



## STREAM BUFFER BASICS

# BIG ALAMANCE CREEK WATERSHED



North Carolina Watershed Brochure Series · January 1, 2021 · Piedmont Triad Regional Council · [www.ptrc.org/stormwatersmart](http://www.ptrc.org/stormwatersmart)

### WHAT TO KNOW

Big Alamance Creek is a vital water source that flows through numerous communities in the Piedmont Triad region of North Carolina. Stewards of the watershed need to know:

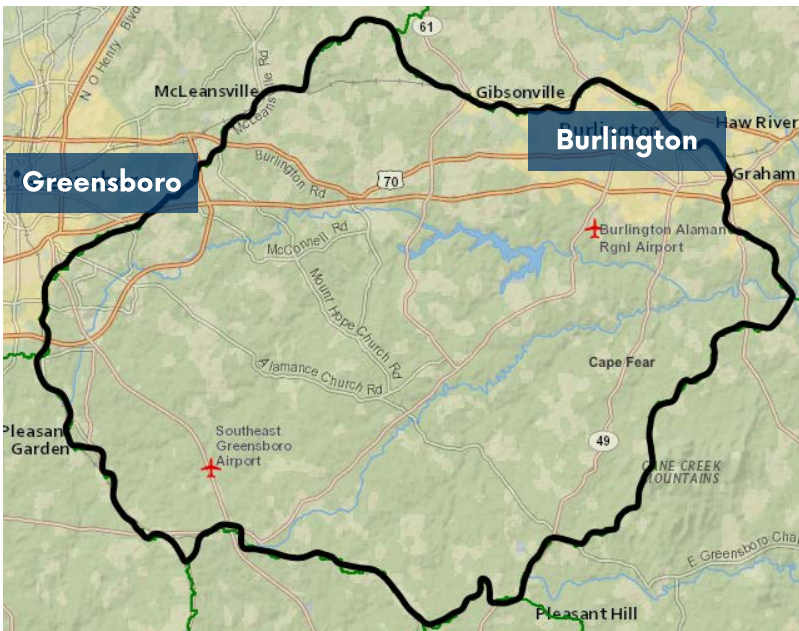
- How Big Alamance Creek connects to other waterways downstream
- Which pollutants affect its water quality
- What a healthy riparian buffer looks like, and how activities in these buffer zones are regulated and permitted

### QUICK INFO

Area (sq miles).....	262
Miles of Streams.....	373
# of Impaired Streams.....	3
Dominant Land Use.....	Forest
Counties: Alamance, Guilford, Randolph	

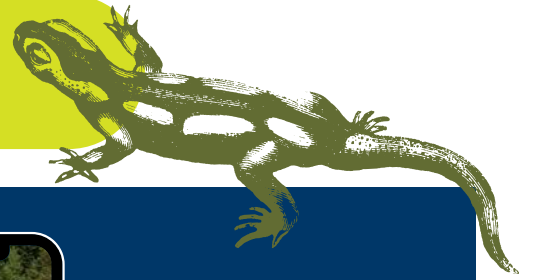
Data pulled from the Watershed Stewardship Network, NC DEQ "Know Your HUC", and modelmywatershed.org

## WHERE IS IT?



The Big Alamance Creek watershed is located in the heart of the Piedmont Triad, occupying land in Greensboro and Burlington. The watershed is anchored by Little Alamance Creek and Big Alamance Creek, which join together in Mackintosh Lake. Big Alamance Creek flows out of Mackintosh Lake and on into the Haw River. The Haw River later joins with the Deep River to become the Cape Fear River, the namesake waterbody of the basin. One particularly favorable trait of the Big Alamance Creek watershed is that it only has 3 impaired streams, which is impressive for an area of mixed developed and forested land. The map to the left illustrates the watershed area and the communities it impacts.

# BIG ALAMANCE CREEK WATER QUALITY



The water quality of Big Alamance Creek can be categorized overall as good. There are only a few sections of both Big Alamance Creek and Little Alamance Creek listed as Category 5 impaired waters by the North Carolina Department of Environmental Quality (NCDEQ). However, there are no waterbodies that require a Total Maximum Daily Load (TMDL). TMDL's are management plans created to limit the discharge of specific pollutants into waterbodies that already have excessive pollution. While no TMDLs are required, there are still water quality indicators to be cautious of within the watershed. Including, PCB Contamination and stream habitat degradation.

## RIPARIAN BUFFER BENEFITS

A riparian stream buffer is an area running parallel alongside both sides of a protected stream, river, pond, or lake. Stream buffers not only filter pollutants, prevent erosion, and reduce flooding; they also provide habitats for a variety of animal species, many of whom use stream buffers like highways to travel within their range in search of food, water and shelter. Healthy vegetation provides a safe, shaded place to rest and reproduce.



**Healthy buffer:**  
natural, mature  
vegetation on  
creek banks.

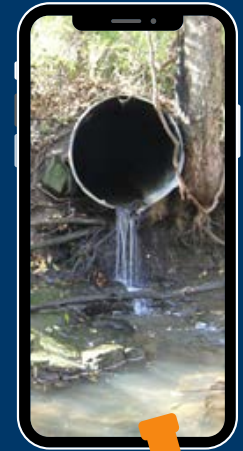


**Unhealthy buffer:** stream  
banks eroded &  
roots exposed



**SOIL AND SEDIMENT  
FROM DISTURBED  
LAND ARE THE #1  
SOURCES OF  
POLLUTION IN NC  
WATERWAYS.**

Storm systems carry the runoff from rain events to the nearest creek, untreated and unfiltered. Pollution that enters a storm drain ends up harming aquatic life and degrading water quality. If you see or smell noxious discharge at an outfall, or if you witness someone dumping anything into a storm drain, you can help stop the damage by calling 3-1-1 or your local stormwater department (see last page).

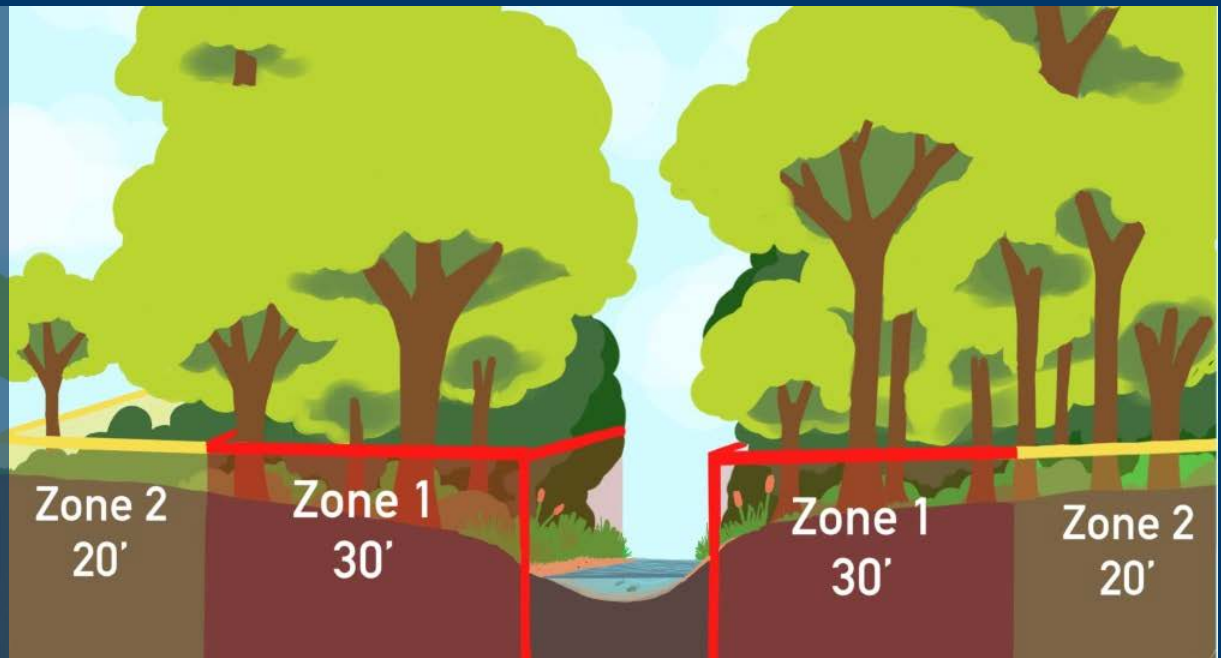


# NCDEQ STREAM BUFFER ZONES

Regulations are set by the North Carolina Department of Environmental Quality (NCDEQ). Permitting rules vary slightly depending on the watershed, but the general rule has the riparian buffer divided into Zone 1 and Zone 2; together totaling 50' of protective vegetation.



PROTECTING THE 50' BUFFER ZONE PRESERVES WATER QUALITY AND ALLOWS OUR NATURAL LANDSCAPE AND ITS WILDLIFE TO THRIVE!



## ●●●●● ZONE 1 ●●●●●

Zone 1 extends from the top of the bank landward for 30 feet on all sides of the stream. Zone 1 has the stronger protections of the two zones, and should have a variety of native grasses, shrubs, and trees.

**NO** clearing, grading or development should take place here. No mowing, tree removal, or pesticide and fertilizer use.

**NO** direct deposit of concentrated water runoff flow, such as downspouts from rooftops and paved areas.

## ●●●●● ZONE 2 ●●●●●

Zone 2 continues landward another 20 feet, creating a 50-foot buffer in total. Grading & revegetation are allowed IF:

- if...** IF no impervious surfaces are added (i.e. paved walkways or slabs)
- IF no trees are removed.

Some stormwater runoff is allowed to enter Zone 2, but the flow must be diffused and traveling at slower speeds. A rock pile or rain garden can help!



## HOW DO I KNOW IF A WATERWAY IS REGULATED?



What may look like a dry ditch during part of the year may be a protected stream that requires a permit for any kind of development. Before doing anything within the 50' buffer that affects stream health (clearing trees and shrubs, adding walkways and structures, applying fertilizer and pesticides, redirecting water flow, etc.) check with your local government for assistance in determining if you are dealing with a protected stream, even if water rarely flows. See the next page for local contact information.

# HELPFUL VEGETATION

There are a variety of important plants that thrive in riparian buffer habitats, with deep root systems to help filter pollutants and stabilize stream banks, preventing the loss of sediment. Here are just a few to look for and prioritize in a riparian buffer near you:

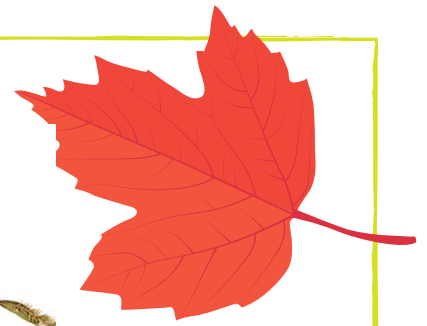
Green Ash



Swamp Milkweed (a favorite of Monarch butterflies)



Black Willow



Red Maple

Southern Wax Myrtle



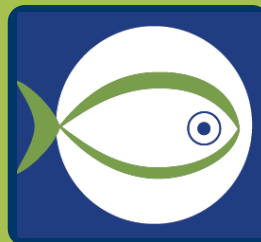
River Birch



Virginia Sweetspire

## Learn to Assess Stream Health with Stormwater SMART

The local governments listed at left support healthy watersheds through membership in Stormwater SMART. SMART provides free hands-on programming to schools, libraries, civic groups, businesses, and other organizations. Citizen science and stewardship programs like NC Stream Watch (from the NC Department of Environmental Quality) are a fun way to gain scientific skills, enjoy local parks, and improve the health of our waterways! **With NC Stream Watch, people of all ages and abilities can learn how to:**



- Measure nutrient and pH levels
- Observe aquatic species
- Spot signs of erosion
- Identify soil and plant types
- Track trash/litter density
- Locate storm drains, downspouts, and other conveyances

Visit NCDEQ online at [deq.nc.gov](http://deq.nc.gov). From the Divisions menu, select Water Resources.



## LOCAL GOVERNMENT PARTNERS

City of Greensboro  
T: (336) 373-2489  
300 West Washington Street, Greensboro, NC 27401

City of Burlington  
T: (336) 222-5000  
P.O. Box 1358  
425 S Lexington Avenue, Burlington, NC 27216

Contact Stormwater SMART for more information about free stormwater programs in the Triad:

Email [stormwatersmart@ptrc.org](mailto:stormwatersmart@ptrc.org) · Phone (336) 904-0300  
Piedmont Triad Regional Council  
1398 Carrollton Crossing Drive Kernersville, NC 27284

