



# The Manor Kill Management Plan

January 2009

PREPARED BY THE  
SCHOHARIE COUNTY PLANNING DEPARTMENT  
SCHOHARIE COUNTY SOIL AND WATER CONSERVATION DISTRICT  
GREENE COUNTY SOIL AND WATER CONSERVATION DISTRICT  
NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION



# Manor Kill Management Plan

January 2009

## *Developed By*

### **Greene County Soil & Water Conservation District**

907 County Office Building, Cairo NY 12514  
Phone (518) 622-3620 Fax (518) 622-0344



#### ***Project Team***

Abbe Martin, Manor Kill SMP Project Manager  
Carrie Miles, Conservation Technician  
Jeff Flack, Executive Director

### **NYCDEP Stream Management Program**

71 Smith Ave, Kingston NY 124021  
Phone (845) 340-7519 Fax (845) 340-7514



#### ***Project Team***

David Burns, Project Manager  
Elizabeth Reichheld, Stream Program Manager

### **Schoharie County Soil & Water Conservation District**

173 South Grand Street, Cobleskill NY 12043  
Phone (518) 234-4092 Fax (518) 234-4093



#### ***Project Team***

Peter Nichols, Stream Program Manager  
Stephen Hoerz, District Manager

### **Schoharie County Planning & Development**

349 Mineral Springs Road, Cobleskill, NY 12043  
Phone (518) 234-3751 Fax (518) 234-3951



#### ***Project Team***

Rebecca Platel, Planner  
Alicia Terry, Director of Planning

# Manor Kill Management Plan

## Table of Contents



- i. Table of Contents**
- ii. Forward and Acknowledgements**
  
- 1. Introduction & Goals**
  - 1.1 Purpose of the Manor Kill Management Plan
  - 1.2 Manor Kill and its Watershed
  - 1.3 How are we all connected to the Manor Kill and why should I care?
  - 1.4 What are the primary concerns in the Manor Kill Watershed and what is the role of Stream Management?
  - 1.5 Past, Current, and Future Activities
  - 1.6 Goals for this Management Plan
  
- 2. Manor Kill Natural and Institutional Resources**
  - 2.1 Regional Setting
  - 2.2 Watershed History
  - 2.3 Physical Geography
  - 2.4 Hydrology and Flood History
  - 2.5 Watershed Geology
  - 2.6 Wetlands & Floodplains
  - 2.7 Riparian Vegetation
    - Figure 2.7.6 (Vegetation Mapping, Management Units 1 - 3)
    - Figure 2.7.7 (Vegetation Mapping, Management Units 4 - 10)
  - 2.8 Landuse/Landcover
  - 2.9 Fisheries & Wildlife
  - 2.10 Recreational Opportunities
  - 2.11 Stakeholders
  - 2.12 Agency Contacts and Program Resources
  - 2.13 Permit Requirements
  
- 3. Watershed Inventory & Assessment**
  - 3.1 Water Quality Assessment
  - 3.2 Introduction to Stream Processes
  - 3.3 Watershed Inventory & Assessment
  
- 4. Management Unit Summary & Recommendations**
  - 4.1 Management Unit #1
  - 4.2 Management Unit #2
  - 4.3 Management Unit #3
  - 4.4 Management Unit #4
  - 4.5 Management Unit #5
  - 4.6 Management Unit #6

- 4.7 Management Unit #7
- 4.8 Management Unit #8
- 4.9 Management Unit #9
- 4.10 Management Unit #10

## **5. General Recommendations**

- 5.1 Flood Protection
- 5.2 Public Recreation
- 5.3 Water Quality
- 5.4 Education & Outreach
- 5.5 Programmatic Approaches
- 5.6 Fishery Habitat
- 5.7 Riparian Zone Management
- 5.8 General Stream Management Activities

## **Appendices**

- Appendix A Native Vegetation
- Appendix B Vegetation Mapping Protocol
- Appendix C Complete Biodiversity Table
- Appendix D Shandaken SPDES Permit
- Appendix E Stream Management Data Dictionary Guide
- Appendix F Fish and Macroinvertebrate Survey Reports

## **Glossary**

## **Preface**

Many generations have managed the streams of the Manor Kill Basin. Along their course, creeks have been armored and intentionally redirected in some areas to allow for streamside land uses. Due to the steepness of the Schoharie Valley, many roads have been built on the gentler slopes adjacent to the stream. Floodplains and streamside wetlands have been filled, diversions created to sluice water into floodplain ponds, and pastures and lawns cleared along the Manor Kill and tributary streambanks and adjacent terraces. Each of these activities has an impact on the Creek that reverberates throughout the system. The combined impact of these reverberations becomes most obvious during flood events that cause the loss of property and infrastructure, but can also be seen during low flow periods when the stream is over-wide and shallow and unable to support a vibrant coldwater fishery in affected segments.

The Manor Kill and its tributaries are a dynamic system and what one person does on their own stream bank can create significant effects –good or bad– upstream or downstream. While we maintain individual rights to use our own land as we think best, we also have an individual responsibility to act as good stewards for the health of the stream, while protecting the welfare of our neighbors. The Manor Kill is in many ways a community resource, and cannot be effectively managed without a coordinated effort. It is because we recognize the many benefits streams contribute to our community’s quality of life, and also the many risks they pose, that we need to coordinate decision-making around the goals we identify collectively for the stream. This plan presents the background information, stream feature inventory and framework necessary to drive this coordinated effort.

In order to meet both surface and groundwater planning needs, both quality and quantity, a comprehensive watershed approach is required to identify the unique resources the streams provide to Manor Kill communities, document the magnitude of potential impairments, and involve watershed stakeholders in recommending strategies for remediation and management. To this end, the Schoharie County Planning Department (SCPD), Schoharie County Soil and Water Conservation District (SCSWCD), Greene County Soil and Water Conservation District (GCSWCD) and New York City Department of Environmental Protection (DEP) initiated the Manor Kill watershed planning project in 2008. This is a culmination of planning processes that started in 1996 with the initiation of the Batavia Kill

Stream Management Project. The Batavia Kill (GCSWCD, 2003), West Kill (GCSWCD, 2005), Schoharie (2007) and East Kill (2007) management plans were designed to guide local residents and municipalities towards addressing stream management activities on a system-wide basis through the employment of natural channel design principles. With the completion of the Manor Kill Plan, the majority of the Schoharie Basin is now covered under a stream management plan.

With the stream management plan development process well-established from previous projects, and the concerns of regional stakeholders already recorded, efforts were made to ensure that local stakeholders had ample opportunity to learn about the project and get involved. Input from local residents, elected officials and community organizations were solicited to ensure that the final products would be well-supported. Direct outreach was provided at monthly Town Board and Planning Board meetings. Additionally, three subsequent public meetings held in October 2007, February 14 and April 2008 were held to solicit local input for the SMP and the GEIS. The Towns of Conesville and Gilboa also appointed representatives to the Schoharie Watershed Advisory Committee.

In coming years, through the Schoharie Watershed Advisory Committee and annual action plans, Stream Management Plan recommendations will be implemented. The NYCDEP has committed two million dollars towards the implementation of SMP recommendations as a stipulation within the Shandaken Tunnel SPDES permit that was issued in 2006. This funding will be eligible for Plan implementation within municipalities that have formally adopted the plans. These funds can also be leveraged to attract additional funding that will lead the successful implementation of the management plan recommendations.

To get involved in this effort, please contact Peter Nichols at the Schoharie County SWCD 518 234-4092 or [Peter.Nichols@schohariesoilandwater.org](mailto:Peter.Nichols@schohariesoilandwater.org); or visit: [http://www.catskillstreams.org/majorstreams\\_sc](http://www.catskillstreams.org/majorstreams_sc).

## **Acknowledgments**

The Manor Kill Project team is pleased to release the Manor Kill Management Plan. This plan is a guide for local residents, municipalities, interested organizations and agencies to protect and improve the Manor Kill Watershed. We look forward to the improvements in the Manor Kill's health that will come about from implementing the management options outlined in this plan.

The Manor Kill Project team would like to especially thank the streamside residents that assisted the project by providing valuable information and/or allowing stream access for data collection. The project team met many landowners along the way who were willing to share their experiences of living streamside over the years. Through our stream feature inventory we have developed a better understanding of stream conditions and trends, and look forward to implementing management recommendations that will lead to a healthier Manor Kill.

Special thanks to the primary authors of this plan: Abbe Martin (GCSWCD), Carrie Miles (GCSWCD), Peter Nichols (SCSWCD), Rebecca Platel (SCPD) and David Burns (DEP). As well as the entire staff of Greene County Soil & Water Conservation District, Schoharie County Soil and Watershed Conservation District, Schoharie County Planning Department and the NYC Department of Environmental Protection's Stream Management Program. Significant portions of the Manor Kill plan were adapted from the Schoharie Creek Watershed Management Plan.

Great appreciation is given to the Manor Kill Project Advisory Committee, a voluntary group of local stakeholders, for their support and guidance in development of this plan. Your input helped produce what we believe will be a successful plan for managing the Manor Kill. Special thanks to Eric Dahlberg, Karen O'Leary, Joe Colangelo, Lorraine Grogan, Caroline Natilie and Alfred Hess; also, Beatrice Mattice, the Town Historian and D. Michael Brandow, Town Supervisor, Nancy Sweatman, Town Clerk and all Town Board members for their cooperation.