



## CNY STORMWATER COALITION

# *Gardens and Gutters*

## *A Central New Yorker's Guide to Managing Stormwater Runoff*

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## ***When It Rains, It Pours!***

*Central New York has experienced more than its share of severe storm events this summer and many of us have dealt with flooded basements and roads. Extended periods of wet weather can cause problems with saturated lawns and soil erosion that impacts fisheries and recreation activities in nearby waterbodies. In between the rain events, we've had high temperatures, often reaching 90 degrees or above. This edition of Gardens & Gutters provides helpful ways to protect lawns, gardens, and local water resources during periods of excessive heat and heavy precipitation.*

Heavy rain events can produce large amounts of stormwater runoff. As it flows over paved surfaces such as rooftops, parking lots, and bare soil, the runoff collects and transports pollutants such as animal waste, litter, road salt, pesticides, fertilizers, oil and grease from vehicles, grass clippings, and soil from construction sites.

The stormwater travels over roads and through ditches to drainage pipes that empty into nearby streams, rivers, or lakes. Stormwater that contains phosphorus and other pollutants degrades water quality, impacts fisheries, and poses a threat to human health. Excess stormwater also can overwhelm storm drains, resulting in flood damage to homes and municipal infrastructure



such as roads, bridges culverts, and sewers. The amount of stormwater runoff during a rainfall event is influenced by several factors such as the extent of impervious surface, topography, the type and amount of vegetation, and soil type.

The goal of stormwater management is to slow the rate at which the stormwater moves and to minimize the types of pollutants it picks up

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## When It Rains, It Pours!, *continued*

along its route. The most cost effective way to manage stormwater is at the source, where the contaminants can be identified, reduced or contained. For example, the proper use and handling of fertilizers and pesticides can prevent pollutants from entering local waterways.

Listed below are additional ways to reduce stormwater runoff from your property.

- Plant grasses, shrubs, and trees in areas where stormwater runoff collects and along stream-banks and lake shorelines. The tree and plant roots will absorb and filter polluted runoff while reducing the threat of flooding. Vegetation also slows the flow rate of stormwater runoff so that pollutants and sediment can settle out of the water. Tree canopies slow the velocity of rainfall which protects soil and slows erosion.
- Choose permeable material when designing a path, patio, or driveway. Use bricks, gravel, natural stone, or permeable pavers instead of asphalt or concrete. Permeable products will allow rain water to soak into the ground.
- Install a rain barrel or cistern to collect and store precipitation runoff from the roof and use the water to irrigate your garden. A shallow, gravel-filled trench is also an effective way to divert and slow stormwater runoff, especially at the base of a slope or along a driveway or patio.
- A rain garden is an effective way to control stormwater runoff. A rain garden is a constructed vegetated area that is used to temporarily retain stormwater runoff during storm events. Plants are used to filter pollutants and the garden provides an opportunity for water to slowly filtrate through the soil.
- Cover bare soil with mulch or a ground cover to reduce erosion and slow stormwater runoff. Apply mulch around garden plants and trees. Two or three inches of mulch, such as bark chips or leaves, can also add nutrients to the soil and will shade out weeds in plant beds.
- Only rain belongs in the drain! Don't dump any home, vehicle, or yard waste down the storm drain and clear away leaves and debris. Cover piles of soil, sand or mulch to prevent the material from being washed into storm drains, ditches or culverts.
- Use lawn and garden chemicals sparingly in order to minimize potential runoff to local water resources. Choose organic alternatives when possible and check the weather forecast to avoid applying them before a storm. Manage weeds between cracks and stone areas without the use of chemicals by applying vinegar or pour boiling water over the plants.
- Try to keep your lawn at least 3" in height to minimize weed growth, reduce the need for watering, and decrease the likelihood of pests. Leave the clippings on the lawn to block weeds and retain moisture. Sweep your sidewalks and driveway rather than hosing them down.
- Keep your septic system well-maintained to prevent leaks. A leaking septic system can leach harmful bacteria into storm sewer systems and local waterways. It is important to keep your system well-maintained to prevent costly repairs as well. Have your system inspected every three to five years by a trained professional.

## Dog Days of Summer



### ***Sound Advice:*** **Don't Drip and Drive!**

*Be sure to keep automobiles and gas-powered lawn and garden equipment (such as riding mowers and lawn tractors) well maintained and in good repair. Poorly-maintained vehicles and garden equipment can cause oil, gasoline, and coolant to drip onto roads, parking lots, and driveways. During rain storm events, these pollutants can flow into nearby lakes and streams, causing harm to humans, fish, plants, and wildlife.*

Many people in Central New York refer to August as the “dog days of summer” to describe the hottest and most sultry time of year. The name originated from the ancient Romans who associated the hottest days of summer with the star Sirius. Sirius was known as the “Dog Star” because it was the brightest star in the constellation Canis Major (Large Dog).

August is usually the hottest month, but it doesn't actually have anything to do with dogs or Sirius. Instead, the tilt of the earth explains why this time period tends to be the hottest. During summer the sunlight hits the Northern Hemisphere at a more direct angle and for a longer period of time which results in longer, hotter days.

During this time, everything seems leisurely and still – except mosquitoes, of course – and the sun threatens to bake lawns, gardens, and gardeners alike. During periods of hot summer weather, most lawns, flowers, and vegetable plants can shut down. However, there are plenty of chores to do in the lawn and garden. These chores are best done in the early morning or late evening when the temperature is more comfortable. Listed below are a few suggestions to guide you and your plants safely through the summer heat.

### **Lawn Maintenance and Preparation**

Prepare for fall grass seed planting by leveling low spots, removing weeds, and choosing your seed if it needs to be ordered in advance.

Aerate your lawn and dethatch it. To help your grass beat the heat, reduce the mowing frequency and keep your lawn mower blades on the

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## Dog Days of Summer, *continued*

highest setting. Don't worry if parts of your yard turn brown this time of year – it will likely recover.

### Annuals and Perennials

Spring and summer-flowering perennials can be divided and transplanted after blooming. Transplant during the coolest part of the day and preferably in the shade. Trim and fertilize your containers – they still have time for another show.

Deal with late-season pests such as aphids, whiteflies, and spider mites with a spray of water from the hose. Treat diseased plants, and remove diseased foliage before leaves drop.

Prune back vigorous climbers such as wisteria, and train them around trellises while the growth is soft. Propagate plants by collecting seeds or cuttings.

Continue deadheading! For prolific bloomers like coreopsis and catmint, shear them lightly to encourage more blooms. Label your plants with garden stakes, especially perennials that die down to the ground in the fall.

### Vegetables and Herbs

Dry or freeze your herbs for winter use. Fall vegetable and herb seeds or starters can be planted now. Consider spinach, radishes, carrots, beets, lettuce, overwintering onions, kale, kohlrabi, rutabagas, turnips, dill, cilantro, parsley, and chives.

### Shrubs and Trees

Pick up and destroy fallen fruit from fruit trees to limit insect infestations. Make sure newly planted



Photo source: <https://www.todayshomeowner.com>

shrubs and trees get plenty of water. Install stakes for training and shaping.

### Plan Ahead

Choose plants for next year's garden. Some plants are more heat tolerant than others. Okra, butter beans, and cherry tomatoes can usually handle heat, along with watermelon, black-eyed susans, daylilies, hibiscus, succulents, spruces, and pines. Place orders for spring bulbs. Place orders for shrubs and trees to plant in the fall.

Apply compost starter to new compost to speed up decomposition for fall use. Take pictures, or make notes, of plants you like while they're blooming and full of leaves. Are your hostas looking fried? Do your hydrangeas stay wilted no matter how much you water them? Take note of sun- and heat-stressed plants so you can transplant them this fall to better spots.

### Garden and Yard Maintenance

Early morning is the best time to water your plants. Avoid getting leaves wet in the hot sun, and avoid soaking containers during the hottest part of the day – both of these practices can burn

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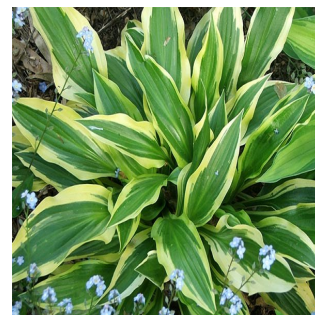
## Dog Days of Summer, *continued*

plants. Water the lawn deeply and infrequently. Provide the lawn and garden one inch of water at a time. If conditions are hot and dry, increase the frequency of watering but not the amount.

Keep close watch on your birdbath and hummingbird feeder. Take steps to correct or avoid mold, stagnation, and opportunities for mosquito larvae to grow. Continue weeding to reduce competition for water and nutrients.

Beware of powdery mildew, which is caused by moisture and humidity. Help prevent mildew by watering in the cool of the morning when roots can absorb water but excess will evaporate as the day warms. Also avoid overhead sprinkling in mildew-prone areas. Do not compost leaves that are mildewed.

When the temperature is over 85 degrees, avoid chemical applications such as fertilizer, fungicide, or insecticide. Add mulch to cool the soil and hold moisture. Choose well composted mulch in hot weather rather than fresh manure or grass clippings.



Stay cool, and enjoy the bounty of your work!

*This information was adapted from an article by [Julie Day](#).*

### No Need to Fuss With These Chores!

*When the temperature is above the 90°, there are several lawn and garden chores that are best left undone.*

Don't fuss with the fertilizer. Your plants aren't absorbing much right now and too much fertilizer can burn them. Fertilizer applications combined with excess sun exposure will require extra energy for grass and can create stress for the lawn. This can lead to scorched spots in your yard. Reduce lawn mowing chores until the weather cools down. Set your mower blade higher, and mow just often enough to keep your yard looking tidy. If you need to plant or transplant flowers, set up a temporary tent to keep them shaded from the sun. Leaves help to cool plants so don't bother with pruning trees and shrubs in very hot weather. Also, pruning can encourage tender growth, which requires more water and gentler conditions. Remove only the dead or diseased branches during hot weather.



## Integrated Pest Management



*Japanese Beetle*

No one wants to deal with insect pests, whether they're in your garden, inside your home, on your children or pets, or in your lawn. But remember to take care when using products to control them. If pesticides are applied in excessive amounts or before a storm event, polluted stormwater runoff can flow to local lakes, streams and into the groundwater. Some products may contain strong chemicals that could be harmful to people, pets, and the environment.

Integrated Pest Management (IPM) refers to a common sense approach to pest control. IPM encourages the use of non-chemical remedies before pesticides are used. Successful IPM reduces damage from pests and manages them in ways that reduce risks to water resources and human health. It can be used to target a wide range of undesirable nuisances such as detrimental insects, diseases, and weeds.

IPM can include cultural, physical, and mechanical pest control options. The NYS DEC provides the following IPM ideas to combat yard and garden pests.

- Grow pest-resistant plants, shrubs, and trees. For example, plant Kousa dogwood instead of flowering dogwood. Plant choices should also be based on soil conditions and climate.

- Avoid injury to tree trunks from lawn mowers and weed whackers that enable pests to gain footholds.
- Destroy diseased plant leaves and roots and clean up plant debris at the end of the season.
- To combat weeds, maintain an adequately fertilized lawn. Hand dig weeds and spot-treat when needed.
- Use alternatives to chemical pesticides. For example, insecticidal soaps are effective against aphids, mealybugs, whiteflies, scale, and some other pests. *Bacillus thuringiensis* or "Bt" is a bacterium that combats leaf-eating caterpillars and other insects. It is sold in garden stores.
- Pay attention to organic matter, watering, and other conditions to promote healthy plants. Don't grow closely related plants (e.g., tomatoes, peppers, eggplant) in the same location each year. Rotation prevents insect infestations, decreases the spread of diseases, and lessens the depletion of soil nutrients.
- Encourage beneficial insects which kill pests by growing large flowers for them to land on and feed (such as Queen Anne's lace, daisies, fennel, dill) and by limiting pesticide applications.

There are some problems that can't be alleviated by a non-toxic approach. In these cases, the use of chemical pesticides in combination with other non-chemical pest management methods should be applied. Use pesticides wisely and remember that one size does not fit all. Always read the label and do not over-apply.

*For additional information, check out "Green Thumbs for Blue Watershed" <http://www.cayugacounty.us/portals/0/wqma/greenthumbs/landscape.htm>*

## Safety Considerations When Tackling Insect Pests

Careless application of pesticides, herbicides and fertilizers affect the health of living organisms and cause ecosystem imbalances. Choose organic alternatives when possible and check the weather forecast to avoid applying them before a rain storm. When selecting a pesticide for use in your yard or garden, read the label carefully to determine if it is safe for people, pets, and beneficial insects such as pollinators. Follow the general guidelines found below to reduce the risk of harmful side-effects.



Mint

Use repellent products only if they are registered by the US Environmental Protection Agency and have an EPA Registration Number. These products have been tested for toxicity and effectiveness. Avoid the use of products containing more than 30-35% DEET.

Only apply as much repellent or pesticide as you need for protection and avoid the tendency to overuse it. If longer protection is needed, reapply as needed. Follow the label directions to learn

how much to apply and how often, whether it can be applied to skin and/or clothing, special instructions for children, hazards to humans, physical or chemical hazards, and first aid.

Certain herbs and essential oils can naturally repel mosquitoes. For example, the scents of citronella, lemongrass and chrysanthemum deter mosquitoes and are non-toxic. Scented candles placed on your outdoor table will keep bugs away.

Grow insect-repellent plants in your garden such as lemon balm, mint, chrysanthemums, marigolds, basil, garlic, lavender, and rosemary. A simple at-home solution for mosquito control is coffee grounds. Coffee grounds placed in standing water in your yard will kill mosquito eggs before they hatch and will prevent them from breeding further.

Reduce the need for repellents by dressing in long-sleeved shirts, and long pants with bottoms tucked into boots or socks. For additional information, go to <https://www.health.ny.gov/publications/2749/>

### ***Get Involved!***

There are many ways that residents and concerned citizens can improve water quality. Participating in a volunteer water monitoring program such as Project Watershed CNY is a great way for families and friends to work together to monitor the health of local waterbodies. Cornell Cooperative Extension offices often sponsor opportunities for concerned citizens to participate in stream cleanups, storm drain stenciling and tree planting events. Another way to help your community is to become involved in recycling programs sponsored by your local resource recovery agency. Household hazardous waste, batteries and lawn and garden clippings are just a few of the special collection programs that are offered by the Onondaga County Resource Recovery Agency. And of course, remember to clean up after your pet! Put the waste in a bag and dispose of it in the trash to prevent harmful bacteria from washing into local waterways.

## CNY STORMWATER COALITION

The CNY Stormwater Coalition was formed in 2011 in order to establish a regional approach for stormwater management and water resource protection. The Coalition is made up of 30 local governments and the NYS Fairgrounds. Each member operates a Municipal Separate Storm Sewer System (MS4). Through the Coalition, members are working together to meet regulatory requirements while improving water quality.



### CNY STORMWATER COALITION MEMBERS

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

The CNY Stormwater Coalition meets quarterly throughout the year. All meetings are open to the public. Check the Coalition's website for the times, dates, and additional meeting details.

The CNY Stormwater Coalition is staffed and coordinated by the Central New York Regional Planning and Development Board. For additional information, visit the CNY Stormwater website at [www.cnyrpd.org/stormwater](http://www.cnyrpd.org/stormwater)



Central New York Regional Planning & Development Board

## Harmful Algae Blooms

Harmful Algae Blooms (HABs) have been identified in several Central New York lakes this summer. Exposure to water during these outbreaks can cause health problems for people, pets and wildlife. HAB outbreaks are caused by cyanobacteria and the blooms generally occur during extended periods of warm weather with high nutrient levels in the lake. You can help to reduce the threat of HABs by controlling stormwater runoff, limiting lawn and garden fertilization (especially phosphorus), maintaining septic tanks, planting rain gardens and vegetative buffers, and controlling soil erosion from your property.

### Important Things to Know About HABs

People, pets and livestock should avoid contact with water that is discolored or has algae scums on the surface. Colors can include shades of green, blue-green, yellow, brown or red. If contact does occur, rinse thoroughly with clean water to remove algae.

Never drink untreated surface water, whether or not algae blooms are present. The water may contain bacteria, parasites or viruses, as well as cyanotoxins that could cause illness if consumed. People not on public water supplies should not drink surface water during an algal bloom, even if it is treated, because in-home treatments such as boiling, disinfecting water with chlorine or ultraviolet light, and water filtration units do not protect people from HABs toxins.

Stop using water and seek medical attention immediately if symptoms such as vomiting, nausea, diarrhea, skin, eye or throat irritation, allergic reactions or breathing difficulties occur after drinking or having contact with blooms or untreated surface water. Report any health symptoms to your physician and the NYS Department of Health or contact your local health department.

If you suspect that you have seen a HAB or you, your family, or pet has been in contact with a bloom, report it to the NYS DEC. For additional information, contact your regional DEC office or go to the DEC HABs FAQ page at <http://www.dec.ny.gov/chemical/83310.html#Important>



CNY Stormwater Coalition



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