



Central Ohio 15 County Water Study

Kickoff Meeting for Stakeholders
4-24-2024



**Department of
Natural Resources**



**Environmental
Protection
Agency**



Welcome and Today's Logistics

- This webinar is being recorded
- All questions can be entered into the chat throughout the presentation
- Questions will be answered at the end



Forbes

FORBES > LIFESTYLE > TRAVEL

Columbus Is America's Fastest Growing City And A Wonderful Place To Visit

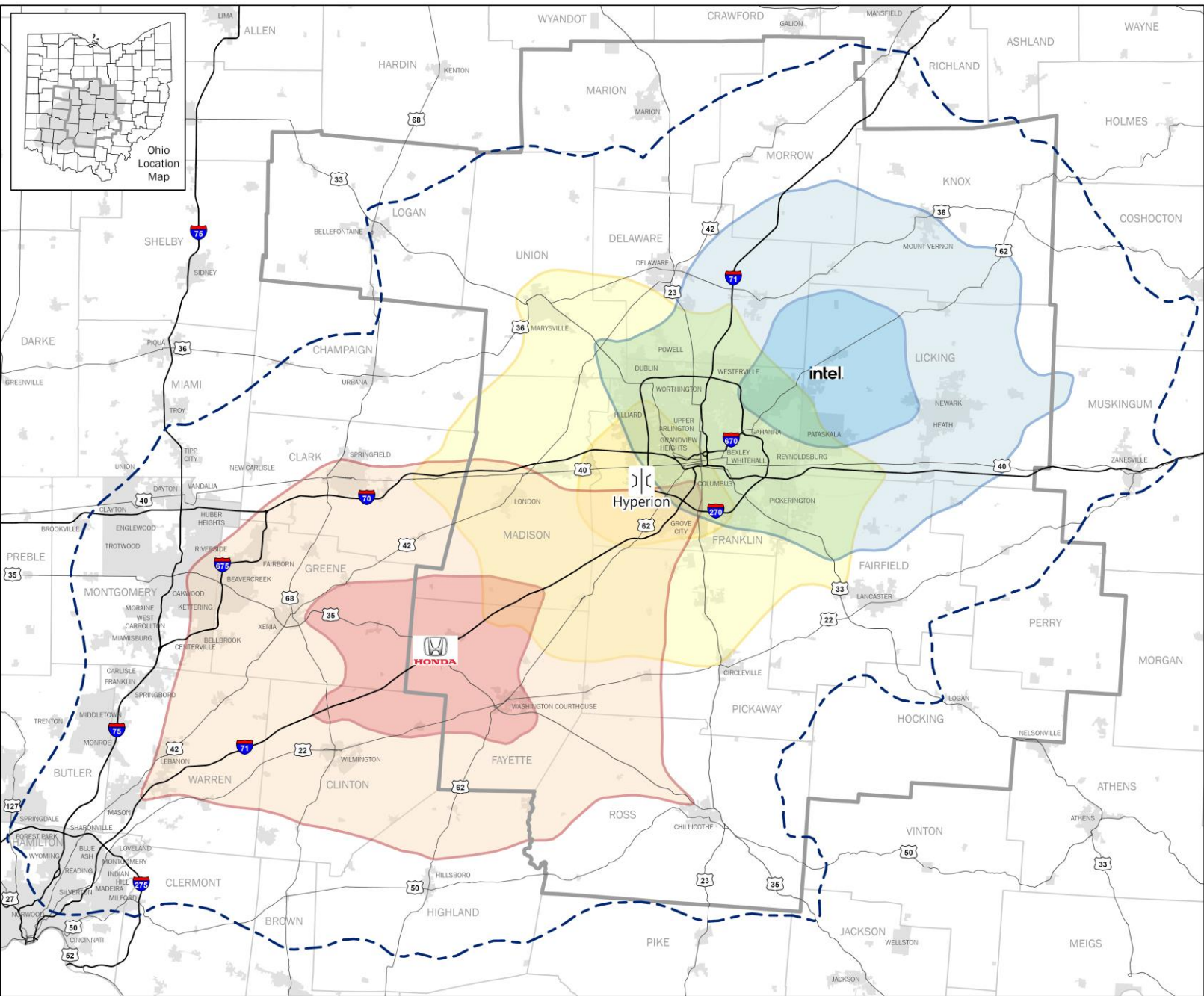
Katie Chang Contributor

Follow

0

Apr 14, 2024, 08:00am EDT





Major New Development Driving Times

Intel

- 20 minutes
- 40 minutes

Honda

- 20 minutes
- 40 minutes

Hyperion

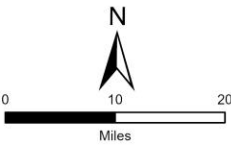
- 20 minutes
- 40 minutes

Within 60 minutes of a Development

MORPC Area

City/Village

Note: Travel assumed by car. Travel times are approximate from Intel, Hyperion, and Honda sites out at 5pm. Buffers generated using ESRI Network current conditions.



The information shown on this map is compiled from various sources made available to us which we believe to be reliable.
N:\ArcGIS\LOCAL\MajorDev\MajorDevDriveTimes.aprx
2/14/2023



Environmental Protection Agency

Ohio is the Midwest's Cloud Infrastructure Hub

- From 2015-22, Amazon Web Services (AWS) invested **\$6.3 billion** in its Ohio data centers
- In June 2023, AWS announced it planned to invest an additional **\$7.8 billion** in Ohio by 2030
- In 2017, Meta announced its initial multi-building data center campus in central Ohio that is LEED Certified Gold
 - Meta's total announced Ohio investment had grown to **\$1.5 billion** as of 2022
- In 2019, Google officially broke ground on a **\$600 million** data center in New Albany
 - In 2023, Google announced two new locations that will bring total investment to more than **\$2 billion**
- In 2021, the Tax Foundation's Location Matters report found Ohio **ranked #1** in new data center corporate tax costs

Economic Impact of the AWS US East (Ohio) Region from 2015-2022

\$6.3 billion

Total investment
in Ohio, including both
capital and operating
expenditures

\$2.2 billion

Estimated total gross
domestic product (GDP)
contributed to Ohio

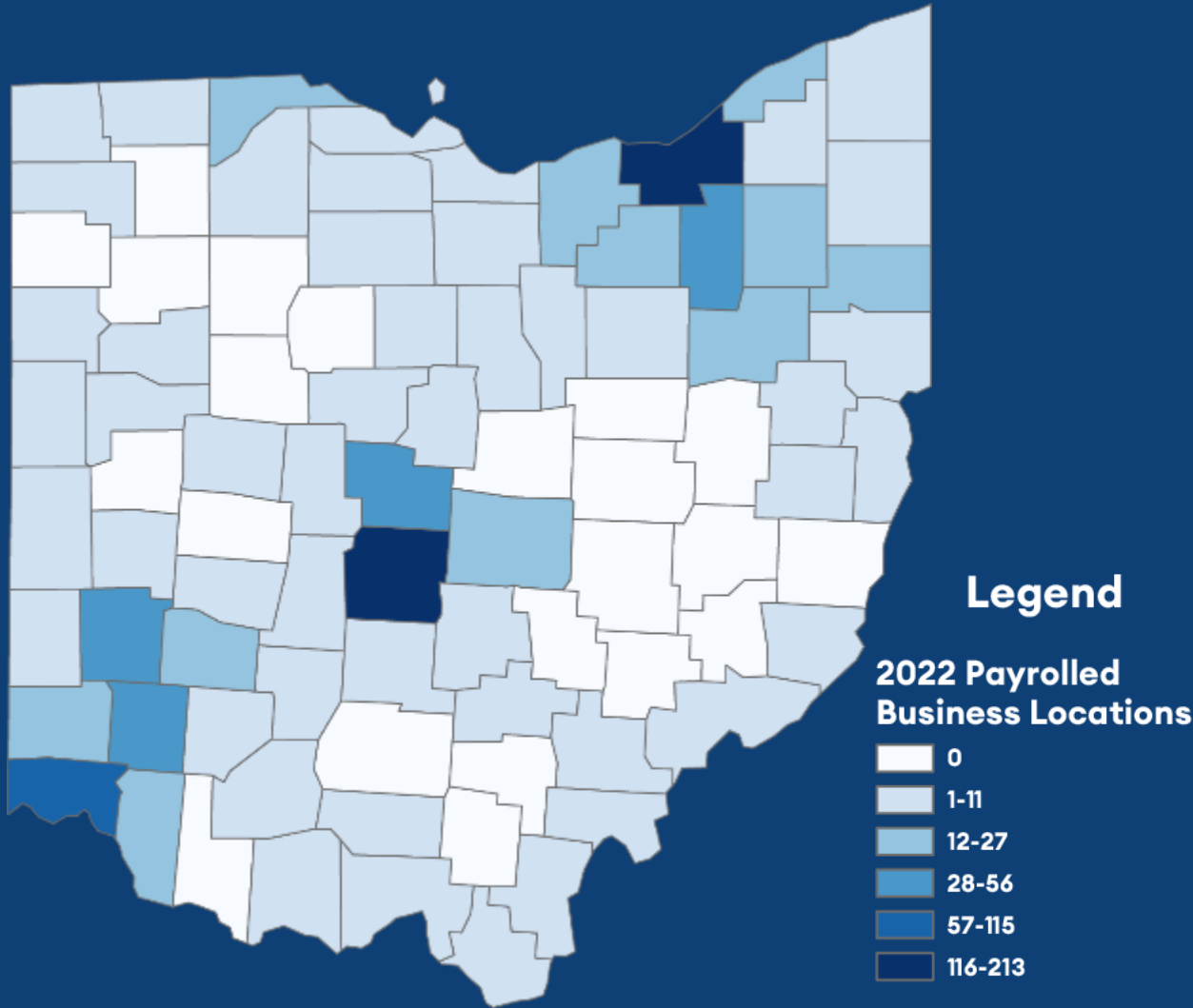
3,550

Estimated average
full-time equivalent (FTE)
jobs supported at local
vendors annually in Ohio

AWS Capital Investment in Ohio



Dramatic Growth in the Data Center Industry over the Past Decade



3X Data Center Growth

In 2011, Ohio had 379 data center locations -

Today, there are over 1,100



Source: Lightcast, 2022 Payrolled Business Locations in NAICS 51-8210: Data Processing, Hosting, and Related Services
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Request for Proposals - Scope

- Comprehensive Water Study
 - Current availability
 - Current demand
 - Projected future demand 2030, 2040, & 2050
 - Gap analysis
 - Regionalization recommendations
 - Water reuse opportunities
 - Siting locations for new mega water users



WWTP-Treated Effluent as Process Water



Request for Proposals - Scope



Identify zones of economic opportunity based on water resource feasibility and availability



Provide a “Pathway to Readiness” for communities with capacity limitations



Maintain water quality in our rivers and streams throughout the state in the long term

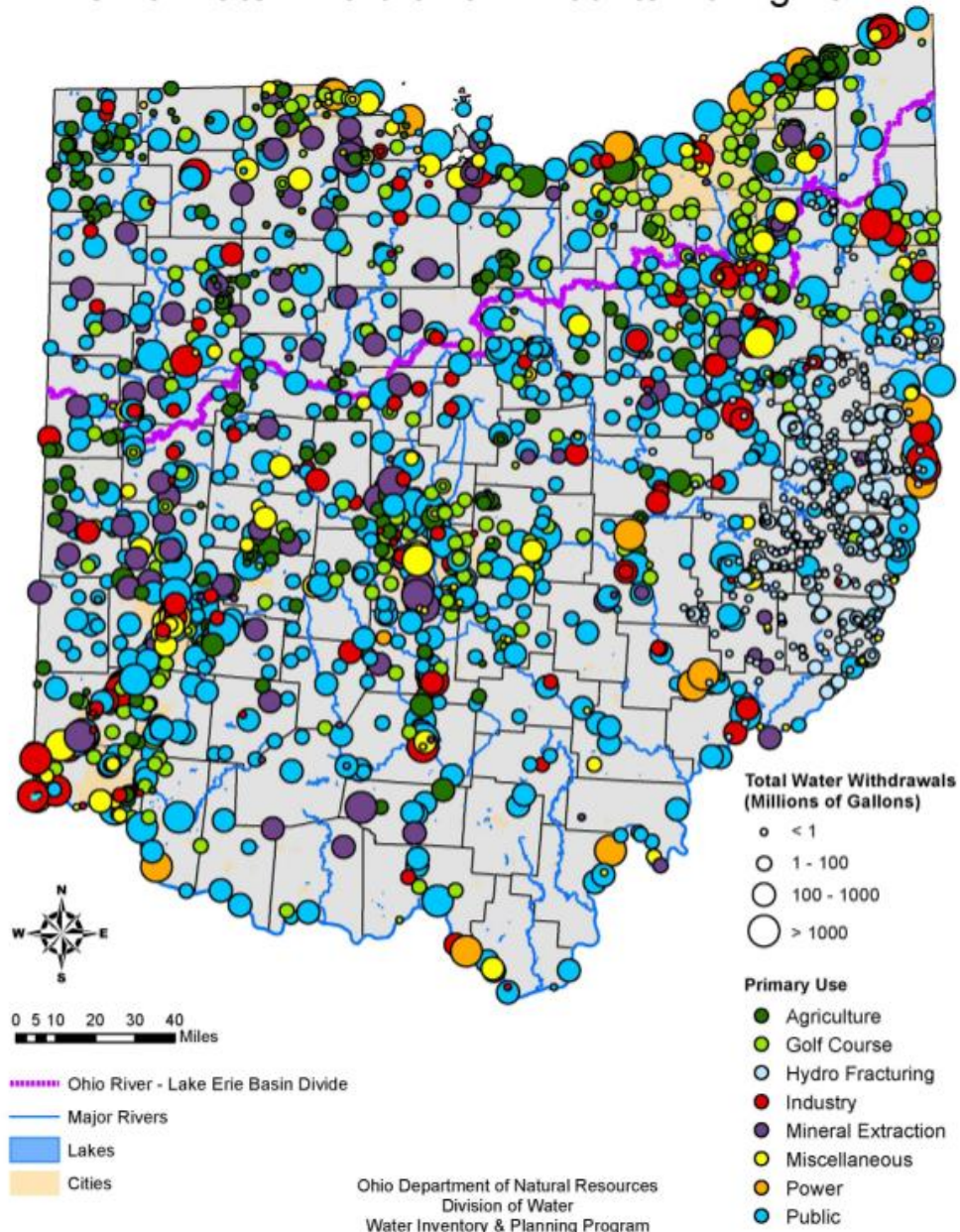


Identify ground water recharge needs and recommendations



Provide information regarding reservoir re-evaluation and management (ODNR, USACE controlled and others)

Ohio Water Withdrawal Amounts During 2021



Ohio Department of Natural Resources

- Water availability (water budget)
- High-capacity withdrawal permitting
- Reservoirs / USACE Contracts



**Environmental
Protection
Agency**

Request for Proposal Timeline



Scoring Criteria

PROJECT TEAM/CREDENTIALS:

Expertise of entire team assembled and clearly defined roles and responsibilities

UNDERSTANDING & APPROACH:

Meets all scope requirements and has a clear, organized strategy

EXPERIENCE:

Clear demonstration of water projects that parallel the goals of this water study

DATA MANAGEMENT:

Has a compelling plan for data collection, management and modeling

SCHEDULE:

Our confidence of them meeting deadlines based on resources and deliverable projections, including expediting Licking County findings

LOCAL KNOWLEDGE:

Understanding of local issues and constraints



Proposal 1

- **\$1,111,000**
- Headquartered in MN

Proposal 2

- \$4,513,866



The logo for CDM Smith, featuring the text "CDM" in a bold, blue, sans-serif font above the text "Smith" in a similar blue font. A small green square is positioned between the "M" and "S".The logo for ARCADIS, featuring an orange stylized swirl icon to the left of the word "ARCADIS" in a black, sans-serif font.The logo for RAFTELIS, featuring a teal stylized "R" icon to the left of the word "RAFTELIS" in a teal, sans-serif font.The logo for the Midwest Biodiversity Institute (MBI), featuring a stylized graphic of green hills and blue water to the left of the text "Midwest Biodiversity Institute" in a blue, sans-serif font.

Proposal 3

- \$2,290,730

Proposal 4

- **\$2,997,700**
- **RANK 1st**
- **Contracted for \$2797,700**



Ohio Water
Development Authority

Hazen



Jacobs

Geosyntec
consultants

BURGESS & NIPLE



Overview of Hazen's Subconsultant Roles

Jacobs

Scenario planning and integrated modeling expertise, economic development planning

Eagon and Associates

Ground water availability, local modeling, ground water sensitivities and contamination

Coldwater

Ecosystem and recreational services, environmental demands, water quality limits

Burgess & Niple

Scenario development, infrastructure needs

Geosyntec

Regulatory constraints and permitting, TMDLs

Neighborhood Strategies

Ground water availability, local modeling, ground water sensitivities and contamination

Midwest Biodiversity Institute

Technical advisor - Central Ohio stream health knowledge

EMH&T

Technical advisor - Long-term economic planning

Lisa Jeffrey

Technical advisor - Evaluation of safe yield and water quality considerations



Home

Current and Projected
Demands

Integrated Map and Model

Scorecard for
Alternatives Analysis

Search



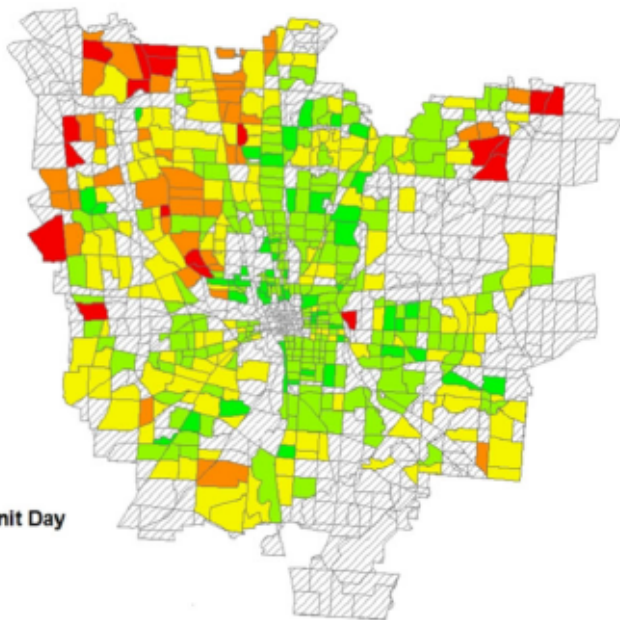
Area of interest:

City of Columbus

Historical parameter:

Residential gallons per unit day by TAZ (2018)

Historical Data



Gallons per Unit Day

- 25 - 88
- 89 - 127
- 128 - 182
- 183 - 305
- 306+

Screened Out or No Observed Use

Household growth rate:

+10%

Residential GPCD:

Base GPCD 2020-2022 Avg

Non-residential GPCD:

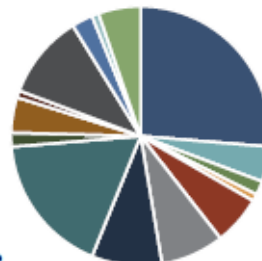
Base GPCD 2020-2022 Avg

Weather condition:

Historical Normal

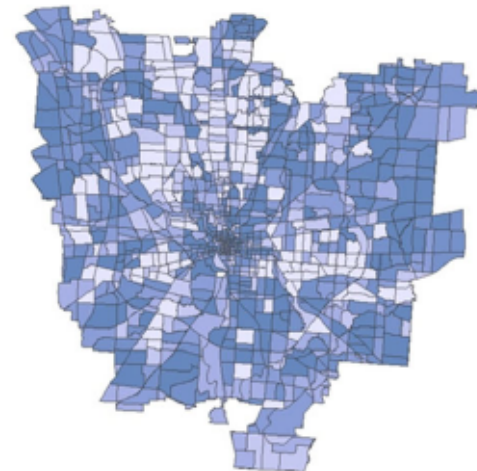
Water efficiency factor:

Passive

Total Water Use by County
in Central Ohio Region

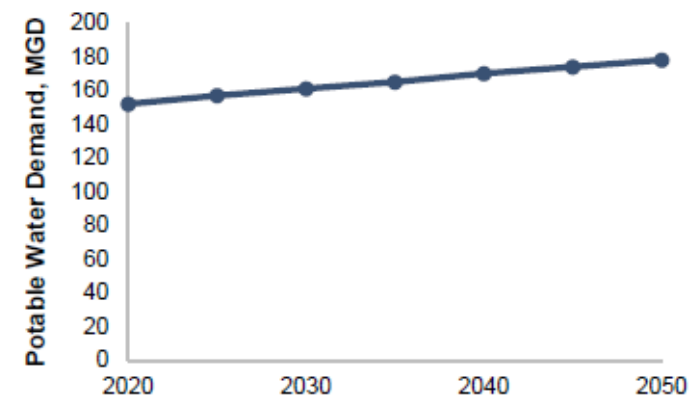
2023

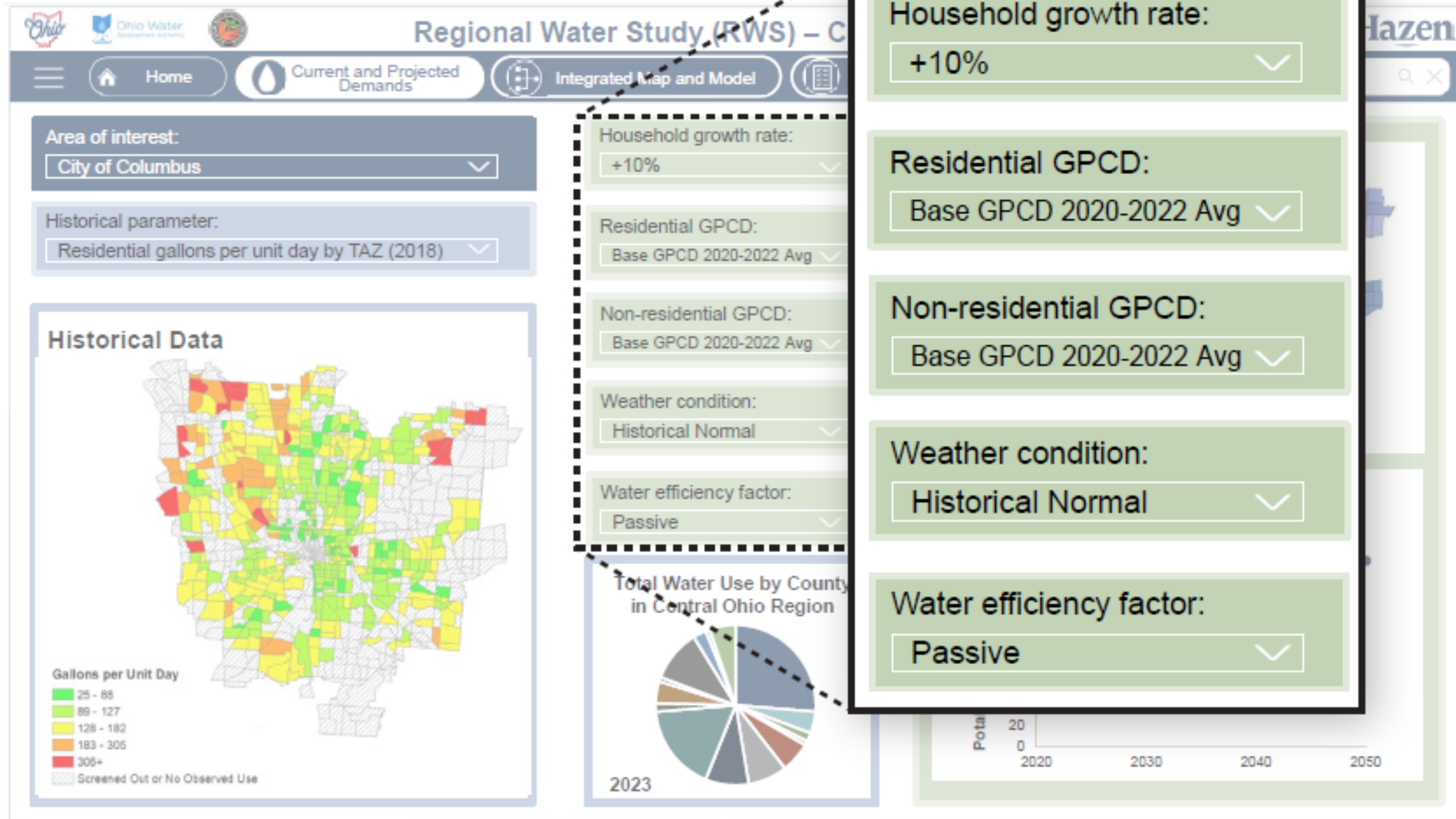
Projected Data

Change in Total Water Use
(2020-2050, MGD)

- 0.078 - -0.008
- 0.007 - 0.000
- 0.001 - 0.003
- 0.004 - 0.010
- 0.011 - 0.028
- 0.029 - 0.963

Projected Data





Central Ohio Regional Water Study



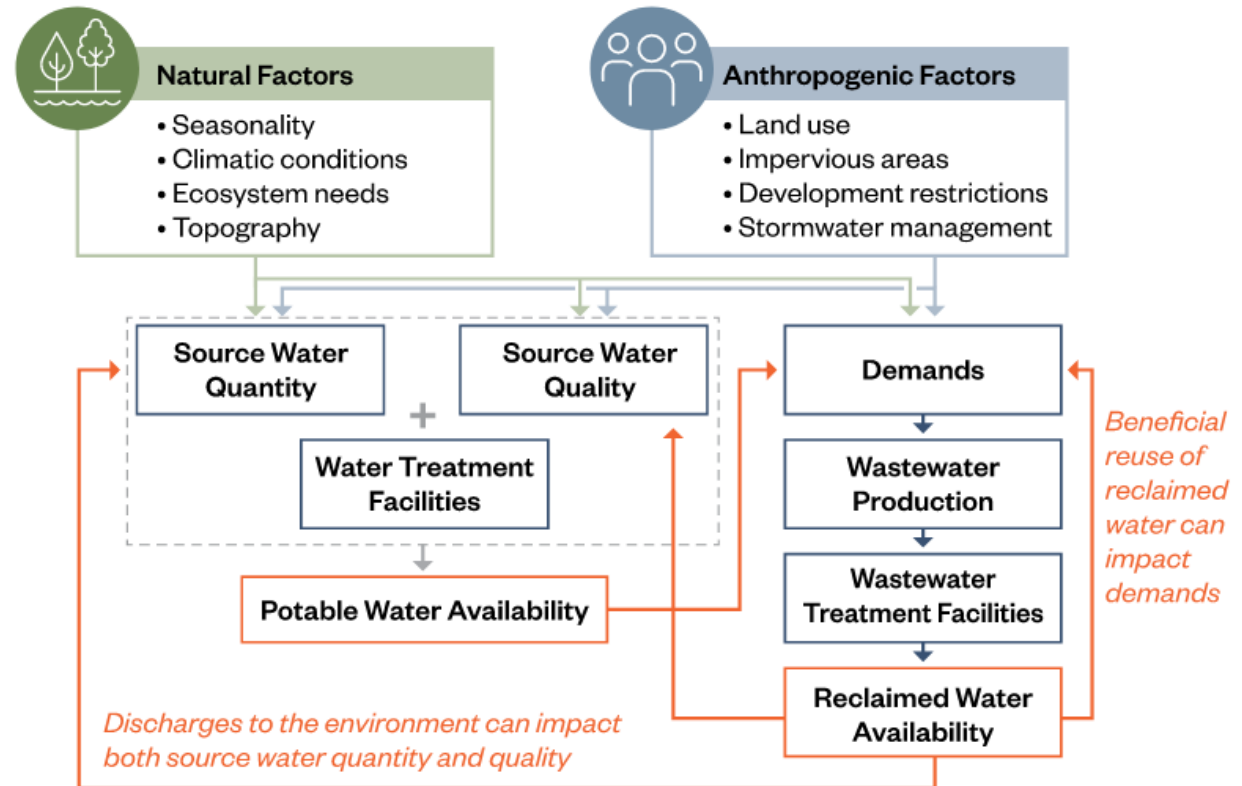
Project Drivers, Objectives, Deliverables

Drivers

Current and projected growth

New industries (new water quality requirements, new discharge)

Interconnected system, interrelated objectives



Project Drivers, Objectives, Deliverables

Drivers

Current and projected growth

New industries (new water quality requirements, new discharge)

Interconnected system, interrelated objectives

Objectives

Identify existing and planned system components

Characterize relationships between system components

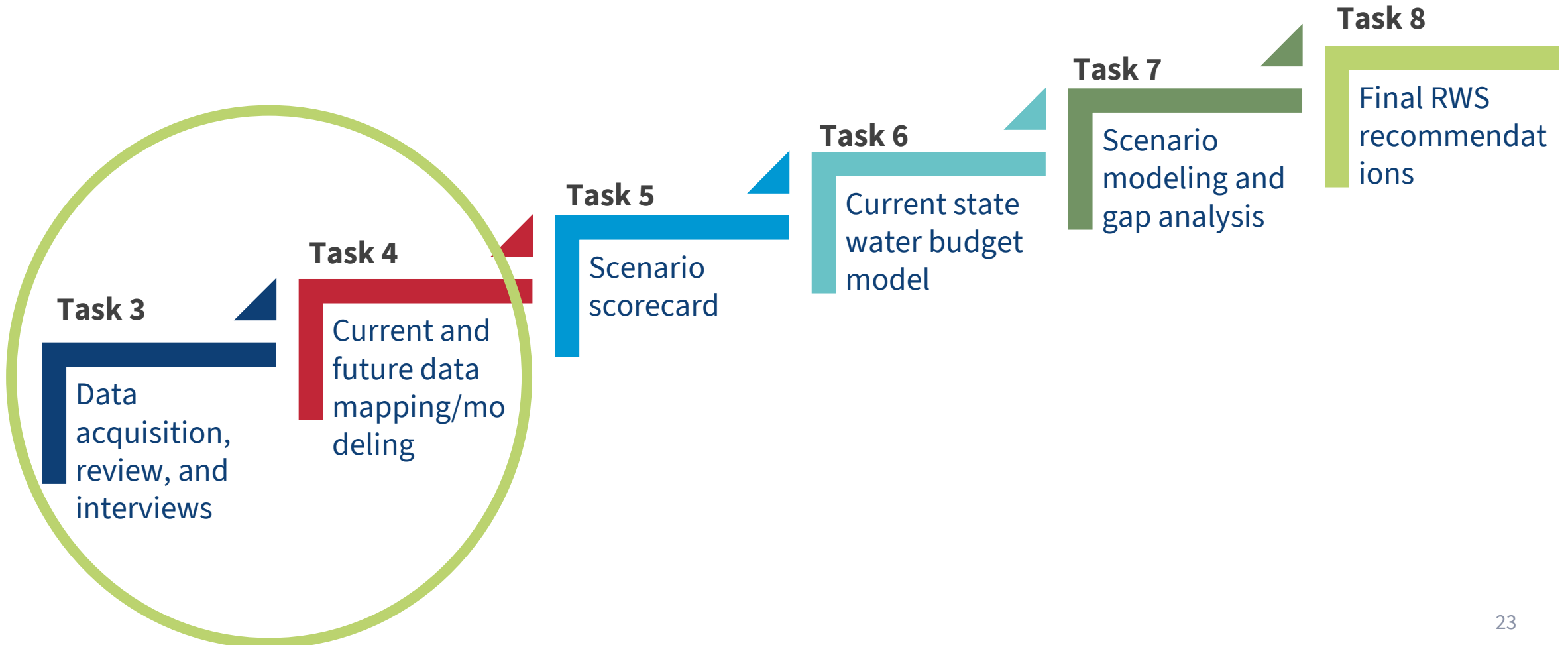
Provide a foundation for decision-making in alignment with a common community vision

Outputs

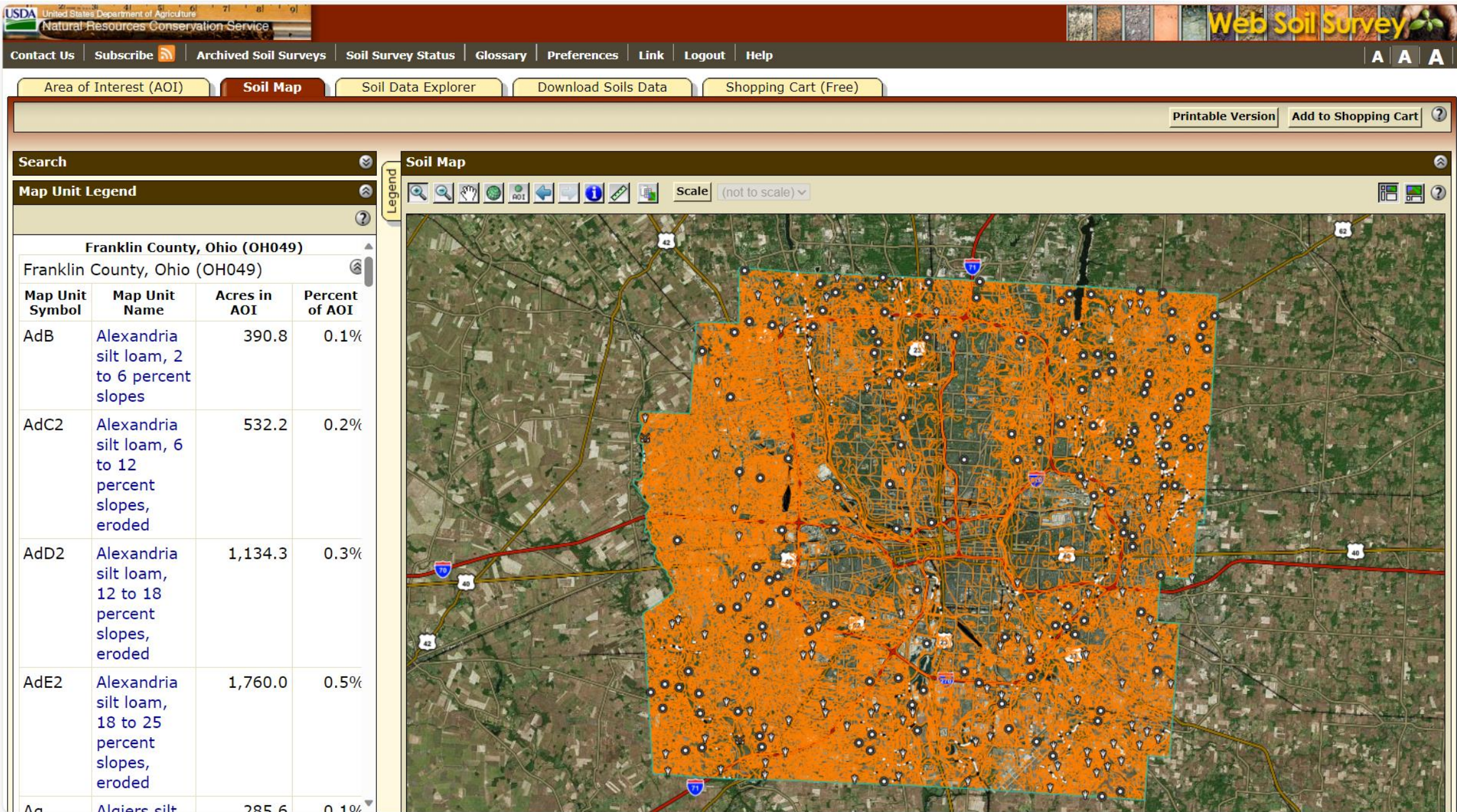
Integrated water resource model that identifies gaps in the system's ability to meet regional objectives under various potential future conditions

Scenario-based infrastructure development recommendations



Project Workflow



USDA NRCS Web Soil Survey



Ohio Water Well Database



OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF GEOLOGICAL SURVEY

Zoom In

Zoom Out

Wells

Sealing Reports

Well Symbology

Base Map

Features & Layers

Select

Measure

Draw

Zoom To Location

Scale: 1 : 144447.6442
Latitude: 39.995276
Longitude: -82.994328

WATER WELLS DATABASE

HELP

LOGIN

QUICK SEARCH

ADVANCED SEARCH

Well Log

Sealing Report

County

FRANKLIN

Township

Select Township

Record Number

SEARCH BY ID

Aquifer Type

Sandstone & Limestone (SLI)

Shells Lime Sand (LSS)

Shells/Lime/Sand (SHL)

Traverse Group (TRV)

Dolomite (DOL)

Limestone & Gravel (LSG)

Limestone (LST)

Shell (SHE)

Niagara Formation (NIA)

Marl (MRL)

Shale w/ Sandstone Streaks (SHD)

Shale & Sandstone (SHS)

Stringer (STG)

Streak (STK)

Sandstone & Shale (STS)

Injun Sandstone & Shale (ISH)

Sandstone/Shale/Limestone (SSL)

Limestone & Shale (LSH)

Limestone & Rock (LSR)

Shale & Limestone (SHI)

Limestone & Clay (LSC)

Lime & Clay (LMC)

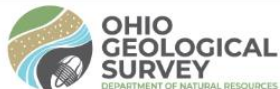
Sand & Clay (SCL)

Mud & Sand (MSD)

PRINT MAP

Leaflet | Powered by Esri | OSU GIS, City of Gahanna, City of Grandview Heights, Franklin County Auditor, Esri, HERE, Garmin, INCREMENT P, NG

Ohio Observation Well Network



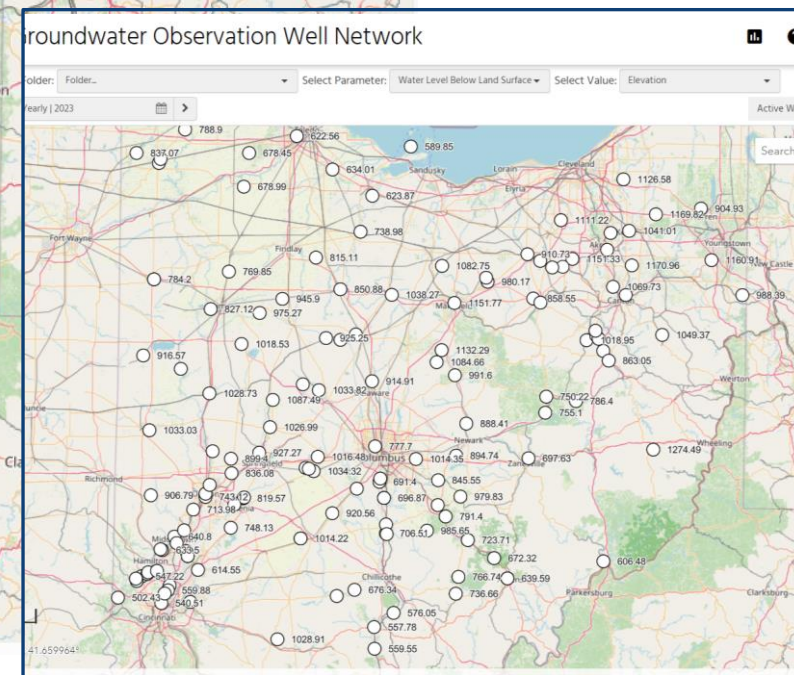
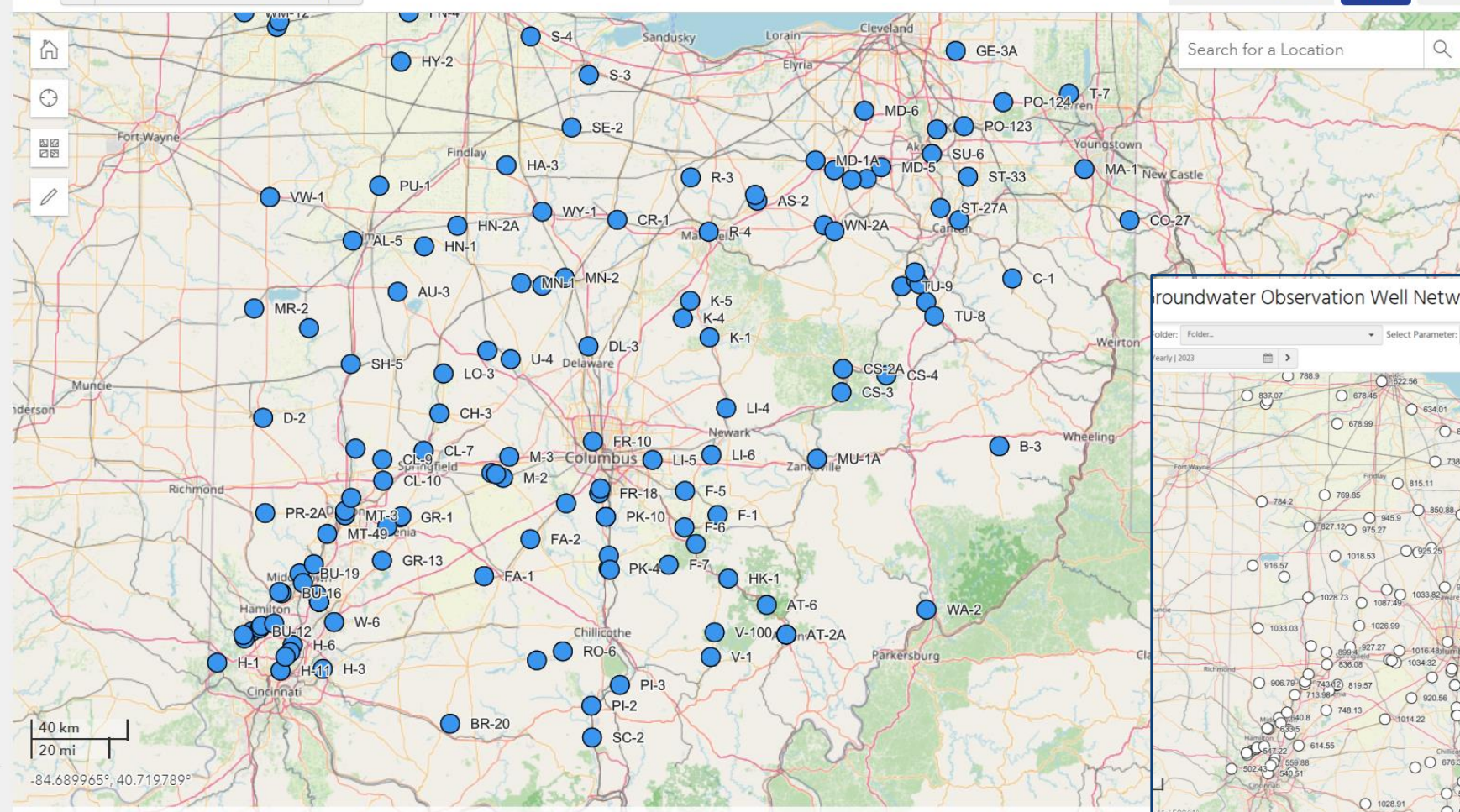
Ohio Groundwater Observation Well Network

Sign in

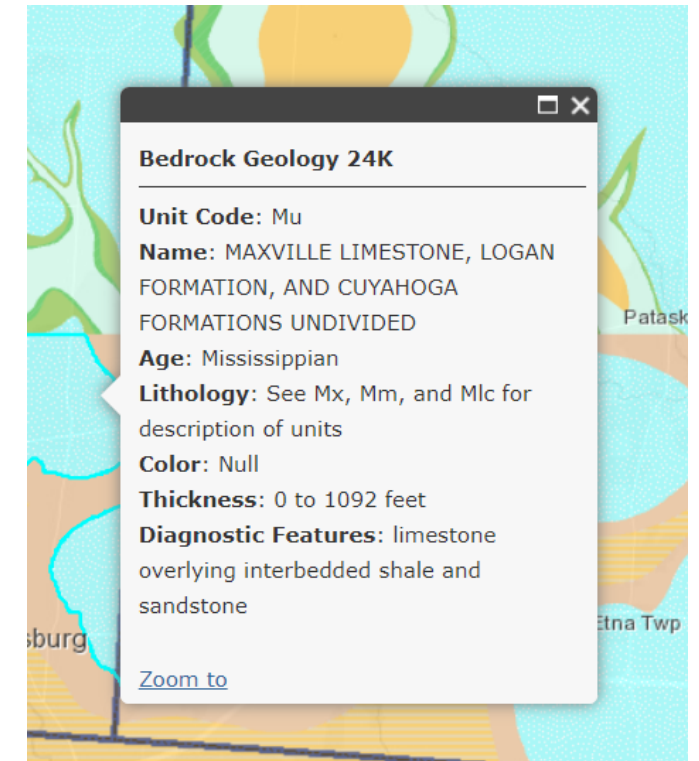
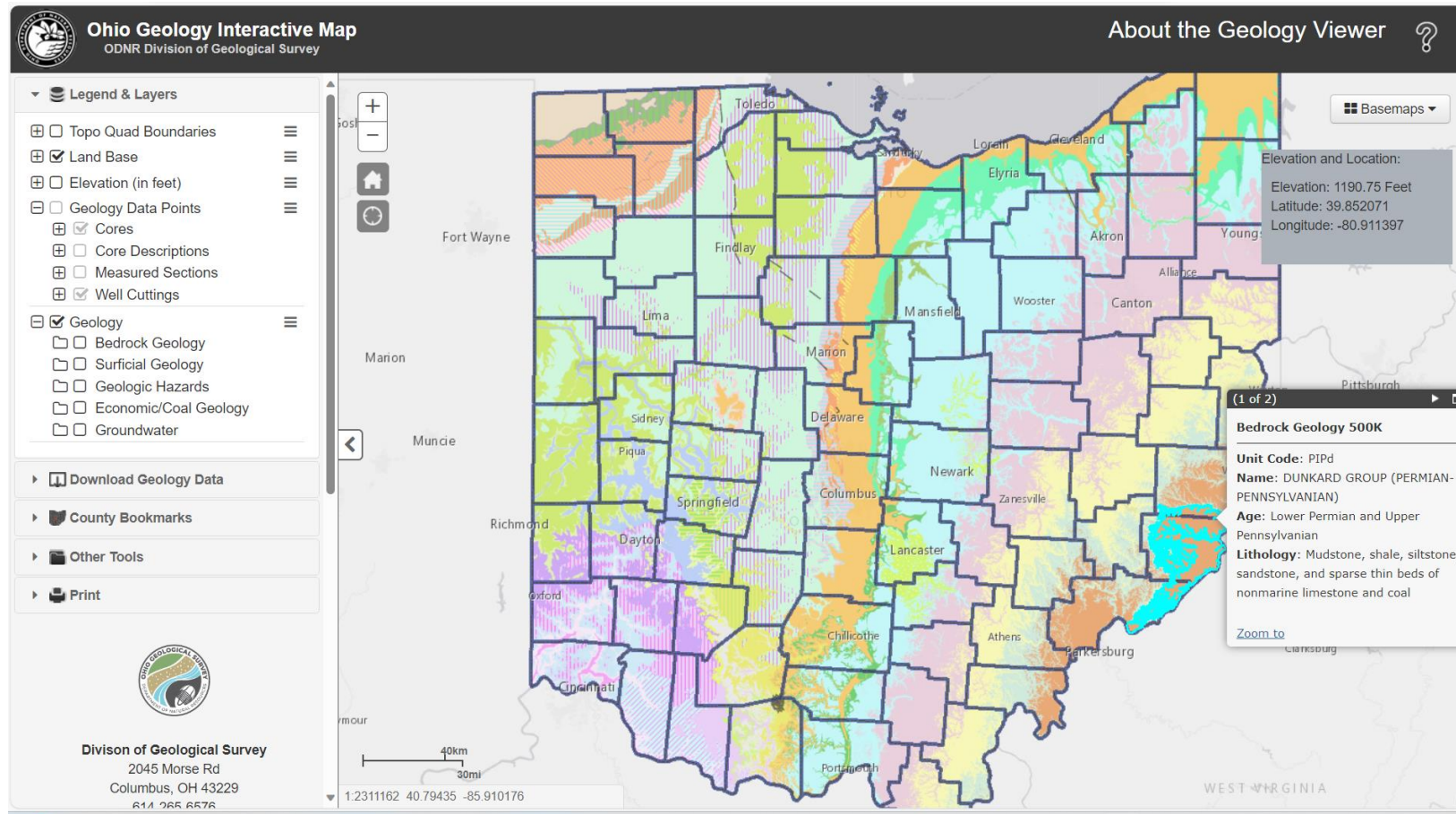
Search for a Folder: Folder... Select Parameter: Water Level Below Land Surface Select Value: Location Identifier

Date: < Yearly | 2023 >

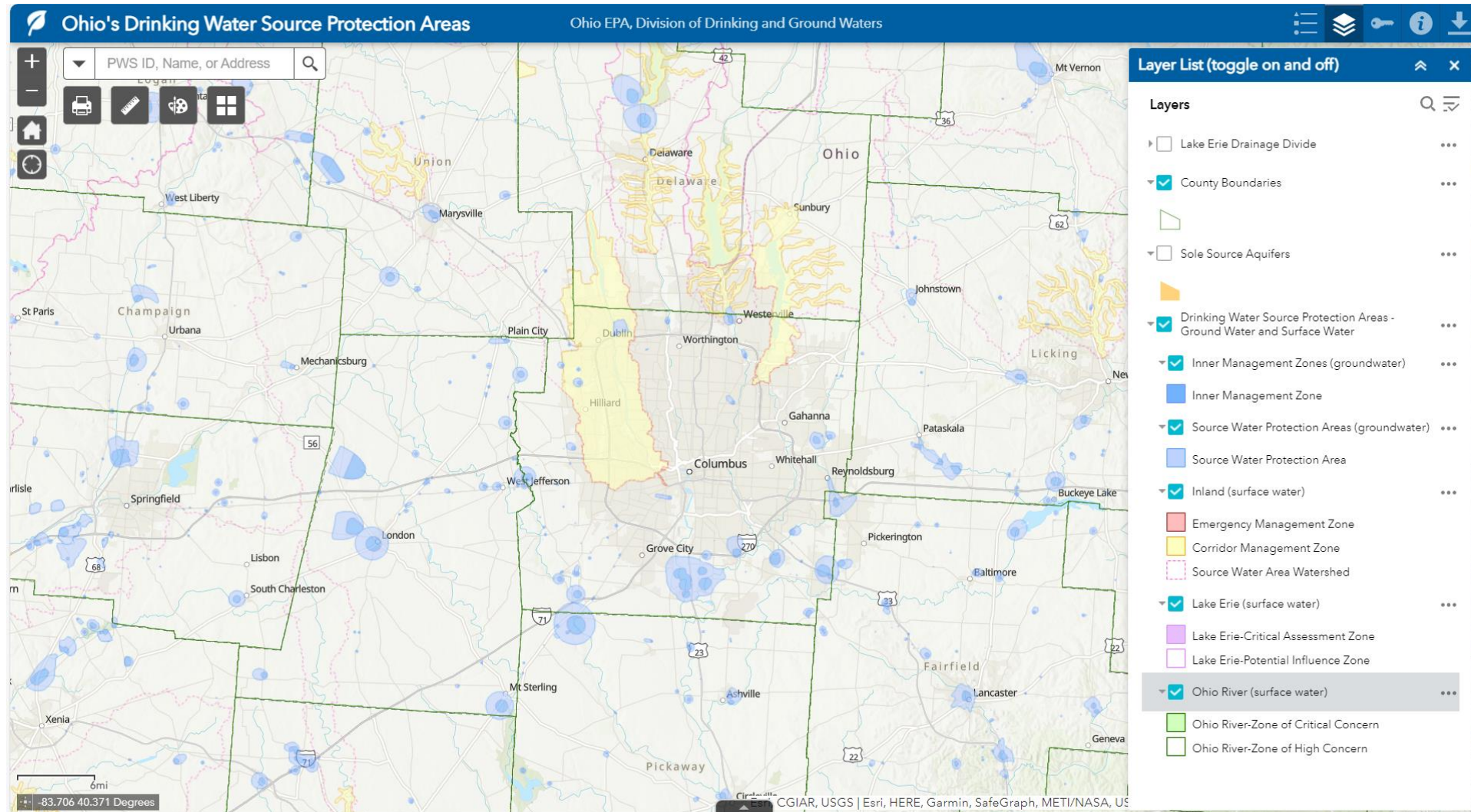
Active Wells Edit Filter



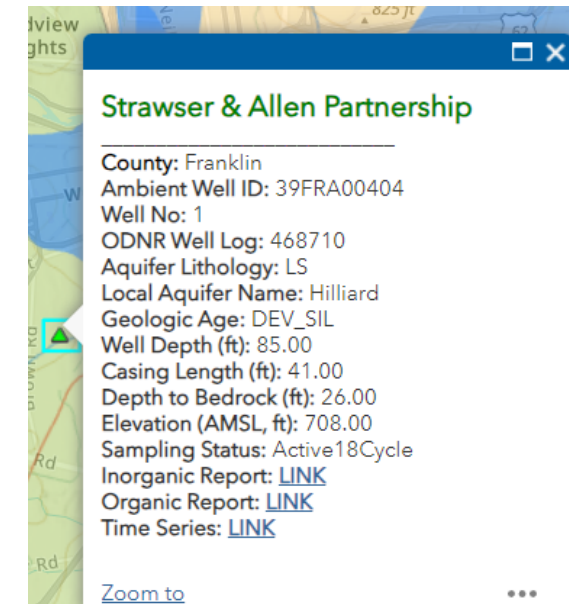
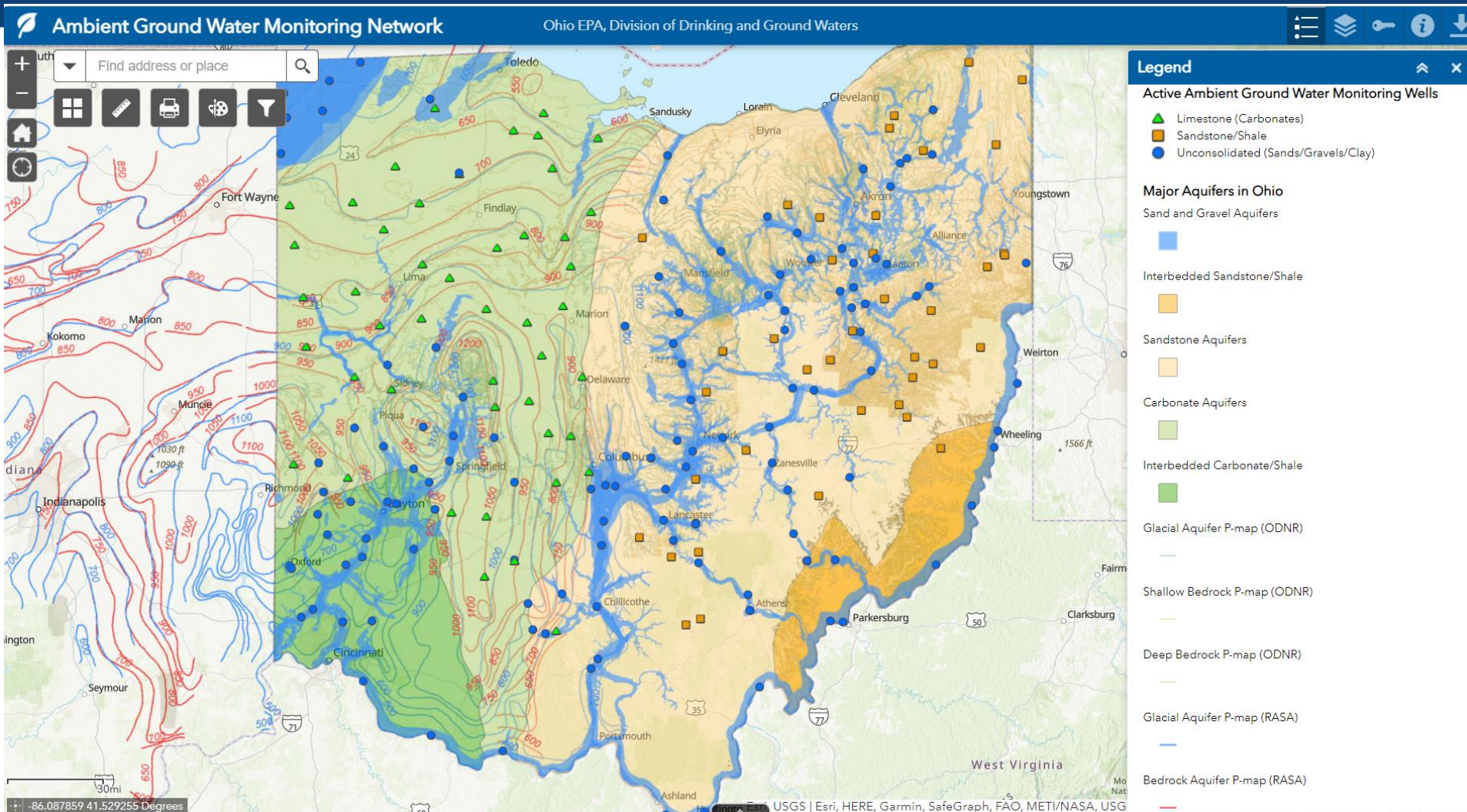
Ground Water Vulnerability Map of Ohio



Drinking Water Source Protection Area



Ambient Ground Water Monitoring Data



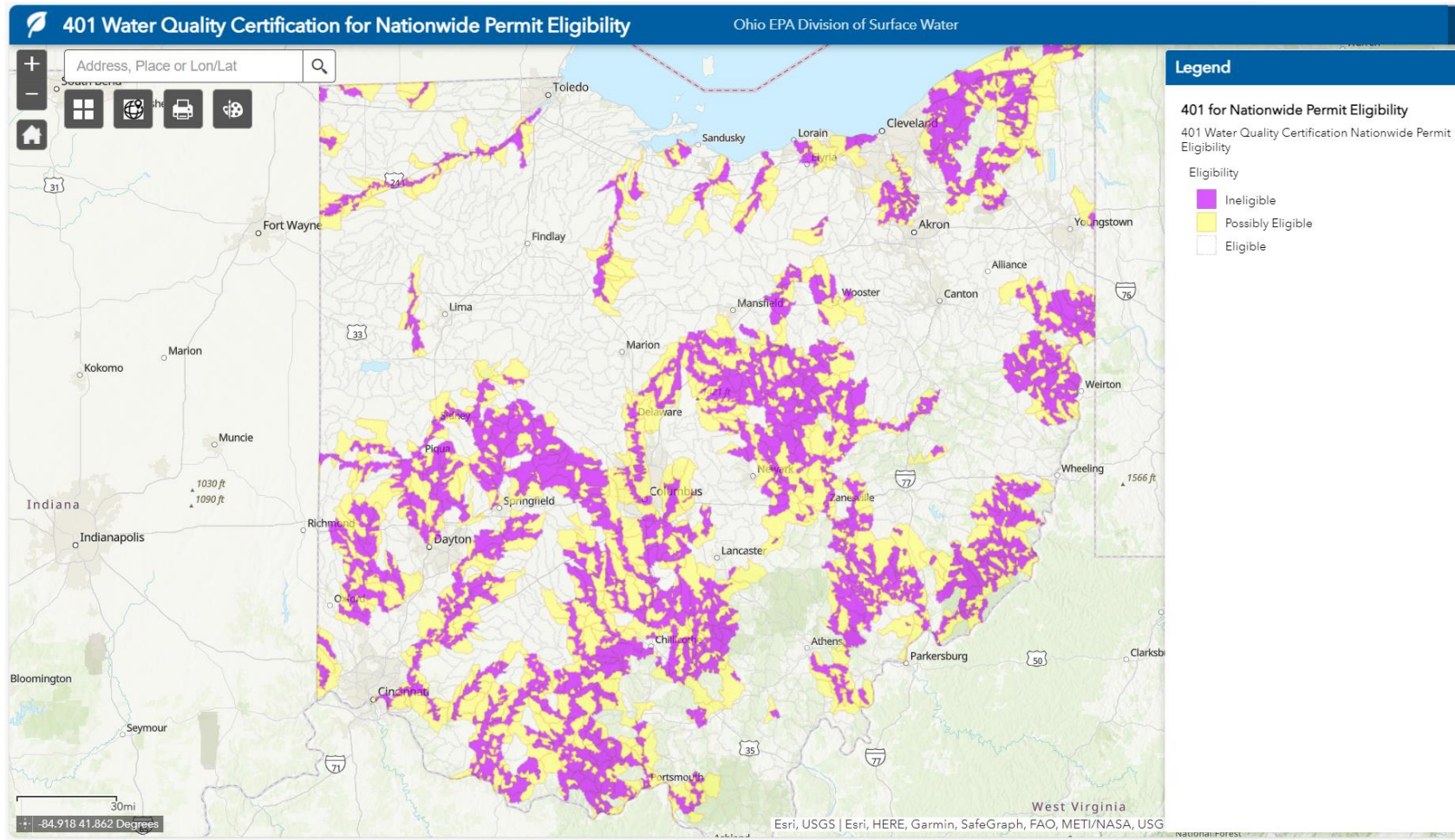
Voluntary Action Program Properties Ohio EPA, Division of Environmental Response and Revitalization

Find address or place

Layers

- ☒ Urban Setting Designation (USD) Area Centroid
- ☒ Urban Setting Designation (USD) Areas
- ☒ DERR - Covenant Not to Sue Centroids
- ☒ DERR - Covenant Not to Sue Areas
- Environmental Covenant
- Covenant Not to Sue
- Easement
- Institutional Control
- Other
- ☐ Statewide Parcels

Ohio EPA Stream Eligibility Map



Category Definitions:

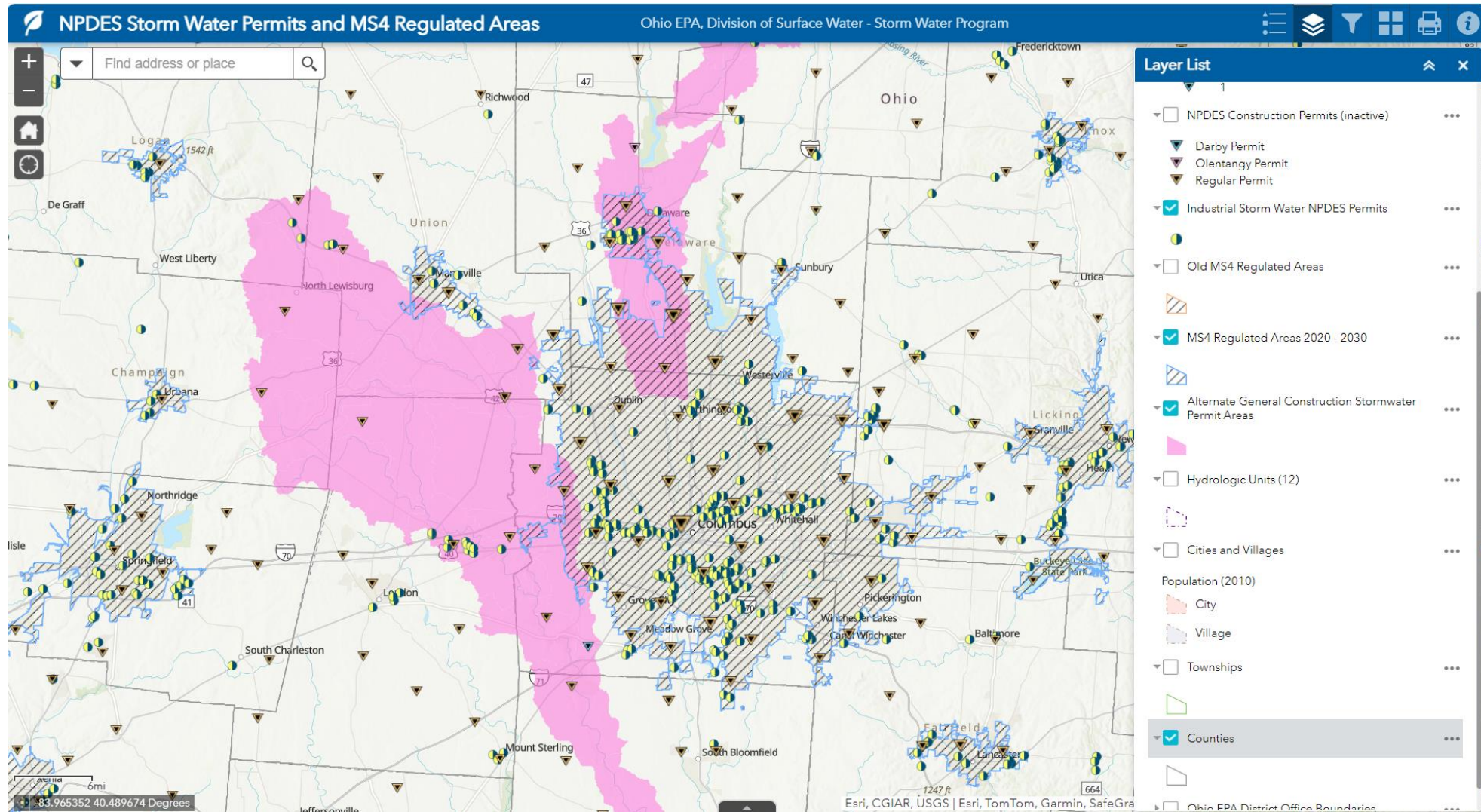
Ineligible Areas (Shaded Purple): an individual 401 water quality certification is required.

Possibly Eligible Areas (Shaded Yellow): may require an individual water quality certification if the streams which are proposed to be impacted exhibit habitat features indicative of high quality waters, or if other Ohio general and special limitations and conditions for the nationwide permits are not met.

Eligible Areas (No Shading): may require an individual 401 water quality certification if Ohio general and special limitations and conditions for the nationwide permits are not met.

[Zoom to](#)

NPDES MS4 Regulated Areas

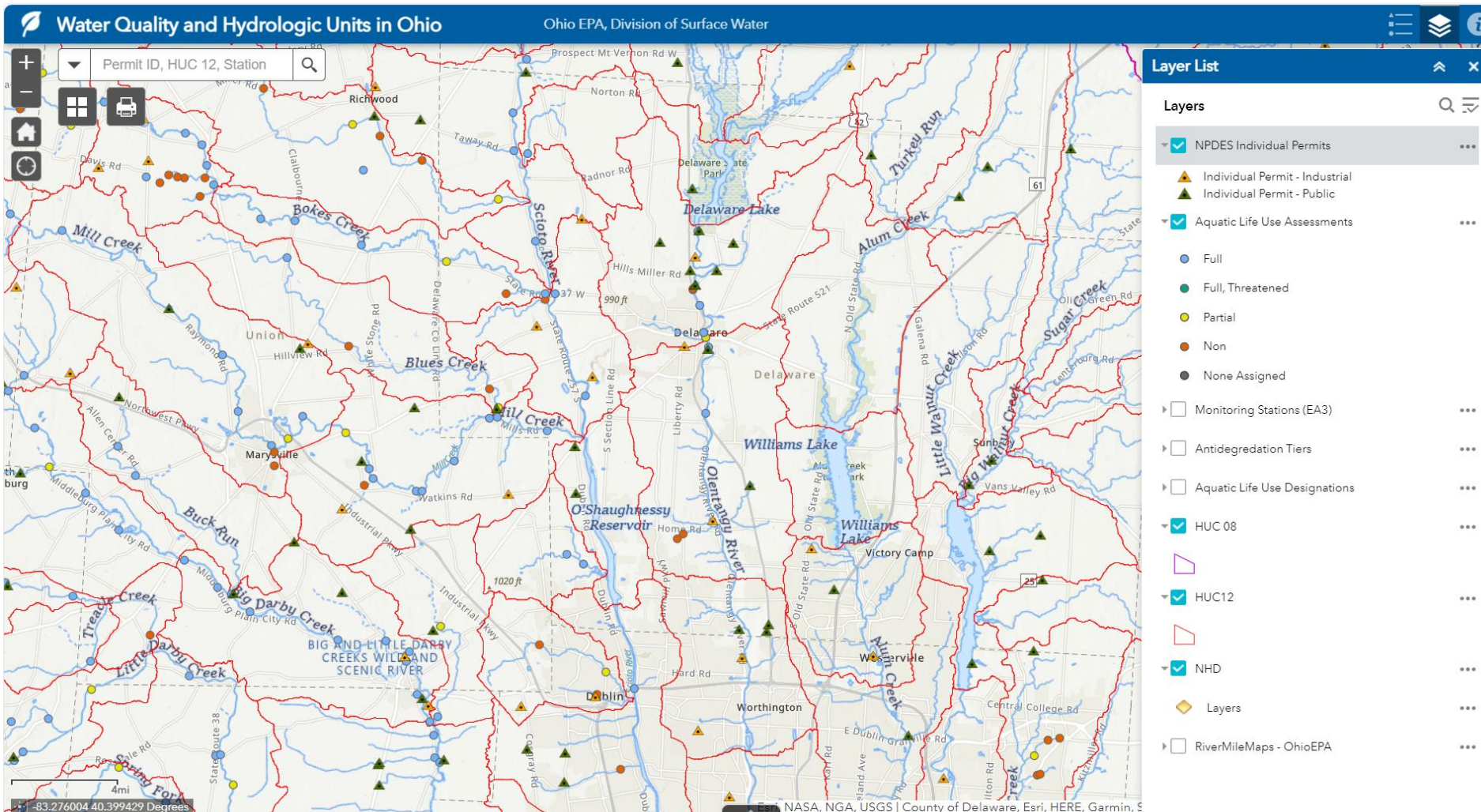


Water Quality and Hydrologic Units

Watershed Attributes

Watersheds - Watershed - HUC12: Bliss Run-Alum Creek

Name	Bliss Run-Alum Creek
AreaAcres	33,866.00
AreaSqKm	137.05
GNIS_ID	
HUC12	050600011602
HUMod	TF
HUType	Standard
LoadDate	January 18 2013
MetaSourceID	
NonContributingAcres	0.00
NonContributingSqKm	0.00
SourceDataDesc	
Zoom to	



How's My Waterway

Let's get started!

Search by address, zip code, or place... [Go](#) OR [Use My Location](#)

Choose a place to learn about your waters:

Community

State & Tribal

National

Explore Topics:



Swimming



Eating Fish



Aquatic Life



Drinking Water



Columbus, Ohio

WATERSHED: Kian Run-Scioto River (050600012302)

Overview

Swimming

Eating Fish

Aquatic Life

Drinking Water

Water Quality

Overview

Show Text

Your Waters: What We Know

Waters in your community are connected within a local [watershed](#). The **dashed outline on the map shows your watershed**.

Water quality is monitored for physical, chemical and biological factors. The monitoring results are assessed against EPA approved water quality standards or thresholds. Water can be impaired, meaning it is not able to be used for certain purposes.... [Show more](#)

DISCLAIMER

2

Waterbodies

38

Water Monitoring Locations

6

Permitted Dischargers

Waterbody Conditions:

● Good

● Impaired

▲ Condition Unknown

Overall condition of **2** waterbodies in the *Kian Run-Scioto River* watershed.

Expand All

● **Kian Run-Scioto River**
State Waterbody ID: OH050600012302

State Water Quality Overview

Advanced Search

Ohio Water Quality

Choose a Topic:

Swimming

Eating Fish

Aquatic Life

Drinking Water

Other

Pick your Water Type and Use:

Water Type:

Rivers and Streams

Use:

Recreation - Bathing Waters

Assessed **Rivers and Streams** that support **Recreation - Bathing Waters**

Targeted monitoring provides information on water quality problems for the subset of those waters that were assessed.

Good

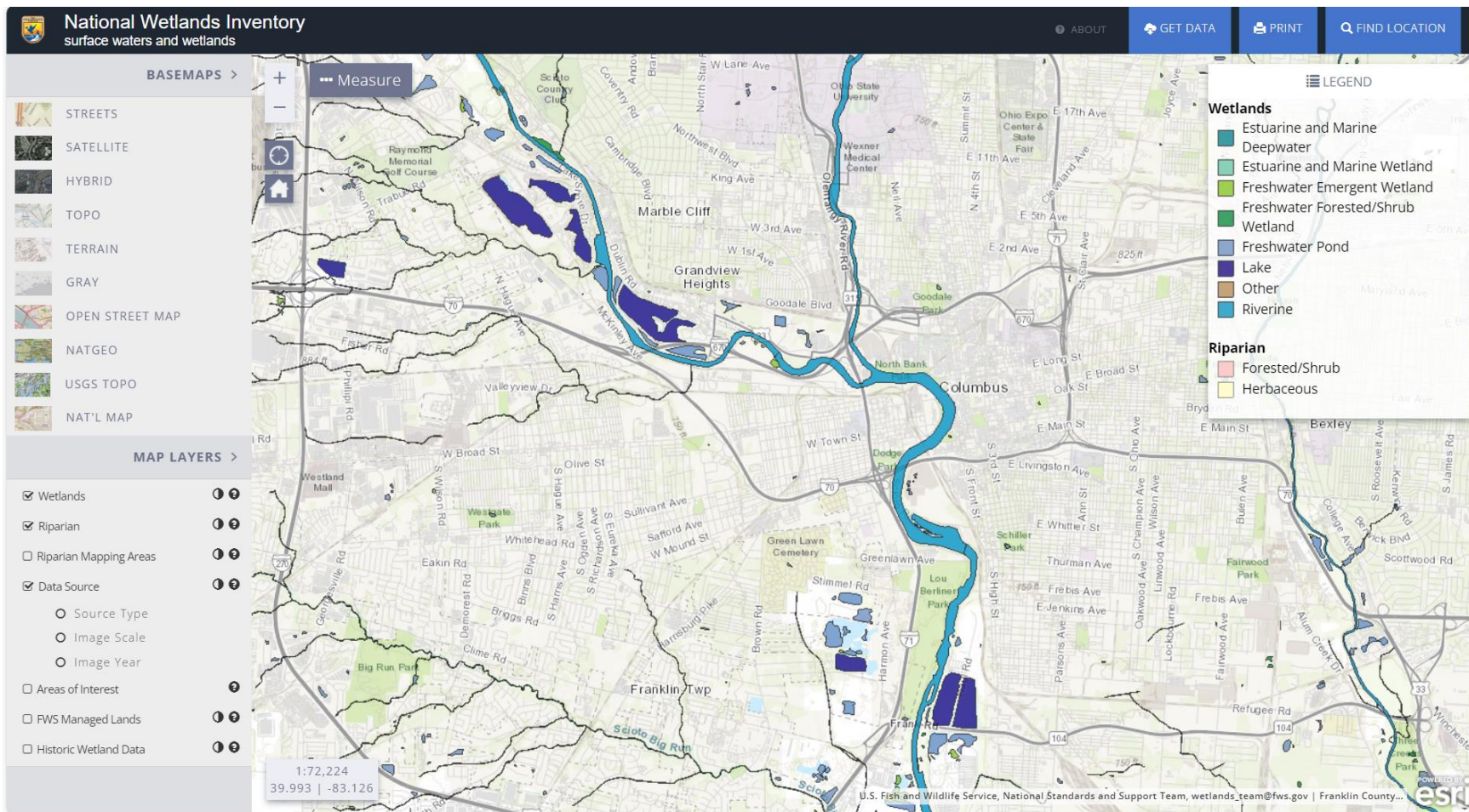
235 miles

210 miles

Impairment for Ohio **Rivers and Streams** assessed for **Recreation - Bathing Waters**

contain [Bacteria and Other Microbes](#).

U.S. Fish and Wildlife Service National Wetland Inventory



General **Description** **Reports** **About**

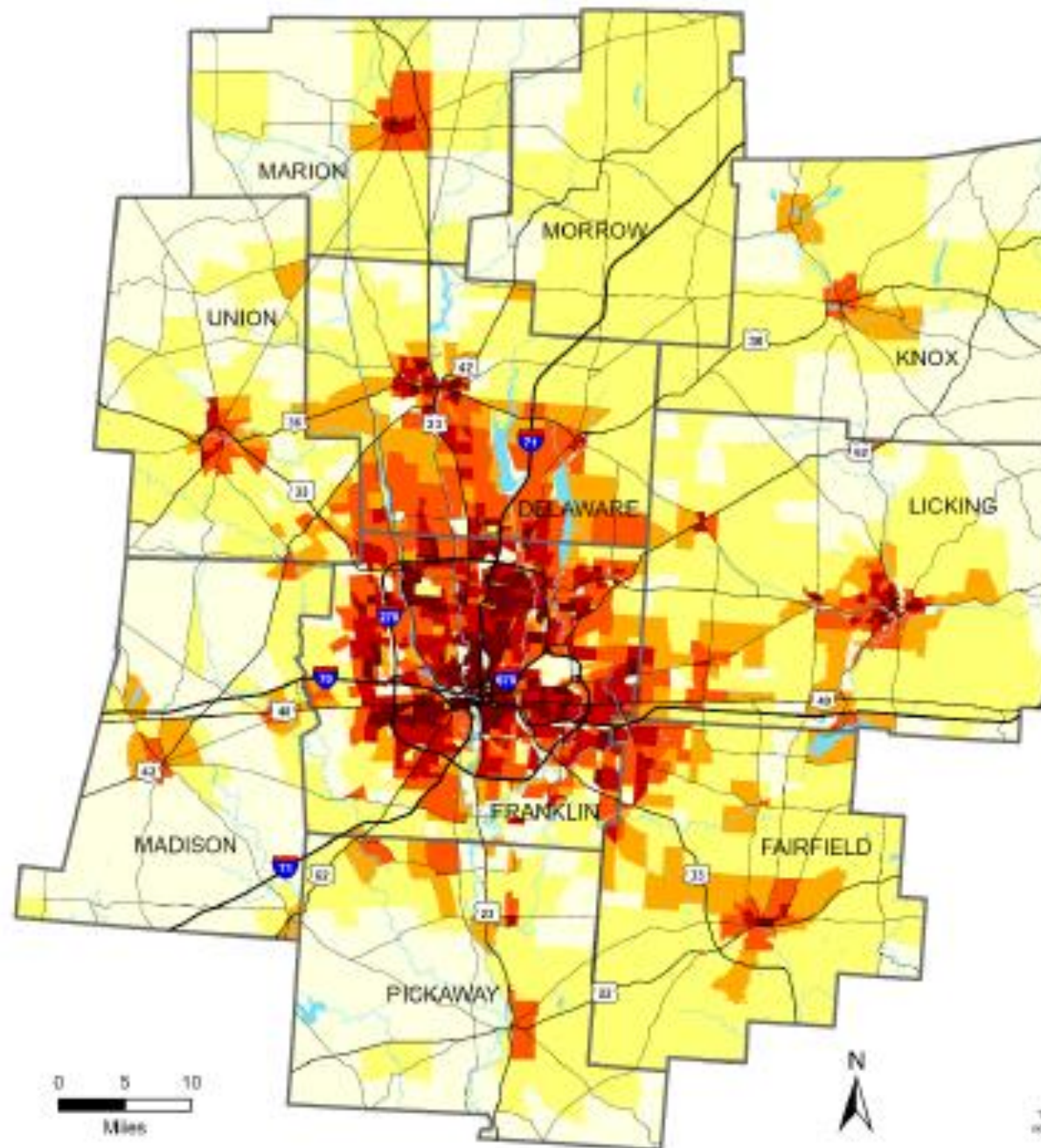
This 513.69 acre Riverine habitat is classified as a R2UBH. For a complete code description, click [here](#).

The wetlands and deepwater habitats in this area were photo interpreted using 1 meter (or less) digital, color infrared imagery from 2007. Click [here](#) for project specific mapping conventions and information.

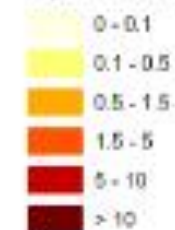
[Zoom to wetland](#)

[Zoom to project area](#)

Population Density Forecast 2050



Population 2050 per acre



Traffic Analysis Zone outputs from
MORPC regional land use model,
based on local input.

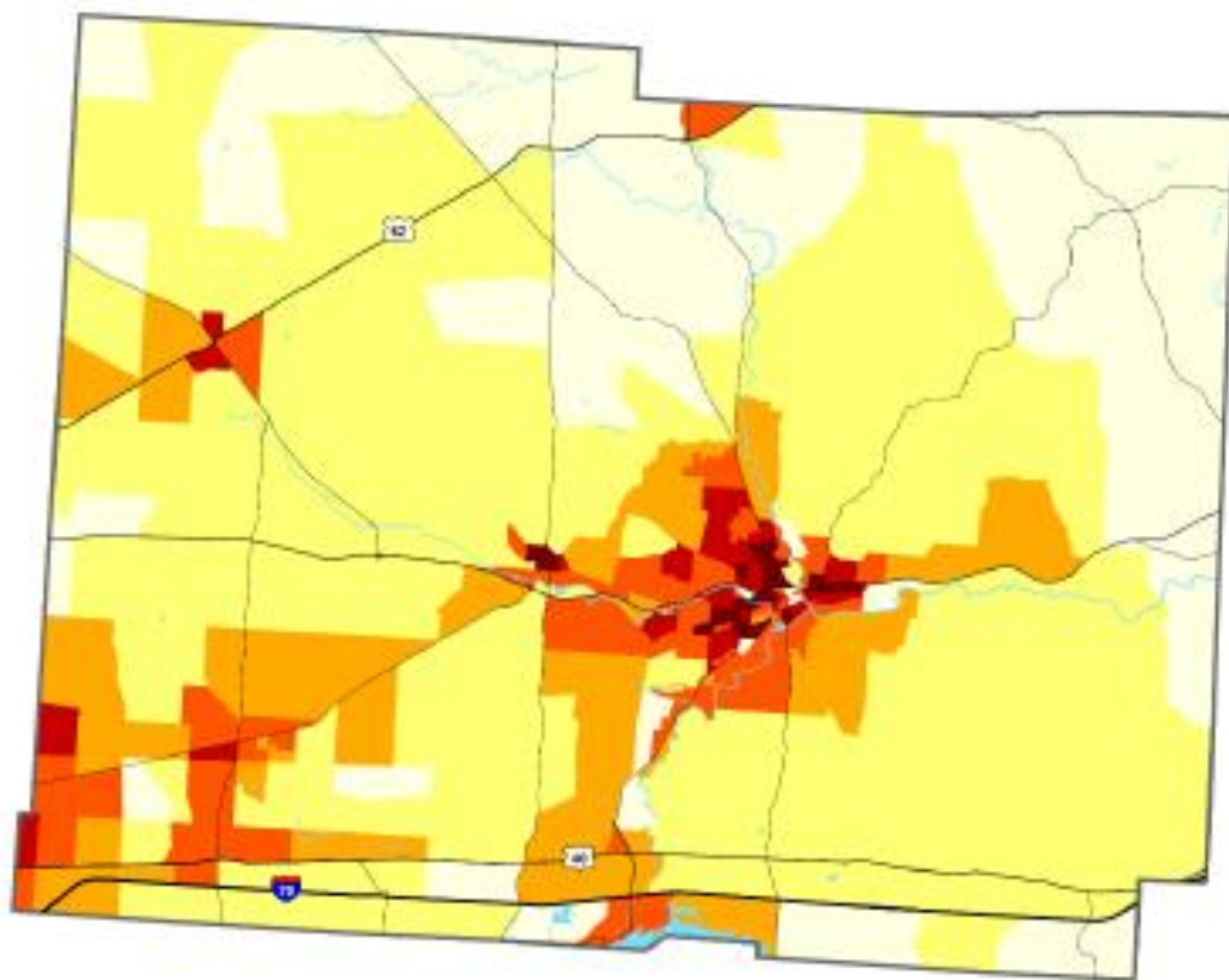
10 County Population: 2,925,943



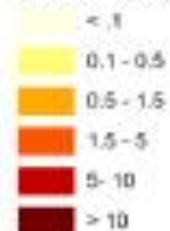
The information shown on this map is compiled from various
sources made available to us which are subject to change.
No warranty is made by MORPC for any use of this information.
12/1/2023



Population Density Forecast 2050 Licking County



Population 2050 per acre



Traffic Analysis Zone outputs from
NORPC regional land use model,
based on local input.

Licking County
2050 Population: 236,202



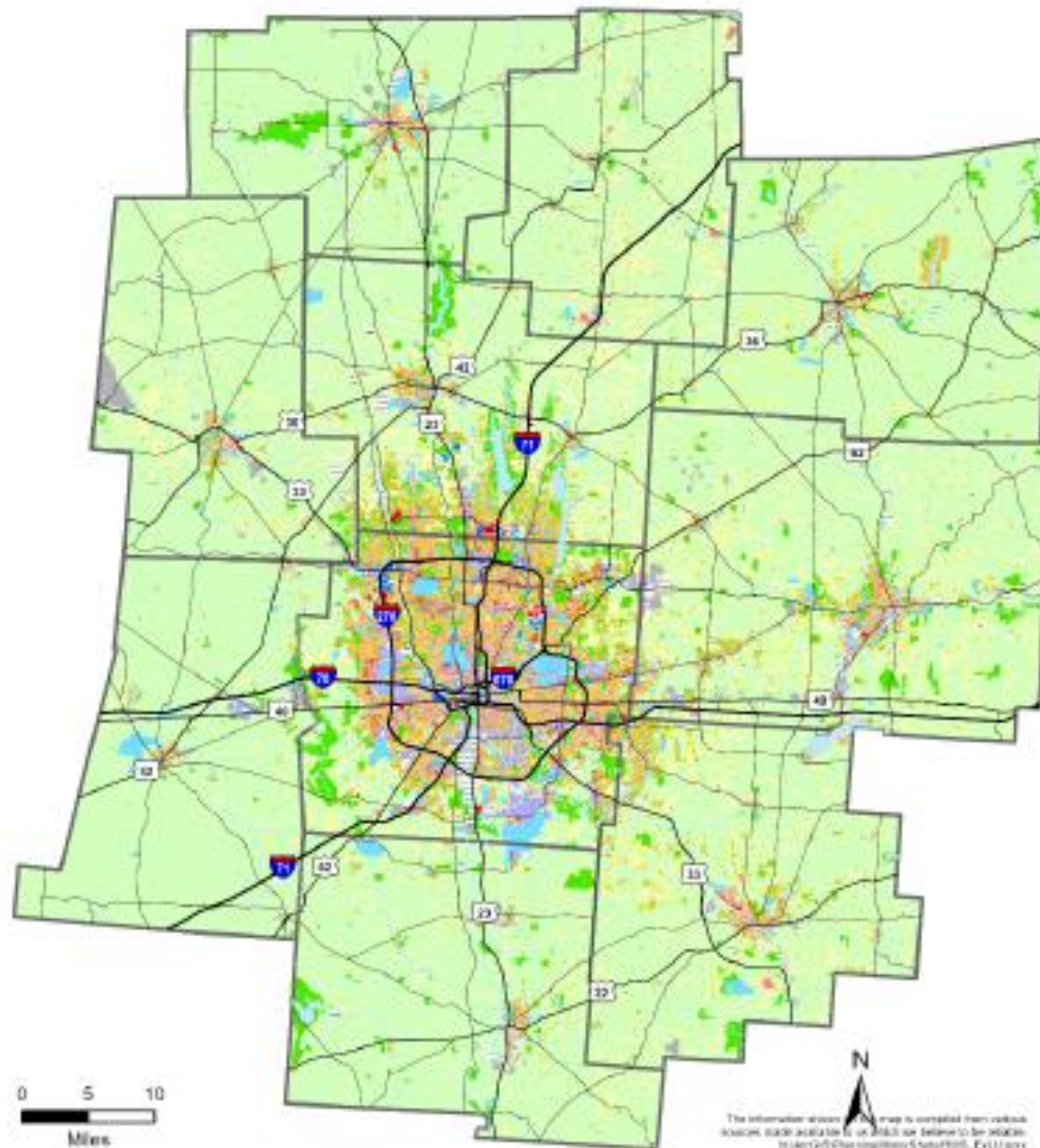
0 2 4
Miles



The information shown on this map is compiled from various
sources made available for us which are believed to be reliable.
No use of Planning/Policy Study 2020. For more info
12/18/2025



Central Ohio Existing Land Use

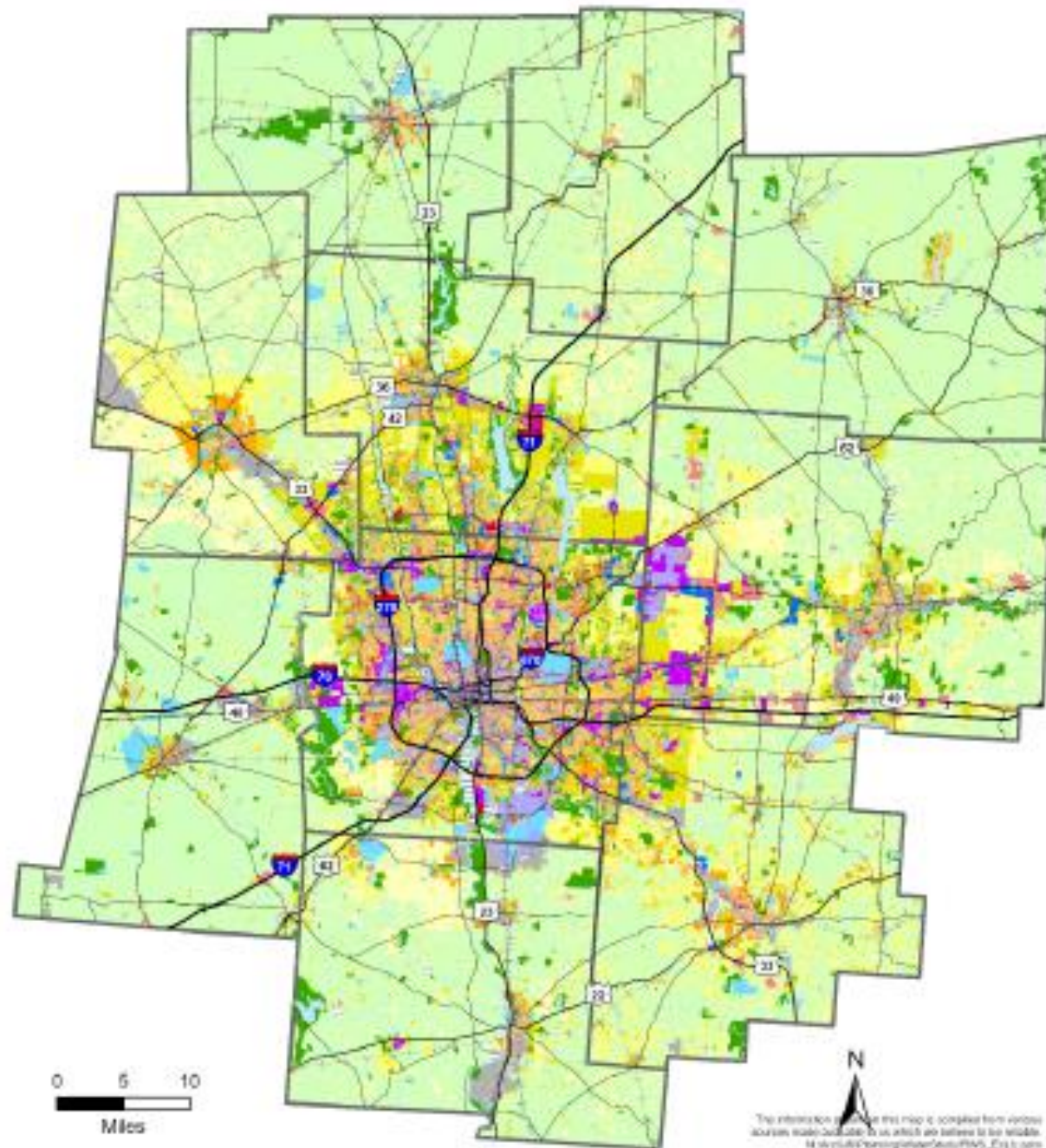


MORPC Standardized Existing Land Use 2021

- Regional Commercial
- Commercial
- Mixed-Use
- Office
- Industrial
- Warehouse
- Park/Open Space
- Agriculture
- Res. Rural Estate (5-20 acre lots)
- Res. Rural (2-5 acre lots)
- Res. Low/Suburban (0.5-3 units per acre)
- Res. Mod/High Suburban (3-8 units per acre)
- Res. Low Urban (8-20 units per acre)
- Res. High Urban (20+ units per acre)
- Public Service
- Quarry
- Vacant
- Parking
- Water



Central Ohio Future Land Use



MORPC Standardized Future Land Use

- Regional Commercial
- Commercial
- Mixed-Use
- Office
- Industrial
- Warehouse
- Park/Open Space
- Agriculture
- Res Rural Estate (5-20 acre lots)
- Res Rural (2-5 acre lots)
- Res Low/Suburban (0.5-3 units per acre)
- Res Mod/High Suburban (3-8 units per acre)
- Res Low Urban (8-20 units per acre)
- Res High Urban (20+ units per acre)
- Public Service
- Quarry
- Parking
- Water

Future is based on local comprehensive plans, zoning and known development.





**Environmental
Protection
Agency**

Next Steps

Next webinar in June/July

Licking County – report out Sept/Oct 2024

Full report-out by Hazen & team in January 2025

Local Planning Updates

dataandmaps@morpc.org

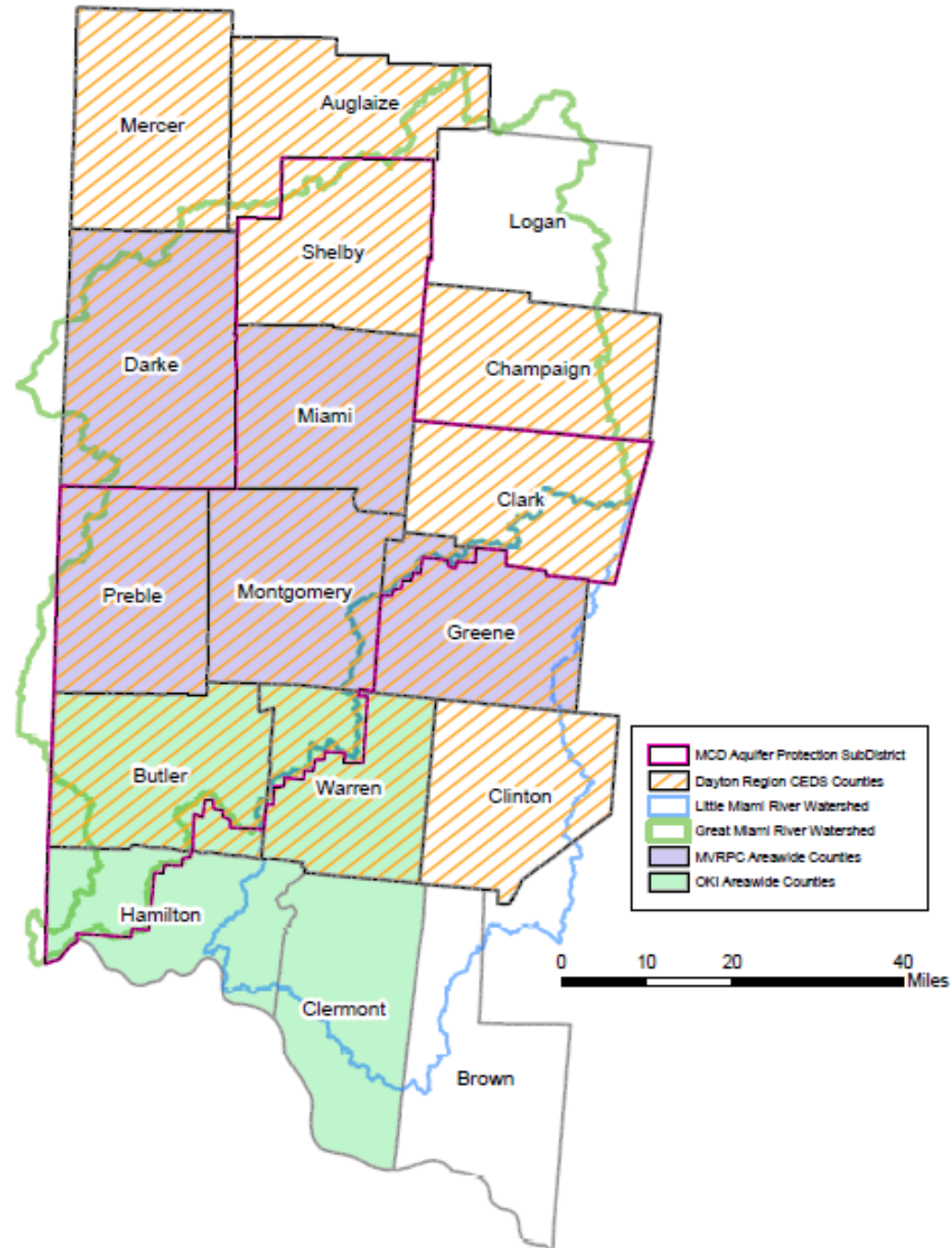
List Serve Participation

eteye@morpc.org

Project Manager - Tiffani Kavalec, Policy Director – Ohio EPA

Tiffani.Kavalec@epa.ohio.gov

Southwest Ohio Comprehensive Water Study



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ARIZONA **WATERREUSE**
CALIFORNIA **WATERREUSE**
COLORADO **WATERREUSE**
FLORIDA **WATERREUSE**
MID-ATLANTIC **WATERREUSE**
NEVADA **WATERREUSE**
NEW MEXICO **WATERREUSE**
OHIO

Questions

