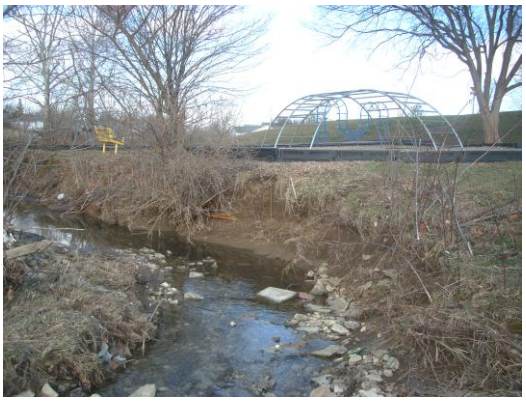
Mill Creek Wetland and Stream Restoration Project

Millcreek Elementary, Lexington, KY

June – September, 2009

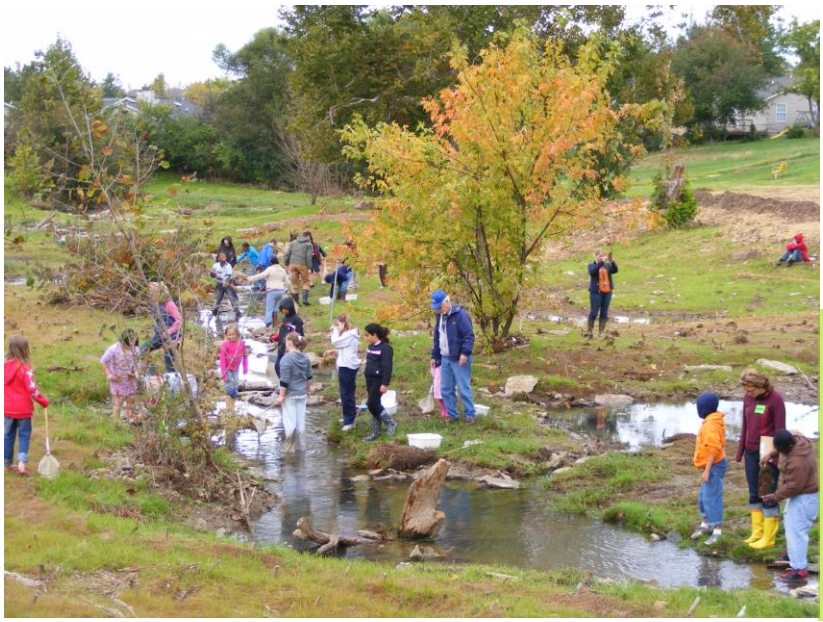


Fayette County Public Schools had the vision to improve 700 feet of Mill Creek in Lexington, Kentucky. The stream was an eroding, urban ditch that divided the Millcreek Elementary School playground and was a safety hazard the school children were not allowed to get near. The goals of this project were to improve water quality, create more and better habitat for animals and aquatic life, as well as provide a facility for environmental education.

Several techniques and measures were taken to create a natural stream with riffles and pools, fish and frogs, wildflowers, trees and trails. With lower stream banks and a wider floodplain, the basin has a greater holding capacity to help attenuate flash flows from urban runoff. Highlights to this project include Best Management Practices (BMPs) to improve water quality. Wetlands, a rain garden, a riparian forest buffer, wildflowers, native grasses and erosion controls were installed to reduce sediment, trash, nutrients and pollutants from stormwater runoff.

To make the project even more "Green", biodegradable or recycled materials consisted of over 99% of the materials used in the construction. Over 1,000 cubic yards of wood chips were donated by local tree trimmers to use as erosion control berms and build the mulch trails. The most innovative feature of this site is the treatment aquifer. It consists of limestone rock and wood chips that were placed below ground surface as the stream channel was constructed. This approach uses natural biological activity to capture and remove nutrients such as nitrogen.

This project also serves as an ongoing educational facility for not only the students of Millcreek Elementary, but also academic researchers and municipal/institutional personnel. Teachers were trained before, during, and after construction on how to incorporate the outdoor classroom in their curriculum. "Stream Days" are held once a month when the students have a chance to sample water quality, identify fish and macroinvertebrates, plant trees, etc. This hands-on approach enables students to learn by experiencing the various components of the site, in addition to understanding how day to day activities within the watershed can impact water quality.



Project Partners: FCPS, USFW, KDFWR, NRCS, 4H, UK TFISE, SEEC, EPA, SEEC, PFW, U of L, Toyota, Ridgewater and Vision Engineering.

Key Features:

- Design/Build
- Hyporheic treatment aquifer
- Natural stream channel design
- Wetlands construction
- Rain garden
- Riparian buffer
- Outdoor classroom

www.EcoGro.net
(859) 231-0500
P.O. Box 22273, Lexington, KY 40522

Mill Creek

http://www.millcreek.fcps.net

Wetland and Stream Restoration Project

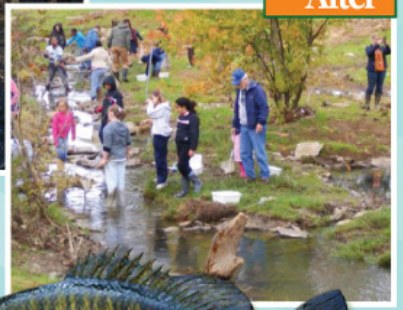
It's about kids.
Fayette County Public Schools

The stream running through Millcreek Elementary was no more than an eroding, urban ditch that divided the property. By concentrating on the goals of improving water quality, creating habitat for animals and aquatic life, and creating a facility for environmental education the stream was carefully restored with the following key features:

- Hyporheic treatment aquifer
- Natural stream channel
- Wetlands construction
- Rain garden
- Riparian buffer
- Outdoor classroom

Before

After



Project Partners:

US Army Corps of Engineers.

TOYOTA

UNIVERSITY of LOUISVILLE STREAM INSTITUTE

COOPERATIVE EXTENSION SERVICE
UK UNIVERSITY OF KENTUCKY College of Agriculture

Partners for Fish and Wildlife

RIDGEWATER RESTORATION & MANAGEMENT

The TRACY FARMER INSTITUTE for SUSTAINABILITY & the ENVIRONMENT

VE VISION ENGINEERING
Water Resources, Environmental, Civil & GIS Consultant

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

ecogro

SEEC

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Funded by: KDFWR Wetland and Stream Mitigation Program and Five Star Restoration Challenge Grant

cargocollective.com/vincebarnhart