



# Greater Stockport Creek Watershed

## Fact Sheet— Buffer Zones

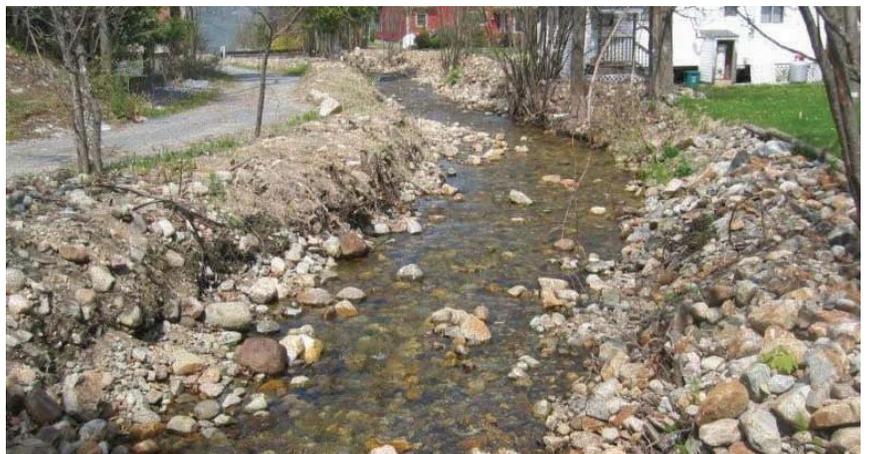
### STREAM BUFFERS PROTECT WATER QUALITY WITHIN STREAMS

An easy way to protect streams and ponds that feed into them 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 trap sediments and prevent them from entering streams and being transported downstream.

Sediment can impede the gills of fish and other organisms, reduce spawning habitat, and increase erosion.



**2. Remove nutrients:** Nutrients are often attached to sediments so trapping sediments also traps nutrients. Buffers also slow runoff so that it can filter into the soil or be taken up by vegetation or other organisms in the soil. Natural nutrient enrichment of streams and lakes is called eutrophication. The enrichment is often increased by human activities that cause an excess of phosphorus and nitrogen. Due to such enrichment, water plants such as algae will grow extensively. As a result the water will absorb less light and certain aerobic bacteria will become more active. These bacteria deplete oxygen levels even further and makes life in the water impossible for fish and other organisms.

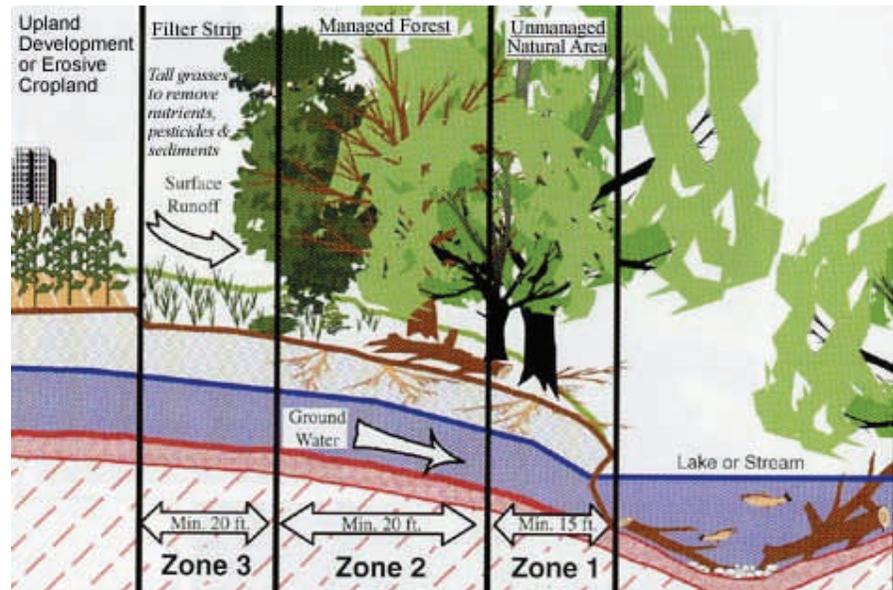
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<http://stockportwatershed.org>

**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 floodplains:** Buffers protect the land next to the stream which should include the stream's natural flood plain. Flood plains provide 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. Warmer water can hold less oxygen than cool waters.

**7. Provide habitat:** The vegetation in buffers creates a range of different habitats 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, herbaceous plants, overhanging roots in the stream, fallen wood and plant debris. Habitat is an 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.