

My RAIN GARDEN



A Coloring Book About Safer Communities:
Rain Gardens



Oh no! It rained and now my yard is wet.
I see a big puddle by my soccer net.



How can I keep this water from making a pond?
I know, a rain garden will help like a magic wand!



I will use the right plants, soil and trees.
The garden will soak up the water with ease!



Now my yard is safer and less likely to flood.
Does your town have too much water and mud?



Glossary



Flood

A flood happens when rising water flows over ground that is usually dry, because it has nowhere else to go. Flooding can happen when there is too much rain or when snow or ice melts too quickly.



Puddle

A puddle is a small pool of water.



Rain Garden

A rain garden is made of plants, trees and stones that help soak up water. Worms, bugs and butterflies can make this their home too.



Rain

Rain is water that falls from clouds in the sky.



Soil

Soil is the earth under your feet. It's made of many different things, like rock, water, air and living and nonliving things.



Soak Up

This is what happens when something takes in a lot of water, like the roots of a plant or a rain garden.

Activity

Going on a Nature Hunt

Did you know some things in nature soak up water and other things don't? To help stop flooding or puddles from forming in your yard or town, it's best to have more things that soak up water.

Let's follow the steps below and go on a nature hunt for some things that we can test.

Things you'll need:

- small bag
- small cup of water
- paper plate
- pencil

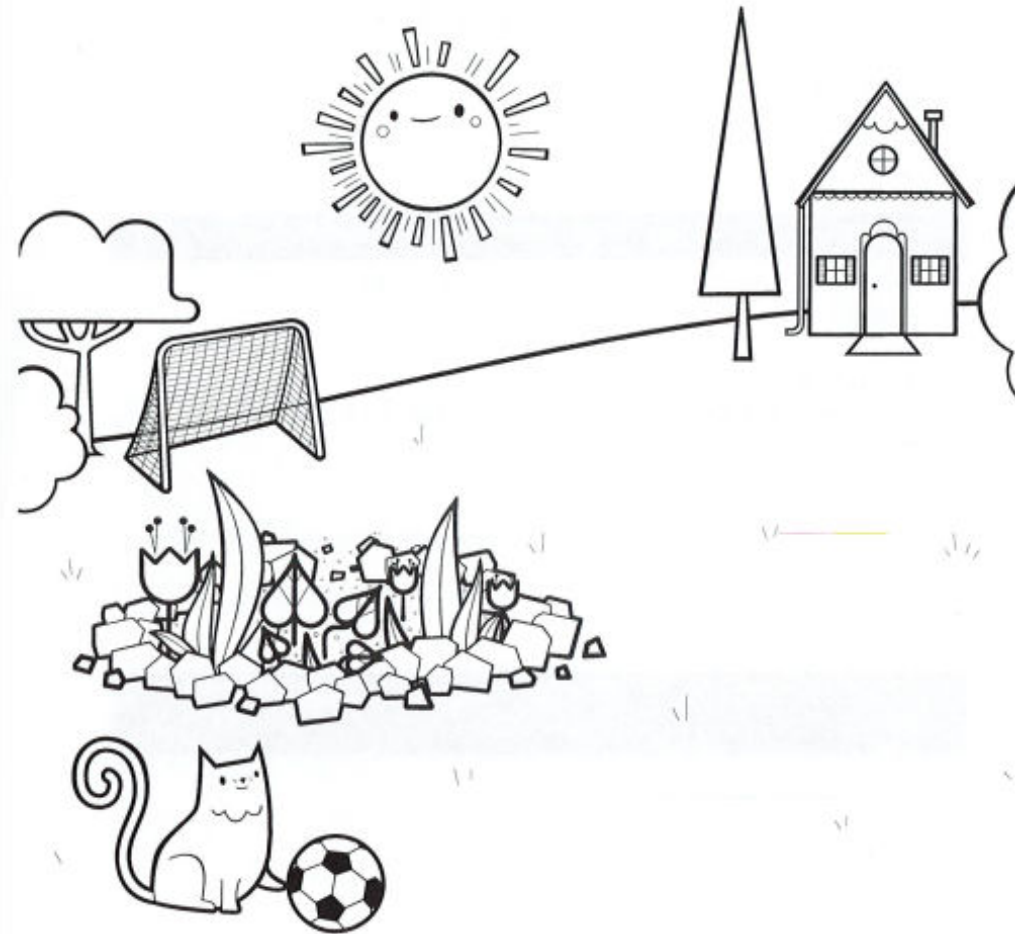
1. Find a small bag.
2. Go outside and collect some things in nature like rocks, bark and dirt and put them in your bag to test.
3. Take your bag inside and empty it onto a paper plate.
4. Write down the things you collected below.
5. Then, guess what will happen when water is poured over the things you collected. Will it soak in or run off? Write your guess below.
6. Finally, fill a small cup with some water and pour it over each of the things you collected.
7. Write down if the water soaked in or ran off.

Things I Found Outside

My Guess:
Soak Up or Run Off?

What Happened?

Now, you know some of the things you need to keep in your yard to soak up water and stop puddles from forming. A yard with no puddles is a safer yard!



For more information, check out:
<https://www.floodsmart.gov/flood>



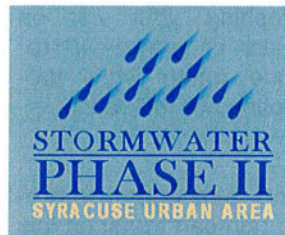
FEMA

**THE BENEFITS OF AN
ATTRACTIVE YARD GO
BEYOND IMPRESSING
THE NEIGHBORS**

Healthy lawns and landscaping can make a yard look attractive while improving your property value. Simple measures to maintain your yard can also reduce erosion and nutrient runoff and improve water quality in nearby lakes and streams. This brochure contains a few easy tips for homeowners that will keep local water resources clean.



*Contact your local Cornell
Cooperative Extension office for
additional information on soil
testing and nutrient
management practices.*



This brochure was created by the Central New York Regional Planning and Development Board as part of a public stormwater education program jointly funded by the following municipalities: the towns of Camillus, Clay, Dewitt, Geddes, LaFayette, Lysander, Manlius, Marcellus, Onondaga, Salina, Sullivan, Van Buren, Hastings, Cicero, West Monroe, and Pompey, the Villages of Baldwinsville, East Syracuse, Liverpool, Phoenix, Fayetteville, Manlius, Marcellus, Minoa, North Syracuse, Solvay, the City of Syracuse, and Madison and Onondaga Counties.

**Landscaping
Tips**



***Convenient ways
to achieve a
beautiful yard
while protecting
the environment***



Environmental guidelines for maintaining a healthy, attractive yard and garden

Test your soil before applying fertilizer.

Commercial fertilizers often contain high levels of phosphorus, but most soils in central New York have adequate levels of the nutrient to maintain a healthy lawn. Excess fertilizer applied to your lawn and garden can flow into the storm sewer system and end up in local lakes and streams where it promotes the growth of unwanted algae and aquatic plants. Look for low- or



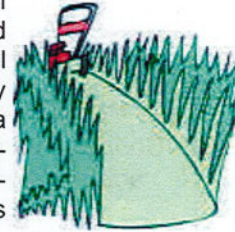
no-phosphorus products when applying fertilizer and carefully follow the application rates found on the bag. Also remember to check your soil pH. Proper pH levels will improve the efficiency of the

nutrient absorption in your lawn and garden, thereby saving you time and money. Lime should be used to adjust the pH of the soil to between 6.5 and 7.2.

Never apply fertilizer before a rainstorm.

Heavy rainfall can cause excess fertilizer to flow into the storm sewer system and end up in local lakes and streams. Save time and money by applying a slow-release fertilizer in the early spring and allowing time for gradual soil infiltration.

Mow your lawn at regular intervals. Proper mowing is the most effective way to maintain a healthy lawn. The root system binds the soil to reduce the flow of water during heavy rainstorms. This minimizes soil erosion, nutrient loss, and excess strain on local storm sewers. A healthy lawn also contains bacteria and other microscopic organisms that filter pollutants as the water moves through the soil.



Leave the clippings on the lawn after mowing.

This will save time and money and will promote a healthy turf. Grass clippings return organic matter, nitrogen, phosphorus, and other nutrients to your lawn, thereby reducing the need for fertilizer applications throughout the summer. Studies have shown that grass recycling reduces the need for fertilizer by 25%. If the grass gets too high, then mow over the clippings to shred and scatter them.

Conserve water. Water your lawn and garden plants in the early morning or late afternoon to minimize water loss from evaporation, and sweep your sidewalks and driveways rather



than using a hose. Divert roof water to lawns or gardens to further conserve water and reduce stormwater runoff. Washing your car on grass or gravel will reduce runoff while promoting soil infiltration.

Cover piles of soil, sand, and mulch to prevent erosion. Wind and rain can transport this material from your yard into nearby lakes and streams, where it reduces aquatic habitat and promotes unwanted weed and algae growth.

Create a compost pile. Put leaves and other yard waste in a compost pile. Place the compost at the base of vegetable plants, flowers, or shrubs to recycle nutrients and organic matter, minimize soil erosion, and reduce the need for commercial fertilizer.

Limit your use of pesticides. Inappropriate use of pesticides can harm humans, pets, and the environment. Use alternatives (biological controls) whenever possible to tackle problems with weeds and insects. If pesticides are used, carefully follow the recommended timing, frequency, and application rates found on the container.



Recycle or dispose of yard, household, and automotive chemicals with care. Keep gardening products, pet waste, pesticides, oil, and gasoline, out of the storm drains. These products will contaminate groundwater resources if they are poured on the lawn or driveway.

“Think green” when gardening and follow these simple recommendations to protect local water resources

Rain Barrel Basics

A rain barrel is a container that collects and stores rainwater from rooftops and gutters for future uses. Water in a rain barrel is not potable, but can be used to water garden plants, wash or rinse outdoor furniture and cars or simply be released at drier time thus decreasing the volume and velocity of runoff that leaves your property during a major rain event.

A rain barrel is typically placed under the downspout from a roof. This is a technology that has been used for thousands of years!

Why Rain Barrels?

Collecting rain reduces the amount of rain water from roofs that runs off lawns and into sewer systems. Stormwater runoff has the potential to carry pollutants to local waterways, especially during a heavy rain that produces high volumes and velocity of flows.

Rain barrels can help reduce the amount of stormwater, and thus pollutants, going into Onondaga Lake and other local waterways.

Rain barrels help prevent pollution, but also prevent flooding, conserve water, and reduces your own water bill!



The CNY Stormwater Coalition is a collaboration between the Central New York Regional Planning and Development Board and local governments in the Syracuse Urbanized Area to meet conditions of the NYS MS4 General Permit and improve local water quality.

CNY STORMWATER COALITION MEMBERS

Onondaga County, City of Syracuse, Towns of Camillus, Cicero, Clay, DeWitt, Geddes, Hastings, LaFayette, Lysander, Manlius, Marcellus, Onondaga, Pompey, Salina, Sullivan, Van Buren. Villages of Baldwinsville, Camillus, Central Square, East Syracuse, Fayetteville, Liverpool, Manlius, Marcellus, Minoa, North Syracuse, Phoenix, Solvay and the NYS Fairgrounds.

Contact Us!

Email: stormwater@cnyrpdb.org
Web: www.cnyrpdb.org/stormwater



A GUIDE TO RAIN BARRELS



Anatomy of a rain barrel

Down spout: The down spout is connected to gutters in your roof. To install the rain barrel, you will need to attach the downspout to the barrel.

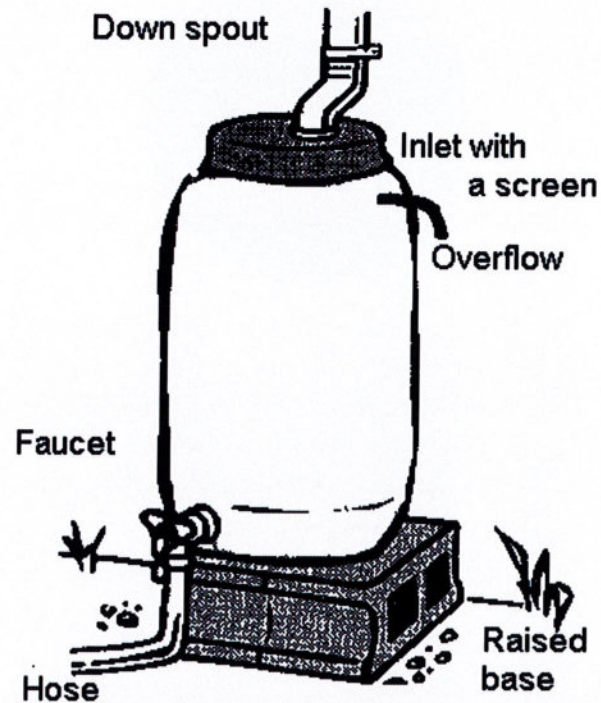
Inlet and screen: The inlet is where you connect the down spout into the rain barrel. A screen will keep insects and other unwanted debris, like leaves and twigs, from entering the barrel.

Faucet: Located at the bottom of the barrel, this is where you will let water out.

Hose: Attach a hose to the outlet spigot at the bottom of your barrel to use water throughout your yard. This is not necessarily required, but very useful!

Overflow: An overflow pipe allows water out if the barrel fills to capacity.

Raised Base: It is best to put your barrel on a raised platform so gravity can help water flow through the faucet.



Catch the Rain: Tips

Roll Out the Rain Barrel in the Spring : Wait until the last frost to install your rain barrel.

The right place to install: Choose a downspout that is close to where you want to use the water. Make sure the ground is solid and level. Gravel, wooden boards, or concrete slabs can create a firm base. Your barrel should be elevated off the ground with cinder blocks to ensure good water pressure from the barrel.

Check the Screen: Make sure the screen is always tightly secured so nothing can get inside. Patch any holes in the screen.

Cleaning: Clean with vinegar or soap and water, then rinse it out before winter storage or spring reinstallation.

Overflow: During heavy rains, check that water is diverted **away** from the house and that the barrel is not overflowing. If the overflowing barrel becomes a problem, reinstall the barrel onto a smaller section of roof or add additional barrels.

Leaks: Use plumbing putty to seal any leaks around the hardware

Winter Storage: Disconnect the barrel in October and store indoors. If you must leave the barrel outside, remove the hoses, open the spigots and turn it upside down to allow any water to drain out.

Stormwater Runoff and Pollution

Stormwater runoff is water from rain or melting snow that does not soak into the ground. It flows from rooftops, paved areas, bare soil, and lawns into storm drains or ditches.

Storm sewers and ditches collect stormwater runoff and convey it directly to water bodies without treatment. Ideally, stormwater runoff would be free of contaminants. In reality, it picks up pollutants such as animal waste, pesticides, fertilizers, salt, oil and grease, soil and debris and transports them to waterways where they are discharged with no treatment.

Polluted stormwater degrades our waterways limiting drinking water sources and recreational assets, as well as disrupting the balance of aquatic ecosystems.

Storm sewer systems cannot treat polluted water. Stormwater doesn't get carried to the wastewater treatment plant. Storm sewers transport rain water and everything in it directly to surrounding rivers, streams, lakes, and other bodies of water.



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Contact Us!

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Web: www.cnyrpdb.org/stormwater



Illicit Stormwater Discharges

Identifying & Preventing Stormwater Pollution In Your Neighborhood





What is an Illicit Discharge?

An illicit (illegal) discharge is any discharge to a municipal storm sewer system, including storm drains, pipes, and ditches, that is not composed entirely of water.

Pollutants end up in storm sewer systems in a number of ways, many of which are easily preventable. In some instances, companies or residences have waste pipes tapped into stormwater pipes. In other cases, individuals use the storm drain inlets to dispose of various types of waste.

Disposal of anything other than stormwater in storm sewers is illegal!

Only Rain belongs in the Drain!

Examples of Illicit Discharges

- Septic Tank Seepage
- Illegal Sanitary Connections
- Laundry Wastewater / Detergent
- Improper Waste Oil Disposal
- Auto Fluids Flushing
- Paint, concrete
- Pesticides and Fertilizers
- Improper Disposal of Hazardous Waste
- Pool / Spa Discharge
- Cooking Grease
- Household Waste



Signs of an Illicit Discharge

If an outfall is flowing but there has not been rain or snow melt in the last 72 hours, this may indicate an illicit discharge. Visible sewage waste, foul odor, suds or other evidence of contamination, are also indicators that an illicit discharge is causing water pollution.

You Can Protect Water Quality!

- Never dump anything down storm drains
- Use lawn and garden chemicals sparingly; sweep up any excess from driveways, sidewalks, and roads
- Repair vehicle leaks; cover spilled fluids with kitty litter then sweep into household waste
- Pick up after your pet and dispose of waste properly
- Control soil erosion on your property by planting ground cover and stabilizing erosion-prone areas
- Keep grass clippings, leaves, litter, and debris out of street gutters and storm drains
- Direct downspouts onto grassy areas away from paved surfaces
- Use a commercial car wash or wash your vehicle on the grass instead of the driveway
- Dispose of used oil, antifreeze, paints and other household chemicals in an approved manner

If you see something, say something!
Report illicit discharges to
Onondaga County at
315-435-3157

PHOSPHORUS CAN CAUSE SERIOUS PROBLEMS

Excess phosphorus in freshwater lakes and ponds can cause algae overgrowth, with serious impacts to the environment and public health:

- Heavy mats of algae deplete the water of oxygen that fish need to survive.
- Algae overgrowth makes water recreation unpleasant and potentially harmful.
- Algae growth may cause carcinogens to form in drinking water during chlorination.
- Phosphorus feeds blooms of toxic algae, creating health risks to people and animals.

Does the law apply to...?

- Pesticide/fertilizer combination products ("weed and feed") – **YES, when these products contain over 0.67% phosphorus**
- Organic phosphorus fertilizer (such as bone meal) – **YES**
- Agricultural fertilizer – **no**
- Fertilizer for trees, shrubs or gardens – **no**
- Compost – **no**

For more information:

General information on the phosphorus runoff law:

www.dec.ny.gov/chemical/67239.html

Frequently asked questions about lawn fertilizer:

www.dec.ny.gov/chemical/74885.html

Green lawns and gardens:

www.dec.ny.gov/public/44290.html

Blue-green harmful algal blooms:

www.dec.ny.gov/chemical/77118.html

Cornell Cooperative Extension:

<http://cce.cornell.edu>

Contact Information

New York State Department of Environmental Conservation
Division of Water
625 Broadway, Albany, NY 12233-3508
518-402-8086
DOWinformation@dec.ny.gov

CONNECT WITH NYSDEC



www.dec.ny.gov

Buying Fertilizer?

LOOK FOR THE ZERO

Protect Your Waters



32-0-4

"0"

in the middle means environmentally friendly, phosphorus-free fertilizer.

ZERO IN THE MIDDLE

means phosphorus-free and that means...

Zero pollution –

Phosphorus is one of the leading causes of water pollution. Even if you live far from a water body, excess phosphorus from your lawn can wash off and pollute lakes and streams, harming fish and ruining boating and swimming. More than 100 water bodies in the state cannot be used for drinking, fishing or swimming because they contain too much phosphorus.

Zero waste –

Why pay for a chemical your lawn doesn't need? Generally, only newly established lawns or those with poor soil need phosphorus. Phosphorus applied to a lawn that doesn't need it won't be used and can cause water pollution. Do a soil test if you are unsure.

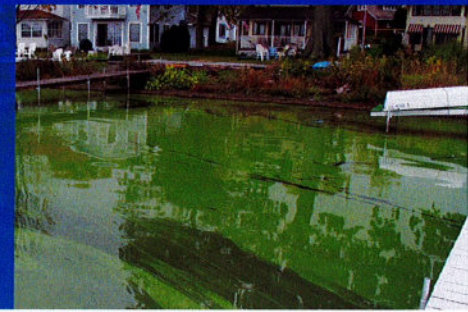
Zero hassle –

It's against the law to use phosphorus on lawns that don't need it. (New York State Environmental Conservation Law, article 17, title 21 and Agriculture and Markets Law § 146-g) Check local laws, too—some municipalities have stricter laws about selling and using lawn fertilizers.

Use a guard, deflector, or drop spreader to keep fertilizer at least 3 feet away from water bodies



Algae can ruin boating and swimming



Fertilizing Your Lawn...

DO NOT:

- ⊘ Use lawn fertilizer that contains phosphorus unless you are establishing a new lawn, or a soil test shows that your lawn does not have enough phosphorus.
 - ⊘ Apply any lawn fertilizer December 1 - April 1.
 - ⊘ Apply fertilizer on sidewalks, driveways or other impervious surfaces. If fertilizer spills onto these surfaces, you **MUST** sweep it up to prevent it from washing into drains or waterways. Do not hose it off.
 - ⊘ Apply lawn fertilizer within 20 feet of any water body unless...
 - there is at least a 10-foot buffer of shrubs, trees, or other plants between the area you are fertilizing and the water,
- OR**
- fertilizer can be applied no closer than 3 feet from the water using a device with a spreader guard, deflector shield or drop spreader.

...the Right Way

Look for the zero!

Before buying, check the fertilizer bag for a set of three numbers showing the percentage of nitrogen, phosphorus and potassium. Buy a bag with a "0" in the middle.

What should I see at the store?

Retailers who sell fertilizer must display phosphorus-containing fertilizer separately from phosphorus-free fertilizers and post a sign near the display.

Test your soil

If you think your lawn might need extra phosphorus, test your soil. Tests cost \$10-\$20. There are several options:

- Have testing done through your local Cornell Cooperative Extension office.
- Find a commercial laboratory that tests soil.
- Use a home test kit. These tests tend to be less accurate and do not come with fertilizer recommendations.

PREVENT ICE

AND WATER POLLUTION WITH THESE SALT SMART TIPS!

SHOVEL

Clear walkways before the snow turns into ice! Only use salt if needed.



SELECT

Only apply salt when needed! Salt won't melt ice below 15 degrees! If it is too cold, use sand for traction instead.



SCATTER

Apply salt only where needed. About one mug full of salt is enough for a 20 foot walkway.



SWEEP

Clean up leftover salt after snow and ice melt.



THE TROUBLE WITH SALT

Once salt is in the environment it doesn't go away. Stormwater runoff and snow melt carry it through storm sewer systems to our lakes, streams and rivers. Chloride from salt degrades freshwater ecosystems and can corrode infrastructure.

It only takes 1 teaspoon of salt to pollute 5 gallons of water to a level that is toxic to native aquatic organisms (395 mg/L).



Contact Us!

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Web: www.cnyrpd.org/stormwater



PREVENT STORMWATER POLLUTION AT HOME



COLLECT THE RAIN

Install a rain barrel to collect rain from your roof and gutters. Rain barrels are available at hardware stores, or learn how to DIY.

FERTILIZE SMART

Most likely your soil has plenty of nutrients to support plants. Always test your soil before using fertilizer to make sure the added nutrients are necessary. You can get soil test kits from the local Cornell Cooperative Extension.

LANDSCAPE WITH NATIVE PLANTS

Native plants have much longer tap roots that absorb more water and are better at preventing erosion than turf grass. As an extra bonus they are low maintenance and more drought tolerant than common turf grass or ornamentals!

PICK UP PET WASTE

Pet waste can carry bacteria to waterways. Always scoop up pet waste immediately.

SALT SMART

Road salt helps us clear roads for safe travel in the winter but a little goes a long way. Make sure to only use what you need, opt for more environmentally sound solutions and sweep up any extra salt left after the snow melts.

DON'T DUMP

Only rain belongs in storm sewers. Never dispose of anything else in a storm drain. Always take these items to facilities for proper disposal and prevent accidents.

SKIP THE CHEMICALS

Skip pesticides. It is safer for you, your pets, and your family to enjoy a synthetic chemical free yard and garden. It's better for the birds and the bees and it's best for our water too!

SEE SOMETHING, SAY SOMETHING

If you see, or suspect, chemical dumping in a storm sewer call the 24/7 hotline hosted by Onondaga County to report. 315-435-3157



www.cnyrpdb.org/stormwater
stormwater@cnyrpdb.org



SCOOP THE POOP



Pet waste contributes to water pollution

- Stormwater runoff washes bacteria and phosphorus from left behind pet waste directly into waterways.
- Bacteria, parasites and viruses in pet waste are a health risk to other animals and people, especially children.
- Phosphorus promotes excessive aquatic plant growth and harmful algal blooms which are also a health risk to people and your pets!

Preventing pollution from pet waste is easy!

- Clean it up immediately.
- Double bag and dispose in trash.
- **Never** dispose of bagged, or unbagged, pet waste in a storm drain, catch basin or by the road.



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To learn more about stormwater pollution, visit the CNY Stormwater Coalition online

www.cnyrpdb.org/stormwater

Stormwater@cnyrpdb.org



Use Less Chemicals!

The chemicals we use to keep our yards perfect also find their way into the water we drink, swim in and the fish we eat. Everything that goes into our storm drains and groundwater goes untreated, straight into our rivers and streams.

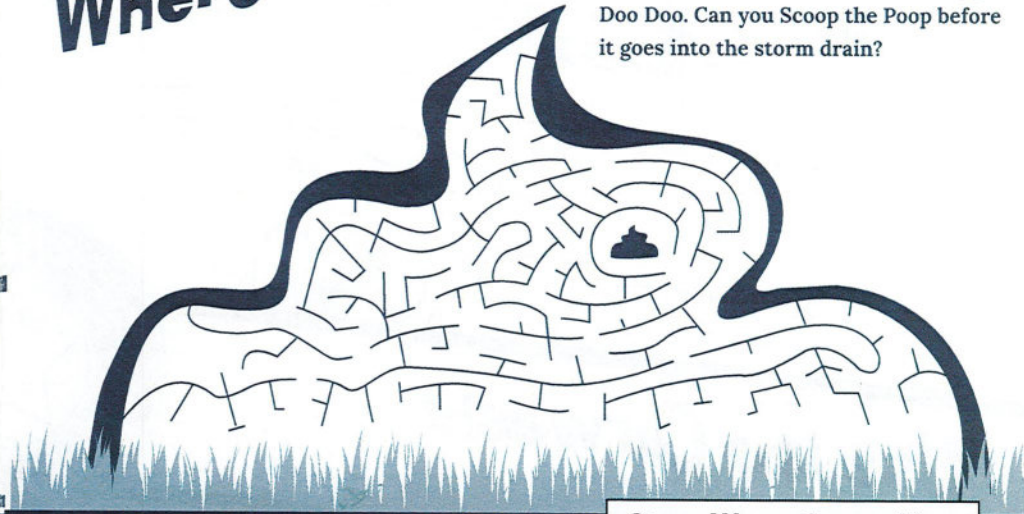


Clean Water Starts Here!



Where's the Doggie Doo Doo?

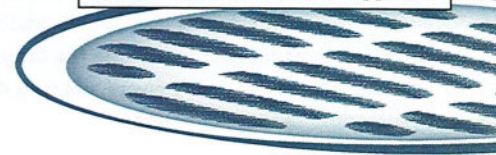
Use the maze below to locate the Doggie Doo Doo. Can you Scoop the Poop before it goes into the storm drain?



Clean Water Starts Here!

Since Fido can't... do your part.

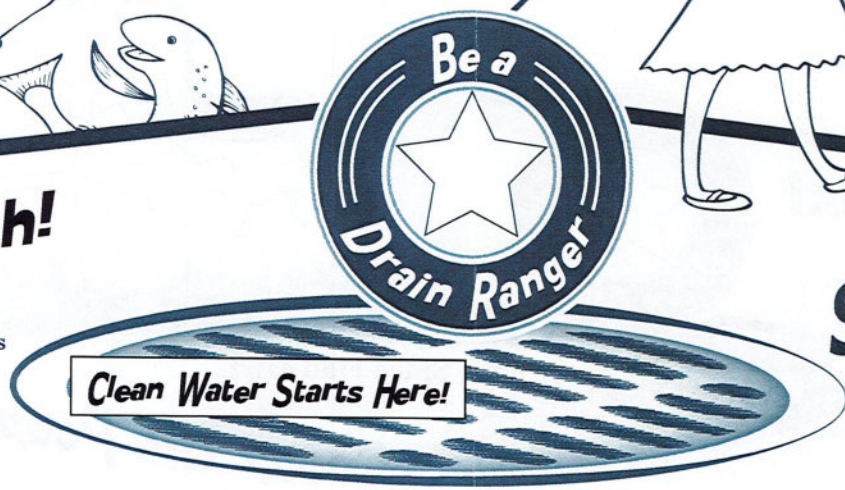
Scoop the Poop!





Use the Carwash!

It's not just soap from washing your car that goes down the storm drain. It's also the oils and dirt from your car that go directly into the drain and run into our lakes and rivers, untreated, harming the fish and our water.



Scoop the Poop!

Always, always, always scoop your dog's poop. If left on the ground, the doo doo could end up on someone's shoe. Even worse, it carries disgusting bacteria that could wash into our rivers, streams and water supply.