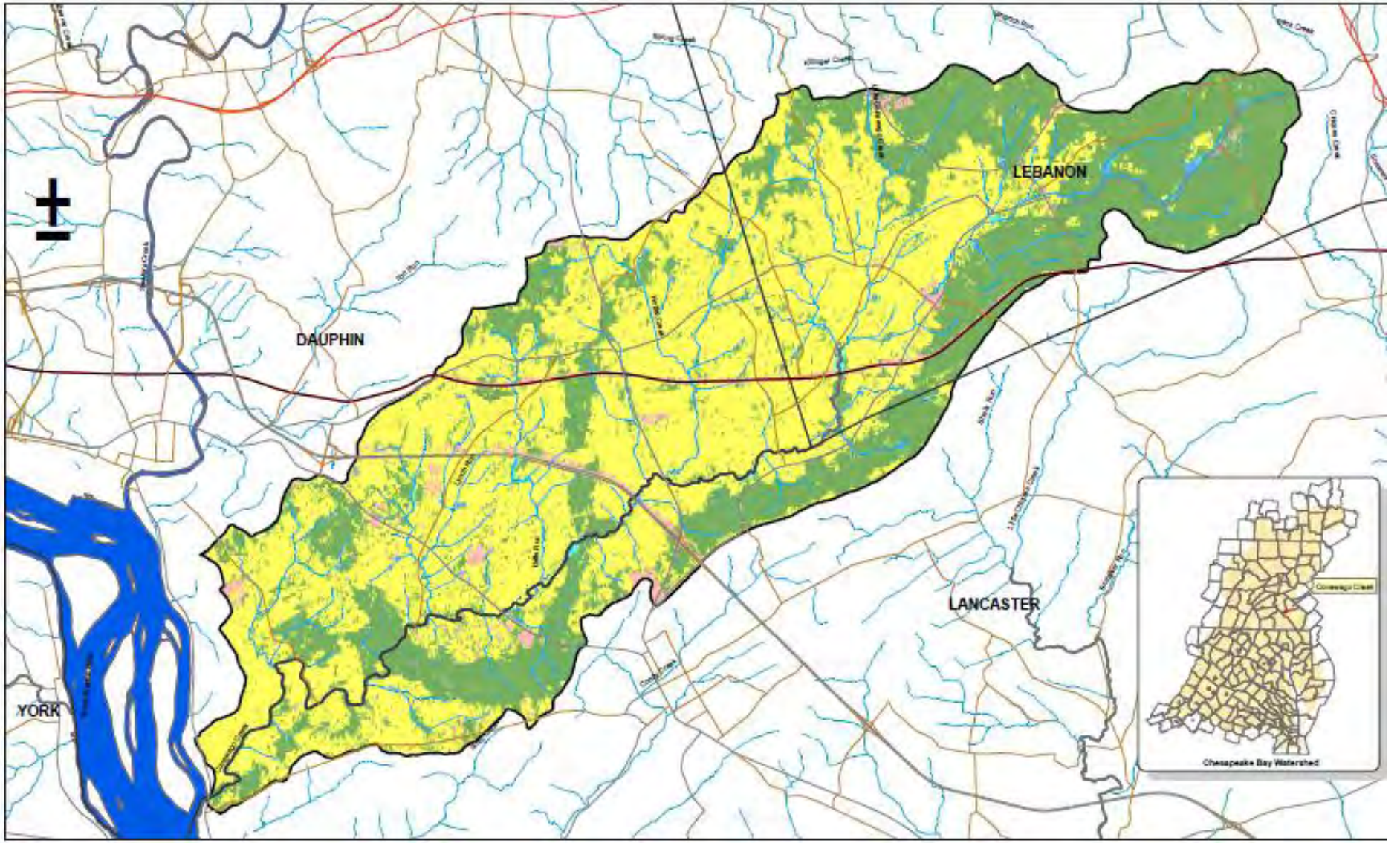
THE CONEWAGO CREEK INITIATIVE

Community working together for a restored Conewago.

A Retrospective: 2009 - 2013

Matt Royer
Director, Agriculture & Environment Center
Penn State College of Agricultural Sciences

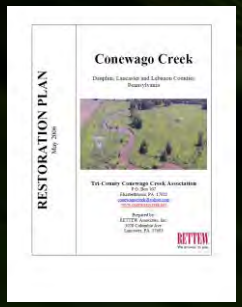

LEBANON
DAUPHIN
LANCASTER
YORK
Chesapeake Bay Watershed
Legend
Conewago
Counties
Interstate Hwy
US Hwy
PA Hwy
Stream - Identified
Stream - Potential
Streamflow
water
low density urban
agriculture
forest
wetland
quarries
transitional
Conewago Creek Watershed
0 0.5 1 2
Miles

Conewago Creek Timeline
"The Stars Align" (M Hubler)

CONEWAGO CREEK INITIATIVE

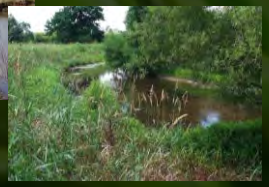
2002 — TCCCA Founded

2006 — Conewago WIP Finalized



2007 — DCCD's First 319 Grant

2008 — TCCCA Hershey Meadows 319 Grant



2009 — Conewago Initiative NFWF Grant to PSU

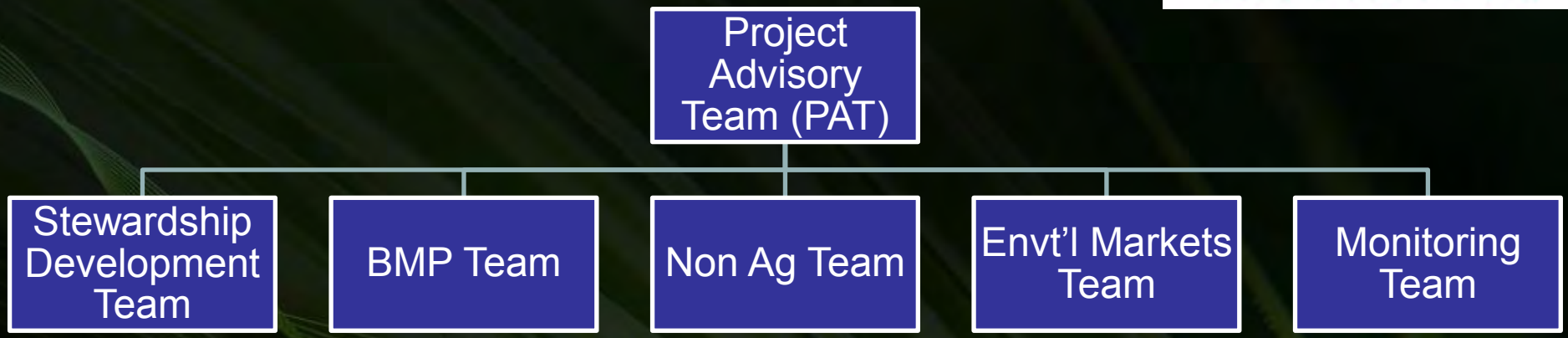
2010 — USDA Showcase Watershed Designation

Conewago Creek Initiative
The Partnership

CONEWAGO CREEK INITIATIVE

Alliance for the Chesapeake Bay
Aquatic Resource Restoration Co.
Capital Area RC&D
Chesapeake Bay Foundation
Chesapeake Commons
Dauphin County Conservation District
Elizabethtown Area Water Authority
Elizabethtown College
Lancaster County Conservation District
LandStudies, Inc.
Lebanon County Conservation District
Londonderry Township
Lower Dauphin High School
Milton Hershey School
PA DEP
Penn State Public Media
Penn State University
Red Barn Consulting
RGS Associates
South Londonderry Township
Stroud Water Research Center
Susquehanna River Basin Commission
Tetra Tech
Tri-County Conewago Creek Association
USDA Agriculture Research Service
USDA NRCS
US Fish and Wildlife Service
US Geologic Survey
Viable Industries, LLC
Wild Resources, Inc.
ZedX, Inc.

Conewago Creek Initiative
Organizational Structure



Staff support provided by
Penn State Agriculture and Environment Center

- Project Coordinator (M. Royer)
- Assistant Project Coordinator (K. Kyler)
- Student Interns

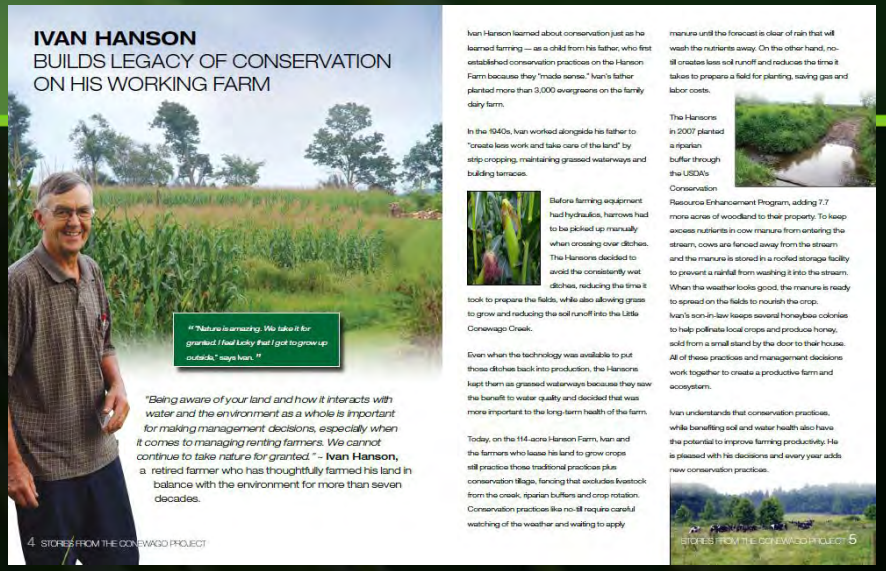
Conewago Initiative
Our Approach

People

- Over 100 residents engaged to create a vision for the watershed
- Over 40 community events engaging 1,300 participants
- 135 “Stream Team” volunteers trained, 3,400 youth involved
- Website (conewagoinitiative.net), e-newsletter, Facebook

- Communicating value of ecosystem services: *Stories from the Conewago*

- Identifying environmental market opportunities (12 nutrient trading assessments)



IVAN HANSON
BUILDS LEGACY OF CONSERVATION ON HIS WORKING FARM

"Being aware of your land and how it interacts with water and the environment as a whole is important for making management decisions, especially when it comes to managing renting farmers. We cannot continue to take nature for granted." – **Ivan Hanson,** a retired farmer who has thoughtfully farmed his land in balance with the environment for more than seven decades.

"Nature is amazing. We take it for granted. I feel lucky that I got to grow up outside," says Ivan.

Ivan Hanson learned about conservation just as he learned farming — as a child from his father, who first established conservation practices on the Hanson Farm because they "made sense." Ivan's father planted more than 3,000 evergreens on the family dairy farm.

In the 1940s, Ivan worked alongside his father to "create less work and take care of the land" by strip cropping, maintaining grassed waterways and building terraces.

Before farming equipment had hydraulics, harrows had to be picked up manually when crossing over ditches. The Hansons decided to avoid the consistently wet ditches, reducing the time it took to prepare the fields, while also allowing grass to grow and reducing the soil runoff into the Little Conewago Creek.

Even when the technology was available to put those ditches back into production, the Hansons kept them as grassed waterways because they saw the benefit to water quality and decided that was more important to the long-term health of the farm.

Today, on the 114-acre Hanson Farm, Ivan and the farmers who lease his land to grow crops still practice those traditional practices plus conservation tillage, fencing that excludes livestock from the creek, riparian buffers and crop rotation. Conservation practices like no-till require careful watching of the weather and waiting to apply manure until the forecast is clear of rain that will wash the nutrients away. On the other hand, no-till creates less soil runoff and reduces the time it takes to prepare a field for planting, saving gas and labor costs.

The Hansons in 2007 planted a riparian buffer through the USDA's Conservation Resource Enhancement Program, adding 7.7 more acres of woodland to their property. To keep excess nutrients in cow manure from entering the stream, cows are fenced away from the stream and the manure is stored in a roofed storage facility to prevent a rainfall from washing it into the stream. When the weather looks good, the manure is ready to spread on the fields to nourish the crop.

Ivan's son-in-law keeps several honeybee colonies to help pollinate local crops and produce honey, sold from a small stand by the door to their house. All of these practices and management decisions work together to create a productive farm and ecosystem.

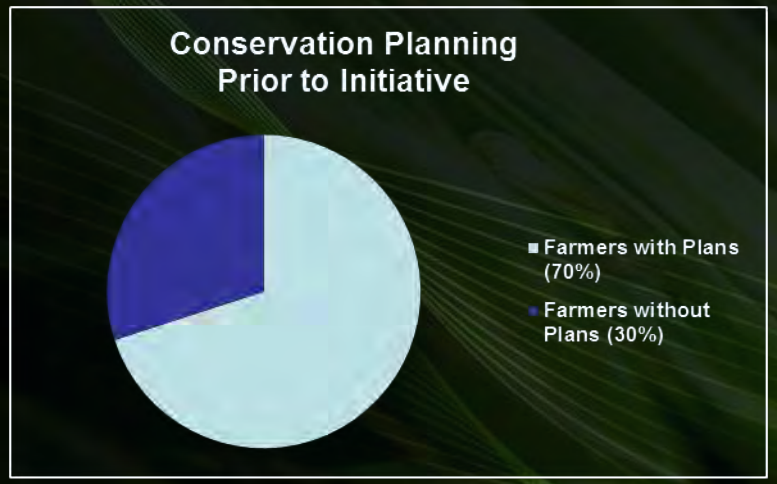
Ivan understands that conservation practices, while benefiting soil and water health also have the potential to improve farming productivity. He is pleased with his decisions and every year adds new conservation practices.

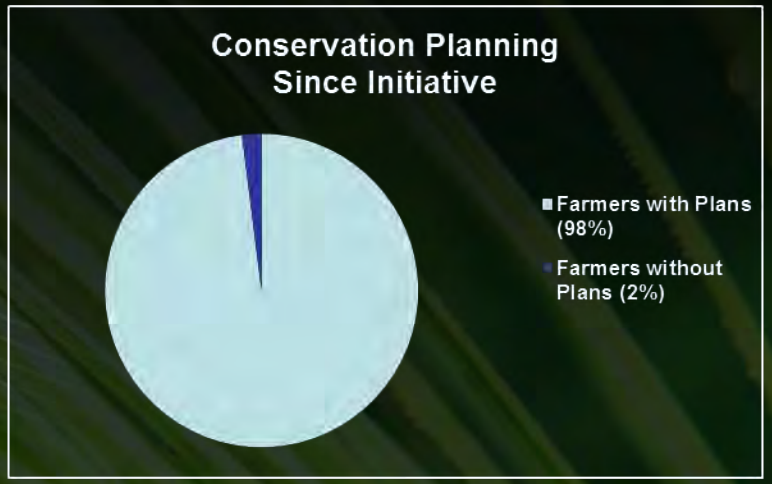
4 STORIES FROM THE CONEWAGO PROJECT

STORIES FROM THE CONEWAGO PROJECT 5

Practices

Conservation Planning





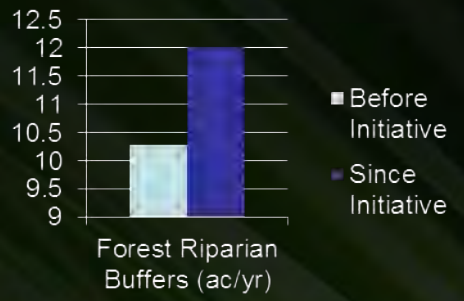
Practices

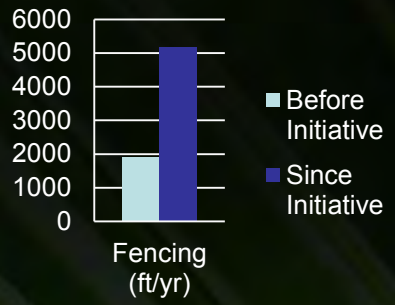
BMP Implementation

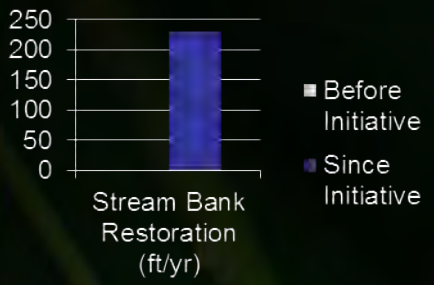
- Over 7,000 trees planted
- 60 acres riparian buffers restored
- 1,920 acres of conservation tillage
- 183 acres of cover crops
- 26,000 feet of fencing
- 4,700 feet of stream bank restoration
- 31,850 feet of terraces
- 5,475 feet of diversions

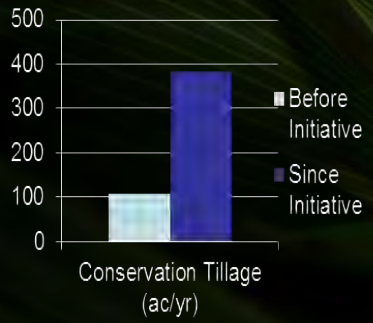
Practices

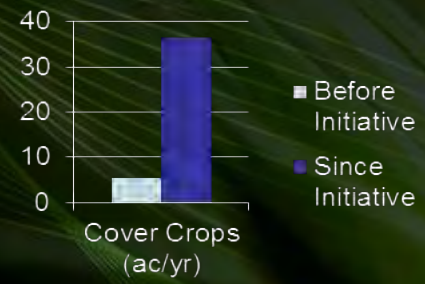
BMP Implementation Rates

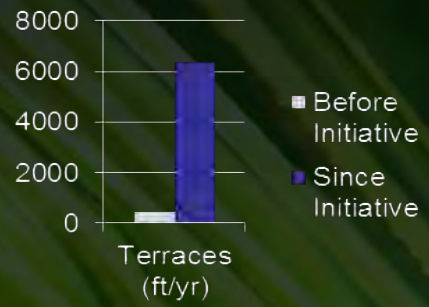


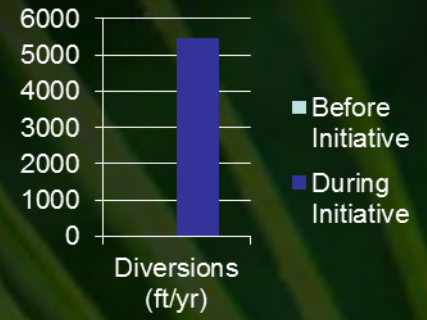












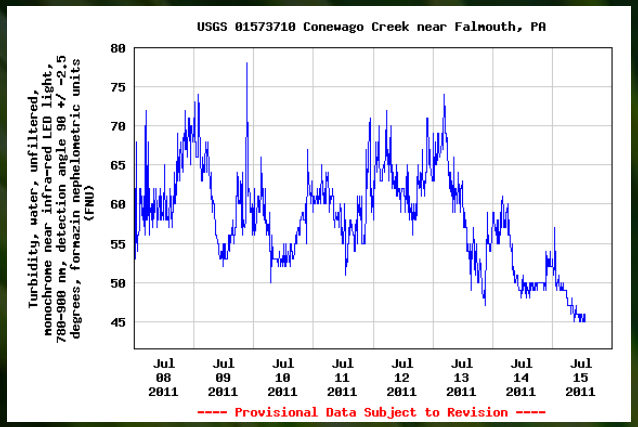
Practices

Stormwater Program

- 22 stormwater plans created
- 14 stormwater BMPs implemented
- Conservation Toolbox for Municipalities created

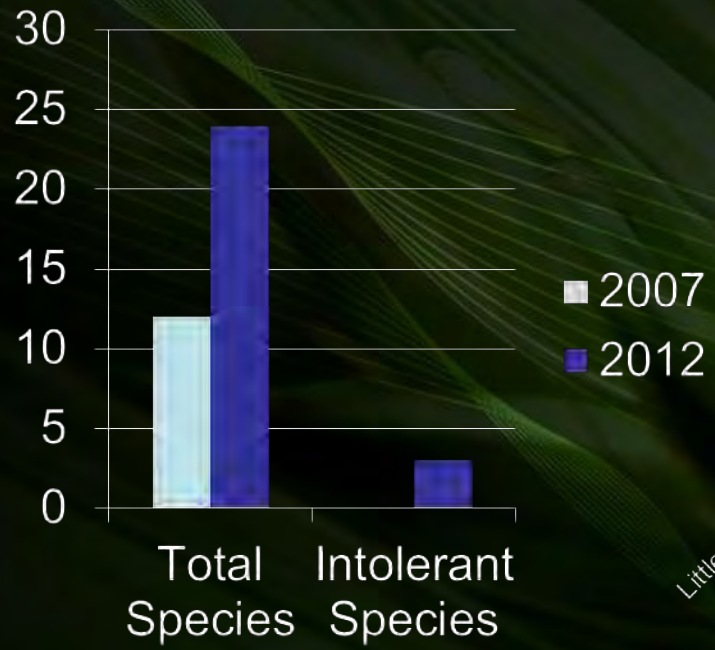
Impact

- Comprehensive monitoring plan
- Two USGS gage stations

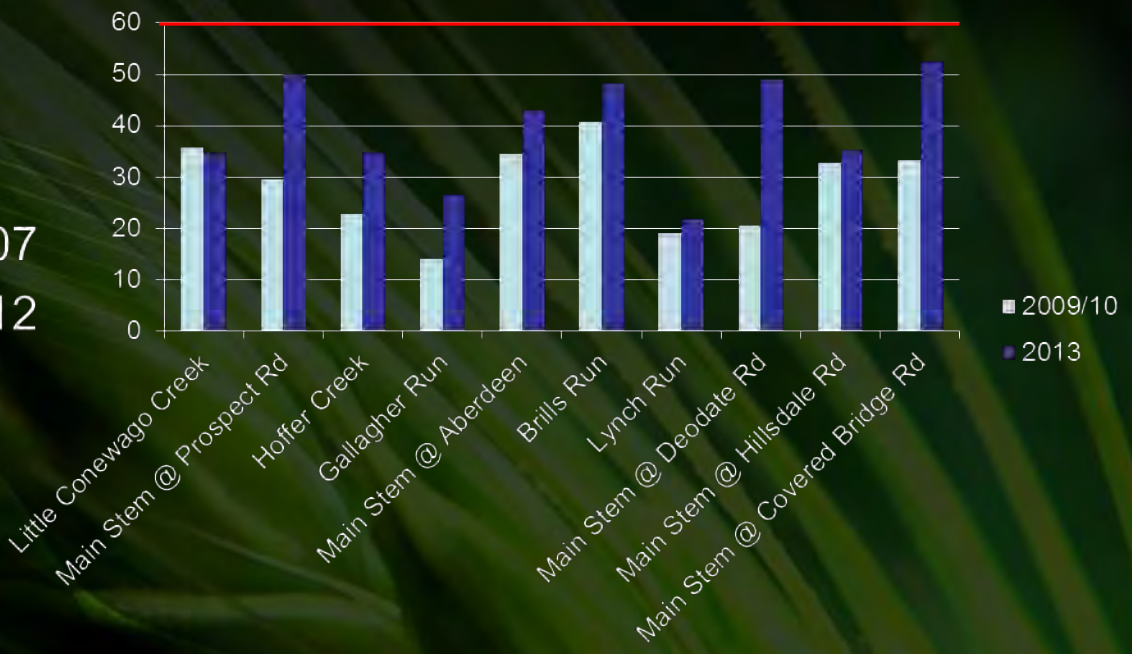


Impact

HM Fish Sampling



Macroinvertebrate Sampling (IBI Scores)



Visit us on the web at:

www.conewagoinitiative.net

Watch *A Conewago Story* at:

www.conewagoinitiative.net

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