



More Benefits from Streamside Forests

In addition to providing clean water, streamside forests provide a number of other benefits as well including:

- Allowing rainfall to infiltrate the soil, turning floodwater into well water
- Reducing flooding and flood damage, guarding roads, bridges, houses and land
- Providing quality recreation and related income to local communities
- Supplying a key habitat for aquatic and terrestrial wildlife



“As a subdivision of State government, the Union County Conservation District promotes protection, conservation and sustainable use of natural resources through education, awareness and cooperation with the public, as well as local, state and federal agencies.”

Sources: CREP Fact Sheet April 20,2006, Stroud Water Recourse Center, the Chesapeake Bay Foundation, PA Natural Resourced Conservation Service, PA Association of Conservation Districts

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Did you know...?



*Streams
Need Trees*



Many of Pennsylvania’s beautiful rivers and streams rely on the presence of trees for their health and beauty. Streams need trees, and this fact sheet will explore the various ways trees are critical to the life of the stream.



HOW TREES HELP STREAMS

Some ways trees help streams are obvious such as cool, clear, shady conditions they create. The life of a stream is adapted to these conditions. Streamside trees are a large source of food for the aquatic life.

- Leaves
- Twigs
- Pollen

The main aquatic plant in most woodland streams is algae, this is caused by high levels of,

- Nitrogen
- Phosphorus
- Fertilizers
- Manures

Algae blooms take up a lot of dissolved oxygen out of the water. This in return effects the amount of dissolved oxygen that is available to other aquatic life. The trees give more shaded areas allowing for cooler water and creating more dissolved oxygen for the aquatic life.



TREES MULTIPLY STREAM HABITAT

Along with trees providing valuable nutrients and dissolved oxygen to the habitat surrounding the stream, trees also enhance the life of the stream by improving the quality of stream bottom habitat. Tree roots are much larger allowing for,

- Less erosion
- More stream bank stability

Where as, if you have a stream bank lined with just grasses which have smaller roots you will have,

- More erosion
- Less stream bank stability



Streamside forests promote a gravelly bottom to their streams, by keeping fine soil out of the stream bottom. More stream bottom area can support a larger group of clean water producers. Streams with ideal conditions, i.e. cool and shady will produce more clean water. Trees enable streams to do that maximum possible work cleaning water. This is known as a riparian buffer.

BENEFITS OF STREAMSIDE BUFFERS

A joint effort by the Chesapeake Bay Foundation and Stroud Water Research documented the various benefits of forest buffer in comparison to grass buffers. The chart that follows shows the various ways in which do in fact need trees.

Variable	Forest Buffer	Grass Buffer	Comments
Water Temperature	+	-	Forested areas cooler in Summer, warmer in winter, both beneficial
Streambed Habitat Quality	+	-	More useable streambed habitat, both amount and quality
Removal of Nitrogen Pollution	+	-	Forested areas remover 200%to 800% more nitrogen pollution
Stream Velocity	+	-	Lower in forested areas, providing more contact time for clean up
Stream Width	+	-	Forested streams 2-3x wider, providing 200-300% more habitat
Large Woody Object For Habitat	+	-	Large woody objects provided key habitat and benefits