

Policy Area I Open Space and Natural Resource Management

Goal:

Maintain water quality and quantity across Sullivan County to meet the needs of the population and the environment.



WATER RESOURCE MANAGEMENT

Sullivan County has significant supplies of water available from both surface and ground water sources. The maintenance of these sources is critical to planning for the growth and development of Sullivan County. Water is a renewable resource that may be replenished over time but it may still be negatively impacted if improperly managed. Therefore, sustainable water resource management considers both the protection of water quality and the maintenance of water quantity.

Water Usage

Growth and development places greater demands on water usage. As population density increases communities shift from individual wells and septic systems to community water supplies and centralized wastewater treatment plants. While necessary, these options place greater demands on communities towards maintaining water supplies. In addition, communities today also recognize the needs that exist for water beyond human consumption. For instance, clean lakes and rivers contribute to the quality of life to residents who live near them or use them. Additionally, quality ecological systems, such as wetlands or rivers, must have sufficient water of appropriate quality to sustain wildlife. However, all of these uses are impacted by growth and development.

Challenges

One way to balance water usage needs, future growth, and development impacts is through a regional plan. A regional comprehensive analysis of water resources and the demands can examine the potential for communities to maintain resources and provide guidance toward achieving sustainability. Sullivan County can play an important role in providing that comprehensive analysis.

The ultimate responsibility for maintaining water resources will continue to lie with municipalities. Towns and Villages have the responsibility to control the way growth and development occurs. As development increases into the future, municipal governments will be under increasing pressure to balance that growth with water resource issues. They will also have to confront the need for more information about those issues.

A water resource management plan for Sullivan County will need to address five critical areas: Water Quantity and Quality, Drinking Water Supply and Wastewater Treatment, Aesthetics and Recreation, Stormwater and Floodplain Management, and Ecosystem Needs. Cross-cutting all of these categories are significant needs for (1) more data and (2) for more education and training.

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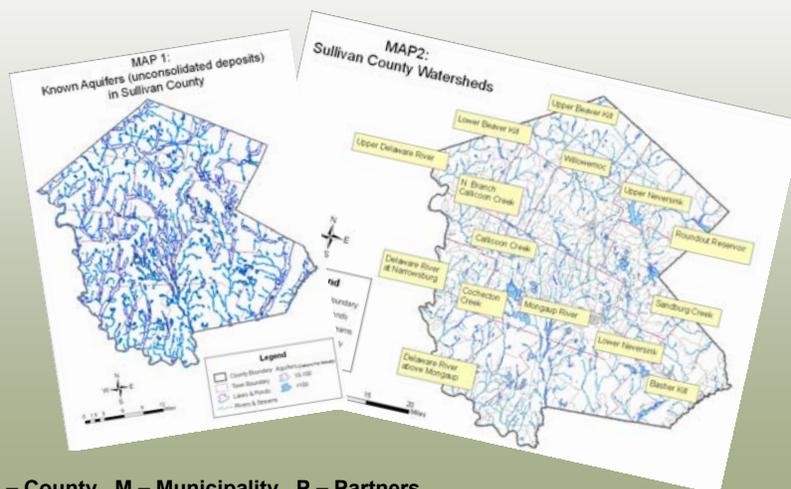
STRATEGY 1.14

Inventory available water resource data and determine data gaps.

Timeframe

SHORT TERM
INTERMEDIATE
LONG TERM

Steps	Leadership Role (C/M/P)	Status (A/P/C)
Assemble available data from various resource agencies, including NYS DEC (RIBS Data), NYC DEP, NPS, USGS, Stroud Water Research Center, NYS DOH; include wildlife, wetland, and benthic data where available.	C	A
Examine potential resources to assist in the analysis of the available information.	C/P	A
Evaluate options for using data at both a regional and local level; i.e. identify areas of degraded water quality and areas of good water quality, TMDL's, PWL's, etc.	C/P	P
Determine areas where further research may be needed and at what scale.	C/P	P
Develop a countywide GIS database of the available data so it can be used by municipalities and officials.	C	A



Leadership Role: C – County M – Municipality P – Partners
 Status: A – Active P – Pending C – Complete

Resources

Documents

- ◆ NYS Water Quality Report—Section 305(b) (2004)

Organizations and Programs

- ◆ **NYS DEC Water Quality Assessment Program** - www.dec.state.ny.us
Uses the water quality data and information generated by the NYSDEC Division of Water monitoring programs, as well as data and information from other sources both within and outside of the department, to produce periodic assessments of New York State waters.
- ◆ **NYS Office of the United States Geological Service** - ny.water.usgs.gov
Provides reliable scientific information to describe and understand the earth, minimize loss of life and property from natural disasters, manage water, biological, energy and mineral resources and enhance and protect our quality of life.
- ◆ **United States Department of Agriculture National Water Quality Program** - www.usawaterquality.org
Brings university scientists, instructors and extension educators into more effective and efficient partnerships with Federal interagency priority programs, all while addressing water quality issues in U.S. agriculture.

Funding Sources

- ◆ **Environmental Protection Agency—Funding Opportunities for Nonpoint Source Pollution** - www.epa.gov/owow/nps/funding.html
- ◆ **United States Department of Agriculture Cooperative State Research, Education and Extension Services** - www.csrees.usda.gov
For these funding opportunities, CSREES accepts applications from eligible entries and considers the application for funding through a competitive peer review process.
- ◆ **Grants.gov** - www.grants.gov
Provides a simple, unified electronic storefront for interactions between grant applicants and the Federal agencies that manage grant funds.
- ◆ **Environmental Protection Agency Region II** - www.epa.gov/region02/grants
- ◆ **Directory of Watershed Resources** - efc.boisestate.edu
The Environmental Finance Center Network (EFCN) is a university based organization dedicated to creating innovative solutions to manage the cost of environmental protection.

Other

- ◆ **USGS National Water Resource Data** - waterdata.usgs.gov

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STRATEGY 1.15

Develop a comprehensive water resource management plan for the County to provide information and guidance for Towns and determine strategies to fill in data gaps.

Timeframe

SHORT TERM

INTERMEDIATE

LONG TERM

Steps	Leadership Role (C/M/P)	Status (A/P/C)
Assemble an advisory committee made up of representatives from all involved agencies that can review the data analysis.	C	P
Gather recommendations from the committee on data needs.	C/P	P
Gather guidance from the Sullivan County Water Quality Coordinating Committee and utilize the DRBC Water Resources Plan for the Delaware River Basin as a model.	C/P	P
Prioritize needs for research, education, and action and develop a report of recommendations for county leaders.	C	P



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Resources

Documents

- ◆ **Planning as Process: A Community Guide to Watershed Planning.** W. Hashim, Washington State Department of Ecology, Sept. 1998.
- ◆ **Rapid Watershed Planning Handbook—A Comprehensive Guide for Managing Urbanizing Watersheds.** Center for Watershed Protection, Ellicott City, MD. October 1998.

Organizations and Programs

- ◆ **Hudson Valley Regional Council** - www.hudsonvalleyrc.org
- ◆ **New York State Soil and Water Conservation Committee** - www.agmkt.state.ny.us/soilwater/home.html
Mission is to develop and oversee implementation of an effective soil and water conservation and agricultural nonpoint source water quality program for the State of New York that is implemented primarily through county Soil and Water Conservation Districts.
- ◆ **Center for Watershed Protection** - www.cwp.org
Provides local governments, activists, and watershed organizations around the country with the technical tools for protecting streams, lakes and rivers.

Other

- ◆ **Technical Tools for Watershed Management, EPA** - www.epa.gov/docs/owow/watershed/tools/index.html
- ◆ **NYS Dept. of Environmental Conservation: Watershed Restoration and Protection Action Strategies** - www.dec.state.ny.us/website/dow/wrap
The purpose of a Watershed Restoration and Protection Action Strategy is to develop and/or compile and document a strategy for the watershed that brings together all appropriate agencies and stakeholders to focus support in the form of grant dollars, technical assistance and other resources to address the priority water and natural resource needs in that watershed.
- ◆ **NYS Association of Regional Councils—Statewide Water Resources Management Program** - www.cnyrpdb.org/nysarcwater/collaboration.asp
- ◆ **Community Environmental Management Handbook** - www.ecswcd.org/html/cem_overview.html

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STRATEGY 1.16

Develop an educational curriculum to provide to Town decision-makers to understand water resource needs and community planning.

Timeframe

SHORT TERM

INTERMEDIATE

LONG TERM

Steps	Leadership Role (C/M/P)	Status (A/P/C)
Develop a strategy to reach town board and planning board members, with assistance from other county agencies.	C/P	P
Utilize existing resources and programs from agencies like Cornell Cooperative Extension to provide curriculum guidance.	C/P	P
Emphasize the connection between non-point source pollution and development so communities understand the impact of development on waterways.	C/P	P
Provide forums and workshops to discuss tools and methods that both protect natural resources and provide for quality development such as Best Management Practices.	C/P	P
Encourage towns to update their comprehensive plans and zoning ordinances to encourage the use of such tools.	M/C	P



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Resources

Documents

- ◆ **Getting in Step—A Guide for Conducting Watershed Outreach Campaigns.** U.S. Environmental Protection Agency, December 2003.
- ◆ **Getting in Step—Engaging and Involving Stakeholders in Your Watershed.** U.S. Environmental Protection Agency.
- ◆ **Planning and Zoning Techniques for Protecting Quality of Life.** N. Stolzenberg, Association of State Wetland Managers.

Organizations and Programs

- ◆ **Cornell Cooperative Extension of Sullivan County** - www.cce.cornell.edu
845-292-6180
- ◆ **Sullivan County Soil and Water Conservation District**
845-292-6552
- ◆ **Catskill Center for Conservation and Development** - www.catskillcenter.org
Non-profit organization working to protect the cultural, historical, and natural resources of the Catskill Mountains.
- ◆ **The Nature Conservancy** - www.nature.org
The Eastern NY Chapter is involved in two landscape-scale projects in Sullivan County: the Neversink/Delaware River Basin Program and the Catskill Mountain Program.
- ◆ **Cornell University, Department of Natural Resources Outreach Extension** - www.dnr.cornell.edu/extension/
Efforts in the Department of Natural Resources focus on providing outreach and education to public and professional audiences involved in the management of natural resources.
- ◆ **Nonpoint Education of Municipal Officials (NEMO) in NYS** - www.seagrant.sunysb.edu/NEMO/default.htm
The goal of the NEMO program is to introduce the concept of nonpoint source pollution to local officials, and to give them some tools for improving water quality
- ◆ **Nonpoint Education of Municipal Officials—National Program** - nemo.uconn.edu
This is an educational program for local land use officials that addresses the relationship of land use to natural resource protection.
- ◆ **Center for Watershed Protection** - www.cwp.org
Provides local governments, activists, and watershed organizations around the country with the technical tools for protecting streams, lakes and rivers.

Other

- ◆ **Rural Design Workbook** - www.stcplanning.org
- ◆ **Pathways to Planning: A Tool to Help Communities Diagnose and Address Current Planning Issues and Needs.** www.surveycafe.com/VtForum/entry.asp
- ◆ **Environmental Planning for Small Communities.** www.purdue.edu/dp/envirosft/trilogyweb/src/msieopen.htm
- ◆ **Environmental Impact Assessment in New York State.** www.dec.state.ny.us/website/dcs/seqr/index.html

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STRATEGY 1.17

Establish a Sullivan County Environmental Health Services that can improve regulations for the protection of water resources.

Timeframe

SHORT TERM
INTERMEDIATE
LONG TERM

Steps	Leadership Role (C/M/P)	Status (A/P/C)
Research other counties in NYS to show options as to how environmental health services can be provided at the county level.	C/P	
Determine potential means and options for funding an environmental health program.	C	
Inform county leaders about benefits and available options to provide countywide environmental health services.	C	



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Resources

Organizations and Programs

◆ **NYS Department of Health—Center for Environmental Health**

www.health.state.ny.us/environmental/

The Center applies scientific, medical, engineering, and public health expertise to identify, understand, prevent, and mitigate risks to human health from New York State's living and working environments.

Other

◆ **Dutchess County Department of Health, Environmental Services**

www.co.dutchess.ny.us/CountyGov/Departments/Health/HDenvreg.htm

Monitors water quality and its surrounding issues in order to protect the safety of its municipalities' residents.

◆ **Monroe County Department of Environmental Services** www.monroecounty.gov

Combines advanced wastewater and solid waste management into one sophisticated and proactive organization.

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STRATEGY 1.18

Provide technical assistance to Towns to review, update, or improve their codes and regulations regarding planning and development impacts on water resources.

Timeframe

SHORT TERM

INTERMEDIATE

LONG TERM

Steps	Leadership Role (C/M/P)	Status (A/P/C)
Inform towns about potential codes and regulations that can help them reduce their development impacts on water resources while allowing for growth.	C	P
Work with interested towns to evaluate their existing codes and provide guidance on where improvements might be needed.	C	P
Share results of these evaluations with other towns to demonstrate the effectiveness of updated regulations.	C/P	P



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Resources

Documents

- ◆ **Environmental Review Requirements**, Pace Land Use Law Center, Local Leader's Guide Series I: Basic Tools and Techniques, Issue #9.
www.pace.edu/lawschool/landuse/seq.html
- ◆ **Advanced Environmental Review Techniques**, Pace Land Use Law Center, Local Leader's Guide Series III: Innovative Tools and Techniques, Issue #3
www.pace.edu/lawschool/landuse/adv.html
- ◆ **Balancing Conservation and Development**, Pace Land Use Law Center,
www.pace.edu/lawschool/landuse/tocdevell.html

Organizations and Programs

- ◆ **NYS Department of State Division of Local Government** - www.dos.state.ny.us/lgss
Provides training and technical assistance to local governments and community organizations throughout the state and helps local officials solve problems involving basic powers and duties, public works, municipal organization, planning, land use and regulatory controls, and community development.
- ◆ **Pace Law School, Land Use Law Center** - www.pace.edu/lawschool/landuse/index.html
Dedicated to fostering the development of sustainable communities in New York State.

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STRATEGY 1.19

Educate citizens about issues related to watershed protection and management, such as safe drinking water, septic system management, and surface water.

Timeframe

SHORT TERM

INTERMEDIATE

LONG TERM

Steps	Leadership Role (C/M/P)	Status (A/P/C)
Re-establish the position of "Watershed Educator" at the Sullivan County Cornell Cooperative Extension office to coordinate classes/workshops.	C	P
Cooperate with the Sullivan County Water Quality Coordinating Committee to help provide resources and guidance on initiating a citizen education campaign for better water quality.	C/P	P
Encourage the development of watershed-based citizen groups that can reach out to residents in their own communities.	C/P	P
Utilize Environmental Health Services at the state Department of Health.	C	P



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Resources

Documents

- ◆ **Clean Drinking Water**, Trust for Public Land, Center for Land and Water: www.tpl.org

Organizations and Programs

- ◆ **Cornell Cooperative Extension of Sullivan County**

Contact: 845-292-6180

- ◆ **University of Wisconsin Extension, Water Resources Programs**

clean-water.uwex.edu/index.html

This website provides information about water quality and natural resources education programs in Wisconsin. These may serve as models for future local programs, or as a source of information when making decisions on issues similar in nature to those of the Wisconsin communities.

Other

- ◆ **Water Quality Information and Fact Sheets**, Cornell University Cooperative Extension
hosts.cce.cornell.edu/wq-fact-sheets/

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STRATEGY 1.20

Encourage the development of a County Sanitary Code to improve the standards and regulations for water supply and wastewater treatment for new development.

Timeframe

SHORT TERM
INTERMEDIATE
LONG TERM

Steps	Leadership Role (C/M/P)	Status (A/P/C)
Research and evaluate counties in NYS, that have developed their own code, for effectiveness, costs, and means of implementation.	C	
Research and compile a data clearinghouse of standards and regulations from a variety of sources beyond NYS.	C	
Share results of research with Sullivan County leaders.	C	



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Resources

Documents

- ◆ **NY State Health Rules and Regulations, Title 10 (Health):**
www.health.state.ny.us/nysdoh/phforum/index.htm
- ◆ **Drinking Water and Public Health, Trust for Public Land, Land and Water Center:**
www.tpl.org
- ◆ **Title 10.5, Public Water Systems**
- ◆ **Title 10, Appendix 75A Wastewater Treatment Standards**

Organizations and Programs

- ◆ ***NYS Department of Health—Center for Environmental Health***
www.health.state.ny.us/environmental/
The Center applies scientific, medical, engineering, and public health expertise to identify, understand, prevent, and mitigate risks to human health from New York State's living and working environments.
- ◆ **Dutchess County Department of Health, Environmental Services**
www.co.dutchess.ny.us/CountyGov/Departments/Health/HDenvreg.htm
Monitors water quality and its surrounding issues in order to protect the safety of its municipalities' residents.

Other

- ◆ Dutchess County Sanitary Code:
www.co.dutchess.ny.us/CountyGov/Departments/Health/HDenvreg.htm

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STRATEGY 1.21

Develop a county-wide floodplain management and mitigation plan to help guide towns about appropriate floodplain management strategies..

Timeframe

SHORT TERM
INTERMEDIATE
LONG TERM

Steps	Leadership Role (C/M/P)	Status (A/P/C)
Establish flood mitigation planning committee made up of local and state officials.	C	P
Develop short term response program to assist landowners with stream cleanup activities.	C/P	A
Utilize the Community Environmental Management process as a model to give communities a tool to assess the causes of flooding in their communities.	P	P
Educate Towns about the role of wetlands, riparian buffers, and floodplains in reducing flood impacts on communities.	C	P
Educate property owners and citizens about their role in ensuring properties are protected during flood events.	C/P	P



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Resources

Organizations and Programs

- ◆ **NYS Emergency Management Office (SEMO)** - www.nysemo.state.ny.us
Coordinates all activities necessary to protect New York's communities from natural, technological and manmade disasters and other emergencies that threaten the State.
- ◆ **Association of State Floodplain Managers** - www.floods.org
Organization of professionals involved in floodplain management, flood hazard mitigation, the National Flood Insurance Program, and flood preparedness, warning and recovery.
- ◆ **NYS DEC Flood Plain Management** - www.dec.state.ny.us/website/dow/
The mission of the Bureau of Flood Protection is to reduce loss of life from flooding, dam breaks, and erosion; reduce economic loss to new and existing development; and to encourage appropriate flood plain development planning and wise choices by local officials, developers and private citizens.

Other

- ◆ **FEMA, Emergency Management Institute, Community Rating System Resource Center:**
training.fema.gov/EMIWeb/CRS/index.htm
- ◆ **Technical Tools for Watershed Management, EPA:**
<http://www.epa.gov/docs/owow/watershed/tools/index.html>

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STRATEGY 1.22

Develop and implement site design criteria which aims to minimize the impacts of development on waterways.

Timeframe

SHORT TERM

INTERMEDIATE

LONG TERM

Steps	Leadership Role (C/M/P)	Status (A/P/C)
Investigate the viability of development techniques that reduce stormwater runoff in rural areas such as: reducing impervious cover, neighborhood planning options, and groundwater recharge options.	C	P
Incorporate the communication of these methods into existing communications and trainings with town regarding land use planning.	C/P	P
Encourage municipalities to adopt NYS recommended stormwater regulations and guidelines into their code.	C/P	P
Provide training opportunities for town officials, especially code enforcement officers, to understand the role they can play in ensuring proper site development.	C	P
Encourage towns to provide more resources to their CEO's to enable them to work more closely with developers as projects are constructed to ensure compliance.	C/P	P



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Resources

Documents

- ◆ **Better Site Design: A Handbook for Changing Development Rules In Your Community.**
Center for Watershed Protection
- ◆ **New York State Standards and Specifications for Erosion and Sediment Control.**
- ◆ **New York State Stormwater Management Design Manual.**

Organizations and Programs

- ◆ ***Nonpoint Education of Municipal Officials—National Program*** - nemo.uconn.edu
This is an educational program for local land use officials that addresses the relationship of land use to natural resource protection.
- ◆ ***Center for Watershed Protection*** - www.cwp.org
Provides local governments, activists, and watershed organizations around the country with the technical tools for protecting streams, lakes and rivers.
- ◆ ***Pace Law School, Land Use Law Center*** - www.pace.edu/lawschool/landuse/index.html
Dedicated to fostering the development of sustainable communities in New York State.
- ◆ ***NYS Department of State Division of Local Government*** - www.dos.state.ny.us/lgss
Provides training and technical assistance to local governments and community organizations throughout the state and helps local officials solve problems involving basic powers and duties, public works, municipal organization, planning, land use and regulatory controls, and community development.
- ◆ ***NYS DEC Stormwater Information*** - www.dec.state.ny.us/website/dow/mainpage.htm

Funding Sources

- ◆ **An Internet Guide to Financing Stormwater Management:**
stormwaterfinance.urbancenter.iupui.edu

Other

- ◆ **The Stormwater Manager's Resource Center** - www.stormwatercenter.net

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STRATEGY 1.23

Work with agencies and organizations to understand water resource needs for ecosystems and the municipal role in meeting those needs.

Timeframe

SHORT TERM
INTERMEDIATE
LONG TERM

Steps	Leadership Role (C/M/P)	Status (A/P/C)
Work with knowledgeable organizations like the National Park Service and The Nature Conservancy to determine how to incorporate water resources for ecosystems in to open space planning efforts at the beginning.	C	A
Work with existing partners to inform municipalities and citizens on the role healthy ecosystems play in healthy communities.	C/P	P



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Resources

Organizations and Programs

- ◆ **Upper Delaware Scenic and Recreational River, National Park Service**
www.nps.gov/upde/index.htm
- ◆ **NYS Department of Environmental Conservation** - www.dec.state.ny.us
NYS DEC exists to "conserve, improve, and protect New York State's natural resources and environment, and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall economic and social well being."
- ◆ **The Nature Conservancy** - www.nature.org
The Eastern NY Chapter is involved in two landscape-scale projects in Sullivan County: the Neversink/Delaware River Basin Program and the Catskill Mountain Program.
- ◆ **Catskill Center for Conservation and Development** - www.catskillcenter.org
Non-profit organization working to protect the cultural, historical, and natural resources of the Catskill Mountains.

Other

- ◆ www.catskillalliance.org/index.html
- ◆ ny_specs@yahoo.com
- ◆ <http://www.sustanhv.org/index.html>
- ◆ <http://www.greenmap.org/>
- ◆ <http://www.shawangunkridge.org/>