



**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL  
PROTECTION



Bureau of Clean Water

# Total Maximum Daily Load and Advanced Restoration Plan Update

Water Resources Advisory Committee  
September 19, 2024

Josh Shapiro, Governor

Jessica Shirley, Acting Secretary

# Topics

- ARP Vision
- Limiting Factors
- Problems and Solutions
- Innovative Approaches



# What are ARPs?

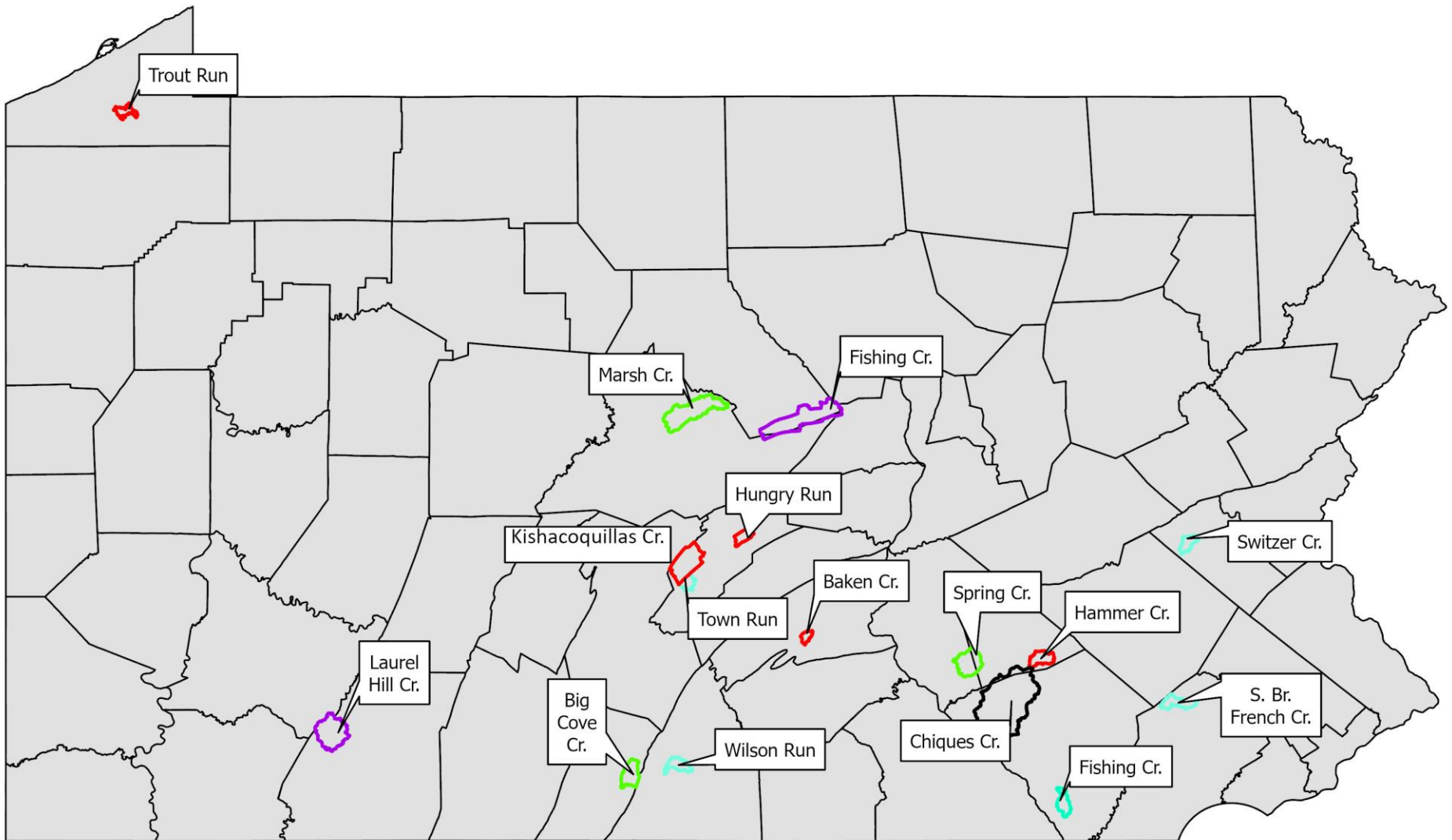
- ARP = Advance Restoration Plan
  - Like a TMDL + a Watershed Implementation Plan
  - Generates funding for voluntary BMP implementation
  - Effective for nonpoint sources



# Current Focus

- Focus on impairments due to siltation from agriculture
- Best opportunities
  - special interest watersheds
  - modest problems
  - implementation partners





▭ EPA Accepted   
 ▭ Draft to Stakeholders   
 ▭ WIP by other Organization   
 ▭ Potential Future ARP   
 ▭ Draft to EPA ARP



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# Watershed Approach

- Stream Corridor and Upland BMPs



**Big Spring Run**  
-53% Agriculture  
-45% Developed  
-2% Forest/Wetland



# Watershed Approach

- Do enough modelling to get the big picture
- Focus on fixing what is obviously wrong



# Limiting Factors

- Landowner Cooperation
- Implementation Partners



# Problems and Solutions

- Getting some grants is a cumbersome process
- Unattractive Funding Sources
  - Match requirements
  - Easement requirements
  - Funding for O&M
  - Someone else should pay for that...



# Problems and Solutions

- Unintended consequences
  - Expensive BMPs are more profitable
  - Radical weed control for riparian buffers
- Confidentiality of BMP data



# Innovative Approaches

- Legacy Sediment Removal - but who is going to pay for it?









# Innovative Approaches

- Precision Grass Filter Strips





Little Marsh Creek

Ammerman Rd

Little Marsh Creek

Ammerman Rd



# Select Citations and Questions?

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Watershed areas delineated using: Stroud Water Research Center. Model My Watershed (MMW) [Software]. Available from <https://wikiwatershed.org/>. Technical documentation available at: <https://wikiwatershed.org/documentation/mmw-tech/>

TauDEM Version 5.3.7. (2016) by David Tarboton, Hydrology Research Group, Utah State University. Available at <https://hydrology.usu.edu/taudem/taudem5/downloads.html>

USGS StreamStats

## QUESTIONS?

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