

Duke Energy and the Catawba Riverkeeper Foundation are providing this document as a way to encourage lake residents and business entities (contractors, landscapers, builders, etc.) to conduct activities around the lake responsibly. This document should be used as a guide to better understand how to protect the shoreline and who to contact prior to doing any work around the lake. The brochure does not replace Duke Energy's Shoreline Management Guidelines (SMG), the Shoreline Management Plan (SMP) or state and local regulations. The SMG and SMP will be used by Duke Energy Lake Management to evaluate any requests for activities within the project boundary.



Duke Energy operates the Catawba-Wateree Hydroelectric Project with a license granted from the Federal Energy Regulatory Commission (FERC). FERC is responsible for issuing licenses for the construction, operation and maintenance of lakes and hydroelectric facilities not owned or operated by a federal agency.

The Federal Energy Regulatory Commission gives Duke Energy the authority and responsibility to manage "project" and "non-project" uses within the project boundary of the lake. Project uses include hydroelectric facilities operation, public recreation access and certain wildlife enhancements. Non-project uses include activities such as piers, docks, marinas, excavation and shoreline stabilization, and conveyances such as line crossings.

The "project" boundary is a geographic boundary (*generally represented on Catawba River lakes by "100 feet" or the "full pond" elevation around the lake*) which outlines the hydroelectric project property. To identify the project boundary line on your property, Duke Energy recommends referencing the registered survey of your property. Project boundary questions can also be directed to Duke Energy's Lake Services representatives by calling 1-800-443-5193.

Through the Shoreline Management Guidelines and Shoreline Management Plan, Duke Energy allows property owners and other interests to apply for a permit for certain activities within the project boundary. These activities include but are not limited to:

- Multi-slip marina facility construction and operation.
- Residential facilities – private access from a lot adjacent to the lake boundary.
- Private facilities (i.e., piers) construction.
- Shoreline stabilization – rip-rap, seawalls, bio-engineering, etc.
- Excavation – removing material from within the lake boundary.
- Conveyances – bridge crossings, water intakes, utility line crossings, wastewater outfalls, etc.
- Miscellaneous lake uses – fish attractors, water ski courses, etc.

Prior to conducting any activity within the project boundary, Duke Energy Lake Services should be notified.

Protect the Lake – Preserve the Riparian Zone!

The Riparian Zone is the vegetated area adjacent to the lake. The Riparian Zone consists of four zones: submersed (underwater), emergent (usually underwater), shrub (underwater only part of the time) and terrace (rarely underwater). The Riparian Zone provides critical habitat to fish and wildlife, helps reduce erosion of soils into the water and serves as a filter for runoff of fertilizers and other chemicals. Several counties and the state of North Carolina have a buffer ordinance that regulates activities outside the project boundary that may impact activities an individual may desire to conduct on their property. Only through direct written authorization does Duke Energy allow vegetation to be removed from within the project boundary.

*The following activities within the project boundary require **PRIOR WRITTEN APPROVAL** from Duke Energy:*

- beginning any shoreline stabilization activity,
- clearing or cutting trees, shrubs or other vegetation within the project boundary,
- beginning construction or rebuilding piers or any other structure,
- planting or introducing vegetation and
- all excavation.

*The following activities are **NOT ALLOWED** within the project boundary of Duke Energy lakes. The list is not all-inclusive but would include any use that violates an applicable federal, state, or local law or regulation :*

- septic tanks and associated drain fields, storm water inlet pipes and settling basins,
- littering or dumping of trash and debris (including burnt leaves or brush),
- washing (except with biodegradable detergents), painting or resurfacing of vehicles or watercraft,
- any part of a permanent dwelling including driveways, decks, etc.,
- swimming pools,
- camping,
- abandonment of personal property including, but not limited to vehicles, watercraft etc.,
- pens, kennels or other facilities for the housing or care of pets,
- fences, except to confine live stock watering to a small area of the shoreline,
- net pens and aquaculture operations,
- structures designed to submerge except for ski slalom and boating courses and boat hoists, and
- wells, rope swings, cables, etc.

Why are buffers (existing trees, shrubs, ground covers, and leaf litter) important?

Vegetated buffers collect sediment and digest waste, chemicals and other pollutants while providing wildlife habitat and adding scenic beauty.

Wider vegetated buffers along tributaries, streams and the shoreline offer better protection of water quality in the lake. The state of North Carolina and many counties in North Carolina and South Carolina require permanent buffers. Prior to disturbing any vegetation adjacent to the project boundary, the homeowner or developer should contact your local county planning office or for North Carolina lakes also contact the North Carolina Department of Environment and Natural Resources (NCDENR).

What can you do to protect the Buffer and Riparian Zone?

To protect the buffer on your property:

- Contact your local county planning office or in North Carolina the NC Department of Environment and Natural Resources to educate yourself on the buffer laws in your area.
- If you are using a contractor, make sure they know how important protecting the buffer and reducing sedimentation is to you and the lake overall.
 - Contractors should install and properly maintain a silt fence to reduce the amount of storm-water run-off and silt that reaches the lake.
- Monitor progress as your lot is being developed, your pier is being built or the shoreline is being stabilized. Talk to your contractor if you see activity that seems to be disturbing the buffer.

Protecting the Riparian Zone!

Nature has a keen sense of what is needed to stabilize the shoreline and protect buffered areas. The best and most cost effective ways to protect the buffer and riparian zone along your property are also the most natural, aesthetically pleasing and environmentally sensitive. Here are a few techniques:

Bio-engineering

- Live stakes are live, rooted vegetation planted into the shoreline.
- Live fascines are large bundles of branches bound and used to fill shallow trenches and planted with native vegetation.
- Brushmattresses are a combination of live stakes, live fascines and branch cuttings, which provide immediate protection against erosion.
- Crib Walls are box-like interlocking arrangements of untreated logs filled with suitable growing soils and layers of live branch cuttings rooted inside the structure.
- Reed Clumps are rooted divisions wrapped in geo-textile fabric and staked down in trenches at the water's edge.
- Coconut fiber rolls and hay bales are used to break water and reduce the energy and speed of the water hitting the shoreline.

Vegetation

- The right vegetation for your property will depend on a number of factors including, but not limited to:
 - lake level fluctuations (contact 1-800-829-LAKE or www.duke-energy.com for lake level information),
 - slope of the shoreline,
 - vulnerability to wave energy and
 - soil types.

Hard structures such as rip-rap and seawalls can also be used to protect the shoreline from waves and wind. Hard structures can be a good alternative where there is:

- wave action, either from boats or wind,
- unsuitable soils for plant growth,
- inadequate sunlight to stimulate plant growth and
- bank height too great to re-grade to an acceptable slope.

BEFORE YOU BEGIN ANY WORK ALONG THE WATER'S EDGE ON YOUR PROPERTY:

CONTACT YOUR LOCAL COUNTY PLANNING OFFICE OR IN NC THE NC DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES TO BETTER UNDERSTAND BUFFER LAWS

AND

CONTACT DUKE ENERGY LAKE SERVICES TO DETERMINE IF WRITTEN APPROVAL IS REQUIRED FOR ACTIVITIES WITHIN THE LAKE BOUNDARY.

The following numbers are provided for additional information about requirements regarding lake activities.

Duke Energy

Lake Use Permitting – 1.800.443.5193
Lake Level Line – 1.800.829.LAKE
Mosquito Management – 704.382.0160

NC Division of Water Quality – 704.663.1699
NC Division of Land Resources – 704.663.1699
SC Department of Health & Environmental Control
Columbia – 803.898.4300
Catawba EQC – 803.285.7461
Central Midland EQC – 803.896.0620
Wateree EQC – 803.778.6548

Burke County – 828.439.4362
McDowell County – 828.652.7121
Caldwell County – 828.396.6362
Alexander County – 828.632.1000
Catawba County – 704.465.8264
Iredell County – 704.878.3118
Lincoln County – 704.736.8440
Gaston County – 704.922.4181
Mecklenburg County
Environmental Protection – 704.336.5500
Engineering and Building – 704.336.3720
York County – 803.890.3524
Lancaster County – 803.890.3752
Chester County – 803.581.0942
Fairfield County – 803.712.5696
Kershaw County – 803.922.2154

Lake Norman Marine Commission -- 704.372.2416
Mountain Island Marine Commission -- 704.372.2416
Lake Wylie Marine Commission – 704.348.2705

Duke Energy Lake Services will issue STOP WORK directives for any violations detected within the project boundary. Consequences for those violations include one or more of the following:

- Unwanted construction delays.
- Loss of security deposits.
- Suspension or cancellation of approved applications.
- Increases in fees.
- Modifications or removal of non-complying structures and restoration of disturbed area at the owner's expense.
- Loss of any consideration for future lake use applications.

Violations of state and local rules and regulations could also result in additional consequences from those organizations.