

OVER 1/2 OF THE WATER IN LAKE GEORGE COMES FROM STREAMS

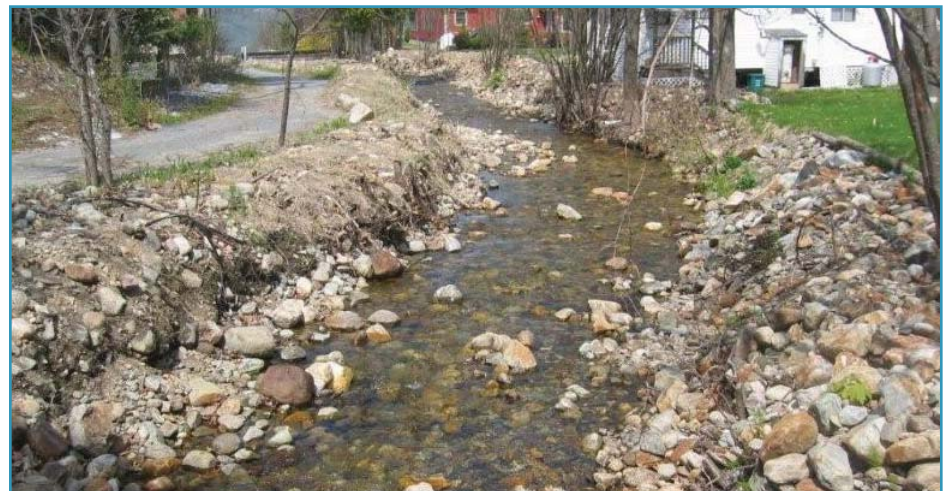
STREAM BUFFERS

More than $\frac{1}{2}$ of the water in Lake George comes from streams. The water quality in these streams is vitally important to the overall health of Lake George.

An easy way to protect streams is to protect a forested buffer area alongside them. A stream buffer is a permanent vegetated area alongside a stream that protects the aquatic environment from land use impacts.

Stream buffers have numerous benefits:

1. Trap sediment: Buffers function as a sediment trap and prevent it from entering streams and being transported to downstream locations. Sediment can impede the gills of fish and other organisms, reduce instream spawning habitat and create deltas. In Lake George substantial deltas have formed at the outflows of many streams in the watershed and the lake has been listed as an impaired waterbody for sediment since 2002.



Stream buffers protect water quality within streams. The environmental health of Lake George is shaped by the health of the streams that flow into it.

THE FUND *for* LAKE GEORGE



po box 352, lake george, ny 12845 · (518) 668-9700
 info@fundforlakegeorge.org
 fundforlakegeorge.org



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po box 591, lake george, ny 12845 · (518) 668-5913
 info@lakegeorgewaterkeeper.org
 lakegeorgewaterkeeper.org

2. Remove nutrients: Nutrients are often attached to sediment so trapping sediment also traps nutrients. Nutrients can also filter into the soil or be used by the vegetation or other organisms in the soil. Phosphorus and nitrogen are essential for life, but in excess can lead to eutrophication. Eutrophication is the reduction of water quality from excessive nutrient loading associated with the growth and decay of aquatic plants like algae.

3. Stabilize stream banks: Vegetation has roots that stabilize stream banks. Stable stream banks are less likely to erode and also provide important habitat for aquatic organisms.

4. Minimize flow fluctuations: During rain events, the complexity and permeability of natural forested areas allow the water to percolate into the ground and slowly enter a stream through ground water. On the other hand, impervious surfaces like pavement or buildings result in direct flushes of water into a system. Extreme flow fluctuations can result in washouts of roads, bridges and other structures. Flow fluctuations can also lead to substantial stream bank erosion and sediment transport to downstream locations.

5. Protect natural flood plains: Buffers protect the land next to the stream which should include the stream's natural flood plain. Flood plains provide



Stream corridors have been degraded around Lake George.

room for streams to move and spill over during storm events. Flood plains are also unique environments and utilized by a variety of organisms for refuge and for life-cycle processes.

6. Minimize water temperature fluctuations: Vegetation shades the stream and minimizes water temperature fluctuations. Extreme temperature fluctuations can harm aquatic organisms including cold water fish like trout.

7. Provide habitat: The vegetation in buffers creates a range of different habitat, from the canopy to the roots of living plants. Buffers protect a wide variety of habitat for both terrestrial and aquatic organisms such as trees, plants, overhanging roots in the stream, fallen wood and plant debris. Habitat is important component of a healthy ecosystem and can provide suitable conditions for organisms to live.

You can help by: 1) Protecting any existing, native vegetation next to the streams; 2) Planting native vegetation where it has been removed; and, 3) Minimizing any disturbances that could affect the buffer area. **Do not:** 1) Remove healthy, native vegetation next to a stream; 2) Use fertilizers or pesticides near a stream; 3) Garden within the buffer area; and, 4) Dump yard debris or other harmful substances near a stream.

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

