



2022 SWIM GUIDE REPORT



WATERKEEPERS®
CAROLINA

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"Where can I swim?"



**SWIM
GUIDE**

That is the question Swim Guide was created to answer. Using data reported by over 100 affiliates, Swim Guide provides information on the safety of swimming at over 8000 beaches, lakes, rivers, and swimming holes. Using an easy-to-understand color rating system, Swim Guide provides publicly accessible data for everyone.

The 15 organizations of Waterkeepers Carolina collectively sample 256 recreation sites for Swim Guide. We believe everyone has the right to clean water for fishing, swimming, and drinking. Our collaborative effort with Swim Guide helps us to ensure your access to clean water.

Our Waterkeepers sample for *E. coli* and *Enterococcus* during the summer recreation season, typically from Memorial Day to Labor Day. While our Waterkeepers have different sampling schedules, all of the participating Waterkeepers use the same sampling protocols, enumeration methods, and water quality standards.

Why Fecal Bacteria Matters



Fecal bacteria are everywhere in the environment, including our rivers, lakes, and streams. Fecal bacteria occurs naturally in lower concentrations due to wildlife, but there are anthropogenic sources that can cause higher harmful concentrations. Sources of fecal contamination include municipal wastewater treatment plants, sewage spills, industrial discharges, agricultural runoff, leaky sewer lines, leaching septic systems, and stormwater runoff.

Fecal contamination often carries human pathogens that can make us sick. There is an increased risk of gastrointestinal illness associated with recreating in contaminated waters. Illnesses associated with fecal contamination include cholera, typhoid fever, bacterial dysentery, infectious hepatitis, and cryptosporidiosis.

The Environmental Protection Agency (EPA) recommends the use of *E. coli* in freshwater and *Enterococcus* in marine water as fecal indicator species. We use these two species to evaluate recreational health of our waters because they are easy to test for, provide rapid results, and require affordable testing methods.

As science-based advocacy organizations, we follow the EPA's recommendations for assessing recreational water quality. The EPA provides Beach Action Values (BAVs) as a "conservative, precautionary tool for making beach notification decisions." While we cannot issue swim advisories based on our data, we can make our findings publicly available so you can make an informed decision about recreation in your local rivers.



Reporting Results

Our Waterkeepers sample for *E. coli* and *Enterococcus* throughout the summer to ensure our waterways are safe for swimming. While the fecal indicator bacteria are not necessarily harmful to human health, the bacteria species are a good indicator of fecal pollution in water.

We report results as a pass or fail based on the Beach Action Values (BAV). If a site exceeds the BAV, it fails. Fecal bacteria concentrations are reported in most probable number (MPN) per 100mL of sample.

The BAV for *E. coli* is 235 MPN/100mL. The BAV *Enterococcus* is 104 MPN/100mL. For each sample, we assess our results and report whether or not the site passed the standard.

Swim Guide reports those results using a color code: green for pass, red for fail, gray for no data reported for that site. These results are publicly posted at theswimguide.org and on the Swim Guide app. This makes it easy for everyone to make an educated decision about where to spend time in our rivers.

Numbers to Know

235

E. Coli BAV

104

Enterococcus BAV

Colors to Know



Pass



Fail

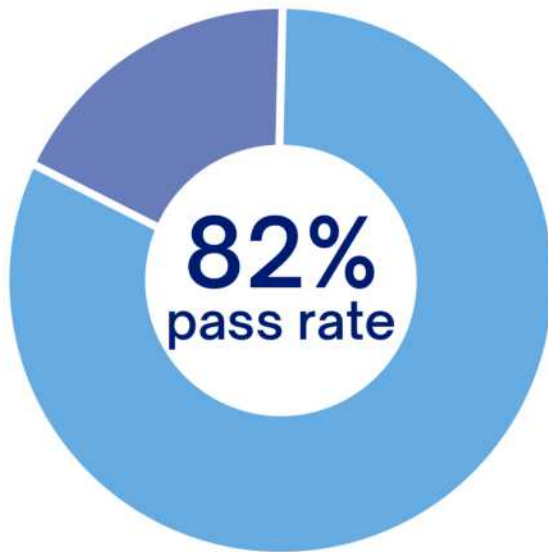


No Data

Data by Numbers

Waterkeepers Carolina sampled sites throughout North Carolina, South Carolina, and Tennessee. Results in this report reflect all sampling sites, unless otherwise indicated to be state specific.

Total Samples



256 sites
3169 samples

North Carolina

217 sites
2678 samples



South Carolina

29 sites
380 samples



Tennessee

10 sites
111 samples



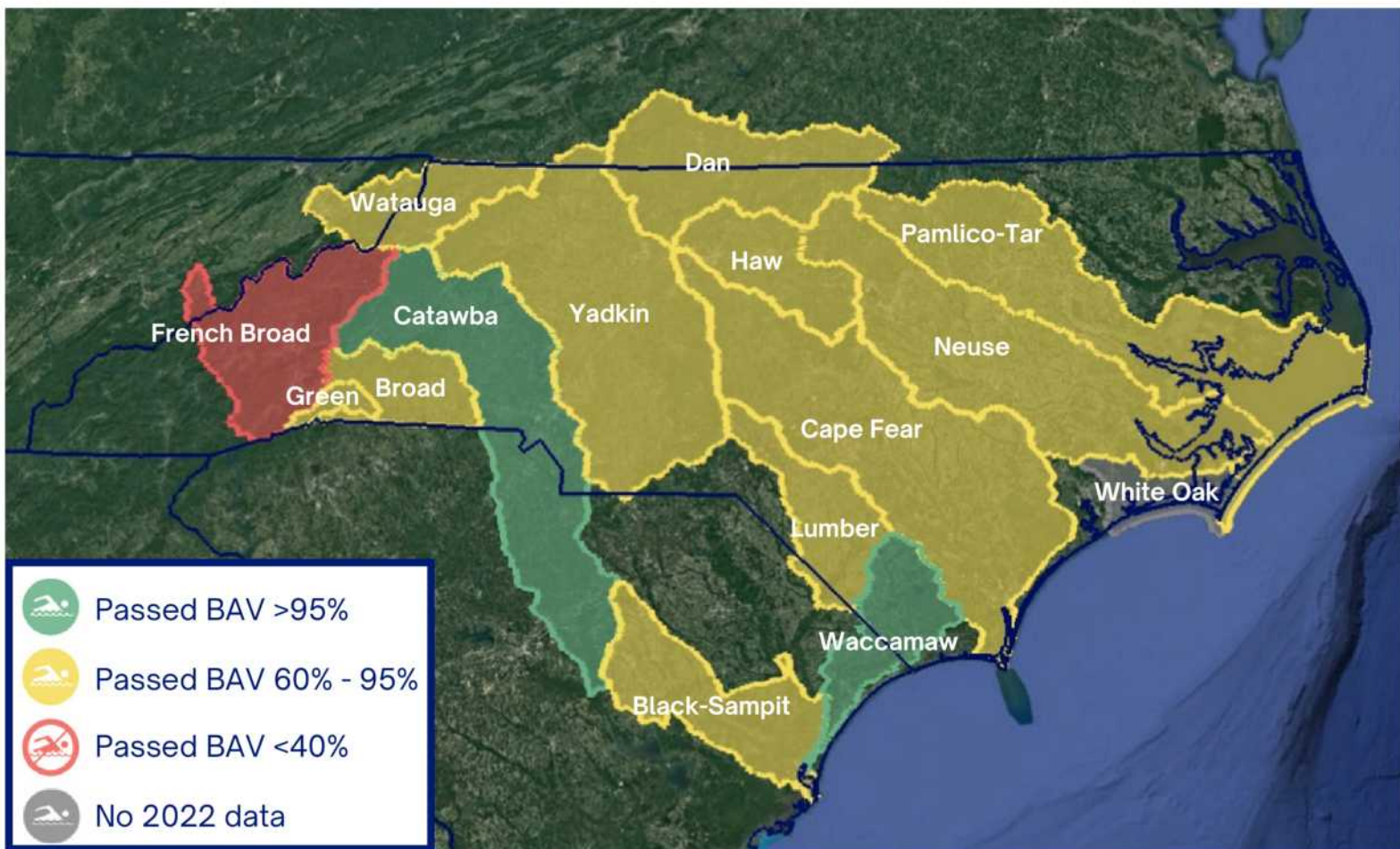
14 Waterkeepers collected 3169 samples at 256 recreation sites during the 2022 Swim Guide season. Of the total samples, 577 (or 18%) exceeded the BAV. Nearly half of the sites sampled (43% or 110 sites) passed the BAV during every sampling week. Six sites failed the BAV during every sampling week.

Fecal bacteria continues to be a concern for recreational water quality throughout our watersheds. Our Waterkeepers will use these results to continue to work towards clean water for everyone in the Carolinas.

Data by Colors

Swim Guide uses a color code system for the historical status of sites. Here we have used the same system to evaluate our 2022 Swim Guide Results. The map depicts the rating for the total 2022 pass rate for the individual Waterkeepers.

2022 Watershed Pass Rates



Site Pass Rates



Meet Your Keepers



WATERKEEPERS® CAROLINA

Waterkeepers Carolina is a science-based, environmental advocacy group representing Waterkeeper organizations in the Carolinas. Waterkeepers Carolina's purpose is to protect and improve the environmental integrity of North and South Carolina's waterways, improve and safeguard drinking water supplies for residents, and sustain the recreational water resources that Carolinians hold dear. Members of Waterkeepers Carolina include:



Cape Fear River Watch

Wilmington, NC / capefearriverwatch.org

Cape Fear Riverkeeper



Coastal Carolina Riverwatch

Morehead City, NC / coastalcarolinariverwatch.org

White Oak Waterkeeper



Haw River Assembly

Bynum, NC / hawriver.org

Haw Riverkeeper



Sound Rivers

New Bern, NC / soundrivers.org

Neuse Riverkeeper
Pamlico-Tar Riverkeeper



Yadkin Riverkeeper

Winston Salem, NC / yadkinriverkeeper.org

Yadkin Riverkeeper



Catawba Riverkeeper

McAdenville, NC / catawbariverkeeper.org

Catawba Riverkeeper



Good Stewards of Rockingham

Madison, NC / danriverkeeper.org

Dan Riverkeeper



MountainTrue

Asheville, NC / mountaintrue.org

Broad Riverkeeper French Broad Riverkeeper
Green Riverkeeper Watauga Riverkeeper



Winyah Rivers Alliance

Conway, SC / winyahrivers.org

Black-Sampit Riverkeeper Lumber Riverkeeper
Waccamaw Riverkeeper

CAPE FEAR RIVERKEEPER®



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Cape Fear River Watch

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Cape Fear Watershed

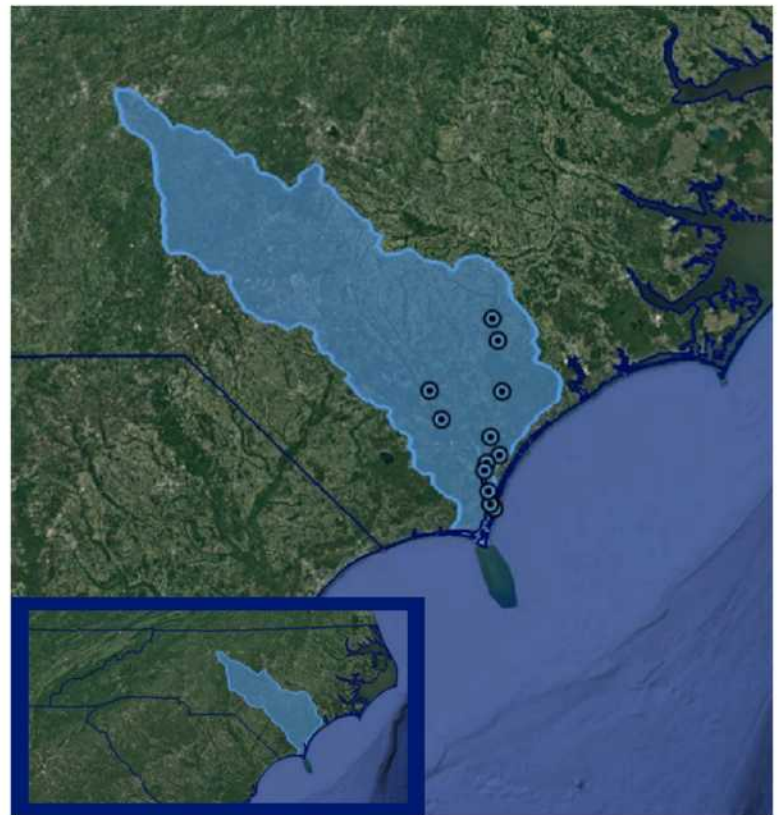
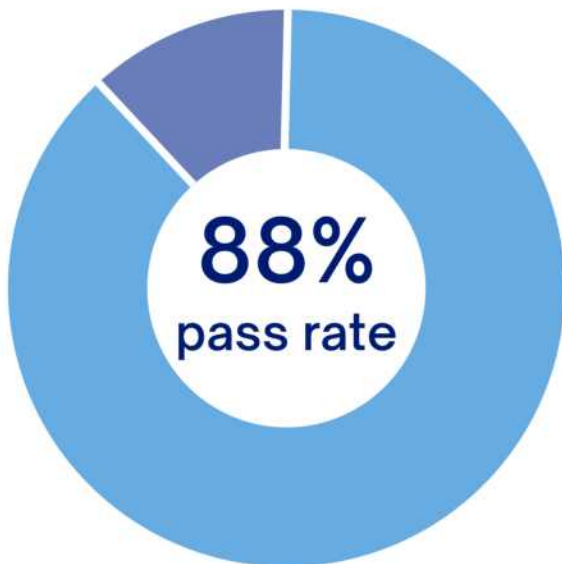
203 river miles

6014 square miles of watershed

Swim Guide Stats

12 sample sites

111 total samples collected



Map of Cape Fear Riverkeeper jurisdiction and Swim Guide sampling sites

CATAWBA RIVERKEEPER®



Brandon Jones

Catawba Riverkeeper

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Catawba Watershed

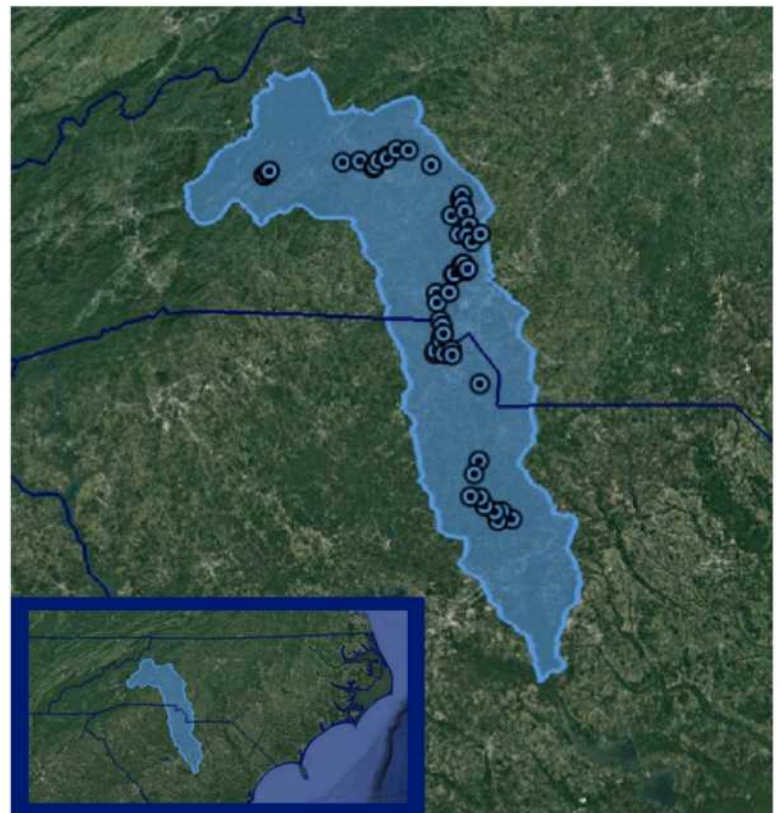
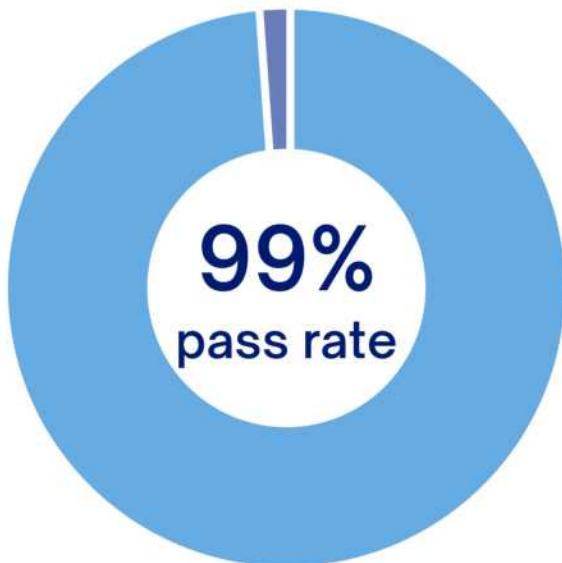
300 river miles

5000 square miles of watershed

Swim Guide Stats

53 sample sites

744 total samples collected



Map of Catawba Riverkeeper jurisdiction and Swim Guide sampling sites

WHITE OAK WATERKEEPER®



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White Oak Watershed

98 river miles

1264 square miles of watershed

Swim Guide Stats

0 sample sites

0 total samples collected

**Swim Guide
Program
Coming Soon!**



Map of White Oak Waterkeeper jurisdiction

DAN RIVERKEEPER®



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Good Stewards of Rockingham

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Dan Watershed

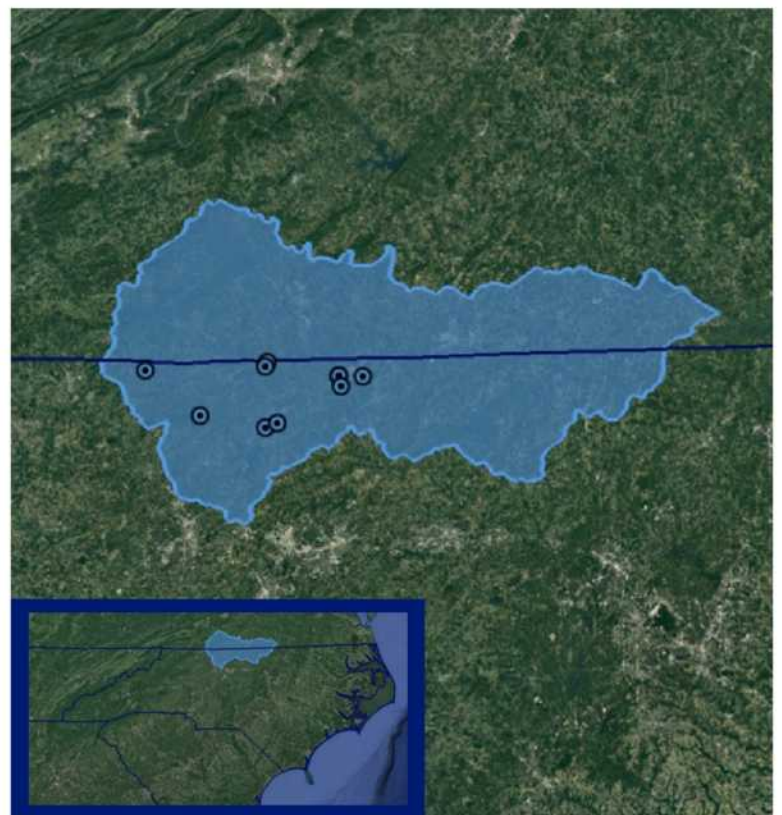
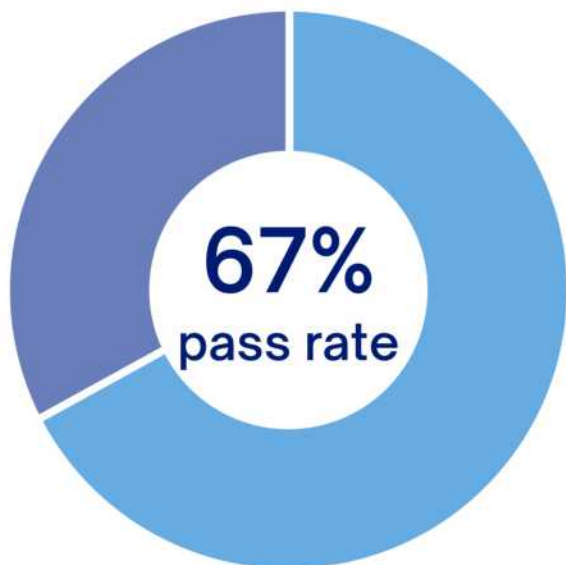
214 river miles

3700 square miles of watershed

Swim Guide Stats

10 sample sites

43 total samples collected



Map of Dan Riverkeeper jurisdiction and Swim Guide sampling sites

HAW RIVERKEEPER®



Emily Sutton

Haw River Assembly

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Haw Watershed

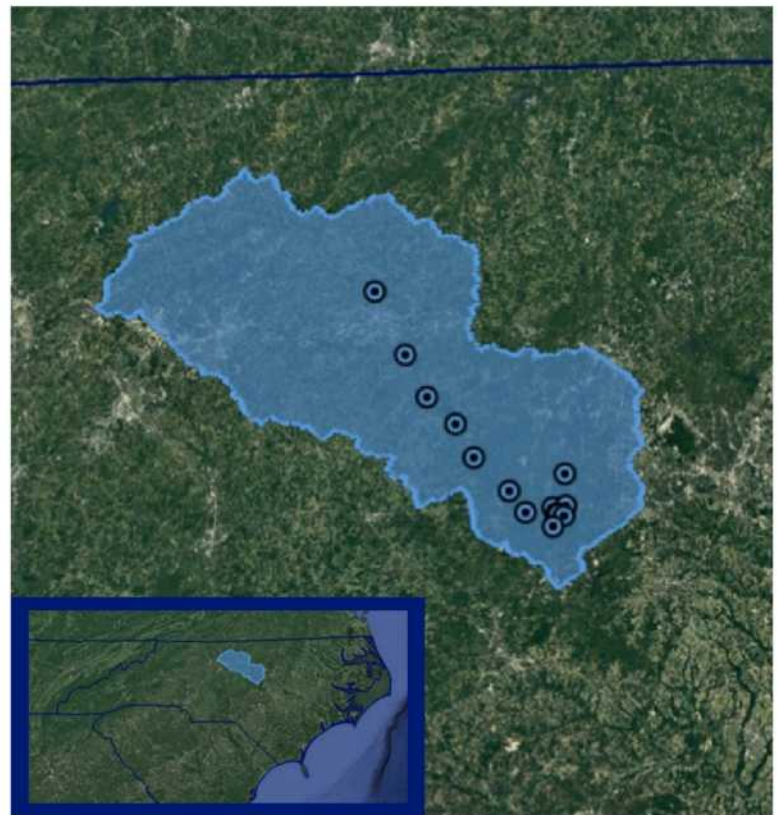
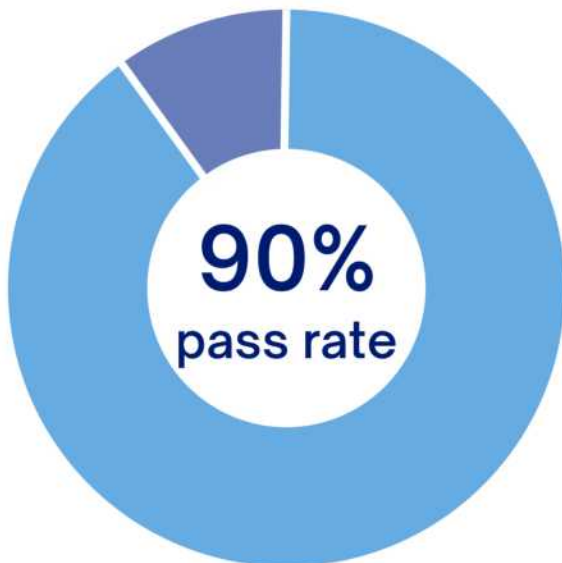
110 river miles

1700 square miles of watershed

Swim Guide Stats

14 sample sites

118 total samples collected



Map of Haw Riverkeeper jurisdiction and Swim Guide sampling sites

BROAD RIVERKEEPER®

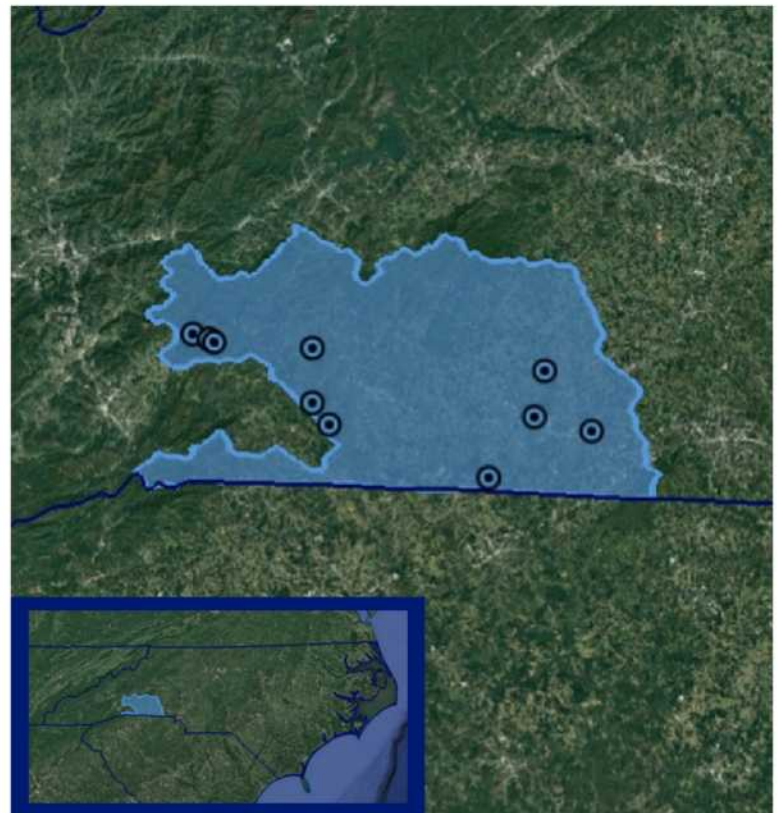
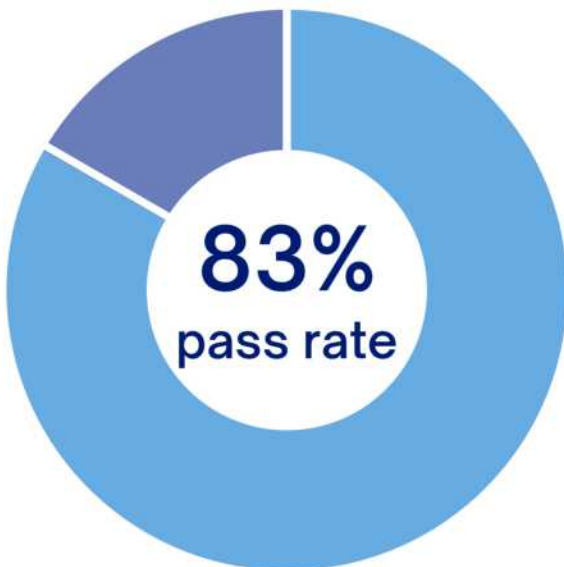


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Broad Watershed
1508 river miles
1513 square miles of watershed in NC

Swim Guide Stats

10 sample sites
150 total samples collected



Map of Broad Riverkeeper jurisdiction and Swim Guide sampling sites

FRENCH BROAD RIVERKEEPER®



Hartwell Carson

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French Broad Watershed

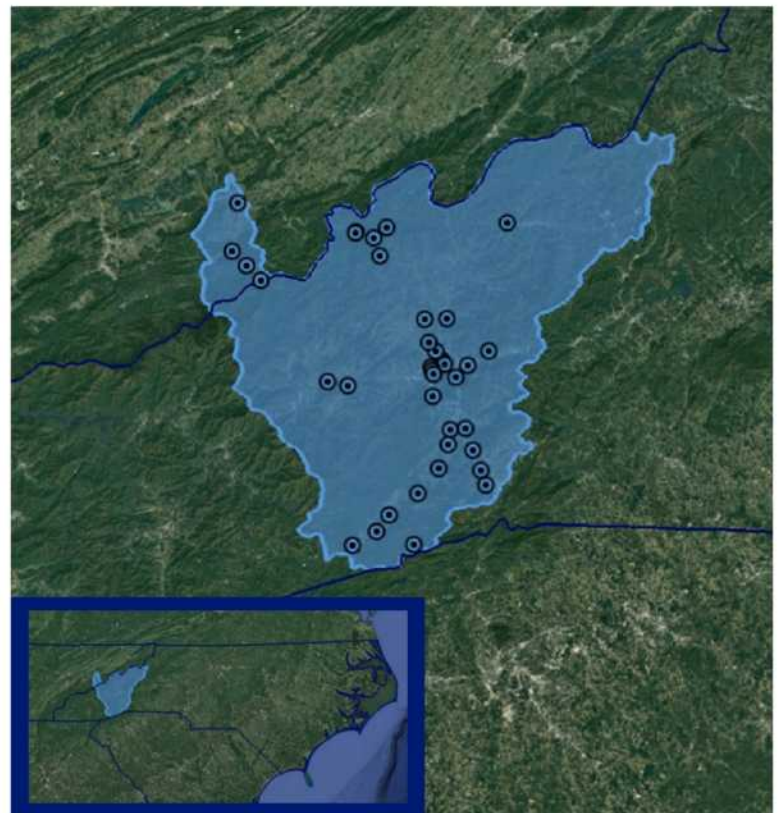
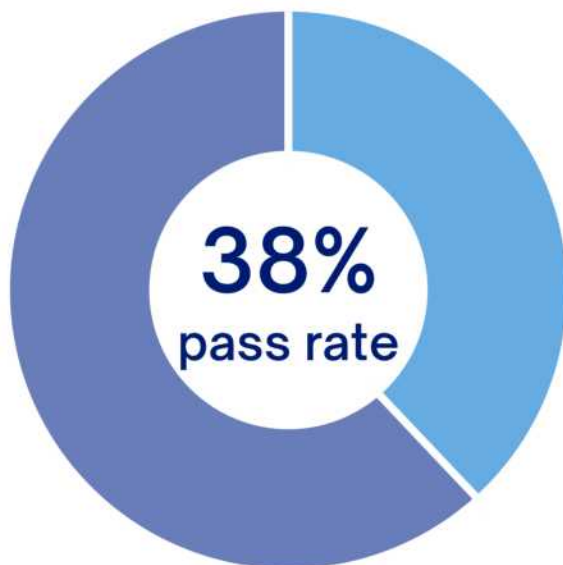
4000 river miles in NC

2830 square miles of watershed in NC

Swim Guide Stats

38 sample sites

449 total samples collected



Map of French Broad Riverkeeper jurisdiction and Swim Guide sampling sites

GREEN RIVERKEEPER®

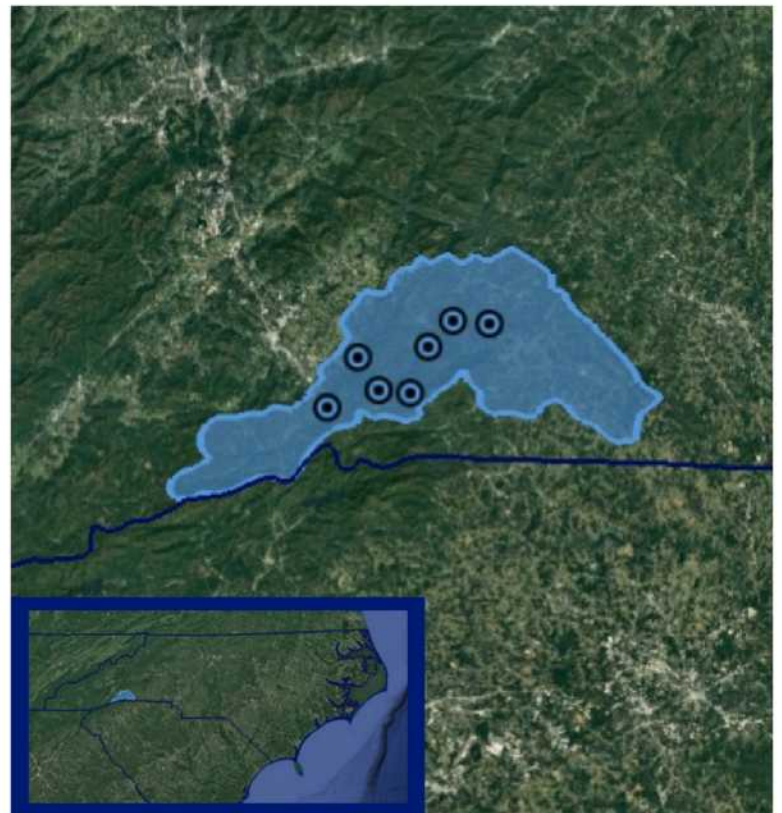
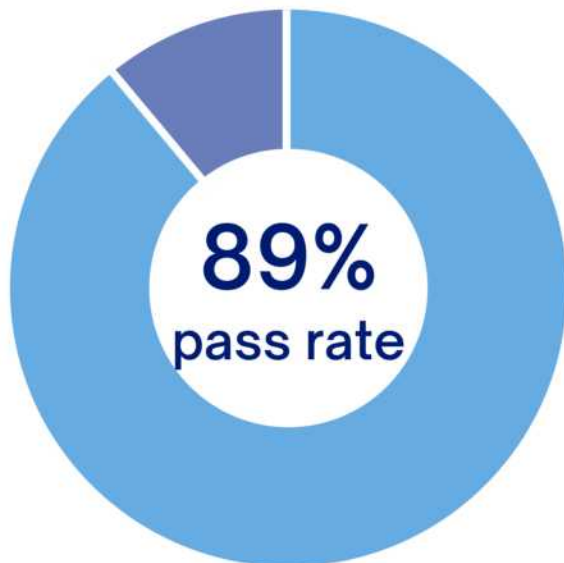


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Green Watershed
268 river miles
245 square miles of watershed

Swim Guide Stats

7 sample sites
82 total samples collected



Map of Green Riverkeeper jurisdiction and Swim Guide sampling sites

WATAUGA RIVERKEEPER®

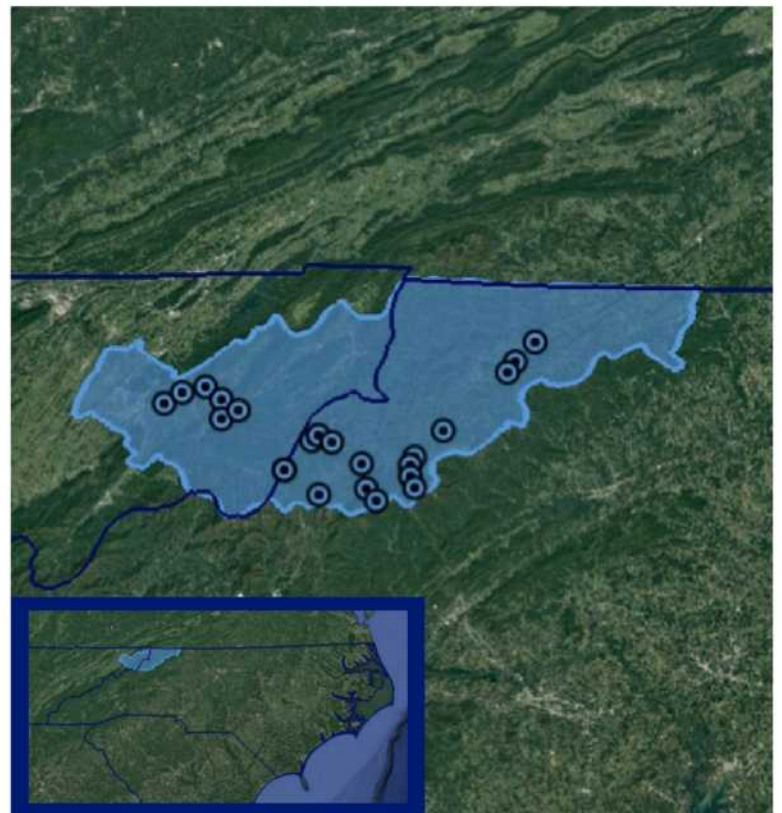
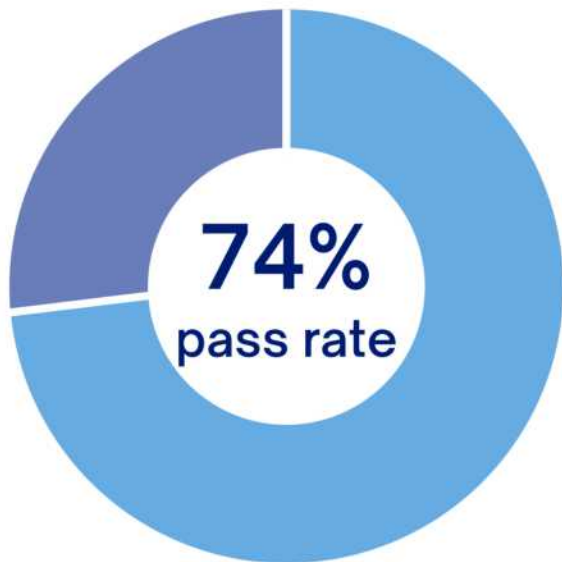


Andy Hill
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Watauga and New Watersheds
385 river miles
958 square miles of watershed

Swim Guide Stats

23 sample sites
296 total samples collected



Map of Watauga Riverkeeper jurisdiction and Swim Guide sampling sites

NEUSE RIVERKEEPER®



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Neuse Watershed

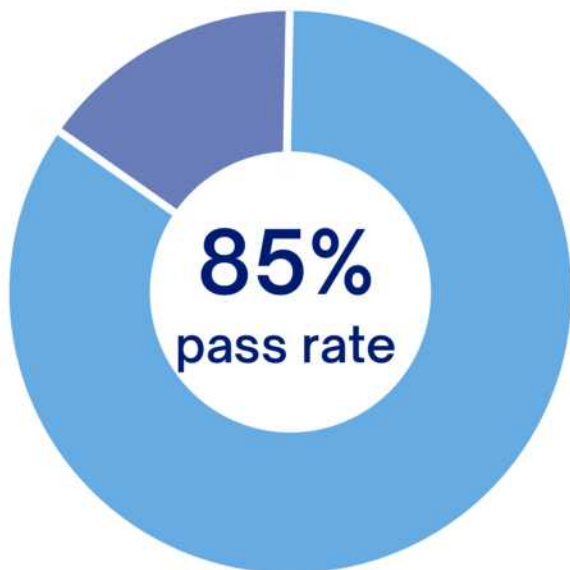
275 river miles

6500+ square miles of watershed

Swim Guide Stats

31 sample sites

429 total samples collected



Map of Neuse Riverkeeper jurisdiction and Swim Guide sampling sites

PAMLICO-TAR RIVERKEEPER®



Jillian Howell

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Tar-Pamlico Watershed

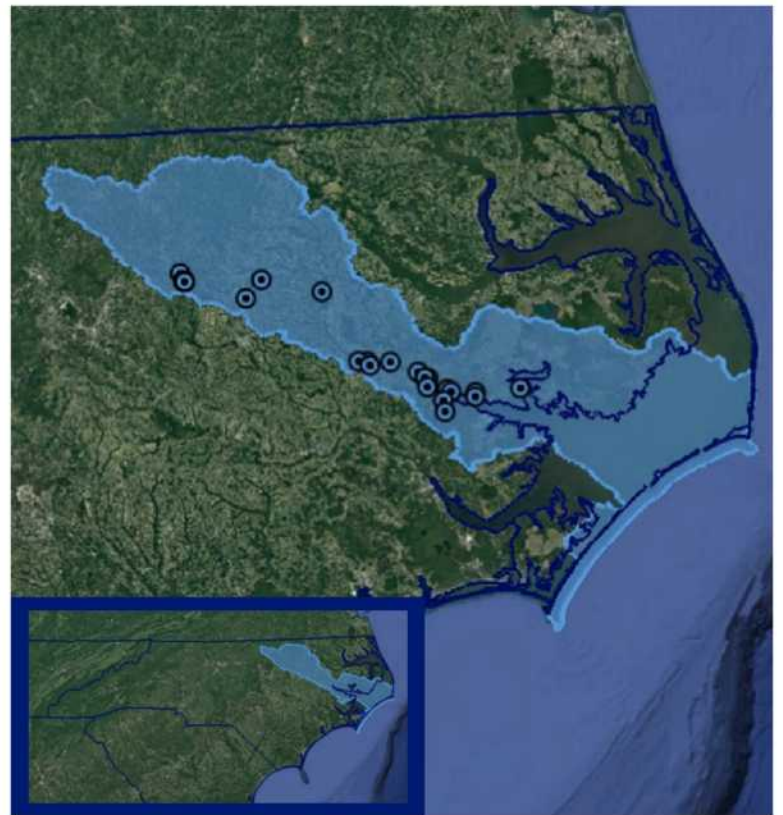
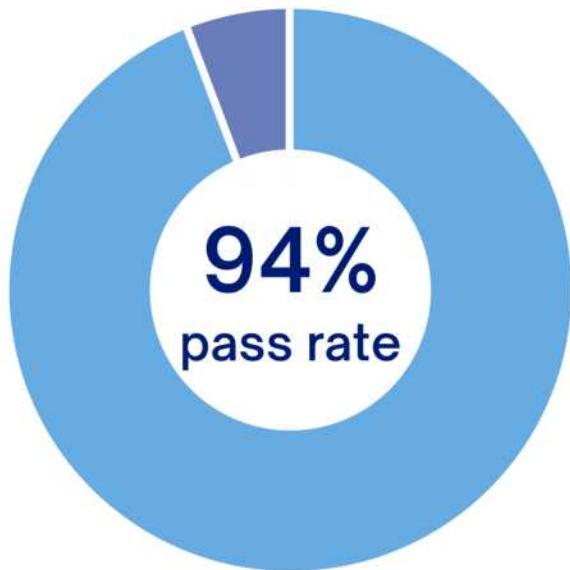
250 river miles

6400+ square miles of watershed

Swim Guide Stats

23 sample sites

319 total samples collected



Map of Pamlico-Tar Riverkeeper jurisdiction and Swim Guide sampling sites

BLACK-SAMPIT RIVERKEEPER®



Erin Donmoyer

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Black-Sampit Watersheds

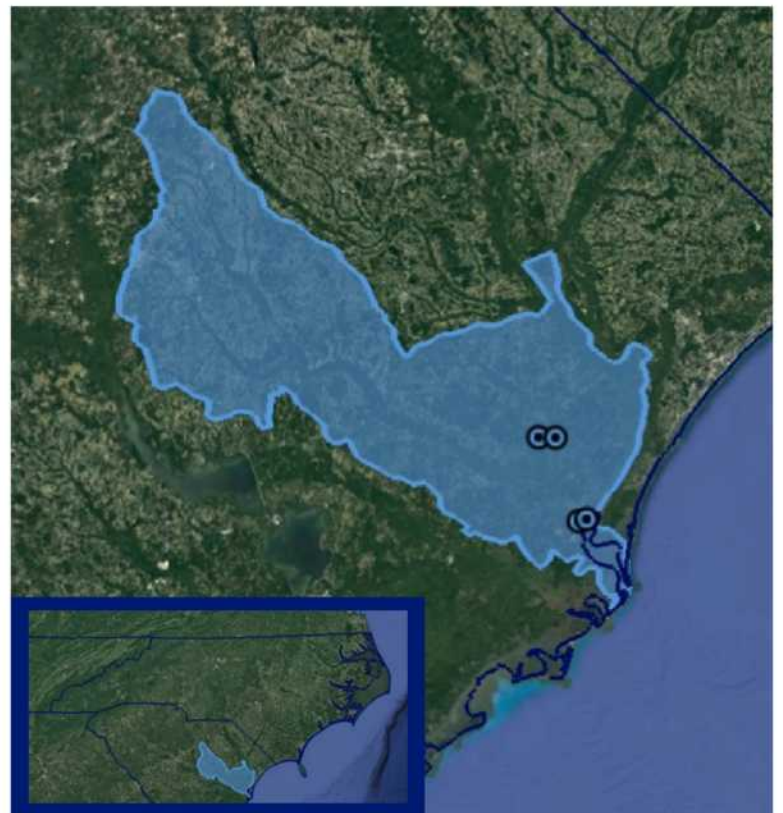
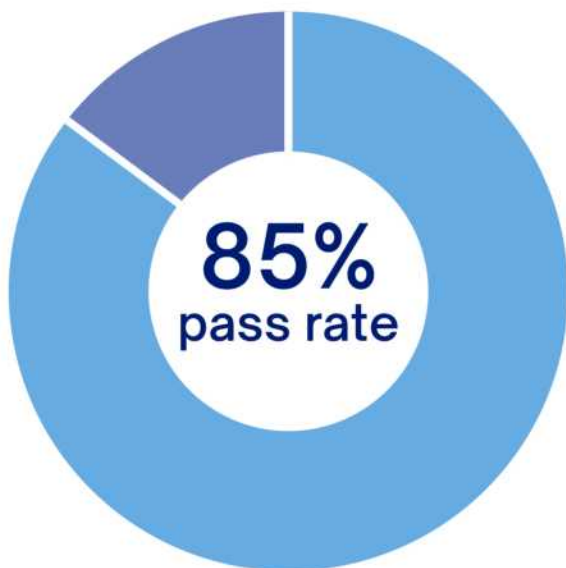
160 river miles

2145 square miles of watershed

Swim Guide Stats

4 sample sites

48 total samples collected



Map of Black-Sampit Riverkeeper jurisdiction and Swim Guide sampling sites

LUMBER RIVERKEEPER®



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Lumber Watershed

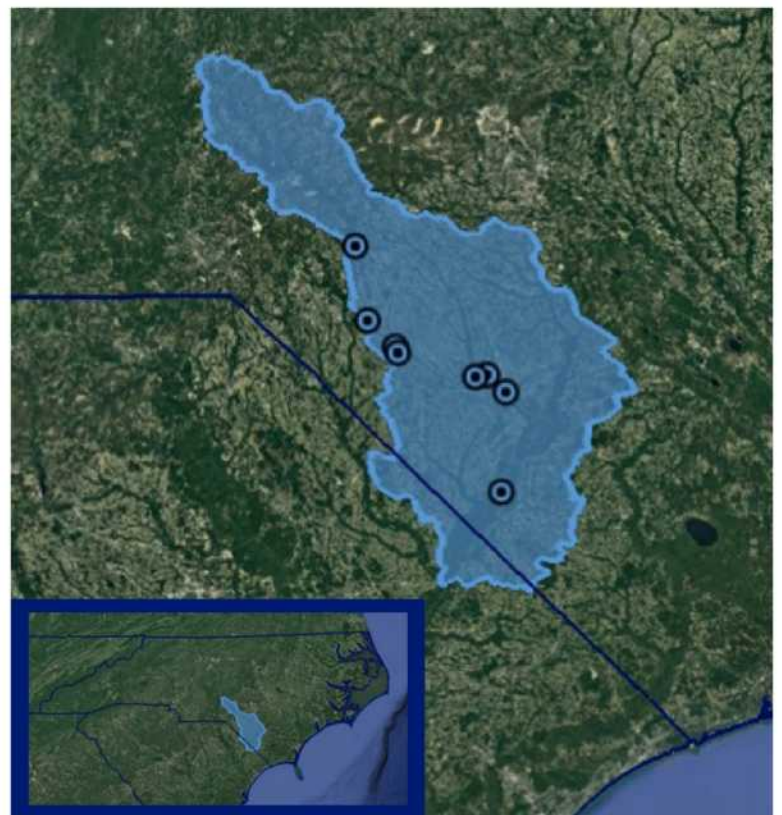
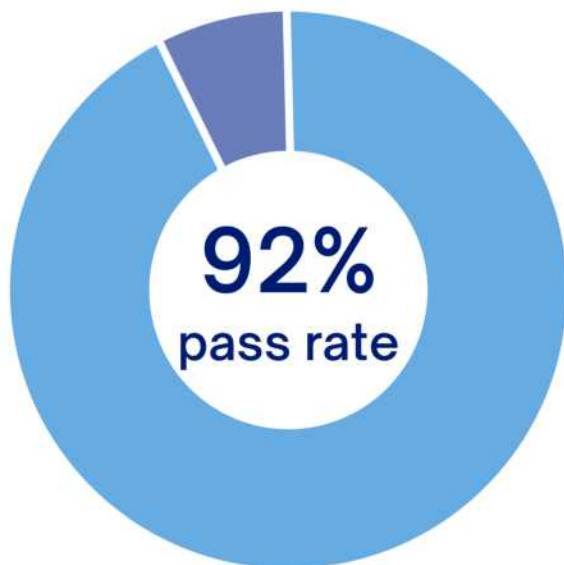
110 river miles

1700 square miles of watershed

Swim Guide Stats

8 sample sites

78 total samples collected



Map of Lumber Riverkeeper jurisdiction and Swim Guide sampling sites

WACCAMAW RIVERKEEPER®

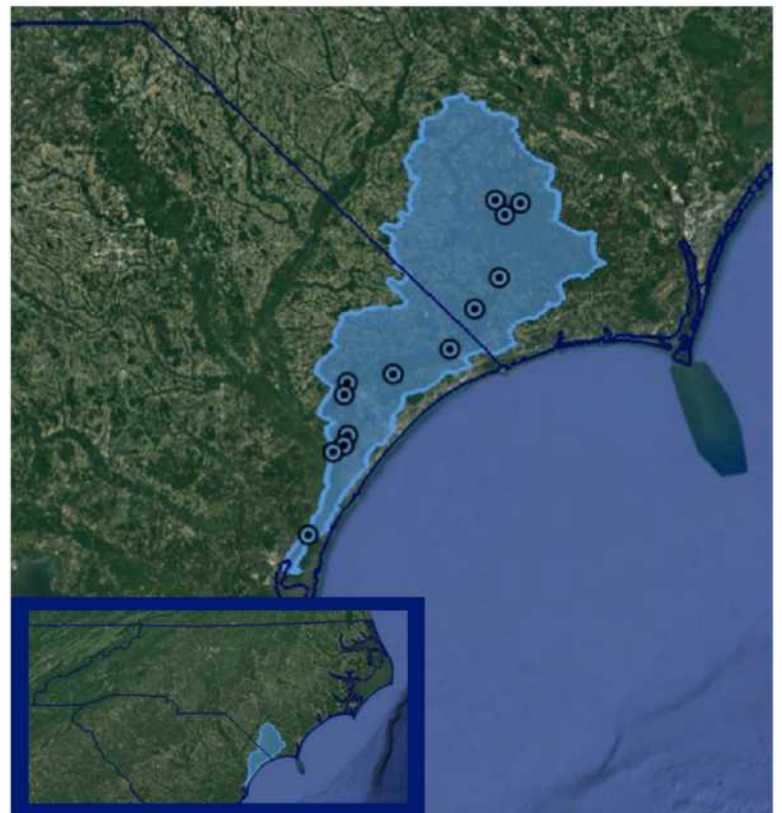
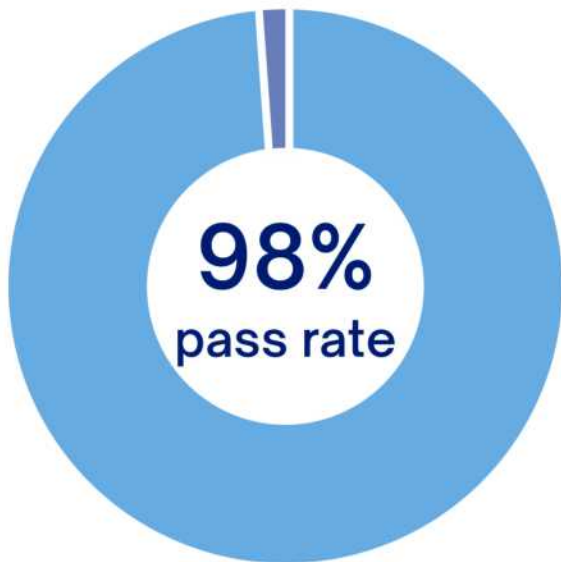


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Waccamaw Watershed
140 river miles
1640 square miles of watershed

Swim Guide Stats

14 sample sites
168 total samples collected



Map of Waccamaw Riverkeeper jurisdiction and Swim Guide sampling sites

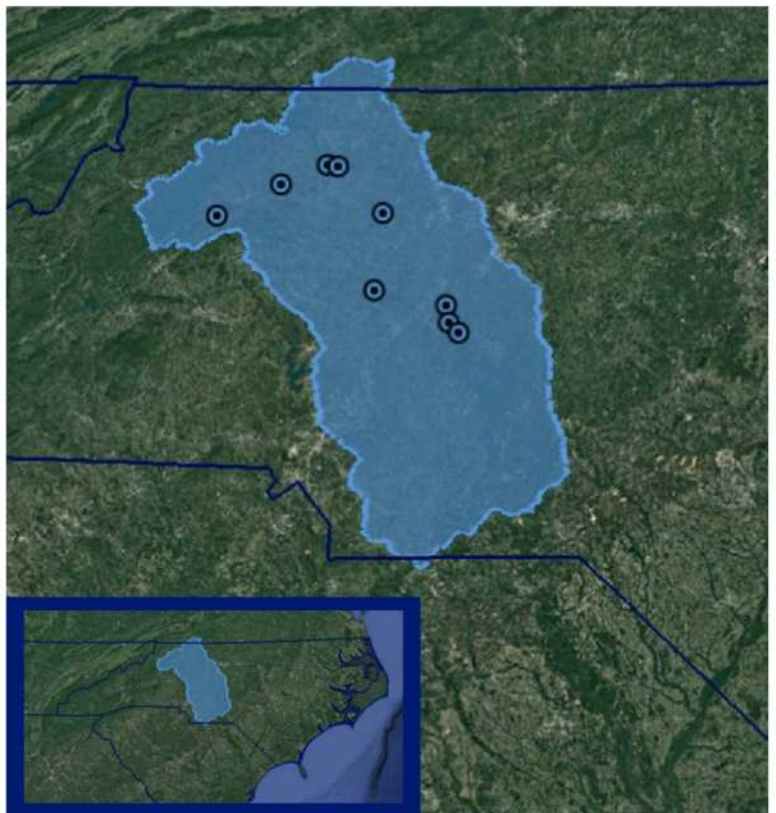
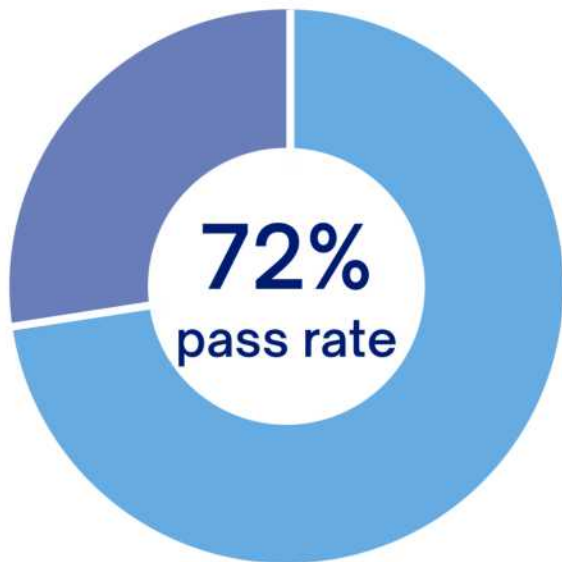
YADKIN RIVERKEEPER®



Edgar Miller
Yadkin Riverkeeper
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Yadkin-Pee Dee Basin
230 river miles
7200+ square miles of watershed

Swim Guide Stats
9 sample sites
134 total samples collected



Map of Yadkin Riverkeeper jurisdiction and Swim Guide sampling sites

How You Can Help

TRIENNIAL REVIEW

Waterkeepers Carolina has been advocating for a NC statewide E. coli standard for recreational water health in freshwater. The EPA has recommended the use of E. coli since 1986, but NC still uses the outdated fecal coliform standard. The recommendation is supported by years of science-based research. Using the best available science is integral to ensuring clean water across the state.

The standard was discussed during the 2022 Triennial Review but ultimately was not approved. You can help by advocating for best science to your state legislators. Contact them and let them know we need a current state standard.

KNOW YOUR WATERKEEPER

Do you know your local Waterkeeper? Find out who is working in your watershed and connect with them. We have provided contact information for our Keepers so you can meet them and get involved with protecting your favorite river in the Carolinas.

CHECK OUT SWIM GUIDE

This report contains information about our 2022 summer Swim Guide results. But don't take our word for it! Visit Swim Guide to view the results for yourself. You can view the data or download the app at theswimguide.org.

SPONSOR SWIM GUIDE ON YOUR RIVER

As 501(c)(3) nonprofits, we raise money through memberships, donations, and grants. Many of our organizations offer sponsorship opportunities for Swim Guide sites. Contact your local Waterkeeper to learn how you can sponsor a site on your river.

VOLUNTEER

Waterkeepers are only as good as their volunteers. In 2022, more than 100 volunteers helped with Swim Guide programs across the Carolinas. We rely on you to be our eyes and ears – and sometimes our hands – on our waters. Volunteering to help with water quality monitoring programs like Swim Guide is one way you can help.





Reducing Pollution

Our Waterkeepers need your help to reduce fecal bacteria pollution. Here is how you can help:



Pick up pet waste

While wildlife cannot pick up after themselves, we can help reduce fecal pollution by always picking up after our pets.



Do not feed wildlife

Feeding wildlife, such as geese and ducks, can increase fecal bacteria pollution by increasing the number of animals in the area.



Only flush what you must

Flushing trash and other items down the toilet can cause blockages and harm the sewer system leading to leaks.



Use pervious pavers

Impervious surfaces like driveways, sidewalks, streets, and roofs lead to increased stormwater runoff that increases pollution.



Choose sustainable food

Unsustainable farming practices create huge amounts of animal waste that can impact our waterways. Know where your food comes from!



Install a rain garden

Rain gardens with native landscapes help to reduce stormwater runoff and allows for rain to percolate through the soils and filter out pollutants.



Perform septic checks

Regular maintenance of your septic system can help prevent leaks and reduce fecal contamination. And it can save you money!



Properly irrigate yards

Excessive irrigation not only wastes water but leads to excess runoff which can carry pollutants into our waterways.



Maintain stormwater ponds

Proper maintenance of stormwater ponds allow them to do their job of filtering runoff. Proper maintenance could also include floating wetlands and native plants.



Restore buffer habitat

Providing buffers around wetlands and waterways helps to protect our rivers from increased pollution by slowing runoff.

Sample Sites by Waterkeeper

Cape Fear Riverkeeper

Black River @ Ivanhoe WRC Ramp
Black River @ Hunts Bluff WRC Ramp
NE Cape Fear @ Sawpitt Landing WRC Ramp
NE Cape Fear @ Chinquapin WRC Ramp
NE Cape Fear @ Kenansville
Greenfield Lake Boathouse
NE Cape Fear @ Castle Hayne Park*
Cape Fear River @ River Road Park*
Carolina Beach State Park*
Smith Creek @ Archie Blue Park*
Carolina Beach Lake Park*
Smith Creek Park

Catawba Riverkeeper

Catawba Nation Site**
Wylie Dam**
Fishing Creek Boat Launch
Rocky Creek**
46th Avenue Sandbar
Geitner Park
Sandbar and Grill
Gunpowder Creek
Loudanya Ln.
Hickory Water Filtration Plant
Taylorsville Beach
Catawba River Campground
Canal Bridge
Hidden Cove Access
Lake James State Park Paddys Creek
Jetton North Island
McCrary Creek
Oakwood Cove
Cove Across from Blue Parrot
Playground Island
Ramsey Creek
Slanting Bridge Cove
Norman State Park
Trump Golf
YMCA
Castle Bridge
Lakeside Park
Lookout Shoals Ramp
Big Allison**
Catawba Creek Cove
Ebenezer**
Little Allison**
Mill Creek Sandbar
River Hills**
Camp T Bird**
Tega Cay Beach Club**
Sadler Sandbar
Catawba Yacht Club
Duck Blind**
Molly Creek**
Rec Center**
Rock Pile**
Sailing Club**

Wateree State Park**
Wateree Creek Cove**
Buzzard Rock
Mt. Island
Latta Nature Beach
McDowell Creek
Mt. Holly Plant
Sand Bar
Cramerton Baltimore Access
CRF Boathouse

Dan Riverkeeper

Anglin Mill
Dan River Boat Launch
Deshazo Mill
Draper Landing
Jessups Mill
Lindsay Bridge
Moratock Park
Settle Bridge
Island Ford Access
Water St.

Haw Riverkeeper

Chicken Bridge
Ebenezer Church
Farrington Boat Access
Glencoe Dam
Hwy 64 River Access
Lower Haw State National Area
Parker's Creek
Poplar Point
Saxaphaw Island
Seaforth
Swepsonville River Park
Union Bridge Access
Vista Point
White Oak

Broad Riverkeeper

Moss Lake @ Camp Creek Ch Rd
First Broad @ Grover St
Broad River @ Greenway
First Broad @ Double Shoals
Broad River @ Coxe Rd
Broad River @ Grays Rd
Rocky Broad @ Paul Matthews Overlook
Rocky Broad @ Riverside Park
Lake Lure Swimming Beach @ the Inn
Broad River below Lake Lure WWTP

French Broad Riverkeeper

Big Laurel
Bacoate Branch
Cane Creek @ Fletcher Community Park
FB @ Barnard
FB @ Bent Creek River Park
Champion Roseman

Sample Sites by Waterkeeper

FB @ Hap Simpson
FB @ Hominy Creek Park
FB @ Horseshoe Boat Access
FB @ Hot Springs
FB @ Island Ford
FB @ Ledges Whitewater Park
FB @ Pearson Bridge
FB @ Penrose: Crab Creek Rd.
FB @ RAD Craven St. Bridge
FB @ Stackhouse
FB @ Westfeldt Park
FB @ Woodfin River Park
Hominy Creek Greenway
King Creek @ Flat Rock Park
Little River @ Cedar Mountain Canteen
Mills River Boat Access
Mud Creek @ Brookside Camp Rd.
Mud Creek @ Hendersonville (7th Ave.)
Pigeon River @ Lower Take Out/Greasy Cove**
Nasty Branch
Pigeon River @ Hartford**
Pigeon River @ Newport**
Pigeon River @ Clyde River's Edge
Pigeon River @ Canton Rec Park
Pigeon River @ Waterville**
Reem's Creek @ Karpen Soccer Fields
Rhododeron Creek @ W. Asheville Park
Spring Creek @ Hot Springs
Swannanoa @ Azalea Soccer Fields
Swannanoa @ Charles D. Owen
Shiloh Community Garden
Cane River Sports Complex

Green Riverkeeper

Green River @ Pot Shoals Rd.
Big Hungry River @ Big Hungry Rd.
Green River @ Fishtop Access
Cove Creek @ Bradley Falls Trailhead
Green River @ Big Rock Access
Lake Adger Marina
Green River @ Rt. 9/Turner Shoals Access

Watauga Riverkeeper

321 Access Upper Gorge Park
Beech Creek
Boone Greenway
Brookshire Park
Calloway Road Bridge
Elk River Falls
Elk River Hickory Nut Gap Bridge
Guy Ford Rd. Bridge
Middle Fork Greenway
New River State Park 221 Access
New River State Park Wagoner Access
Payne Branch Park
Price Lake
Sheets Bridge Access
Todd Island Park

Valle Crucis Community Park
Wildcat Lake
Blevins Rd. Boat Ramp**
Hunter Bridge**
Lover's Ln.**
Shook Branch Swimming Area**
Watauga Point Recreational Area**
Wilbur Dam Put In**

Neuse Riverkeeper

Hickory Hill
Beaver Dam
Ledge Rock
Rolling View
Highway 50
Upper Barton
Falls of Neuse
Buffaloe Rd.
Milburnie
Anderson Pt.
Poole Rd.
Clayton River Walk
Smithfield Town Commons
Neuse Golf Club
Oak Bluff Rd.
HWY 11 Kinston Boating Access
Core Creek
Cowpen Landing
Spring Garden Boat Ramp
Glenburnie
Bridgeton
Blackbeard Sailing Club*
Havelock Boat Ramp (Slocum)
Pollocksville
River Bend Kayak Launch
Trent Woods
Brice's Creek
Lawson Park
Pierce Creek*
Midyette St.*
Rice Creek*

Pamlico-Tar Riverkeeper

Woodstock Point
Plum Point*
Bonner's Point*
Blount's Bay*
Cypress Landing
Wildwood Park
River Rd.
Dinah's Landing @ Goose Creek*
Cotton Patch Landing*
Washington Waterfront
Tar River Reservoir
Pamlico Plantation*
Sunset Park
Mason's Landing
Yankee Hall

Sample Sites by Waterkeeper

Town Commons

Havens Garden

Port Terminal

Lake Royale - Clubhouse Beach

Lake Royale - Clubhouse Boat Dock

Lake Royale - Moccasin Dock

Lake Royale - Pavilion Beach

Lake Royale - Pavilion Boat Side

Black-Sampit Riverkeeper

Browns Ferry Landing**

Rocky Point Community Forest**

Carroll Ashmore Campbell Marine Complex**

East Bay Park**

Lumber Riverkeeper

Hwy 401 Wagram NC Wildlife Landing

Old Maxton Bridge

Recreation Center Rd.

Harper's Ferry Church

Kenric Dr. NC Wildlife Landing (McNeil's Bridge)

Luther Britt Park

High Hill NC Wildlife Landing

Princess Ann Landing @ Lumber River State Park

Waccamaw Riverkeeper

Lake Waccamaw State Park Launch

NC Wildlife Canal Cove Boat Ramp

Lake Waccamaw Dam

Babson's Boat Landing

Pireway Boat Ramp

Chris Anderson Landing**

Reaves Ferry Landing**

City of Conway Waterfront**

Pitch Landing**

Peachtree Landing**

Enterprise Landing**

Bucksport Marina**

Wacca Wache Landing**

Hagley Landing**

Yadkin Riverkeeper

Boomer Park Swim Area

Roaring River Public Fishing Access

Burch Station @ Mitchell River Access

Yadkin Shore Access @ US 601

Huntsville/Bob Pate River Access

The Bullhole Riverpark

Abbotts Creek Access @ NC 47 Bridge

Flat Swamp/Pebble Beach

Buddle Creek Swim Area

* Sampled using enterococci

** Sample site located outside of NC