



*at a  
glance*

**ORGANIC FARMING FOR  
CLEAN WATER?**



**RUNOFF RUNDOWN:  
POLLUTION DETECTIVES  
NEEDED**



**KNOW WHERE YOUR  
WATER GOES**



**CYBER STORMWATER:  
HOW'S MY WATERSHED?**



**RAIN GARDENS IN THE  
21ST CENTURY**



**GET INVOLVED:  
IT'S OUR WATER**



**UPCOMING EVENTS**



**PIEDMONT TRIAD  
REGIONAL COUNCIL**

# STORMWATER steward

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## ORGANIC FARMING FOR CLEAN WATER?

There's been a lot of hubbub lately about the health benefits of organic versus conventional farming techniques. We're not here to tell you what to believe or whether organic produce really is better for you, but there is conclusive evidence that organic farming practices improve water quality. So what exactly does "organic farming" mean? The United States Department of Agriculture certifies crops, livestock, processed products (i.e. soup), and wild crops that abide by certain rules and regulations, enabling a food production system that sustains the health of soils, ecosystems and people.

Organic farming techniques utilize crop rotation, green manure, compost, biological pest controls and other practices which prevent synthetic fertilizers, pesticides, hormones, antibiotics, food additives and other substances from entering our food systems and our waterways.

Many nutrients in our waters, like nitrogen and phosphorous are the result of fertilizers and livestock waste. Nutrient pollution is a big problem in the NC Triad region and has led to further studies and to the adoption of the Jordan Lake Rules. Excess nitrogen and phosphorous can lead to significant water quality problems, eventually resulting in eutrophication, or the decrease of dissolved oxygen in the water. Ammonia (a form of nitrogen) is another byproduct of agricultural runoff which leads directly to fish kills.

Pathogens, nutrients and other pollutants from poorly managed livestock facilities can wash into our waters causing major water quality problems. Insecticides, herbicides, and fungicides used to kill agricultural pests have the unintended consequence of poisoning fish and wildlife, contaminating food sources, and destroying the habitat animals use for protective cover.



While you may not get a sticker to put on the tomato you grow in the backyard, using organic farming techniques can have major benefits for water quality. Preventing excess nutrients and pesticides from washing into stormdrains can help ensure fresh clean waters are flowing from our yards and neighborhoods into the waters we depend on for drinking, recreation and wildlife.

## NORTH CAROLINA HOME \*SYST & FARM A\*SYST PROGRAMS

Many things we do in our homes or on our land can pollute our water and the environment. Poorly maintained or aging septic systems, stormwater runoff from our homes, and animal waste systems can pollute surface and groundwater. Pesticides, fertilizers, fuels, and cleaning products can contaminate our water when they are improperly stored or handled. The NC Home\*A\*Syst/Farm\*A\*Syst programs

have a series of publications that help homeowners and farmers evaluate our home and property to determine pollution and health risks. These publications also contain information about how to solve these problems and the North Carolina state agencies responsible for helping you. For more information, visit: <http://www.soil.ncsu.edu/publications/assist/farmassist/>

## COMMON ILLICIT DISCHARGES

- Illegal dumping practices
- Broken sanitary sewer lines
- Cross-connections
- Connection of floor drains to storm sewer
- Sanitary sewer overflows
- Inflow/infiltration
- Failing septic systems
- Improper RV waste disposal
- Pump station failure
- Wash water flows
- Landscape Irrigation

If you walk alongside almost any urban or suburban stream, you'll see openings of many pipes leading directly into the stream. These pipes carry runoff from streets, parking lots, and rooftops and should only flow during or after a rain storm. However, some of these are flowing during dry weather and may contain sewage, detergents, bacteria laden water, and even toxic chemicals. These are known as "illicit discharges". Illicit Discharge Detection and Elimination (IDDE) is the process of finding and fixing these hidden culprits. It's like being a stream detective.



Photo: Center for Watershed Protection

## RUNOFF RUNDOWN: POLLUTION DETECTIVES NEEDED

So how do we go about finding these hidden culprits? It begins with walking our waterways and looking for pipes coming out of the stream banks. Dry weather flows that show algae, benthic growth, sewage fungus, pipe corrosion, odor, have floatables or water discoloration are considered illicit discharge. In some cases, lab testing may be needed to further identify the substance.

Not all pipes are on storm system maps and may require additional detective work to determine the source of pollution. Staff may have to move up the drain pipe or drainage system and test water along the way to pinpoint the source of pollution.

IDDE is one of the most cost effective practices for finding and stopping water pollution. These discharges are highly concentrated and identifying and removing them can mean drastic improvements for water quality. A good IDDE pro-

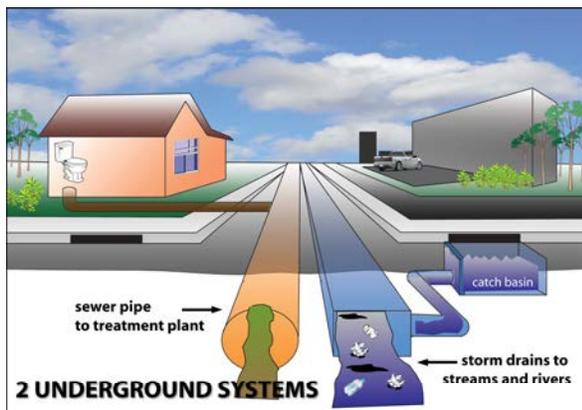


Photo: Center for Watershed Protection

gram is at the top of the list when it comes to complying with permit and regulatory requirements, and for good reason.

Working with homeowners, businesses, local governments, utility departments and watershed groups is essential to finding and repairing illicit discharges. Repairs may include redirecting pipes and drains to the sanitary sewer system, plugging floor drains, or fixing sewer line leaks. With a little detective work, and a little education, we can make huge strides towards protecting our waters!

## KNOW WHERE YOUR WATER GOES



Just over a third of North Carolina residents correctly identified where stormwater goes in a 2005 NC Department of Environment & Natural Resources survey. Our program as well as many others across the state are working hard to correct this misconception. How does this relate to IDDE? Many homes, particularly older ones may have floor drains, old sinks, or other illicit connections be-

tween their homes or business and the storm drain system. Connecting these to the storm sewer systems allows polluted water to go to the streams instead of the wastewater treatment plant where pollution can be filtered out before water is discharged into our natural environment. Protect our waters by checking connections between your home and business!

## CYBER STORMWATER: HOW'S MY WATERWAY?

**Would you like Stormwater SMART to present to your civic or community group? If you live in one of our member communities, Stormwater SMART programs are available at no charge. Contact us at (336) 294-4950 to set up a Stormwater Education Event Today!**

The streams, lakes and rivers of North Carolina are supposed to be clean enough to support aquatic life, be a source of drinking water (after treatment), and be safe for swimming and fishing. If a water body is not able to be used for one of these intended uses because of pollution, it gets classified as "impaired" by the Department of Water Quality (DWQ). If you are interested in finding out whether the water in your area is polluted, what is polluting it and what is being done about it, the State and the Federal Governments have ways to assist you.

If you've ever wondered if your local lake is clean and healthy for recreation, or whether the stream your dog drinks out of is safe, check out *How's My Waterway?* an app and website designed to help you learn more about the condition of local streams, lakes and rivers. To use and download this app, Google "How's My Waterway," or visit [www.epa.gov/mywaterway](http://www.epa.gov/mywaterway).



EPA How's My Waterway App and Website

In a nutshell, the *How's My Waterway?* app provides answers through:

- an easy to use web tool
- focusing on local waters
- instant results
- map or list format
- plain English descriptions
- Using but clarifying, the same scientific data States report to EPA.

## RAIN GARDENS IN THE 21ST CENTURY



A rain garden is a shallow depression that collects stormwater runoff from roofs, driveways, or yards and allows it to infiltrate into the ground instead of running directly into our waterways. These gardens are typically planted with shrubs and perennials

that add colorful, landscaped areas that create habitat and add value to yards and neighborhoods.

A few years ago, the concept of a rain garden was relatively unknown. Now, they are popping up in cities and towns across the country. While rain gardens may treat smaller quantities of rain water than larger best management practices, collectively they have the potential to dramatically improve water quality making your community safer to live, work and play.

The UConn Center for Land Use Education and Research (CLEAR) developed an app available for download from iTunes (the Android version is coming soon) helping homeowners and contractors properly size, construct and maintain a rain garden. The site also contains videos designed to guide you through every step of rain garden development. Use the smart phone app to:

- Properly size the garden
- Find local soil conditions
- Estimate construction cost
- Customize a plant list to fit your yard

Download the App from iTunes, or visit <http://nemo.uconn.edu/raingardens/> for more information.

## GET INVOLVED: IT'S OUR WATER

Davidson County  
Randolph County  
Rockingham County  
Archdale  
Asheboro  
Burlington  
Elon  
Gibsonville  
Graham  
Green Level  
Haw River  
High Point  
Lexington  
Mebane  
Oak Ridge  
Summerfield  
Randleman  
Reidsville  
Thomasville  
Trinity



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**PIEDMONT TRIAD**  
REGIONAL COUNCIL

Many of our programs are based on the Division of Water Resources It's Our Water curriculum and are modified for each teacher's unique needs. It's Our Water Environmental Education Program includes:

- A North Carolina-specific high school Earth/Environmental Science curriculum and resources guide for North Carolina students and teachers that are aligned with the North Carolina Standard Course of Study.
- Covers the importance of water quality and quantity, monitoring and maintaining water quality, and the impacts individual choices and actions have on water quality.
- Centers around field activities in a local stream that lead to a final report and recommendations by the class.
- Activities are coordinated with a series of videos, demonstrations, classroom activities, homework and quizzes.



Students Analyze Bugs to Assess Water Quality

If you are interested in a free presentation or would like more information, please visit [www.stormwatersmart.org](http://www.stormwatersmart.org) or contact us at 336-294-4950. We hope you'll consider having Stormwater SMART present at one of your classes, meetings or events!

## LOOK FOR STORMWATER SMART AT A EVENT NEAR YOU.

- 02/05/13 Archdale Elementary Science Night
- 04/09/13 Randolph County Merit Badge College
- 04/20/13 Earth Day At the Zoo—Asheboro
- 04/27/13 Dogwood Festival—Mebane
- 05/04/13 Lexington Multicultural Festival
- 05/04/13 Thomasville Spring Daze
- 05/18/13 Summerfield Founders Day
- 05/18/13 Day in the Park—Red Slide Park, Haw River

Stormwater SMART was created by the Piedmont Triad Regional Council (formerly Piedmont Triad Council of Governments) to help Phase II communities comply with National Pollution Discharge Elimination System (NPDES) and Jordan Lake Public Education and Outreach requirements. Stormwater SMART is supported through dues paid by member governments.