
Rondout Neversink Stream Program



2017 – 2019 Action Plan

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TO: Mark Vian, Project Manager, NYC DEP Stream Management Program
FROM: Karen Rauter, Sullivan County Soil & Water Conservation District
DATE: May 15, 2017
RE: Rondout Neversink Stream Management Program 2017-2018 Action Plan

Sullivan County Soil & Water Conservation District and NYC Department of Environmental Protection have developed the 2017-2019 Action Plan for your review. The purpose of the Action Plan is to identify the Rondout Neversink Stream Program's planned activities, goals to accomplish and next steps in support of recommendations derived from stream management plans and Committee/stakeholder input. The current plan was updated and reviewed by our staff team, Watershed Advisory Group including municipal stakeholders in March 2017.

The Action Plan is divided into key programmatic areas:

- A. Protecting and Enhancing Stream Stability and Water Quality
- B. Floodplain Management and Planning
- C. Highway and Infrastructure Management in Conjunction with Streams
- D. Assisting Streamside Landowners (Public and Private)
- E. Protecting and Enhancing Riparian and Aquatic Habitat
- F. Stream Stewardship Education and Outreach

This program does not address Enhancing Public Access to Streams as in other basin Action Plans because the watersheds are predominantly in the Catskill Forest Preserve with significant New York State DEC access points to the stream. Overuse issues are prevalent and RNSP and DEP staff teams coordinate with regional municipal and state partners to disseminate public information and raise awareness about conservation law. This document lists the program's (RNSP staff-driven) and grant-driven Education and Outreach activities in Section F.

The Action Plan is updated annually and recommendations are fully revised biannually. This proposed plan will be implemented from May 2017-May 2019.

The Rondout Neversink Stream Program (RNSP) was established in a partnership among Ulster and Sullivan County Soil & Water Conservation Districts (UCSWCD & SCSWCD) and NYC Department of Environmental Protection (DEP) in 2009 as part of the Filtration Avoidance Determination (FAD) issue to DEP by the Environmental Protection Agency. For practical purposes, a field office was established in Grahamsville at Neversink Town Hall in 2010 when through an MOU, Sullivan County SWCD contracted with DEP to conduct Stream Management Planning in this unique area to serve the two remote towns in Rondout and Neversink basins: Town of Neversink (Sullivan County) and Town of Denning (Ulster County). Stream Management Plans (SMPs) were completed for the three major river corridors in the basin: Chestnut Creek, Rondout Creek and East and West Branches of Neversink River.

The SMPs provide a road map for improved stream and floodplain management. Initiatives include the Stream Management Implementation Program (SMIP), Catskill Streams Buffer Initiative (CSBI), stream and floodplain restoration projects, stream and watershed assessments, flood hazard analysis and mitigation, and education and outreach programs.

The following Action Plan summarizes the programs and projects that SCSWCD will be leading within the Rondout and Neversink Basins between May 2017 and May 2019, and includes Action Plan updates through May 1, 2018. SCSWCD and its Watershed Advisory Group will lead the effort for each action item, and work cooperatively with watershed partners including Denning, Neversink, Ulster and Sullivan Counties, NYC DEP, NYS DEC, and CWC. Funding sources for action items is provided by NYC DEP in contract CAT-443 through February 2020. This Action Plan identifies goals to address Stream Management Plan and Local Flood Analysis recommendations for implementation by Rondout Neversink Stream Program in the period 2017-2019. See the Projects tab at www.rondoutneversink.org for restoration activities by year from 2011-2016. A successor contract is currently being scoped in discussion with DEP. Projects in this plan will depend on available funds.

How to read this document: The Action Plan is organized around key program areas. For each topic area there is a list of recommendations, derived from Stream Management Plans and Local Flood Hazard Mitigation Plans in conjunction with Program stakeholders, in *italicized text*. Under the list of recommendations, tables list planned projects to be carried out by the staff team and through the Stream Management Implementation Program (SMIP).



A. Protecting Stream Stability & Water Quality

These actions may include: stream corridor assessments, stream stabilization/restoration projects with a goal to restore stream stability and reduce targeted pollutants; monitoring and maintenance of stream projects; and outreach, education and technical assistance to encourage stream stewardship.

Stream Corridor Assessment and Monitoring Recommendations

1. *Complete a watershed assessment of tributaries in Rondout and Neversink watersheds that have yet to be assessed. Assessments identify and prioritize sediment sources, erosion hazards, and potential water quality impairments and associated treatment opportunities.*
2. *Review existing water quality data and identify, as far as is possible, the most significant water quality impairments.*
3. *Identify locations of potential water quality impairments including: sources of pollution from upland areas and within the stream channel such as significant glacial lake clay exposures and sources of contaminants from road runoff and households, and make prioritized recommendations for their treatment.*
4. *Identify, monument and survey selected sites of bank erosion, assess their relative stability, and make prioritized recommendations for their treatment.*
5. *Monitor constructed stream restoration sites to document the projects' status and performance. Monitoring includes measurements and analysis of geomorphic form, rock structures and vegetation. Data is collected to monitor project stability and vegetation establishment.*
6. *Establish Riparian Reference Reaches.*

Stream Restoration and Stabilization Recommendations

1. *Identify locations where roads, bridges, or culverts and water quality may be threatened by SMP-prioritized bank erosion, or are otherwise unstable or threatened, and make prioritized recommendations for their treatment.*

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2. *Identify locations where water quality may be threatened by bank erosion, and make prioritized recommendations for their treatment.*
 3. *Identify locations of stream instabilities contributing to water quality impairment and make prioritized recommendations for their mitigation or treatment.*
 4. *Implement the following stream stability restoration projects that have been identified through field assessments or prioritized in management plans:*

East Branch Neversink in Claryville: Restoration of these two sites (Blue Hill Lodge and Denning Town Hall) meets the dual goals of reduction of 1) fine sediment contributing to turbidity, and 2) coarse sediment contributing to aggradation in downstream reaches nearby in population centers, which has both flood hazard mitigation and potential water quality benefit. These were identified in the comprehensive bank erosion study of the Neversink mainstem and branches, and in the Claryville LFA. Link: <https://static1.squarespace.com/static/5489c062e4b041e0262d3754/t/578d3264ebbd1ae6955217e9/1468871297339/Claryville+Local+Flood+Analysis+Final+Report+Reduced.pdf>

Clothes Pool (West Branch of the Neversink): This site is a major contributor of turbidity in the WB Neversink system, and was identified as high priority for treatment in the comprehensive bank erosion study of the Neversink mainstem and branches. Link: <https://static1.squarespace.com/static/5489c062e4b041e0262d3754/t/54f7209ce4b0af5c163d9daa/1425481884459/Neversink+River+Bank+Erosion+Monitoring+Study+2012-2014.pdf>

Sundown Restoration: This was the primary recommendation in the Sundown LFA, with a primary objective of flood elevation reduction and stream system stability. The primary water quality objective is to mitigate entrainment of contaminants during flooding. Link: <http://www.rondoutneversink.org/s/Sundown-LFA-FINAL-012317.pdf>

| Project Name | Waterbody | Status | Expected Completion | Project Description | Length (ft) | Designer | Cost |
|------------------------|------------------------------------|-------------------|----------------------------|---|--------------------|--------------------|-------------------------|
| Blue Hill Lodge | East Branch Neversink River | In design to 60% | 2017 | Full restoration with channel realignment and grade control | 750 | Barton & Logiudice | 60% estimate: \$415,000 |
| Denning Town Hall | East Branch Neversink River | In design to 60% | 2017 | Full restoration with channel realignment and grade control | 700 | Barton & Logiudice | 60% estimate: \$314,000 |
| Frost Valley Rd S-turn | West Branch of the Neversink River | 90% Design | 2018 | Flood Hazard Mitigation Project | 500 | Milone & MacBroom | \$1,770,000 |
| Clothes Pool | West Branch of the Neversink River | Conceptual Design | 2018 | Turbidity Reduction Project, hillslope stabilization and bankfull bench | TBD | TBD | TBD |
| Sundown Restoration | Roudout Creek | Conceptual Design | 2018 | Flood Hazard Mitigation, full channel restoration with realignment | TBD | TBD | TBD |

2017 Stream Assessments

| Site | Location | Work to be performed |
|-----------------------------|--------------------|--|
| Aiden Brook | Nev res | SFI |
| Conklin Brook | Nev res | SFI |
| Trout Creek | Ron res | SFI |
| Sugarloaf Brook | Ron trib | SFI |
| Molls Brook | | SFI |
| Multiple Sites | Rondout, Neversink | Fisheries Assessment (w USGS) |
| Biscuit Brook | WBN trib | Specialized Study, Large Wood and Sediment Entrainment |
| Clothes Pool | WBN Stn 18175 | BANCS survey |
| Blue Hill Lodge | EBN Stn 6800 | BANCS survey |
| Denning Town Hall | EBN Stn 8800 | BANCS survey |
| Ladleton | EBN Stn 22400 | BANCS survey |
| East Valley Ranch (Strauss) | EBN Stn 41100 | BANCS survey |
| McChesney (old name) | EBN Stn 42300 | BANCS survey |
| Model Forest | WBN Stn 45000 | Ref Reach |
| Tison Ref Reach | EBNev Stn 50500 | Ref Reach |

SFI: Stream Feature Inventory

BANCS survey: as per Rosgen, 2014

Ref Reach: Reference Reach Survey, as per Rosgen 2014 and Harrelson, et al., 1994

| | May `17 | June `17 | July `17 | August `17 | Sept `17 | Oct `17 | Nov `17 | Dec `17 | Jan `18 | Feb `18 | March `18 | April `18 |
|--|---|---|--|---|---------------------------------------|--|------------------------------|---|-----------------------------------|-----------------------------------|---|-----------|
| PROTECTING & ENHANCING STREAM STABILITY & WATER QUALITY | Route 55 Slope Stabilization | East Branch Neversink Projects Design & Bid (2) Stream Feature Inventory of Tributaries: Aden Brook, Conklin Brook Reference Reach Survey: Model Forest | Stream Feature Inventory of Tributaries: Trout Creek, Sugar Loaf Brook, Moll's Brook | East Branch Projects Construction (2) | East Branch Projects Construction (2) | East Branch Projects Planting (2) | Laser Scan Equipment Testing | East Branch Projects As-built Survey New Project Development | | East Branch Projects Final Report | | |
| | May `18 | June `18 | July `18 | August `18 | Sept `18 | Oct `18 | Nov `18 | Dec `18 | Jan `19 | Feb `19 | March `19 | April `19 |
| | Sundown Restoration Design & Bid West Branch Projects Design & Bid (2) | West Branch Projects Design & Bid (2) Initiate update of 2008-09 Stream Feature Inventory of Rondout Creek mainstem | West Branch Projects Construction (2) Stream Feature Inventory | West Branch Projects Construction (2) Stream Feature Inventory | West Branch Projects Planting (2) | West Branch Projects As-Built Survey Ladleton & East Valley Project Designs Begin | WAG Meeting/Accomplishments | | West Branch Projects Final Report | | WAG and Committee Meetings Action Plan 2019-2020 | |



B. Floodplain Management and Planning

Includes floodplain assessments; coordination with floodplain management effort in the watershed; and outreach, education and technical assistance for floodplain management.

Local Flood Analysis and Floodplain Assessment Recommendations

1. *Identify locations where roads, bridges, or culverts may be threatened by flooding, and make prioritized recommendations for their treatment.*
2. *Identify locations where improved or residential areas may be threatened by flooding, and make prioritized recommendations for their treatment.*
3. *Support flood hazard mitigation efforts to reduce the impacts from flooding such as impacts to public safety, homes and businesses, infrastructure and the natural environment.*
4. *Through LFA, provide resources to help WOH municipalities: confirm that there is a significant flood hazard in the target area through engineering analysis; use engineering analysis to develop a range of hazard mitigation alternatives; the primary focus of the analysis is to identify the potential for reducing flood elevations through channel and floodplain restoration, as the first alternative to other hazard mitigation solutions; evaluate both the technical effectiveness and the benefit/cost effectiveness of each solution, and compare different solutions to each other for the most practical, sustainable outcome.*

Floodplain Management Coordination, Education and Outreach Recommendations

1. *The SCSWCD can support local municipalities in the use of FIRM maps.*
2. *Municipalities in the watershed can conduct a review of current floodplain ordinances and adopt revisions as appropriate. Revisions should reflect current building trends, new technologies, compliance and integrated broader community plans as appropriate.*
3. *Support municipal exploration of Community Rating System as a feasible activity.*
4. *Access to flood prevention/protection information can be established and supported throughout the basins.*

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5. *Watershed municipalities, working with local and state agencies, can support periodic training sessions on flood related issues. Audiences can include municipal leaders, code enforcement staff, planning boards, landowners, realtors, lending institutions and others.*
 6. *Watershed municipalities can facilitate development of a flood damage reporting system to track types of flooding, their location and the costs associated with flood damage.*
 7. *Stream and floodplain management guidelines, which integrate stream form and function, can be developed for use during post flood response.*

| FLOODPLAIN MANAGEMENT & PLANNING | May `17 | June `17 | July `17 | August `17 | Sept `17 | Oct `17 | Nov `17 | Dec `17 | Jan `18 | Feb `18 | March `18 | April `18 |
|----------------------------------|--|----------------------------------|----------------------------------|------------|----------|---------|---------------------------------|--------------------------------|--|---|----------------|----------------|
| | Fuel Tank Map for CWC Chestnut Creek LFA Plan | CR 47 S-Turn Road Project Design | Explore CRS with Towns | | | | | Survey for Sundown Restoration | Sundown Restoration Design Begins WAG Meeting/ Accomplishments | ID Funding for Sundown Restoration Construction Sundown Design | Sundown Design | Sundown Design |
| May `18 | June `18 | July `18 | August `18 | Sept `18 | Oct `18 | Nov `18 | Dec `18 | Jan `19 | Feb `19 | March `19 | April `19 | |
| Sundown Design | Sundown Restoration Construction (Pending Funding) | Sundown Restoration Construction | Sundown Restoration Construction | | | | WAG Meeting/ Accomplishments | | | | | |



C. Highway and Infrastructure Management in Conjunction with Streams

Outreach, training and financial assistance to highway departments (two Counties and two Towns) to encourage the adoption of best management practices. Early detection and rapid response to control and eradicate invasive species.

Highway Infrastructure and Stormwater Management Recommendations

- 1. Provide support for County and Town Highway Departments for vegetation management on critical areas such as roadside ditches and steep slopes.*
- 2. Watershed municipalities can evaluate winter road abrasive procedures to address abrasive quality, application methods and spring sweeping.*
- 3. The Town and County Highway Departments and NYSDOT can integrate geomorphology principles in all new projects and routine maintenance activities related to the streams and tributaries.*
- 4. Work with local highway departments to minimize the negative effects of bank armor through the use of vegetation within and above the armor. Replant existing rip rap. This will increase the effectiveness and strength of the rip rap and cool water temperatures through shading and reducing the thermal effects of heated rock.*
- 5. Work with the Denning and Neversink Highway Departments to identify opportunities to address infrastructure that is leading to stream instability and water quality degradation.*
- 6. Study potential for science-based criteria for selective stream gravel management and decisions about impacts of Large Wood.*

Recommendations for Outreach and Technical Support to Highway Departments, Stormwater Managers and Contractors

- 1. Provide municipal highway departments and local contractors with hands-on training in various stream management activities. Conduct field days, workshops and demonstration projects to meet this goal.*

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2. *Educate and train municipal highway departments in stream process, and provide them with information about how maintenance of road systems and other public infrastructure may impact local waterways.*
 3. *Provide education and outreach to municipal highway departments, stormwater managers and contractors to improve their ability to recognize changes in stream stability and impacts to water quality that may be associated with infrastructure management activities and to understand the impact of management actions.*

| HIGHWAY & INFRASTRUCTURE MANAGEMENT | May `17 | June `17 | July `17 | August `17 | Sept `17 | Oct `17 | Nov `17 | Dec `17 | Jan `18 | Feb `18 | March `18 | April `18 |
|-------------------------------------|--|----------|------------|------------|------------------------------------|---------|---------------------------------------|--|---------|---|---|-----------|
| | Critical Area Seeding Town Sites | | | | Riley Brook/East Branch Assessment | | WAG Highways & Infrastructure Meeting | Hunter Road Mitigation Design Denning Culvert Assess/Design | | | WAG Highways & Infrastructure Sub-Committee Meeting | |
| May `18 | June `18 | July `18 | August `18 | Sept `18 | Oct `18 | Nov `18 | Dec `18 | Jan `19 | Feb `19 | March `19 | April `19 | |
| Critical Area Seeding Town Sites | Sugarloaf Tributary Culvert Replacement (Budget Dependent) | | | | | | | | | WAG Highways & Infrastructure Sub-Committee Meeting | | |



D. Assisting Streamside Landowners (Public and Private)

Provide access to training and technical assistance to increase the knowledge, skills and capabilities of landowners in the watershed. Also provide support for riparian buffer restoration.

Catskill Streams Buffer Initiative Recommendations

1. *Preserve and protect existing riparian buffers and provide for improved stewardship.*
2. *Protect/enhance the stream corridor through the establishment of effective forested buffers. Stream buffers will offer some measure of protection against encroaching land uses and act to protect public and private property.*
3. *Assist landowners with their efforts to protect and maintain healthy riparian buffers, address invasive species, and improve the condition of unstable or degraded riparian areas.*
4. *Provide assistance with managing and preventing the spread of Japanese knotweed and other invasive species.*
5. *Provide assistance for streamside landowners to maintain diverse and healthy riparian buffers of at least 35- 100 feet using native shrubs, trees and other woody vegetation.*

| Project Name | Waterbody | Status | Expected Completion | Project Description | Length (ft) | Designer | Cost |
|---------------------|------------------|-------------------------------------|----------------------------|--|--------------------|-----------------|------------------------------------|
| State Route 55 | Chestnut Creek | Awaiting final proposal from vendor | 2017 | Compost Mat and Erosion Control Hillslope Stabilization/Revegetation | 110 | SCSWCD | awaiting cost estimate from vendor |

Fall 2017 and beyond projects to be determined.

Outreach, Education and Technical Assistance to Streamside Landowners

1. *Provide streamside landowners detailed technical information on the establishment and maintenance of riparian buffers.*
2. *Provide stakeholders technical assistance that will guide restoration of stream system stability and help to maintain ecological integrity. Technical assistance can range from a landowner consultation to activities that will help meet the priorities of protecting water quality and establishing riparian buffers.*

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3. *Provide long-term access to technical assistance to landowners and municipalities for assessment of their stream-related problems, and development of effective management strategies and to supervise stream project implementation.*
 4. *Educate streamside landowners by providing a basic understanding of fluvial process, factors impacting streambank stability and water quality, and management decisions for the promotion of a healthy stream.*
 5. *Characterize current riparian vegetation management in the watershed and make prioritized recommendations for changes that can improve ecosystem integrity.*
 6. *Educate municipal leaders by providing a basic understanding of fluvial process, with an emphasis on how local decision makers can support stream health through their leadership and provide information on the multiple benefits which can be realized by protecting stream and watershed health.*

| ASSISTING STREAMSIDE LANDOWNERS | May `17 | June `17 | July `17 | August `17 | Sept `17 | Oct `17 | Nov `17 | Dec `17 | Jan `18 | Feb `18 | March `18 | April `18 | |
|--|--|------------------------------|-----------------------|---|--|---|---|---------|---------|-------------------------------------|-------------------------------------|-----------------|-----------------|
| | 6 RCMPs (ongoing) Native Willow Bed Planting CSBI Project Planning Fall 2017 | Route 55 Slope Stabilization | | Vegetation Monitoring- 11 Full Sites/17 Photo Sites | Complete RCMP's for Fall Projects | CSBI Project Implementation Fall Plant Delivery and Inventory | CSBI Grant Applications Due Nov. 1st CSBI Planning for Spring 2018 | | | | Complete RCMP's for Spring Projects | | Spring Planting |
| | May `18 | June `18 | July `18 | August `18 | Sept `18 | Oct `18 | Nov `18 | Dec `18 | Jan `19 | Feb `19 | March `19 | April `19 | |
| 6 RCMPs (ongoing) CSBI Outreach Install CSBI Plantings | CSBI Grant Applications Due June 1 st | | Vegetation Monitoring | Complete RCMP's for Fall Projects | CSBI Project Implementation Fall Plant Delivery and Inventory | CSBI Grant Applications Due Nov. 1 st CSBI Planning for Spring 2019 | | | | Complete RCMP's for Spring Projects | | Spring Planting | |

2017 Vegetation Monitoring

| West Branch Neversink | Monitoring Year |
|-------------------------------------|------------------------|
| Frost Valley, Biscuit Creek Phase 1 | Photo/Invasive |
| Winton Site 1, Culvert | Photo/Invasive |
| Winton Site 2, County Line | Photo/Invasive |
| Frost Valley, Biscuit Creek Phase 2 | Year 3 |
| Frost Valley, West Branch Phase 1 | Year 3 |
| Winton Site 3, Parking Lot | Year 3 |
| West Branch Demo | Photo/Invasive |

| East Branch/ Mainstem Neversink | Monitoring Year |
|--|------------------------|
| Sapadin | Photo/Invasive |
| Panasci/Bailey | Year 5 |
| Charlick | Photo/Invasive |
| Denning Town Hall | Photo/Invasive |
| Schiffer | Photo/Invasive |
| Tison | Year 3 |
| Erts Brook | Photo/Invasive |
| New Road Hill | Photo/Invasive |
| Rio Alto | Photo/Invasive |
| Morley | Photo/Invasive |
| Halls Mills Bridge | Photo/Invasive |
| Schoenburg | Year 1 |

| Rondout Creek/ Chestnut Creek | Monitoring Year |
|--------------------------------------|------------------------|
| Reichman | Year 5 |
| Ryan | Photo/Invasive |
| Rondout Demo | Photo/Invasive |
| Clair Rd | Photo/Invasive |
| Van Aken | Year 5 |
| Dupal | Photo/Invasive |
| Neversink Fairgrounds | Year 3 |
| DEP Grahamsville Facility | Year 3 |
| Capawana | Year 1 |



E. Protecting and Enhancing Aquatic and Riparian Habitat

Support for research and education programs that encourage protection and good stewardship of aquatic and riparian ecosystems.

Stream and Ecosystem Assessment Recommendations (Fisheries)

- 1. Complete watershed assessments of tributaries within the Rondout and Neversink watersheds. During the studies, identify sediment sources, erosion hazards, and potential water quality impairments and associated treatment opportunities.*
- 2. Review existing water quality data and identify, to the extent possible, the most significant water quality impairments.*
- 3. Identify locations of potential water quality impairments including; sources of pollution from upland areas and within the stream channel, such as significant glacial lake clay exposures, and sources of contaminants from road runoff and households, and make prioritized recommendations for their mitigation.*
- 4. Detailed Fisheries Assessments, including quantifying pre- and post-restoration habitat conditions; address stakeholder inquiries about reductions/changes to seasonal macro invertebrate populations across the watershed.*
- 5. Originally prioritized as Debris Management, this recommendation has evolved to include scientific inquiry into the impacts and nuances/benefits to further Large Wood and Sediment on the entire dynamic river system. This research will be used for both stakeholder education and restoration planning.*

| PROTECTING & ENHANCING AQUATIC & RIPARIAN HABITAT | May `17 | June `17 | July `17 | August `17 | Sept `17 | Oct `17 | Nov `17 | Dec `17 | Jan `18 | Feb `18 | March `18 | April `18 | |
|---|---|--|--|--|--------------------------|---------|---------|---------|---------|---------|-----------|-----------|--|
| | | Japanese Knotweed Mapping and Control Fisheries Study Initiated | Fisheries Study | Large Wood/Sediment Study Initiated Fisheries Study | Knotweed Plot Treatments | | | | | | | | |
| | May `18 | June `18 | July `18 | August `18 | Sept `18 | Oct `18 | Nov `18 | Dec `18 | Jan `19 | Feb `19 | March `19 | April `19 | |
| | Japanese Knotweed Mapping and Control Fisheries Study Biscuit Brook Sediment and Large Wood Study | Fisheries Study Biscuit Brook Sediment and Large Wood Study | Fisheries Study Biscuit Brook Sediment and Large Wood Study | Knotweed Plot Treatments | | | | | | | | | |



F. Stream Stewardship Education and Outreach

Support for projects that engage the community through targeting diverse stakeholders/audience ages on stream health and stewardship. Includes honoring local knowledge, illuminating land use history and providing context for future use of best management practices; includes partnership with three major educational institutions: Frost Valley YMCA, Tri Valley Central School and Time and the Valleys Museum.

Stream Stewardship Education and Outreach Recommendations

- 1. Collaborate with local and regional partners to enhance education and outreach efforts related to stream and floodplain management, sediment and erosion control, and other topics critical to sound watershed management.*
- 2. Maintain a watershed website to provide information to all stakeholders.*
- 3. Develop publications focused on stream management which can be provided to watershed stakeholders and/or used in training workshops.*
- 4. Host an annual watershed conference for the community to promote stream management and stewardship awareness.*
- 5. Increase public and technical awareness about the importance of the Rondout and Neversink watersheds and ecosystems by providing educational workshops for a variety of stakeholders including riparian landowners, municipal leaders, planning boards, code enforcement personnel, highway departments, local businesses, contractors, developers and educators.*
- 6. Increase technical awareness about stream science, water quality protection and best management practices by providing educational workshops for a variety of stakeholders including riparian landowners, municipal leaders, planning boards, code enforcement personnel, highway departments, local businesses, contractors, developers and educators.*
- 7. Develop detailed science-based guidelines to stream management and natural channel design which are readily available to those entities responsible for stream activities in Rondout and Neversink watersheds.*

| Project Name | Recipient | Status | Expected Completion | Project Description | Award \$ |
|--------------------------|-----------------------------|---------------|----------------------------|--|-----------------|
| Watershed Project | Tri-Valley School | On-going | Sept 2017 | Interdisciplinary multi-media storytelling with high schoolers | \$15,000 |
| School Trip Scholarships | Time and the Valleys Museum | On-going | 2018 | Funding for transportation/museum visits | \$5,000 |
| Catskill Waters | Keiko Sono/ Fractured Atlas | On-going | 2018 | Film stories of stream stewardship | \$24,241 |

| | May `17 | June `17 | July `17 | August `17 | Sept `17 | Oct `17 | Nov `17 | Dec `17 | Jan `18 | Feb `18 | March `18 | April `18 |
|---------------------------------|---|--|----------|-----------------------|---|--|---|--|--|---|---|---|
| EDUCATION & OUTREACH | Catskill Waters Project Public Events (3) | Source E-News #1 2017 | | Source E-News #2 2017 | Catskill Waters Local Public Screenings | Source E-News #3 2017 Tri Valley Watershed Project | 4th Annual Anglers Symposium Event & Podcast Catskill Waters Studio Event Source E-News #4 2017 | WAG Meeting Add 2017 Projects to rondoutneversink.org | Source E-News #1 2018 Plan Tri Valley Project for 2018-19 | Catskill Waters NYC Screening/ Set Date | Source E-News #2 2018 | Hemlock Conservation Landowner Workshop Tri Valley Watershed Project |
| | Tri Valley Watershed Project (2 days) | Watershed Project Photo Exhibit | | | Mid Atlantic Seed Bank Collection Pilot Program | | | | | | | |
| | SMIP Simon Gruber | Town Hall Watershed Project Film Screening | | | | | | | | | | |
| | SMIP Museum Waterwheel | | | | | | | | | | | |
| | May `18 | June `18 | July `18 | August `18 | Sept `18 | Oct `18 | Nov `18 | Dec `18 | Jan `19 | Feb `19 | March `19 | April `19 |
| | Plan Catskill Waters NYC Screening Event | Source E-News #3 2018 | | Source E-News #4 2018 | | Source E-News #5 2018 Catskill Environmental Research & Monitoring Conference Tri Valley Watershed Project | 5 th Annual Anglers Symposium & Podcast | Source E-News #6 2018 Add 2018 Projects to rondoutneversink.org | | Source E-News #1 2019 | Mid Atlantic Seed Bank Collection Pilot Program | Source E-News #2 2019 |

Rondout Neversink Stream Program Team:

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