

# Kentucky's Source Water Protection Program

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KFB Water Management Working Group/KY Water Resources Board

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# Source Water Protection Planning

- Select Planning Committee – community representation
- Delineate Protection Zones – contributing areas of Water Supply Source(s)
- Contaminant Source Inventory – identify potential contaminant sources in protection areas
- Develop Management Strategies – regulatory, BMP, E & O
- Contingency Planning – drought, contamination, alternatives
- Implementation – management strategies, review & update plan

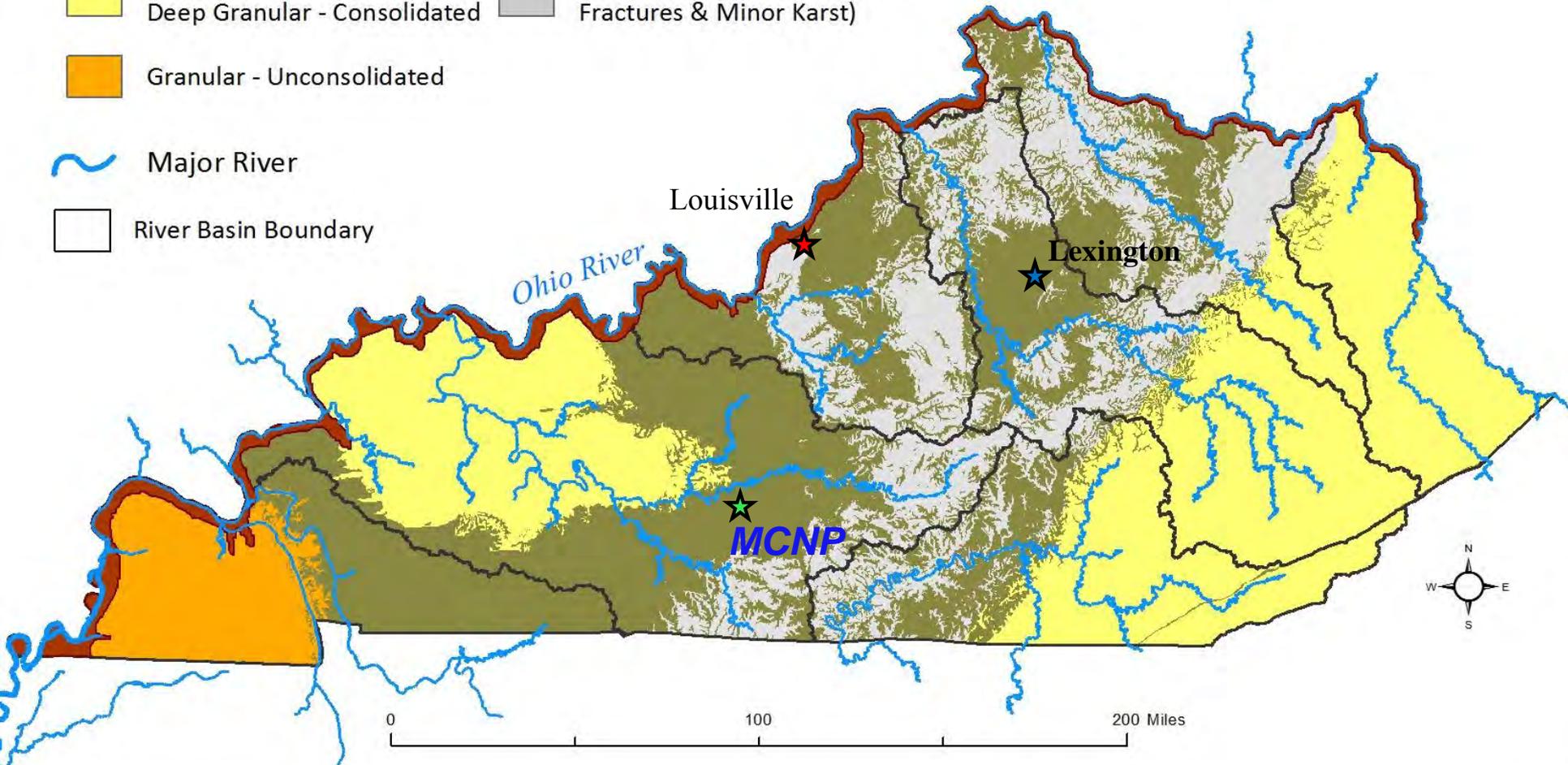
# Generalized Hydrography of Kentucky

## Predominant Aquifer Type

-  Karst
-  Granular (Ohio River Alluvium)
-  Shallow Fracture Flow & Deep Granular - Consolidated
-  Limited Availability (Localized Fractures & Minor Karst)
-  Granular - Unconsolidated

 Major River

 River Basin Boundary



# KY Public Water Supplies - Groundwater

## Wellhead Protection Area

-  Zone 1: 180 day Time of Travel
-  Zone 2: 10 year Time of Travel
-  Zone 3: Hydrologic Boundary

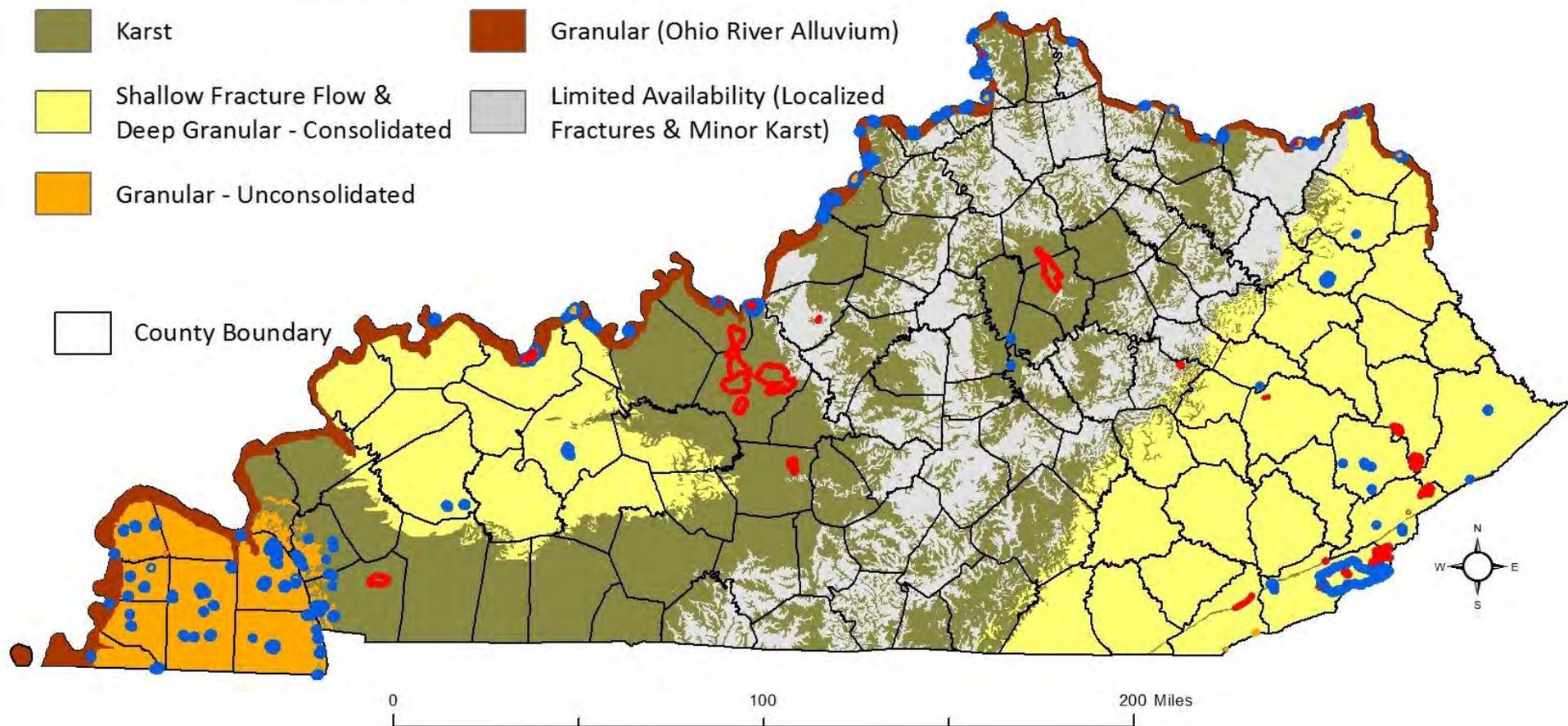
Nearly 100 Water Systems

Population Served ~ 400,000

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 County Boundary



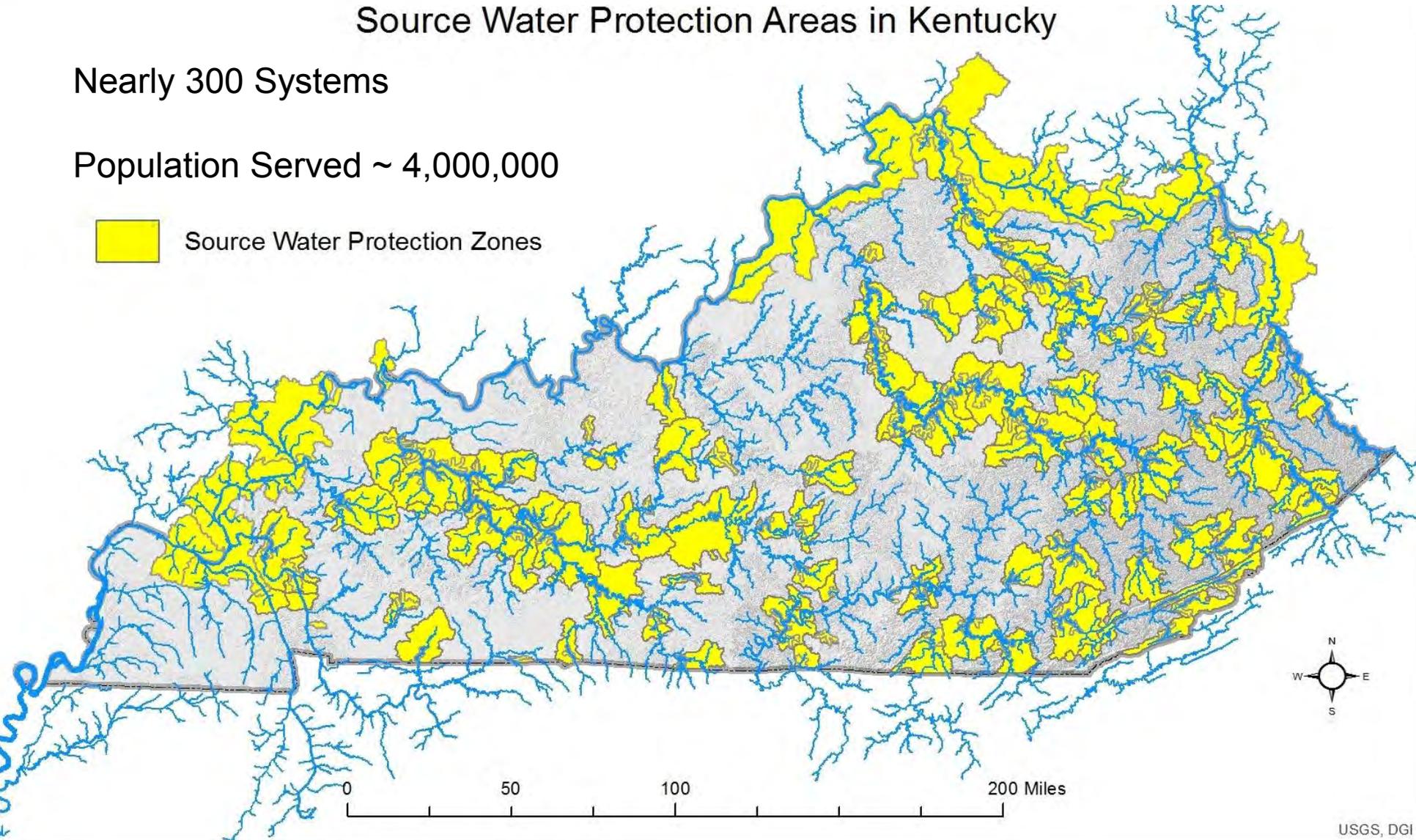
# KY Public Water Supplies – Surface Water

## Source Water Protection Areas in Kentucky

Nearly 300 Systems

Population Served ~ 4,000,000

 Source Water Protection Zones



# Moving Forward with SWP in KY

- Source Water Protection Assistance Program
- Collaboration and Partnerships
  - CWA 319(h) funding and Watershed Plans
  - Area Development Districts – Water Management Councils
  - Individual Water Systems
  - Other agencies
- Evaluate/Update SWP for Surface Water Systems
  - Focus on Management and Implementation
- Promote programs and assistance at workshops and meetings throughout Kentucky

# Source Water Protection Assistance Program Projects

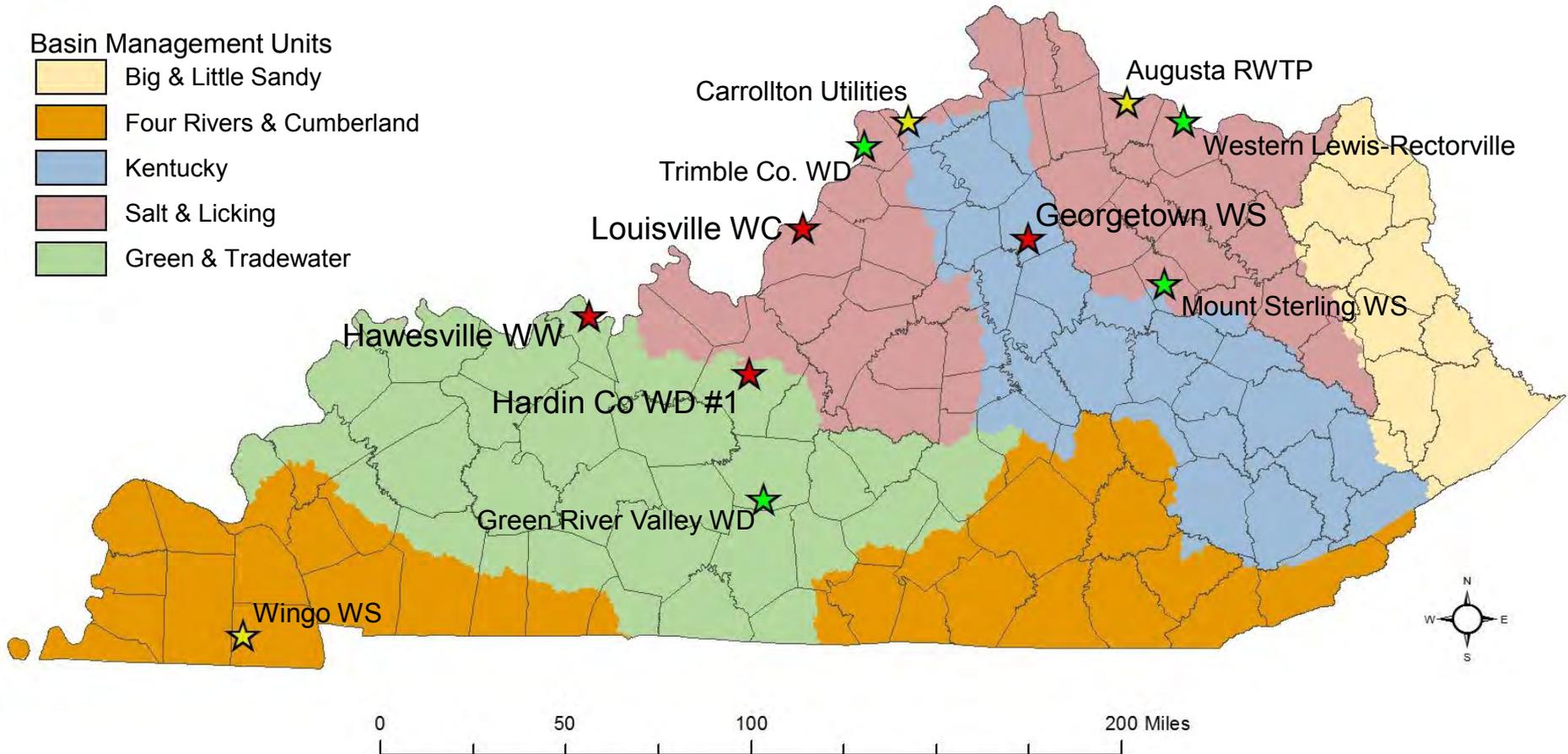
★ 2016: 4 projects @ \$150k

★ 2015: 5 projects @ \$145k

★ 2014: 4 projects @ \$85k

## Basin Management Units

- Big & Little Sandy
- Four Rivers & Cumberland
- Kentucky
- Salt & Licking
- Green & Tradewater



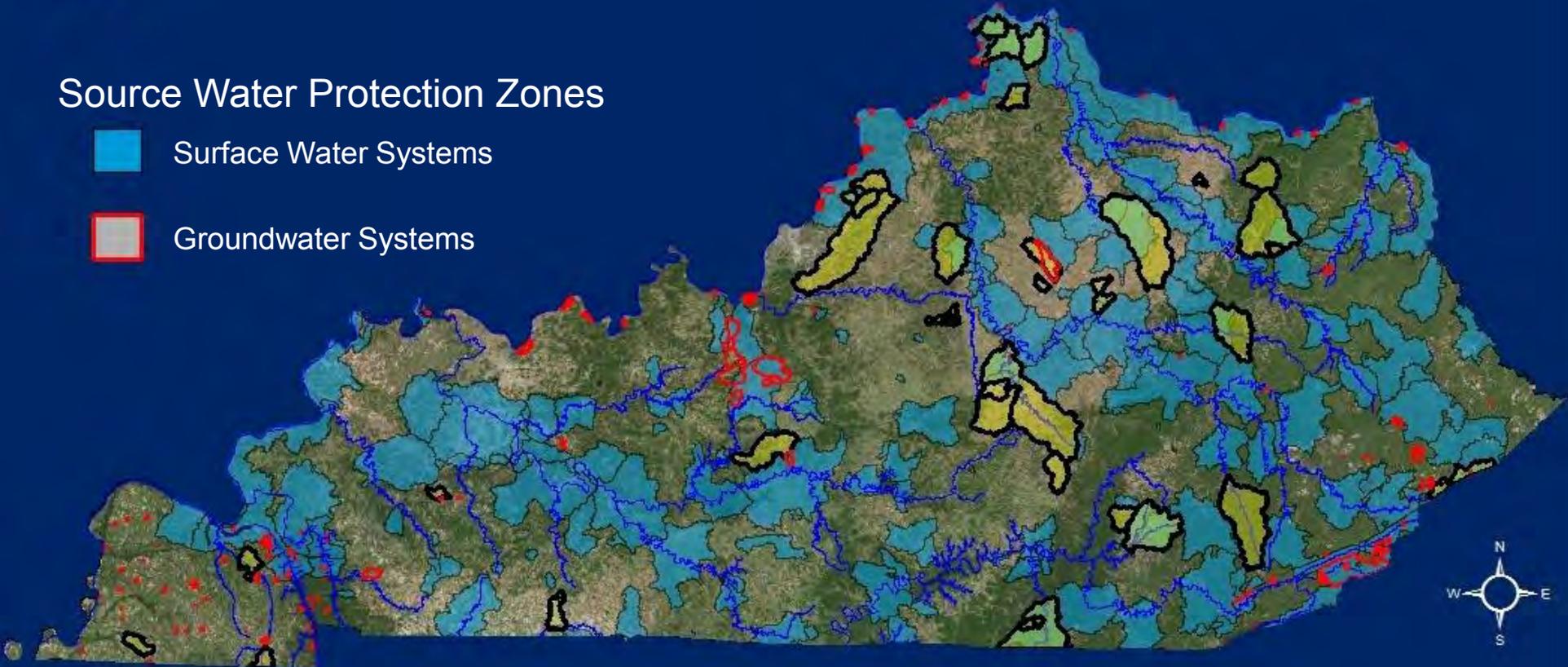
# Collaboration and Partnerships

 Watershed Planning Areas (CWA 319)

## Source Water Protection Zones

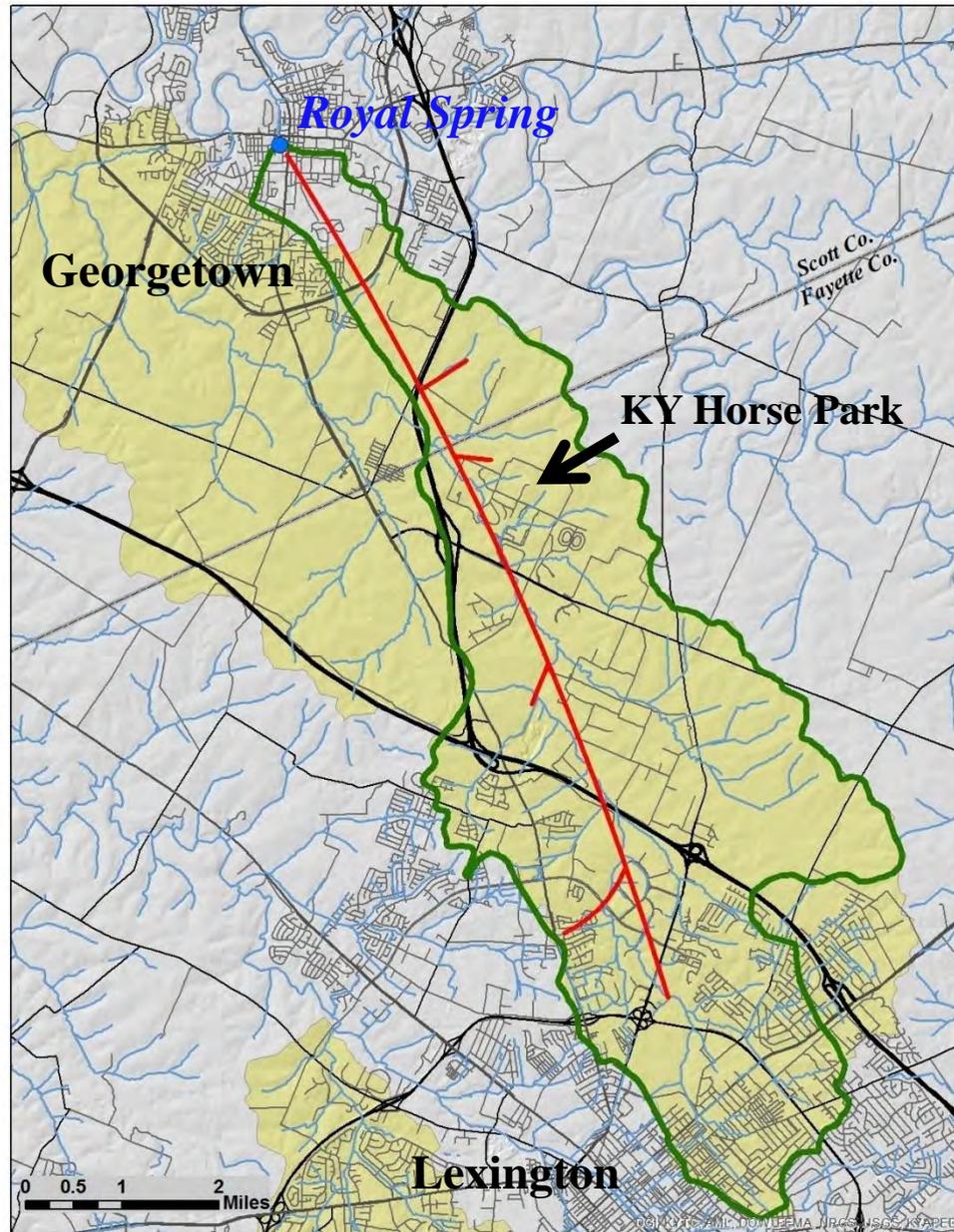
 Surface Water Systems

 Groundwater Systems



0 50 100 200 Miles

# CWA-SWP Collaboration



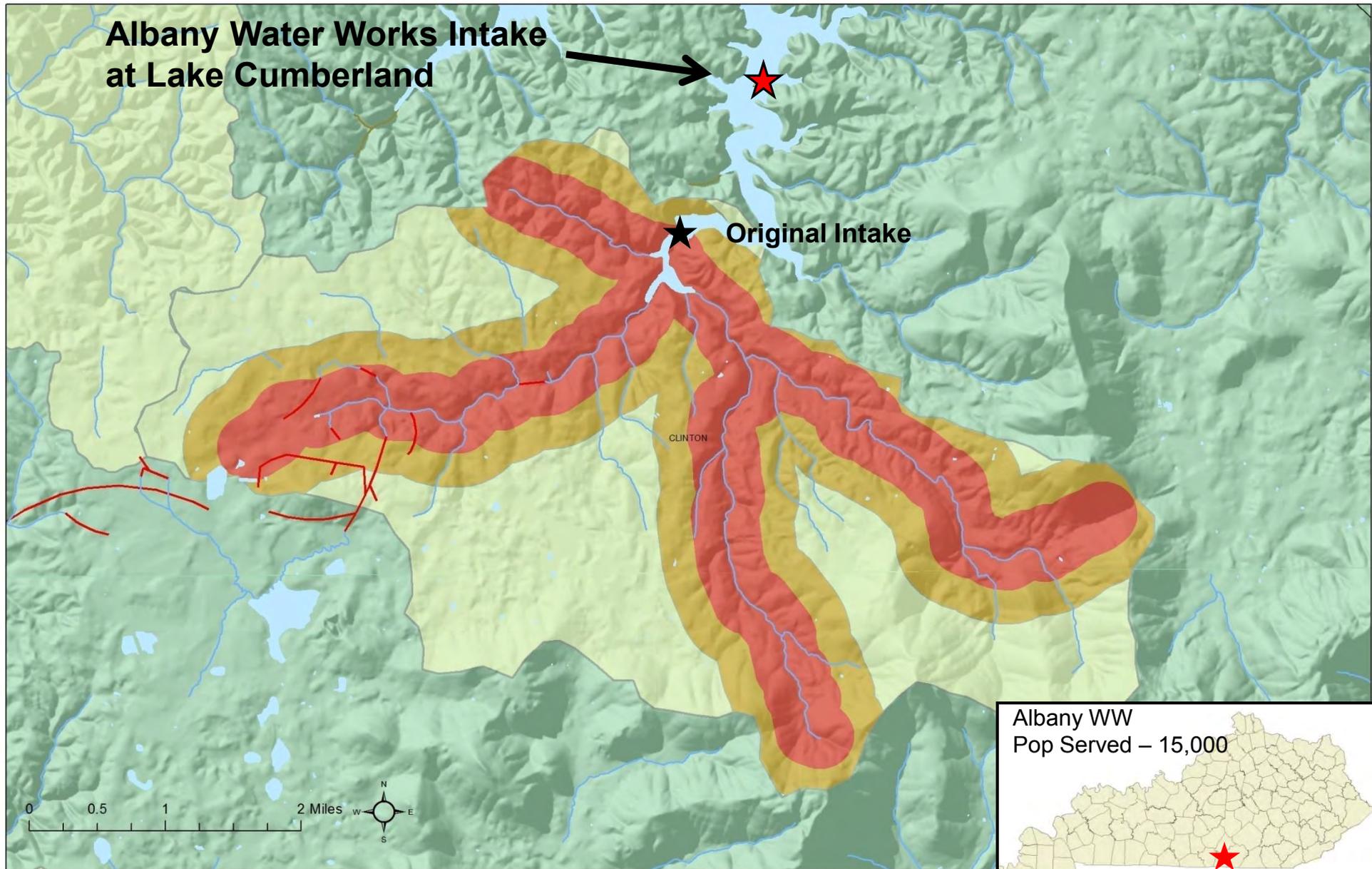


# Collaboration and Partnerships

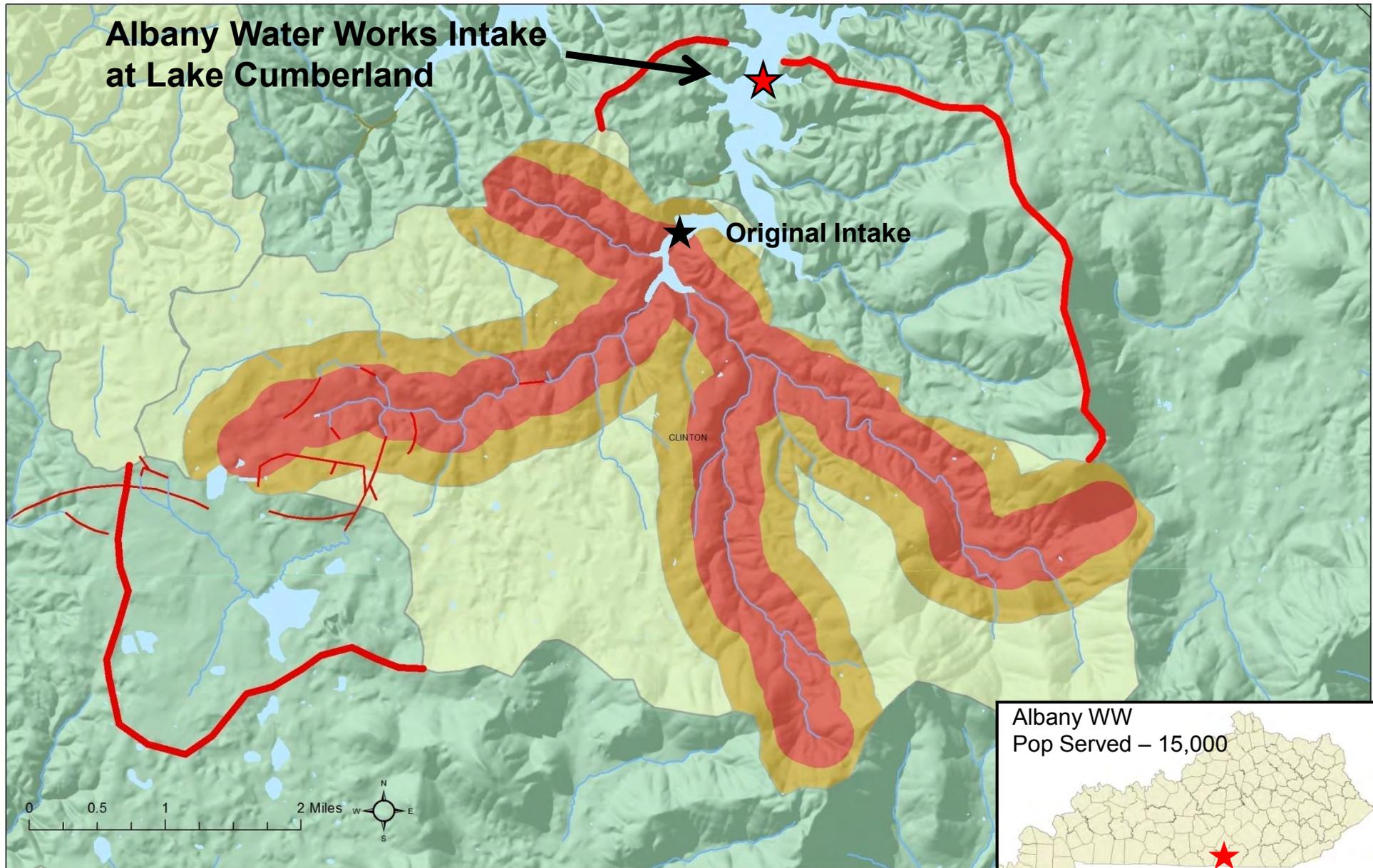
## Other government and non-government agencies

- EPA and Region 4 states
  - SWP meeting to share ideas and discuss programs
- Association of State Drinking Water Administrators
  - Information exchange
- Drinking Water Advisory Council
  - Direct interaction with regulated community
- Kentucky Rural Water Association
  - SWP plan development and water system assistance
  - Meetings, trainings and workshops

# SWP Evaluation and Updates



# SWP Evaluation and Updates



# SWP and Agricultural Connections

## Monitoring

- Drinking water supply assessments
  - Adequacy and reliability
- Water withdrawal permitting relies on similar info
  - Monthly withdrawal reporting to DOW
- Limited collaboration with KGS Groundwater Level Observation Network

# SWP and Agricultural Connections

## Analysis of Water Use and Information Needs

- Water system production and demand info
- Technical assistance to rural water systems
  - Often in tandem with KRWA
- Planning for expansion and future demand
- Public awareness and involvement are keys to SWP success

# SWP and Agricultural Connections

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## Water Resource Development and Tech Assistance

- Efficiency programs for new facilities/infrastructure may have some utility
- Technical assistance for SWP may not directly apply, but we are an available resource

# SWP and Agricultural Connections

## Drought Mitigation and Response

- Part of coordination between water users
- Part of coordination and information exchange within and between agencies
- Technical assistance for SWP may not directly apply, but we are an available resource

# SWP and Agricultural Connections

## Communications & Outreach

- Major part of our efforts – water suppliers, communities, local/regional governments
- Collaboration and partnerships
- SWP is an element of comprehensive water management planning

# SWP and Agricultural Connections

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## Water Resource Development Act

- Section 7104 – SWP implementation is an eligible use of SRF

# Closing Thoughts

- Recent national and local events highlight need for SWP
  - Elk River, WV spill (MCHM)
  - HABs on Ohio River (other DW sources)
  - State/Local land use proposals
  - Increased treatment costs
- Successful SWP through partnerships:
  - Government (federal, state and local)
  - Water Systems
  - Communities
- Unique drinking water supplies require individualized assessment, planning and implementation

# Questions?

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