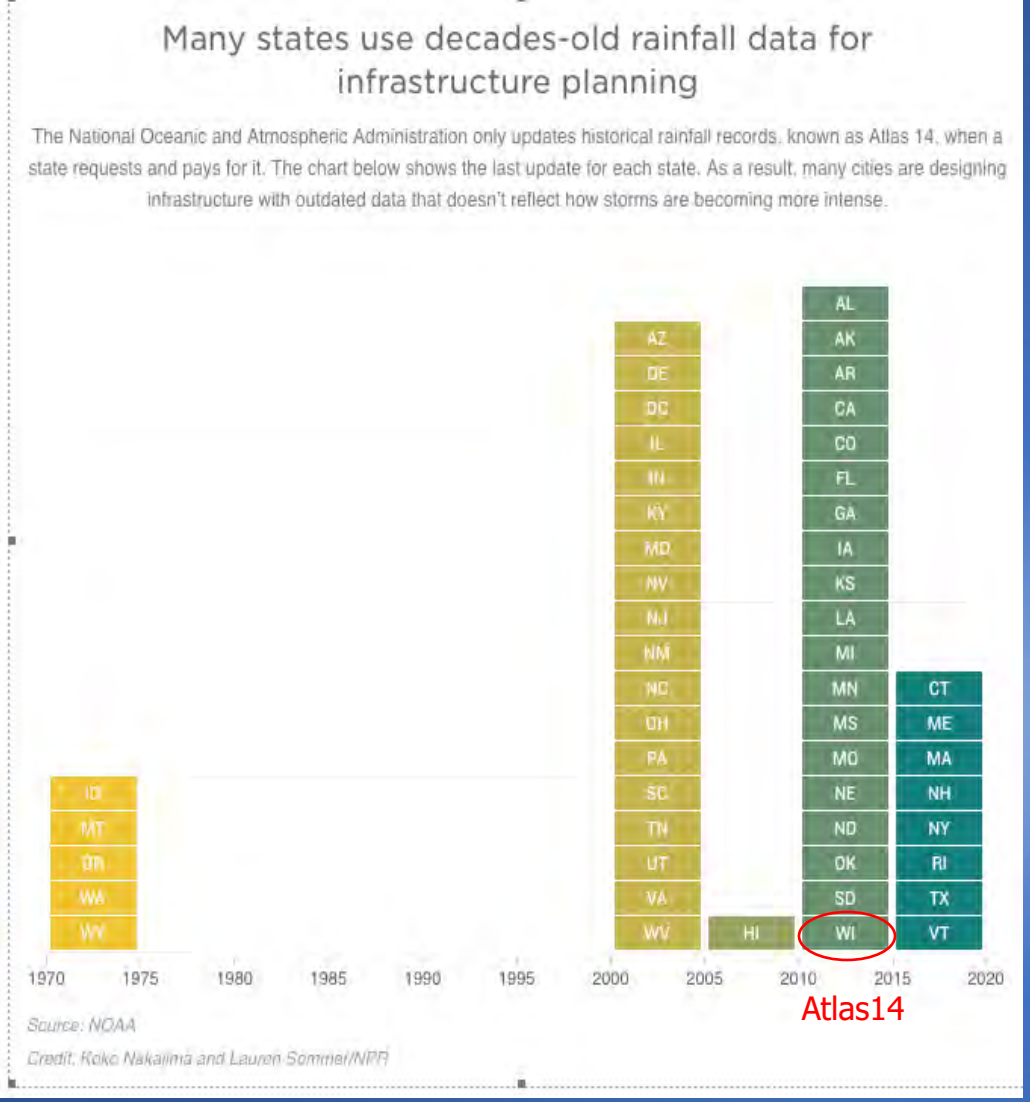
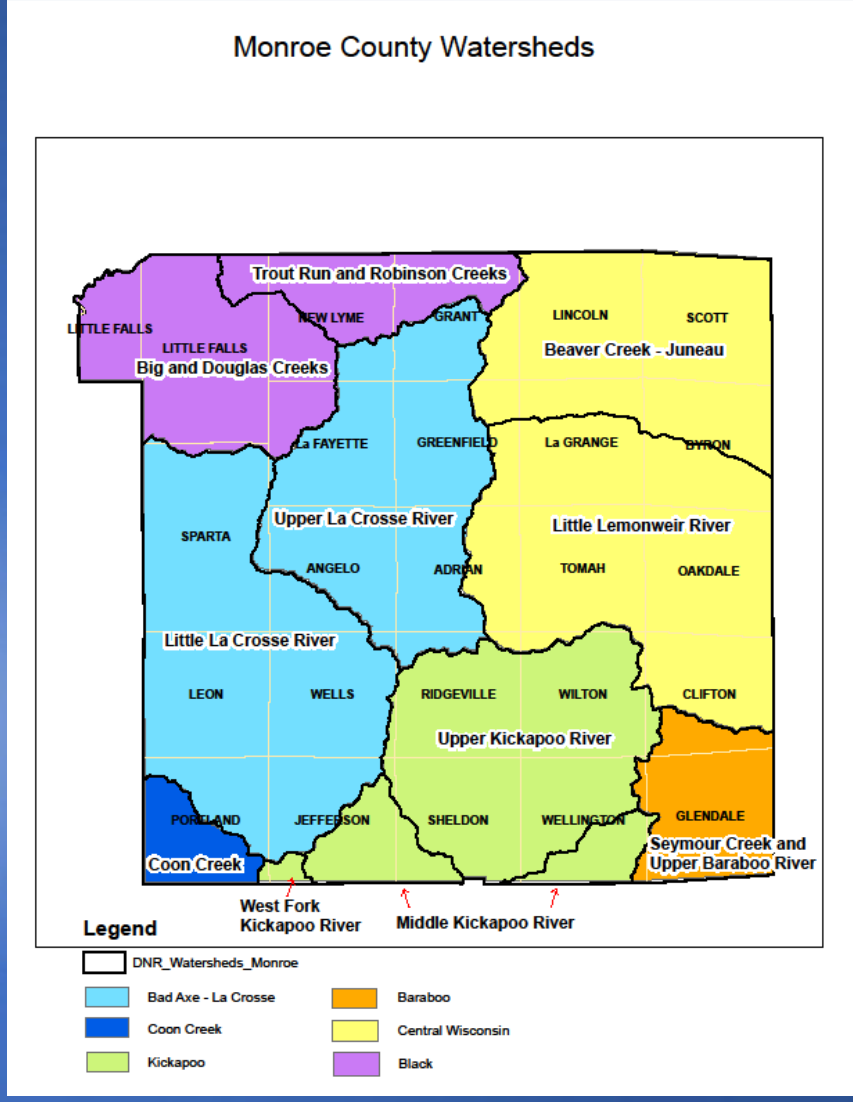
Permitting Private Crossings

LCD/Zoning Dept.

- Watershed Evaluation
- Siting

Objective #3 – Complete Flood Impact study to identify 100 year Floodway boundary based on recent rainfall data and current land use. Focus on area with development pressure and or chronic flooding issues.

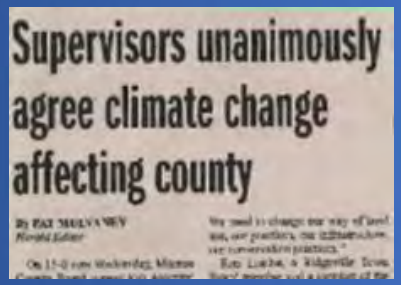




Update Flood Mapping

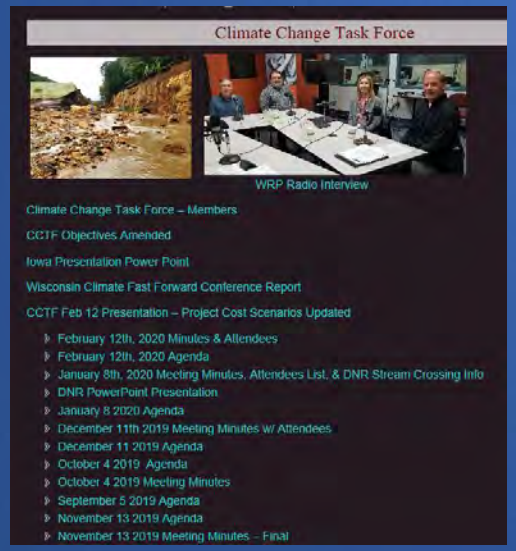
- 2022 – Kickapoo River Watershed
- 2028 – Remaining Watersheds

Objective #9 - Information & Education


Supervisors unanimously agree climate change affecting county

By PAT MELVA WEV
Herald Editor

-Media-



Messaging through participation:

- WI Climate Change Task Force, WICCI
- Wisconsin Land & Water
- DNR, NRCS, USGS, UWEX, LCD, National Weather Service
- 5 Surrounding Counties
- Wisconsin Green Fire
- Village, City, County, State & Federal Elected Officials
- Media
- County & Regional Planners

Objective #10 - Seek funding to implement objectives

Fishers and Farmers Partnership Grant
US Fish and Wildlife Service: $36,086

Hazard Mitigation Grant Program – Planning Grant: FEMA and WEM: $80,976

Hazard Mitigation Grant Program - Buyouts
FEMA and WEM: $1,175,028

Grants = $1,749,376

American Rescue Plan Funds (ARPA)
Monroe County: $130,000

DNR-Municipal Flood Control Grant - Buyouts
$222,886

Environmental Health Capacity Grant: WI DHS and CDC: $64,400

Building Resilient Infrastructure and Communities
FEMA: $40,000

Partners

(Beyond Monroe County)

WI Green Fire

University of Wisconsin Extension

Wisconsin Initiative on Climate Change Impacts

WI Department of Natural Resources

WI Department of Trade Consumer Protections

Natural Resource Conservation Service

National Weather Service

Organic Valley

Farm Bureau

Fort McCoy

Wisconsin Land & Water

US Fish & Wildlife Service

Savanna Institute

Thriving Earth

Monroe County Objectives:

Address the Symptoms:

- Keep people & structures out of the flood-way
- *Mitigate intense rain events on the landscape (Objective #6)
- *Manage runoff events

*Conservationist

Soil Health → Cover Crops → No-Till

- Address the Cause

Investigating Paths to Increased Flood Resilience in the Coon Creek Watershed

Lead Advisor:
Eric Booth
Associate Scientist

Students:
Rajpreet Grewal, Cathryn Herlihey, Jackson Parr, Robert Rosner, Rachael Sodeman, Kayla Wandsnider

Advisory Committee:
Caroline Gottschalk-Druschke, Adena Rissman, Stephen Ventura

Rainfall Analysis Team: Daniel Wright, Zhe Li

Nelson Institute for Environmental Studies
UNIVERSITY OF WISCONSIN-MADISON

WATER RESOURCES MANAGEMENT M.S.

Department of Agronomy
UNIVERSITY OF WISCONSIN-MADISON

Civil and Environmental Engineering

Enhancing Infiltration

Through Land Use & Land Management

- Literature Review
  - Cropland management: contour strips, buffer strips, prairie strips, and no-till can all increase infiltration
  - Land use: forest, prairie, well-managed pasture (perennials) can all increase infiltration relative to cropland
- Trend analysis
  - Land management: aerial photo analysis revealed a 28% decrease in area devoted to contour strips in Rullands Coulee watershed (2004-2018)
  - Land use: agricultural census data shows shift from dairy rotations to corn-soy (less opportunity for contour strips)

Maintain & Improve Land Use

Soil Health: the continued capacity of soil to function as a vital living ecosystem that sustains plants, animals, and humans.

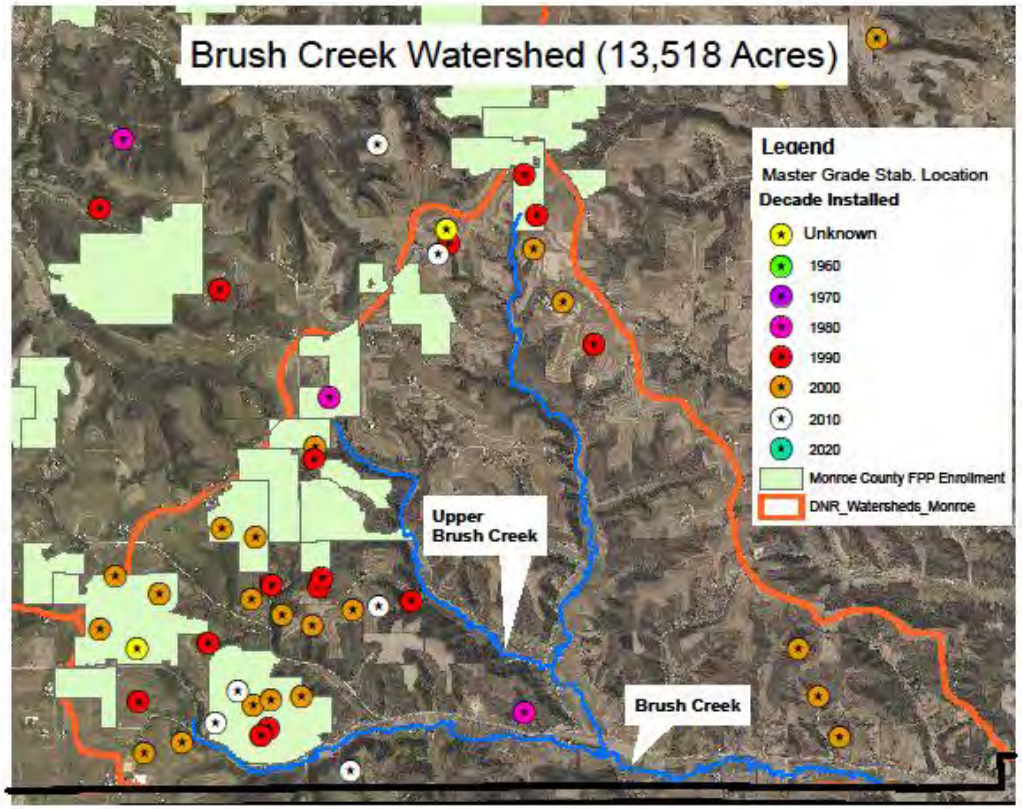
Soil Health Principles:

- Minimize soil disturbance
- Soil armor - keep the soil covered
- Maximize diversity of plants in the rotation – 4 crop types
- Maintain living roots in the soil - cover crops
- Integrate livestock

Grade Stabilization Structures - Dams

Monroe County

Grade Stabilization Structures



Field Office: SPARTA SERVICE CENTER
Agency: MONROE COUNTY LCD
Assisted By: BEN ANDERSON

Notes:

- 41 Dams Total (designed and built by either NRCS or LCD)
- A mix of hood and pipe drop inlets, and PVC and CMP
- Average CFS Reduction in % (for 10 yr storm): **53%**

Conservation Impact:

- Sediment Reduction
- Stream Classification
- Watershed Resiliency

Stream Corridor

Stream Restoration

Shaping & Seeding


Little La Crosse Watershed
Flood Monitoring Station
608-253-8973

Critical Sites (580) – Headwaters/Crossing

Evaluating – Slope, keyway vs excavated riprap toe.

Lessons Learned

Conservation Practice Adaptation:

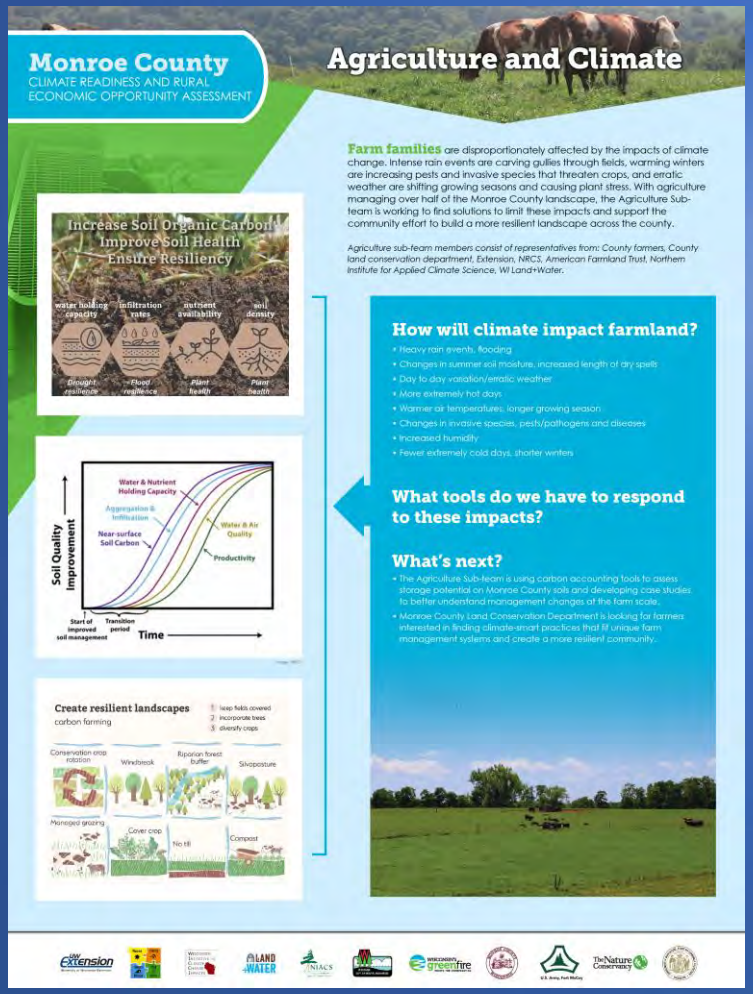
- Level Top
- Shape Groin
- Consider 25 (4.8”) year vs 10 (4.2”) year design storm

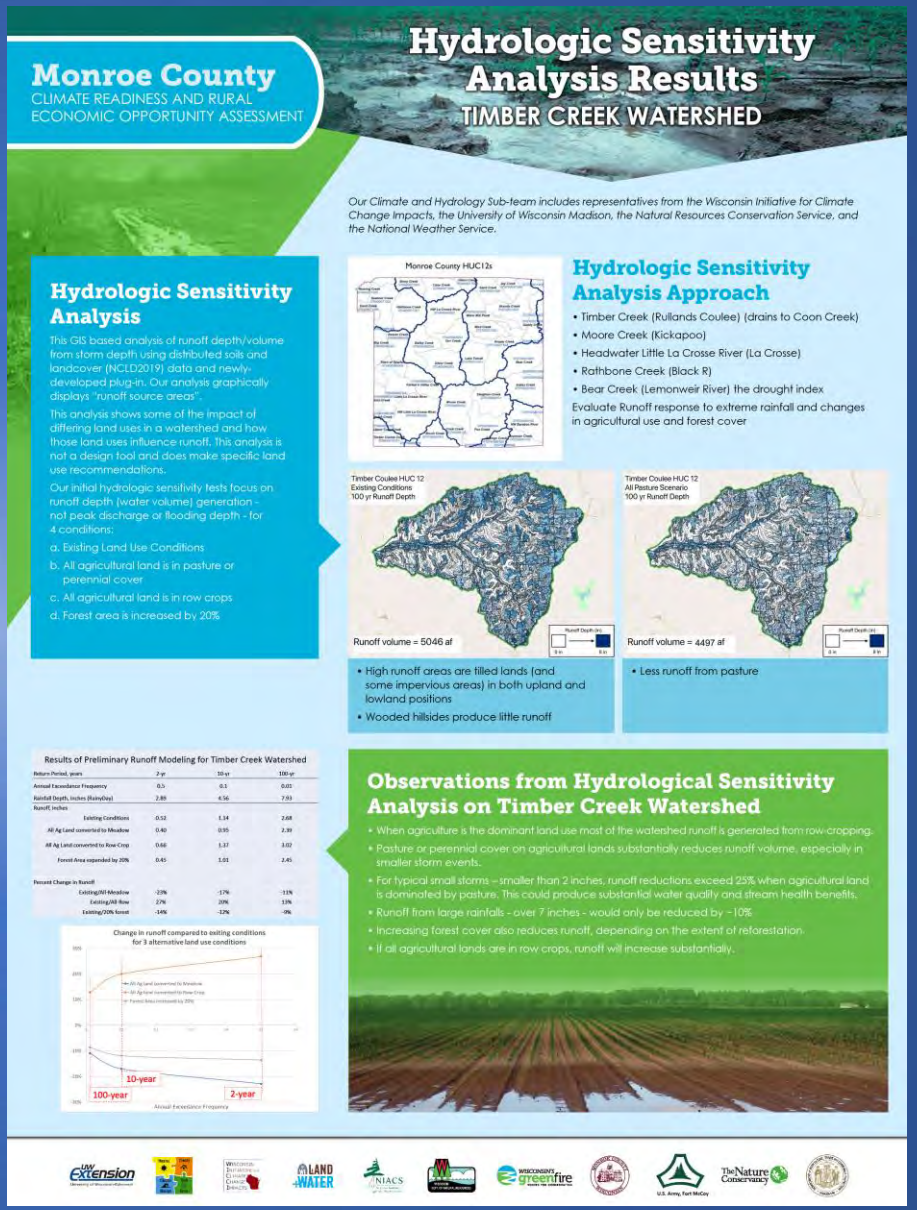
Monroe County Climate Readiness and Rural Economic Opportunity Assessment

Objective #8 – Climate Change Mitigation

4 Sub-Teams:

1.) Climate and Hydrology
2.) Infrastructure
3.) Agriculture
4.) Forestry





Sector	18 Strategy	80 Action	Responsible or Lead Party	Secondary Party	Notes	Public Safety	Resiliency	Soil, Air, Water	Carbon
	1. Invest in Enhanced Floodplain Risk Assessments	1.1 Review additional floodplain risk assessments to supplement FEMA maps and incorporate into future land use planning and project reviews.	**Counties, Cities, and Villages**		For example, First Street Foundation's Flood Factor Tool, https://firststreet.org/flood-factor; WI DHS Flood Resiliency Scorecard. This data may be qualitative and may not affect insurance eligibility, but it can be valuable in identifying risk areas especially outside FEMA mapped floodplains.	+	+		
		1.2 Complete a geospatial data set for buildings > 600 sq. ft. and their associated flood risk zone(s)	**Counties, Cities, and Villages**		This project identified the FEMA flood hazard zones of structures larger than 600 sq. ft based on the County's building data and curent FEMA maps. Add the attributes for tax parcel number, elevation, and any parcel zoning records for use by Planning and Zoning program administrators.	+	+		
		1.3 Use the improved topography developed from the County's digital elevation model (DEM) to contribute to floodplain hydraulic modeling.	**WI DNR**	**Monroe County**	WDNR's studies to update FEMA maps will improve the risk assessment of structures in flood hazard zones.	+	+		
		1.4 Review stormwater management standards across jurisdictions	**Counties, Cities, and Villages**	**WI DNR**	Ensure construction and post-construction measures go beyond minimum standards in NR-151 wherever possible, e.g. use WI Rainfall Project statistics. Encourage and remove unnecessary barriers to implementing green infrastructure, such as infiltration basins, permeable pavement, and bioswales.	+	+		
		1.5 Inspect and evaluate stream corridors in flood risk areas	**Monroe County**	**Farmers and Forest Owners**	Assess wooded corridors for deadfalls from dead and dying trees (such as ash) and other debris sources that may reduce peak flow capacity. Plan for tree debris removal in high-risk flood zones where debris loading is high.	+	+	+	
		1.6 Use rainfall runoff analyses using transposition of the August 2018 storm to explore flooding vulnerability in selected watersheds	**Monroe County**	**Non-government Entities**	This technique could be very valuable in answering the question "what if the big storm happened here" in areas of potentially high flood amage or public safety risk. Likely approach would be for a contractor or NGO working with Monroe County in collaboration with DNR.	+	+		
		1.7 Evaluate the extent of cleanup and remaining toxicity of Superfunds and Brownfields sites in or near floodplains throughout the county, especially in urban	**Local Units of Government**	**Monroe County**	Contaminated sites are vulnerable to release of contaminats during flood events. Following inventory of identified sites determine whether unremediated or exposed contaminants could be discharge to surface waters via river flooding or storm water runoff. Superfund and Brownfield sites listed in WDNR's	+	+	+	
	7. Maintain and Improve Watershed Resiliency	7.1 Make the business and economic development case for watershed conservation and compatible uses.	**Monroe County**	**Non-government Entities**	Monroe County has some of the best conditions in southern Wisconsin to become a trout fishing destination, even as the climate warms. Showcase the large number of associated benefits from watershed restoration, including flood risk reduction, reduced soil loss, improved water quality, and tourism and recreation, and associated economic benefits.	+	+	+	
		7.2 For the highest risk watersheds, adopt tailored strategies to enhance resiliency.	**Monroe County**	**Farmers and Forest Owners**	Practices may include targeted efforts to increase agricultural lands in continuous cover, increase forest cover or forest improvement, restore degraded wetlands and streamside habitats.	+	+	+	+
		7.3 Ground truth and assess feasibilty of potential restoration and improvement projects	**Monroe County**	**Farmers and Forest Owners**	Potential restoration or improvement identified here is based on remotely sensed data without regard to parcel boundaries. Understanding current conditions and landowner considerations are essential next steps to assess project feasibility before further planning.	+	+	+	

Questions