



CNY Stormwater Coalition

Gardens and Gutters

A Central New Yorker's Guide to Managing Stormwater Runoff

Volume 2 Number 1

Spring 2014

Spring into Action for Water Quality

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Congratulations! If you are reading this, you survived the long, cold winter of 2013 - 14. There were many days that felt as if Spring would never arrive! The transition that is taking place right now from winter into spring is perhaps one of the most active and vibrant transitions of the year.

After being cooped up for one of the coldest winters in recent memory, everyone is eager for the longer, warmer days of spring and the opportunities they bring to engage in favorite outdoor activities and pastimes. Whether you favor boating, swimming, gardening, or enjoying a picnic by the lake, healthy local waters enhance the enjoyment of many of our favorite outdoor activities. So, what can we do to help keep our waters healthy? A great place to start is by keeping stormwater clean and out of the gutter!

Stormwater runoff occurs when water from rain and snowmelt flows over the ground. Impervious surfaces like paved driveways, sidewalks, and streets prevent stormwater from soaking into the ground, often creating an excess of stormwater. This excess can pick up pollutants (such as oil, grease, chemicals, nutrients, metals, and bacteria), and flow into stormwater systems or directly to streams, lakes, and wetlands. Anything that enters the stormwater system is discharged untreated into the waterways we use for swimming, fishing, and drinking water.

Fortunately, there are many things that we can all do to help keep our stormwater clean and protect our health and the environment. This edition of **Gardens and Gutters** contains useful information and tips to help you get started this spring. If, however, you can't wait to get outside and enjoy the day, the following *quick start list* will help speed you on the way to improved water quality.

1. Keep as much stormwater as possible off of paved surfaces.
2. Keep the stormwater that does run off as clean as possible.

So, what are you waiting for? Get out there and enjoy another bright and beautiful Central New York Spring! You deserve it!



Our Water.

Our Future.

Ours to Protect.

Test Your Stormwater Stewardship Savvy

Do you think you are doing a good job managing stormwater and water quality in your community? Find out by taking this simple test.

Choose the answer that best describes your personal habits. If a question doesn't apply, answer what you would most likely do in that situation. Do not leave any questions blank. Use the number of your answer as its point value. Add up your points for all 10 questions and check your rating at the end.



Litter Habits

1. I sometimes litter
2. I never litter and usually recycle
3. #2 above, plus I have participated in a neighborhood, park or stream cleanup



Storm Drains

1. I have put pet waste, trash, yard waste, oil or paint down a storm drain
2. I never dispose of anything down a storm drain
3. #2 above, plus I sweep leaves and debris away from nearby storm drains



After my lawn is mowed, the grass clippings are:

1. Collected and tossed onto the side of the road, a stream bank or vacant land
2. Collected and used as compost/mulch, or properly disposed of as yard waste
3. Left in place on the lawn



The following approach is used when fertilizing my lawn:

1. The more fertilizer the better, and I leave overspread where it falls
2. I follow the guidelines on the fertilizer bag, and sweep up all overspread
3. I use phosphorus free fertilizer only as needed or not at all, and I avoid any overspread



I manage steep slopes on my property by:

1. Ignoring any runoff that washed off or eroded the slope
2. Channeling rainwater away from the slope to where it can slowly seep into the ground
3. Maintaining native vegetation on the slope to stop erosion



When walking my dog, I usually:

1. Leave waste where it is or drop it down a storm drain
2. Move the waste to a less traveled location, such as a field or woods
3. Pick up the waste and dispose of it down the toilet or in the trash

Test Your Stormwater Stewardship Savvy (continued)

Most of the rainwater running off my roof is directed to flow:

1. Down the driveway
2. Onto my lawn or garden
3. Into a rain barrel



I typically wash my car:

1. In my driveway, where the wash water flows into the street
2. On my lawn, where the wash water can seep into the soil
3. At a commercial carwash, where the wash water is recycled and treated



Car Care:

1. I ignore fluid leaks from my car for as long as possible
2. I check for fluid leaks and repair them promptly
3. #2 above, plus I follow my car's complete maintenance schedule



My driveway is made of:

1. Asphalt or a similar NON-porous pavement
2. Gravel or other stone
3. Porous or permeable pavement



Score of 1—10

By greening up your stormwater habits, you will significantly help to improve the water quality in our community.

Score of 11—20

You are already helping to improve local water quality, but you can still do more!

Score of 21—30

Congratulations on being a savvy stormwater citizen! Please keep up the good work, educate others and strive for all 30 points!

For more information on how you can improve your stormwater savvy, visit the Central New York Stormwater Coalition's website at

WWW.CNYRPDB.ORG/STH2O

Litter (lit'ər) n. Trash that has not been disposed of properly. Examples include items thrown from car windows such as cans, bottles, wrappers, and cigarette butts.

You can help redefine the condition of CNY's stormwater.

Don't Litter.

**Stormwater...
A vital water resource**

Stormwater (stōrm'wōtər)n. Rainwater that flows from streets, parking lots, and other hard surfaces into streams and lakes. Also transports litter into streams and lakes.

A Homeowner's Guide to Making Residential Property More Stormwater Friendly



Why your neighbor's grass is greener

Maybe your neighbor already knows that mowing high means a healthier, greener lawn. The ideal height for grass is three inches. That's because taller grass has deeper, healthier roots. Once you've got tall grass, don't make the common mistake of mowing it too short. Cut off just 1/3 of the blade each time you mow, and leave those grass clippings on the lawn. They're ideal fertilizer. Grass clippings are packed with essential nutrients, plus they provide organic matter, which reduces soil compaction.

It's True! You can have a healthier lawn with less work!

One of the greatest threats to water quality comes from increased land development. Increased development leads to less rain-water soaking into the ground where it is naturally filtered before returning to our streams and rivers. Instead, more water runs off our properties and travels along our impervious corridors of driveways and streets, picking up pollutants along the way and carrying them to our streams and lakes.

So, what can you do? Every parcel of land impacts water quality. You can decrease the impact that your property has on water quality by reducing the amount of pollutants and stormwater generated from your lot.

This guide presents a step by step approach for analyzing your property to find out whether it makes sense to install a rain garden or other residential stewardship practice. The goal is to reduce the volume of stormwater that runs off of your property along with the pollutants it carries such as phosphorus, sediment, and pathogens.

A good first step is to walk around your lot and assess the site conditions. This simple

and fast assessment will help you determine which stewardship practices are best for your property.

STEP 1. MAP YOUR LOT

Begin by obtaining a recent aerial photo of your property. You can do this by using Google Earth, or check to see if your county has mapping and GIS available on the web.

You can obtain roof dimensions and property boundaries directly from your property deed. Next, draw the boundary dimensions of your property on a piece of graph paper, and then sketch in the roof, any decks, sheds or pools, the driveway and sidewalks, major trees, and any landscaping beds. The rest is usually turf.

You don't need to be perfect but try to draw it to scale, using five or ten feet per square on the graph paper depending on the size of your lot. Next, pace off or measure the approximate dimensions of all your hard surfaces and landscaping areas. Determine the total hard surface area on your property by entering the dimensions into a table following the example below.

Basic Data on Lot Cover for My Home			
LOT COVERAGE	AREA: SQ. FEET	% OF LOT	SKETCH OF PROPERTY
HARD SURFACES		28%	
Roof-tops	3,360		
Driveway/Sidewalk	2,790		
PERVIOUS COVER		72%	
Trees/Landscaping	5,500		
Lawn	10,130		
TOTAL	21,780		
NOTE: 43,560 square feet = one acre.			

This guide is adopted from the *Homeowner Guide For a More Bay-Friendly Property* which was written and developed in 2013 by the Chesapeake Stormwater Network in association with the Chesapeake River Wise Communities Program and numerous other collaborators. The full guide contains extensive information on designing stormwater management practices and can be downloaded as a PDF by clicking [HERE](#).

A Homeowner's Guide to Making Residential Property More Stormwater Friendly (continued)

STEP 2. FIGURE OUT YOUR NATURAL PLUMBING

It's pretty simple, water flows downhill. Most lots are graded to move rainwater away from the home and down to the street, or in some cases, the back yard. Your job is to define the flow path of runoff in your lot.

Most lots have multiple flow paths. Start by finding each of your downspouts and look down slope to see where the water goes. Pay special attention to see if the flow path extends to your driveway, and from there to your street. These areas are usually great candidates for stewardship practices that divert and soak up runoff and remove pollutants.

Some downspouts already flow over lawn, landscaping or trees and infiltrate into the ground. These downspouts are good because the runoff is disconnected and never reaches the street or stream. In other cases, the flow path from the downspout runs over a few feet of grass before reaching the street or driveway. These are often excellent locations for stewardship practices such as rain gardens.

You may find that there are downspouts that are connected directly to the street via an underground pipe. With a bit of ingenuity, the underground pipe can be partially dug out and replaced with a rain garden.

STEP 3. FIGURE OUT YOUR OTHER PLUMBING

Underground utilities are definitely one of the great inventions of the 20th century, but they can complicate the design of your residential stewardship practices. If you are a homeowner doing an outdoor project, having underground utilities marked before you start digging is essential for protecting yourself and others from injury and for preventing damage to underground utilities. Contact [Dig Safely, New York](#) at least 2 working days before you plan to start your project to request that your underground utilities be marked. Failure to mark your underground utilities in advance of digging can be costly and dangerous!



STEP 4. ASSESS SOIL QUALITY IN YOUR YARD

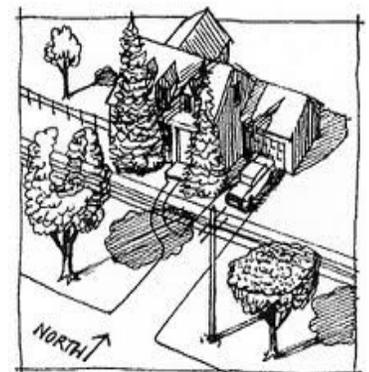
Healthy soils are the foundation for any vigorous lawn, conservation landscape, or rain garden. It is a good idea to have your soil tested before starting any soil dependent project.

For information on soil tests and interpreting soil test results, visit the [Cornell Nutrient Analysis Laboratory](#) website. CNAL provides a wide-range of analysis for researchers, educators, farmers and home gardeners. You can also download a copy of [Cornell Soil Health Assessment Training Manual, 2nd Edition \(2009\)](#)

STEP 5. CHECK YOUR SOLAR EXPOSURE

Go back to your aerial photo of your yard and check to see how much tree canopy exists over your yard. If you have less than 25% tree canopy, you may want to consider planting more trees since they also add to the market value of your home and can help reduce your heating and cooling costs. The U.S. Department of Agriculture Forest Service has a handy, downloadable guide to help you identify what types of tree species you may want to plant and where they should be located, called [Part 3 Urban Tree Planting Guide](#).

The next task is to determine the solar exposure of your property to see if the plants will receive full sun or be partially shaded. Your solar exposure is determined by three factors: the orientation of your property in relation to the east-west path of the sun;



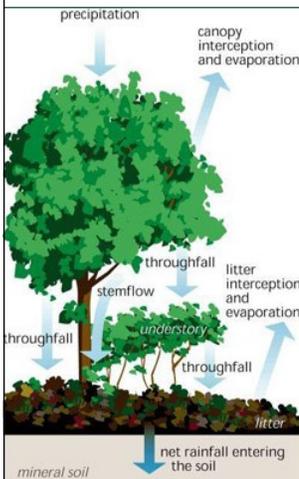
A Homeowner's Guide to Making Residential Property More Stormwater Friendly (continued)

The Role of Trees in Stormwater Management

Trees help reduce stormwater runoff and improve water quality by capturing large amounts of rain through their root systems and canopies. A mature street tree can absorb over 1000 gallons of water a year.

Trees help reduce soil erosion. Soil can be lost to strong winds and runoff, but tree roots bind to the soil and prevent soil loss. Tree canopies intercept and reduce the velocity of raindrops that do hit the soil.

Trees help mitigate flooding. Trees evapotranspire large amounts of water from the soil. Mineral soils below trees absorb and retain water which is released over time.



shading by the existing tree canopy in your yard (and often your neighbors); and the shading effect of your home.

North or west-facing areas of your yard often will be shadier. To more accurately depict the amount of shade your yard receives, you should map your shade. To learn how to map your shade, visit the [Garden Continuum's](#) website for easy-to-follow instructions.

STEP 6. PULLING IT ALL TOGETHER IN A PLAN

Now you have all the basic data you need to make your property more stormwater friendly and to choose the stewardship practices that best meet your environmental objectives and your lawn and landscaping preferences.



Image of a typical suburban lot with planned GI practices mapped

The types of practices that you select will be based entirely on site characteristics and personal preference. To ensure that your green infrastructure functions as anticipated, you will probably need to do some additional research to refine plant choices, building and paving materials, soil amendments, and sizing criteria for the practices you select. It's important to remember that all stormwater green infrastructure requires some degree of maintenance and care but, the amount is often less than what is needed for traditional landscaping and construction.

The six most frequently employed residential stormwater practices are rain gardens, riparian buffers, tree plantings, native meadows, pervious pavers, and rain barrels. The following food for thought will help get you started in the selection process.

Rain Garden: A depressed garden that uses mulch, soil, and deep-rooted native plants to capture, absorb, and infiltrate stormwater.

Considerations: Construct down slope of runoff to be captured; plant in spring or fall; locate at least 10 feet from building foundations.

Benefits: Manages stormwater & filters pollutants; wildlife habitat; little maintenance; adds beauty.

Negatives: Plants can take 2 – 3 years to establish; more maintenance required in first few years.

Maintenance: Low once established; weeding and watering in first two years; some thinning & re-planting in later years.

Aesthetic appeal: Ranges from medium to high; can customize based on plant selections.

Riparian Buffer: Planting native trees and shrubs along streams and wetlands to restore the streamside area to more forest-like conditions. Riparian buffers filter runoff and have numerous water quality benefits.

Considerations: Plant in spring or fall; locate at least 10 feet from building foundations.

Benefits: Increases infiltration and groundwater recharge; improves water quality; controls erosion & sedimentation; provides wildlife habitat.

Negatives: Not as effective on steep slopes; more difficult to implement than some other practices.

Maintenance: Low once native plants are established; weeding and watering in first two years; some plant thinning in later years; regularly remove debris and excessive sediment accumulations.

Aesthetic Appeal: Ranges from medium to high.

A Homeowner's Guide to Making Residential Property More Stormwater Friendly (continued)

Tree Planting: Planting native trees and shrubs to restore a portion of your property to forested/woody vegetated conditions.

Considerations: Plant in spring; monitor and control invasive species; select trees based on assessment of growing patterns relative to space considerations and limitations.

Benefits: Increases stormwater infiltration and evapotranspiration; filters pollutants; requires little maintenance; provides wildlife habitat; large canopy of trees maximizes benefits.

Negatives: Takes years to provide maximum benefit; regular maintenance is required where invasive species exist; must guard against deer browsing and vole damage.

Maintenance: Maintain tree tubes, stakes or cages; mow between trees at least twice during first 4 - 5 years; prune to ensure and maintain good branching habits.

Aesthetic appeal: High aesthetic appeal as trees add interest, structure, color and wildlife to property.

Pervious Pavers: Impervious building materials such as stone, concrete or brick, laid with spaces in between to allow for pervious areas (gravel, sand, vegetation) in driveways, parking areas or walkways.

Considerations: Need to install permeable sub-base; locate a minimum 10" from building foundations.

Benefits: Increases infiltration and groundwater recharge; reduces volume and rate of runoff.

Negatives: More labor intensive to install than other practices; nonconventional option to pavement.

Maintenance: Moderate to high maintenance; grass between pavers may have to be mowed; inspect for signs of clogging; pressure wash and replace pea stone as needed.

Aesthetic appeal: Ranges from low to medium; artistic designs with layout can increase aesthetic appeal.

Native Meadow: An area planted with native grasses and wildflowers and maintained as a natural area. "NO MOW" areas can also develop into meadow areas.

Considerations: Plant in spring; monitor and control invasive species.

Benefits: Increases stormwater infiltration and evapotranspiration; filters pollutants; requires little maintenance; provides wildlife habitat.

Negatives: Site preparation (including turf grass removal) is required before planting; meadows may conflict with local weed ordinances.

Maintenance: Mow two times a year for the first two years, mow annually after that; control invasive plant species.

Aesthetic appeal: High aesthetic appeal as tall grasses and wildflowers add interest, structure, color and wildlife to property.

Rain Barrel: A barrel that captures rainwater from roof and stores it for later use, such as watering flowers and shrubs.

Considerations: Place on level, raised surface; a full rain barrel weighs 400 pounds.

Benefits: Conserves water; captures and reuses stormwater.

Negatives: Minimal volume captures; poor construction or maintenance can increase habitat for mosquito breeding.

Maintenance: Clean screen/filter regularly; clean gutters twice annually; monitor during severe storms to avoid overflow; empty and clean before winter storage.

Aesthetic appeal: Ranges from low to medium depending on type of barrel used.

Invasive Species Alert!

Invasive species are non-native species that can cause harm to the environment, economy or human health. They contribute to habitat degradation, loss of native fish, wildlife and tree species, loss of recreational opportunities and income, and can damage crops and cause disease in humans and livestock. When native grasses, shrubs and trees that stabilize stream banks are out-competed by, or die as a function of invasive species infestation, shoreline stabilization, flood protection and water filtering benefits can be lost. All of these examples have negative implications for stormwater control measures that reduce the volume and pollutant concentration of stormwater.

Before you conduct any tree planting, learn which invasive species are anticipated and which ones are already in your area. The Emerald Ash Borer, for instance, has been confirmed in 16 NYS counties including Onondaga and Cayuga, and the Hemlock Woolly Adelgid is in Cayuga County and on the move.

For more information visit the [NYSIS clearinghouse](#) website.



CNY Stormwater Coalition

The CNY Stormwater Coalition was formalized in 2011 in order to establish a regional approach to stormwater management and water resource protection. The Coalition is made up of 27 cities, towns, villages, and counties that operate Municipal Separate Storm Sewer Systems (MS4s). Through the Coalition, municipalities are working together to meet regulatory requirements while improving water quality.

CNY STORMWATER COALITION MEMBERS

Camillus Town	Baldwinsville Village
Cicero Town	Central Square Village
Clay Town	East Syracuse Village
DeWitt Town	Fayetteville Village
Geddes Town	Liverpool Village
Hastings Town	Manlius Village
LaFayette Town	Marcellus Village
Lysander Town	Minoa Village
Manlius Town	North Syracuse Village
Marcellus Town	Phoenix Village
Onondaga Town	Solvay Village
Pompey Town	Syracuse City
Salina Town	
Van Buren Town	Onondaga County

Thank You for Your Service!

David Tessier stepped down as Chair of the CNY Stormwater Coalition in February, 2014. Under David's guidance and leadership, the CNY Stormwater Coalition is stronger and more resilient than ever. Thank you David, for your time and support!



Mary Ann Coogan (Vice Chair) and Anthony DeStefano (Village Representative) also stepped down in 2014. Along with David, Mary Ann and Anthony have worked to improve municipal stormwater management and water quality in CNY since 2003. Thank you all!

The CNY Stormwater Coalition is staffed and coordinated by the Central New York Regional Planning & Development Board. For more information, visit the CNY Stormwater Website at www.cnyrpd.org/stormwater.



Central New York Regional Planning & Development Board

CNY Stormwater Coalition Elects New Executive Committee for 2014-2015

At its February 4, 2014 meeting, the following slate of officers was unanimously approved by the attending members of the CNY Stormwater Coalition to serve a two-year term:

Chair	Jason Hoy (Town of Van Buren)
Vice Chair	William Morse (Town of Geddes)
Treasurer	James Craw (Village of Fayetteville)
Village Representative	Pamela DiCarlo (Village of N. Syracuse)
Town Representative	James Conlon (Town of DeWitt)
At-Large Representative	Mary Robison (City of Syracuse)
At Large Representative	David Coburn (Onondaga County)

2014 CNY Stormwater Coalition Meeting Schedule

The CNY Stormwater Coalition meets quarterly throughout the year. Meetings are normally held on Tuesday afternoons from 1:00 to 3:00 at various municipal buildings around the region. All meetings are open to the public, and your attendance and participation are always welcomed! Please verify the following meeting dates and locations one-day in advance by checking the [CNY Stormwater Coalition's Website](#) or by calling 315-422-8276 Ext. 208.

May 6, 2014

Liverpool Village Hall, 310 Sycamore Street, Liverpool, NY

August 5, 2014

DeWitt Town Hall, 5400 Butternut Drive, East Syracuse, NY

November 4, 2014

Geddes Town Hall, 1000 Woods Rd., Solvay, NY (date subject to change)

You're Invited...

RAIN BARREL ART GALA & RAFFLE

Wednesday, April 30, 5:30 PM—7:30 PM

Rosamond Gifford Zoo

1 Conservation Place, Syracuse

- Exhibition and raffle of contest rain barrels
- Prizes awarded to top barrels in each category
- Refreshments

Join Save The Rain to recognize more than 20 artists. Vote for your favorite rain barrel design on the [Save the Rain](#) website. The voting period will continue at the gala.

Contact Amy Samuels at asamuels@oei2.org or 443-1757 for more information.

