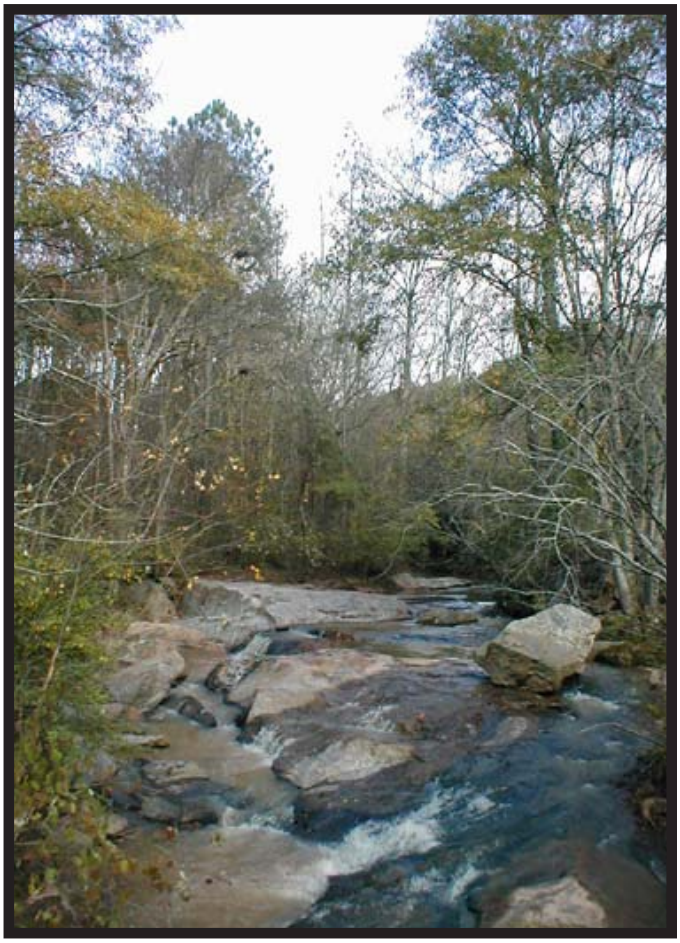
Backyard Buffers



Protecting Habitat and Water Quality

What is a buffer?

A buffer (also called a riparian buffer area or zone) is the strip of natural vegetation along the bank of a stream, lake or other water body that separates the water from developed areas such as lawns, buildings, roads, driveways, etc. Buffers can include grass, shrubs, and trees, which hold the soil in place and act as living filters of pollution. Without buffers, homes and residential neighborhoods can contribute sediment, fertilizers, pesticides, metals, oil and other vehicle fluids, pet waste and many other pollutants to nearby waters. Buffers also help prevent property loss due to erosion.

If you have a stream, lake or other water body on your property, there are many reasons to protect, preserve, and enhance the buffer zone around it. Buffers are critical on all streams. Many residential areas are built around small streams which feed larger streams and rivers and eventually reach drinking water intakes. Preserving buffers on streams of all sizes not only protects these surface waters but also allows water to percolate through the soil and replenish groundwater.

What are the state and local buffer requirements?

Georgia has a number of laws and regulations that apply to buffer zones, so the required minimum buffer width on your property can vary. The Georgia Erosion and Sedimentation Control Act restricts land disturbance and trimming of vegetation within a 25 foot buffer adjacent to creeks, streams, rivers, saltwater marshes, and most lakes and ponds, and within a 50 foot buffer on trout streams. Homeowners may not cause any significant land disturbance within this buffer without a variance, but may thin or trim vegetation so long as water quality and aquatic habitat are protected and a natural canopy is left in sufficient quantity to provide shade on the stream bed.

The Mountain and River Corridors Protection Act and the Georgia Planning Act require some local governments to adopt a 100 foot buffer and restrict certain land uses along various large river corridors in the state. Water supply reservoirs, streams that flow into reservoirs, and streams above drinking water intakes may also require wider buffer zones, depending on their distance from the reservoir or intake.

Many local governments have adopted ordinances that specify wider buffers than the state minimum requirements. For specific information on buffer zone requirements in your area, you should contact your city or county zoning and development department. Some local governments also offer assistance with stream bank restoration and erosion control.

How can I protect buffer zones and stream health on my property?

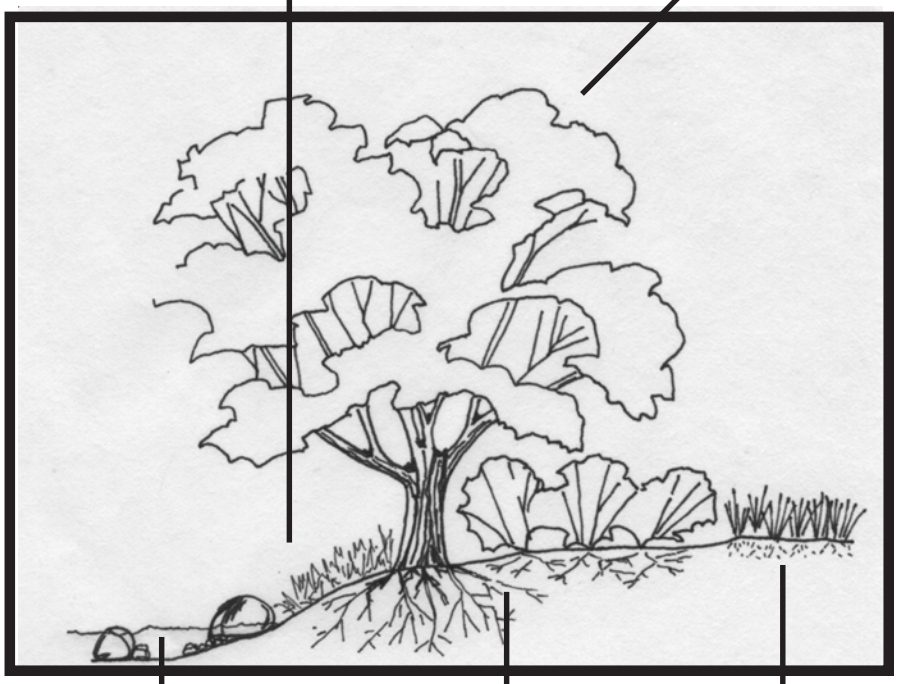
- Never mow to the edge of a stream or lake; let the buffer develop naturally;
- Plant appropriate native vegetation and cuttings in the buffer zone;
- Don't dump anything in a stream, including grass clippings and other yard waste, try home composting instead;
- Keep the water body clean by removing trash;
- Leave natural woody debris in a stream. It provides habitat and food for aquatic communities;
- Use pesticides and fertilizers sparingly in your yard and not at all in the buffer ;
- Keep septic systems in good working order to prevent contaminated runoff; and
- Don't change the course of a stream or try to use rocks or other materials to stop stream bank erosion yourself. You can do more harm than good.

Pesticides and fertilizers applied to the lawn above can harm the water quality, cause algal blooms, and degrade habitat. However, the stream bank has been allowed to naturally revegetate. Erosion is minimized, pollutants are filtered out before reaching the stream, habitat for wildlife is created, and shade is provided to keep water temperatures cooler. Benefits increase with a wider buffer.

Why are healthy buffer zones important?

Healty buffer zones provide natural habitat and movement corridors for birds, mammals and other wildlife.

They provide shade to keep stream water cooler and discourage algae growth.



Buffers stabilize stream banks with their root systems and prevent erosion.

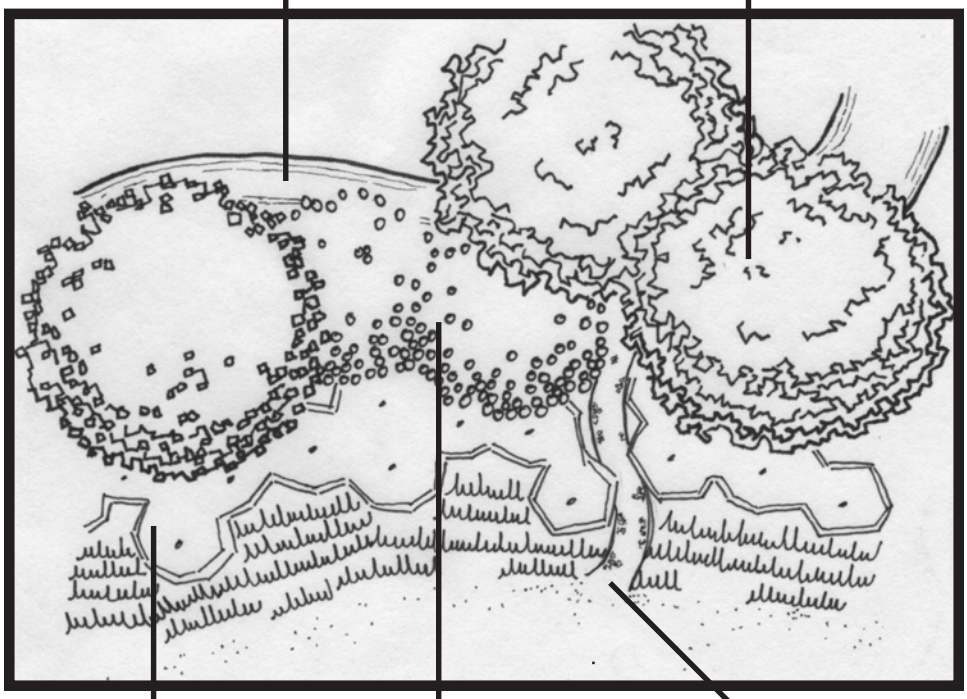
They preserve water quality by capturing sediment and chemicals from stormwater runoff, which protects our drinking water and the aquatic habitat of fish and other creatures.

They slow runoff to help prevent flooding and flood damage, saving money for the property owner and downstream storm-water managers.

Planning and creating a healthy buffer zone

The buffer zone should be thought of in layers moving from the stream to the house and should be ordered: trees, shrubs, groundcovers/ grasses, then maintained lawn.

Some trees should be planted near the water's edge. Revegetation at the water's edge should be allowed to occur naturally.



If you want to maintain a view of the water, you can create a "view corridor" of low-growing vegetation in a selected area, while still maintaining an effective buffer.

You will want to group some plants together to provide denser vegetation, better habitat and more storm water filtration at maturity.

If you want to provide a path for access to the water, it should be as narrow as practical and covered with mulch or other porous material to minimize erosion and channeling of water in the buffer.

Planning and Creating an Effective Backyard Buffer

Before you begin work on creating or modifying your vegetated buffer strip, take a look at how water flows off your property during a heavy rainstorm. The buffer is most effective when runoff spreads out across it and does not flow in a channel directly to the stream. Consider whether you need to divert water more effectively into the buffer to achieve the best flow.

Next, look at how close your lawn comes to the stream or lake bank now. Many people make the mistake of growing their lawn right down to the water's edge, when in fact a naturally vegetated buffer creates a more attractive landscape. Lawns provide little, if any, habitat for birds and animals, and no benefits for the water body. Think about how much lawn you really need, keeping in mind that lawns require more care, water, fertilizers and pesticides than a natural buffer.

You have two choices for creating, restoring or expanding your buffer: let the buffer area passively return to a natural state by creating a no-mow zone, or actively revegetating the area with selected native and other plants. If you select the first choice, you will find that birds, squirrels and other animals, as well as wind and water, will help bring seeds, berries and nuts into the buffer area. However, it will take some time for grasses, shrubs and trees to take root and mature, so be patient. If the potential buffer site is just bare soil now, you should plant grass seed covered with straw to prevent erosion during rain events, and then allow other plants to become established.

Above, the neighborhood on the left has eliminated the buffer zone and planted grass to the river's edge. The neighborhood on the right has kept the buffer intact, adding to the beauty of their property and benefiting the health of the river.

Designing Your Own Buffer

If you want to take a more active role in the creation of your buffer, you should first develop a planting plan. Remember that you will want to plant some vegetation, especially shrubs and trees, in early spring when they are still dormant or in the fall after the leaves have fallen. Also, you can create the buffer in stages over time to spread out the work and expense of the project.

It is helpful to sketch out a design to determine how many plants are needed. You can start your plan by drawing where you would like to plant grasses, shrubs and trees, without worrying about the exact species at this stage. Do consider the size (at maturity) of the plants you would prefer, however. Generally, you should plant ground covers 1-3' apart, shrubs 3-5' apart, small trees (up to 25' at maturity) 15' apart, and larger trees 25' apart.

When selecting plants for your buffer, you will want to consider a number of factors, including:

- Size of the plant at maturity, including height and width;
- Whether the plant is evergreen or deciduous (seasonal foliage);
- Whether the plant is slow, medium or fast growing;
- Color of foliage, flowers and berries;
- Time of year that plant blooms and produces seeds or fruit;
- Attraction of foliage to certain desirable insects (such as bees and butterflies), birds and other animals;
- Resistance to insect pests and disease;
- Whether the plant prefers full sun, semi-shade or full shade, as this factor will help to determine where in the buffer various plants would be most appropriate;
- Watering requirements (native and/or drought resistant species are preferred);
- What soil type the plant prefers, including pH range;
- Growing range (zone) for the plant, to ensure it is appropriate for your area; and
- Whether the plant is native to your area or an imported variety (whenever possible, desirable native plants should be used in the buffer).

You should select a wide variety of plants, with a mixture of grasses, ground covers, shrubs and trees. This will help decrease the spread of diseases and provide you with attractively varied foliage. Also, select plants that flower and bear fruit at various times during the growing season.

Internet resources

Georgia Wildlife Federation: http://www.gwf.org

National Wildlife Federation: http://www.nwf.org/backyardwildlifehabitat/

Natural Resources Conservation Service: http://www.nrcs.usda.gov/feature/backyard/

Wildlife Habitat Council: http://www.wildlifehc.org/managementtools/backyard.cfm

Georgia Citizen Riparian Network: http://www.riversalive.org/CRN/Citizen_Riparian_Network.htm

Georgia EPD Adopt-A-Stream Program: http://www.riversalive.org/aas.htm

USEPA River Corridor and Wetland Restoration: http://www.epa.gov/owow/restore/

USDA Stream Corridor Restoration: Principles, Processes and Practices: http://www.usda.gov/stream_restoration/

Georgia Center for Urban Agriculture: http://www.griffin.peachnet.edu/urbanag/homepage.shtml

Georgia Native Plant Society: http://www.gnps.org/

Coastal Plain Native Plant Society: http://www.gnps.org/cpnps.htm

Georgia Wildlife Federation's Native Plant site: http://www.gwf.org/habitatplants.htm

Landscape Management Manual for Georgia Homeowners (ordering information): http://www.p2ad.org/landmanual.html

NESPAL Native Plants and Landscaping: http://nespal.cpes.peachnet.edu/Native/

Riparian Buffers In Your Backyard, For Chatham County And The Georgia Coast: http://www.thempc.com/Backyard%20buffers/Backyard%20Buffer_1.pdf

Smart Landscaping – A Georgia Native Plant Guide (Southface article Spring 2002): http://www.southface.org/home/sfpubs/sfjv102/sfjv102-native-plants.htm

Georgia Integrated Pest Management (IPM) site: http://www.gaipm.org/

USEPA Pesticides site: http://www.epa.gov/pesticides

UGA Pesticide Safety for the Homeowner: http://www.ces.uga.edu/pubcd/L430-w.html

Earth 911 site for waste disposal and recycling locations, and much more: Call 1-800-CLEANUP or go to: http://www.cleanup.org

Georgia Department of Community Affairs: http://www.dca.state.ga.us

Atlanta Clean Water Campaign: http://www.cleanwatercampaign.org/

Georgia Environmental Protection Division: http://www.dnr.state.ga.us/dnr/environ/

UGA Cooperative Extension Service, for free assistance, useful publications, and other valuable information: http://www.ces.uga.edu/

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