

New England Interstate Water Pollution Control Commission:
Purchase Order

FINAL REPORT: February 2010 – December 2010

ADMINISTRATIVE:

1. Grantee Name: **Hudson River Sloop Clearwater, Inc. (HRSC)**
2. Project Name/Title: **Interim Management Plan for Lower Rondout Creek**
3. Comptroller's Contract Number: **P.O. 7652 Requisition # 0100-113-008**
4. Identify any amendments to Project Agreement and their approval dates: **None**

Report for Rondout Creek Watershed Council, Interim Management Plan

Prepared by Hudson River Sloop Clearwater, Inc.

NARRATIVE AND PROJECT BACKGROUND:

Watershed Awareness, Planning and Protection Initiatives in Rondout Creek: In 2008 the NYS DEC Hudson River Estuary Program provided a second round of grant funding to Cornell Cooperative Extension of Greene County to continue the work started in October 2006 when the Rondout Creek Watershed Council (RCWC or Council) was formed by an HREP grant to OSI/Hudson Basin River Watch (HBRW). Clearwater, through the Council continues to help incubate two sub-basin watershed protection groups in the Kinderhook Creek and Catskill Creek watersheds, while pursing for the development of a Watershed Management Plan (WMP) in the Lower Non-Tidal portion of the Rondout Creek Watershed. The Council focuses on the four primary communities within the Lower Non-Tidal Rondout (Wawarsing, Rochester, Marbletown and Rosendale).

As RCWC continued to receive technical assistance from Clearwater and in addition to it's 2009 accomplishments, RCWC developed and presented a recommendation based Watershed Management Plan PowerPoint presentation that was shared at RCWC scheduled meetings throughout the Spring of 2010 along with special guest speakers from local forestry, watershed and water quality backgrounds.

RCWC has enlisted a wide-range of community stakeholders, and has coordinated closely with the New York City Department of Environmental Protection (NYC DEP), who have completed a watershed management plan for the Upper Rondout Creek Watershed above and including Rondout Reservoir, and with Hudson River Watershed Alliance (HRWA or the Alliance), who coordinate watershed initiatives throughout the bioregion. The Council has coordinated a large group of writers that have worked diligently to complete a strong draft management plan and is currently in the process of having it reviewed by an Intermunicipal Agreement (IMA)/(municipal partners (*see attached IMA*) to provide feedback and guidance. The draft State of Rondout Report (StoRR) has been incorporated into the Rondout Creek Watershed Management Plan. The grant application that was submitted by the City of Kingston to subcontract to Clearwater to continue this watershed planning into the tidal portion of the watershed, from below the Eddyville Dam to the mouth of the Creek in the Rondout area of the City of Kingston/Town of Esopus has been approved and is scheduled to begin in 2011. The City of Kingston was awarded \$126,000 for watershed management planning for the Tidal Rondout; Clearwater's share is \$75,000 over a two-year period.

NEIWPCC Funded Project in Review: From mid-August through December 2010 (*reference summary of recent accomplishments at end of report*), The New England Interstate Water Pollution Control Commission watershed funding made a wide range of excellent achievements possible. This funding supported RCWC's work toward development of social capital, the strengthening of local government support, the active involvement from external local experts during the drafting and editing stages of the Watershed Management Plans development and the continual promotion of watershed awareness in the target communities (*see attached news articles*). To these ends,

the RCWC webpage developed in 2008 was revised and two new venues were created to expand the social media reach of the Council:

1. Facebook page: <http://www.facebook.com/home.php?#!/pages/Rondout-Creek-Watershed-Council/149751231733308>
2. Website: www.rcwc.weebly.com (independent of the Clearwater website).

The final phase of development for what has been titled the "Rondout Creek Interim Watershed Management Plan" (RCIWMP) has been subsidized through funding provided by the New England Interstate Water Pollution Control Commission in the amount of \$10,000.00. These funds were earmarked to supplement previous funding and assist the Rondout Creek Watershed Council in completing, circulating and seeking approval of a Watershed Management Plan for the Lower, Non-Tidal Rondout Creek; by the four IMA Municipal partners (**in satisfaction of PO Task 7**). This Plan has been titled the Rondout Creek Interim Watershed Management Plan because RCWC hopes that the Upper Rondout Creek Watershed Management Plan (already completed by DEP) would be considered Volume I of III that includes all findings and recommendations to address the entire Rondout Creek watershed as an integrated whole. RCWC has focused on the Lower, Non-Tidal portion (Volume II) and the City of Kingston (also working with Clearwater) has received watershed protection funding from NYS Department of State to create a Tidal Rondout Creek Watershed Management Plan (Volume III). For those reasons we consider this, an interim plan.

To this end Clearwater staff, Victor-Pierre Melendez, Jen Rubbo and Manna Jo Greene, have actively worked to complete the RCIWMP, with help from a "dream team" of area volunteers and experts, which includes:

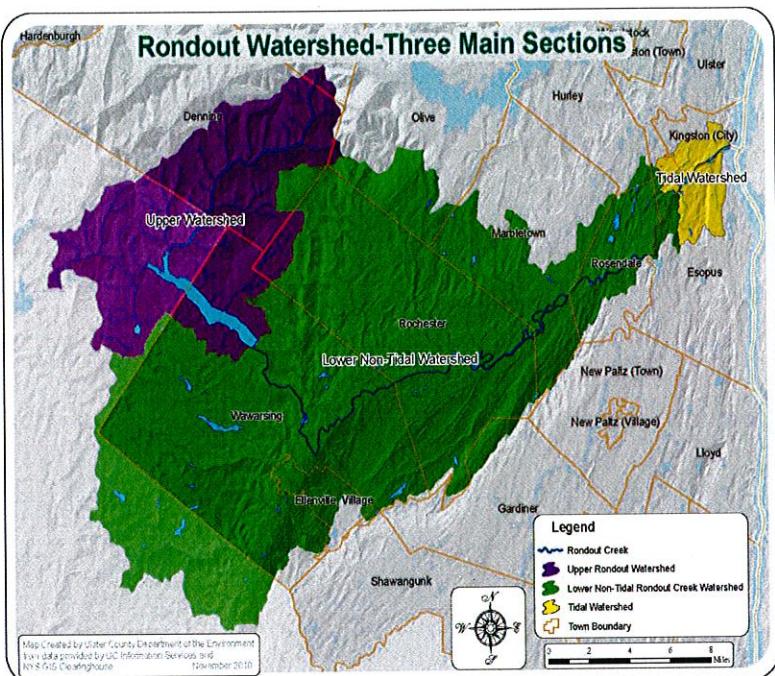
- Jennifer and Kevin Grieser on Riparian Buffers
- George Gomez on weather data, precipitation and climate change
- Ryan Trapani on Forestry and Agriculture
- Jennifer Schwartz of Ulster County Planning on Economics, including major development proposals
- Martha Cheo on Water Quality and Stream Monitoring
- Kathie Beinkafner of Mid-Hudson Geosciences on Soils and Geology, including stream geomorphology
- Laura Heady on Biodiversity and Natural History of this portion of the watershed
- Simon Gruber on Stormwater Management and Green Infrastructure
- Amanda LaValle and Mandy Wolfson of Ulster County Department of Environment are creating GIS maps related to these sections and watershed delineation, including identifying major sub-basins.

In addition, Clearwater brought on three Watershed Interns:

- Jessica Gray of Marist College created a comparative matrix for the municipalities of Rosendale, Marbletown, Rochester and Wawarsing that highlights land use and natural resource objectives, identifies the best management practices in each Town and recommends areas, which need improvement. Municipal officers and members of local environmental commissions can use this matrix to select projects for future implementation.
- Brenden Tacon of SUNY Purchase is drafting the section of the management plan focusing on recreational assets and recommendations regarding educational programming and watershed awareness, based on guidelines provided by participants at RCWC watershed workshops hosted in winter of 2009 and spring 2010.
- Franklin Tavarez, of SUNY/ Dutchess is working on social marketing and communications, including creating a Facebook website for RCWC that profiles the mission, vision, and Council achievements over the last three years. He is also preparing display materials for the November Community and Town Board meetings to help illustrate the recommendations set forth in the RCIWMP.

As was initiated in earlier funding, Clearwater has effectively convened and sustained an active and cohesive watershed protection constituency in a watershed in which this was previously absent, and has assessed that just as there was high receptivity for the IMA to develop a watershed management plan, there is a high drive for public involvement in the planning process, which bodes well for its implementation. This community-based watershed-organizing model will continuously be assessed and adjusted for improved effectiveness, as is being adapted in the Kinderhook and Catskill Creek watersheds, and can be replicated in other watershed.

2010 ACCOMPLISHMENT – HIGHLIGHTS:



Watershed Delineation: The 2008-09 work done by Ulster County Soil and Water Conservation District to develop a series of GIS maps that delineate areas of the Rondout Creek watershed was completed in 2010 by the Ulster County Department of the Environment. For the purpose of delineation and development of the draft Management Plan 12 distinct maps have been created to outline different aspects of the watershed and its natural resources (the three major subbasin sections of the watershed are seen in map to the left – Upper in purple and Lower non-tidal portion, Lower non-tidal portion by itself, the Lower non-tidal portion in green and Tidal portion traveling past the City of Kingston's business district in yellow). This will help to establish appropriate watershed management units for the Watershed Management Plan. All maps were completed in fall of 2010.

RCWC Watershed Management Workshop II: On February 22, 2010, the RCWC and the Town of Rochester hosted the second, very successful, Watershed Management Workshop at the Rochester Community Center, Accord NY, to address management strategies for protecting the health of the Rondout Creek Watershed. The purpose of this meeting was to gather additional recommendations and feedback from a wide range of stakeholders, to be incorporated into the Rondout Creek Watershed Management Plan. Through the joint outreach efforts of RCWC and appointed municipal representatives, 30 community stakeholders participated and shared recommendations, which were incorporated into the Rondout Creek Watershed Management Plan.



Intermunicipal Agreement (IMA) for an RCWC Watershed Management Plan: In March of 2010 the Council finalized a revised version of the IMA (*see attached IMA*) including participation by the Town of Wawarsing for watershed protection of the Lower Non-Tidal Rondout Creek Watershed. Most of the work this quarter has been focused on educating the eight appointed Municipal representatives (2 from each town) and the attendees of the 2 workshops about the recommendations that were collected and used to develop the outline for a Watershed Management Plan. A lot of effort was placed in explaining the process through which RCWC would be working with the municipalities on this planning project. RCWC has become a highly functional stakeholder-working group that together diligently planned and implemented a second annual and very successful Stream Monitoring Day in September that was designed for the 3rd grade class of Rosendale Elementary School.

Stream Monitoring & Rosendale 3rd grade Monitoring Day:

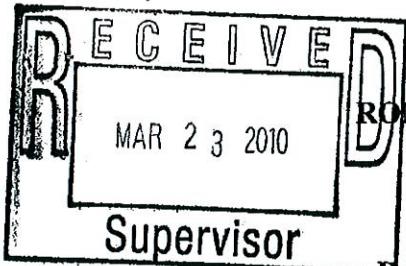
On September 26th, working with Martha Cheo of HBRW, RCWC hosted a wonderful Stream Monitoring Day at Epworth Camp with as many as 25 students and five chaperons attending (*see attached flyer*). The students learned how to monitor the quality of our streams -- that the creatures that live under rocks and in the stream can actually help indicate stream health -- and explored the diverse ecosystem that thrives there. Martha Cheo and members of RCWC, including appointed Wawarsing municipal representatives, completed another streamlined stream monitoring collection at two sites along the Sandburg Creek (Ellenville) to assess year-to-year changes. The results from the monitoring showed that sites above and below Nevele were both in the "non-impacted" range. There are two possibilities to explain the "slightly impacted" status of Sandburg Creek discovered in 2007 and 2009; either there is something impacting the water quality between the Honors Haven site and the Canal Street site (where DEC in 2007 recorded "slightly impacted") or simply that in 2009-10 Sandburg Creek, upstream of Ellenville has improved in general over the 2 year period.



Community Engagement Meetings and Seeking Approval of the WMP: RCWC Coordinator has been working with a sub-committee and talented writers to draft and refine the RCWC WMP. This refinement process evaluated Management Plans from neighboring watershed; all existing management plans from the 4 municipalities and those on a County level. To engage the community and stakeholders in a collaborative Watershed Management Plan review process, six meetings were arranged: two open community information meetings and 4 Town Boards meetings (*one with each of the Municipalities – see attached calendar flyer*). In satisfaction of **PO Tasks 5 and 6**, RCWC developed and shared a Watershed Management Plan PowerPoint presentation (*see PPT attached to email*) with all four Town Boards that outlined the recommendations of the Plan and explains the role that RCWC intends on playing throughout the final approval stages and the development of implementation strategies in 2011. On October 19, 2010, an open community meeting was hosted by the Ellenville Public Library to introduce their community members to the good work of RCWC (*see attached flyer*).

RCWC SUMMARY OF RECENT ACCOMPLISHMENTS/CO-SPONSORED EVENTS:

Jan. 11, 2010	RCWC Meeting I - Discuss Education Strategy and plan the 2 nd Workshop
Feb. 01, 2010	Watershed Partnership Group Meeting (Agroforestry Resource Center)
Feb. 09, 2010	RCWC Meeting II
Feb. 18, 2010	IMA Meeting with Town Board of Wawarsing
Feb. 22, 2010	2 nd Watershed Management Workshop
Feb. 25, 2010	Ulster County 1 st Annual Creek Week- Planning Meeting
Mar. 04, 2010	Ulster County 1 st Annual Creek Week- Planning Meeting II
Mar. 23, 2010	RCWC Meeting III – Follow up to share findings from 2 nd Workshop
Apr. 14, 2010	Received final Supervisor signature for 2010 IMA renewal (IMA attached)
May 25, 2010	RCWC Meeting IV – Present Recommendations and Findings from both Workshops
June 06, 2010	Rosendale Earthfest and Expo – Stream Morphology Education
June 12, 2010	Rochester ECC Creek Clean-up & Picnic
Sept. 23, 2010	Stream Monitoring Day –Rosendale Elementary 3 rd grade (Camp Epworth)
Oct. 01, 2010	Watershed Interns began research
Oct. 13, 2010	Tier 2 and 3 - Stream Monitoring at Sandburg Creek-two sites (Ellenville)
Oct. 19, 2010	RCWC Introduction and Overview Presentation at Ellenville Public Library
Nov. 08, 2010	RCIWMP Community Meeting I
Nov. 16, 2010	RCIWMP Community Meeting II
Dec. 01, 2010	RCIWMP Rosendale - Town Board Meeting
Dec. 02, 2010	RCIWMP Rochester - Town Board Meeting
Dec. 16, 2010	RCIWMP Wawarsing - Town Board Meeting
Dec. 21, 2010	RCIWMP Marbletown - Town Board Meeting



RONDOUT WATERSHED, ULSTER COUNTY

Intermunicipal Agreement

Regarding

Rondout Creek Watershed Management Plan

THIS AGREEMENT, dated March 4, 2010, by and between the **Rondout Creek Watershed Council (RCWC)** and the Rondout Creek Watershed Municipalities in Ulster County of the Town of Warwarsing, a municipal corporation having its principal place of business at P.O. Box 671, 108 Canal Street, Ellenville, NY 12428; the Town of Rochester, a municipal corporation having its principle place of business at 50 Scenic Road, P.O. Box 65, Accord, NY 12404, the Town of Marbletown, a municipal corporation having its principal place of business at P.O. Box 217, 3775 Main Street, Stone Ridge, NY 12484 and the Town of Rosendale, a municipal corporation having its principle place of business at, P.O. Box 423, 424 Main Street, Rosendale, NY 12472; here and after referred to as the **Rondout Creek Watershed Management Towns (Towns)**.

WITNESSETH THAT:

WHEREAS: The RCWC and the Towns wish to work together to cooperatively develop a Watershed Management Plan to preserve and protect the Rondout Creek watershed and its water resources (the "Watershed"), and

- a) To promote intermunicipal cooperation by and between the Rondout Watershed municipalities;
- b) To protect, enhance, and utilize the unique assets of the Watershed;
- c) To develop and enhance existing public education, monitoring, and study (scientific understanding) to improve Watershed Awareness regarding the relationship of water quantity and quality to the health and sustainability of the Rondout Creek and Hudson River Ecosystem;
- d) To educate the public on environmental issues affecting the Watershed;
- e) To encourage sustainable economic development that is resource-based and considers the importance of preserving biodiversity; and
- f) To make recommendations to support these goals and findings of the Watershed planning process.

WHEREAS, the parties of this agreement, desire to form and send representatives to a Watershed Planning Committee of the RCWC, hereafter referred to as the **Committee**, which will meet no less than quarterly to administer and oversee the planning process and the implementation of the **Rondout Watershed Management Plan**, hereafter referred to as the **Plan**;

WHEREAS, the parties of this agreement desire Hudson River Sloop Clearwater, Inc. (Clearwater), who has been contracted by the New York State Department of Environmental Conservation (NYSDEC) Hudson River Estuary Program (HREP), to provide for the day-to-day coordination of the RCWC in designing the Rondout Creek Watershed Management Plan;

WHEREAS, under Articles 5-G Section 119-O (1) of the General Municipal Law of the State of New York, municipalities have the authority to enter into intermunicipal agreements and jointly perform services regarding subjects each separately has the power to perform;

WHEREAS, this intermunicipal agreement is voluntary and non-binding, and will not be construed so as to interfere with or diminish any municipal powers, authority, or regulatory authority of any of the participating municipalities;

WHEREAS: The Plan will recognize the need for communities and private sector stakeholders to work together under a comprehensive vision to protect and enhance the Rondout Creek Watershed;

WHEREAS: The Plan will recognize the need for municipal officials to work together under a comprehensive vision to institute stormwater management and flood mitigation, as these are issues common to the four municipalities; and

WHEREAS: Representative municipal officials from all participating municipalities will have had hosted or attended one presentation on stream monitoring, flood mitigation, and/or biodiversity.

NOW THEREFORE BE IT RESOLVED that in consideration of the terms and conditions herein contained, the parties to this agreement do hereby agree as follows:

FIRST: Each of the parties to this agreement authorizes the **RCWC** to draft the **Rondout Creek Watershed Management Plan**, with the goal of providing for the long-term protection of the watershed of the Rondout Creek;

SECOND: The participating municipalities will work together cooperatively in the decision-making process and share the leadership and ownership in continuing the planning process and, if adopted, implementing the Plan, which will have measurable results that are realistic, delineated on a reasonable timeline, and embodied in an implementation plan that outlines how the recommendations will be accomplished, including funded, and how the RCWC and the WMP will be sustainable over time;

THIRD: The participating municipalities will appoint two representatives to serve as liaisons between the municipality and the RCWC.

FOURTH: The RCWC Committee will report back to the Towns to receive their input at regular intervals throughout the process, at minimum including when the Plan outline is created, when a draft is written, when preliminary recommendations are made and when the final Plan is completed;

FIFTH: That although every effort will be made to include wide stakeholder input and to assure a very collaborative, iterative process, participating in the planning process does not commit the Towns to approve or adopt the Plan;

SIXTH: Through the continuation of the planning process and the implementation of the Plan the various benefits conveyed by the Watershed and its ecosystems will be maintained and enhanced;

SEVENTH: Any employees or contractors hired for the performance of the work under the Plan will be hired without discrimination by reason of race, creed, color, sex, age, physical disability, or national origin;

EIGHT: That any party to this agreement may terminate its participation within the Committee at any time but must do so by notifying within sixty (60) days all other parties in writing of the determination, reasons for the termination, and the effective date thereof. Withdrawal from the agreement by one party shall not operate to terminate the agreement, which shall continue in full force and effect with respect to all other parties;

NINTH: This agreement shall be for a nine month period commencing on March 4, 2010 and ending on December 31, 2010;

TENTH: If any term or provision of this agreement or the application thereof shall, to any extent, be invalidated or unenforceable, the remainder of this agreement or the application of such term or provision, other than those to which it is held invalid or unenforceable, shall be unaffected thereby, and each term and provision of the agreement shall be valid and enforceable to the fullest extent permitted by law; and

ELEVENTH: This agreement supersedes all previous Intermunicipal agreements that address the management of the Rondout Creek Watershed.

IN WITNESS WHEREOF, the following parties through their Chief Executive Officials of each of the aforementioned Municipalities have executed this agreement.

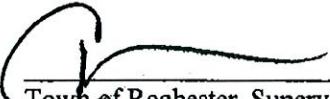
SIGNATURES.....



Town of Warwarsing, Supervisor
Leonard M. Distel

3-10-10

Date



Town of Rochester, Supervisor

4/2/2010

Date



Town of Marbletown, Supervisor

3-22-10

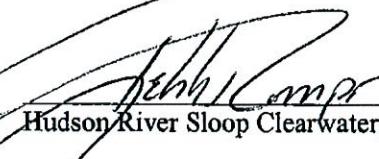
Date



Town of Rosendale, Supervisor

4/15/10

Date



Hudson River Sloop Clearwater, Inc.

3/16/10

Date

Resolution - Rondout Creek Watershed Council Inter-Municipal Agreement Renewal

WHEREAS, the Town Board of the Town of Rosendale recognizes the importance of inter-municipal cooperation in management and protection of resources in the Rondout Valley watershed region; and

WHEREAS, the Town of Rosendale has been a leader in the areas of reducing run-off and non-point source pollution by being the first community in Ulster County to adopt MS4 stormwater regulations; and

WHEREAS, we understand that it far easier and more cost effective to prevent flood damage and water pollution than to correct problems after they have occurred; and

WHEREAS, the Rondout Creek Watershed Coalition has been actively involved in addressing these issues for the past four years, and has been actively involved in the process of creating a watershed management plan that will span the municipalities which make up the non-tidal portion of the Lower Rondout Creek Watershed (Marbletown, Rochester, Rosendale and Wawarsing); and

WHEREAS, the Town of Rosendale desires to renew an inter-municipal agreement with the other towns to help create a watershed management plan, such agreement being attached hereto and made a part hereof,

NOW THEREFORE, BE IT RESOLVED, that the Town Board of the Town of Rosendale shall authorize the Supervisor to enter into the above described agreement.

Motion made at a regular meeting of the Town Board of the Town of Rosendale, April 14, 2010,

by Supervisor and seconded by Councilman Minissali

VOTING MEMBERS:

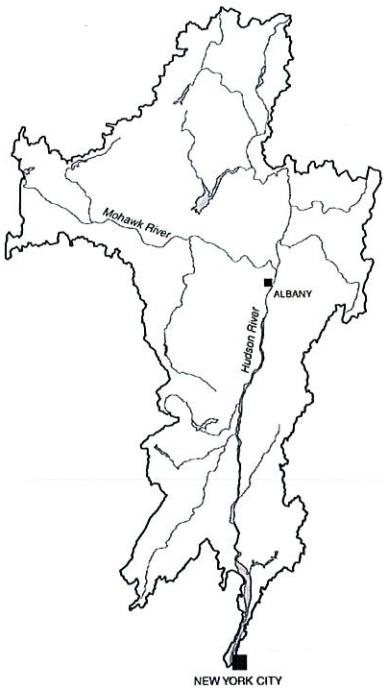
Councilman Gallagher yes

Councilwoman Greene yes Abstain

Councilman Hassett yes

Councilman Minissali yes

Supervisor McDonough yes



Rondout Creek Watershed Council

Rosendale Elementary Stream Monitoring Day

ON THE RONDOUT CREEK
at Camp Epworth

Lucas Turnpike, High Falls

Thursday, September 23, 9:45 -11:45 a.m.

We welcome the 3rd Grade class of Rosendale Elementary, who will be learning how to identify aquatic invertebrates and measure the health of our streams and rivers with Martha Cheo from Hudson Basin River Watch and Clearwater educator Eli Schloss.

We will collect, compare, and identify aquatic invertebrates that live in the river and learn how to use them as indicators of water quality.

Life cycles and adaptations will be discussed, as we compare as contrast invertebrates from different habitats and niches. Get up close and personal with the foundation of the aquatic food web!

This experience will empower youth to make wise decisions for watershed protection and have fun!

Rondout Creek Watershed Council was created by a NYS DEC Hudson River Estuary Program grant to Hudson Basin River Watch and Clearwater.

Hudson Basin River Watch is a vital and growing partnership working to improve the ecological integrity of the Hudson River and all its tributaries. HBRW website: www.hudsonbasin.org.

Hudson River Sloop Clearwater works to protect the ecology Hudson River and the well-being of people living in its watershed through education, advocacy and celebration, and to inspire the next generation of environmental leaders. Clearwater website: www.clearwater.org.



Sponsored by Rondout Creek Watershed Council and Hudson Basin River Watch.



“OUR RONDOUT”

Tuesday, October 19, 6:30pm

Hudson River Clearwater’s Victor-Pierre Melendez, Rondout Creek Watershed Council Coordinator, will talk about the work that the council has been doing to protect and sustain the Rondout Creek, a major tributary of the Hudson River. Victor will also talk about a new video project to document the stories of folks who have grown up alongside the Rondout.

Ellenville Public Library & Museum

40 Center Street, Ellenville
(Rte 52W off Rte 209)
(845)647-5530

Upcoming RCWC Meetings

November 8th and 16th

You are invited to attend one of the following two RCWC meetings to review our collaborative recommendations for the final draft of the -

Rondout Creek Interim Watershed Management Plan.



**RCWC Community Meeting on
Monday November 8th - 6:30-8:30
Plan at Ellenville Public Library**

Visit website for info:
<http://eplm.org/contact.aspx>

and/or

**RCWC Community Meeting on
Tuesday, November 16th - 6:45-8:30
at Marbletown Community Center**

Visit website for info:
http://marbletown.net/government/community_center.cfm

The Rondout Creek Watershed Council members have been locked away finishing up the draft of what has been titled the "Rondout Creek Interim Watershed Management Plan" (RCIWMP). The Council hopes that the Upper Rondout Creek management plan (already completed by NYC DEP) would be considered Volume I of III that addressing the entire Rondout Creek watershed. RCWC is working on the lower, non-tidal portion (Volume II) and the City of Kingston (also working with Clearwater) has received DOS funding to begin creating a tidal Rondout Creek management plan (Volume III). For those reasons we consider it an Interim plan.

Future Meetings

- ❖ **December 1st 2010** at 7:30pm the Town of Rosendale Town Board will be reviewing the RCIWMP
- ❖ **December 2nd 2010** at 7pm the Town of Rochester Town Board will be reviewing the RCIWMP
- ❖ **December 16th 2010** at 5:30pm the Town of Wawarsing Town Board will have a Workshop.
- ❖ **December 21st 2010** at 7pm the Town of Marbletown Town Board will be reviewing the RCIWMP

Daily Freeman (dailyfreeman.com), Serving the Hudson Valley since 1871

News

Ulster County creek towns eye land use

Friday, December 3, 2010

By WILLIAM J. KEMBLE
Correspondent

ROSENDALE — Recommendations by the Rondout Creek Watershed Council to update municipal land-use regulations are being distributed to officials in the four towns along the creek between the Rondout Reservoir and the Hudson River.

The proposal was reviewed during town board meetings in Rosendale on Wednesday and Rochester on Thursday. Presentations are planned Dec. 16 in Wawarsing and Dec. 21 in Marbletown.

"For the purposes of this map, this was subdivided into sub-basin watersheds to show possible options for sub-management," environmental associate Victor-Pierre Melendez said. "Instead of just looking at the watershed as a whole, we're looking at the sub-watersheds and try to tackle management strategies based on smaller units and smaller drainage areas."

The Rondout Creek Watershed Council was formed in 2007 as a coalition of communities and private organizations through a state Department of Environmental Conservation grant to the Open Space Institute/Hudson Basin River Watch and the Hudson River Sloop Clearwater. Municipalities each appoint three members, with more than 30 members designated through environmental groups and affected property owners.

Among its goals are to review activities that are unique to communities but that have not been addressed for their impacts on water runoff into the Rondout Creek.

"There's good work that's being done," Melendez said. "This plan assesses and takes into account all other existing plans."

The council's recommendations include:

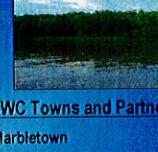
- Rosendale's adoption of regulations that reduce the density of development in areas of significant groundwater runoff, creation of a management strategy to protect wetlands, zoning amendments to prevent the spread of impervious surfaces into floodplains, promotion of organic agriculture practices, and adoption of an open space plan.
- Marbletown's adoption of regulations that protect aquifers from development, zoning amendments to minimize the use of impervious surfaces, encouragement of alternatives to strip malls, and development of timber harvesting regulations within a town forest plan.
- Rochester's adoption of regulations that promote high-density development in areas where buildings already exist, revision of logging regulations that protect trees serving "important ecological roles," protection of native flora and fauna, adoption of an open space plan, and development of a biodiversity assessment.

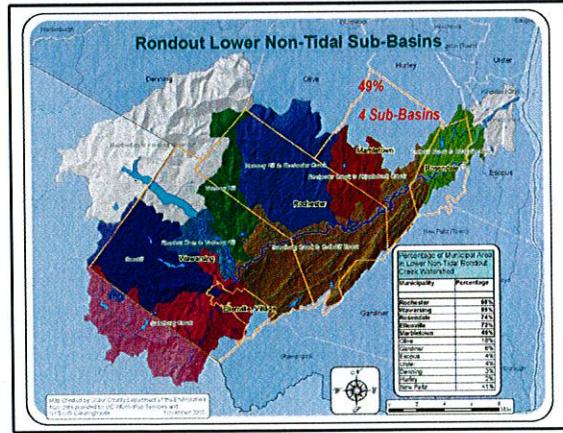
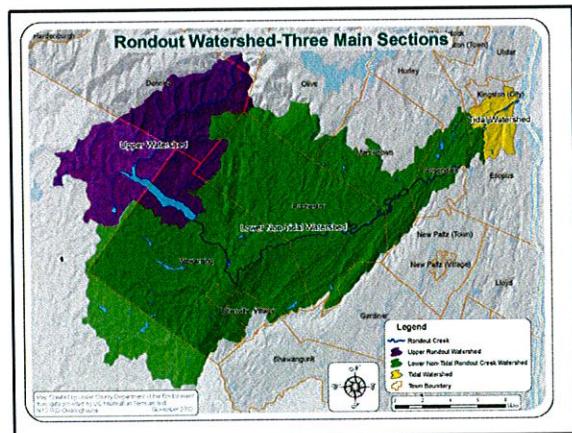
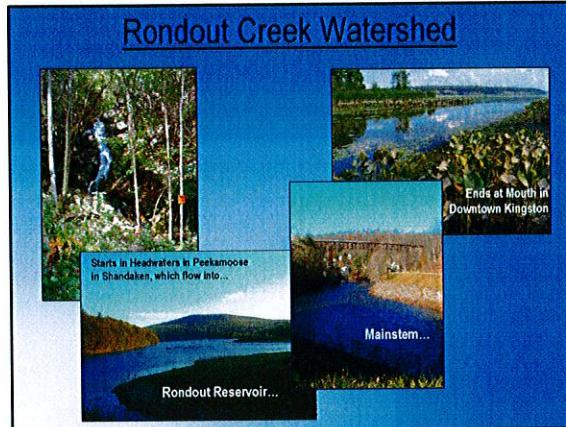
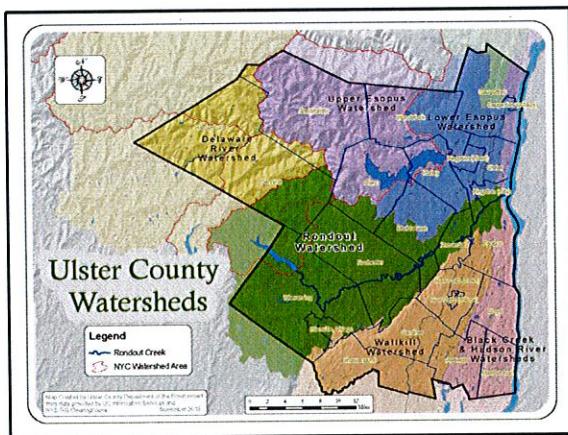
- Wawarsing's adoption of regulations that prevent impervious surfaces in floodplains, adoption of an open space plan, development of a biodiversity index, creation of density maps and land use surveys. The council also recommended the town study its geology and create an aquifer map.

URL: <http://www.dailyfreeman.com/articles/2010/12/03/news/doc4cf884706d791164576349.prt>

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A photograph of a rocky stream bed with clear water flowing over rocks, surrounded by lush green trees and foliage. The image serves as the background for the presentation slide.

 <h1 data-bbox="982 304 1072 335">RCWC</h1>	
<p>Process:</p> <ul style="list-style-type: none"> • Municipal Watershed Questionnaire (08) • Goals and Objectives (09) • Two Watershed Workshops (09-10) • 4 watershed topics: <ul style="list-style-type: none"> – Floodplain Management – Stormwater Management – Vegetation Management – Education and Outreach 	<p>RCWC Towns and Partners:</p> <ul style="list-style-type: none"> • Marbletown • Rochester • Rosendale • Wawarsing • Hudson River Sloop Clearwater • Hudson Basin River Watch

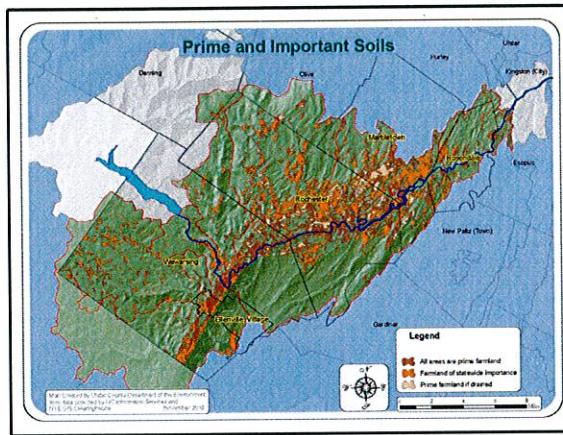
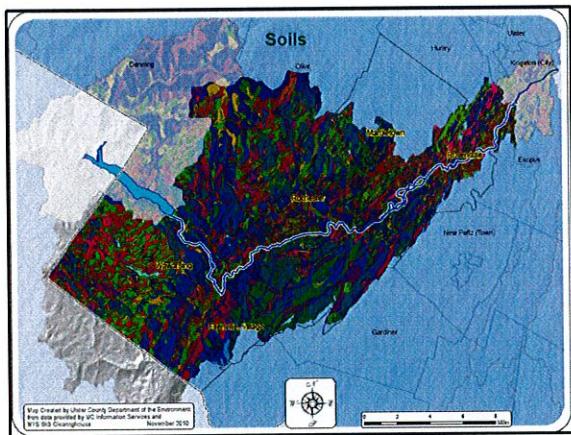
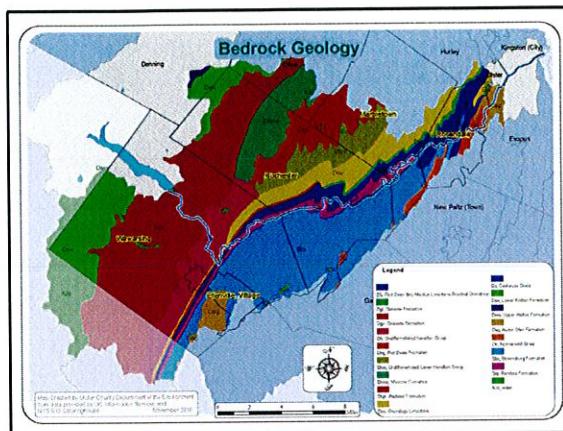


Soils and Geology

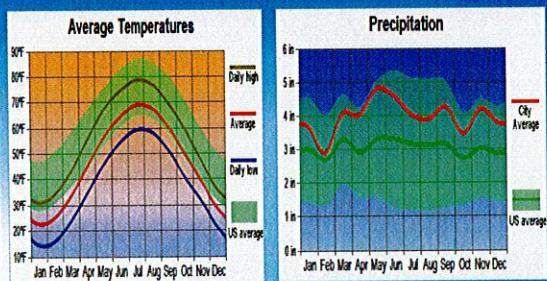
Topography has developed over millions of years.

4 main periods of bedrock deposition:

- Late Ordovician Flysch marine trough
- Silurian Shawangunk Conglomerate beach
- Late Silurian and Early Devonian Carbonates in warm shallow seas
- Devonian Catskill Delta



Temperature and Precipitation for all 4 Towns



Climate Change



- Adopt ClimAID and NYS sea level rise (SLR) projections as guideline measures
 - Revise land use and zoning ordinances to create a buffer between mean high water and any proposal
 - Incorporate climate change and increased vulnerability to flooding into local emergency management planning
- Adopt Climate Smart Communities Pledge
- Join Hudson Valley Climate Change Network
- Become involved in the 10% Challenge
- Map vulnerable stream bank areas
 - Replant and rehabilitate
- Advocate for increased wetland protections
- Limit development in '100 year' floodplain
- Direct new development away from high risk areas
 - Fund elevation or relocation of structures out of high risk areas

Biodiversity Recommendations

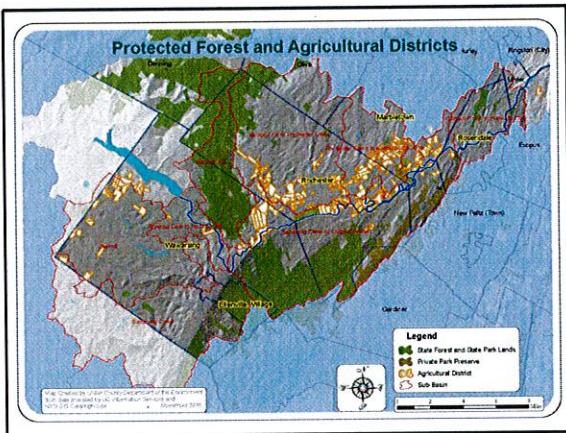
- Make land use decisions that consider habitat and biodiversity concerns
- Construct development away from sensitive areas
 - Minimize the alteration of natural features
 - Vegetation, Soils, Bedrock, Waterways
- Protect large, contiguous and unaltered tracts of habitat
 - Note links between habitats on adjacent properties
 - Broad connections NOT narrow corridors
- Create, restore, and maintain broad buffer zones of native vegetation
 - Along streams, shorelines and wetlands
 - Between development and habitats
- Prioritize high quality habitats for protection
- Concentrate development along existing roads
- Promote clustered and pedestrian-centered development
- Minimize extent and use of existing impervious surfaces



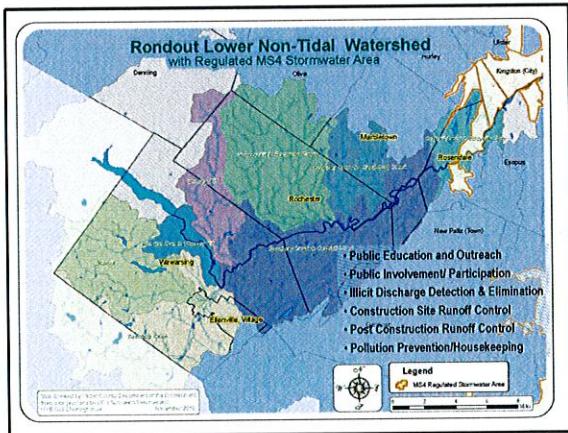
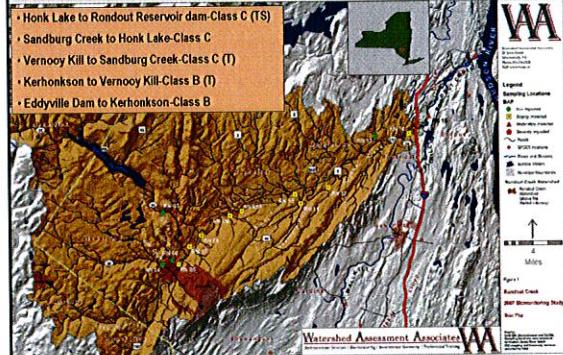
Riparian Buffers

Recommendations:

- Identify and prioritize potential riparian planting sites
- Create a network of volunteers
 - Assess sites, plant trees, eradicate invasive species, monitor for forest pests
- Offer education programs about best management practices
- Perform Visual Stream Assessment
- Utilize GIS technology to map land use



Water Quality



Stormwater Management Recommendations

- Follow examples set by Marlbtown and Rosendale
- Educate and Involve the public
- Implement practices to eliminate illicit discharges and reduce stormwater runoff
- Reduce non-point source pollution
 - Construction sites
 - New developments
 - Municipal Operations
- Preserve as much undeveloped land as possible
- Manage stormwater runoff onsite
- Utilize **Green Infrastructure** practices
 - Bioretention areas, including rain gardens
 - Vegetated swales and filter strips
 - Planting and maintaining trees
 - Pervious pavement
 - Green roofs and green walls
 - Rain barrels or cisterns capture water
- Decentralized approach to wastewater treatment, i.e.



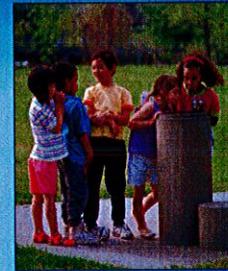
Economics Recommendations



- The Value-Added Producer Grants (VAPG) agroforestry incentive used for planning activities, working capital for marketing value-added
- SUNY Workforce Development Grant, provides any company with two or more employees cash match of a minimum of 10%
- Office of Employment and Training Summer Youth Employment Program in collaboration with SUNY Ulster
- Development of community-endorsed social contract to effectively implement buffer zone management techniques and programs

Outreach and Education Recommendations

- Create maps of the Rondout Creek
- Improve communication between stakeholders, local government and the public
- Include watershed education in existing community events
- Watershed awareness and protection marketing campaign(s)
- Create ongoing educational and volunteer programs
 - Service Learning Projects



Trends from Recommendations



- MS4 Communities continue meeting MS4 requirements
 - Wawarsing and Rochester adopt regulations
- Continuing to support the ongoing intermunicipal efforts of RCWC
- Promote ordinances designed to protect natural resources
- Create a Watershed Atlas
- Continue to use Zoning and Planning Tools
- Adopt Better Site Design Practices
 - Manage stormwater runoff and reduce impervious surfaces
- Promote Public Education and outreach programs
- Increase riparian zones
- Cooperation between Municipalities

Role of RCWC during Plan Implementation

- Ongoing research
- Hands on collaboration
 - Municipalities and CAC/ECC, etc.
- Timeline development
- Fund research
- Volunteer cultivation
- RCWC Internship Program

Draft Sections Available!

- www.clearwater.org
 - Environmental Action
 - Watershed Management
 - RCWC



Upcoming Meetings

- December 1 at 7:30 p.m. Rosendale Town Board
- December 2 at 7 p.m. Rochester Town Board
- December 16 at 5:30 p.m. Wawarsing Town Board Workshop
- December 21 at 7 p.m. Marlbtown Town Board

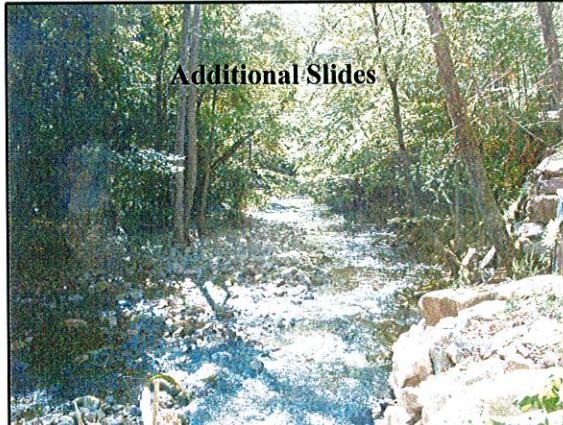
Victor-Pierre Melendez

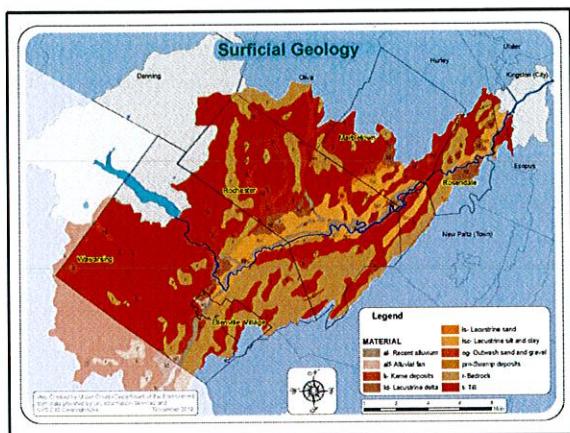
victor@clearwater.org
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- Add us on Facebook!
 - Search Rondout Creek Watershed Council
- www.RCWC-Weebly.com



Additional Slides





Green Stormwater Infrastructure Practices

- Bioretention areas, including small rain gardens
- Vegetated swales and vegetated filter strips
- Planting and maintaining trees is a GI practice
- Pervious pavement
- Green roofs and green walls are vegetated systems generally designed to be integrated with buildings
- Rain barrels or cisterns capture water