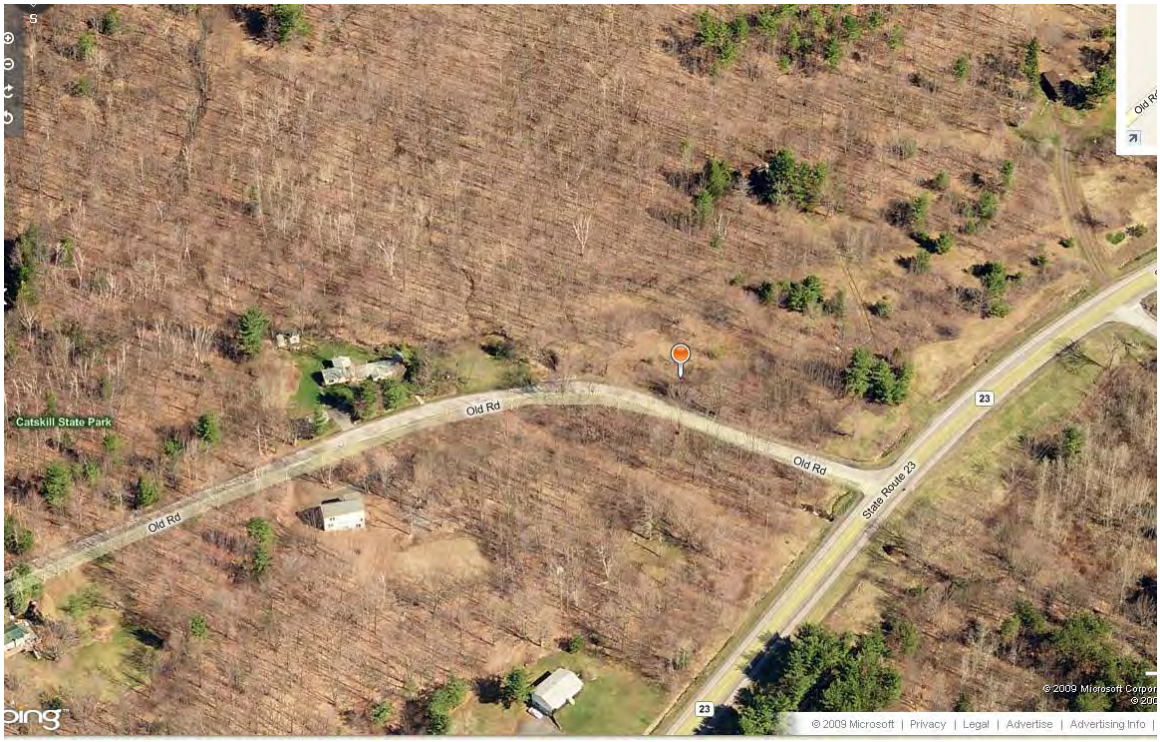
1) Riparian Corridor Management Plans to create awareness about riparian management issues specific to individual properties
2) Best management practice design and/or prescriptive measures and installation to encourage positive riparian stewardship and
3) Educational materials and activities as needed 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.

The Catskill Streams Buffer Initiative helps residential landowners protect their property and preserve natural habitat along stream banks in the Catskill/Delaware watershed areas through the use of vegetative buffers.

Site Visit Description / Existing Conditions

Louise McRoberts has a one acre parcel located within the Catskill Park at 689 Old Road in East Windham. The northern property line is marked by a small C stream, a tributary of the Batavia Kill. [1] Mrs. McRoberts called the GCSWCD office regarding erosion on her property stating erosion occurs with flooding every spring and fall. Land-cover on the parcel is primarily mowed lawn. Land-use / land-cover for this area is predominately forest with limited residential development. No Japanese knotweed was visible at the site visit. There is a healthy riparian buffer on the left side of the stream owned by another landowner. Surrounding forest has been classified as a Beech-Maple mesic Forest. Some trees were damaged as a result of ice storms over the winter. Mrs. McRoberts was concerned about the woody debris in her stream. A shed was installed some years ago and due to recent erosion is now located at the edge of the streambank.



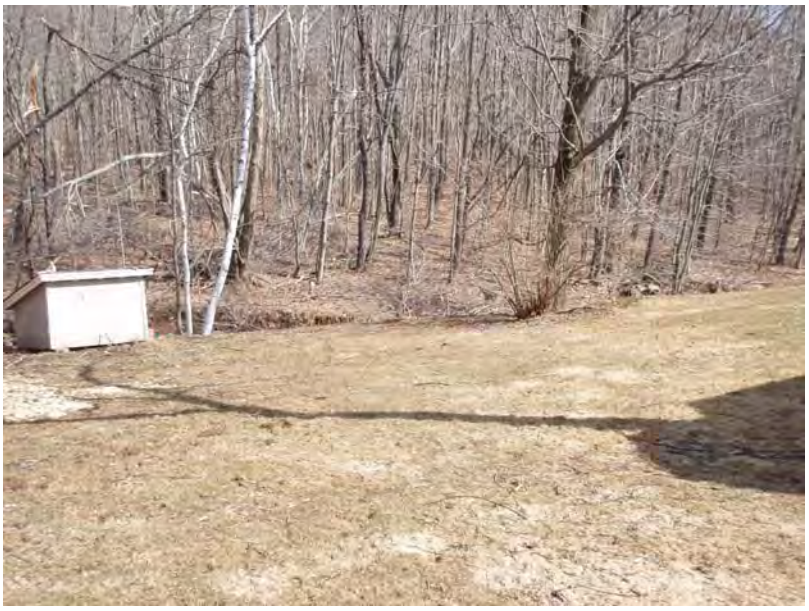
Aerial view of McRoberts property

The soil type located within the project area is Vly-Halcott complex. This series consists of moderately deep, well drained soils formed in till. These soils are on glaciated bedrock controlled uplands. Slope ranges from 0 to 70 percent. Mean annual temperature is 44 degrees F. and mean annual precipitation is about 50 inches. Most of the soils in this series are forested or used for unimproved pasture. Native vegetation is red maple and sugar maple, beech, white pine and black cherry.

[1] All waters of New York State are provided a class and standard designation based on existing or expected best usage of each water or waterway segment. Classification C is for waters supporting fisheries and suitable for non - contact activities.

Landowner Issues / Concerns

Mrs. McRoberts has expressed concerns about localized erosion on the right streambank indicating that erosion (up to 3 feet) has been occurring on this bank for the last 8 years. A storage shed is now located at the streambank due to bank retreat over the years. Additionally, Mrs. McRoberts is concerned that the stream is full of twigs due to tree limbs falling during this past winter's storms.



Backyard shed at streambank edge

Fallen trees

Landowner Goals / Contributions

1) Minimize and prevent stream bank erosion
2) Include a variety of habitats for birds and wildlife

A 100 to 300 ft. long buffer is acceptable.

Landowner has signed a 10 year temporary easement.
Agreed buffer width is 30 feet over the right bank.

Recommendations – Best Management Practices (BMPs)

1) As deep rooted woody vegetation is critical to maintaining slope stability, this site could benefit from enhanced buffer width and establishment of more woody vegetation. Planting and maintaining a healthy buffer of native trees and shrubs along the streambanks and floodplains is one of the most cost effective and self-sustaining methods for landowners to protect streamside property**.**

2) Use willow stakes to address minor 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 streambanks 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.

3) Increase native riparian vegetation and habitat. Plantings can include a variety of flowering shrubs, trees and sedges native to the Catskills. Native species are adapted to our regional climate and soil conditions and typically require less maintenance than exotic species following planting and establishment. Riparian buffer plantings will enhance the overall ecological function of the riparian corridor.

4) 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 streambanks helps to minimize erosion and protect property, filter pollutants, and increase habitat value.

5) Relocate sheds farther away from the stream.

6) Woody debris is essential to fish habitat. Remove only the woody debris that causes significant obstruction to stream flow.

Resources List

Batavia Kill Stream Management Plan
http://www.gcswcd.com/stream/bataviakill/smp/

Batavia Kill SMP Executive Summary
http://www.catskillstreams.org/pdfs/BataviaKillExec_Summ.pdf

DEC Protection of Waters Program
http://www.dec.ny.gov/permits/6042.html

Fascines
Ohio Stream Management Guide
http://www.dnr.state.oh.us/Portals/7/pubs/fs_st/stfs14.pdf

Large Woody Debris Removal
http://www.ncwater.org/Financial_Assistance/Minimum%20Criteria%20-%20Incremental%20Effects%20of%20LWD%20Removal%201992.pdf

Riparian Buffers
http://www.catskillstreams.org/stewardship_streamside_rb.html

Soils
National Cooperative Soil Survey
Official Series Description Series, 1999
http://soils.usda.gov/technical/classification/osd/index.html

Stormwater Program – Catskill Watershed Corporation
http://www.cwconline.org/programs/strm_wtr/strm_wtr.html

Landowner Self Evaluation Form

STREAMSIDE ASSISTANCE PROGRAM

DATE _____

OWNER LOUISE McROBERTS

ADDRESS or SITE NAME 689 OLD ROAD EAST WINDHAM, NY 12439

STREAM NAME ? Watershed _____ Tax Parcel _____

Have you participated in the Streamside Assistance Program in the past? (if Yes, explain) NO
History of working with DCSWCD, NYCDEP, USACE, Other agency? (who, when) NONE
Do you participate in any other NYC Watershed Programs? (how, when) NO

- Catskill Watershed Corporation (CWC)?
- Conservation Reserve Enhancement Program (CREP)?
- Watershed Agricultural Council's (WAC) Forestry or Whole Farm Programs?

Land-use History? RESIDENTIAL
Flooding History? SEASONALLY EVERY YEAR
Goals for the Property? STOP EROSION
Do you anticipate any major changes on your property within the next 5 years? (explain) NO

Landowner Self-Evaluation Form

Goals for the Project?

Minimizing Erosion, Increasing Wildlife

Preferred Buffer Width: 5-10 ft 10-25ft 50-100 ft. 100-300ft. Other:

Landowner Participation and Commitment to the Project? (explain)

- ☐ Cost share (% of total)
- ☐ Project installation assistance
- ☑ Project maintenance/monitoring
- ☑ Easement/License agreement (10yr/5yr)
- ☐ Attend training on related topics
- ☐ Other:

Landowner concerns: (Site access, invasive sp, wildlife, etc.)

Issues with site access for project installation and staging: (explain)

Is site visible from road?

Would you agree to use this as a demonstration project for other landowners interested in streamside assistance?

Yes

Are neighbors interested in streamside assistance? (Identify)

Appendix A:

Planting Plan

McRoberts Planting
Batavia Kill Tributary

Site Details
150 ft x 50ft
7,500 sq ft
0.17 acre
50 trees

	Latin Name	Wetland Indicator	Native	Location	Spacing (ft)	Total #	Notes
Evergreen transplants							
White pine	Pinus strobus	**FACU**	Y	C	10	5	
Eastern hemlock	Tsuga canadensis	**FACU**	Y	C	10	10	
						15	
Hardwoods							
Red maple	Acer rubrum	**FAC**	Y	B-C	10	5	
Red oak	Quercus rubra	**FACU**	Y	C	10	5	
Green ash	Fraxinus pennsylvanica	**FACW**	Y	B-C	10	5	
						15	
Shrubs							
Redosier dogwood	Cornus sericea	**FACW+**	Y	A-B-C	5	20	*plant in groups*
						20	
				TOTAL PLANTS		50	
Stakes							
Willow sp.	Salix	**FACW**	Y	A-B	2	100	*Dormant Native*
Dogwood	Cornus amomum	**FACW+**	Y	A-B	2	25	*Dormant Native*
				TOTAL Stakes		125	

Wetland Indicator = Wetland Indicator Status
OBL: Obligate Wetland: Occurs almost always (estimated probability 99%) under natural conditions in wetlands.
FACW: Facultative Wetland: Usually occurs in wetlands (estimated probability 67%-99%), but occasionally found in non-wetlands.
FAC: Facultative: Equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).
FACU: Facultative Upland: Usually occurs in non-wetlands (estimated probability 67%-99%), but occasionally found on wetlands (estimated probability 1%-33%).