



Riparian Forest Buffers



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What are Riparian Forest Buffers?

Riparian forest buffers (also called **riparian forests**) are areas of trees, shrubs, and other vegetation located along a body of water. Riparian forest buffers provide a number of benefits to a river ecosystem: regulating the water temperature; providing food and essential habitats to migratory birds and other animals; and preventing pollutants from entering the waterway.

Threats to the Potomac River watershed

Increasing development and decreasing forest cover pressure rivers and streams throughout the Potomac River watershed. Up to 32 acres of open space are lost to development each day in the Potomac River watershed. With the building of houses, shopping malls, roads, parking lots, and other hard surfaces that prevent rainwater from soaking into the ground, stormwater runoff is much greater than it once was, causing increased pollution of our rivers and streams.

Riparian Forest Buffers: Protectors of the River

Riparian forest buffers protect streams from pollution. They act as sponges, absorbing major pollutants—especially sediment and nutrients—before they enter our rivers and streams.

- **Sediment:** Riparian forest buffers trap sediment that runs off of farmland, construction sites, and other areas of soil disturbance before it reaches nearby waterways. They also slow the speed of stormwater runoff, protecting streambanks from erosion. Riparian forests are less expensive and more efficient than man-made sediment removal techniques.
- **Nutrients:** Fertilizers and animal waste contain high levels of nutrients, especially nitrogen and phosphorus. Rainwater washes these nutrients into rivers and streams. But riparian forests absorb nitrogen and phosphorus for their own use, preventing them from reaching waterways. Forest buffers can remove 30 to 90 percent of the phosphorus and nitrogen from agricultural runoff.



Riparian Forest Buffers (con't)



Photo courtesy of Don Chernoff, 2004

Supporting Aquatic Communities

Riparian forests serve an important role in the aquatic food web. Fallen leaves from streamside trees provide nutrients and habitat for aquatic insect larvae, crayfish, and other invertebrates. Minnows, fungi, bacteria, and algae feed on disintegrated leaf material. These organisms, in turn, serve as food for fish, which are a food source for still larger animals. Riparian forest buffers also shade streams and rivers, helping to maintain a stable water temperature. Without this shade, summer and winter temperature fluctuations would render the water uninhabitable for many insect larvae and fish species.

Supporting Terrestrial Communities

Because of the diversity of habitats in riparian forest buffers, they generally support more wildlife than inland forests. These forests provide a great variety of vines, shrubs, and trees that offer nesting and food to a broad array of animals, and more extensive buffers serve as important flyways for migrating birds. Temporary pools of water in riparian forests provide habitat for frogs, toads, and salamanders. Turtles, river otters, beavers, muskrats, water snakes, deer, squirrels, wood duck, cottontail rabbits, herons, eagles, foxes, and songbirds are just some of the animal species that frequent riparian forests in the Potomac River watershed.



Photo courtesy of Don Chernoff, 2004

What You Can Do to Protect Riparian Forests

1. Volunteer for *Growing Native* by planting trees or collecting native tree seeds.
2. Reduce or eliminate fertilizer and herbicide use in your family's yard.
3. Talk to your family and friends about why riparian forests are important, and what they can do to help protect and restore them.