



STREAM BUFFER BASICS

BELEWS LAKE-DAN RIVER WATERSHED



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

WHAT TO KNOW

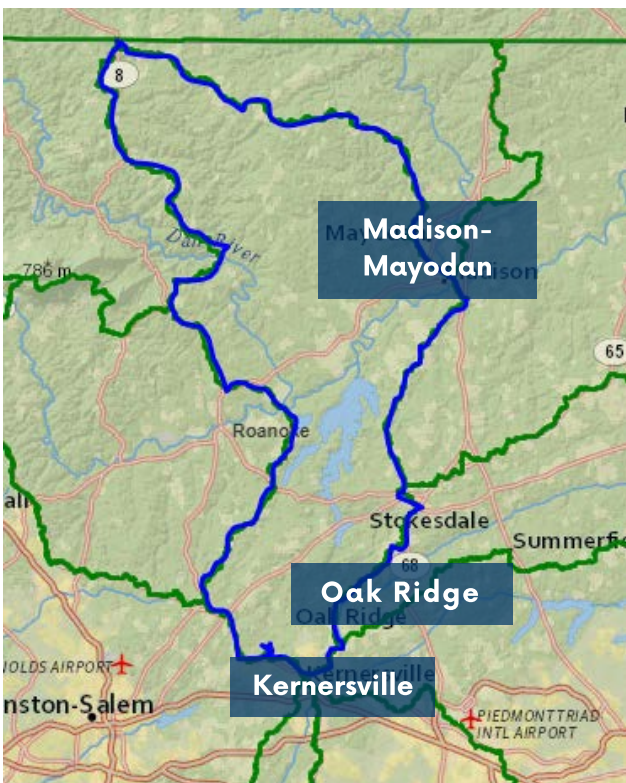
Belews Lake-Dan River is a vital water source that flows through numerous communities in the Piedmont Triad region of North Carolina. Stewards of the watershed need to know:

- How Belews Lake and the Dan River connect to other waterways
- Which pollutants affect 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).....	222
Miles of Streams.....	348
# of Impaired Streams.....	3
Dominant Land Use.....	Forest
Counties: Forsyth, Guilford, Rockingham, Stokes	

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

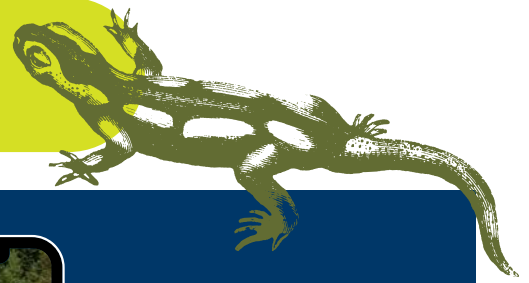


WHERE IS IT?



The Belews Lake-Dan River watershed is located on the northern 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 bisects the watershed and collects numerous other creeks along the way. Belews Lake-Dan River occupies land in four Piedmont counties and numerous communities. The map to the left illustrates the area of the watershed and the communities it impacts.

BELEWS LAKE-DAN RIVER WATER QUALITY



The water quality of this watershed can be listed overall as fair. The only waterbody with an impairment listing from the North Carolina Department of Environmental Quality is Kernersville Lake. The other named waterbodies do not have impairment listings, but the Dan River does require two Total Maximum Daily Loads (TMDLs), one for **turbidity** (murkiness of the water from suspended solids like dirt) and the other for **fecal coliform** (a harmful bacteria). TMDL's are management plans created to limit the discharge of specific pollutants into waterbodies that already have excessive amounts of those pollutants. Pollution levels must be monitored to ensure they are complying with established standards.

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.

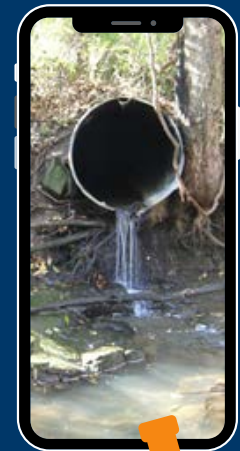


Unhealthy
buffer: stream
banks eroded &
roots exposed



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).

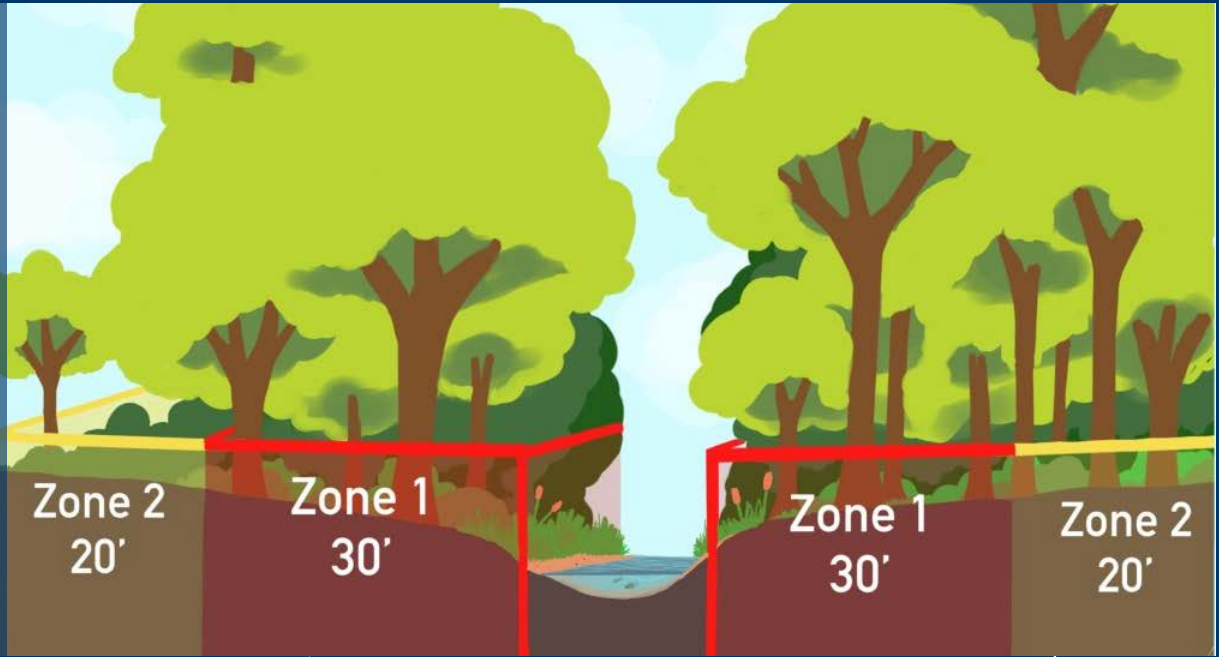


NCDEQ STREAM BUFFER ZONES

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. Here are just a few to look for and prioritize in a riparian buffer near you:

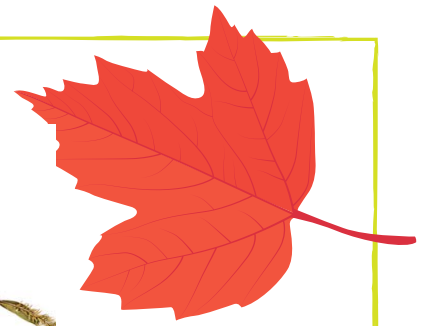
Green Ash



Swamp Milkweed (a favorite of Monarch butterflies)



Black Willow



Red Maple

Southern Wax Myrtle



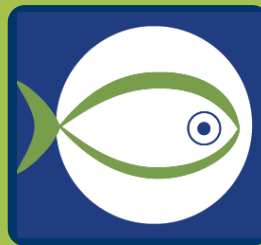
River Birch



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. From the Divisions menu, select Water Resources.



LOCAL GOVERNMENT PARTNERS

Rockingham County
Planning Dept.
T: (336) 342-8100
371 NC Hwy 65
Reidsville, NC 27320

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

