



Vegetated Buffers, Open Space and Greenways

Vegetated Buffers

Streams and creeks in the Eastern woodlands were once surrounded by forests. Trees and shrubs lined the banks, providing cooling shade for trout and other fish that like cold water. When streams flowed through more open areas, such as wetlands, they were surrounded by perennial grasses and other wetlands plants and shrubs. The rooted mass provided by all this vegetation was vital to the stream ecosystem. It prevented streambanks from eroding in heavy rain storms. Leaves and dead plants that fell into the streams in the Fall provided food and habitat for organisms living in and around the water body.



As people cut down the forests and made fields and lawns next to streams, the water changed. Without food there were fewer creatures living in the streams. Without strong roots, the banks eroded. Mud washed into the streams. Fish, and the insects they lived on, had less food. The entire stream ecosystem became degraded. We have learned from experience that streams need vegetation. We have learned that it is important to restore vegetated buffers to our streams.

Vegetated buffers are effective filters for nonpoint source pollution (NPS), pollution washed from the land surface, including: excess nutrients attached to sediments, animal wastes left near stream banks, pesticides harbored in agricultural soils, oil and grease left on road and parking lot surfaces, and runoff from industrial waste sites. The plant leaves and roots slow the flow of rain water, allowing time for the plants to absorb and utilize the nutrients and pollutants it harbors.

Benefits of a vegetated buffer:

- Retains nutrients such as nitrogen and phosphates. Excessive amounts of these two nutrients can cause algae blooms which and cause depleted oxygen levels and reduced light penetration.
- Decreases and filters ground and surface water runoff.
- Transforms toxic substances such as ammonia to nontoxic substances.
- Filters pollutants out of stormwater runoff from land surfaces.

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- Provides an energy source and organic food for a productive aquatic food chain.
- Provides shading that helps regulate water temperatures and keep waters from getting too hot for aquatic and plant life.
- Prevents farm livestock from entering streams, destroying stream banks and depositing their wastes directly in the waterbody.

Open Space

Open space consists of parcels of land left in their natural state-- fields, woods, wetlands, hillsides. Whether they are public parks or private reserves, open spaces are managed for the purpose of preserving natural scenic beauty and supporting small ecosystems. The objective of open spaces is to achieve greener and healthier communities. Open spaces are especially important in urban areas.



Benefits of open spaces:

- Provide cleaner air, cooler temperatures, and energy conservation.
- Provide needed habitat for birds and animals.
- Provide growing room for native plants and trees.
- Provide for recreation opportunities like sitting areas, parks and playgrounds.
- Provide spaces of green for future generations.
- Improve the image of the neighborhood and increase neighboring property values.

Greenways

A greenway is a linear corridor of open space along a river or stream. Long stretches of streamside vegetated buffers can comprise a greenway. Typically greenways are links between natural areas through developed areas. The purpose of a greenway is to protect an ecosystem from over-development and to provide migration paths for animals moving across the land and for plants expanding or changing their habitats. Greenways can be privately or publicly owned. Local citizen involvement helps to define and preserve greenways.



Benefits of greenways:

- Safeguard waterbodies and watersheds from flood damage and trap nonpoint source pollution.
- Provide scenic beauty and preserve natural environments.
- Provide recreation areas such as hiking and biking paths.
- Preserve needed habitat for animals and plants - needed to live and for migration paths.

Prepared by Kendra Richards, Student Intern, March, 1995.