EHWC
EAST OF HUDSON WATERSHED CORPORATION
2 ROUTE 164
PATTERSON NY, 12563
(845) 319-6349

Channel Stabilization

Protecting eroding streams!

PROJECT OVERVIEW

As climate change continues to strength the amount of stormwater generated by rainfall events, waterways throughout the region are getting decimated by increased storm flows. This emerging channel of Dayton Road in Patterson had a drainage area of approximately 14 acres and was quickly becoming deeper and more eroded. This channel was in dire need of stabilization to help keep Phosphorus-rich soil in place and prevent further erosion. This project resulted in the stabilization of about 310 linear feet of the channel which removed 25.64 pounds of Phosphorus annually!

STABILIZED LENGTH	PHOSPHORUS REDUCTION	ALGAE REMOVAL
310 Linear Feet	25.64 lbs/year	12,820 lbs/year

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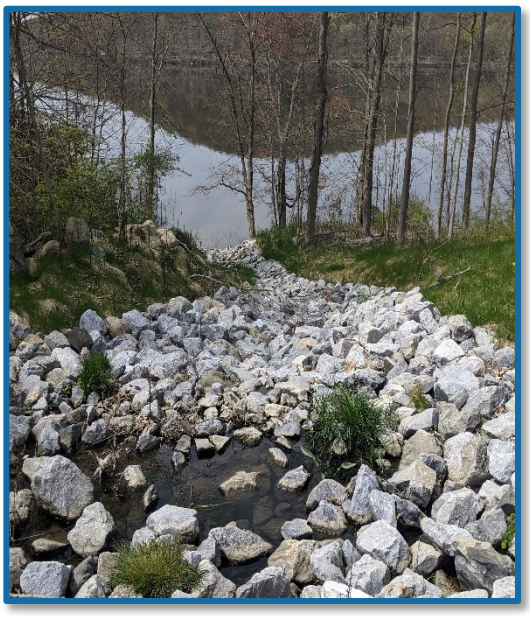
THE PROBLEM

In the natural environment, streams, rivers and everything in between are constantly changing in size and shape due to the unpredictability of water flow. Strong rains force a greater amount of water into a waterway, causing erosion in some places with sediment deposition in others. However, our built environment restricts the flow and movement of waterways, which allows for extreme erosion to occur. After some time, this becomes a compounding issue. As water continues to dig a deeper and deeper channel, the banks become more unstable and more likely to collapse in, causing further erosion. Trapped in this eroding soil is Phosphorus, which will quickly become food for algae and other unwanted aquatic species, once it has entered the waterway.

THE SOLUTION

In many places, we can no longer give streams the space to meander and undergo natural process. Instead, to reduce the amount of damage caused by flowing water, we must stabilize emerging channels. Doing such keeps soils in place which helps keep Phosphorus rich soils out of the waterways. There are several ways to stabilize a channel. In extreme cases, the channel is put into a pipe where it can no longer cause damage, as seen in the cover photo. The photo below is an example of adding different sized rocks, called rip-rap, to help reduce the force held by the water. As the water hits the stones, it slows down and is less likely to cause severe erosion. For any stabilization project, revegetating the channel is vital. Grasses, shrubs, trees and other aquatic plants can keep streambanks! The roots from these plants tie the soil together and helps keep it from eroding into the stream.



Channel Stabilization Benefits:

- Highly cost-effective method to reduce Phosphorus
- Helps establish healthy aquatic environments
- Reduce damage from erosion and deposition cycles
- Prevent channel migration