

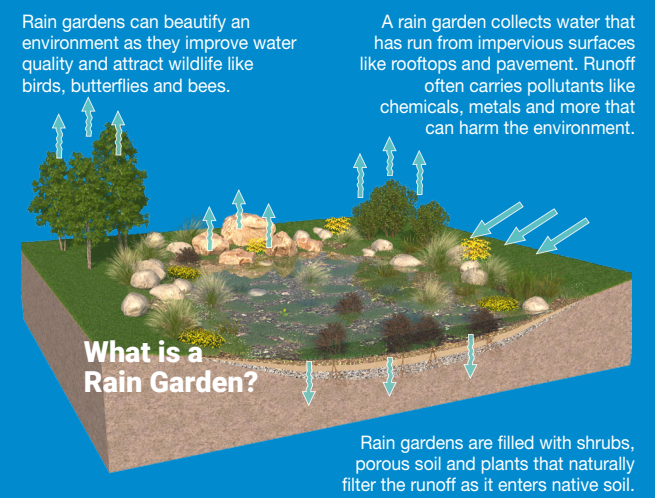
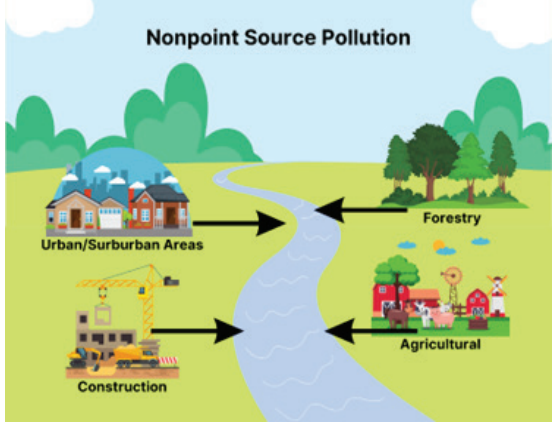
# What are major sources of pollution?

**Pollutants** can harm fish and wildlife populations, kill native vegetation, foul drinking water, and make recreational areas unsafe and unpleasant. There are two broad categories: point source and nonpoint source.

**Point Source Pollution** refers to discharge that enters surface waters through a well-defined location such as a pipe or ditch.

**Nonpoint Source Pollution** can be:

- **Agricultural** activities such as confined animal operations, plowing, fertilizing, and harvesting disturb the soil and drain sediment, nutrients, pathogens, pesticides, and salts to surface waters.
- **Construction sites** that are exposed to rain and snowmelt wash soil, chemicals, and trash to surface waters.
- **Forestry activities** such as removal of stream side vegetation, road construction and use, timber harvesting, and mechanical preparation for the tree-planting drain sediment to waters. Tree removal along surface waters can also increase the temperature in the waters and destabilize banks.
- **Urban and suburban areas** increase the amount and types of pollutants (e.g., soil, oil and gasoline, fertilizer and lawn chemicals, pet waste) that drain to waters. Impervious surfaces, such as buildings and pavement, decrease the amount of rain and snowmelt that is soaked into the ground and increase the volume and velocity of stormwater runoff.



# What are the benefits of LIDs?

- Improves **water quality** by removing pollutants that stormwater runoff picks up.
- Reduces the **amount of stormwater runoff** that reaches surface waters, protecting the natural aquatic habitat.
- Retains more rainfall on site, allowing rainwater to **infiltrate the ground**.
- Better water quality increases **property values** and lowers government clean-up costs.
- **Decreases costly flooding and property damage** by reducing the volume and speed of stormwater runoff.

# Want to learn more?

North Carolina Department of Environmental Quality: <https://www.deq.nc.gov/about/divisions/energy-mineral-and-land-resources/stormwater>

Beaufort County Stormwater Ordinance: <https://codelibrary.amlegal.com/codes/beaufortcounty/latest/overview>

Tar-Pamlico Nutrient Strategy: [bit.ly/Tar-PamlicoStrategy](http://bit.ly/Tar-PamlicoStrategy)

<https://sounddrivers.org/>

# What Happens When It Rains



*An Overview of Stormwater Regulations in Beaufort County, North Carolina and Recommendations for Homeowners*

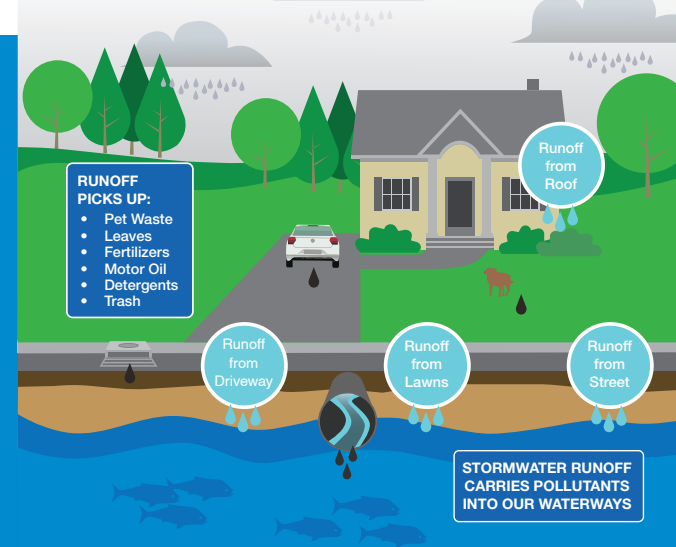


Logos for BCCC (Beaufort County Community College), Sound Rivers (Protecting the Neuse & Tar-Pamlico), and other regional organizations like RK&K and the Mid-East Commission.

## What is stormwater and what is a river basin?

- **Stormwater** is rain that doesn't soak into the ground.
  - As stormwater flows, it picks up **everything** in its path including household chemicals, oil, gasoline, litter, pesticides, leaves, animal waste, and eroded soil.
  - A **watershed** is an area of land that drains to a body of water such as a stream, river, lake, or sound. A **river basin** is an area of land that drains to a river.
  - Everyone lives in a river basin, even if you don't live near the river itself.
  - If stormwater isn't properly treated, it can **pollute** surface waters and groundwaters.

Image courtesy of City of Urbana, IL

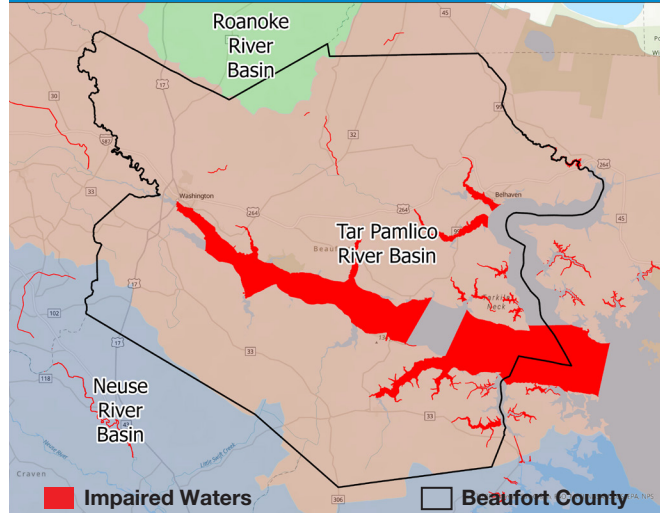


## How is water quality defined?

- State government agencies determine whether **surface waters** support specific, designated uses.
  - **Designated uses** include the growth and protection of aquatic animals, primary recreation, secondary recreation (e.g., wading and boating), shellfish harvesting, water supply and fish consumption.

## Beaufort County at a Glance

- There are **88,000 acres** of water within Beaufort County including:
  - Major river basins: the Tar-Pamlico River, Neuse River, and Roanoke River
  - Several 303d waters within Beaufort County
- The **Tar-Pamlico River Basin** is the fourth largest drainage basin in North Carolina. A majority of Beaufort County is within the Tar-Pamlico River Basin.
- In response to water quality issues from pollution, North Carolina developed the **Tar-Pamlico Nutrient Management Strategy** and established a 30% reduction goal of nitrogen being exported to the Tar-Pamlico.
- Ordinances are being developed and implemented by many local governments within North Carolina and across the country to control the volume and the quality of water from new development and redevelopment.
- Beaufort County has adopted the **Tar-Pamlico Stormwater Ordinance for New Development** and the **Local Program to Implement Tar-Pamlico Stormwater Rules**.



- The **Clean Water Act** requires states, territories, and authorized tribes to submit impaired and threatened waters lists for EPA. The term "**303(d) list**" refers to the list of waters that have been identified and reported to EPA.

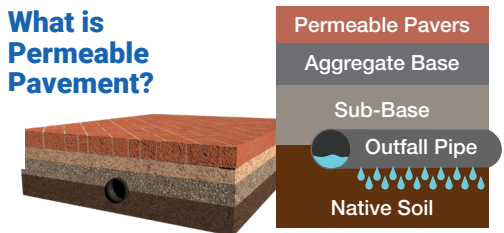
## Low-Impact Development

- **Low-Impact Development (LID)** protects water quality by creating a landscape that mimics the natural hydrologic functions of infiltration, runoff, and evapotranspiration.
- Some examples of LIDs are downspout disconnection, rainwater harvesting, rain gardens, bioswales and permeable pavements.

Impervious surfaces do not allow water to pass through. Instead it must flow away from hard surfaces as runoff. Runoff often contains pollutants which come from vehicles, surface treatments, dust, debris, and more.

Permeable pavement enables water to seep through the surface and is an alternative to traditional impervious surfaces including asphalt and concrete which make up many of our roads, parking lots, driveways and sidewalks.

### What is Permeable Pavement?



This diagram demonstrates a simplified version of the many layers of soil and rock below the permeable pavement. These layers provide structural support and naturally filter pollutants. As a result, cleaner water is delivered to the native soil or is released into the outfall, typically during major storm events.

## What can you do?

- Individuals and families can help! You can:
  - **Cut back on your pollution contribution.**
    - **Never dump** anything down storm drains or in streams.
    - **Pick up** after your pets and **dispose of the waste properly.**
    - Keep litter, leaves, and debris **out** of street gutters and storm drains.
    - Wash your car **on the lawn** or at a commercial car wash.
    - Apply fertilizers and pesticides **sparingly** and do not apply before it's supposed to rain.
    - Use, store, and **dispose of** oil, antifreeze, paints and other household chemicals **properly.**
  - Introduce Low-Impact Development.