

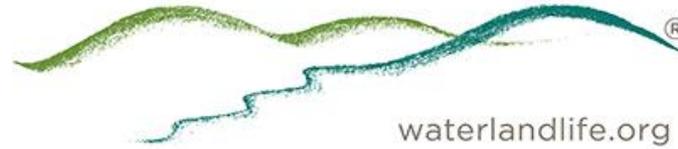
# Highlights of Riparian Restoration

Encouraging Buffers plus Pre & Post Planting Considerations



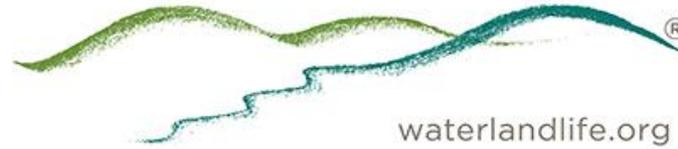
Alysha Trexler  
Watershed Project Manager II  
March 21 & 22, 2024

Western Pennsylvania Conservancy



The Western Pennsylvania Conservancy protects and restores exceptional places to provide our region with clean waters and healthy forests, wildlife and natural areas for the benefit of present and future generations. The Conservancy creates green spaces and gardens, contributing to the vitality of our cities and towns, and preserves Fallingwater, a symbol of people living in harmony with nature.





# Watershed Conservation Program

WPC's Watershed Conservation Program provides technical assistance to watershed groups and other conservation partners, performs watershed assessments, unassessed waters and other aquatic biologic surveys, and implements and installs agricultural, riparian, and stream best management and restoration projects.





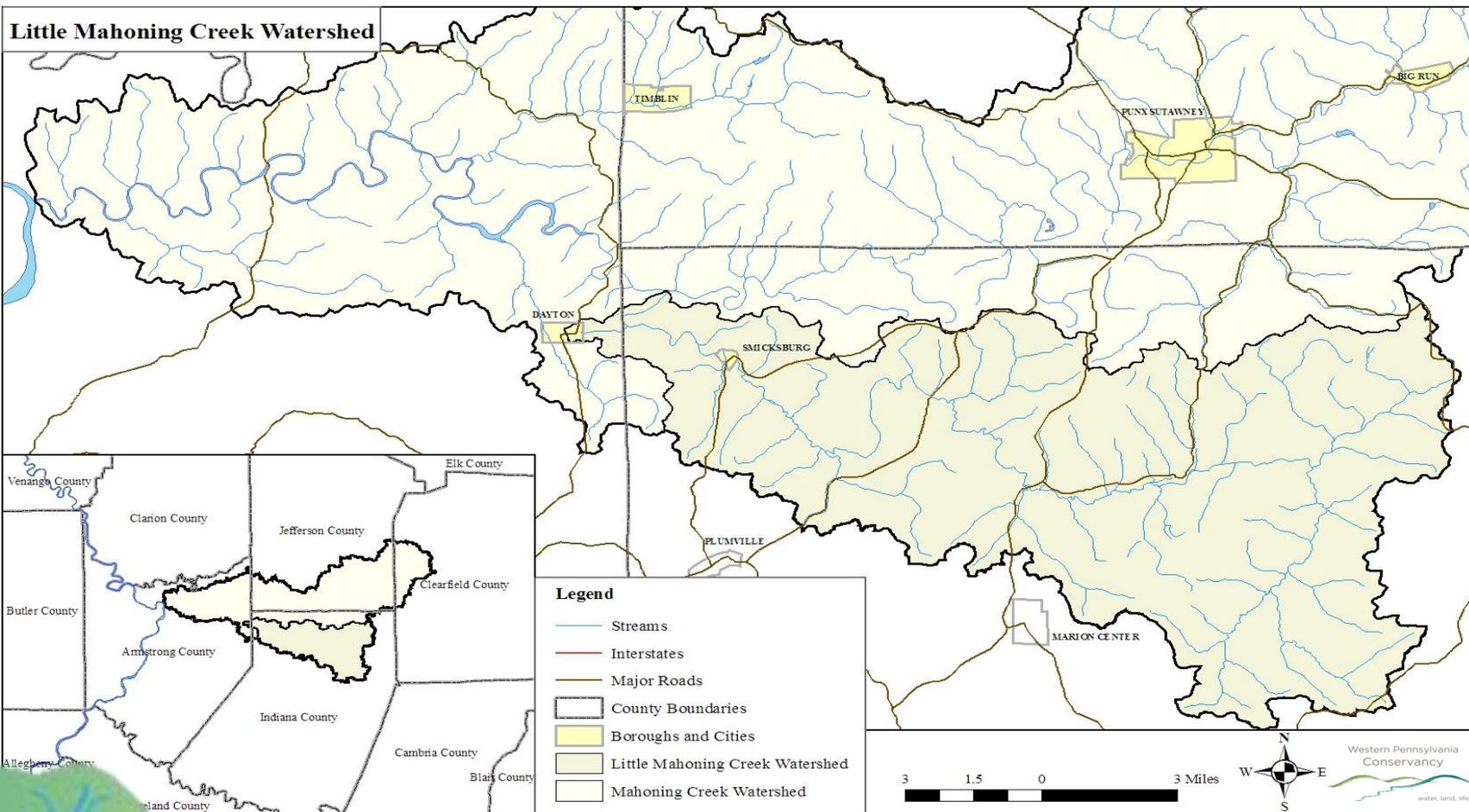
Who lives in a watershed, let alone  
has open riparian land?



*There are those who  
will say they don't.*

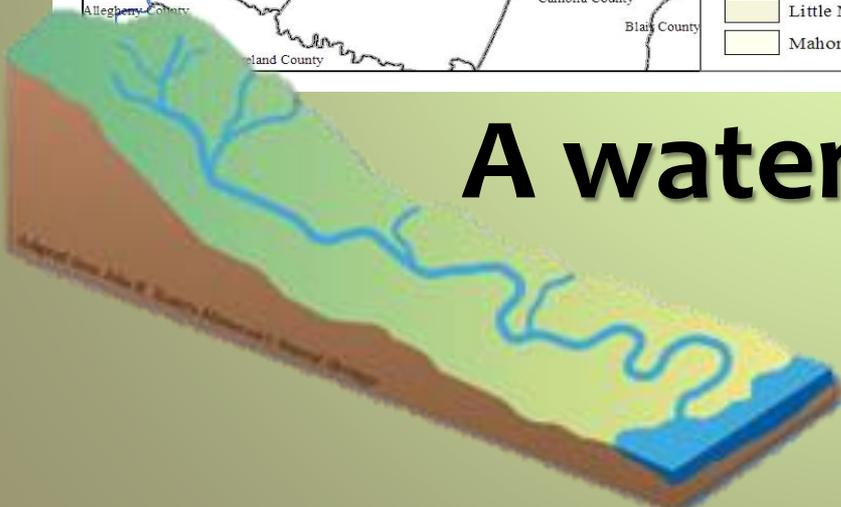
*We need to help  
them understand!*

## Little Mahoning Creek Watershed



# A watershed...

is an area of land where all the water on and under it drains (**sheds**) to the same place.



# Riparian Awareness

Raising riparian awareness with all people, not just those who own land along a stream, is critical for protecting water quality.

*Let's talk to  
people about  
riparian areas!*



# Riparian Restoration

Over the past 20 years WPC has:

- Collaborated with private, local, state, & federal conservation partners.
- Coordinated outreach & education events promoting riparian protection and restoration (135 planting events).
- Implemented the planting of 68,000+ riparian trees at over 145 sites.
- Improved over 325 acres of riparian habitat.



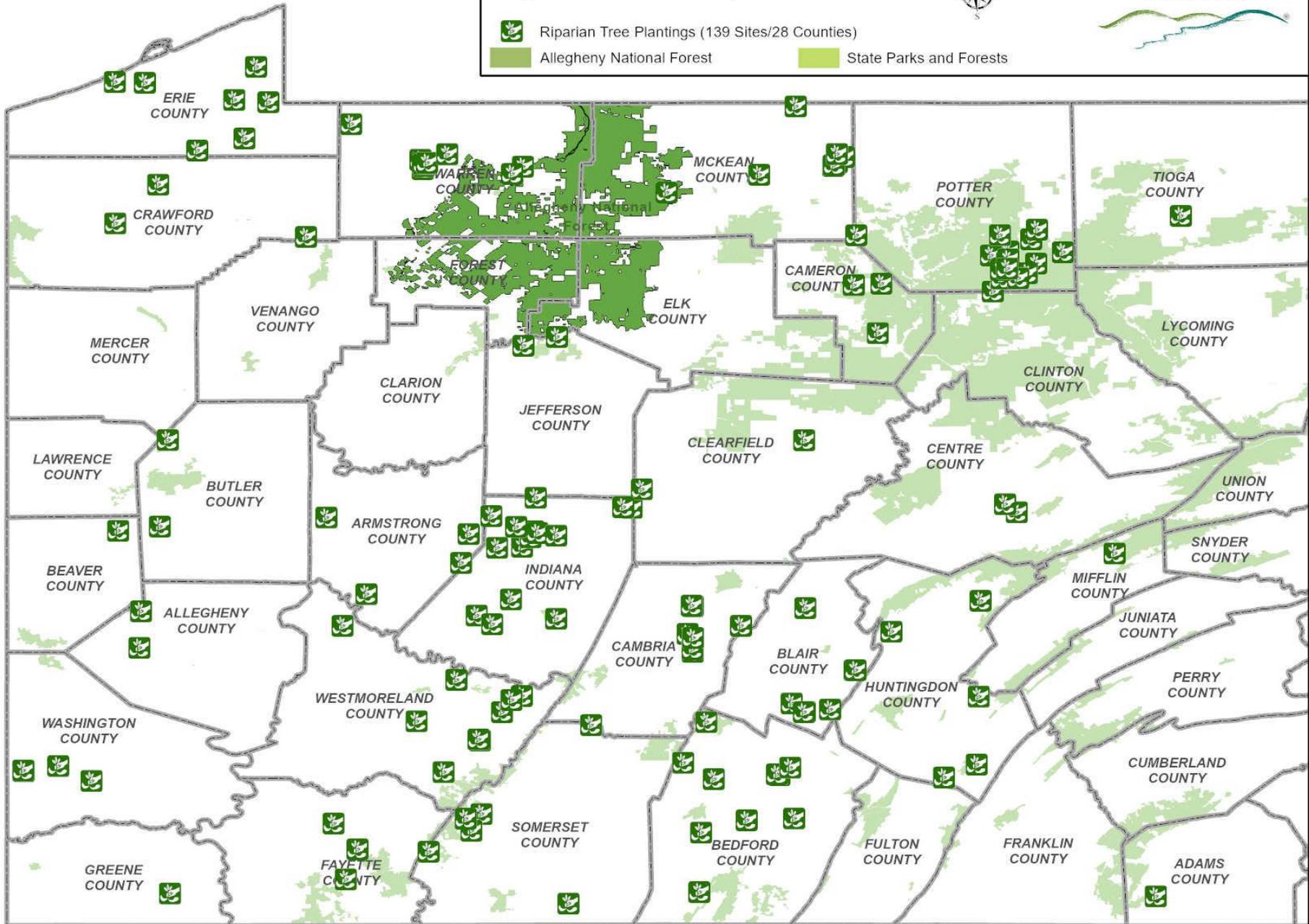
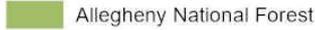
# Watershed Conservation Program Riparian Tree Plantings 2013-2021



Western Pennsylvania  
Conservancy



Riparian Tree Plantings (139 Sites/28 Counties)



# Riparian Restoration

## Highlights for Today:

- Watersheds & Streams 101
- Riparian Awareness
- Site Considerations
- Overview of Before, During, & After a Planting Event



## More In-depth Training for another Time:

- Riparian Buffer Function & Evaluation
- Designing a Riparian Restoration Project
- Steps for Coordinating a Planting Event



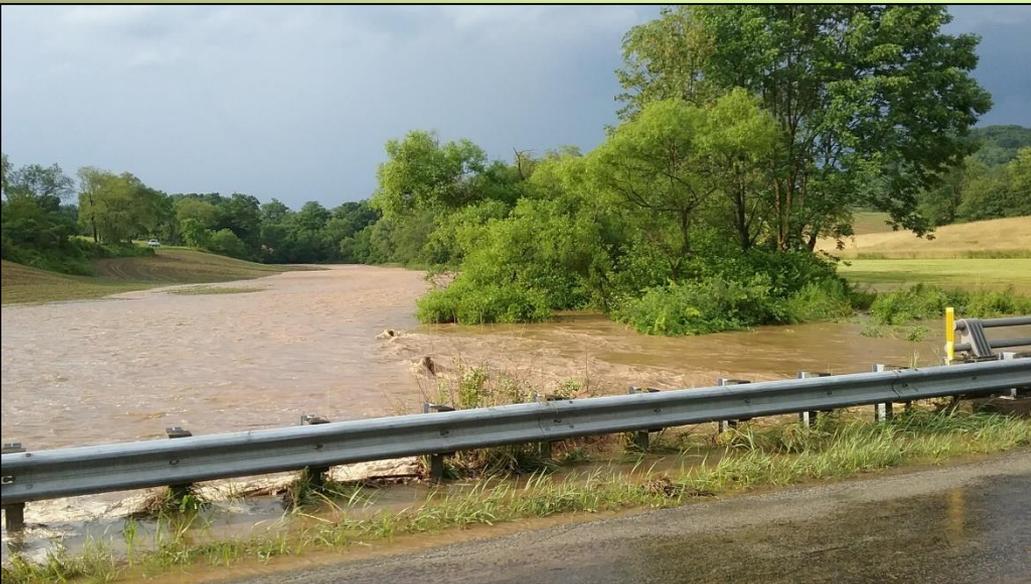






*Who here has talked to someone about riparian restoration?*

## Audience Feedback...



*Who here has a place themselves and/or family that owns a place that has a stream?*



**Alysha Trexler**

6d · 🌐

Looking for landowners wanting to plant native trees for wildlife habitat. Any open to mostly open land along a waterway such as a stream, spring, small tributary or pond can have trees and shrubs planted at no cost. Private message for details. Possible species include oaks, maples, hickory and willows.



FREE · INDIANA, PA  
**Native Trees for Landowners**

SEE ACTIVITY

# Would you Respond?

# Why or why not?

### Listed in 2 Places

Choose a listing to view or manage it.



Marketplace



Clearfield, Jefferson & Elk Co., PA-Classifieds

 List in More Places

### Marketplace Insights

Last 7 days

 7,540 clicks on listing

 216 listing saves

 66 listing shares

**Chats**

[See All](#)

# Riparian Awareness



Riparian areas mean different things to different people.



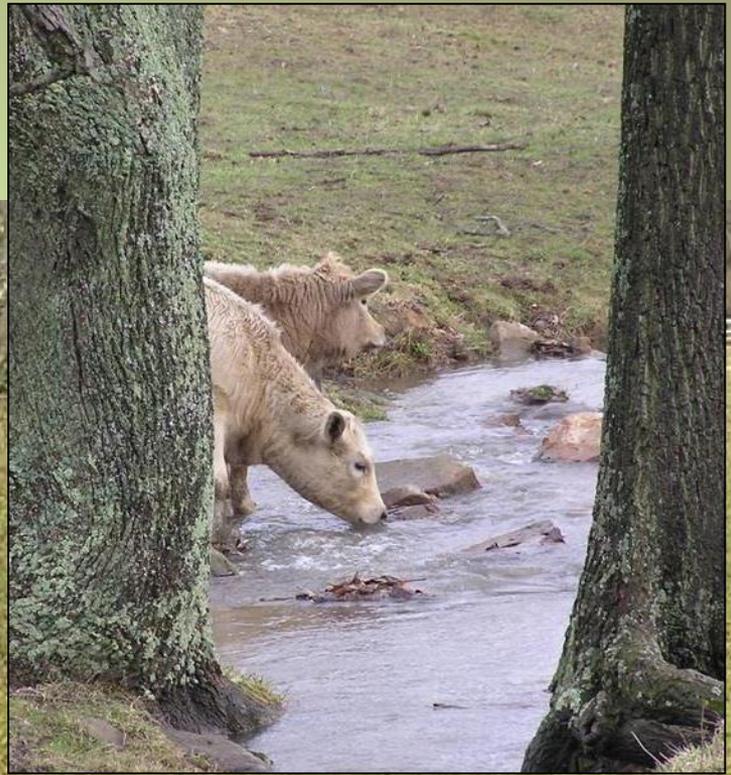
Riparian areas are gateways...



For recreation



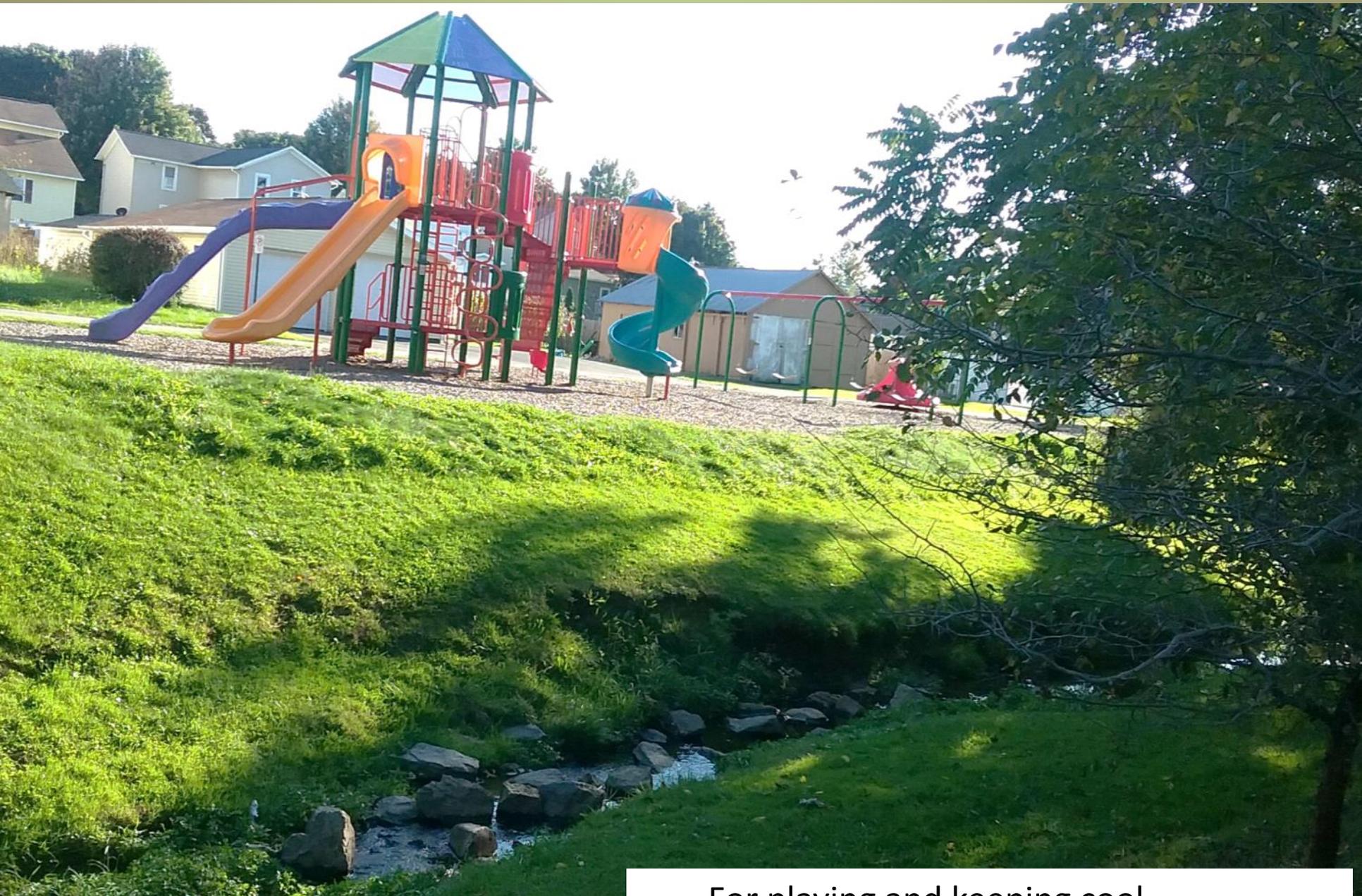
Or for recreational mowing



For feeding and watering livestock

For agriculture





For playing and keeping cool



For living and traveling





For...

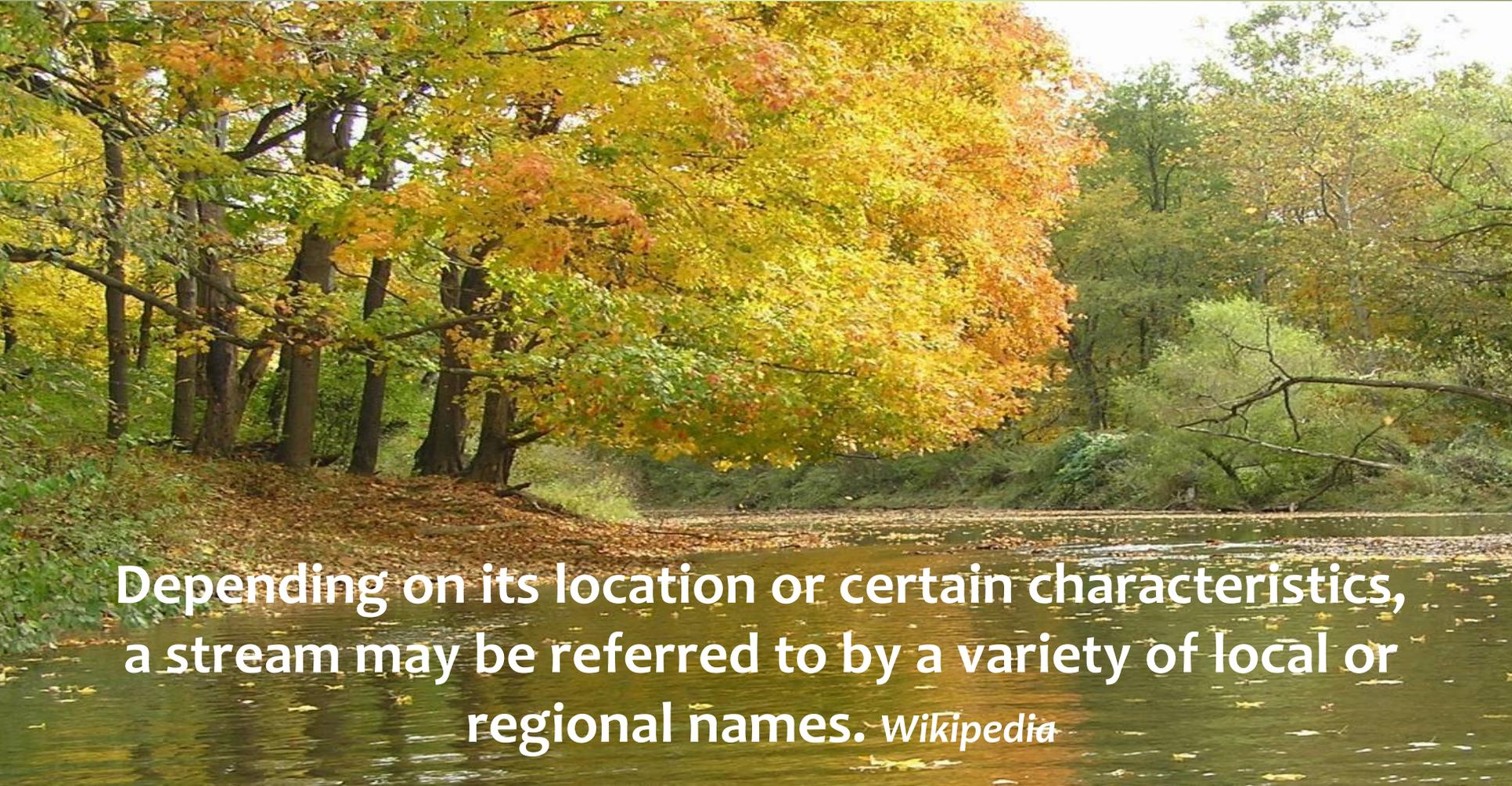
# Water is important no matter what you like to do!



In effort to protect what we enjoy doing, we must promote good stewardship of water.

# Is it a Stream?

A stream is a continuous body of surface water flowing within the bed and banks of a channel.



Depending on its location or certain characteristics, a stream may be referred to by a variety of local or regional names. *Wikipedia*

# A Stream by Any Name

Stream

Spring and Seep

Creek (*Crick*)

Tributary, Reach or Run

Storm Ditch or Gully

(Intermittent stream)

River

Pond and Lake

***Other local  
nicknames?***

Are these streams?





Help landowners understand what a stream is and that it has value and can be improved if in poor condition.

# Reaching the Perfect Riparian Area





Riparian restoration goals should balance the needs of a landowner with the improvement of a site.



**Fixing the Not so Perfect**

How to make the less than perfect reach better?





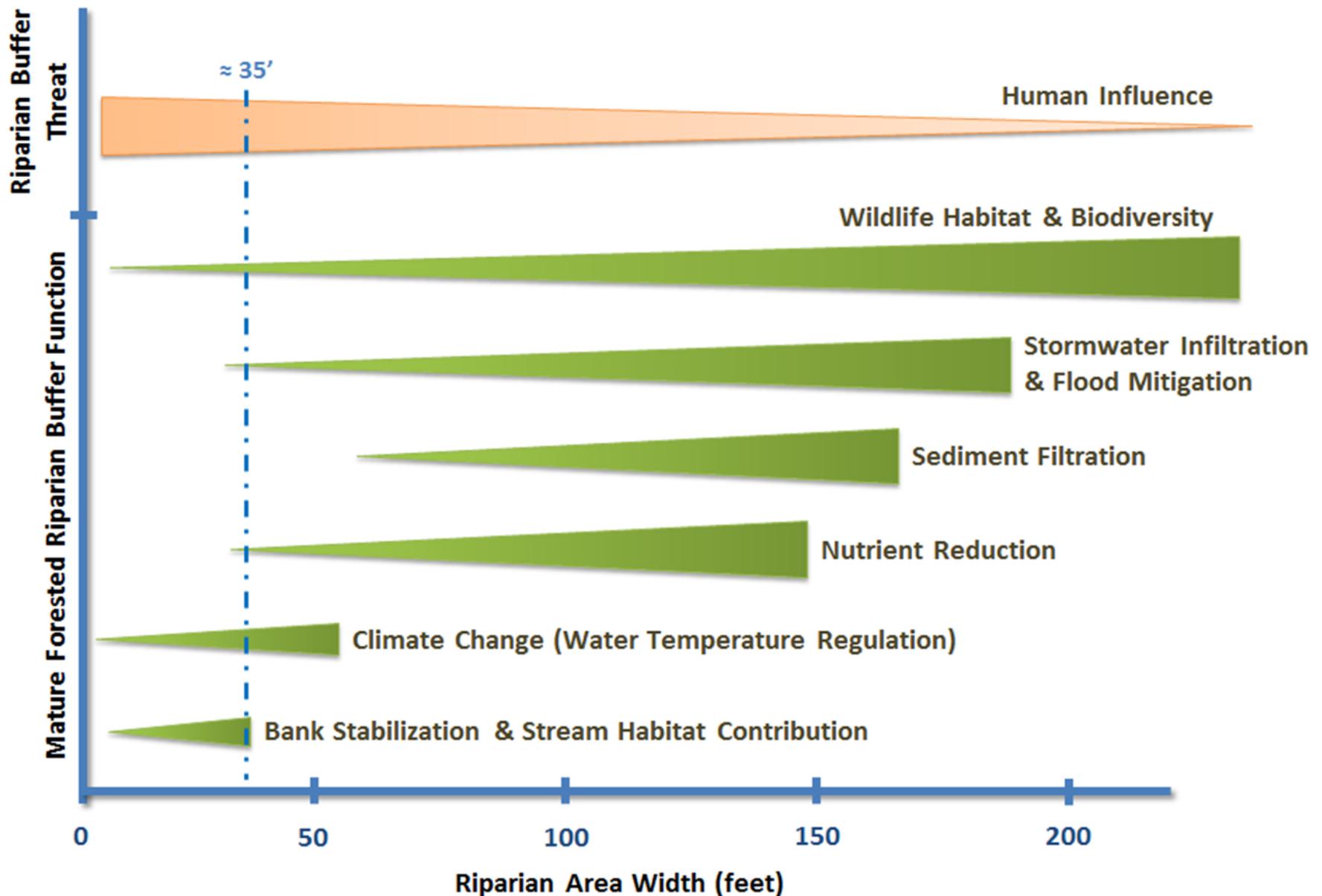
**Work on  
improving  
management  
practices.**

# Stormwater Runoff & Encroachment



Erosion is not just a rural or agricultural issue; all streams are affected by erosion. Sediment enters waterways through excessive soil erosion. Runoff can include excessive amounts of nutrients (commonly nitrates and phosphates).

# Mature Forested Riparian Buffer Width vs. Function



# Riparian Restoration Challenges

Reasons why someone may say they can't maintain a treed buffer:

Public Understanding

Installation Costs

Neighbors

Lack of Space

Change in Viewscape

**Utility Locations (ROWs)**

Invasive Plants

**Snakes (Pests)**

Leaves

Wildlife Browsing

Maintenance Requirements

Municipal Mowing Ordinances



# More than just planting trees.



Stream stewardship and understanding of riparian area function are key to protecting and improving water quality and habitat.

# Talk (and Listen) to Landowners

Change is hard!



Plus, learning that how you may be doing something has a negative impact and can be done better is sometimes overwhelming.



# Is a Potential Planting Site a Project

**Considerations for planting a site...**

Why trees may not grow.

# Question Why a Site is Open



Ask the landowner what runs through the site.

If in question – One-Call



Underground Utility ROWs



**Don't forget to look up!**

Powerlines are everywhere.

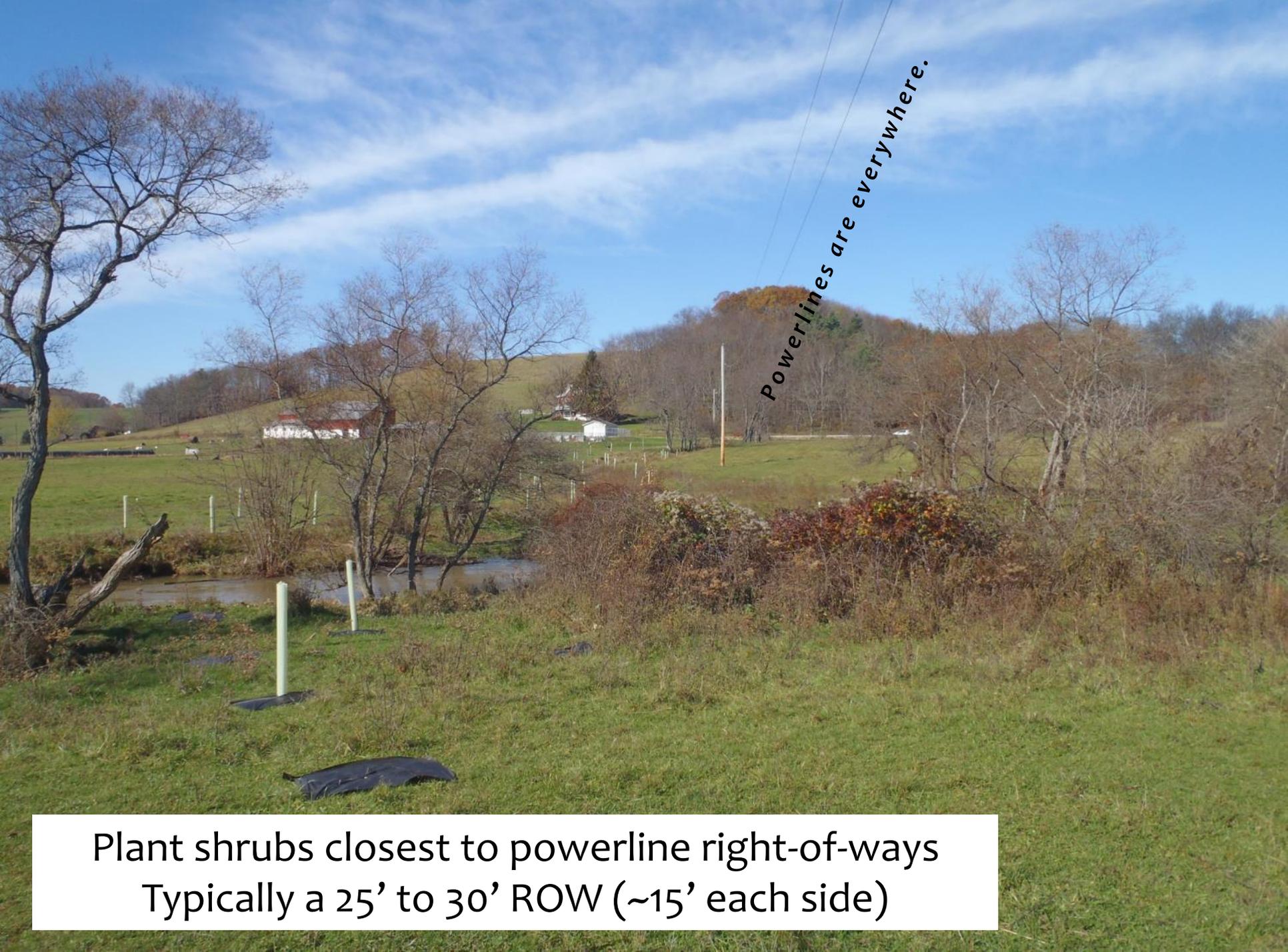
# Utilities Right-of-Ways

Look for ROWs paths

*Powerlines are everywhere.*



Utility ROWs are easier to see in treed areas.

A rural landscape featuring a powerline tower in the middle ground. The foreground is a grassy field with several white posts and black plastic mulch. A stream flows through the middle ground, bordered by trees and shrubs. In the background, there are rolling hills with a few buildings and more trees. The sky is blue with scattered clouds. The text "Powerlines are everywhere." is written diagonally across the upper right portion of the image.

*Powerlines are everywhere.*

Plant shrubs closest to powerline right-of-ways  
Typically a 25' to 30' ROW (~15' each side)



Powerlines are everywhere.



10 year old American Sycamore planted too close to power lines by a contractor



Powerlines are everywhere

Plan around the ROWs

# Where: The Planting Site

A site visit is needed regardless of who is planting the site.



Consider the zones

Things to note about a site:

- Access location and distance
- The soil condition of the site
  - Does the site sit wet most of the time or is it mostly dry? (percent of areas wet vs. dry)
- The general lay of the land
  - Keep an eye out for features that might not be noticeable from aerial images. (ice scour areas etc.)
- Types of trees and shrubs growing near by

# Access & Mobilization

- How easy will set-up be for you, volunteers or a contractor?
- Is there room for parking?
- Closest facility, what to do when nature calls in nature?
- How long is the buffer, do you set-up from one end or the middle?



# More than Trees

In addition to native trees and shrubs, flowering perennials benefit wildlife and add visual enjoyment.

Aster

Coneflower

Coreopsis

Bee-balm

Black-eyed Susan

Goldenrod

Joe-pie weed

Jewelweed

Milkweed



# What about Weeds?



“A weed is a plant out of place.”

Jim Thompson

***This corn is a weed, as it is out of place in this soybean field.***

# Planting with Partners & Volunteers



Will they weather the weather?

# Planting Coach

Take time to guide volunteers on planting.



Plan for planting demo(s).

# Getting Buffers to Grow

- Demonstrate how a dibble bar works
- Explain 'J' planting



The Art of Dibbling

# Things to think about.



Especially helpful when planting with volunteers.

Laying material out before planting helps with site spacing and plant location.

# Shelter Placement

- Vent holes up
- Stake hammered in well
- Zip-ties snug



# After Planting



Peak in the tubes after planting, seedlings can get between the zip-tie and the tube.

Show them the tiny roots!



“Plant three trees well rather than ten trees wrong!”

# Proper Placement



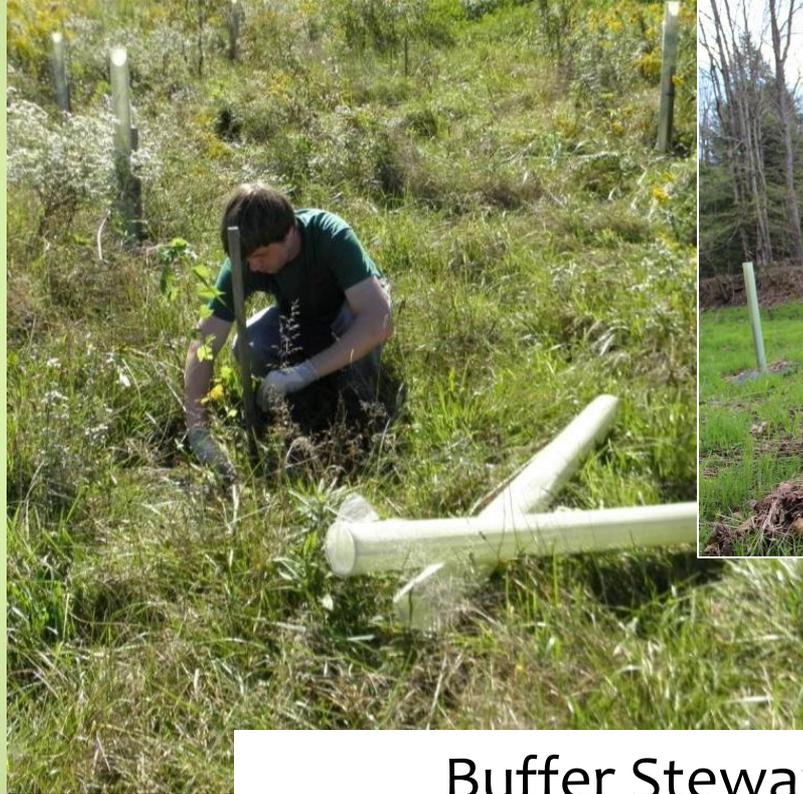
Nets can blow away if not pushed down.  
Stakes should be placed on the up-stream  
side of a tube.





**After:** Streambank construction project

# Site Maintenance



Buffer Stewards

No matter the size of the planting, annual maintenance helps with the success of new buffers.

# All planting sites *will need* and should have some.

At a minimum:

- Annually check tree shelters, correct any that have become displaced
- Remove bird nets as trees reach top of tube
- Inventory survivability, replant as needed
- Control invasives as much as possible



Trees can 'pop' out of tubes within a year.

# Over Time...

Trees keep trying to grow.

Birds do die in tree tubes.



Meadow voles will chew and kill trees.



Add half a tube to help combat browse issues.



Remind buffer stewards and landowners that tubes typically 'unzip' from the bottom up.

Looks dead at first  
glance, but look closer...



Dead(ish), but not gone

When in doubt, give it another year.



Is this a problem?

# After 7 to 10 Years





Some shelters will need cut off and invasive plants like multiflora rose will still need managed.

This tree was planted in 2008, and is  
12 years old in this photo.

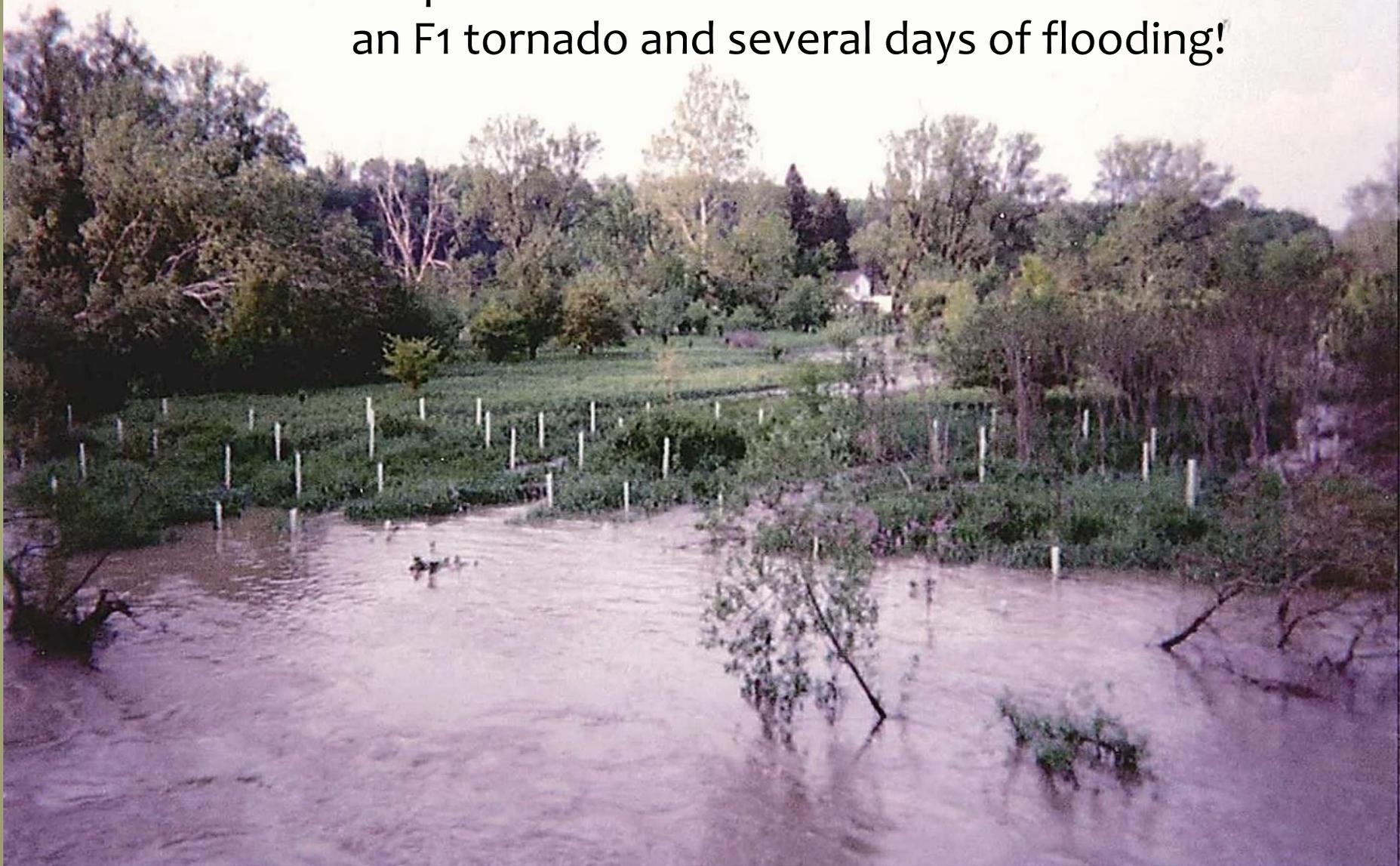
## Missed maintenance... It happens!

Sites will need care for  
years.

- *Possibility of reusing  
tree shelters.*
- *Collect the re-useable  
zip-ties*



A well planted buffer can survive a direct hit with an F1 tornado and several days of flooding!



# We can do this!

Go back and visit a site that you helped plant.

Seeing a tree rising out of a shelter eight years later reminds you that the work you are doing now will grow!

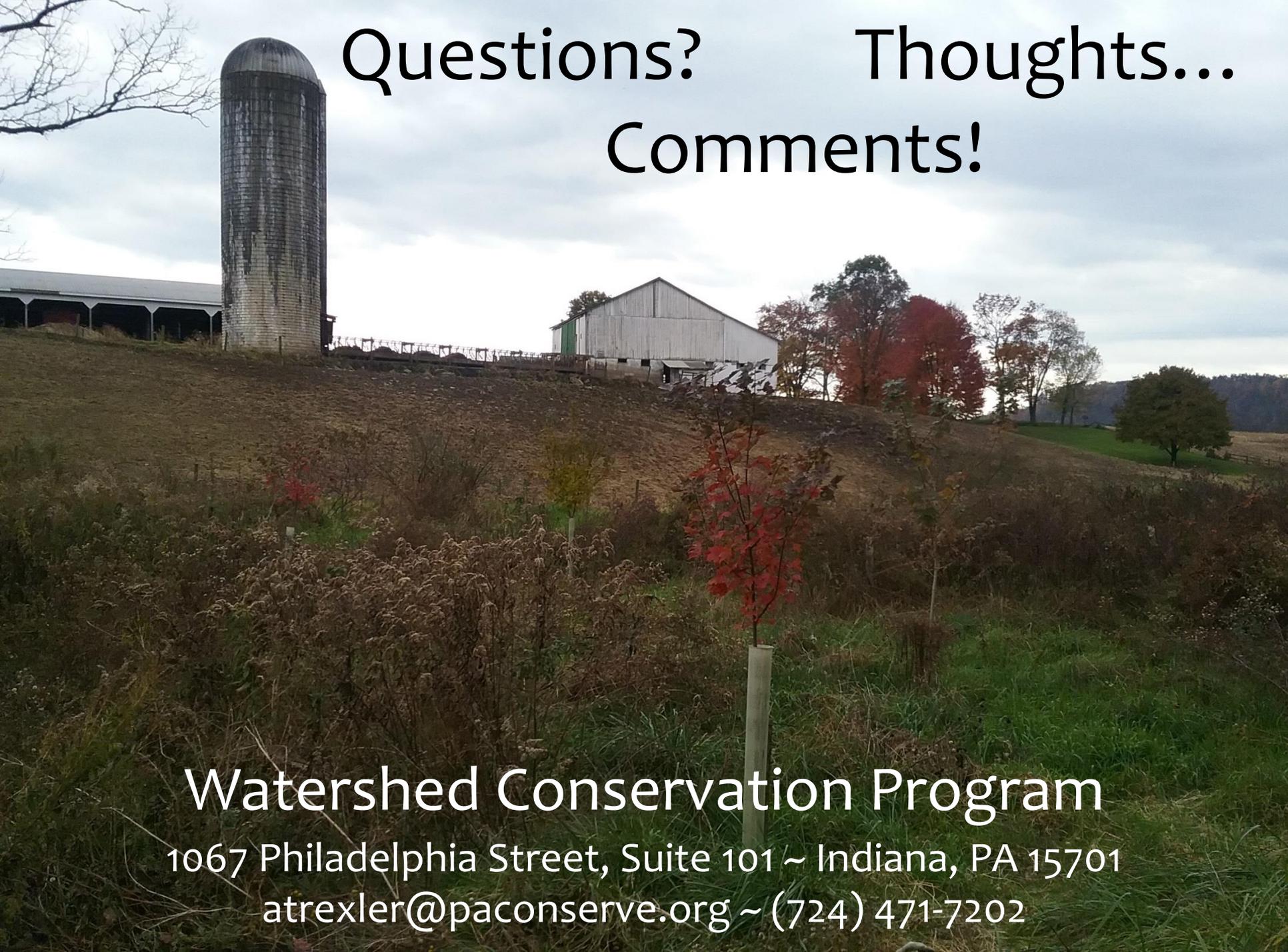
10 year old White Swamp Oak



# Buffer Appearance



**Leads to stream  
disappearance!**



Questions? Thoughts...  
Comments!

## Watershed Conservation Program

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