

Stream Buffers, Trees, and Clean Drinking Water

Why they Matter
and

What County Officials and Residents Can Do to Protect Them

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Community Meeting
Briarcliff United Methodist Church, Atlanta, Georgia

August 9, 2016

What are Stream Buffers and Why Should We Protect Them?

Stream buffers are bands of undisturbed land and natural vegetation along banks of streams, ponds, and lakes

Buffers play crucial role in Atlanta area

- 98% of our drinking water comes from surface water sources such as rain and stormwater
- intense development in hilly terrain has increased impervious surfaces that increase run off
- rapid population growth increased pollutants from roads, homes, and landscaping

Buffers protect and conserve land and water resources several ways

- buffer flood flows and absorb water
- stabilize banks and prevent erosion
- trap sediments
- remove heavy metals, pesticides and other pollutants
- moderate temperature
- provide shade (e.g. favored by fish seeking cover)
- provide aquatic and terrestrial habitat, food chain, and migration

Buffers have other important impacts

- reduce noise, light, and air pollution
- provide natural beauty and increase privacy
- bolster property values and improve the quality of life



Why are Trees in Buffers Essential?

Trees are the most distinctive natural resource in Atlanta

Trees enhance the natural functions of buffers in many ways

- root systems stabilize soil and reduce erosion and stormwater runoff
- reduce sedimentation and improve water quality
- produce oxygen and remove CO₂
- reduce air pollutants and intercept dust and particulates
- reduce noise and increase privacy
- moderate air temperature and provide protective shade
- provide scenic amenities
- provide fish and wildlife habitat
- have positive impact on property values



Laws that Regulate Development in Buffers in DeKalb

State Regulations (391-3-7.05) address the first 25 feet above a stream or lake bank

DeKalb Regulations (Section 14) address the next 50 feet above the state buffer

- Together they regulate the 75 feet (measured horizontally) above a stream or lake bank
- They prevent encroachment on buffers without an approved variance
- Encroachment includes stripping trees and vegetation, disturbing soils, excavating and regrading banks, building structures, and other activities that disrupt the ecosystem



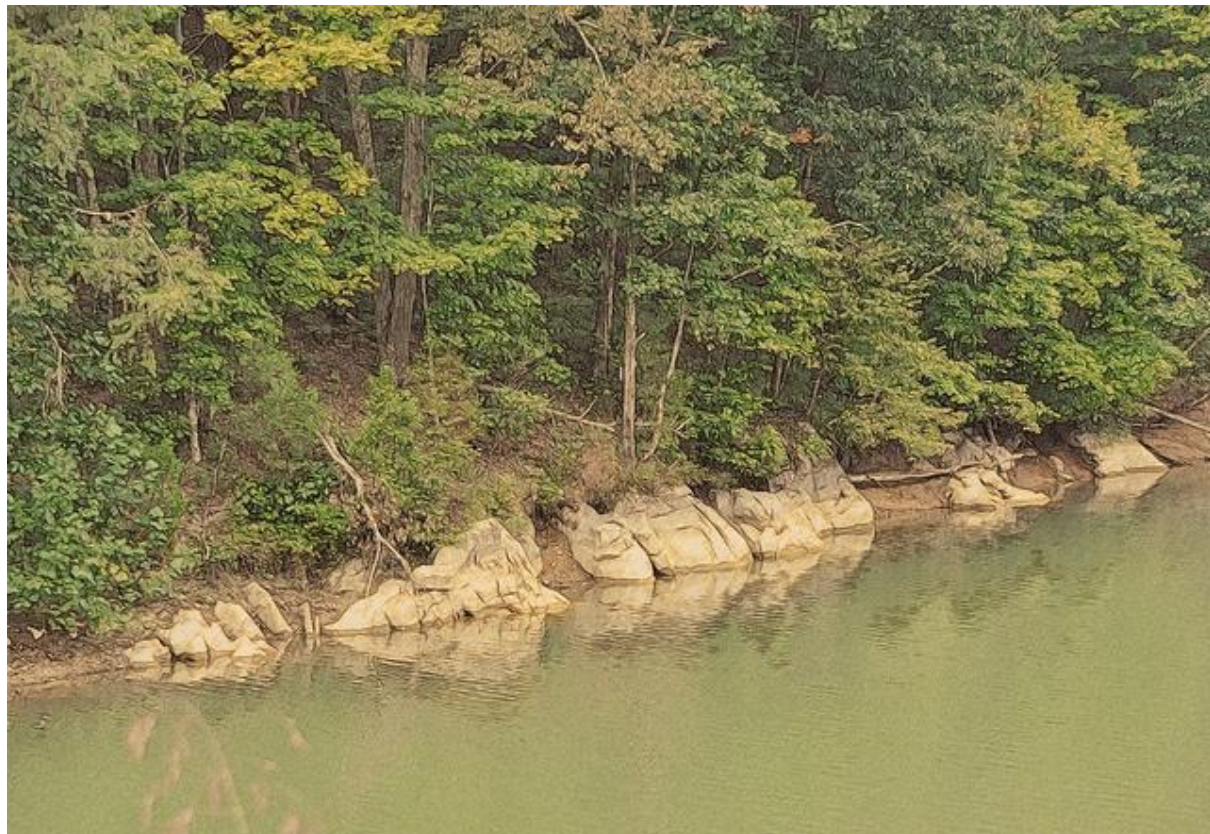
DeKalb Tree Protection Ordinance (14-39) aims to preserve existing trees, protect public health and welfare, and improve county aesthetics

- Prohibits removing trees or vegetation in county or state stream buffer unless authorized by county director
- Prohibits removing trees in floodplain unless
 - necessary for public roads, utilities, stormwater management, or wetland mitigation
 - trees are classified as diseased or infested by certified professional
- Requires preservation or replacement of trees that are removed due to approved land disturbance permits

Regulations for properties outside buffers DIFFER from regulations for buffer

- For ex: Single family properties outside buffers (but not within buffers) can remove 1-5 healthy, non-specimen trees in one calendar year and trees that threaten safety without special variance

Example of a Healthy Stream Buffer on DeKalb County Pond



Nesting
Great Blue Heron

and

Canada Goose



Examples of Stream Buffer Encroachment in DeKalb County

- Tree removal, stripping vegetation, regrading slopes, and use of heavy equipment
 - impairs bank stability and absorptive capacity
 - disturbs soils and ability to trap sediment and pollutants
 - destroys fish and wildlife habitat and ecosystem
- Lack of silt fences, erosion mats, mulch, or other erosion controls
 - ↑ sedimentation and water pollution
 - ↓ depth of streams and ponds



What Should Homeowners and Developers Do if Their Property Includes State or County Buffers?

Become familiar with and comply with state and county buffer regulations

- Regulations for buffers DIFFER from regulations for non-buffer properties.
- Owners have less autonomy because buffers are meant to protect public resources

Consult certified arborists, other professionals, and county officials before

- removing or planting trees, shrubs or ground cover or other landscaping
- disturbing soil, excavating, or regrading terrain
- installing rip rap or repairing seawalls
- building or repairing structures such as additions, docks, decks, stairs, paved areas, gazebos

Make sure plans comply with federal, state and county regulations

If project does not comply with usual standards, seek a variance

- Variance process is subject to public posting, public comment, and public appeal



Case Study of Stream Buffer Issues: Lightning Damaged Tree

- Mary wants to remove a tree on her stream bank that was split by a lightning and now leans toward her home. She worries it may fall on her home in the future.
- She checks the DeKalb Stream Buffer Regulations and Tree Ordinance and learns that regulations allow her to remove a tree in the county stream buffer that threatens human life or property.
- She hires a certified arborist to remove the tree. He certifies the tree is damaged and potentially dangerous and also offers to remove 2 healthy trees on the bank and spray some pines in case of future beetle infestation.
- She approves removal of the damaged tree but declines the other services because
 - cutting healthy trees in stream buffer without approved variance is not allowed
 - felling healthy trees on banks may increase erosion, sedimentation, and water pollution and may harm fish and wildlife
 - pesticides can pollute drinking water and harm humans, pets, fish, and wildlife
- **Key points:**
 - Understand the regulations that apply to your property
 - Urge contractors to follow regulations even if it reduces their business
 - Practice this Principle: “Keep It Clean, Because We’re All Downstream!”



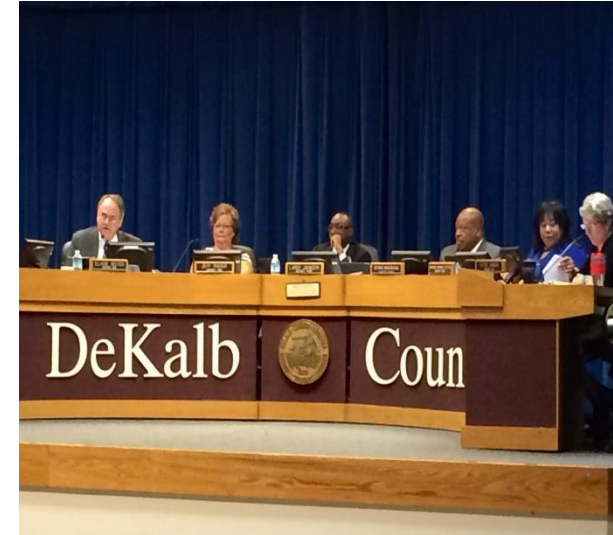
Case Study of Stream Buffer Issues: Plans to Build Dock

- Jack bought a home on a DeKalb lake that drains into Chattahoochee, a listed US waterway
- He wants to build a dock with 12 concrete footings in lake bed just like his Dad did in 1965
- Installation will require regrading the lake bank, a type of buffer encroachment
- He seeks permission to build dock from HOA president
- She reminds Jack that any dock construction must meet federal, state, and county stream buffer requirements
- Jack reviews the government regulations and learns that dock installation would require
 - a permit from Army Corps of Engineers (ACE) that regulates “discharge” (footings) in waterway
 - an approved variance from the GA EPD for regrading the lake bank within the state stream buffer
 - special mitigation (erosion controls) during work and inspection, if permit and variance are granted
- Key points:
 - Review regulations that apply to your buffer; they are much stricter than they were in 1965!
 - Projects with approved permits and variances may require special mitigation steps and inspections
 - Violating regulations may stop work or prompt citations, fines, or other legal action



Recent Actions by County Officials and Zoning Board of Appeals that Support Buffer and Tree Protection in DeKalb Watersheds

- **2/15:** Denied proposed development of 43 new homes in 21 acre woodland
 - County engineer estimated development would greatly ↑ sedimentation stormwater run-off to downstream homes and Echo Lake
 - County purchased land with existing Greenspace bond funds to
 - create public recreation space
 - preserve greenspace stormwater control, air cooling, wildlife habitat, etc
- **5/15:** Denied variance application to build new home on steep banks of stream feeding into Doreen and Echo Lakes
- **6/16:** Denied variance application to increase zoning density of ~3 acre woodland upstream of Doreen and Echo Lakes that, compared to current zoning class, might have
 - removed more trees and native vegetation
 - ↑ impervious surfaces of roofs, streets, and driveways
 - ↑ downstream water flow to flood-prone Briarcliff Road and sedimentation to waterways



Steps Residents Can Take to Protect Stream Buffers, Trees, and Water Quality in our Watersheds

- If you own or develop property in stream buffer or flood plain
 - Review and comply with regulations about landscaping, tree and vegetation preservation, soil disruption, regrading, use of heavy equipment, and new structures
 - Seek required approvals and variances for exceptional activities
 - Remind your neighbors to do the same
- Capitalize on existing government resources
 - Guidelines on replanting buffers (suitable methods, tools, etc)
 - List of allowed native vegetation for our Piedmont region
- Share concerns about proposed projects and development (variance applications) with
 - Your County Commissioner
 - DeKalb land development officials
 - DeKalb Zoning Board of Appeals
 - Georgia Environmental Protection Division
 - Georgia Soil and Water Commission
 - Nongovernmental organizations (e.g., Chattahoochee Riverkeeper)
- Alert Code Enforcement if you suspect violations of buffer or tree protection regulations



DeKalb Community Programs to Protect Buffers and Reduce Pollution of Surface Waters

Free mulch and compost

- Use mulch to prevent erosion from stream banks
- Use compost instead of chemical fertilizers to promote growth of vegetation



Hazardous Household Waste Program

- Each year, average DeKalb household generates ~20 pounds of hazardous household wastes
These wastes pollute waterways that provide drinking water and harm habitat for humans, pets, fish, and wildlife
- Prevention and proper recycling or disposal can reduce this problem, such as
 - Planting native plants that survive without extra fertilizers, pesticides and water
 - Disposing auto fluids properly, not dumping on pavement, ground or into storm drains
 - Using latex paint instead of oil-based paint; disposing of paints at proper collection sites
- County sponsors hazardous waste collection events and disposal sites

Storm Drain Marking Program

Engages volunteers to place signs on storm drains as reminder not to use storm drains for dumping debris, leaves, grass clippings, pet waste, lawn and auto chemicals, and other pollutants

