

AN EFFECTIVE WAY TO STOP POLLUTION AND PROTECT WATER QUALITY

A shoreline buffer is a combination of trees, shrubs, and ground plants. A buffer can be any width, but the larger the buffer the greater the benefits to Lake George. A shoreline buffer protects water quality because it intercepts and prevents nutrients and other pollutants that are carried in stormwater from reaching the lake. Because of shallow roots and grading, a grass lawn is ineffective at infiltrating stormwater.

An effective vegetated buffer prevents erosion, stabilizes and shades the shoreline, absorbs excess nutrients, recharges groundwater, provides wildlife habitat for small animals and invertebrates, and helps to deter waterfowl, such as Canada geese, from grazing on lawns accessed from the lake.

Land uses change water quality because they produce runoff to the lake with high concentrations of nutrients and pollutants. A natural forest exports minimal nutrients to a lake from runoff, but once a

SHORELINE BUFFERS



Healthy shoreline buffers help protect the water quality of Lake George. Much of the original natural shoreline of Lake George has been removed.

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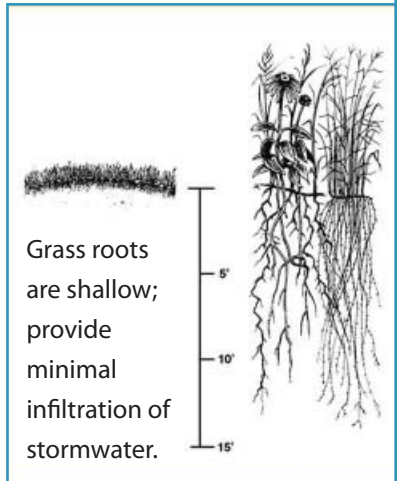
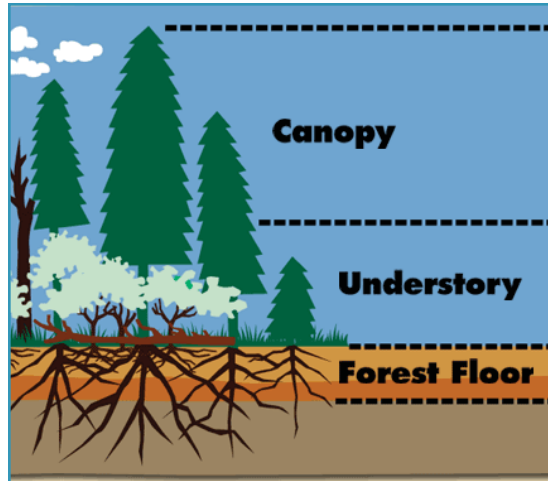
piece of land has been altered with houses, driveways, yards, impervious surfaces, septic systems, among other use, and the natural drainage patterns are changed, much higher levels of nutrients and pollutants are delivered to the lake through increased runoff. Excess nutrients feed aquatic plants and algae and degrade the water quality. Areas of the lake with algae blooms on near-shore aquatic plants, the lake bed, and rocks are often areas devoid of shoreline buffers, with extensive grass lawns, and heavy fertilizer use.

Good shoreline buffers include the following:

Trees form the upper canopy and intercepts and softens the fall during heavy rainstorms by allowing gentle trickling from branches onto the ground. Without an intact canopy, heavy rains cause erosion. Tree roots also reach the deepest into the ground and provide

Shrubs form the mid-level of a buffer. Shrubs intercept rainfall and roots hold soil in place and prevent erosion. Shrubs also provide wind block, are a refuge for birds and reduce noise. Shrub roots are not as deep as tree roots, but absorb many times more water than a grass lawn.

Plants are the ground cover level. Low growing plants slow down surface



water runoff and provide habitat and food for butterflies and other insects. Plant roots maintain soils, absorb nutrients and pollutants. Plants absorb many times more water than a grass lawn. Native plants have flourished in this area for hundreds of years and require not extra fertilizers or pesticides.

Duff layer is the accumulation of organic matter on the ground, which in combination with ground cover plants, traps sediment and absorbs water. Duff includes micro-organisms that break down and recycle plant material into nutrients that feed and enrich the soil as well as treat pollutants.

One obstacle for many to a vegetated shoreline buffer is that it disrupts a view of the lake. Buffers can be planned to provide filtered views to the lake. A successful buffer includes plants, shrubs and trees, which provide great opportunities for creating both great views of the lake and protections for water quality (as well as block out noise). Paths to the shoreline should be curved to prevent funnelling of nutrients and pollutants to the lake.

By enhancing your shoreline buffer, whether it has always been there or is a new addition, you will continuously “buffer” human activities and protect the lake.

For more information or help in designing or improving your shoreline buffer, contact the Lake George Waterkeeper at 518.668.5913.

