



STREAM BUFFER BASICS

ABBOTTS CREEK WATERSHED

STORMWATER SMART
PIEDMONT TRIAD REGIONAL COUNCIL



North Carolina Watershed Brochure Series · January 1, 2021 · Piedmont Triad Regional Council · www.ptrc.org/stormwatersmart

WHAT TO KNOW

Abbotts 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 Abbotts 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)..... | 223 |
| Miles of Streams..... | 330 |
| # of Impaired Streams..... | 14 |
| Dominant Land Use..... | Forest |
| Counties: Forsyth, Guilford, Davidson, Randolph | |

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

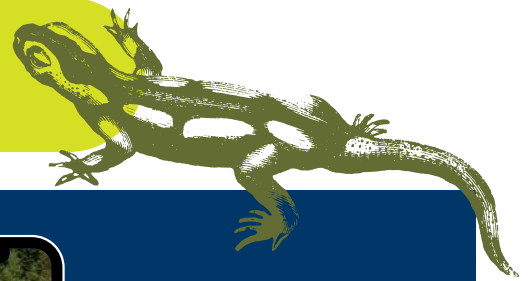


WHERE IS IT?



The Abbotts Creek watershed is located in the heart of the Piedmont Triad. It begins in Kernersville and flows south, joining creeks like Rich Fork and Hamby Creek along the way. Abbotts Creek occupies land in four counties and numerous communities, flowing south for 45 miles before ending at High Rock Lake. There it meets the Yadkin River and eventually flows on to the Atlantic Ocean as part of a much larger drainage area known as the Yadkin Pee Dee River Basin. The map to the left outlines the highest population areas of the watershed. Notice how Abbotts Creek shares borders with eight other watersheds, with major roadways crossing waterways to connect our communities to one another.

ABBOTTS CREEK WATER QUALITY



The water quality and composition of Abbotts Creek changes as it flows south. There are some sections that have no impairment listing, while others are listed as Category 5 impaired waters by the NC Dept. of Environmental Quality (NC DEQ). This means that there are detectable levels of certain pollutants in the water. Some pollutants require a **Total Maximum Daily Load (TMDL) allocation**, a type of management plan, in areas that already have excessive pollution. In Abbotts Creek, the level of **turbidity** (murkiness of the water from suspended solids like dirt) must be monitored, and new developments must include stormwater control measures.

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).

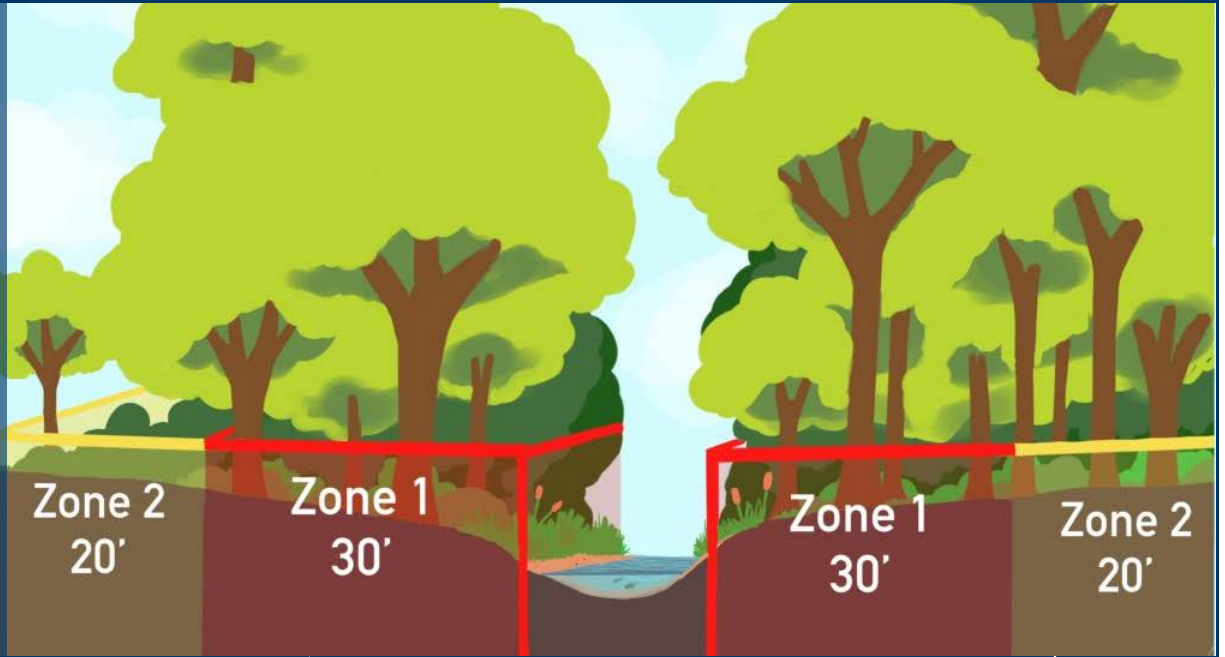


NCDEQ STREAM BUFFER ZONES

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 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. Learn more about these and other natives using the [NC Extension Gardener Plant Toolbox](#).

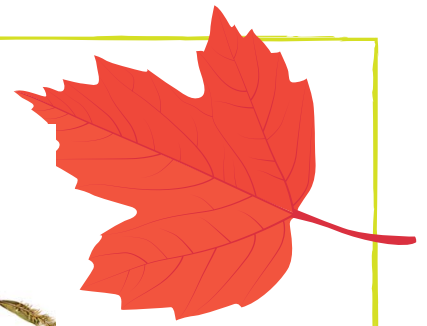
Green Ash



Swamp Milkweed (a favorite of Monarch butterflies)



Black Willow



Red Maple

Southern Wax Myrtle



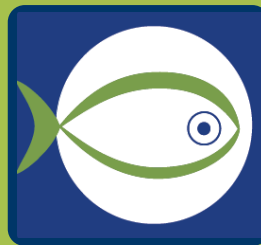
River Birch



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. From the Divisions menu, select **Water Resources**.



LOCAL GOVERNMENT PARTNERS

City of Lexington
Stormwater
T: (336) 248-3930
28 West Center Street,
Lexington, NC 27292

City of Thomasville
Switchboard
T: (336) 475-4210
10 Salem Street,
Thomasville, NC 27360

Town of Kernersville
Stormwater Division
T: (336) 996-7166
509 Michael Street,
Kernersville, NC 27284



Contact Stormwater SMART for more information about free stormwater programs in the Triad:
Email stormwatersmart@ptrc.org · Phone (336) 904-0300
Piedmont Triad Regional Council
1398 Carrollton Crossing Drive Kernersville, NC 27284