



STORMWATER
SMART

Update 11.10.20

25

brochures
for the public

How
watersheds
connect

Riparian buffer
zone Do's & Don'ts

Water Quality
snapshot

Helpful vegetation

STREAM BUFFER BASICS

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FY 20-21 AMERICORPS
SERVICE PROJECT





WHAT TO KNOW

Abbotts Creek is a vital water source that flows through numerous communities in the Piedmont Triad region. This document will provide further information on Abbotts Creek and the greater watershed. Along the way we will cover:

- Geography and connecting waterways
- Water quality and common pollutants
- Definitions of riparian buffers
- Permitting and regulatory questions
- Buffer improvements
- Helpful vegetation for buffer zones

QUICK INFO

Population	96,646
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

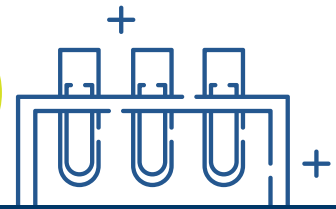


WHERE IS IT?



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 as it flows south for 45 miles before ending at High Rock Lake. There it meets the Yadkin River and eventually flows through 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 areas of the watersheds in this area. 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 North Carolina Department of Environmental Quality. This means that there are detectable levels of certain pollutants in the water. One specific parameter in Abbotts Creek, turbidity, requires a Total Maximum Daily Load (TMDL) allocation. TMDL's are a management plan created to limit the discharge of specific pollutants into waterbodies that already have excessive pollution. In addition, Rich Fork, a tributary to Abbotts Creek, has a TMDL for fecal coliform bacteria. There are a variety of other pollutants for Abbotts Creek. Some of these include fish tissue mercury levels, PCB Contamination, heavy metal concentrations, and stream habitat degradation.

Discharge from an outfall into Abbotts Creek.



Stormwater pipes carry runoff from rain events to the nearest creek or stream, untreated and unfiltered. Even small amounts of pollutants in the storm drain will enter the creek and can easily harm sensitive aquatic life like frogs and dragonfly larvae. The most common pollutants to come from these outfalls include pet waste, vehicle fluids, excess fertilizers & pesticides, paint, cleaning chemicals, litter (i.e. cigarette butts), yard clippings and leaves.

If you see or smell polluted runoff coming from an outfall, call 3-1-1 or contact your local government's stormwater department (see last page).

RIPARIAN BUFFERS

A riparian stream buffer is an area running parallel alongside both sides of a stream, river, pond, or lake in which disturbance of land or vegetation is restricted in order to protect the health of the stream and enhance water quality. The size of the area varies depending upon the type of water body. Below are examples of healthy and unhealthy riparian buffers.



Healthy buffer: natural, mature vegetation on creek banks.

Unhealthy buffer: vegetation cleared all around creek bank.



PERMIT POSSIBILITY

A permit and certification may be required for any work that takes place in a stream, wetland or open water, whether the impact is permanent or temporary. Common activities that may require permits include:

- Any disturbance to the bottom or sides of a stream, including stream bank stabilization or dredging/digging.
- Any disturbance to the soil or hydrology (how water flows) of a wetland.
- Damming a channel to create a pond or lake.
- Placement of material in streams or wetlands.

Certain beneficial activities in a buffer zone do not require permits, such as vegetation management to promote buffer health, historic preservation, archaeological activities. If unsure, contact your local government's stormwater department (see last page).

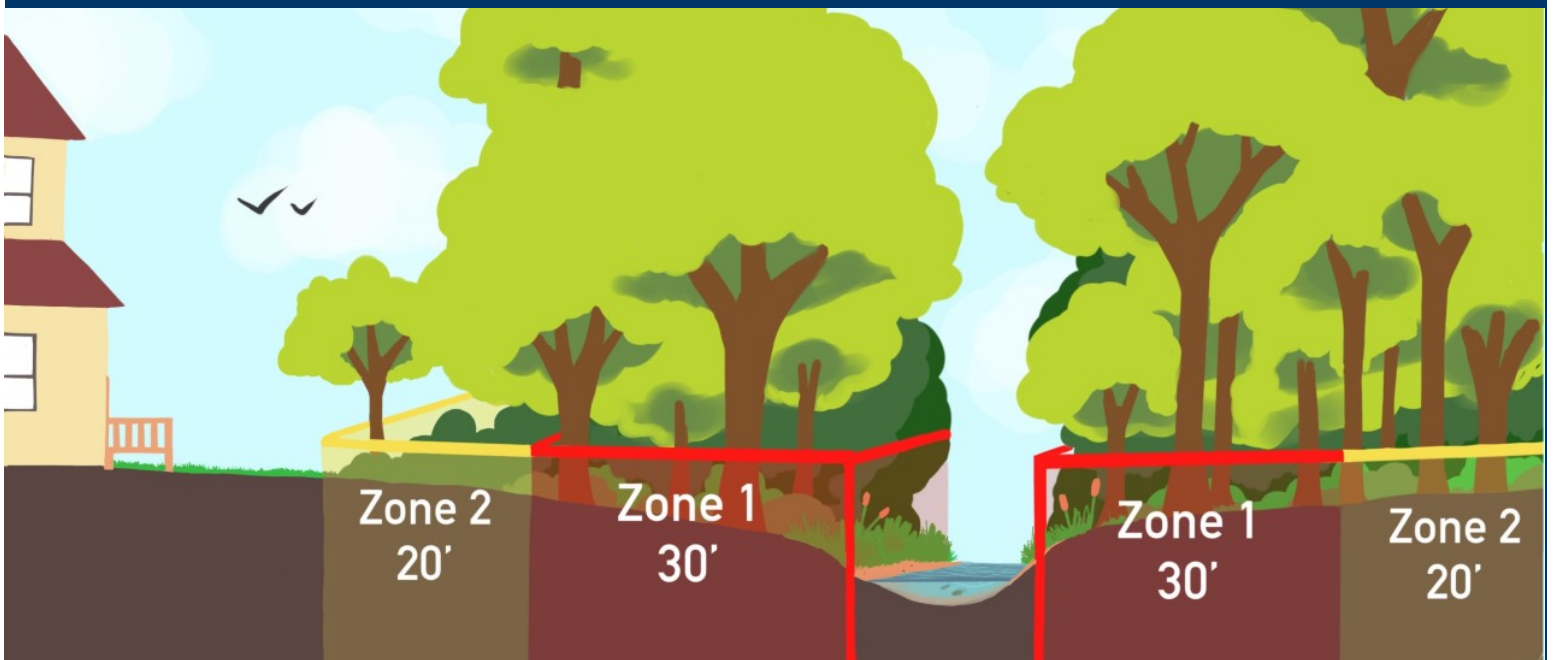
STREAM BUFFER BENEFITS

Stream buffers help to filter pollution out of runoff as it enters a stream. Buffers help to absorb and slow the pace of runoff, reducing flooding risk. In addition, buffers reduce erosion of stream banks by holding sediment in place, which Buffers also shade streams and provide vital food and habitat for a variety of animal species. Larger animals, such as deer or bears, can use stream buffers like highways to travel within their range in search of food, water and shelter.

IS MY STREAM A STREAM?

Some streams and water bodies are easy to identify, while others are not. However, some may also appear as a dry ditch except for during heavy rains or seasonal flow. Despite appearances, what may look like a dry ditch can be a protected stream. Before conducting activities that may require a permit in the buffer area, check with your local government for assistance in determining if you are dealing with a protected stream, even if water is seldom flowing,

NCDEQ STREAM BUFFER ZONES



The stream buffer regulations are set by NCDEQ. Rules can vary slightly depending on watershed. The buffer for this watershed is composed of 2 zones.

Zone 1 extends from the top of the bank landward for 30 feet on all sides of the stream.

Zone 2 begins at the end of zone 1 and continues 20 feet further landward

Permitted activities in the buffer can depend on what zone it occurs in and what activity is taking place. A good rule of thumb is to plan for at least 50 feet of buffer from the stream bank to ensure compliance.



Understanding the regulations that govern stream buffers will allow for smarter decision-making on land use in relation to local streams. Adherence to the guidelines will ensure that water quality is protected, as well as the natural landscapes surrounding streams.



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



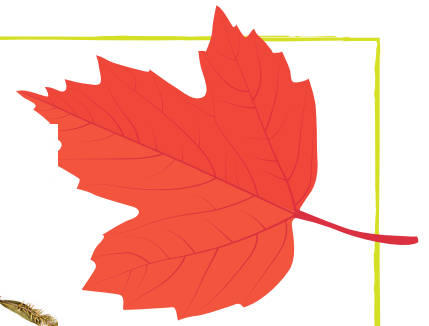
Swamp Milkweed



Virginia Sweetspire



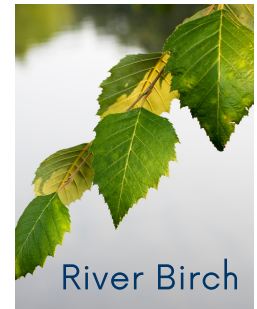
Black Willow



Red Maple



Southern Wax Myrtle



River Birch

Clean Water Starts with You and Me!

The Abbotts Creek Watershed covers over 200 sq. miles of beautiful piedmont terrain. Unfortunately, its past usage has left it impaired in multiple sections along its path. Discharges from industrial uses and runoff from urban and agricultural landscapes have harmed water quality. However, ongoing efforts enhance and preserve riparian buffers are improving the health of Abbotts Creek! It's a natural and cost effective approach to improving water quality. With the work of local business, government, and the public, Abbotts Creek can be protected for future generations. Want more information about how you can help? Contact us at Stormwater SMART below, or go directly to one of our local government partners in the Abbotts Creek watershed nearest to you!

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

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

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

Stormwater SMART
T. (336) 904-0300

E. stormwatersmart@ptrc.org
1398 Carrollton Crossing Dr,
Kernersville, NC 27284

www.stormwatersmart.org

Almost Ready...



HEADWATERS DEEP RIVER

WATERSHED REGULATORY RESOURCES



What to know

Headwaters Deep River is a vital watershed that flows through numerous communities in the Piedmont Triad region. This document will provide further information on the watershed and the greater watershed. Along the way we will cover:

- Geography
- Water quality
- Riparian buffers
- Permitting questions
- Buffer vegetation
- Regulatory questions
- Buffer improvements
- And more!

Quick Info

Population	163,891
Area (sq miles)	285
Miles of Stream	821
# of Impaired Streams	15
Dominant Land Use	Forest
Counties	Guilford
See additional maps/information here!	Forsyth Randolph



Where is it?

The Headwaters Deep River watershed is located in the heart of the Piedmont Triad and is a part of the Cape Fear River Basin. The Deep River begins in with two separate branches, the east and west forks, which join at High Point Lake. From High Point Lake, it flows southeast, passing through Randolph Lake and continuing on to the east watershed. It also is joined by tributaries like Pulover Creek, Hooters Creek and Brook Creek. The Deep River later transitions into the Cape Fear River, before ending at the Atlantic Ocean. The Deep River occupies land in 3 counties and numerous communities. The map to the left illustrates the watershed area and the communities it impacts.



REEDY FORK

WATERSHED REGULATORY RESOURCES



What to know

Reedy Fork is a vital watershed that flows through numerous communities in the Piedmont Triad region. This document will provide further information on the watershed and the greater watershed. Along the way we will cover:

- Geography
- Water quality
- Riparian buffers
- Permitting questions
- Buffer vegetation
- Regulatory questions
- Buffer improvements
- And more!

Quick Info

Population	268,842
Area (sq miles)	255
Miles of Stream	329
# of Impaired Streams	17
Dominant Land Use	Developed Land
Counties	Forsyth
See additional maps/information here!	Guilford Alamance



Where is it?

The Reedy Fork watershed is located in the heart of the Piedmont Triad and is a part of the Cape Fear River Basin. Reedy Fork begins in Kernersville, where it flows east towards Greensboro, continuing on into Alamance county. Along the way, it flows through Lake Townsend and Lake Shook. It also is joined by tributaries such as Buffalo Creek, Rolland Creek, and Moore Creek, before it eventually runs into the Pine River. The Pine River later transitions to the Cape Fear River, before ending at the Atlantic Ocean. Reedy Fork occupies land in 3 counties and numerous communities. The map to the left illustrates the watershed area and the communities it impacts.



MUDDY CREEK

WATERSHED REGULATORY RESOURCES



What to know

Muddy Creek is a vital water source that flows through numerous communities in the Piedmont Triad region. This document will provide further information on Muddy Creek and the greater watershed. Along the way we will cover:

- Geography
- Water quality
- Riparian buffers
- Permitting questions
- Buffer vegetation
- Regulatory questions
- Buffer improvements
- And more!

Quick Info

Population	268,842
Area (sq miles)	255
Miles of Stream	376
# of Impaired Streams	0
Dominant Land Use	Developed Land
Counties	Forsyth
See additional maps/information here!	Davison Stokes



Where is it?

The Muddy Creek watershed is located on the western side of the Piedmont Triad. It begins in southern Stokes county and flows south, joining tributaries like Mill Creek and Salem Creek along the way. Winston-Salem, the 5th largest city in North Carolina lies in the heart of the watershed. Muddy Creek occupies land in 3 Piedmont counties and numerous communities, as it flows south and it joins the Yadkin River. The map to the left illustrates the area of the watershed and the communities it impacts.



BELEWS LAKE-DAN RIVER

WATERSHED REGULATORY RESOURCES



What to know

Belews Lake-Dan River is a vital watershed that flows through numerous communities in the Piedmont Triad region. This document will provide further information on the watershed and the greater watershed. Along the way we will cover:

- Geography
- Water quality
- Riparian buffers
- Permitting questions
- Buffer vegetation
- Regulatory questions
- Buffer improvements
- And more!

Quick Info

Population	32,833
Area (sq miles)	232
Miles of Stream	668
# of Impaired Streams	5
Dominant Land Use	Forest
Counties	Forsyth
See additional maps/information here!	Guilford Stokes Rockingham



Where is it?

The Belews Lake-Dan River watershed is located on the southern edge of the Piedmont Triad. Flowing north out of Kernersville are the multiple prongs of Belews Creek. They meet in Belews Lake, which later empties into the Dan River. On the opposite end of the watershed, Snow Creek originates near the Virginia border, flowing south until it also meets the Dan River, which boasts the watershed and collects numerous other creeks along the way. Belews Lake-Dan River occupies land in 4 Piedmont counties and numerous communities. The map to the left illustrates the area of the watershed and the communities it impacts.

Coming Up....

Watershed	10-Digit HUC	River Basin	Member Communities
Muddy Creek	0304010113	Yadkin Pee Dee	Kernersville, Lewisville, Davidson
Abbotts Creek	0304010302	Yadkin Pee Dee	Kernersville, Lexington, Thomasville, Davidson County
Headwaters Deep River	0303000301	Cape Fear	Kernersville, Archdale, Randleman, Jamestown, Asheboro, Randleman County
Reedy Fork	0303000201	Cape Fear	Kernersville, Greensboro, Oak Ridge, Summerfield, Alamance County
Belews Lake-Dan River	0301010303	Roanoke	Kernersville, Rockingham County, Oak Ridge
Headwaters Haw River	0303000202	Cape Fear	Oak Ridge, Summerfield, Reidsville, Rockingham County, Alamance County, Greensboro
Matrimony Creek-Dan River	0301010305	Roanoke	Rockingham County
Cascade Creek-Dan River	0301010309	Roanoke	Reidsville, Rockingham County
Hogans Creek-Dan River	0301010401	Roanoke	Reidsville, Rockingham County
Country Line Creek	0301010402	Roanoke	Rockingham County
Back Creek-Haw River	0303000204	Cape Fear	Elon, Green Level, Burlington, Graham, Haw River, Mebane, Alamance County
Big Alamance Creek	0303000203	Cape Fear	Elon, Burlington, Graham, Greensboro?, Alamance County, Randolph County
Cane Creek-Haw River	0303000205	Cape Fear	Mebane, Saxapahaw, Alamance County
Rocky River	0303000305	Cape Fear	Randolph County, Alamance County
Upper Deep River	0303000302	Cape Fear	Asheboro, Randolph County
Middle Deep River	0303000304	Cape Fear	Randolph County
Eury Dam-Little River	0304010403	Yadkin Pee Dee	Asheboro, Randolph County
Lower Uwharrie River	0304010305	Yadkin Pee Dee	Asheboro, Randolph County

Coming Up....

Watershed	10-Digit HUC	River Basin	Member Communities
Upper Uwharrie River	0304010304	Yadkin Pee Dee	Asheboro, Thomasville, Randolph County
Yadkin River	0304010306	Yadkin Pee Dee	Davidson County, Randolph County
High Rock Lake	0304010303	Yadkin Pee Dee	Davidson County
High Rock Lake - Yadkin River	0304010301	Yadkin Pee Dee	Lexington, Davidson County
Reedy Creek - Yadkin River	0304010115	Yadkin Pee Dee	Davidson County
Mayo River	0301010304	Roanoke	Rockingham County
Lower Smith River	0301010305	Roanoke	Rockingham County