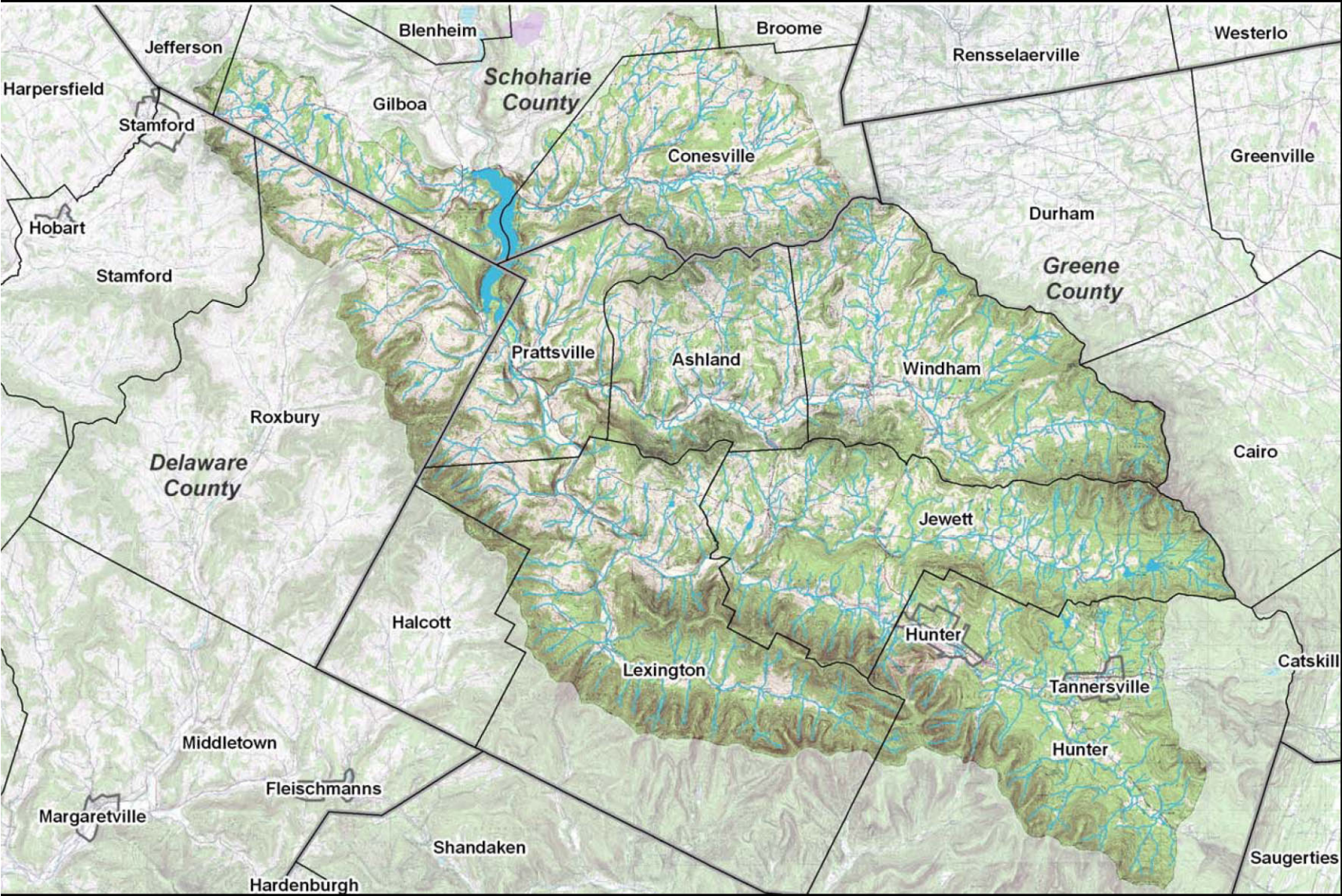


# SCHOHARIE BASIN STREAM MANAGEMENT PLAN IMPLEMENTATION WORK PLAN 2007 – 2009



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## Schoharie Basin Stream Management Plan Implementation Work Plan

The following work plan sets forth the various programs and projects that will be the focus of GCSWCD activities in the Schoharie Watershed during the period between March 2007 and February 2009. These are primary work items in which GCSWCD will play a lead role, and may include the involvement of various partners such as NYCDEP, NYSDEC, CWC and others depending on the specific project. Additional activities may be undertaken as opportunities arise.

- The work tasks are targeted at activities in those watersheds in which the GCSWCD and NYCDEP have completed Stream Management Plans. Planning activities do include further inventory and assessment of major tributaries to integrate programs on a watershed wide basis.
- It is the intent of the GCSWCD to “integrate” activities across all of its programs where such activities have a direct relationship to Stream Management Plans for the various watersheds within the Schoharie Basin.
- The work plan includes both activities that are projected to be supported by NYCDEP as a component of their 2007 FAD, as well as activities that are a direct initiative of the GCSWCD and its partners. The GCSWCD is committed to maximizing the integration of all District activities into these work plans.
- Individual items as presented in the work plan will have more detailed project tracking plans developed which will further explain partnerships, funding sources, schedules and other factors. These detailed plans will be developed jointly by GCSWCD, NYCDEP, the broader Project Advisory Team and smaller focus type groups as appropriate.
- Due to deadlines to deliver this work plan to EPA, it has not been reviewed by other stakeholders in the watershed and is subject to revisions based on further input.
- In following “progress” text: Red = Complete, Yellow = in-progress and Green = not started

NYCDEP Stream Management Program  
71 Smith Ave, Kingston NY 12401  
Dave Burns, Project Coordinator  
845.340.7628  
[dburns@dep.nyc.gov](mailto:dburns@dep.nyc.gov)



Greene County Soil & Water  
Conservation District  
907 County Office Building, Cairo NY 12413  
Jeff Flack, Executive Director  
518.622.3620  
[jeff@gcswcd.com](mailto:jeff@gcswcd.com)



## I. Program Development

As the GCSWCD and NYCDEP makes the transition into the implementation phase of stream management plans, it will be necessary to accomplish certain tasks related to overall program development. Most important, will be the need to create a stronger identity for the GCSWCD, NYCDEP-SMP and efforts within the watershed. Priority will be given to assisting NYCDEP meet obligations under the FAD and Shandaken Tunnel SPDES permit. Specific program development activities would include:

**A. Program Administration:** To manage the many projects and priorities in this action plan, the GCSWCD will continue to need the resources to provide overall project administration. The GCSWCD will accomplish these tasks using various staff, including full integration of NYCDEP funded staff and GCSWCD-WAP funded staff. The GCSWCD will develop a detailed staffing plan that identifies specific staff positions as well as their primary and secondary areas of responsibilities. Specific activities may include contract administration, book keeping, budgeting, schedule development and reporting.

GCSWCD Staff: Carl, Yost, Flack  
Partners: NYCDEP, MSMA  
Task Funding: NYCDEP, Greene County Legislature, Grants, Other funding sources  
Task Schedule: 1, Develop and submit staffing plan June 1, 2007  
2. Develop and execute contracts with NYCDEP for program management

**Progress (2007):** In 2007, a staffing plan was developed and a new agreement was completed that will begin in 2009. In addition, the GCSWCD lost Amy DeGaetano and Rene Vanschack to other jobs. Administrative activities and coordination of programs are ongoing with staff from both agencies meeting regularly to integrate efforts.

**B. Project Advisory Team:** The GCSWCD and NYCDEP will work cooperatively to develop a single, watershed wide Project Advisory Team (PAT), that will help guide SMP implementation. The PAT should include a wide range of stakeholders and focus on engaging new partners such as Greene County Planning, Cornell Cooperative Extension, Greene Land Trust and others that have not been as active in SMP activities in the past. The GCSWCD and NYCDEP will evaluate the appropriateness of a two "team" structure with a broad, locally driven management advisory committee and a technical advisory team that engages all appropriate local, state and federal agencies. It is proposed that the PAT may need to meet as frequently as monthly or bi-monthly during Year 1, and reduce meeting frequency to quarterly during Years 2-5. The GCSWCD will significantly increase the role of the PAT in all aspects of the action plan including establishment of priorities, outreach and reporting.

GCSWCD Staff: Yost, Martin, Flack  
Partners: NYCDEP, Towns, Villages, Counties, local, county, state and federal agencies, NGO's, landowners  
Task Funding: NYCDEP Contract  
Task Schedule: 1. Draft PAT membership compiled, July 2007, invites sent to invitees August, 2007  
2. First PAT meeting, November 2007  
3. Meet quarterly 2008-2009

SMP Recommendation: Schoharie/East Kill – PA-6.5.8  
West Kill - PA 6.5.2

**Progress (2007):** GCSWCD and DEP staff developed a proposed framework for the Schoharie Watershed Advisory Committee (SWAC) including membership and stream management plan implementation guidelines. Letters were sent to the eleven municipalities and the proposed structure was presented at the January, 2008 Schoharie Summit as well as to the Mountaintop Supervisors & Mayors Association in January. Orientation meeting for the SWAC will be scheduled for March/April.

**C. Program Office:** The GCSWCD and NYCDEP should work jointly to establish a project office within the watershed. The office should have capacity to house key program staff as well as provide an effective meeting space for PAT meetings and other focus group meetings. An office would help build program identity in the watershed and provide stakeholders ready access to program resources.

GCSWCD Staff: M. Yost  
Partners: NYCDEP/Hunter Foundation, others  
Task Funding: NYCDEP Contract/ Greene County WAP Funding, Others  
Task Schedule: Use interim office in Windham Town Hall March 2007- Fall 2007  
Establish more permanent location in Schoharie watershed by fall or winter 2007  
**Progress (2007):** The GCSWCD and WAP have identified and secured a Mountaintop project office through the Hunter Mountain Foundation. The building is being refurbished and will be completed in the Spring of 2008. The GCSWCD is also designing innovative stormwater practices and a pedestrian Creek-Walk that will be incorporated into an overall education plan for the site.

**D. Local Technical Assistance:** Many recommendations in the SMPs are associated with increasing local access to technical assistance. Whether it is Town planning boards, highway departments, developers, landowners or others, tremendous benefit could be realized if the GCSWCD Stream Stewardship Program can provide technical assistance in several areas. Key areas where technical assistance should be evaluated are related to stormwater planning & retrofit, stream management at landowner and highway dept level and land use planning for planning boards and developers. The GCSWCD and NYCDEP will work cooperatively to develop program resources and policies to address the issue of technical assistance.

GCSWCD Staff: Flack, DuBois, Buchanan, Martin  
Partners: NYCDEP, Greene County Legislature, Local municipalities  
Task Funding: NYCDEP Contract/ Greene County WAP Funding, Others  
Task Schedule: 1. Develop and have staffing plan for next five (5) years approved by NYCDEP [May 1, 2007]  
2. Execute LT agreement with NYCDEP for funding of program staff [January 1, 2008]  
3. Develop resource needs and justification for Greene County Legislature [September 1, 2007]  
SMP Recommendation: Batavia Kill – SC-01 (High, 2.31), WQ-08 (Very High, 4.23)  
Schoharie/East Kill – FP-6.1.2, PA-6.5.1, RZM-6.7.4, SMA-6.8.2  
West Kill – GSMA 6.8.2  
**Progress (2007):** GCSWCD and the NYCDEP agreed to terms of a contract that provides for a staff member to take the lead on stream issues, stormwater and streamside assistance (riparian plantings), respectively. Combined, the three positions should provide a high level of technical assistance throughout the Schoharie Basin. In addition, several landowners have been identified in the Schoharie basin in need of technical assistance. A database has been developed to document the various problems and requests for assistance. In addition to landowners in need of assistance, there are also a variety of public agencies that have approached the program for assistance including Greene County Highway Department, New York State DOT, and several municipal entities. One on one site visits have been conducted with several of the individuals and agencies that have requested assistance. This item will be ongoing throughout the course of the Schoharie Basin Stream Management Plan Implementation process.

**E. Local Adoption of SMPs:** In 2007-09, the GCSWCD and NYCDEP will continue to work with local communities to accomplish local “adoption” of SMPs. The GCSWCD will continue to assist the communities in undertaking the appropriate SEQRA process for adoption of the plan. The GCSWCD is seeking to have each town/village adopt the SMPs by resolution, as well as execute Memorandums of Understandings (MOUs) with each community.

GCSWCD Staff:	Yost, Martin, Flack
Partners:	NYCDEP, Greene County Legislature, Local municipalities
Task Funding:	NYCDEP Contract/ Greene County WAP Funding, Others
Task Schedule:	<ol style="list-style-type: none"><li>1. Finalize adoption of Batavia Kill and West SMPS in Windham, Ashland, Prattsville &amp; Lexington [August 1, 2007]</li><li>2. Conduct SEQRA on West Kill Adoption [September 1, 2007], Lexington adoption of West Kill SMP [January 1, 2008]</li><li>3. Conduct SEQRA on Schoharie and East Kill SMPs [January 1, 2008], Jewett, Hunter, Lexington adoption [April 1, 2008]</li><li>4. Develop resource needs and justification for Greene County Legislature [September 1, 2007]</li></ol>
SMP Recommendation:	Schoharie/East Kill – SMP-Stakeholders Section West Kill – Section 7 - Implementation
<b>Progress (2007):</b>	The Town of Windham adopted the Batavia Kill plan and the Town of Lexington is moving forward with adoption of the West Kill plan. In late 2007, the decision was made to move forward with the development of the Schoharie Watershed Advisory Committee (SWAC) and then move for plan adoption through the SWAC. This was reviewed with all Mountaintop municipal leaders at their January '08 monthly meeting, noting a municipality must adopt its SMP before applying for project funding through the SWAC. GCSWCD & DEP will assist each through the SEQRA process. This will be a priority for 2008.

## II. Staff Training & Development

As the Stream Stewardship Program transitions into the implementation phase of the various stream management plans developed for streams within the Greene County portion of the NYC watershed, it will be necessary to provide additional training to staff to meet program goals. While some immediate training needs have been identified below, additional training is expected to be necessary as the programs activities are further refined. Training will be targeted at multiple audiences including staff, PAT members and others. The GCSWCD will work with the NYCDEP Education and Outreach working group to integrate training needs into the overall watershed education strategy. Training needs may include, but are not limited to: Bank Stability Modeling, Native Plant Identification and Seed Collection,

**A. Advanced Hydrology:** GCSWCD and NYCDEP staff will be trained in the use of various hydraulic modeling programs such as HEC-RAS (flood modeling) Pond-pak (stormwater modeling) and Hydrocad (stormwater modeling) to enable them to better meet needs for planning and designing of projects. This training is critical to effective use of the new flood maps, as well as assisting local communities with many types of projects that are expected to be primary activities under this work plan.

Target Staff:	<b><u>Buchanan</u></b> , J. DuBois
Training Funding	NYCDEP Contract, others
Project Schedule:	As available
Training Source:	Private sector, software companies, others
SMP Recommendation:	WK: In support of WQ 6.3.1, 6.3.7, PA 6.5.4
<b>Progress (2007):</b>	GCSWCD staff received a 2-day HEC-RAS training offered by SUNY ESF

**B. Riparian Buffer Design:** GCSWCD staff will require more advanced training on riparian buffer design and implementation techniques. It is recommended that specialized training be brought to the watershed so that a wider range of program staff at GCSWCD, NYCDEP and other agencies can participate. This training will be critical to effective implementation of the proposed riparian buffer program as well as to integrate into future restoration work.

Target Staff:	<b><u>Martin, Mellott</u></b> DuBois, Buchanan, Miles
Training Funding	NYCDEP Contract
Training Schedule:	As available
Training Source:	TBD
SMP Recommendation:	WK: RZM 6.7
<b>Progress (2007):</b>	None

**C. Floodplain Management:** GCSWCD staff will require more advanced training on issues related to floodplain management. Training on topics such as Letter of Map Amendment (LOMA), Letter of Map revision (LOMR), Elevation Certifications, etc will be some of the subjects that need to be addressed in a staff training program. The goal is to establish a knowledge base on floodplain management regulations.

Target Staff:	<b><u>Buchanan</u></b> ,
Training Funding	NYCDEP Contract
Project Schedule:	As available
Training Source:	FEMA, NYSDEC, Other sources
SMP Recommendation:	WK -- FP 6.1
<b>Progress (2007):</b>	None

**D. Project Management/Administration:** The GCSWCD will continue to provide all staff increased training in areas related to project, management and administration. Sessions on budgeting, accounting, project tracking/planning, project management software and other subjects will be included.

Target Staff: Carl, Martin, Buchanan, Yost, Mellott, , others  
Training Funding: NYCDEP Contract, grants  
Project Schedule: 1. Detailed staff training plan by 12/31/07  
2. Implement plan 2008  
Training Source: TBD  
**Progress (2007):** None

**E. Land Use Planning:** The GCSWCD will provide enhanced training to planners and coordinators on Land Use Planning.

Target Staff: Martin, Yost  
Training Funding: NYCDEP Contract, Grants, Other  
Project Schedule: As per detailed training plan described above  
Training Source: Pace Land Use Center, Glynwood Center, NYSDOS, Others  
SMP Recommendation: WK: In support of FP 6.1, 6.2, 6.3.1, 6.5.5, 6.7.4,  
**Progress (2007):** None

**F. Professional and Trade Conferences:** It is important for all participants in this work plan, staff as well as PAT members, to be knowledgeable of current issues, methods and practices. Professional and trade conferences are an excellent vehicle not only for gaining new information, but also for networking with watershed stewards from other areas. The GCSWCD and NYCDEP will support attendance at conferences by staff and PAT members.

GCSWCD Staff: **All Staff**, PAT members  
Training Funding: NYCDEP contract, grants, other sources  
Project Schedule: Integrate conference schedule into broader training plan and schedule, 12/31/07  
Training Sources: TBD  
SMP Recommendation: WK: FP 6.1.2, RZM 6.7.3, TR 7.1, GSMA 6.8.2

**Progress (2007):** The '07 & '08 Watershed Summits and June '07 Watershed Tour provided outstanding educational opportunities for all basin communities, with attendance exceeding what was expected. Forums included a wide range of subject matter from water quality basics to streams and infrastructure management. All municipalities in the basin had representatives at the 2008 Summit. Continue to host at least annually.

### III. Education & Outreach Activities:

The GCSWCD will continue to work with a wide network of partners to enhance its education and outreach efforts related to stream management, floodplain management, sediment and erosion control and other topics critical to sound watershed management. A priority goal of this work plan is to significantly increase education & outreach activities. Specific E&O tasks include, but are not limited to:

**A. WOH Education & Outreach Strategy:** The GCSWCD will continue to work with NYCDEP and others to refine and finalize a detailed Education and outreach strategy for the West of Hudson (WOH) watershed area. The GCSWCD will help identify and plan for training that is watershed wide or sub-basin specific and which addresses a wide range of audience.

GCSWCD Staff:	Yost, Martin other staff as appropriate
Project Funding:	NYCDEP SMP Contracts, WAP, CWC
Project Schedule	1 <sup>st</sup> draft E&O Plan _____ 2 <sup>nd</sup> draft E&O Plan _____ Final Draft E&O Plan _____
SMP Recommendation:	Batavia Kill – EO-01 (Médium, 1.66) Schoharie/East Kill – EO-6.4.1 West Kill – EO 6.4

**Progress (2007):** The majority of effort in 2007 was placed on forming the Schoharie Watershed Advisory Committee and the Watershed Assistance Program's Schoharie Watershed Strategy (SWS) which is discussed in VIII(a). Significant advances through the SWS grant have allowed Schoharie Basin communities (local decision-makers, agency regulators, county government) to come together in small focus groups and in large forums like the Summits to network and learn more about current practices, programs, and regulations governing watershed protection. A detailed E & O strategy exists in the SWS (January 2008). Significant outreach occurred throughout this process forming the basis for advancing educational opportunities and engaging local communities in watershed protection.

**B. Catskill Streams Website** – The GCSWCD will continue to provide logistical support in the development and maintenance of the Catskill Streams Website ([www.catskillstreams.org](http://www.catskillstreams.org)) as a valuable tool for sharing information with watershed stakeholders.

GCSWCD Staff:	Martin (PL)
Project Funding:	NYCDEP/GCSWCD Schoharie SMP Contract
Project Schedule:	Completed by May 1, 2007, updates as appropriate
SMP Recommendation:	Schoharie/East Kill – EO-6.4.3 West Kill – EO 6.4.2

**Progress (2007):** NYCDEP and GCSWCD staff worked with the Catskills Riparian Buffer Committee and a private website development company (CRSR) to design and launch Catskillstreams.org. The website is designed as a comprehensive information source for streamside landowners in the Catskills. NYCDEP & GCSWCD staff received training from CRSR on basic website upkeep and DEP staff gave three presentations on the website at various State and Local venues. Finally, CRSR completed a linking program to link to all the major search engines and other local and regional websites.



**C. Educational Workshops:** While the detailed E&O plan will determine long term training needs, the GCSWCD has identified a number of workshops that are proposed for 2007-08, these work shops would include;

1. Riparian Buffer workshop for private landowners,
2. Sediment & Erosion control for Contractors,
3. Floodplain management for municipalities (CEO, Highway, Planning Board)
4. Floodplain Management for private sector (realtors, lending institutions, developers)

GCSWCD Staff: Yost, Martin, DuBois  
Project Funding: NYCDEP/GCSWCD Schoharie SMP Contract, CWC, GCSWCD-WAP, others  
Project Schedule: Completed by August 1, 2008, updates as appropriate –  
SMP Recommendation: Batavia Kill – RB-01 (Very High, 3.33), SC-06 (Very High, 3.46)  
Schoharie/East Kill – EO-6.4.8  
West Kill – EO 6.4

**Progress (2007):** Workshops have been conducted through riparian volunteer planting projects (2007) and the 2007 and 2008 Watershed Summits in Hunter, NY (e.g., floodplain management, understanding SEQRA, wetland regulations, and stormwater regulations). Municipal planning and zoning board members received credit toward the yearly training requirement.

**D. Community Outreach:** Success of SMP implementation will require the GCSWCD and its partners to continue to increase its efforts to keep local communities and their stakeholders well informed of on-going activities. The GCSWCD proposes to place a higher priority on basic outreach activities such as regularly scheduled newspaper articles, an “e”-newsletter, program print newsletter, brochures, facts sheets, project announcements, media contacts, press releases and other suitable methods for distributing information to appropriate audiences in a timely manner.

GCSWCD Staff: Yost, Martin, DuBois  
Project Funding: NYCDEP/GCSWCD Schoharie SMP Contract, CWC, GCSWCD-WAP, others  
Project Schedule: TBD  
SMP Recommendation: Batavia Kill – EO-08 (High, 2.27), EO-09 (Medium, 1.54), EO-06 (Medium, 1.15), EO-10 (Medium, 0)  
Schoharie/East Kill – EO-6.4.2, EO 6.4.3, EO 6.4.4, EO 6.4.5, EO, 6.4.6, EO 6.4.7, EO 6.4.8, FP-6.1.7  
West Kill – EO 6.4.3, 6.4.4, 6.4.5

**Progress (2007):** GCSWCD, NYCDEP and the Batavia Kill Project Advisory Committee sponsored the first annual Batavia Kill stream festival. Outreach through the GCSWCD-WAP occurs regularly in the form of newspaper articles, newsletters, and by disseminating brochures, facts sheets, & other educational information to property owners, contractors, and municipal officials. Moreover, attendance at municipal and planning board meetings allows WAP staff to update municipal leaders on current projects as well as obtain information on specific municipal needs and issues.

## IV. Riparian Buffer Program

The GCSWCD, NYCDEP and many others have recognized the need for a program targeted at the assessment, establishment or enhancement of riparian buffers on non-agricultural lands. An effective riparian buffer program can assist unstable sites in their recovery as well as protect sites that are currently stable from future problems. The GCSWCD and NYCDEP will work to develop a comprehensive WOH watershed wide program that can be implemented with as much consistency as possible. Additionally, the GCSWCD/NYCDEP will continue to work on issues related to invasive species both at the project as well as watershed scale. The GCSWCD/NYCDEP will continue to participate with the CRISP program. Specific identified tasks may include, but are not limited to:

**A. Program Development:** In 2007-08, the GCSWCD will work closely with NYCDEP and others to establish the necessary program guidelines, policies, protocols and other items required to offer the program to watershed landowners. A significant amount of work will be necessary before there can be an open recruitment for participants. The GCSWCD proposes to use a series of demonstration sites (see below) to help define the final structure of the program.

GCSWCD Staff:	SAP Coordinator, Martin, Yost, Mellot, DuBois, Miles, Flack
Project Partners:	NYCDEP, GCSWCD-WAP, CCE Agroforestry Center, others
Project Funding:	NYCDEP, GCSWCD-WAP, ACOE-WRDA, others TBD
Project Schedule:	1. Complete program guidelines and policy Summer 2007 2. Work on initial demonstration sites – fall 2007 3. Initiate landowner participation - spring 2008
SMP Recommendation:	Batavia Kill – RB-03 (Very High, 3.46), RB-07 (Very High, 3.08), RB-11 (High, 2.69) Schoharie/East Kill – RZM-6.7.1, RZM-6.7.2, RZM-6.7.3, RZM-6.7.4, RZM-6.7.6, RZM-6.7.7, RZM 6.7.8, RZM-6.7.9, RZM-6.7.10, RZM-6.7.11, RZM-6.7.12, RZM-6.7.13, GSMA-6.8.2 West Kill – WQ 6.3.6, EO 6.4, RZM 6.7, 6.7.1, 6.7.3, 6.7.4, 6.7.6, 6.7.7, 6.7.8, 6.7.9, 6.7.10, GSMA 6.8.2,
<b>Progress (2007):</b>	GCSWCD and NYCDEP conducted an assessment based upon stream feature inventory and vegetation mapping to identify potential planting sites in the East Kill and Schoharie Creek that likely would not require a lot of structure, just riparian plantings. Three landowners were approached for a pilot riparian planting. The first wasn't interested, the second fell through after long-negotiations, but will be recanvassed in 2008. The final landowner chose to participate with the riparian planting. GCSWCD and NYCDEP program staff developed a ten-year landowner agreement that clearly lays out responsibilities of the landowner and GCSWCD. A landowner vegetation management guide was developed along with a planting plan. Project staff also acquired the permits necessary to complete the project. The pilot project that went forward is further described in section C (site 4). The GCSWCD also hydro seeded and replanted trees and shrubs after the Greene County Highway Department replaced the Shadow Mountain Bridge over the East Kill. General structure for this program parallels the SMP Implementation Program in that the SWAC will review proposals, there will be an application and rating process, criteria established for eligible properties.

**B. Plant Materials Program:** In 2007-09 the GCSWCD will continue to build upon its in-house capacity to produce quality native plant materials for its stream restoration projects as well as riparian buffer plantings. The GCSWCD will continue to support its willow cutting and container stock nursery as well as expand its capacity to produce herbaceous materials such as sedges. The GCSWCD will also establish demonstration sites to test RPM plant materials to establish their effectiveness in this setting. The GCSWCD will assist the NYCDEP with a feasibility study to examine plant material needs and methods to acquire materials.

GCSWCD Staff:	Mellot, SAP Coordinator, Martin, Flack
Project Partners:	NYCDEP, CCE, others
Project Funding:	NYCDEP, GCSWCD-WAP, ACOE-WRDA, others TBD
Project Schedule:	Produce materials for 2007 restoration season – Spring 2007 Undertake trials for herbaceous material production – 2007-08

SMP Recommendation:

West Kill – RZM 6.7.8

Progress (2007):

GCSWCD and NYCDEP staff planted RPM trees at the majority of stream restoration projects and will monitor 10% of the trees at each site. During the Fall of 2007, 202 RPM trees were planted on 8 different sites. Sedges were planted in beds during the spring of 2007 and are being over-wintered to establish better root growth. The project team also potted 7950 trees during the spring of 2007 and planted 3200 trees on the Conine Project, 124 trees on the two sites of Shadow Mt. Bridge in Jewett and the Holden Job in Ashland, 1000 trees on the Accardi Property in Jewett and 400 trees were replanted on the Ashland Connector Job site. GCSWCD is over wintering 3000 trees this year for planting of spring 2008, and ordered 3300 additional trees that will be delivered in the spring. In addition, the project team will be utilizing the balled and burlaped trees that are ready to be dug at the Plant Materials Center.

**C. Demonstration Projects:** The GCSWCD has identified several sites that would be ideal candidates for demonstrations of riparian buffer techniques that will be covered by funding provided to the GCSWCD via the ACOE Water Resource Development Act. Activity on these projects will be initiated in 2007-08 based on opportunities available. The demonstration projects will help in the development of final program rules as well as integrate new partners. Specific projects slated for 2007-08 include:

**Site No. 1: County Route 6,** Town of Lexington (West Kill) The GCSWCD will work with the Greene County Highway Dept to implement various vegetation stabilization methodologies at a site on the West Kill that was previously scheduled for all rip-rap. The GSCCWD will work with highway to install a short section of Vegetation Reinforced Slope Stabilization (VRSS) as well as planting trees/shrubs on the upper bank and integrating willow plantings into the riprap at the site.

GCSWCD Staff:

Mellot

Project Partners:

GCSWCD, Greene County Highway

Project Funding:

NYCDEP (TA) Green Highway, GCSWCD-WAP (WRDA)

Project Schedule:

Implement Spring 2007 that was delayed from fall 2006 due to weather

SMP Recommendation:

Batavia Kill – RB-09 (High, 1.81)

Schoharie/East Kill – FP-6.1.11, RZM-6.7.1, RZM-6.7.2, RZM-6.7.4, GSMA-6.8.2, GSMA-6.8.3, GSMA-6.8.6, GSMA-6.8.8  
West Kill – MUR 4.5

Progress (2007):

During the Fall of 2006 Greene County Highway had planted 150 willow tubes in the riprap. The completion of planting the tree and shrubs is scheduled for the Spring of 2008.

**Site No. 2: Lexington Town Park** (Schoharie Creek) – See Recreation and Public use section

**Site No. 3: Sugar Maples,** Town of Windham (Batavia Kill) The GCSWCD has received funding from the ACOE (WRDA) for a project that will integrate knotweed management, establishment of a riparian buffer, development of public access and a stormwater retrofit project. The site is ideally located to serve as a location where various riparian buffer plantings can be visited by other landowners. Stormwater management will focus on use of rain gardens and other techniques that can serve as a model for visitors to view.

GCSWCD Staff:

Mellot, Martin, Buchanan

Project Partners:

NYCDEP (TA) GCSWCD-WAP, Catskill Mountain Foundation, CCE Agroforestry Center, MT Arboretum.

Project Funding:

GCSWCD-WAP (WRDA), Catskill Mountain Foundation, CWC (SWR Program)

Project Schedule:

Initiate design/planning 2007, install 2008

SMP Recommendation:

Batavia Kill – RB-09 (High, 1.81)

Schoharie/East Kill – WQ-6.3.7, RZM-6.7.2, RZM-6.7.4, RZM-6.7.13, GSMA-6.8.2

Progress (2007):

GCSWCD completed conceptual site plans and expects final design and permitting to be completed in early 2008, with implementation in July of 2008.

**Site No. 4; Carr Road**, Town of Jewett (Schoharie Creek) The GCSWCD has been working with several owners as well as the Town of Jewett and the CWC to address a repetitive flooding problem. The project will involve several objectives, including the establishment of a riparian buffer along the Schoharie Stream.

GCSWCD Staff: Yost, Mellot, Martin, Dubois  
Project Partners: NYCDEP (TA) GCSWCD-WAP, Private landowners, NYSDEC-Operations, Trout Unlimited, CCE Agroforestry Center, MT Arboretum.  
Project Funding: GCSWCD-WAP (WRDA), other sources TBD  
Project Schedule: Initiate design/planning 2007, install 2008  
SMP Recommendation: Batavia Kill – RB-09 (High, 1.81)  
Schoharie/East Kill – FP-6.1.10, FP-6.1.11, RZM-6.7.1, RZM-6.7.2, RZM-6.7.4, RZM-6.7.9, RZM-6.7.13, GSMA-6.8.2, GSMA-6.8.3, GSMA-6.8.6, GSMA-6.8.7, GSMA-6.8.8

**Progress (2007):** The GCSWCD had worked closely with the Town of Jewett prior to the sale of the property in an attempt to gain a permanent conservation easement and a requirement for participation in the buffer project. Once the Town had accepted sealed bids on the property, the GCSWCD started to work with the potential new owner months before the sale was completed. The owner (Accardi) owns other properties along little Timber Road, and bid on the property strictly because of his desire to make the site look better and to possibly use it for grazing or forestry purposes. The new owner is very active in the CCE Agroforestry Center as well as the Watershed Forestry Programs. While discussions initially were going well, and the new owner had a strong interest in both participating in the riparian buffer project as well as donating a permanent conservation easement, discussions soon hit a snag due to concerns of another landowner (Huetter) across the creek from the project site.

When the owner across the stream found out about the proposed planting project, he contacted the owner of the project site, and expressed his concerns that our proposed planting project would impact flooding of his home. Based on these owners concerns, the project site owner (Accardi) informed the GCSWCD that he was reevaluating his willingness to participate in the program and did not want to go forward with the plantings unless the concerns of the landowner across the creek could be addressed. Accardi conditioned his consent to undertake the project on the GCSWCD's ability to address Huetter's objections. In an attempt to keep the project on track, the GCSWCD initiated discussions with Huetter to determine his concerns and to discuss possible solutions. Based on site visits and meetings with the owner, it was clear that he would continue to oppose the project based on his feelings that the establishment of a riparian buffer would increase the flooding problems at his property. While the GCSWCD felt this was not the case, the owner could not be convinced otherwise.

In Early November, the GCSWCD mobilized its own equipment and manpower to the site and initiated planting of the riparian buffer along that section of the project downstream of the Carr Road bridge. An early season snow storm effectively shut down work for the season after ~1000 plants had been installed. In addition, when the adjoining owner downstream of Accardi found out about the planting project, they also expressed an interest in having the riparian buffer extended along their streambank (approximately 1200 feet) and immediately signed a landowner agreement with the GCSWCD. Unfortunately, a significant section of this property requires minor grading of the streambank prior to planting and it was too late in the season to seek another NYSDEC permit for this work. As such, this owner will be addressed in 2008 under the new Streamside Assistance Program.

## V. Stream Restoration Projects

**A. Implement 2007 Fad Terms:** In 2007, the GCSWCD and NYCDEP will continue implementation of stream restoration projects scheduled as part of the 2001 FAD. Implementation of these projects will include assessment, design, permitting, contracting and construction oversight. GCSWCD and NYCDEP will also develop criteria with previously collected data for prioritizing water quality projects on a basin basis. This may entail significant time allotted to data management. Projects to be completed include:

**Project No. 1: Schoharie Street stabilization** (Village of Hunter) Stabilization of +/- 120 feet of high stream bank to protect infrastructure and private property. Project includes stacked and pinned rock riprap as well as Vegetation Reinforced Slope Stabilization (VRSS). The GCSWCD and NYCDEP are also seeking to add additional riparian buffer plantings on the opposite bank.

GCSWCD Staff: Yost, DuBois  
Project Partners: NYCDEP, Village of Hunter.  
Project Funding: NYCDEP Schoharie Phase II contract, FEMA  
Project Schedule: Construction summer 2007  
SMP Recommendation: Batavia Kill – WQ-09 (Very High, 3.33)  
Schoharie/East Kill – FP-6.1.10, FP-6.1.11, RZM-6.7.1, RZM-6.7.2, RZM-6.7.8, RZM-6.7.9, GSMA-6.8.2, GSMA-6.8.3, GSMA-6.8.6, GSMA-6.8.8

**Progress (2007):** Significant progress was made with Delaware Engineering completing the designs for reconstruction and filing an appeal to FEMA requesting additional funding. The appeal was denied and by the time of the denial the project permitting window for 2007 had passed. The project will be addressed in 2008.

**Project No. 2: CRT 13A Culvert upgrade** (Town of Lexington) The GCSWCD/NYCDEP are working with the Greene County Highway Dept to upgrade a significantly undersized culvert that is the source of repetitive flooding. The project has excellent community and landowner support and will demonstrate floodplain drainage concepts, proper conveyance sizing to allow fish migration and a riparian buffer component.

GCSWCD Staff: DuBois, Mellot  
Project Partners: NYCDEP, Catskill Greene County Highway Dept, Town of Lexington.  
Project Funding: NYCDEP Schoharie SMP contract  
Project Schedule: Construction 2007  
SMP Recommendation: Batavia Kill – WQ-09 (Very High, 3.33)  
Schoharie/East Kill – FP-6.1.11, PR-6.2.2, RZM-6.7.1, RZM-6.7.2, RZM-6.7.4, GSMA-6.8.2, GSMA-6.8.3, GSMA-6.8.6, GSMA-6.8.8

**Progress (2007):** The project was undertaken in a series of stages with work completed by the in-house manpower and equipment from the GCSWCD and Greene County Highway Department (GCHD), as well as outside contractors. First, manpower and equipment from the GCHD installed floodplain drains. The GCHD provided the equipment, manpower and materials, both culverts and backfill, to complete this task. Next, the GCHD undertook demolition and removal of the existing culvert in preparation for a private contractor who would prepare the culvert base and set the culvert. Rotondo Precast of Avon Ct was the low price, supplying the culvert and associated components for a price of \$66,653. I. & O.A. Slutzky of Hunter was selected as the contractor for setting the culvert at a cost of \$52,525. Prior to the work being done to set the culvert, it was necessary to reset several power poles and relocate electrical, phone and cable main lines as well as local services. Once the contractor completed installation of the culvert sections, the project was turned back to the GCHD which was responsible for back filling of the culvert, restoration of the road and installation of guiderails. During the project, the GCSWCD was responsible for site dewatering as well as sediment and erosion control. The GCSWCD used two (2) 6"

electric pumps and a generator to intercept clean water above the excavation and pump it to a safe location below the work. In addition, a 3" gasoline powered pump was used during construction hours to help keep the excavation dewatered and to handle sediment laden water. Initially, sediment was handled by pumping to a wooded area between the tributary and the Schoharie Creek but there was insufficient herbaceous cover as well as a very limited area and problems occurred with a turbid discharge to the Schoharie. The GCSWCD adapted the sediment control plan to incorporate a series of settling basins that were effective and allowed the work to proceed. During construction, the only problem encountered was the presence of shallow bedrock. This required bringing in a large excavator with a ram and required just over a week to excavate sufficient bedrock to allow placement of the culvert. This work resulted in a contract increase in the amount of \$14,858. Upon completion of the culvert, the GCSWCD used its own hydro seeder to revegetate all disturbed areas. In addition, approximately 30 trees and shrubs as well as 125 willow tublings were planted both above and below the culvert. In the spring of 2008, the GCSWCD will return and plant additional trees and shrubs as well as replace any plants that do not survive the winter. In addition to the monitoring as described above, in 2008 the GCSWCD and NYCDEP will continue to work in the immediate area on additional streamside plantings and the placement of an educational kiosk at the state parking area nearby. Japanese knotweed (*Fallopia japonica*) was treated with glyphosate (Glypro) through an injection method with the purpose removing limited stands of *Fallopia japonica* prior to replanting with native vegetation as part of the riparian restoration project.

**Project No. 3: Riparian Buffer implementation** (locations yet to be determined) The GCSWCD will implement one or more riparian buffer planting projects along the Schoharie Creek and/or East Kill. Project staff will establish site selection criteria, solicit interest from eligible landowners and design/install riparian buffers. These demo site(s) will help support program development at the broader watershed scale.

GCSWCD Staff:	Mellot, Miles, DuBois
Project Partners:	NYCDEP (TA) GCSWCD-WAP, Catskill Mountain Foundation, CCE Agroforestry Center, MT Arboretum.
Project Funding:	NYCDEP (Schoharie demo project)
Project Schedule:	Initiate design/planning 2007, install 2007
<b>Progress (2007):</b>	Schoharie/East Kill – RZM-6.7.1, RZM-6.7.2, RZM-6.7.4, RZM-6.7.8, RZM-6.7.9, RZM-6.7.10, GSMA-6.8.2, GSMA-6.8.8 GCSWCD and DEP staff conducted an analysis of potential restoration sites in the Schoharie Creek and East Kill that likely would not require significant in-stream structural components. From this analysis 4 site owners were canvassed for participation in a volunteer riparian buffer planting program. Two owners were not interested, one was interested but following negotiation fell through in 2007 due to too many stipulations added on by the landowner and the fourth participated (Accardi – Carr Road). An additional landowner downstream of the Accardi property was added at a later date, but past the permitting window, so will be completed in 2008. DEP and GCSWCD staff also completed a vegetation management guide, a ten year landowner agreement, project permits (for Accardi property) and planting plans. GCSWCD started planting the Carr Road site in the fall of 2007 (see above).

**Projects No. 4: Conine Farm Restoration** (Batavia Kill, Town of Prattsville) The GCSWCD/NYCDEP will complete a full geomorphic based restoration of a +/- 1800 foot reach on the lower Batavia Kill. The project will address severe slope instability, reduce sediment loading and protect private property.

GCSWCD Staff:	<b><u>Buchanan</u></b> , DuBois
Project Partners:	NYCDEP.
Project Funding:	NYCDEP
Project Schedule:	Under design, construct summer 2007
SMP Recommendation:	Batavia Kill – WQ-09 (Very High, 3.33) Schoharie/East Kill – FP-6.1.11, WQ-6-3-11

**Progress (2007):**

This project was completed in 2007. See the “Conine Stream Restoration Project – Design and Implementation Report” for detailed information on project execution.

**B. Implement 2007 FAD Projects:** The GCSWCD will work cooperatively with NYCDEP to complete additional restoration projects as identified in the 2007 FAD. These projects will include two (2) projects as required by the conditions of the NYCDEP SPDES permit for the Shandaken Tunnel as well as any additional project requirements identified in the FAD. Based on assessments from SMP’s the GCSWCD/NYCDEP have identified at least one of the project sites, a location on the West Kill that was 80% designed but not implemented due to lack of funding and schedule. The GCSWCD/NYCDEP will work with the Project Advisory Team (PAT) and others to identify additional sites. Projects are contingent on available funding, landowner cooperation and weather and permitting.

**Project No. 1 West Kill Restoration Project** (Town of Lexington) The GCSWCD/NYCDEP will complete a full geomorphic restoration of +/- 2400 linear feet of stream on the West Kill in Spruceton valley. The site is characterized by significant bank failure and clay exposures in the banks and stream bed. In addition, the project will be coordinated with Greene County Highway Dept which will replace a bridge at the lower end of the reach. Highway has committed to making improvements to the bridge’s alignment and hydraulic opening (length) to reduce impacts on stream function through this section of the reach.

GCSWCD Staff:	<u>DuBois</u> , Buchanan
Project Partners:	NYCDEP, Greene County Highway
Project Funding:	NYCDEP, TBD
Project Schedule:	1. Field survey/data collection summer 2007, 2. Construction summer 2008
SMP Recommendation:	Batavia Kill – WQ-09 (Very High, 3.33) Schoharie – FP-6.1.11, WQ-6-3-11, GSMA-6.8.3, GSMA-6.8.6 West Kill – MUR 4.13

**Progress (2007):**

This project has been targeted for implementation in 2009. Site selection is currently being finalized and a schedule for technical assessments and design work is being developed.

**C. Repair & Modifications of Existing Projects:** The GCSWCD/NYCDEP will undertake additional work on projects completed under previous FAD(s). These activities will be undertaken to correct problem areas, to replace vegetation, control invasive species or to make adjustments to stream structures based on monitoring data. Task scheduled under this work item include;

**Project No. 1: Ashland Connector Reach:** (Town of Ashland) The GCSWCD will complete planting on the streambanks and floodplains at the lower end of the project reach. Additionally, compensatory wetland areas need to be planted with appropriate species. Limited site cleanup work on access/staging areas is also required. Another component will be knotweed management

GCSWCD Staff:	<u>DuBois</u> , Mellot,
Project Partners:	NYCDEP
Project Funding:	NYCDEP
Project Schedule:	Complete plantings summer 2007
SMP Recommendation:	Schoharie – RZM-6.7.2, RZM-6.7.13

**Progress (2007):**

This project was substantially completed in the 2006 construction season. In 2007, planting was completed on the project site, and project monitoring has been conducted.

**Project No. 2: Broadstreet Hollow Stream restoration Project:** (Town of Lexington) The GCSWCD, with review and approval of NYCDEP, will undertake repairs and adjustments to rock structures, channel morphology and other features at the Broadstreet Hollow site. Once repairs are identified, the GCSWCD will acquire new permits and undertake repairs using in-house resources

GCSWCD Staff: DuBois, Mellot, seasonal help  
Project Partners: NYCDEP  
Project Funding: NYCDEP  
Project Schedule: Complete by 9/30/07  
SMP Recommendation: Outside Schoharie watershed  
**Progress (2007):** Ground water relief wells installed as a component of the original stabilization design have been evaluated for their current capacity. The capacity of the wells has proven to be insufficient to adequately relieve the artesian ground water conditions. Planning and permitting is currently underway to allow redevelopment of the relief wells, and repair of damaged erosion control and grade control structures. Repairs are scheduled for the 2008 construction season.

**Project No. 2: Misc. Sites:** The GCSWCD/NYCDEP will make any necessary minor repairs or replace/supplement plantings on earlier projects based on a spring assessment of project conditions. Necessary actions will be jointly assessed and planned by GCSWCD/NYCDEP. Knotweed management on sites will also be addressed. This task will also include project monitoring for stability as well as vegetation establishment.

GCSWCD Staff: DuBois, Mellot  
Project Partners: NYCDEP  
Project Funding: NYCDEP  
Project Schedule: TBD based on need.  
SMP Recommendation: Schoharie – WQ-6.3.11, RZM-6.7.2, RZM-6.7.13  
West Kill – MUR 4.10, 4.11  
**Progress (2007):** Repair work on the Broadstreet Hollow and Farber Farm stream Restoration Projects for the summer of 2008. Permit renewal requests have been submitted to NYS DEC, USACOE, and NYCDEP. Landowner agreements are currently being gathered, and approximately 50% of the required agreements have been obtained at this time.

**D. Project Monitoring:** The GCSWCD will continue to monitor previously constricted stream restoration sites to document the projects status and performance. Monitoring will include measurements and analysis of geomorphic form, rock structures, and vegetation. Monitoring will be performed in accordance with ACOE permit requirements as well as GCSWCD/NYCDEP annual assessments of the need for additional monitoring.

GCSWCD Staff: Martin DuBois, Buchanan, Technician 2  
Project Partners: NYCDEP  
Project Funding: NYCDEP  
Project Schedule: TBD based on need.  
SMP Recommendation: Schoharie – WQ-6.3.11, RZM-6.7.2  
West Kill – MUR 4.10, 4.11  
**Progress (2007):** Project monitoring for 2007 has been completed. A monitoring matrix has been developed through a collaboration between NYCDEP, GCSWCD, and Baker Engineering. Monitoring parameters required by the monitoring matrix are currently being finalized, and the term of monitoring is still in question.



## VI. Stormwater Projects

Stream Management Plans recognized stormwater as one of the greatest potential impacts to water quality in the Schoharie Watershed. The absence of stormwater management systems on older development sites may impact water quality directly due to the introduction of pollutants from impervious surfaces, or indirectly as the result of uncontrolled discharge to streams. The GCSWCD will work with multiple partners to implement stormwater projects within the Schoharie Watershed. The GCSWCD is seeking NYCDEP funding support for technical assistance to help design and coordinate these projects. The following stormwater projects have been identified (many are multi-year efforts due to their scale):

**A. Windham Mountain:** (Town of Windham) The GCSWCD has been working with Windham Mountain ski center to evaluate stormwater impacts at the ski slope and adjacent high density development areas. A detailed assessment of impacts has been completed and a strategy for long term implementation of a series of stormwater retrofit activities has been developed. The GCSWCD is working with Windham Mountain and others to design and implement BMPs that will be installed.

GCSWCD Staff: **Buchanan**, Yost, Flack  
Project Partners: NYCDEP(TA), Windham Mountain, CWC, ACOE, NYSDEC  
Project Funding: CWC, ACOE-WRDA, NYCDEP(TA)  
Project Schedule: First set of BMPs installed 2007, additional implementation in 2008, 2009 and 2010.  
SMP Recommendation: Batavia Kill WQ-08 (Very High, 4.23)  
Schoharie – WQ-6.3.7

**Progress (2007):** Through the CWC Stormwater Retrofit program, \$280,000 has been approved and a second application will be submitted as a match for ACOE funding (through WRDA). GCSWCD worked with Ski Windham to develop a draft report to document existing impacts from stormwater, a proposed plan for future stormwater management and a proposed strategy for BMP implementation. Additional project funding for BMP implementation was obtained through ACOE-WRDA.

**B. Hunter Foundation:** (Village of Tannersville) The GCSWCD is working with the Hunter Foundation on a stormwater retrofit project that will be completed in conjunction with the Foundation's rehabilitation of a block of buildings in the Village of Tannersville. The Project will use innovative methods to meet water quality treatment standards for runoff from roofs and parking. The site presents space challenges and will be an excellent demonstration project for integrating stormwater management in an area with limited space. In addition, the project will include the design and construction of a "Creek walk" along a small tributary stream that will link with main street commercial businesses.

GCSWCD Staff: **Buchanan**, Yost, Flack  
Project Partners: NYCDEP(TA), Hunter Foundation, CWC, ACOE,  
Project Funding: CWC, ACOE-WRDA, NYCDEP(TA)  
Project Schedule: 1. Project design permitted 2007-08  
2. Project constructed 2008 (depends on rehabilitation schedule)  
SMP Recommendation: Batavia Kill WQ-08 (Very High, 4.23)  
Schoharie – WQ-6.3.7, PR-6.2.3

**Progress (2007):** Conceptual plans were completed (including artist rendering of Creek walk); planning meetings have been held with the Hunter Foundation staff, NYCDEP and CWC. Stormwater retrofit application was submitted to CWC. Anticipating work will commence sometime during the summer of 2008.

**C. Hunter Mountain:** (Village of Hunter) The GCSWCD is in the early stages of planning for a significant project to address stormwater runoff from the Hunter Mountain ski area. The GCSWCD has secured some federal funding, and has held preliminary discussions with the site owner. The GCSWCD will conduct a site

assessment and strategy similar to that conducted for Windham Mountain which will result in an implementation strategy. The project will be integrated with some to be announced redevelopment activities proposed for the ski center as well as the Town of Hunter GEIS project (see below).

GCSWCD Staff: **Buchanan**, Yost  
Project Partners: Hunter Mountain, CWC, ACOE, NYCDEP(TA),  
Project Funding: Hunter Mountain, CWC, ACOE-WRDA, NYCDEP(TA)  
Project Schedule: 1. Project planning – summer 2007. Final site assessment and strategy summer 2008  
SMP Recommendation: Batavia Kill WQ-08 (Very High, 4.23)  
Schoharie – WQ-6.3.7  
**Progress (2007):** None

**D. Community Stormwater Planning:** The GCSWCD has initiated a series of projects which will result in detailed Community Stormwater Management Plans for various Towns and Villages within the Schoharie Basin. The GCSWCD has been attempting to complete these plans after SMPs have been completed. Work on current projects has been delayed due to staff loss and other priorities. The GCSWCD intends to complete planning projects in the Towns of Ashland and Prattsville projects and evaluate additional areas for planning.

GCSWCD Staff: **Buchanan**, **Yost**  
Project Partners: CWC, Towns & Villages  
Project Funding: CWC, GCSWCD-WRDA  
Project Schedule: 1. Complete on-going Ashland & Prattsville Plans by 1/1/08  
2. Evaluate additional planning needs, seek grants as necessary  
SMP Recommendation: Batavia Kill – SC-05 (Very High, 3.08), WQ-01 (Very High, 4.23)  
Schoharie – WQ-6.3.7, GSMA-6.8.5  
West Kill – WQ 6.3.1, 6.3.7  
**Progress (2007):** None

## VII. Interagency Coordination

A key component of SMP implementation will focus on the need for further coordination between the various agencies with stream management responsibilities. Specifically, there is a need to work cooperatively with NYSDEC to have all stream disturbance permits (Article 15) undergo an appropriate review by local stream managers to insure a high degree of consistency with SMP goals and objectives. This process may be facilitated by developing local resources that can work proactively with streamside landowners to help them develop better alternatives to their erosion problems and assist them with permit development.

**A. NYSDEC/ACOE Permit Reviews:** The GCSWCD/NYCDEP will continue to work with NYSDEC and the USACE to facilitate review of stream disturbance permits received by the agencies. The permits will be reviewed for their consistency with SMP goals and objectives as well as to evaluate stream channel morphology issues.

GCSWCD Staff:	<b>DuBois</b>
Project Partners:	NYSDEC, NYCDEP, ACOE
Project Funding:	NYCDEP
Project Schedule:	on-going
SMP Recommendation:	Batavia Kill – PR-03 (High, 2.5) Schoharie – PA-6.5.1 West Kill – PA 6.5.4, RZM 6.7.1, 6.7.9

### Progress (2007):

A permit application for stream disturbance on the Batavia Kill was forwarded to the project team for review. The application was submitted by NYSDOT. The project team reviewed the practices proposed in the application and made recommendations for modifications to the design. Assistance from the project team was requested by NYSDOT, and an alternative design was developed and implemented for the site. A new design was developed that included a terraced road embankment, a rock vane, a cross vane, and an appropriately sized bankfull channel. The terraced embankment allowed for a bankfull floodplain along the embankment and provided a bed for riparian plantings. The rock vane will serve to minimize the erosive forces, exerted by the stream, on the upstream end of the revetment, while promoting bed-form and habitat diversity. The cross vane was proposed to ensure that the landowners permitted in-stream crossing remains serviceable in the context of the modified channel conditions. Finally, the geomorphically based channel design will ensure appropriate sediment transport through the reach and promote stability in the long-term.

**B. Riparian Buffer Permits:** To successfully implement a multi-year riparian buffer program it will be necessary to work with NYSDEC, USACE and NYCDEP to develop some form of general permit to allow for rapid planning and installation of riparian buffers. Permits would cover minor, short-term impacts such as bank preparation and planting.

GCSWCD Staff:	Martin, DuBois, Buchanan, Flack
Project Funding:	DEP-Schoharie basin wide
Project Schedule:	Complete permit and ready for use spring 2008
SMP Recommendation:	Schoharie – RZM-6.7.4 West Kill – PA 6.5.3

### Progress (2007):

Contact has been made with DEC to begin this discussion. A meeting with DEC permit officers has been scheduled for Mid-February, 2008.

**C. Restoration Project Permits:** The GCSWCD and NYCDEP will work with NYSDEC to evaluate alternatives for more effective permitting of stream restoration projects undertaken for water quality purposes. Specifically, the agencies will work cooperatively to address the complexity of achieving turbidity control during construction.

GCSWCD Staff:

Project Funding:

Project Schedule:

**Progress (2007):**

**DuBois** Buchanan

DEP-Schoharie basin wide

Complete permit and ready for use spring 2008

Purchase of pumping equipment to facilitate compliance with DEC turbidity standards has been completed. The equipment will allow larger flow events to be handled without turbid discharges at a lower cost to the program budget than has been possible using rental equipment. A high-powered winch was also purchased to be used during riparian planting projects.

## VIII. Planning, Assessment & Monitoring

During development of SMPs for the various sub-basins, the GCSWCD and NYCDEP identified a number of recommended actions that would require additional planning and assessment at various scales. In some cases, this planning would be appropriate at the larger county scale while in others the planning may be more appropriate at the individual community or even site scale. Planning activities to be addressed during this work plan include:

**A. Schoharie Watershed Strategy:** The GCSWCD is working with multiple watershed partners to develop a broad strategy focused on potential water quality impacts in the Schoharie basin. While the effort has some focus on turbidity, the main purpose is to build upon the general recommendations in the various SMPs as they related to other water quality issues.

GCSWCD Staff:	<u>Yost</u> , Flack
Project Partners:	Municipalities, community organizations, NYCDEP, Greene County, NYSDEC, Delaware/Schoharie agencies, others
Project Funding:	GCSWCD-WAP, NYSDOS
Project Schedule:	Completed by Fall 2008
SMP Recommendation:	Schoharie – EO-5.4.6, PA-6.5.8, WQ-6.3.10, WQ-6.3.11 West Kill – WQ 6.3

**Progress (2007):** Schoharie Watershed Strategy (also called the Schoharie Turbidity Reduction Strategy) has been completed. The project received wide spread support from all basin communities, municipal employees and officials, agency representatives. Recommendations and implementation schedule exist for five key areas: highway and infrastructure, support for local communities, education and outreach, technical assistance, and watershed coordination. Watershed Summits, focus groups, surveys, outreach to planning boards, resulted in broad participation from local officials, municipal employees, engineering firms and contractors working the basin and are strongly recommended to continue.

**B. Mountaintop Recreation Master Plan:** Each SMP completed to date has included multiple recommendations related to enhanced public access to the streams for recreational purposes. The GCSWCD will work with a diverse partnership of public and private sector partners to develop a comprehensive master plan that will focus on recreation, but will also include open space, scenic quality and cultural resources. The goal is to develop a final strategy that is highly detailed and which has a strong implementation component.

GCSWCD Staff:	<u>Yost</u> , Miles
Project Partners:	Municipalities, community groups, Greene County, others
Project Funding:	GCSWCD-WAP, NYSDOS Quality Community Grant
Project Schedule:	Completed by fall 2009
SMP Recommendation:	Batavia Kill – PE-03 (High, 2.5) Schoharie – PR-6.2.2, PR-6.2.3, PR-6.2.4 West Kill – PR 6.2

**Progress (2007):** Project is on schedule, seven focus groups organized around resource and business interests have been covered and half will have met by mid-February, 2008. A Project Advisory Team representing different resource & recreation sectors is firmly established, providing guidance on process, and an inventory of resources is well underway.

**C. Tributary Stream Inventories:** While existing SMPs cover the main stem of all major stream systems, they do not address any tributaries to these systems. This results in less than 10% of total stream miles having been inventoried, assessed and planned. In addition, key tributaries to the Schoharie basin outside Greene County (i.e. Manor Kill, Bear kill) have not had any assessment or planning activities completed. The GCSWCD would propose that it should be a priority to undertake, on a systematic basis, some level of inventory and assessment. It is not proposed that all tributaries have SMPs completed to the same level of

detail as the main stem. A baseline field inventory and some form of abbreviated SMP should be devised and implemented. In 2007-08, the GCSWCD/NYCDEP should work to develop a condensed SMP planning process and prioritize appropriate tributaries to apply this methodology.

GCSWCD Staff: Martin, DuBois, Miles  
Project Partners: NYCDEP, Delaware & Schoharie County agencies, others  
Project Funding: NYCDEP(TA), CWC-LTA Grant, NYSDOS Planning Grants, others  
Project Schedule: Develop protocol for inventory & assessment by spring 2008  
Complete two (2) tributaries per year in years 2-5  
SMP Recommendation: Schoharie – WQ-6.3.8, WQ-6.3.11  
WK – WQ 6.3.8

**Progress (2007):** In 2007, stream management plans were completed for the East Kill and Schoharie Creek based on field assessments conducted in 2006 and remote assessments conducted in 2006 and early 2007. Geodatabases for both watersheds were established in 2006 and updated in 2007 to manage data collected during field assessments and created during remote assessments. Distribution of these SMPs to watershed municipalities began in late 2007.

Manor Kill assessment: A geodatabase was created and remote assessment of the Manor Kill began in the fall of 2007; including riparian vegetation mapping, creation of watershed maps, purchase of historic aerial imagery, georeferencing 2006 aerial pictometry, and meeting with Schoharie County Planning and SWCD representatives to begin planning efforts for the stream feature inventory in summer, 2008.

**D. Lexington Creek Sill (Schoharie Creek):** The Schoharie SMP has identified a concrete sill that runs completely across the Schoharie Creek in the hamlet of Lexington as having a potential impact on stream morphology in this reach of the stream. The sill remains from past days when flashboards would be installed in the summer creating a popular swimming area. It is suspected that the sill may be causing localized aggradation of the channel and decreasing channel capacity. The GCSWCD and NYCDEP propose to conduct further field surveys and analysis of the sill to determine if its removal would benefit stream function in this reach.

GCSWCD Staff: DuBois, Buchanan,  
Project Partners: NYCPEP, Town of Lexington, others  
Project Funding: NYCDEP (TA)  
Project Schedule: 1. Collect field survey on stream profile through the reach (by winter 2007)  
2. Conduct assessment of sill impact, develop recommendations (by spring 2008)  
SMP Recommendation: Schoharie – FP-6.1.12, PR-6.2.1, WQ-6.3.11, FH-6.6.5, GSMA-6.8.2, GSMA-6.8.7  
**Progress (2007):** None

**E. Town of Hunter Generic Environmental Impact Statement (GEIS):** The GCSWCD is working with the Town of Hunter and the Villages of Tannersville and Hunter to undertake a GEIS project that will take a comprehensive look at potential future development in the Town of Hunter. The GEIS would be a cooperative, multi-municipality effort and will evaluate all items traditionally considered when doing an Environmental Impact Statement. The GCSWCD will be responsible for overall project coordination and will use a number of consultants to complete various components of the project.

GCSWCD Staff: Yost, Miles, Flack  
Project Partners: CWC, NYCDEP, Town of Hunter, Villages of Hunter/Tannersville, others  
Project Funding: CWC from Shandaken Tunnel SPDES funds  
Project Schedule: 1. Complete application, receive funding confirmation by August 2007,  
2. Complete GEIS by 12/31/08  
SMP Recommendation: Schoharie – PA-6.5.3  
West Kill – Section 7 - Implementation

**Progress (2007):**

A grant was approved through CWC. The project will commence in February '08 with a kick-off meeting for all three municipalities (Town and Village of Hunter and Tannersville), followed by a public scoping session to define project goals & objectives, exact area to be studied, and a schedule for each action item.

**F. Greene County All Hazards Mitigation Plan:** In the past, access to federal Hazard Mitigation Grant funds has assisted the GCSWCD in mitigating significant flood related problems in Greene County. Since 1996, the GCSWCD has accessed over \$1,000,000 in funds from this program for major projects in the Village of Hunter (Melody wood condominiums) and Town of Lexington (West Kill Stream restoration). New FEMA program rules prohibit access to these funds unless a community has a FEMA approved All Hazards Mitigation Plan in place. The GCSWCD has been asked by the Greene County Legislature to take the lead on development of a plan for all of Greene County. In the NYC watershed, we will work with NYCDEP and others to integrate SMP recommendations as well as introduce the concepts of "erosion hazard areas".

GCSWCD Staff: **Flack**, Miles  
Project Partners: Greene County Emergency Preparedness, Greene County Planning, municipalities, NYCDEP, FEMA/SEMO, others  
Project Funding: Greene County, FEMA-HMGP, NYCDEP  
Project Schedule: 1. Complete RFP process and retain consultant – July, 1, 2007  
2. Complete All Hazards Mitigation Plan – July 1, 2008  
SMP Recommendation: Batavia Kill – FP-13 (High, 2.69), FP-17 (High, 1.92)  
Schoharie – FP-6.1.9, FP-6.1.11  
West Kill – FP-6.1.9

**Progress (2007):**

The Greene County Planning Department, GCSWCD and NYCDEP interviewed potential subcontractors and awarded the development of the hazard mitigation plan to Tetra Tech, Inc. Tetra tech is working with the various municipalities and partners to gather input for the plan.

**G. Fisheries Assessment & Improvements Strategy:** In each SMP, the need for further evaluation of fisheries related issues and the development of a comprehensive strategy that would work to improve fish habitat has been identified. Improvements to fisheries would have multiple benefits including economic benefits associated with increased visitors, as well as water quality benefits. The GCSWCD and NYCDEP are seeking to identify funding sources, methods and other factors that would allow for additional evaluation of the basin fisheries.

GCSWCD Staff: **TBD**, Buchanan, DuBois, Yost, others  
Project Partners: NYCDEP, NYSDEC, Greene County Promotions, municipalities, Trout Unlimited, others  
Project Funding: TBD, TA from NYCDEP via GCSWCD contract  
Project Schedule: TBD  
SMP Recommendation: Batavia Kill – PE-04 (Medium, 0.38), FH-03 (High, 2.31)  
Schoharie – PR-6.2.1, PR-6.2.2, PR-6.2.4, FH-6.6.1, FH-6.6.2, FH-6.6.3, FH-6.6.4, FH-6.6.5, GSMA-6.8.8  
West Kill – 6.6, 6.6.1, 6.6.2

**Progress (2007):**

None

## IX. Recreation & Public Use

All SMPs identified enhanced public access to streams for recreation purposes in their general recommendations. The GCSWCD already has a number of these projects underway and in 2007-08 will continue to move forward with these projects. Upon completion of the Mountaintop Recreation Master Plan, the GCSWCD and its partners will identify new further opportunities for enhanced recreation access. Current activities planned for 2007-08 include:

**A. Ashland Fishing Access Enhancements:** GCSWCD is working with NYCDEP and Trout Unlimited to create a new parking area and access to existing public fishing areas on the Batavia Kill at the Ashland connector Reach. In 2007, the GCSWCD hopes to move forward with creation of this access point.

GCSWCD Staff: Buchanan  
Project Partners: NYCDEP, Trout Unlimited  
Project Funding: To be determined  
Project Schedule: Contingent on funding availability  
SMP Recommendation: Batavia Kill – PE-01 (Very High, 3.08)  
Schoharie – PR-6.2.2

**Progress (2007):** A site plan and budget for the new parking area and access was completed.

**B. Windham Creamery Pond:** The GCSWCD has been assisting the Town of Windham with the development of a public access area on a NYCDEP owned parcel in the hamlet of Windham. The GCSWCD has completed a site design, Stormwater Pollution Prevention Plan and other documents. The GCSWCD will assist the Town of Windham in 2007 with construction of Phase I of the project, to include parking area and athletic fields.

GCSWCD Staff: Buchanan, Mellot  
Project Partners: Town of Windham  
Project Funding: Town of Windham, possible CWC  
Project Schedule: Complete Phase I improvements 2007  
SMP Recommendation: Schoharie – GSMA-6.8.4

**Progress (2007):** GCSWCD provided final plans and permits to the Towns Engineer for further specification. Implementation is expected in the summer of 2008.

**C. Prattsville Conine Park:** The GCSWCD will continue to work with the Town of Prattsville on a master plan for redevelopment of Conine Field. Key conservation issues under consideration include fishing access point, a riparian buffer planting and a conservation easement on sections of the property adjoining the Batavia Kill and Schoharie streams.

GCSWCD Staff: Buchanan, Mellot  
Project Partners: NYCDEP-(TA), Town of Prattsville, GCSWCD-WAP  
Project Funding: NYS Assembly, GCSWCD-WAP, ACOE-(WRDA), CWR-(SWR), others TBD  
Project Schedule: 1. Complete site plan fall 2007  
2. Implement based on Towns schedule  
SMP Recommendation: Batavia Kill – RB-09 (High, 1.81), PE-01 (Very High, 3.08)  
Schoharie – PR-6.2.2, PR-6.2.3, RZM-6.7.4, RZM-6.7.13

**Progress (2007):** Plans were completed for the park.



**D. Schoharie Creek Access Improvement:** The GCSWCD will continue discussions with a private landowner on the Schoharie Creek for the purpose of implementing a multi-objective project that would include improved flood conveyance, riparian buffer enhancement, and improvements to an existing NYSDEC parking area for local fishing easements. The GCSWCD proposes to continue working with this landowner to develop a final design and budget as well as seek funds for implementation of the access improvements in 2008.

GCSWCD Staff: Martin, Yost, Mellot  
Project Partners: NYCDEP-(TA), Town of Prattsville, GCSWCD-WAP  
Project Funding: NYS Assembly, GCSWCD-WAP, ACOE-(WRDA), others TBD  
Project Schedule: 1. Complete site plan fall 2007  
2. Implement based 2008

SMP Recommendation: Batavia Kill – RB-09 (High, 1.81), PE-01 (Very High, 3.08)  
Schoharie – PR-6.2.2, PR-6.2.3, RZM-6.7.4, RZM-6.7.13

**Progress (2007):** See Carr Road Project above – this would improve the DEC parking area at the site.

**E. Town of Windham (Police Anchor Camp)** The GCSWCD will continue to assist the Town of Windham with assessment and planning for public use of a 65 Ac parcel located in the Batavia Kill. The GCSWCD has provided preliminary assistance to date, and the final project is expected to include additional access to the creek for recreation, the establishment of a riparian buffer as well as long term protective easements between the Town and GCSWCD or its partners. The goal in the 2007-08 work plan is to assist the town in further assessment of site conditions and development of more detailed development plans.

GCSWCD Staff: Buchanan, Yost  
Project Partners: Town, NYCDEP, GCSWCD-WAP, Greene Land Trust, others  
Project Funding: Town, GCSWCD-WAP, others TBD  
Project Schedule: Complete site inventory & assessment fall 2007  
Complete draft development Plan spring 2008

SMP Recommendation: Schoharie – PR-6.2.2, PR-6.2.3, RZM-6.7.4, RZM-6.7.7

**Progress (2007):** Conceptual plans were completed and provided to the Town.

**F. Schoharie Creek Park (Town of Lexington):** The GCSWCD has been assisting the Town of Lexington with the development of a small “pocket park” to be located on the Schoharie Creek in the Lexington hamlet. The Town already owns one parcel and has recently reached agreement with an adjoining landowner for a 99 year lease. The project will include the permanent removal of a derelict house right on the streambank, cleaning up weedy growth, enhancement of riparian vegetation and installation of low impact improvements such as a kiosk, trail, flower beds and picnic tables/benches.

GCSWCD Staff: Mellot, Martin  
Project Partners: NYCDEP (TA), Town of Lexington, Greene County, Trout Unlimited, others  
Project Funding: NYCDEP-(TA), Town of Lexington, ACOE-(WRDA) others TBD  
Project Schedule: 1. Complete site cleanup & riparian plantings fall 2007  
2. Complete site development plan and other improvements – Fall 2008

SMP Recommendation: Batavia Kill – RB-09 (High, 1.81), EO-11 (Medium, 0.91)  
Schoharie – Schoharie – PR-6.2.2, PR-6.2.3, RZM-6.7.4, RZM-6.7.7

**Progress (2007):** The lease on the property fell thru due to legality concerns with the Town and Landowner. Clean up and removal of two big Spruce Trees were done during the summer of 2007. Met with James from DEP permitting about enlarging Methodist Church parking lot and if a permit was required. Plans are to finish cleanup and plant in Spring 2008.