

Riparian Zones: What are they? Why are they important?

The waterways in our area are some of the most biologically diverse in North America. They play host to numerous fish, reptile, amphibian, insect, plant and mammal species. These water lovers depend on the land and vegetation surrounding the waterways, the riparian zone, for food, protection and water temperature control. In this installment of the Stormwater Corner, I wanted to explore with you the benefits of the riparian zone. I have included in this edition a copy of an article written by the folks at TVA. If you want more information on how to improve or create a riparian area on your property please contact Jake Hudson at Jake@fllake.org. Enjoy the article:

Benefits of Riparian Zones

Using native plants to protect streambanks and shorelines



The biologically distinctive area that borders the waterfront is called the “riparian zone.” Diverse vegetation that grows along streams, rivers or reservoirs acts as a protective buffer between the land and the water. Waterfront property owners with well-vegetated riparian zones enjoy some of the most biologically diverse and scenic communities in the Tennessee Valley.

Native vegetation that occurs along waterfronts provides an attractive landscape with many important benefits, and helps preserve plants and animals that make our area unique. By selecting native plants, you help to create a more natural condition on your property — a practice that benefits you as well as the health of our water resources.

Benefits of riparian zones

Maintaining or developing an attractive riparian zone can:

- Increase your property value
- Reduce property loss from excessive erosion
- Protect water quality
- Enhance wildlife habitat
- Contribute to the natural beauty of the land
- Dissipate noise from reservoir traffic, roads, and nearby properties
- Reduce maintenance time and related costs
- Provide privacy
- Screen unsightly views
- Enhance scenic views.



Benefits of native plants

Native plants have evolved under local conditions. They are tolerant of drought and extreme temperatures, and they are naturally resistant to pests and diseases. After they become established, native plants usually require much less physical effort to maintain than lawns. They can reduce or eliminate the need for lawn mowers, trimmers, and other gasoline-powered equipment. Native plants are also less costly to maintain because they generally don't need the fertilizers and pesticides that turf grass and other non-native species may require.

Waterfront vegetation enhances habitat for wildlife and increases opportunities for wildlife viewing. Native plants along waterways provide food and shelter for a variety of insects, amphibians, reptiles, songbirds, mammals and fish.



Riparian Plant Benefits

- Roots prevent erosion and undercutting of banks.
- Branches, stems, and leaves absorb the impact of raindrops.
- Ground cover (decaying leaves and low-growing vegetation) slows runoff, increasing absorption

Native vegetation also helps to prevent the establishment and spread of exotics (non-native plants). Native riparian plants protect the streambank and shoreline from the erosive forces of moving water. The deep, extensive root structure of native grasses, shrubs, and trees prevents erosion and undercutting of banks.

The branches, stems and leaves of these plants absorb the impact of raindrops. Decaying leaves and low-growing vegetation form a ground cover that further lessens the erosive force of raindrop impact. This ground cover slows runoff, increasing the amount of water that is absorbed into the soil and then released slowly into the stream, reservoir, groundwater or atmosphere. The water that is absorbed may contain nutrients, pesticides, and other pollutants that will eventually be taken up by plants or broken down over time. By slowing runoff, trapping sediments, and increasing absorption, these plants act as a living filter to protect water quality.

Focusing on the facts and clearing up some misconceptions

It's certainly true that every piece of property is unique, with characteristics and circumstances that dictate particular "fixes" that might not be appropriate elsewhere. For property owners concerned about preserving their streambanks or shorelines, establishing a "riparian zone" of native vegetation is the best way to go.

Here are some common concerns of property owners about using trees, shrubs, and warm-season grasses to protect shorelines and streambanks.

Concerns	Concerns Addressed
It'll block my view of the water.	Many native trees, shrubs, and grasses are fairly low-growing. With a well-designed landscaping plan, you'll be able to enhance scenic views and increase your privacy.
I like keeping my lawn looking neat and trimmed.	Some people are concerned that riparian vegetation will look unkempt. Sure, it's a switch from the manicured lawn; however, native trees, shrubs, and grasses at the shoreline or streambank can be a low-maintenance landscaping alternative that is aesthetically pleasing in a very "natural" way.
All that weedy growth will attract rats and snakes.	Actually, native shrubs and trees are much more likely to attract beneficial wildlife, including butterflies and songbirds. The secret is to think about the types of wildlife you'd like to attract, and then choose native plants that provide food and/or shelter for those species.
It's difficult to find native trees and shrubs at my local garden center.	TVA Watershed Teams can be a good source of information to point you to varieties that will thrive in your location—and give you information on where you might obtain them. <i>*FLA can also provide expertise in this area.</i>
A bunch of plants won't make much of a difference. If I'm really going to try to stop erosion, riprap will work better and last longer.	Without a doubt, there are certain locations experiencing severe erosion which require rock riprap. For maximum benefits, establish a vegetative riparian zone in addition to hard armoring by planting native plants above the rock riprap.

Why not exotic plants?

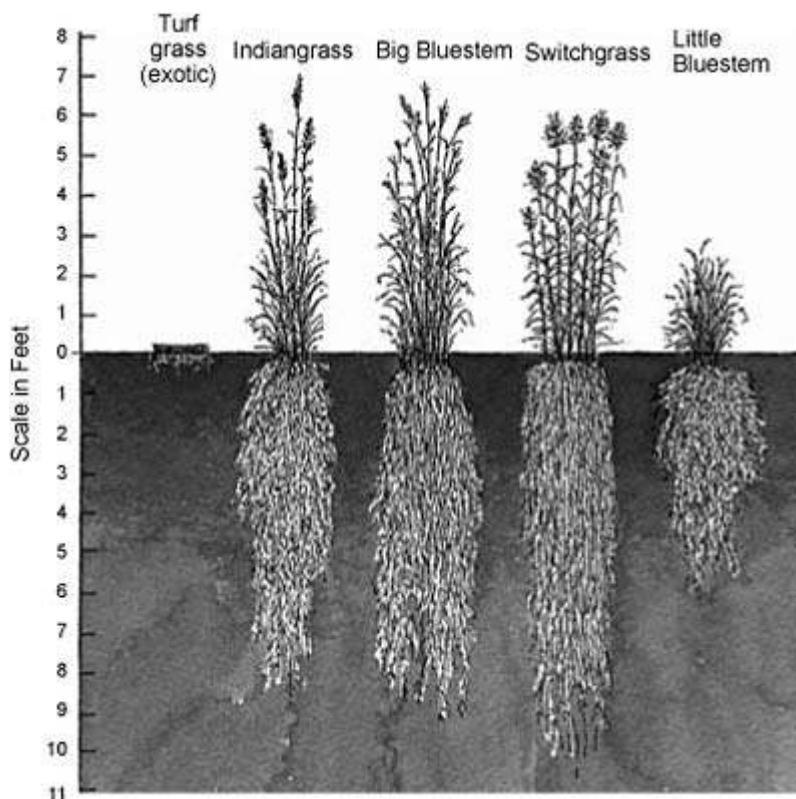
Exotic plants have the potential to become invasive because they are not subject to the same limiting factors that exist in their native habitat. Invasion by exotic plants is second only to habitat destruction as the greatest threat to the natural ecosystems of the United States. Here in the South, kudzu is one extreme example of an exotic plant growing out of control. Privet, mimosa, and Japanese honeysuckle are other exotic plants that have become invasive after being introduced to our area. Once exotics become established, they are very difficult to control.

Why not turf grass?

Shoreline and streambank property planted with turf grass is really an unnatural landscape. The common turf grasses, such as fescue, bermuda, zoysia, or bluegrass, were imported from other countries. Because these plants did not evolve under the specific conditions of the Tennessee Valley, keeping a lush, weed-free lawn is almost always costly, labor-intensive, and potentially damaging to the environment. While turf grasses slow runoff, their root systems are too shallow to stabilize streambanks or shorelines. Consequently, lawns mowed to the water's edge will do little to control shoreline erosion. In fact, removing native vegetation and replacing it with turf grass usually results in accelerated streambank and shoreline erosion that degrades water quality.

Native Warm-Season Grasses

Because the root structures of warm season grasses are much deeper and denser than that of turf grass, they are much more effective in preventing erosion.



Illustrations by Dede Christopher. Bird illustration by Cindy Day.