



Kentucky's Nutrient Reduction Strategy Update
Kentucky Division of Water

Why nutrients?

Local issues

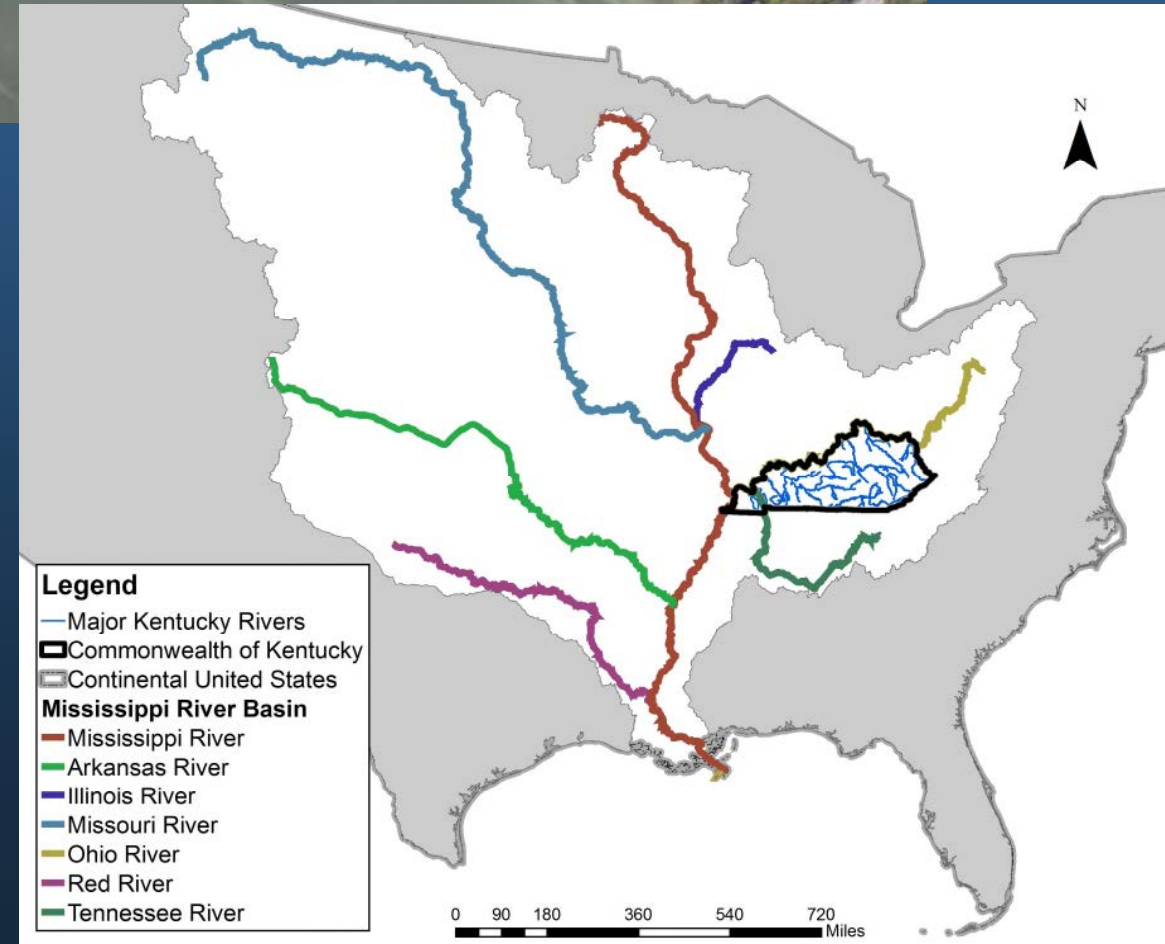
- Harmful Algal Blooms
- Drinking water taste/odor
- Erosion of productive soil

Regional & National Issues

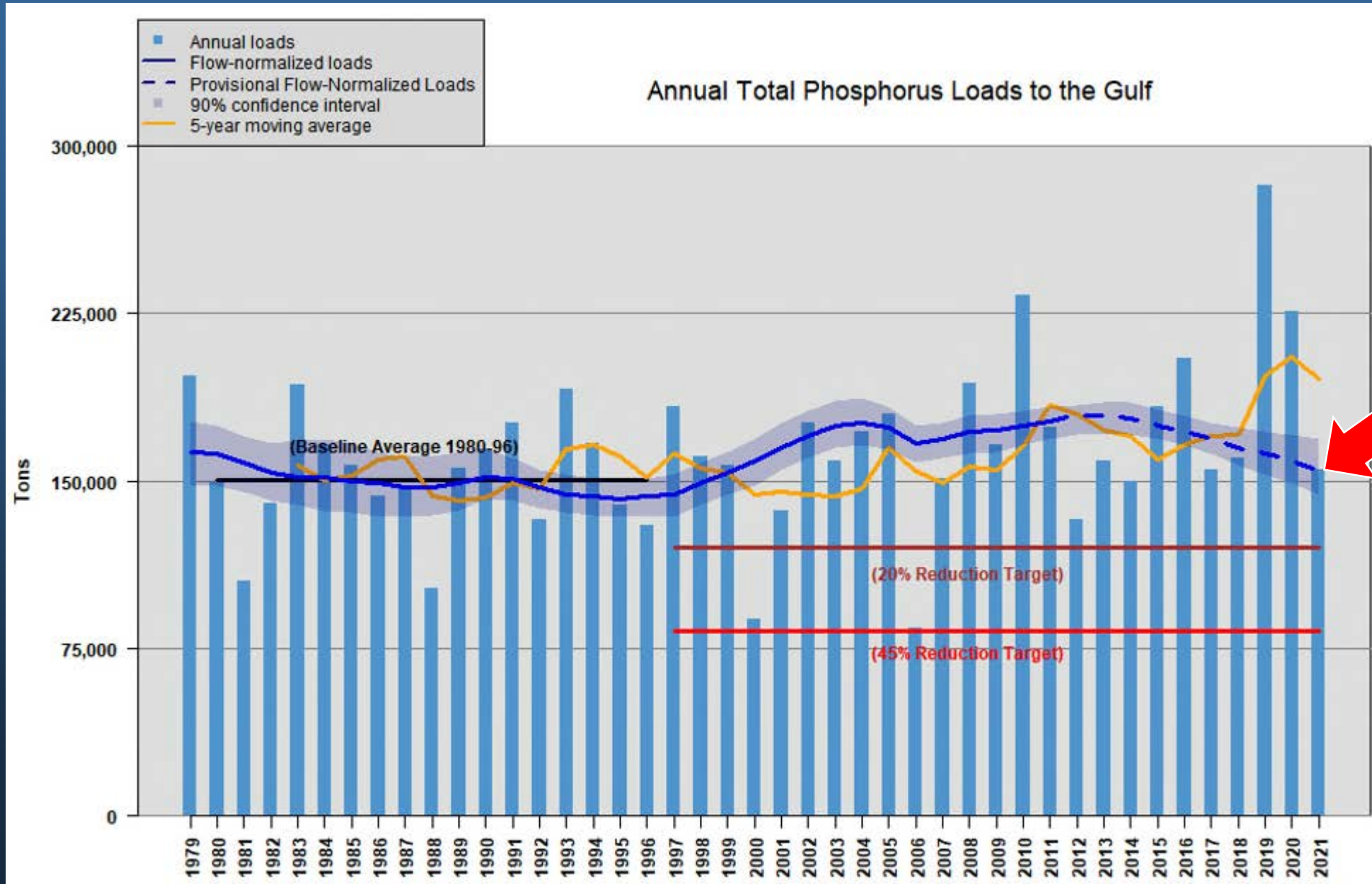
- Inter-state drinking water sources
- Gulf of Mexico Hypoxic Zone



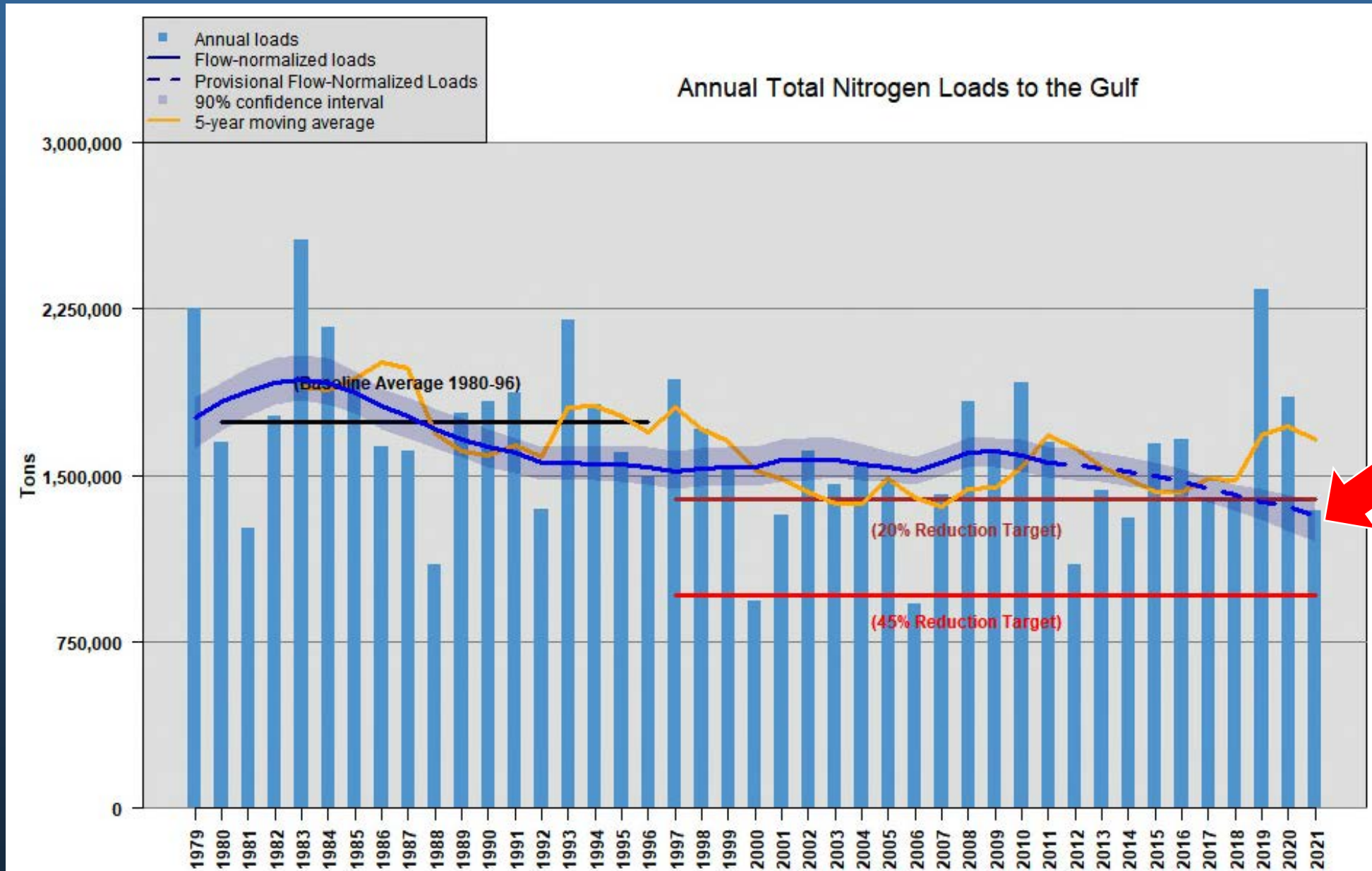
Maysville 2015
Source: Ohio EPA



Phosphorus Trends in the Mississippi River Basin



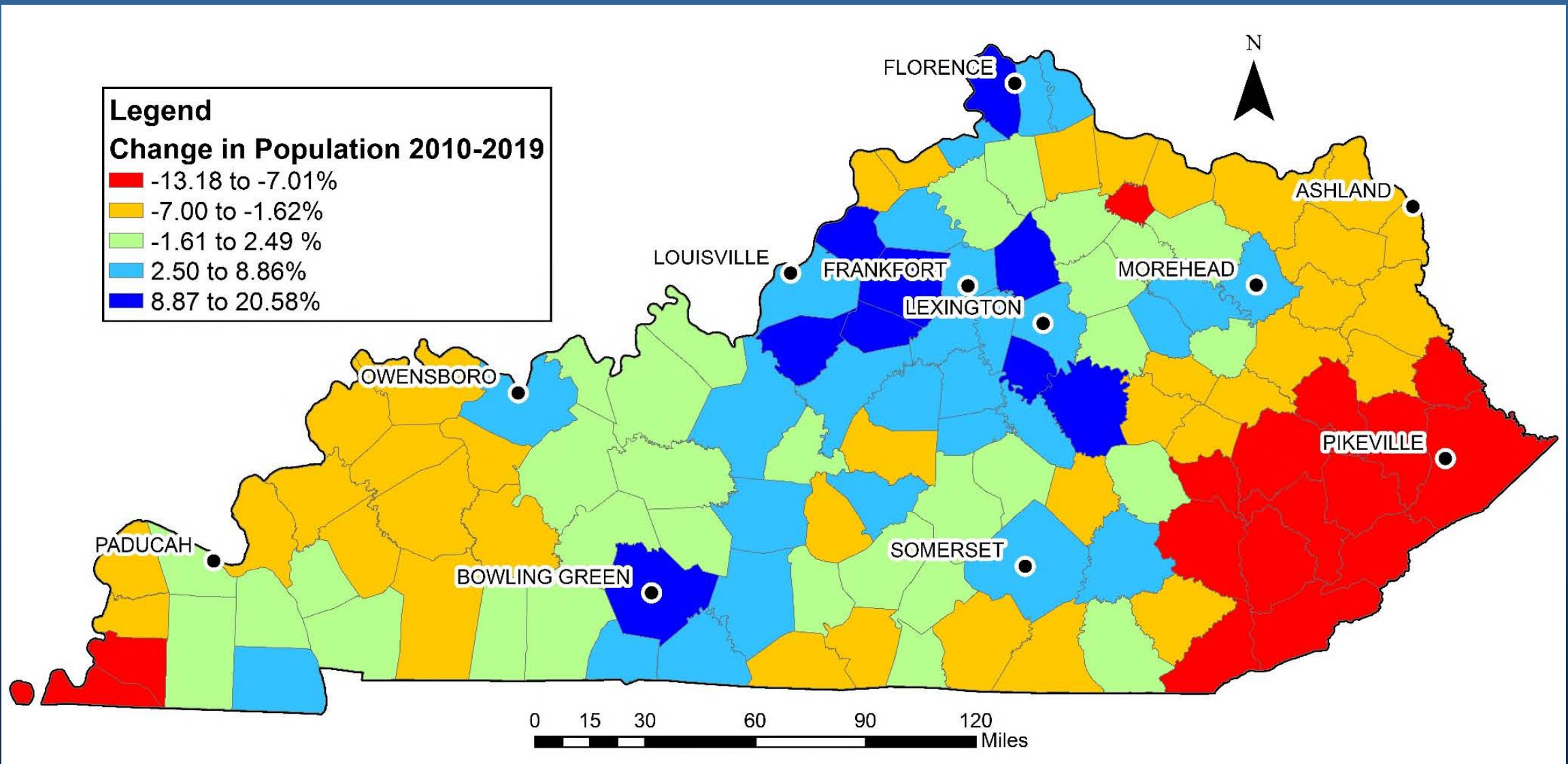
Nitrogen Trends in the Mississippi River Basin



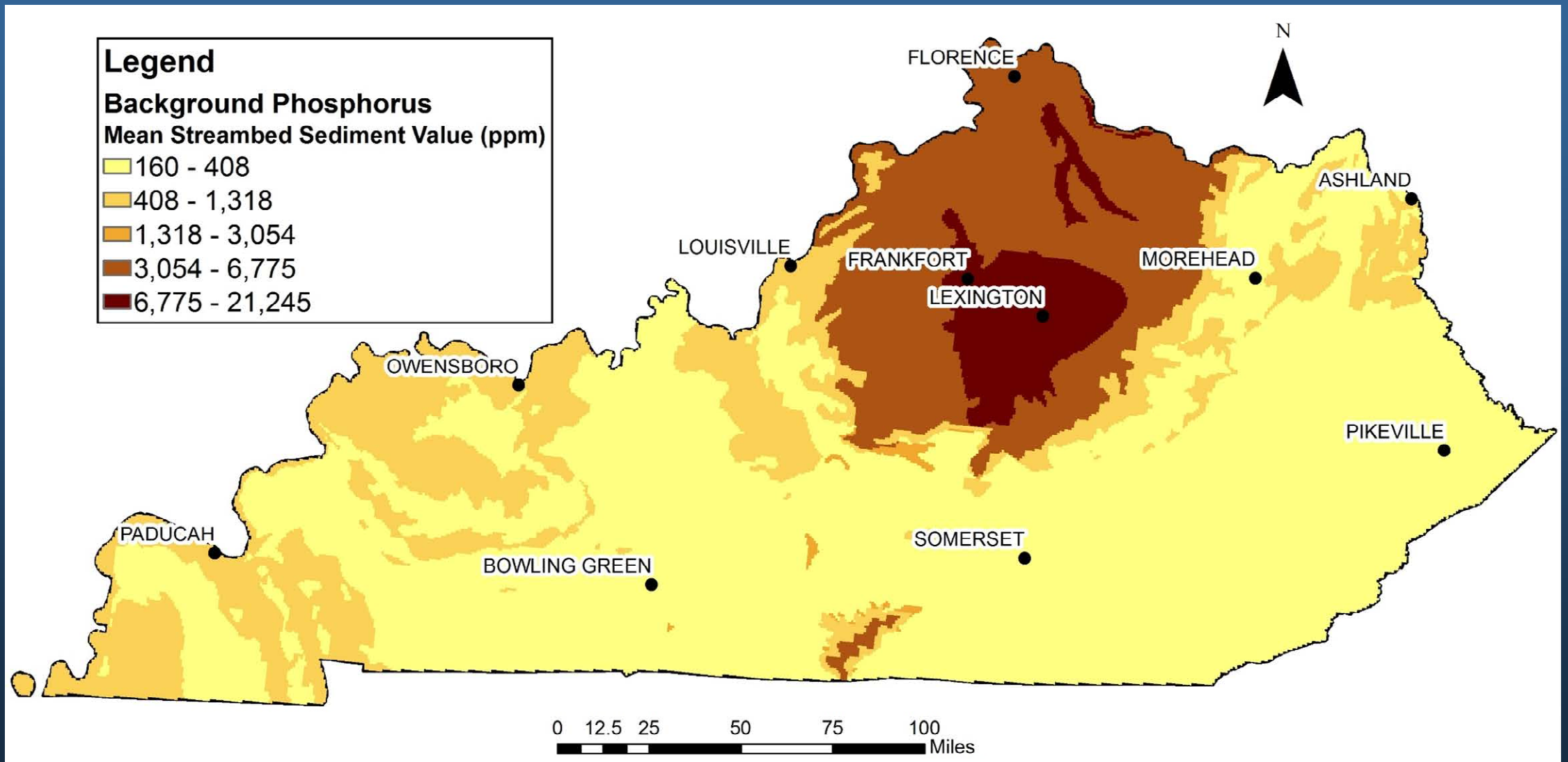
Kentucky's Profile

- KY is 6.7% of the Gulf of Mexico watershed by drainage area but contributes an estimated 10.6% of total phosphorus load.
- More than 90,000 miles of streams flow in Kentucky.
- ~75,000 farms cover ~51% of Kentucky's landmass.
- Approximately 40% of KY households are served by septic systems.
- KY has the largest beef cattle herd east of the Mississippi River.
- Population density of 109.9 people/sq.mi. ranks 22nd highest among states.

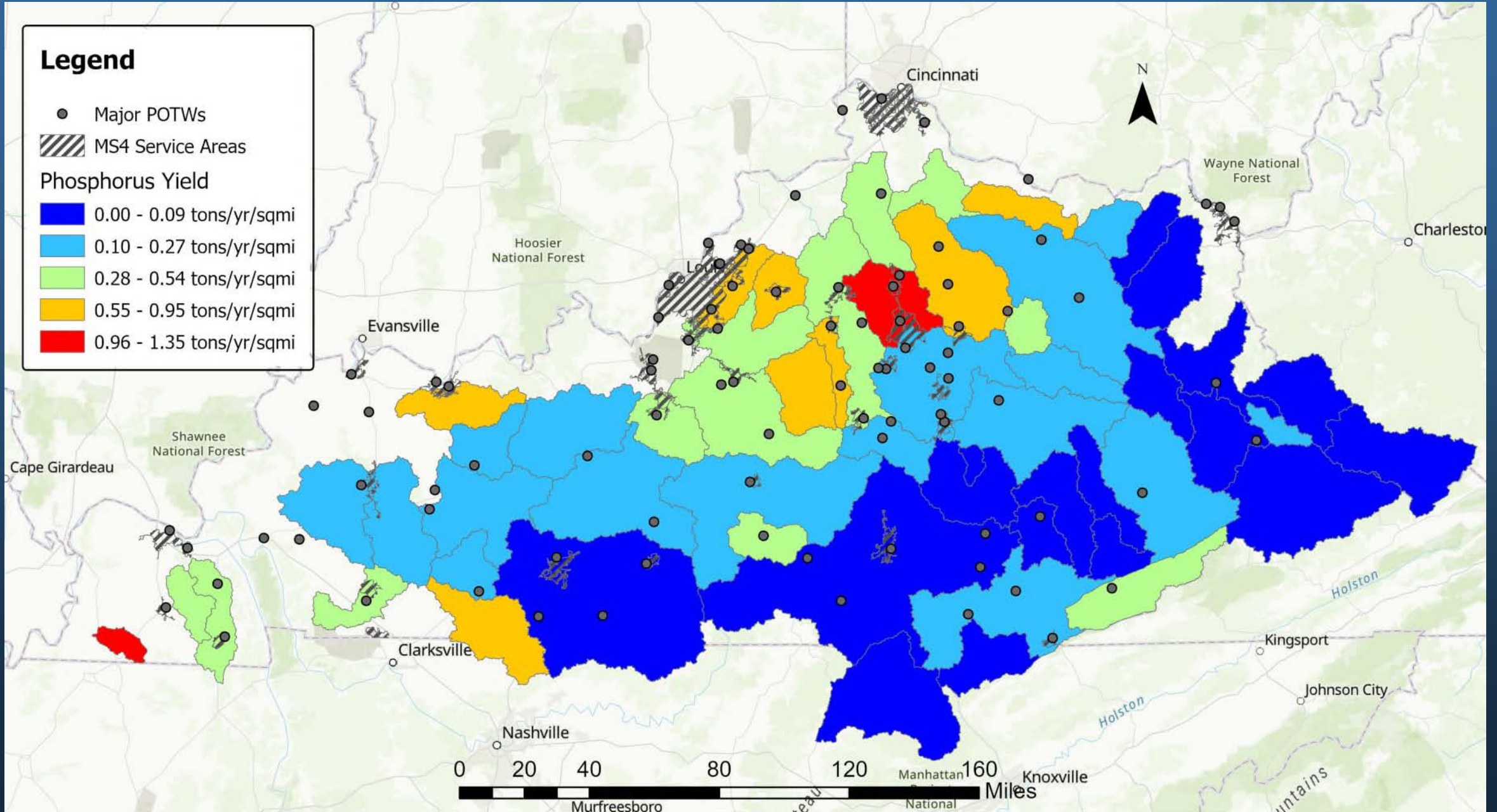
What does population growth tell us?



Soil phosphorus in Kentucky



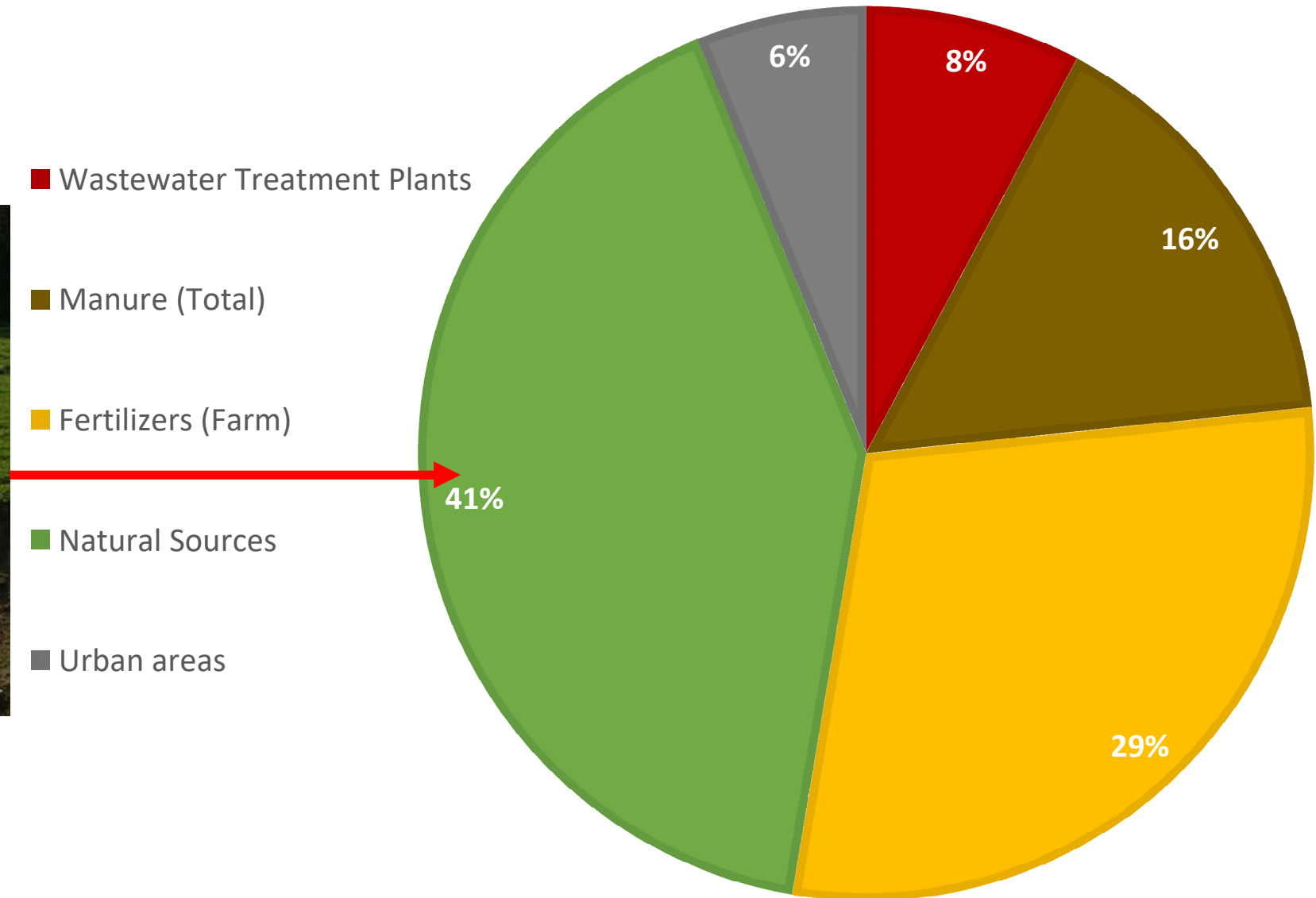
Data confirms Kentucky's complex landscape.



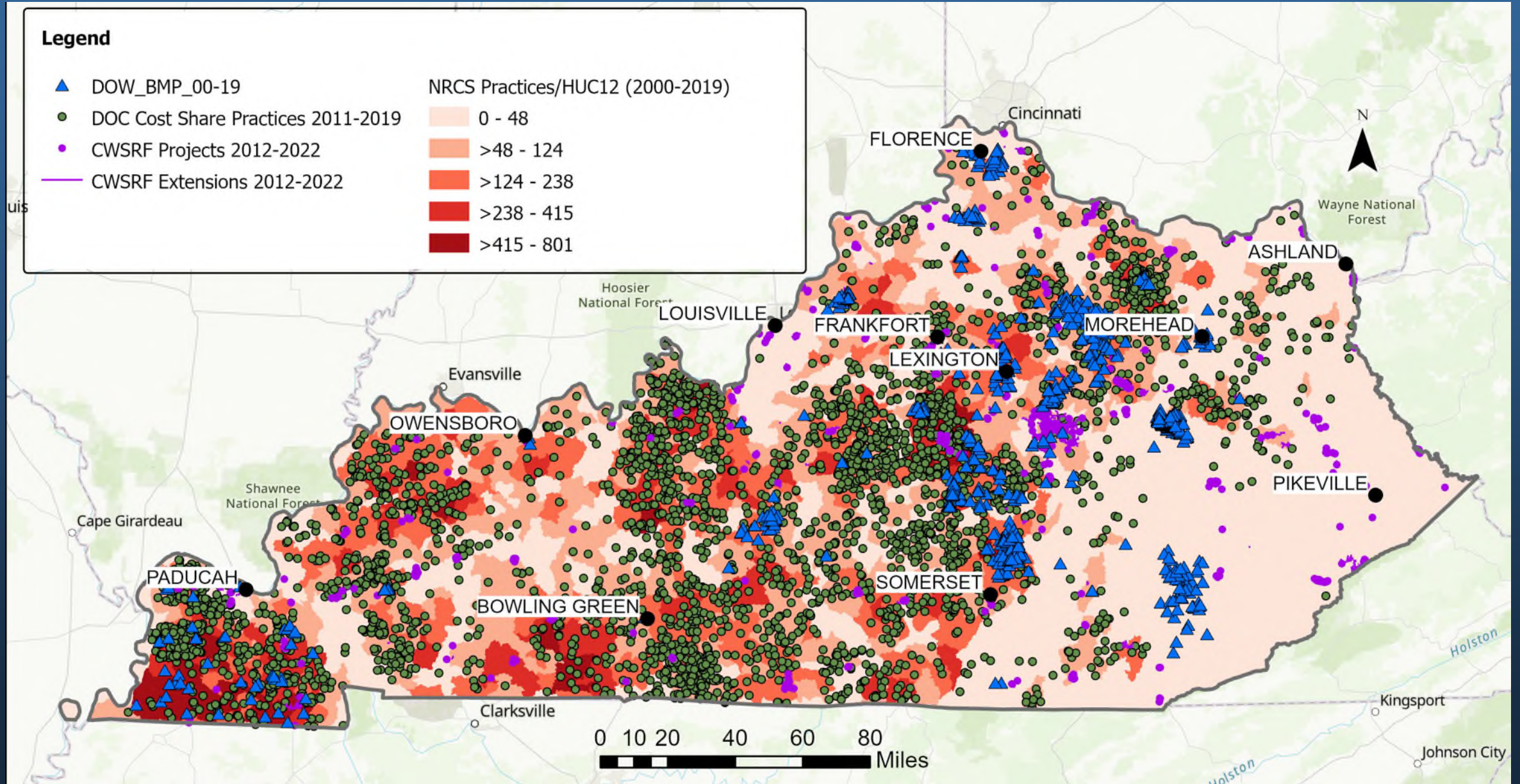
SPARROW Modeled Phosphorus Sources in Kentucky



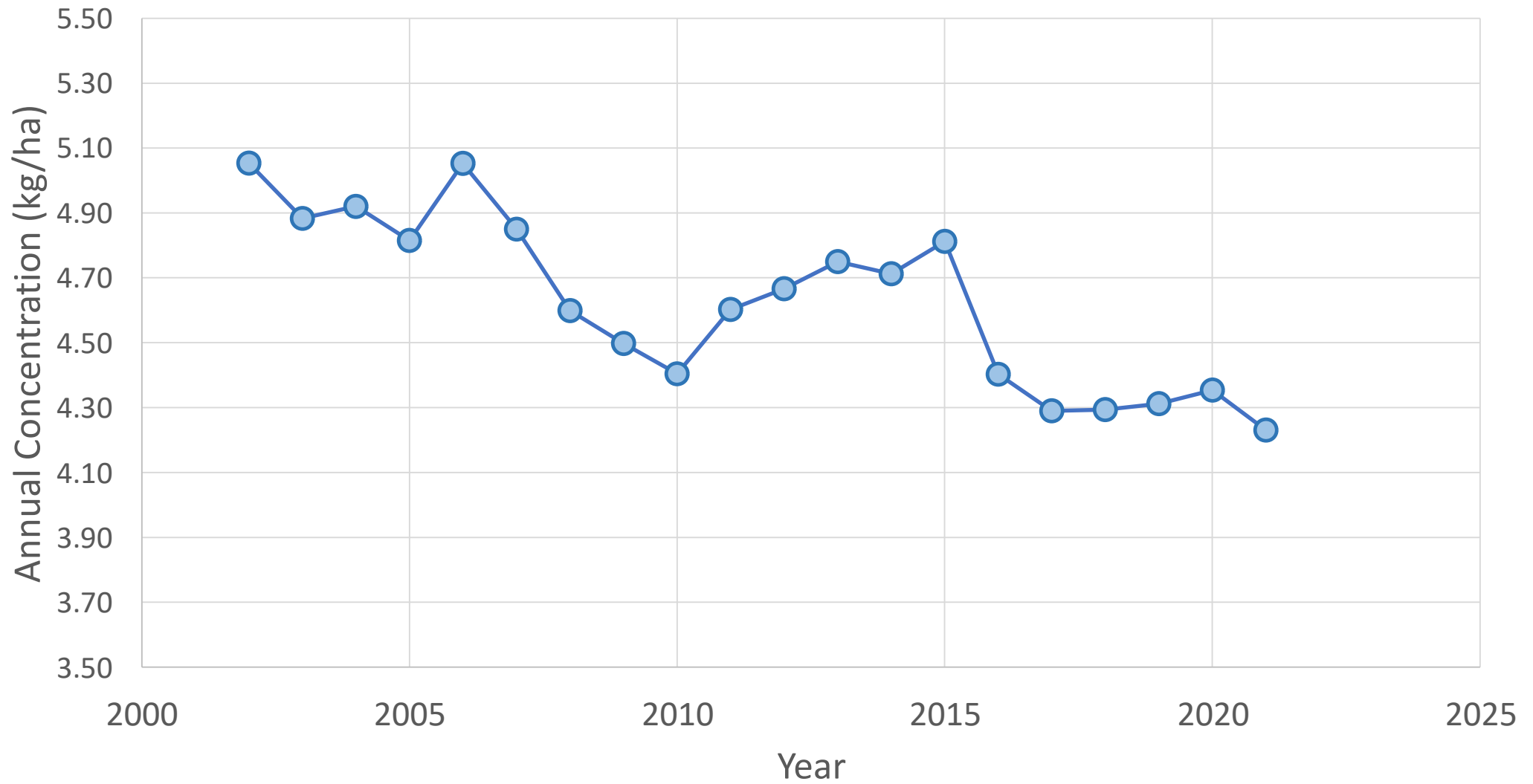
[This Photo](#) by Unknown Author is licensed under [CC BY-NC](#)



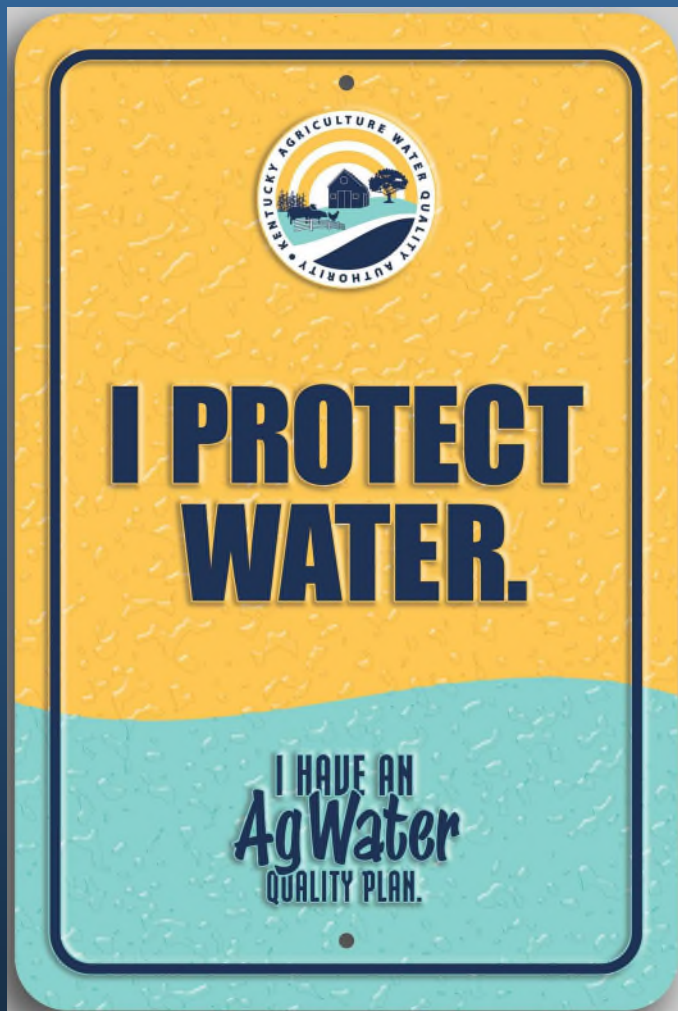
What has been accomplished so far?



Rolling 5-Year Average of Total Inorganic Nitrogen Deposition in Kentucky (2002-2021)



Ag. Water Quality Act Planning Tool



Ky Ag Water Quality Planning Tool

(*) Indicates a required field; (✓) Indicates a field may be required based on user input or is an optionally required field
 ⓘ provides additional information about the field when mouse pointer is hovered

General Info
Farmstead BMPs
Livestock BMPs
Plan Summary

Farm Information

Farm Name(*) ⓘ North Riverside Farm	Approximate Farm Acreage(*) 200
Connection to Farm(*) Owner/Operator	Farm Number/FSA Number(*) 12345678910

Farm Address

Street Address 361 Sower Blvd	City(*) Frankfort	County Franklin
State(*) Kentucky	Zip Code(*) 40601	Contact #/ Phone(*) 502-564-3410
Latitude(decimal degrees)(✓) 38.186231		Longitude(decimal degrees)(✓) -84.846146

Farm Mailing Address ☑ Check this box if mailing address is same as farm address

Street Address(*) 300 Sower Boulevard 3rd Floor	City(*) Frankfort	County(*) Franklin
State(*) Kentucky	Zip Code(*) 40601	

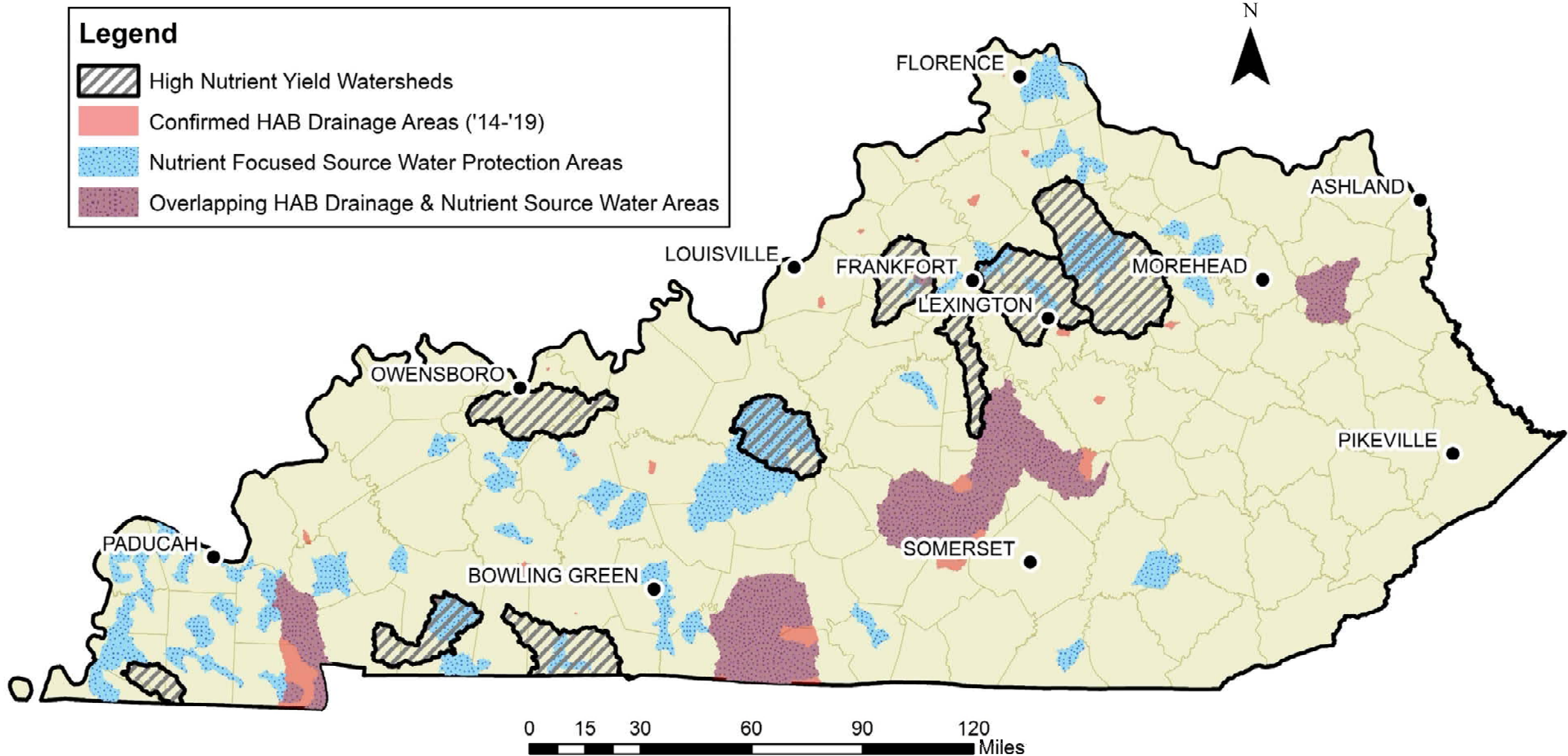
Land Owner Information

Organization Name(✓) Kentucky Division of Water		
First Name(✓) John	M.I. Middle Initial	Last Name(✓) Doe
City(*) Frankfort	State(*) Kentucky	Zip Code(*) 40601

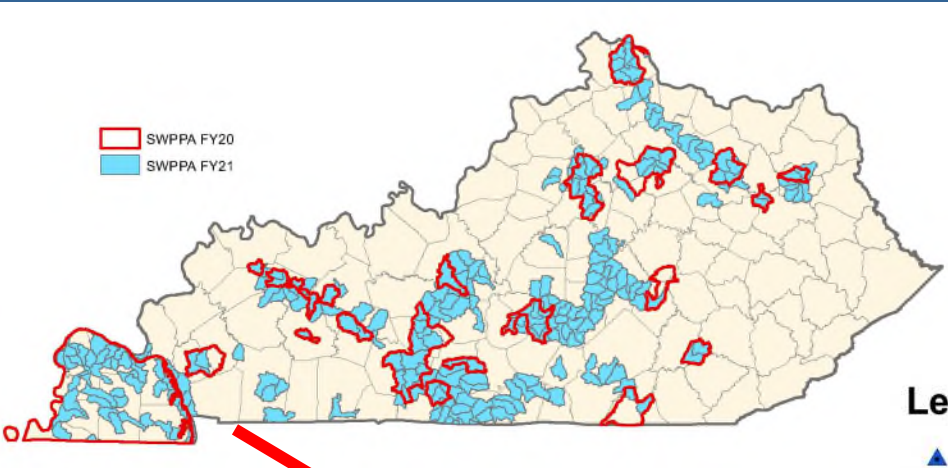
Land User (tenant, manager, etc.) Information ☑ Check this box if land user information is same as land owner information

Organization Name(✓)

What are Kentucky's Priorities?



Sourcewater Protection & Nutrient Planning

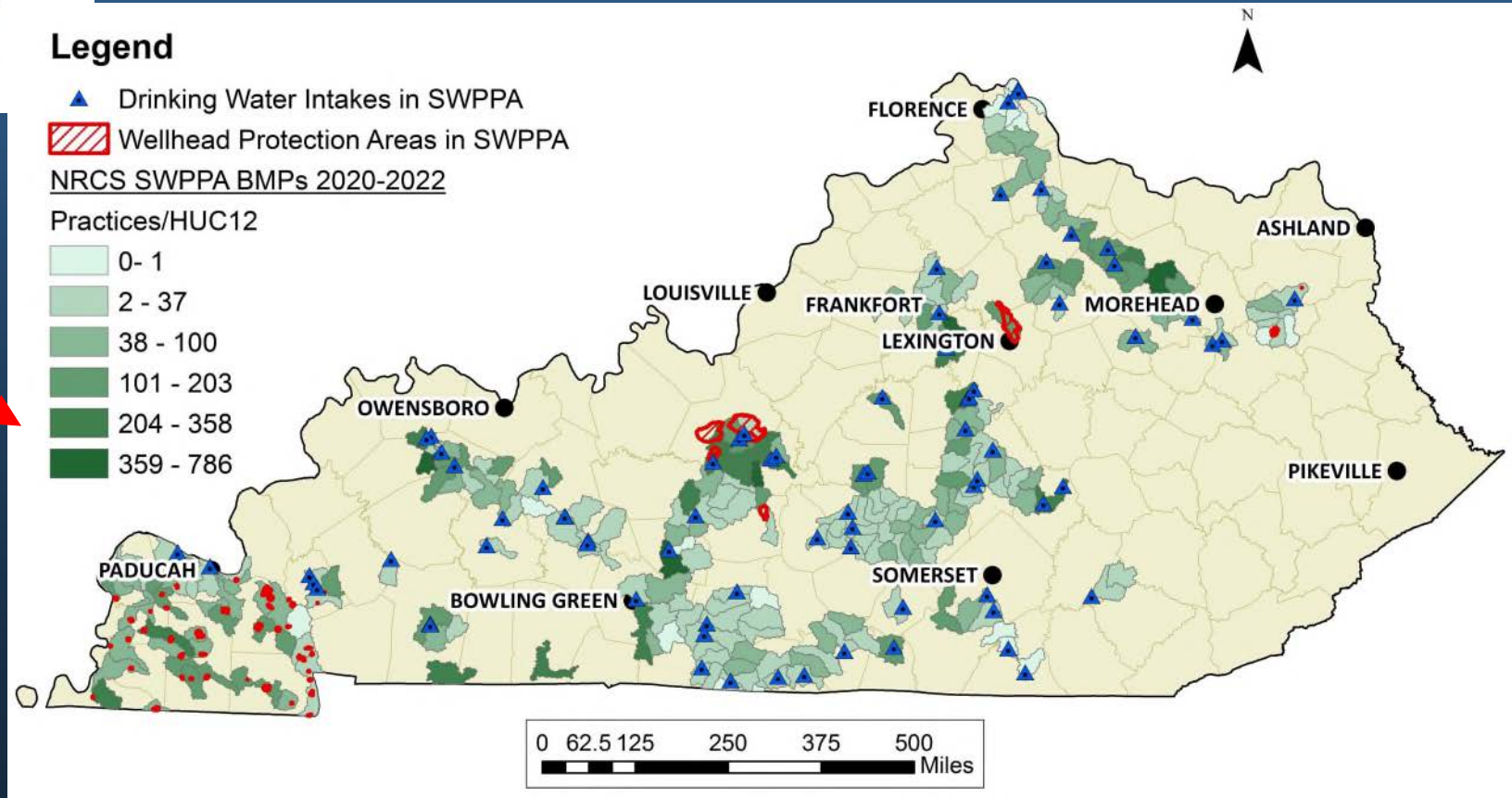


Legend

- ▲ Drinking Water Intakes in SWPPA
 - ▨ Wellhead Protection Areas in SWPPA
- NRCS SWPPA BMPs 2020-2022

Practices/HUC12

- 0 - 1
- 2 - 37
- 38 - 100
- 101 - 203
- 204 - 358
- 359 - 786



POTW Optimization

Princeton WWTP

Effluent Total Nitrogen

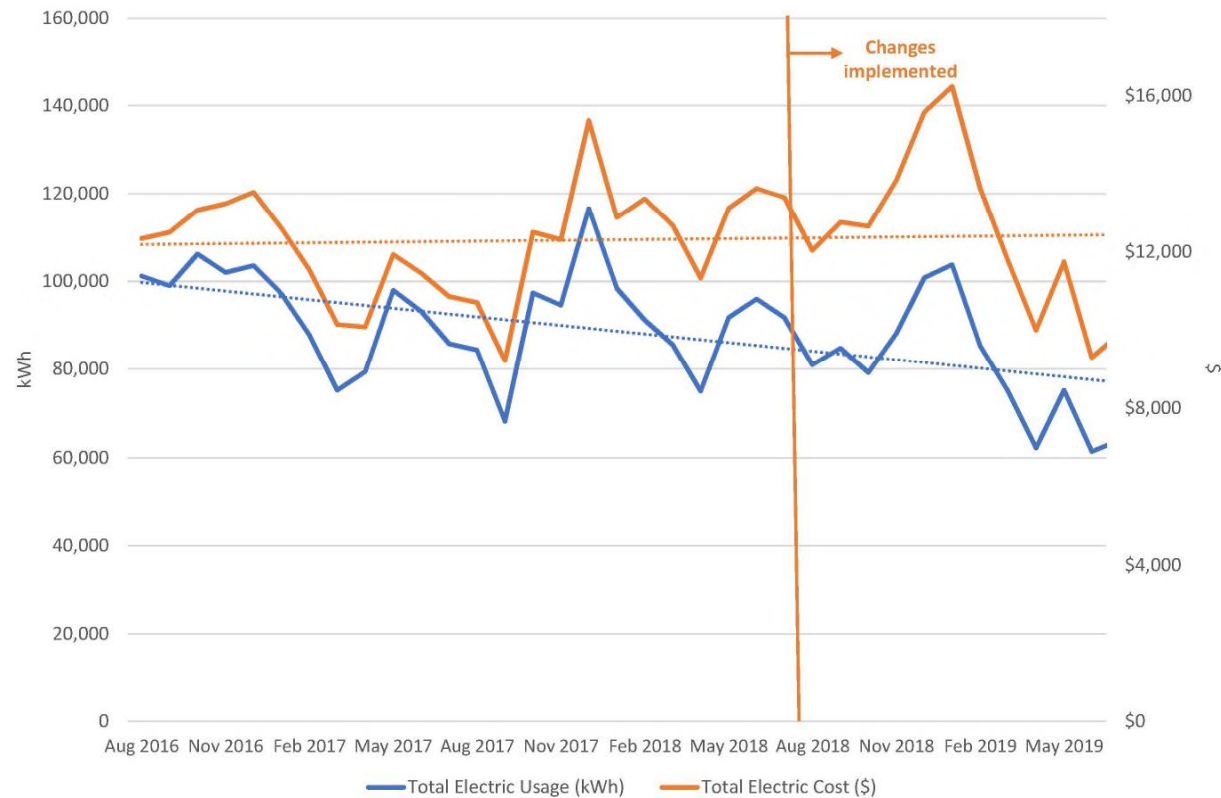
Avg TN = 180 lbs/d

Avg TN = 83 lbs/d

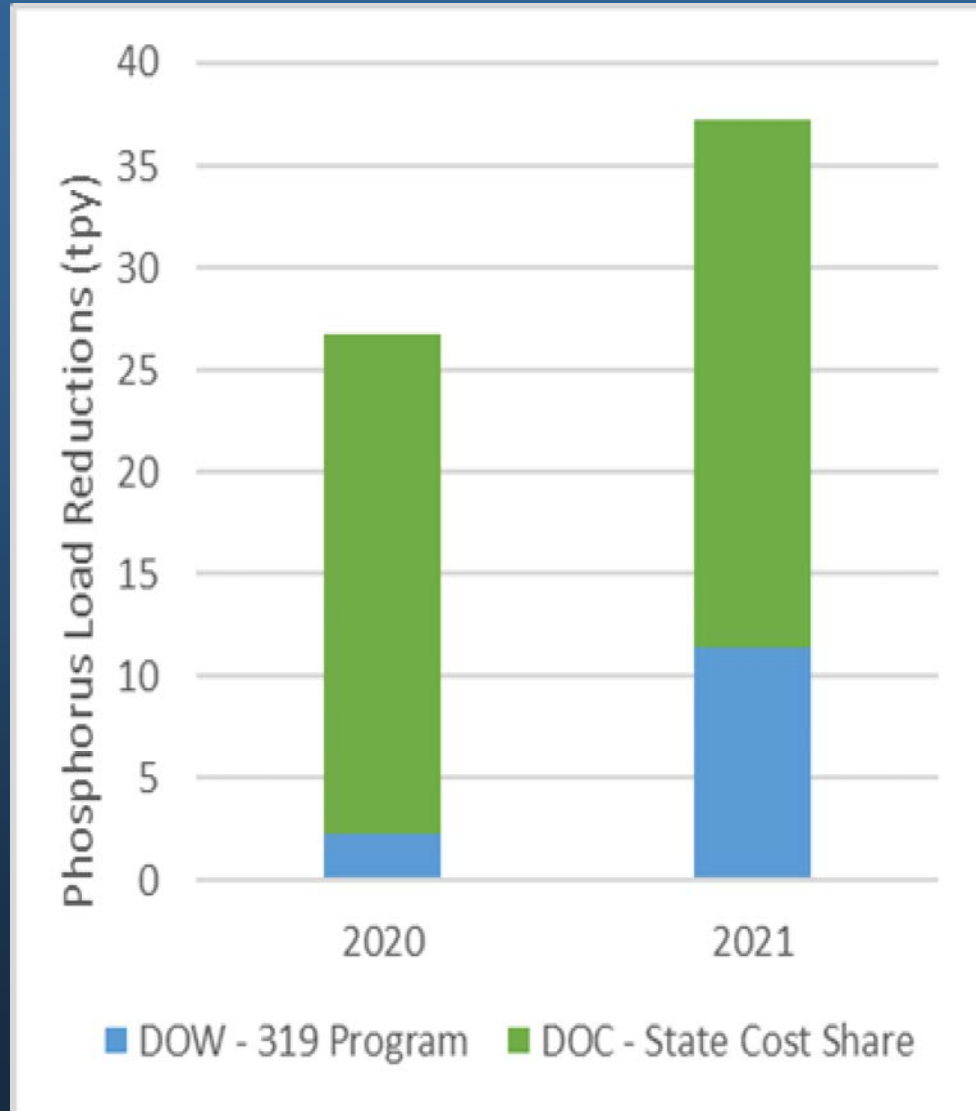


Princeton WWTP

Monthly Electric Usage and Cost



Nonpoint Source Progress Tracking

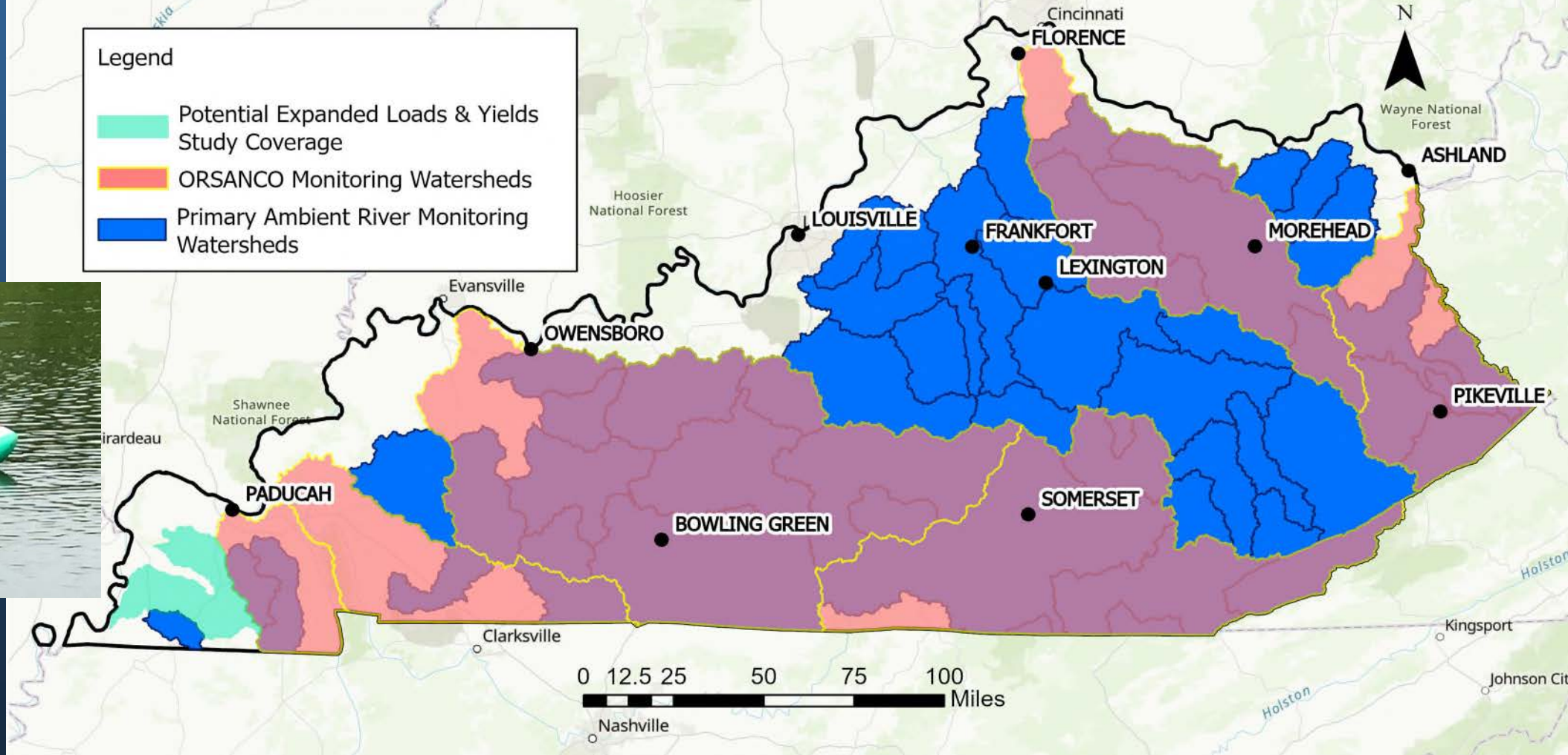


Monitoring Improvements

Nutrient Loads & Yields Study Monitoring Coverage

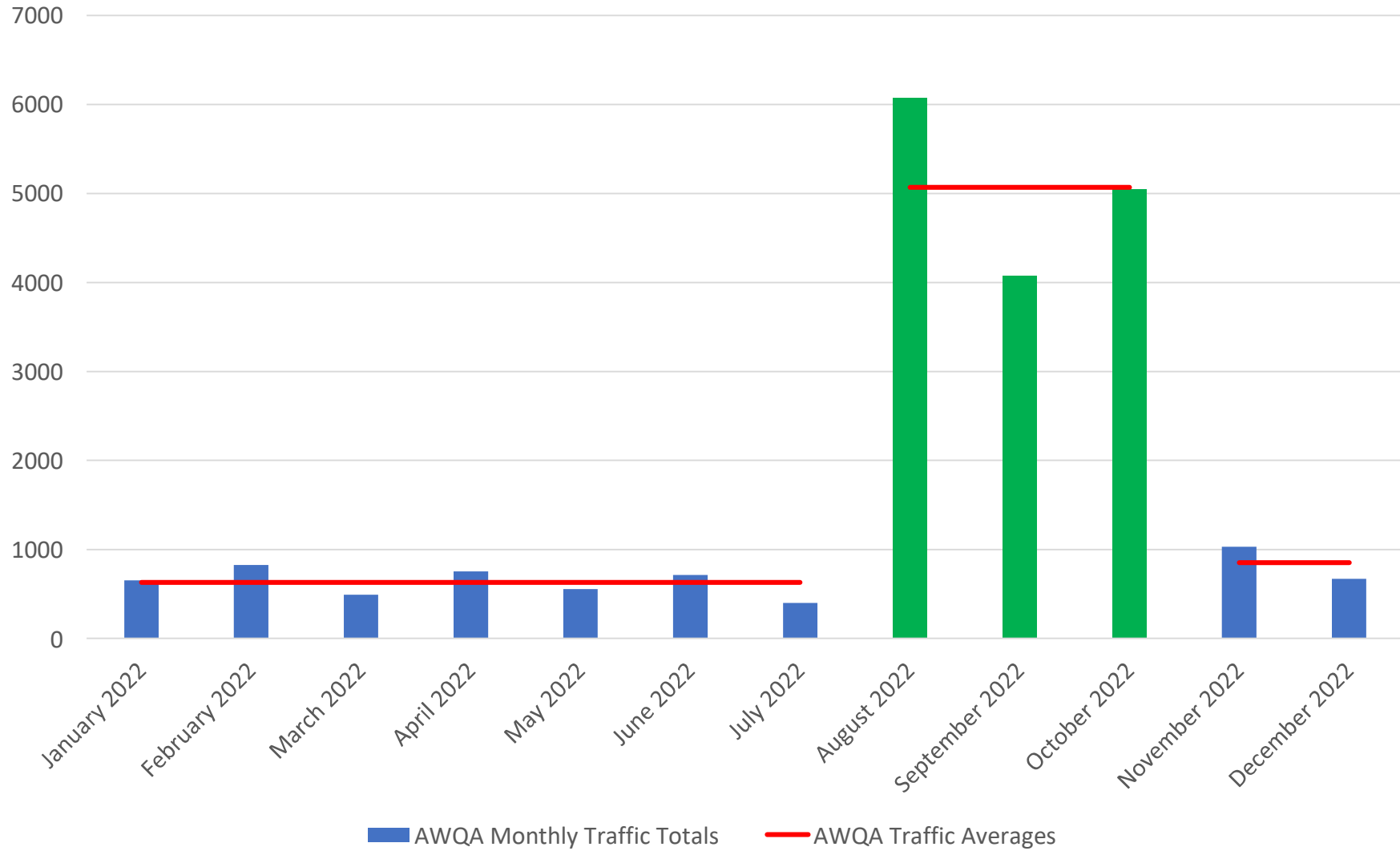
Legend

-  Potential Expanded Loads & Yields Study Coverage
-  ORSANCO Monitoring Watersheds
-  Primary Ambient River Monitoring Watersheds



AWQA Marketing Results

Marketing Boost to AWQA Webpage Traffic



Print Media
1 million
readership

Radio
120
Counties


Digital Media
1.4 million
reached



**>2.4
million
people
reached**

Gulf Hypoxia Program

- MS4 Training Program
- Optimization Toolkit for POTWs
- Fund additional agriculture practices focused on erosion
- Expand monitoring to track nutrient progress and alert utilities of algal blooms
- Staffing for nutrient management planning, partnership building, and program management.



“The only soil I want to see washed away is under my fingernails.”

Preserving and protecting our land and water resources is all of our responsibility. By developing an Agriculture Water Quality Plan and implementing best management practices, you can protect water quality and promote soil conservation on your farm. The result: a healthier environment for future generations, and a more profitable farm today. To learn how to develop your own ag water quality plan, go to eec.ky.gov/agwater.

**DEVELOP AN
AgWater
QUALITY PLAN.**



What Comes Next?



Build the Nutrient Network



Invest in MS4 & POTW resources



Invest in agriculture BMPs



Tell the WHOLE story