



— CATAWBA —
LANDS CONSERVANCY

LAND | WATER | FARMS | NATURE



STRATEGIC VISION
85,000 ACRES OF NATURE
PRESERVES, PARKS, AND
SPECIAL PLACES....
ALL CONNECTED BY OVER 1,600
MILES OF CAROLINA THREAD TRAIL.

*Saving Land and
Connecting Lives to Nature*



SAVING LAND



LOCAL FARMS



WILDLIFE HABITAT



CONNECTION TO NATURE

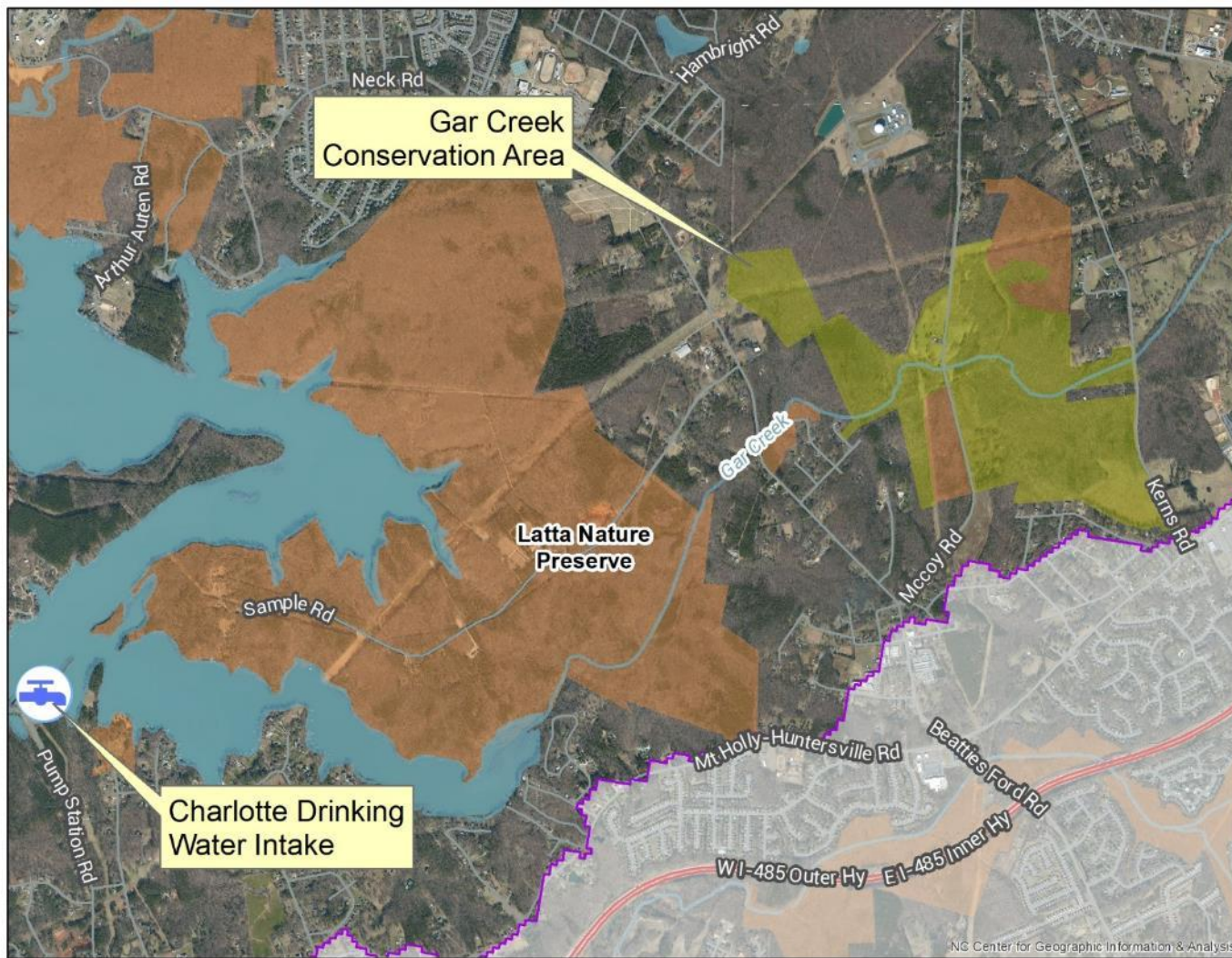


CLEAN WATER

A group of people, including children and adults, are exploring a stream in a lush, green forest. One person is crouching by the water's edge, while others stand nearby. The stream is rocky and surrounded by dense vegetation.

PROTECTING DRINKING WATER

GAR CREEK CONSERVATION AREA



IMPACT: CLEAN, PLENTIFUL WATER



- ▶ Catawba River Basin
 - ▶ Provides drinking water to 10% of North Carolinians
- ▶ Mountain Island Lake provides drinking water for 1M+ people in Mecklenburg County
 - ▶ 3 primary tributaries:
 - ▶ Johnson Creek
 - ▶ Gar Creek
 - ▶ McDowell Creek
- ▶ Healthy water needs a healthy forest





PRESERVING OUR TREE CANOPY

SPEARS CONSERVATION EASEMENT

“It’s really important to conserve land in Charlotte because we all see the rapid way the city is developing....and trees become more important to protect.”

– Erin Oliverio, Tree Canopy Program Manager



IMPACT: AIR QUALITY

- ▶ Forests improve air quality, prevent erosion and provide residential cooling
- ▶ Conserved lands sequester 45,000 tons of carbon annually
- ▶ Equivalent to removing 10,000 cars from roads each year



A man and a woman are walking towards the camera in a large, open grassy field. The man is wearing a tan jacket and blue overalls, and the woman is wearing a dark vest and blue jeans. To their left, a brown and white horse and a black and white horse are standing. In the foreground, a golden retriever is running. The background shows a line of trees and a clear sky.

CONSERVING LOCAL FARMS

BRADFORD FARM

“[My] Family has been here since 1760....we felt it fitting to protect it and not develop it. It’s a serene feeling just knowing that it’s protected forever.”

– Grier Bradford, landowner



IMPACT: POLLINATORS AND LOCAL FOOD

- ▶ Managing rights of way to enhance pollinator habitat supports food production
- ▶ Vision to expand Pollinators and Power lines project across Mecklenburg County





PRESERVING OUR HISTORY

RAMAH CREEK CONSERVATION AREA

IMPACT: BLACK HISTORY

- ▶ Freeman property
- ▶ 28 acres in Charlotte
- ▶ Last known cabin in Mecklenburg County occupied by enslaved persons



A group of people, including a woman in a green patterned top and denim shorts, are walking through a lush green forest. In the foreground, a young boy with blonde hair is looking down at something on the ground. He is wearing a dark blue t-shirt with a fire department logo that says "FIRE DEPT." and features a fire truck. The background shows other people, including a man in a dark shirt and a woman in a white shirt, also walking through the woods. The scene is filled with sunlight filtering through the trees.

CONNECTING LIVES TO NATURE



PROVIDING ACCESS

EASTOVER RIDGE PRESERVE

A photograph showing two people engaged in planting a tree in a wooded area. The person on the left, a woman with blonde hair wearing a light blue t-shirt and blue jeans, is bent over, holding a large, colorful, patterned bag. The person on the right, a man wearing a black long-sleeved shirt, black pants, and a light-colored baseball cap, is standing and holding the bag. They are positioned around a newly dug hole in the ground where a young tree sapling is being planted. The background consists of many trees, some with bare branches and some with green leaves, suggesting a spring or early summer setting. A small stream or pond is visible in the lower left background. The text "CARING FOR NATURE" is overlaid in the center of the image in a bold, white, sans-serif font.

CARING FOR NATURE

IMPACT: RESTORING NATIVE HABITATS

- ▶ Catawba Grasslands Project
- ▶ 90% of grasslands lost
- ▶ 120 acres of grasslands
- ▶ 4 imperiled species



A paved trail winds through a lush green forest. In the foreground, a man in a blue t-shirt and dark pants walks away from the camera, holding a leash for a white dog. Further down the path, a woman in a red shirt and blue shorts is jogging. In the distance, other people are visible, including one walking a dog and others on bicycles. The scene is bright and sunny, with tall trees lining the path.

CREATING CONNECTIONS

CAROLINA THREAD TRAIL



CONNECTING TO OUR RIVERS

BLUEWAYS

A photograph of two women participating in a field activity in a swampy forest. The woman in the foreground, wearing a maroon hoodie and black pants, is holding a yellow net and a white bucket. The woman in the background, wearing a green jacket and blue pants, is holding a long-handled net. The water is dark and reflects the surrounding trees and sky. The text "EMPOWERING EDUCATION" is overlaid in large white letters, and "WHITEHALL NATURE PRESERVE" is overlaid in smaller white letters below it.

EMPOWERING EDUCATION

WHITEHALL NATURE PRESERVE

“I’ve been coming here with students now for 6 years. It’s a really unique opportunity for students when they walk in and they see the vast size of this wetland.”

- Dr. Scott Weir, professor at Queens University



CONSERVATION IS FOREVER, HAS BENEFITS FOR ALL



WHEN NATURE THRIVES, OUR COMMUNITY THRIVES





THANK YOU



**CATAWBA
RIVERKEEPER®**

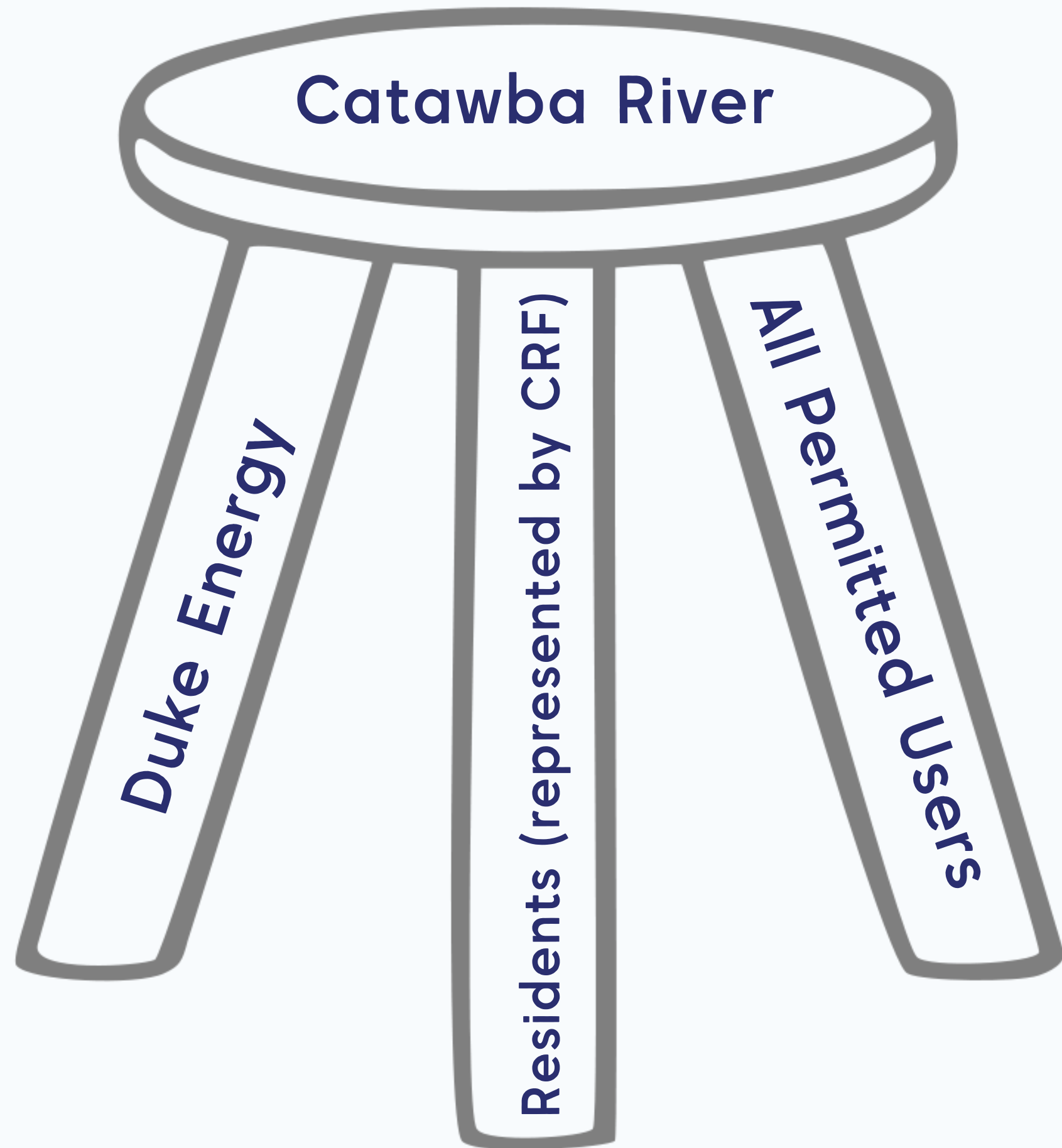
EDUCATE | ENGAGE | PROTECT

HISTORY

PROTECTING YOUR
WATER WITHOUT
COMPROMISE



- Founded in 1997
- Serve 26 counties in North and South Carolina
- The Catawba River is "the hardest working river in America" - it provides more electricity per mile than any other river in the U.S.
- Drinking water & Electricity for over 3 million people
- 8,900 miles of rivers, creeks, and streams in an over 5,000 sq mile basin
- 6,800+ members



The Catawba River is like a 3 legged stool that needs its legs in balance to remain healthy, plentiful, and vibrant.

The legs are:

- Duke Energy - manages the dams which control lake levels and flow of the river.
- 350 Permitted Users - municipalities, utilities, and private companies who take water out of the river for use by their customers and discharge water back into the river after they use it.
- Residents - the nearly 4 million people that live in the Catawba River Basin are the third leg of the stool. Catawba Riverkeeper represents the interests of the residents

Why Catawba Riverkeeper? Balance.

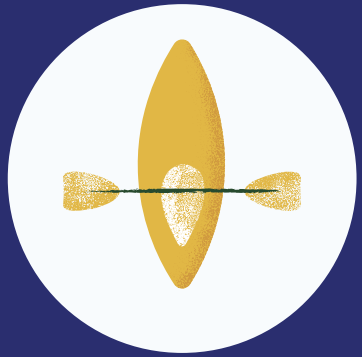
Why It Matters: Giving a Voice to the River



Water Quality



Water Quantity



Recreation



Drinking Water



A Legacy for Future Generations



Vibrant Communities



Property Values



An Overall Healthy Environment

WHAT MAKES US UNIQUE

1

COLLABORATION

Water challenges affect everyone. Three offices around the basin gives us the ability to have a comprehensive view of the basin and coordinate collaboration amongst diverse stakeholder groups.

2

SAMPLING & TESTING

As the state agencies continue to cut budgets and staff, we are one of the few truly independent groups doing regular sampling and testing and reporting those results to the community - more than 6,500 in 2021.

3

EDUCATION

Educating people of ALL ages and ALL backgrounds from around the basin is the best way that we are going to impact long term change. We have invested in delivering educational content for all ages.

4

ON THE WATER

We are on the water on a regular basis. With monitoring boats and members deployed across the basin, we are the eyes and ears of the water.

TODAY'S PRIORITIES

1

STORMWATER

Runoff from land use changes is the single largest source of pollution into the river. Its impacts are most notable in creeks and coves.

3

SWIM, DRINK, FISH

Monitor and Advocate to ensure all waterways are meeting the needs of humans and the broader ecosystem.

2

PERMITTED POLLUTION

There are over 350 permitted discharges of pollution into the river. Every 5 years these permits come up for comment, adjustment, and renewal.

4

RESTORATION

Improve and restore degraded waterways within the basin to improve water quality, flood resiliency, and recreational value.

Ways to Get Involved



**CATAWBA
RIVERKEEPER APP**



VOLUNTEER



**BECOME A
MEMBER**



**CATAWBA
RIVERKEEPER®**

John Searby

Executive Director

john@catawbariverkeeper.org

704-679-9494 x101

www.catawbariverkeeper.org



LAKE WYLIE
MARINE COMMISSION





LAKE WYLIE
MARINE COMMISSION

Mission Statement

To promote public policies and support regulations for the preservation of Lake Wylie and its wildlife and for the education and safety of the citizens who use this beautiful natural resource.

About the Lake Wylie Marine Commission

- Established in 1987 – Identical State Laws (NC/SC)
- 9 Commissioners – County Appointed
 - 3 each from Mecklenburg, Gaston, and York counties
- Staff : Administrator, Attorney, Executive Director
- Safety
- Environment
- Pollution / Sedimentation
- Laws & Law Enforcement
- Education



Safety – Life Jackets



Safety – Buoys

- DANGER BUOYS
 - State Approves and Maintains
- NO WAKE BUOYS
 - LWMC Screens and Forwards to NCWRC / SCDNR



Environment – Riversweep



LAKE WYLIE
MARINE COMMISSION

Environment – RIVERSWEEP

- LWMC JOINED THE CATAWBA RIVERKEEPER FOUNDATION (CRF) IN BASIN-WIDE CLEANUPS
- 2021 RIVERSWEEP RESULTS:
 - 1700 VOLUNTEERS, 55 SITES – 53,585 LBS. OF TRASH COLLECTED FROM LAKE JAMES TO LAKE WATEREE
 - 458 VOLUNTEERS, 10 SITES – 9000 LBS. OF TRASH COLLECTED FROM LAKE WYLIE

Environment – Hydrilla Control



LAKE WYLIE
MARINE COMMISSION

Photo by
Sandy Dupuy

Environment - Alligator Weed



- Thrips

Environment – Clean Marina Program

- Sewage handling
- Storm water management
- Boat maintenance activities
- Solid waste management
- Safety and emergency planning
- Oil and other hazardous waste handling



Environment- Shorescaping



SHORESCAPING LAKE WYLIE

A shorescape is a landscaped shoreline that uses attractive, native, plants to protect and beautify the waterfront. A well designed shorescape:

Decreases shoreline erosion, enhances water quality, and provides solutions for invasive weeds and wildlife management.

Can serve as a waterfront garden that improves the appearance of shorelines and adds value to the property.



What Can You Do?

- * Plant trees in Fall and Spring.
- * Cut back and harvest the plant crowns once each year prior to growing season.
- * Group plants in a naturalistic way.
- * Plant for future growth and leave space for filling out.
- * Weed control is best done by hand.
- * If herbicides or pesticides are necessary, use herbicides labeled for aquatic use.
- * Choose a diversity of plant types and sizes: include ground covers, grasses, flowering perennials, shrubs and trees.
- * When purchasing plants, check the scientific names and match them to Native plant recommendations listed at <https://tinyurl.com/y9nvuc8q> or Clemson Carolina Yards Plant Database see examples below.
- * Pay attention to the directions that come with the plant (sun/shade, soil moisture requirements etc.).
- * Plant close together for less potential weed invasion to the shorescape.
- * Create a no-mow area around the water's edge 30 ft. or more.
- * Avoid pipes or stormwater conveyances that will be blocked by planting.
- * Mowed or cut plant material should not be left in place or allowed to wash into the water.

Learn More

For More Information
 Lake Wylie Marine Commission
www.lakewyliemarinecommission.com
 Share your pictures with us @[lakewyliemc](https://twitter.com/lakewyliemc)

Local Native Plant Nurseries

Carolina Wild	Anderson, SC
Native Plant Nursery	Burnsville, NC
Carolina Wetland Services Inc.	Charlotte, NC

Where to plant	Type of plant	Common name	Species name	Image
At the water line	Herbaceous perennial	Pickeralweed	Pontederia cordata	
At the water line	Perennial grass	Soft Rush	Juncus effusus	
On the slope	Annual	Swamp Sunflower	Helianthus angustifolius	
On the slope	Deciduous shrub	Buttonbush	Cephalanthus occidentalis	
Upland of slope	Live stake tree species	Black Willow	Salix nigra	



LAKE WYLIE
 MARINE COMMISSION

Environment – Water Quality



Lake Wylie Water Quality Report November 2021

Past Year

Lake Use Support Index

January 2021 – November 2021

Key:

	Lake Use Support Index (Overall Water Quality)
	Swimmable (Fecal coliform bacteria)
	Ecological Health (NC Trophic State Index)
(Not shown: Metals, Turbidity, Field Parameters)	
	Supporting + 95-100
	Supporting 90-95
	Partially Supporting 70-90
	Impaired 50-70
	Degraded 0-50

Data used for calculations were collected by Charlotte-Mecklenburg Storm Water Services at individual sites every other month (January, March, May, July, Sept., Nov.)

Current Month Bacteria Results

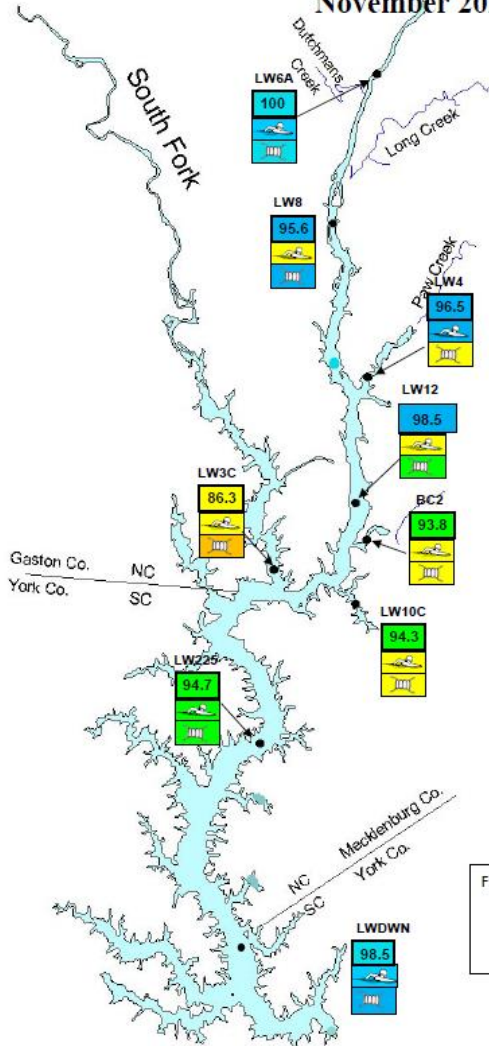
Site	Date	Fecal Coliform (col./100 ml)	E. Coli (MPN/100 ml)
BC2	11/8	23	24
LWDWN	11/8	3	3
LW10C	11/8	13	13
LW8	11/8	4	5
LW12	11/8	9	12
LW225	11/8	13	13
LW3C	11/8	2	5
LW4	11/8	3	6
LW6A	11/8	6	3
Reference value		200	200

Fish Consumption Advisories issued by the NC Div. of Public Health to protect citizens from exposure to contaminants like PCBs and mercury.



Largemouth Bass

For more information: stormwater.charmeck.org



Lake Wylie

- Routine lake monitoring for September conducted on 11/8/21
- Average water temperature on day of sampling = 60.3 F
- Lake level on day of monitoring = 97.0 ft (target = 97.0 ft)
- Average water clarity on day of monitoring = 1.5 m (4.92 ft)

Routine Monitoring	Site	Description
	BC2	Brown's Cove
	LWDWN	Main Channel @ Windjammer Point
	LW10C	Wither's Cove
	LW8	Main channel at Interstate 85 bridge
	LW12	Main channel, downstream of Paw Creek
	LW225	Main channel at Buster Boyd Bridge (Hwy 49)
	LW3C	South Fork Catawba River (at Hwy 273 bridge)
	LW4	Paw Creek Cove
	LW6A	Headwaters, upstream of Dutchman's Creek

Routine Lake Monitoring Efforts (every other month)

Physical Parameters	Wet Chemistry Analyses
• Secchi Depth in meters (water clarity)	• Fecal Coliform Bacteria (CFU/100ml)
• Temperature (°C)	• E.coli Bacteria (MPN/100ml)
• Specific Conductivity (µS)	• Turbidity (NTU)
• Dissolved Oxygen (% and mg/l)	• Nitrate/Nitrite (mg/l)
• pH	• Ammonia (mg/l)
• Turbidity (NTU)	• Total Phosphorus (mg/l)
• Chlorophyll A (RFU)	• Total Kjeldahl Nitrogen (mg/l)
	• Chlorophyll A (µg/l)

Questions/Comments/More information? Please contact:

Dave Ferguson, Sr. Environmental Specialist dave.ferguson@mecknc.gov

Law Enforcement

- Charlotte-Mecklenburg Police Department (CMPD): **SONAR for police boat**
- York County Sheriff's Office (YCSO): **Training materials**
- Gaston County Police Department (GCPD): **Seed money for boat house earmarked -**
- Yearly life jacket replenishment for all



Laws

- 2016 - Stopped illegal dumping of cleared logs
- 2017 - Lobbied NC Representatives to oppose Senate Bill 484 which would eliminate Riparian Buffers
- 2021 - Successfully lobbied against budget that would diminish erosion control measures
- 2022 - Addressing inconsistencies of idle-speed regulations between the two states

Pollution and Sedimentation

**SEDIMENTATION
IS A CANCER ON
THE LAKE**



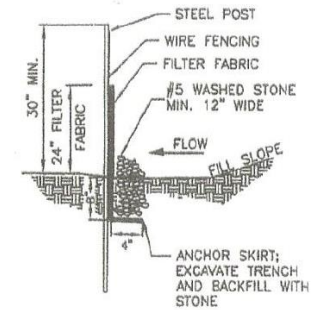
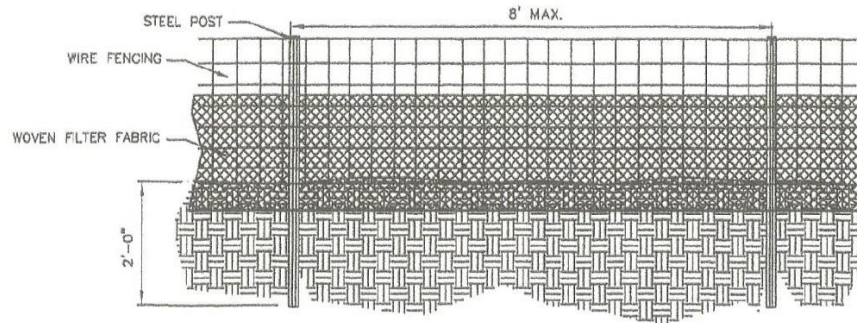
**LAKE WYLIE
MARINE COMMISSION**

Sedimentation– Erosion Control

- JOINT BOAT TOUR IN APRIL WITH GASTON AND MECKLENBURG COUNTY COMMISSIONERS AND OFFICIALS
 - LED TO BRIEF BY RUSTY ROZZELLE TO GASTON COUNTY COMMISSION
 - GASTON COUNTY REVIEWING POSSIBILITY OF ENHANCED STORMWATER CONTROL MEASURES (SCMs) COUNTY-WIDE



Sedimentation - Erosion Control



GENERAL NOTES:

1. FILTER FABRIC FENCE SHALL BE A MINIMUM OF 32" IN WIDTH AND SHALL HAVE A MINIMUM OF 6 LINE WIRES WITH 12" STAY SPACING.
2. WOVEN FILTER FABRIC BE USED WHERE SILT FENCE IS TO REMAIN FOR A PERIOD OF MORE THAN 30 DAYS.
3. STEEL POSTS SHALL BE 5'-0" IN HEIGHT AND BE OF THE SELF-FASTENER ANGLE STEEL TYPE.
4. WIRE FENCING SHALL BE AT LEAST #10 GAGE WITH A MINIMUM OF 6 LINE WIRES WITH 6" STAY SPACING.
5. TURN SILT FENCE UP SLOPE AT ENDS.
6. WIRE AND WASHED STONE IS REQUIRED TO BE SHOWN ON PLANS AT THE TOE OF SLOPES GREATER THAN 10 FEET VERTICAL (2:1 SLOPE)
7. ORANGE SAFETY FENCE IS REQUIRED AT BACK OF SILT FENCE WHEN GRADING IS ADJACENT TO SWIM BUFFERS, STREAMS OR WETLANDS (REFER TO SWIM BUFFER GUIDELINES). THE COLOR ORANGE IS RESERVED FOR VISUAL IDENTIFICATION OF ENVIRONMENTALLY SENSITIVE AREAS.
8. DRAINAGE AREA CAN NOT BE GREATER THAN 1/4 ACRE PER 100 FT OF FENCE.
9. SLOPE LENGTHS CAN NOT EXCEED CRITERIA SHOWN IN TABLE 6.62A NORTH CAROLINA EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.
10. DO NOT INSTALL SEDIMENT FENCE ACROSS STREAMS, DITCHES, WATERWAYS OR OTHER AREAS OF CONCENTRATED FLOW.

MAINTENANCE NOTES:

1. FILTER BARRIERS SHALL BE INSPECTED BY THE FINANCIALLY RESPONSIBLE PARTY OR HIS AGENT IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS NEEDED SHALL BE MADE IMMEDIATELY.
2. SHOULD THE FABRIC DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL IS NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH HALF THE HEIGHT OF THE BARRIER. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS REMOVED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

NOT TO SCALE

APPENDIX A

HIGH HAZARD
TEMPORARY SILT FENCE

Sedimentation – Erosion Control

- PETITIONED BELMONT CITY COUNCIL FOR ENHANCED SCMs - **CONDITIONAL REZONING** FOR A **DEL WEBB** PROJECT ON THE SOUTH FORK RIVER
- ACTIVE CONSTRUCTION MEASURES
 - DOUBLE HIGH HAZARD SILT FENCING IN SOME AREAS
 - LARGE SEDIMENT BASINS WITH FOREBAYS , BAFFLES, AND DEWATERING SKIMMERS WITH FILTER BAGS AND SHUTOFF VALVES ON THE ON THE DISCHARGE PIPING
 - CONTINUOUS AUTOMATED MONITORING DEVICE FOR MEASURING TURBIDITY, WATER LEVEL, AND RAINFALL
 - THIRD PARTY INSPECTION AFTER RAINFALL > ½”
 - RESEEDING DISTURBED AREAS IN 5 DAYS

Sedimentation - Erosion Control

POST CONSTRUCTION EROSION CONTROL

- SCMs CAPABLE OF RETAINING THE 25-YEAR STORM RUNOFF VOLUME WITH AN OUTFALL SIZED TO CONVEY THE 10-YEAR STORM VOLUME OVER A PERIOD OF 3-5 DAYS

SCMs NOT APPROVED

- PRE AND POST CONSTRUCTION BATHYMETRIC SURVEYS
- NEEDED FOR ACCOUNTABILITY
 - TORRENCE CREEK - MATTAMY HOMES
 - MOUNTAIN ISLAND LAKE - LENNAR HOMES
 - MILL CREEK - DR HORTON

Sedimentation - Erosion Control

South Fork River

- Major sedimentation build up off Belmont
 - Residents angry about inability to access to main channel and use their docks
- LWMC petitioned NCWRC to relocate Danger buoys
- Paradise Point Residents dredging to exit their cove
- South Fork River Health Project

Education

- Catawba-Wateree Water Management Group Citizens' Academy
- Public Service Announcements
- Monthly meetings (except December)
 - Open to the public
- Mid-Atlantic Boat Show
- Catawba Riverkeeper Foundation RIVERFEST in Belmont

ELECTRIC **SHOCK** DROWNING

UNKNOWN DANGER LURKING IN THE WATER

Docks and boats carry sources of **electricity**. Faulty wiring or the use of damaged electrical cords and other devices can cause the surrounding water to become **energized**. NEVER swim near a marina or a near a boat while it's running.



There is **no visible warning** to electrified water.

Electric current in the water causes the **paralysis of muscles** which results in **drowning**.



The 2017 NEC now **requires** marinas and boatyards to have **ground-fault protection** to help prevent water electrification. Check to see if your marina, and the boats in the marina, have proper **GFCI protection**.

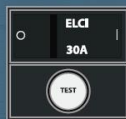


As little as **10 milliamps**, 1/50th the amount used by a 60 watt light bulb, can cause **paralysis** and **drowning**.



WHAT TO DO IF YOU SEE **ELECTRIC SHOCK DROWNING** TAKING PLACE

Turn power **off**



Throw a **life ring**



Call **911**



NEVER enter the water



You could become a victim too.



WARNING – POTENTIAL SHOCK HAZARD: ELECTRICAL CURRENTS MAY BE PRESENT IN THE WATER

The 2017 National Electrical Code **requires** marinas and boat docks to post electric shock **warning signs** where electricity is used **near water**.

MAY IS NATIONAL ELECTRICAL SAFETY MONTH



www.facebook.com/ESFI.org



www.twitter.com/ESFIdotorg



www.youtube.com/ESFIdotorg



LAKE WYLIE
MARINE COMMISSION

Carbon Monoxide



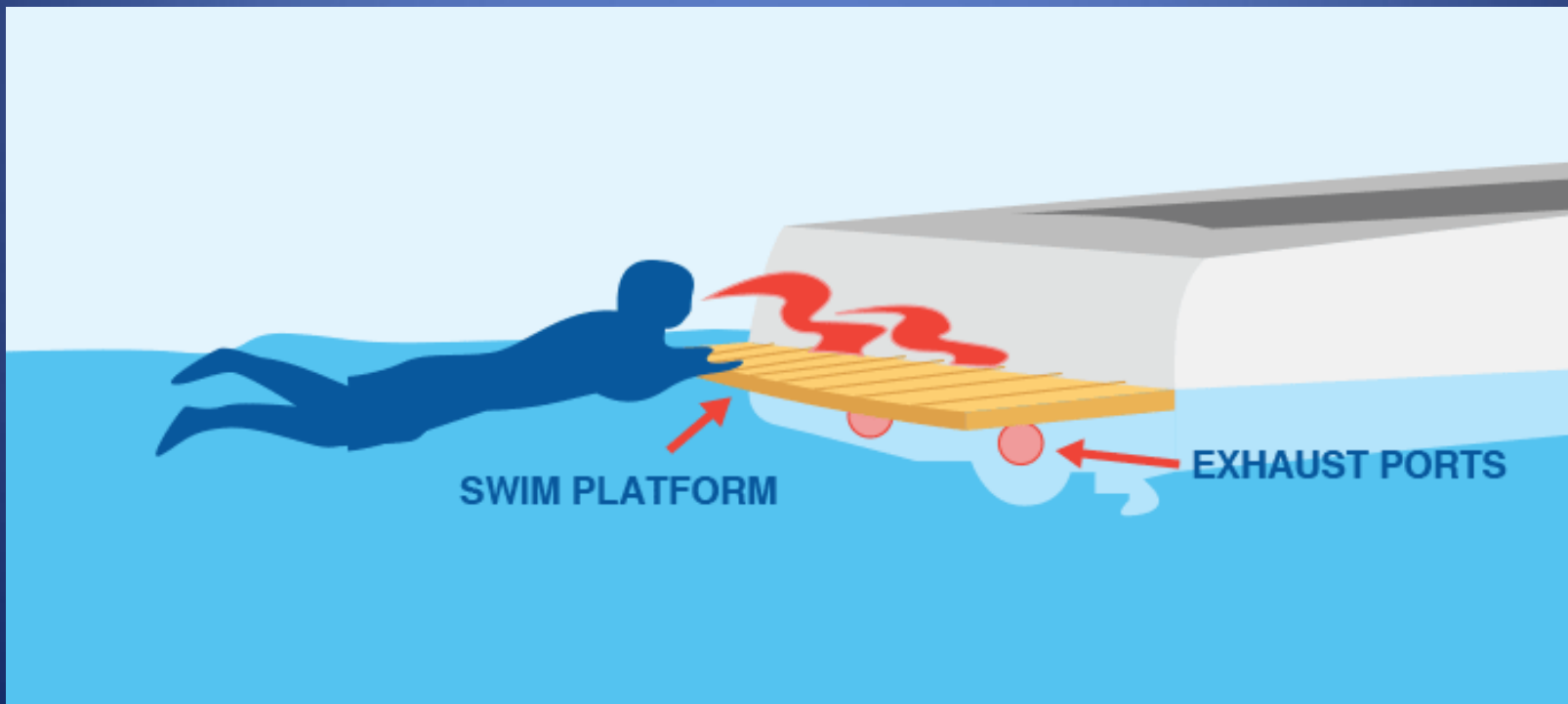
Image courtesy of U.S. Coast Guard

Exhaust from nearby vessels can send CO into your boat's cabin or cockpit.



Image courtesy of U.S. Coast Guard

Back drafting can occur when a boat is operated at a high bow angle.



Education

WAKE RESPONSIBLY

- 1 Stay at least 200 feet away** from the shoreline, docks, or other structures.
- 2 Keep music at reasonable levels.** Sound travels well over water. If it's loud enough to hear at 80 feet back, it is likely loud enough for homeowners to hear, too.
- 3 Minimize repetitive passes** on any one portion of shoreline. Once you've run the same line for a while, move on to another area.

REMEMBER, YOU ARE RESPONSIBLE FOR YOUR OWN WAKE.



wsia
WATER SPORTS INDUSTRY ASSOCIATION
"To Promote & Protect"



**We Protect, Preserve, and Promote
Lake Wylie as a Clean and Safe Recreational
Waterway**

**For more information, visit
LakeWylieMarineCommission.com**