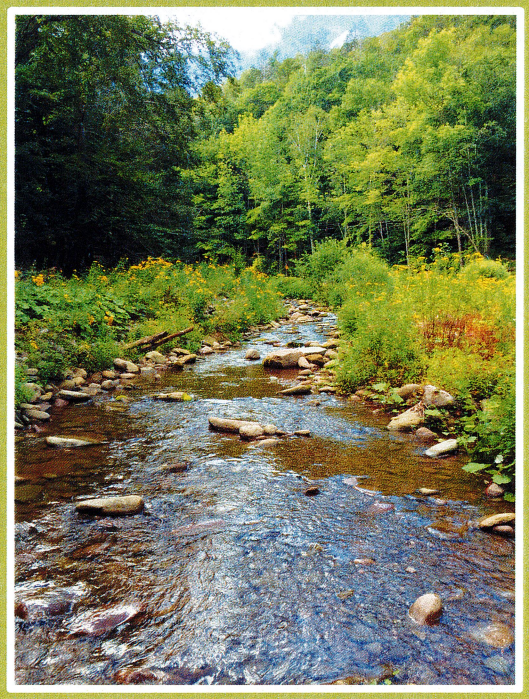
LAND USE LAW CENTER

2018 LULA Training for the
Wallkill River Watershed

WATER QUALITY & QUANTITY PROTECTION



Preserving natural features and fostering compact development are critical first steps to protecting water quality. In addition, communities may consider other specific strategies to protect water quality and quantity:

Water Quality:

- **Protect drinking water sources**
- **Regulate potential pollution sources**
- **Control erosion**
- **Manage stormwater with natural filtration**

Water Quantity:

- **Protect aquifers**
- **Manage stormwater to reduce runoff and increase infiltration**

Why is water quality protection important?

Protecting drinking water from pollution is essential to community health and safety. This includes both groundwater that feeds wells, and surface water reservoirs and rivers that are used for municipal supplies.

Other waterbodies may also need protection. Some communities regulate specific pollution sources, including maintenance of septic systems; storage of salt and hazardous materials; application of fertilizer, pesticides and manure; and activities like mining and hydrofracking.

Because sediment can clog drainage ways, harm stream habitat, and carry phosphorus, controlling erosion is critical. Erosion control comes into play in construction site management, clearing and grading, timber harvesting, and steep slope protection laws.

Why is water quantity protection important?

In a natural system, most rain water is absorbed into the ground to recharge groundwater, and slowly flows toward waterbodies. When that process is interrupted, there can be two problems: (1) When aquifers are not recharged, drinking water shortages can result, and stream base flow can be depleted. (2) When water runs off too quickly, it can cause erosion and flooding downstream.

Reducing impervious surfaces and managing stormwater with green infrastructure can help maintain or mimic natural hydrology. Benefits include preserving aquifer recharge to maintain groundwater supplies, maintaining stream base flows, and preventing runoff-driven streambank erosion and flooding. This is especially important to mitigate effects of climate change including heavier storms, hotter summers and longer dry periods.

TOOLS

Ordinance: Ordinances typically regulate both construction and other activities in protected areas throughout the municipality. They often contain a permitting process to allow disturbance under prescribed conditions.

Conservation Zoning District: Establishing a defined zoning district for a sensitive area allows the municipality to limit land uses in that area.

Overlay District: An overlay district can span parts of multiple zoning districts, adding extra requirements for sensitive areas. This technique is frequently used to protect stream corridors

Allowed Uses: A community can ban unwanted uses in a specified area or throughout the municipality.

Special Use Permit: Uses can be allowed only if awarded a Special Use Permit. The zoning code can specify the criteria for when that use will be allowed.

Critical Environmental Area: Municipalities can designate CEAs through a simple process, and subsequent projects in those areas will need to consider effects on the sensitive resources. More information: https://www.dec.ny.gov/permits/6184.html

LOCAL EXAMPLES

DRINKING WATER - GROUNDWATER

Protection of subsurface water sources takes two main forms: Aquifer protection focuses on preserving the quality and quantity of water throughout an aquifer system. Wellhead protection focuses on the area directly around a public water supply well to prevent pollution.

Town of Warwick – Wellhead Protection
Chapter 159 – Wellhead Protection
A short chapter on wellhead protection provides basic pollution controls for municipal and private water supply wells.

Town of Warwick – Aquifer Protection Overlay District (focus on water quality)
Section 164-47.2 – "Aquifer Overlay District" in zoning code
The town mapped key aquifers and recharge areas, and established an overlay district intended to prevent groundwater pollution. Various uses and activities are prohibited in the district.

Town of Goshen – Aquifer Protection Overlay District (focus on water quantity)
Section 97-27 – "Aquifer Overlay District" in zoning code
The town conducted a Potable Water Study that mapped the town into watersheds. Residential density is limited to 3 or 6 units per acre based on watershed. The code also incorporates pollution controls.

Town of Shawangunk – Aquifer Protection Critical Environmental Area & Overlay District
"Wallkill Public Water Supply, Water Shed, & Aquifer CEA"
A Critical Environmental Area covering the Tin Brook Aquifer protects drinking water wells for the hamlet of Wallkill: https://www.dec.ny.gov/docs/permits_ej_operations_pdf/wallkillpws.pdf
Section 177-6(N) – "Aquifer Protection Overlay (AQ-O)" in zoning code
An overlay zone complements the CEA by placing controls over development to protect both the quality and quantity of water in the Tin Brook Aquifer.

Town of Wawayanda – Aquifer Protection Overlay Districts
Section 195-25 – "Water supply protection" in zoning code
The town created two overlay zones to protect its aquifers: The first protects the immediate area around the public water supply, and the second expands to the contributing watershed. A comprehensive set of regulations limits potentially polluting uses and requires special stormwater controls. The code also requires special use permits for "any proposed use or activity that removes 1,000 gallons per day or more from the aquifer."

Town of Clinton (Dutchess County) – Zoning District to Protect Lakes and Aquifer
Section 250-10 – "Conservation Agricultural Residential (C) District" in zoning code
The "C" district was drawn specifically to protect the watershed of three lakes that provide important habitat, as well as to preserve water quality in an aquifer. Limited uses are allowed, and district regulations restrict potentially polluting activities.

Town of Dover (Dutchess County) – Aquifer and Wellhead Protection Overlay District
Section 145-14 – "Aquifer Overlay District" in zoning code
This ordinance includes wellhead protection buffers as well as broad protection for mapped aquifer areas. It regulates numerous potentially polluting uses and activities in the designated area.

Town of Amenia (Dutchess County) – Aquifer Protection Overlay District
Section 121-15 – "Aquifer Overlay District" in zoning code
This detailed ordinance regulates activities in multiple zones based on aquifer mapping. It promotes both water quality and quantity protection. It is based on the Dutchess County model aquifer protection law:
http://www.co.dutchess.ny.us/CountyGov/Departments/Planning/16891.htm

DRINKING WATER – SURFACE WATER

Town of Goshen – Reservoir Protection Overlay District

Section 97-26 – "Stream Corridor and Reservoir Watershed Overlay District" in zoning code

Goshen's stream protection overlay district also includes all lands lying within the Village of Goshen water supply reservoir watersheds. It requires site plan review and erosion control for projects that wouldn't otherwise receive those protections.

Town of Newburgh – Reservoir Protections through SEQRA and Critical Environmental Area

Section 185-22(C) – "Chadwick Lake Critical Area of Environmental Concern";
"Chadwick Lake Reservoir Environs CEA"

The town designated a Critical Environmental Area around Chadwick Lake, a drinking water source. The code specifies that all development in CEAs should be treated as Type 1 actions under SEQRA, and it specifies limits for development within the Chadwick Lake CEA in particular.
https://www.dec.ny.gov/docs/permits_ej_operations_pdf/chadwicklkres.pdf

POTENTIAL POLLUTION SOURCES

Town of New Paltz – Prohibition of Polluting Uses and Hydrofracking

Section 140-9 – "Prohibited industrial uses" in zoning code

The extensive list of prohibited uses in New Paltz reflects a variety of environmental and community concerns. Numerous potentially polluting industrial uses are prohibited, along with natural gas exploration and extraction.

Town of Rosendale – Prohibition of Natural Gas and Petroleum Extraction

Section 75-9 – "Prohibited uses" in zoning code

Exploration for and extraction of natural gas and petroleum are prohibited townwide, along with associated activities.

Septic Systems

Communities in the Croton watershed (which serves New York City) have septic system maintenance requirements to reduce septic failures. This approach could be adopted in other sensitive watersheds. See, e.g.:

Town of North Castle (Westchester) – Chapter 254: "Sewer Systems, Private"
Town of Pawling (Dutchess) – Chapter 159: "Septic Systems"

STORMWATER MANAGEMENT

New York State requires certain standards for erosion control on construction sites, as well as long-term (post-construction) stormwater management for larger projects. In denser "MS4" communities, the municipality must ensure compliance.

Upgrade opportunities:

(1) Non-MS4 communities can adopt stormwater regulations and review each project's stormwater pollution prevention plan (SWPPP).
(2) MS4 communities can require stormwater controls for projects smaller than the statewide thresholds.

DEC provides a model local law and other tools: https://www.dec.ny.gov/chemical/9007.html

Town of Warwick – Enhanced Stormwater Controls
Section 164-47.10 – "Stormwater management" in zoning code
Warwick's zoning code establishes goals for stormwater management, including minimizing total runoff rates, recognizing stormwater as a valuable resource, and even integrating artistic elements into stormwater practices. In addition to DEC-mandated controls, it adds a level of "intermediate SWPPP" for activities deemed to present potential pollution risks due to soils, slopes, proximity to sensitive resources, and other criteria.

Village of New Paltz – Enhanced Stormwater Controls
Chapter 165 – "Storm Sewers and Stormwater Management"
The Village requires post-construction stormwater controls for smaller disturbances than the state mandates. A full SWPPP can be required for projects with land disturbance of 5,000 square feet that create impervious cover of 1,000 square feet. (§ 165-29(A)(2)).

EROSION CONTROL

Timber Harvesting
Tree removal operations should be carefully managed to reduce soil erosion and disturbance of streams and wetlands.

Town of Wawayanda – Forestry Regulations in Zoning
Section 195-43 – "Forestry" in zoning code
Requires site plan approval and special use permit, with specific permit requirements, for commercial forestry operations.

Town of Pine Plains (Dutchess County) – Special Use Permit Requirements
Section 275-56(P) – "Commercial logging/timber harvesting" in zoning code
Requirements to receive a SUP for logging include permits for stream and wetland disturbance. The Planning Board can seek advice from the Soil & Water Conservation District in reviewing the plan. The Zoning Administrator may stop work if conditions make soil erosion probable.

Town of Pawling (Dutchess County) – Comprehensive Timber Harvesting Regulations
Chapter 187 – "Timber Harvesting"
This full chapter of timber harvesting regulations requires thorough review and permitting of operations.

Steep Slopes
Development on steep slopes is susceptible to erosion.

Town of New Paltz – Development Restrictions on Steep Slopes
Article XV – "Steep Slope Protection" in zoning code
On slopes over 15%, special permitting requirements are imposed.

Town of Cortlandt – Development Restrictions on Steep Slopes
Chapter 259 – "Steep Slopes"

On slopes over 15%, special permitting requirements are imposed.

Soil Based Controls
Several towns in Orange County incorporate regulations in their zoning and subdivision codes based on soils. Goals include reducing erosion, ensuring septic system function, etc.

Town of Chester – Soil-Based Building Controls
Sections 83-25 and 83-26 – "Soil Groups" in subdivision code
For each soil type, the code states whether septic systems are allowed and identifies erosion risk level. For soil types that typically pond with water, the code requires replacement of stormwater storage lost due to development.

Town of Wallkill – Soil-Based Subdivision Limits
Based on soil group, the code assigns an environmental factor that limits subdivision density.
Section 209-23 – "Soil Groups" in subdivision code

RESOURCES

Wallkill River Document Library – *Wallkill River Watershed Alliance*
The WRWA hosts a thorough library of documentation for the Wallkill River, including water quality information and planning documents.
http://www.wallkillalliance.org/documents/

Waterbody Inventory – *NYS Department of Environmental Conservation*
For each river, stream and lake, the inventory provides an overview of water quality conditions and potential pollution sources.
https://www.dec.ny.gov/chemical/36730.html

Orange County Resources – *Orange County Water Authority*
Groundwater studies: http://waterauthority.orangecountygov.com/groundwater.html
Water Master Plan: http://waterauthority.orangecountygov.com/county_plans.html

Stormwater Management Guidance Manual for Local Officials – *NYS Department of Environmental Conservation*
This guide discusses municipalities' opportunities to mitigate stormwater pollution and includes a sample local law.
https://www.dec.ny.gov/chemical/9007.html

Green Infrastructure Examples for Stormwater Management in the Hudson Valley – *Hudson River Estuary Program*
Take a virtual tour of green stormwater practices in use throughout the Hudson Valley.
https://www.dec.ny.gov/lands/58930.html

Green Infrastructure Video Series – *Lower Hudson Coalition of Conservation Districts*
This video series showcases green infrastructure types with an explanation of how they work.
https://www.lhccd.net/green-infrastructure.html

Reviewing Stormwater Management in Site Design: A Guide for Planning Board Members – *Lower Hudson Coalition of Conservation Districts*
Planning Board members can learn how to use NYS stormwater regulations to press for better site design, including preservation of natural features, minimizing impervious surfaces, and effectively incorporating green infrastructure practices.
https://www.lhccd.net/uploads/7/7/6/5/7765286/planning_board_sw_guide_2015.pdf

Road Salt: Moving Toward the Solution – *Cary Institute for Ecosystem Studies*
The Cary Institute maintains a wealth of information on the problem and solutions to road salt pollution in the Hudson Valley.
http://www.caryinstitute.org/science-program/research-projects/road-salt/road-salt-moving-toward-solution

Water Resource Laws, Policies and Watershed Protection – *Hudson Valley Regional Council*
A set of fact sheets and articles covers various aspects of stream and watershed protection, including NYS Watershed Rules and Regulations for drinking water sources.
http://hudsonvalleyregionalcouncil.org/regional-initiatives/water-resource-laws-policies-and-watershed-protection/

Gaining Ground Database – *Pace Land Use Law Center*
This library of local laws contains examples from New York State municipalities.
https://appsrv.pace.edu/gainingground/