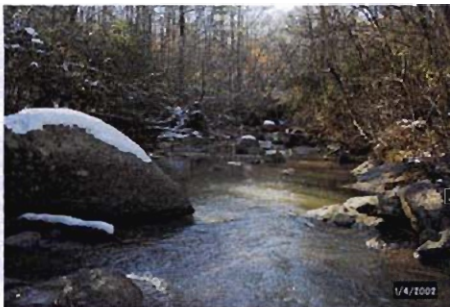


Storm Water Management Program

In May of 2001 the governmental agencies that make up ALOA joined together to address EPA's upcoming Phase II requirements.

This brochure is one of a series of publications regarding storm water issues in Lee County.

The series is produced by the ALOA Storm Water Advisory Panel and is intended to protect, maintain, and restore the chemical, physical, and biological integrity of local waters in order to enhance the quality of life for our citizens.



Cleaner streams provide a benefit to all.

Stream Buffers



Parkersons Mill Creek, Auburn, Alabama

CONTACT INFORMATION

For more information regarding your community's storm water program please contact the following agencies:

City of Auburn – Department of Water Resource Management
334-501-3077

<http://www.auburnalabama.org/water/phase2stormwater.html>

Lee County – County Engineer
334-745-9792

City of Opelika – Department of Public Works
334-705-5400
www.opelika.org

Auburn University – Risk Management and Safety



STORM WATER MANAGEMENT PROGRAM

Stream Buffers



“Local Citizen Groups and Government Working Together for Clean Water”

WHAT ARE STREAMS?

Various definitions for streams can be found in a wide variety of references. Some of the more common definitions define a stream as:

- *A body of water flowing in a channel, as a brook, rivulet, or river* (Water Environment Federation)
- *A watercourse that: (1) has a ordinary high-water mark, (2) has bed and banks, (3) flows at least periodically, (4) has an easily identifiable beginning and end, (5) does not lose its character as a watercourse even though it may break up and disappear temporarily and reappear downstream* (Wisconsin Department of Natural Resources)



Parkersons Mill Creek—W. Longleaf

Streams can be classified into three different types based on annual flow characteristics. These three types are:

- Perennial - Flows year-round
- Intermittent - Flows part of the year
- Ephemeral - Flows during rain events only

WHAT ARE STREAM BUFFERS?

Stream buffers are natural or vegetated areas through which storm water runoff flows at a decreased velocity allowing for the filtering of sediments and nutrients as well more efficient infiltration of runoff.

Stream buffers are best management practices (BMPs) that can be implemented by developers, engineers, government agencies, etc. during the construction phase, as well as during post-construction, for the removal of pollutants and enhanced infiltration of runoff.



Saugahatchee Creek—Lee C. Rd. 188

WHY ARE STREAM BUFFERS IMPORTANT?

As development increases, the potential for adverse water quality impacts and other detrimental environmental impacts increases, unless the development is managed in an

environmentally conscious manner. Stream buffers are BMPs that provide treatment for sediment, nitrogen, phosphorus, and other pollutants that might otherwise contribute to adverse water quality impacts in our streams. The absence of stream buffers can also lead to detrimental impacts on aquatic ecology and other wildlife that inhabit the stream and stream corridor. Tree canopy that provides shade and temperature control for the stream can also be impacted if buffers are not in place.



Adversely Impacted Stream

ADVANTAGES OF STREAM BUFFERS

Stream buffers provide a number of benefits ranging from increased water quality, to increased economic values, to decreased water treatment costs. Specific advantages of stream buffers include:

- Sediment Removal—Stream buffers are extremely efficient at removing sediment from storm water runoff. Sediment can severely impact water quality within our streams and can lead to increased water treatment costs for municipalities. Vegetation within the buffer reduces the velocity of the runoff which allows silt to settle out within the buffer as opposed to entering the stream. Some studies have shown that a buffer width of approximately 50 feet can remove more than 60% of the sediment found in storm water runoff.
- Nutrient Removal—Stream buffers are efficient at removing nutrients such as phosphorus and nitrogen from storm water runoff. Nutrients can be utilized for growth by plants found within the stream buffer. Phosphorus binds to the sediment particles found in storm water runoff and can lead to long-term problems such as algal bloom formation within the stream. As a result of nutrient impairment in the stream, nutrient limits can be placed on point and nonpoint source discharges which can potentially lead to increased wastewater treatment costs. Studies have shown that a 50 foot stream buffer can remove as much as 70% of the phosphorus and 95% of the nitrogen found in stormwater runoff.
- Enhanced Wildlife Habitat—Stream buffers are effective at



Sediment-laden stream

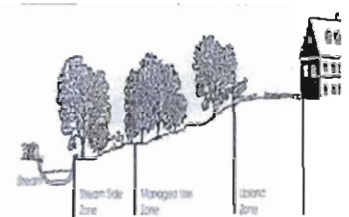
preserving wildlife habitat and stream corridors that might otherwise be destroyed without having buffers in place.

- Economic Value—Stream buffers can result in higher valued lots for property owners as well as more saleable lots for developers. Studies have shown that clean water is one of the top factors for people in choosing a place to live.

LOCAL STREAM BUFFER ORDINANCES

From a local perspective, the City of Auburn and City of Opelika both currently have stream buffer ordinances in place. At this time Auburn University and Lee County do not have stream buffer ordinances in place. These ordinances are discussed below:

- City of Auburn—The City of Auburn recently revised its stream buffer requirements by creating a new stream buffer ordinance. Prior to this year, stream buffer requirements (i.e. a 25 foot non-disturbed buffer) were governed by the City's Erosion and Sediment Control Ordinance. The new ordinance creates a 3-zoned managed use buffer with the width of the buffer being based on the drainage area of the stream. The 3 zones consist of a non-disturbed streamside zone and 2 zones with some restricted uses (i.e. the managed use zone and the upland zone). The intent of this ordinance is to add to the City's aggressive post-construction measures at reducing nonpoint source water quality impacts.
- City of Opelika—The City of Opelika has a stream buffer ordinance in place for development occurring in the Saugahatchee Lake watershed. Saugahatchee Lake is a drinking water source for the City of Opelika. This ordinance establishes a 100 foot undisturbed buffer along all perennial and intermittent streams within the watershed.



WEBSITES FOR ADDITIONAL INFORMATION

- EPA Model Ordinance—www.epa.gov
- Center for Watershed Protection—www.cwp.org
- AL Water Quality Information System—www.aces.edu/waterquality

For information regarding your community's stream buffer requirements or storm water program, please contact the entities listed on the back of this brochure.