

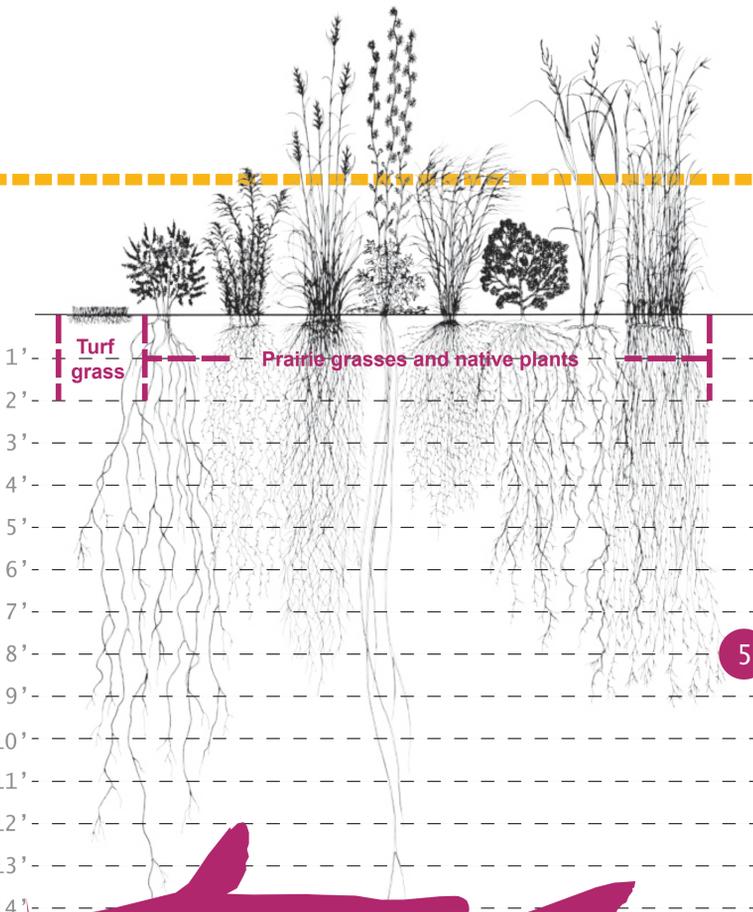
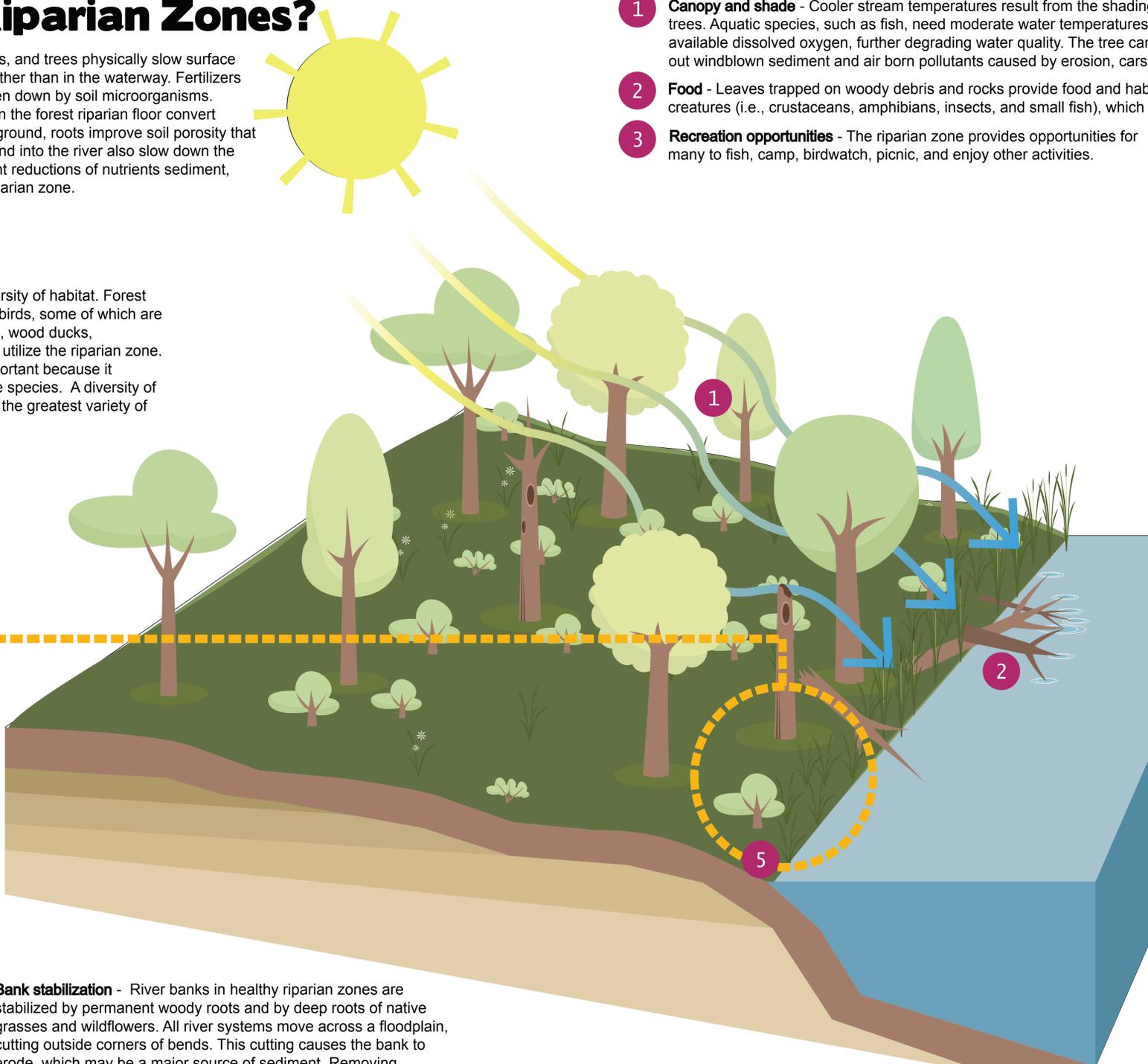
Riparian Zone

What are the Benefits of Riparian Zones?

Improved soil and water quality - Above ground, dense stems of native grasses, shrubs, and trees physically slow surface runoff and out-of-bank floodwater, which causes sediment to be dropped on the soil rather than in the waterway. Fertilizers and other pollutants that originate on the land are taken up by tree roots and are broken down by soil microorganisms. Nutrients are stored in leaves, limbs, and roots instead of reaching the river. Bacteria in the forest riparian floor convert harmful nitrates to nitrogen gas, which is then harmlessly released into the air. Below ground, roots improve soil porosity that allows more surface runoff to soak into the soil and improve soil health. Logs that extend into the river also slow down the water and armor the banks preventing erosion. Studies have shown a 30 to 98 percent reductions of nutrients sediment, pesticides, and other pollutants in surface and groundwater after passing through a riparian zone.

4 Improved habitat - Riparian zones offer a diversity of habitat. Forest corridors provide crucial migratory habitat for birds, some of which are now threatened due to loss of habitat. Herons, wood ducks, pheasants, turkeys, turtles, foxes, and eagles utilize the riparian zone. The width and length of a riparian zone is important because it provides corridors of travel for different wildlife species. A diversity of size, shape, and species of plants will ensure the greatest variety of wildlife.

- 1 Canopy and shade** - Cooler stream temperatures result from the shading created by grasses and a canopy of trees. Aquatic species, such as fish, need moderate water temperatures. Elevated water temperatures decrease available dissolved oxygen, further degrading water quality. The tree canopy also improves air quality by filtering out windblown sediment and air born pollutants caused by erosion, cars, construction, and farm machinery.
- 2 Food** - Leaves trapped on woody debris and rocks provide food and habitat for small bottom-dwelling creatures (i.e., crustaceans, amphibians, insects, and small fish), which are critical to the aquatic food chain.
- 3 Recreation opportunities** - The riparian zone provides opportunities for many to fish, camp, birdwatch, picnic, and enjoy other activities.



5 Bank stabilization - River banks in healthy riparian zones are stabilized by permanent woody roots and by deep roots of native grasses and wildflowers. All river systems move across a floodplain, cutting outside corners of bends. This cutting causes the bank to erode, which may be a major source of sediment. Removing permanent vegetation from the banks and replacing it with lawns, agricultural practices, or overgrazing by livestock accelerates the bank cutting and slumping process.

6 Hold water - Riparian zones increase the water-holding capacity of soil, moderating flooding and recharging groundwater supplies. Urban irrigation, cultivation, tile drainage, and overgrazing of riparian zones all contribute to increased flow of water to rivers. Channelization of streams and rivers remove the natural meanders resulting in decreased water storage capacity, and increased water flow, and more flooding.



photo credit: Annie Wodarek

DID YOU KNOW?

A standard turf grass lawn planted with bluegrass, has a maximum root depth of 3-4". Native grass and forbs that can be measured in feet!

