

The Problem with Bare Banks

Have you ever walked along a stream bank after a hard rain? Was the stream bank green with plants or brown and crumbling? What about the water? Was the water just a little cloudy or did it look muddy? If you answered brown, crumbly, and muddy, that stream has a problem with [stream bank erosion](#).

What causes Stream Bank Erosion?

Stream bank erosion is caused by water that is moving at high speeds or high velocity. Within healthy streams, the speed of moving water is slowed down by naturally occurring logs and debris material, large rocks, and natural curves in the stream. Healthy streams also have a vegetated riparian zone which has trees, shrubs, grasses and sedges on both sides of the stream bank that function to soak up and slow down water moving to the stream. When stream channels are cleaned out, straightened, and vegetation is mowed to the stream, bank erosion occurs because water won't slow down without the vegetation to buffer the stream velocity. The resulting fast moving water cuts into the sides of the stream bank and causes parts of the stream bank to collapse into the water resulting in muddy, brown colored water.

In urban areas, this problem is exponentially compounded by impervious surfaces such as driveways, parking lots, and roads which increase the speed and amount of storm water flowing into urban streams. These impermeable surfaces do not soak up water and have no way of slowing it down.

Why should I care?

Erosion equals loss – of property value, aquatic habitat, water quality, and stream function.

Let's break these down.

Loss of Property

Erosion causes loss of property value. Over time erosion will shrink the size of your lot as soil is literally washing down the stream as chunks of stream bank break off and fall in the stream. In addition, unsightly brown dirt patches decrease the aesthetic value of your property as well as the value of your community.

Loss of Aquatic Habitat

Extra dirt or sediment in a stream fills in important open spaces under rocks where aquatic insects and other creatures like fish and salamanders live and lay eggs. Once these spaces are filled in by sediment, this important aquatic habitat is lost.

Loss of Water Quality

When soil breaks off the stream bank and mixes with the stream water it becomes what is known to water quality professionals as Total Suspended Solids. This is what causes the brown color in water bodies. This is problematic for water treatment facilities because a high level of sediment in water clogs water filtration systems and increases the amount of disinfection agents needed to provide safe drinking water.

Loss of Stream Function

Fish and aquatic insect gills get clogged by sediment particles making it difficult for them to get enough oxygen. In addition, suspended sediment reduces light penetration into the water which lowers light availability to aquatic plants which further reduces oxygen in stream water. Loss of oxygen and oxygen availability in stream water leads to loss of aquatic life in streams resulting in loss of stream function.

What can I do?

Create a no mow zone with the goal of 25 feet on each side of the stream. This is the easiest way to improve stream health with the least amount of work. However, some neighborhoods may not find this type of passive buffer acceptable due to local weed ordinances.

Alternatively, consider [planting a native vegetation buffer](#) along each side of the stream. Include native trees, shrubs, wildflowers, and grasses of different colors and textures in your planting plan for the most benefit and to create an aesthetically pleasing space.

A vegetated riparian buffer zone absorbs storm water before it enters the stream and the roots from the plants hold soil in place, stabilizing the stream bank.

Keep the natural stream channel intact by keeping lawn debris out of streams. It may be tempting to add lawn debris into the stream channel but by doing so the natural flow of the stream will change and lawn debris adds harmful nutrients to the water, causing water quality issues.

Suggested Social Media Text

Lack of a stream buffer zone can accelerate erosion. Erosion equals loss – of property value, aquatic habitat, water quality, and stream function. Help restore stream health by creating a no mow zone and establishing native vegetation. Refer to the links below and contact your County Cooperative Extension Service Agent for more information.

****Use in conjunction with Better Buffers article

References and Resources:

AEN-124 Streambank Erosion

<http://www2.ca.uky.edu/agcomm/pubs/AEN/AEN124/AEN124.pdf>

HENV-202 Planting Along Your Stream, Pond, or Lake

<http://www2.ca.uky.edu/agcomm/pubs/HENV/HENV202/HENV202.pdf>

ID-228 Aquatic Invertebrates Biological Indicators of Stream Health

<http://www2.ca.uky.edu/agcomm/pubs/ID/ID228/ID228.pdf>

ID-242 Central Kentucky Backyard Stream Guide

<http://www2.ca.uky.edu/agc/pubs/ID/ID242/ID242.pdf>

ID-185 Planting a Riparian Buffer <http://www2.ca.uky.edu/agc/pubs/id/id185/id185.pdf>