230th Technical Committee Meeting

Scott Mandirola, Chair
Presiding
October 12, 2022

The meeting will begin at 8:30 A.M. (Eastern). Below are a few tips to effectively navigate the meeting:

- ***Confirm that your first and last name is entered correctly in the GoToMeeting software.***
- ***Mute your microphone at all times unless speaking.***
- ***Disable your camera unless you are a Technical Committee member.***
- ***The presenter will prompt participants for verbal questions, or use the Chat feature.***
- ***Detailed GoToMeeting instructions and important information can be found in the previously emailed document, "ORSANCO Virtual Technical Committee and Commission Meeting Instructions."***
- ***If you need assistance during the meeting, please call our office at 513-231-7719 ext. 100.***

Chair's Welcome & Roll Call

Scott Mandirola

Chair, Technical Committee

TEC Members Roll Call

- IL – Scott Twait *
- IN – Brad Gavin *
- KY – Katie McKone *
- NY – Melanie Wright *
- OH – Melinda Harris *
- PA – Kevin Halloran *
- VA – Jeffrey Hurst *
- WV – Scott Mandirola
- USACE – Erich Emery *
- USCG – Vacant*
- USEPA – David Pfeifer *
- USGS – Jeff Frey *
- CIAC – Vacant
- PIAC – Cheri Budzynski
- PIACO – Betsy Bialosky
- POTW – Alex Novak
- WOAC – Angie Rosser
- WUAC – Chris Bobay
- Chair – Scott Mandirola *
- Executive Director – Richard Harrison *

* Voting member

Agenda for the 230th Meeting of the Technical Committee

CHAIRMAN'S WELCOME AND ROLL CALL (October 12, 8:30 A.M.)

ACTION ITEMS AND REPORTS

1. Action on Minutes of 229th Technical Committee Meeting * – Chair Mandirola
2. Chief Engineer's Report – Director Harrison
3. TEC Member Roundtable Reports
4. Ohio River Headwaters - Source Water Protection in Western PA - Thomas McCaffrey, PADEP
5. Source Water Protection Programs Update – Sam Dinkins
6. Biological Programs Update – Ryan Argo
7. Broad Scan Survey of Unmonitored Parameters Contained in the Pollution Control Standards – Jason Heath

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OTHER BUSINESS

- Comments by Guests
- Announcement of Upcoming Meetings

ADJOURNMENT (NOON)

Agenda Item 1:

Request for action on minutes of the 229th Technical Committee Meeting

Chair Mandirola

The minutes were emailed with the agenda package on May 26, 2022

Agenda Item 2:
Chief Engineer's Report

Executive Director Richard Harrison

Agenda Item 3:

TEC Members Reports

- IL – Scott Twait
- IN – Brad Gavin
- KY – Katie McKone
- NY – Melanie Wright
- OH – Melinda Harris
- PA – Kevin Halloran
- VA – Jeffrey Hurst
- WV – Scott Mandirola
- USACE – Erich Emery
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- POTW – Alex Novak
- WOAC – Angie Rosser
- WUAC – Chris Bobay

Agenda Item 4:

Ohio River Headwaters – Source Water Protection in Western PA

Tom McCaffrey

PA DEP

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Bureau of Safe Drinking Water

Ohio River Headwaters Source Water Protection Efforts in Western Pennsylvania

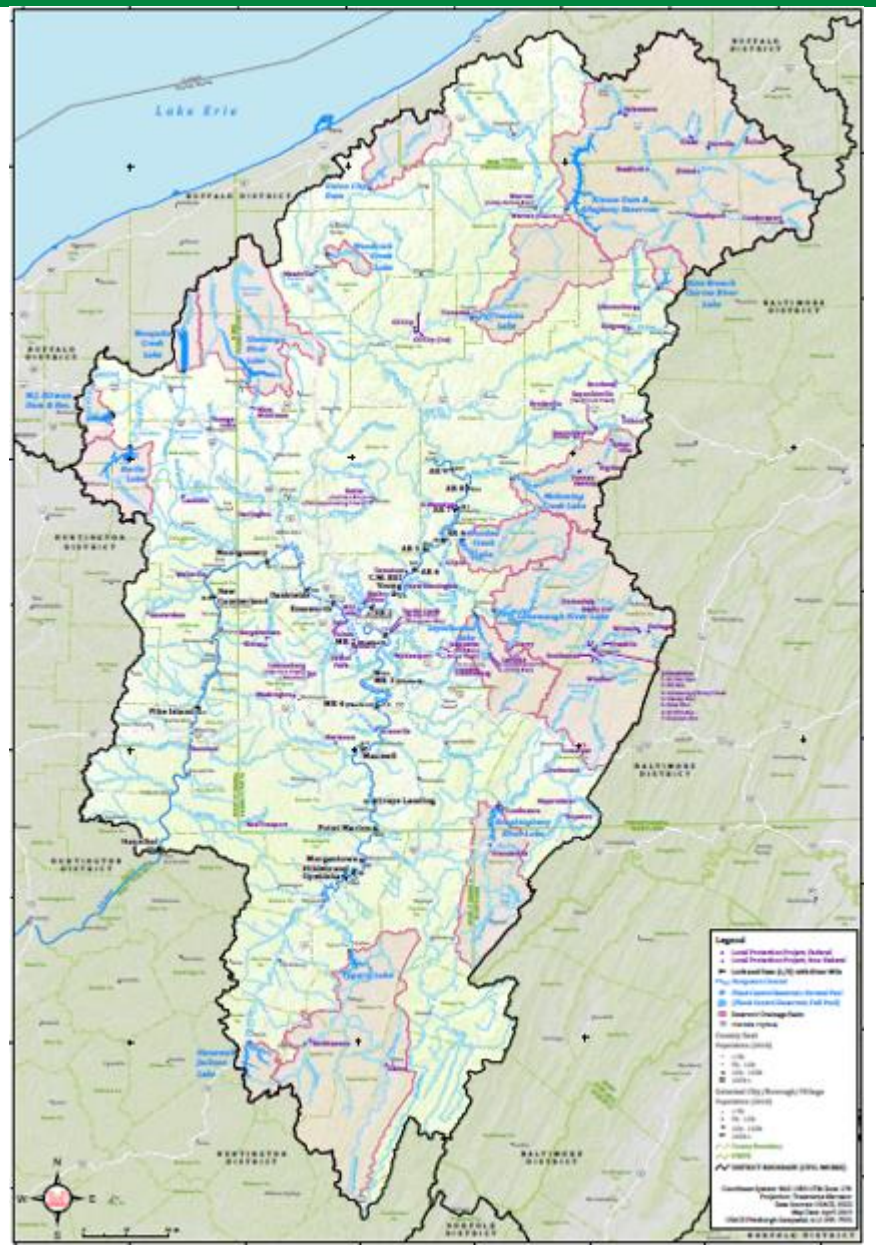
ORSANCO Technical Advisory Committee Meeting

October 12, 2022

Tom Wolf, Governor

Patrick McDonnell, Secretary

USACE Pittsburgh District



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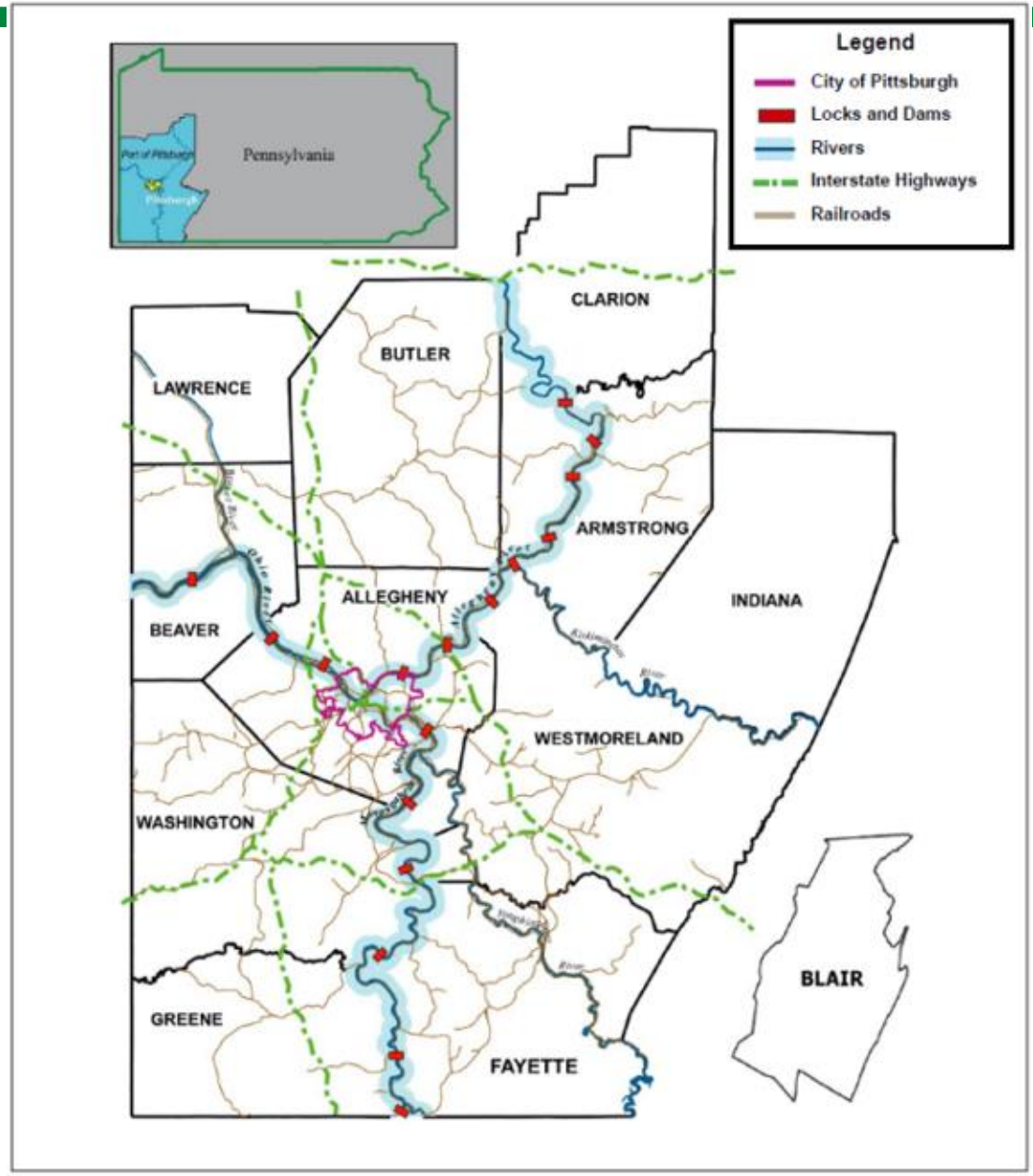
Port of Pittsburgh Commission District



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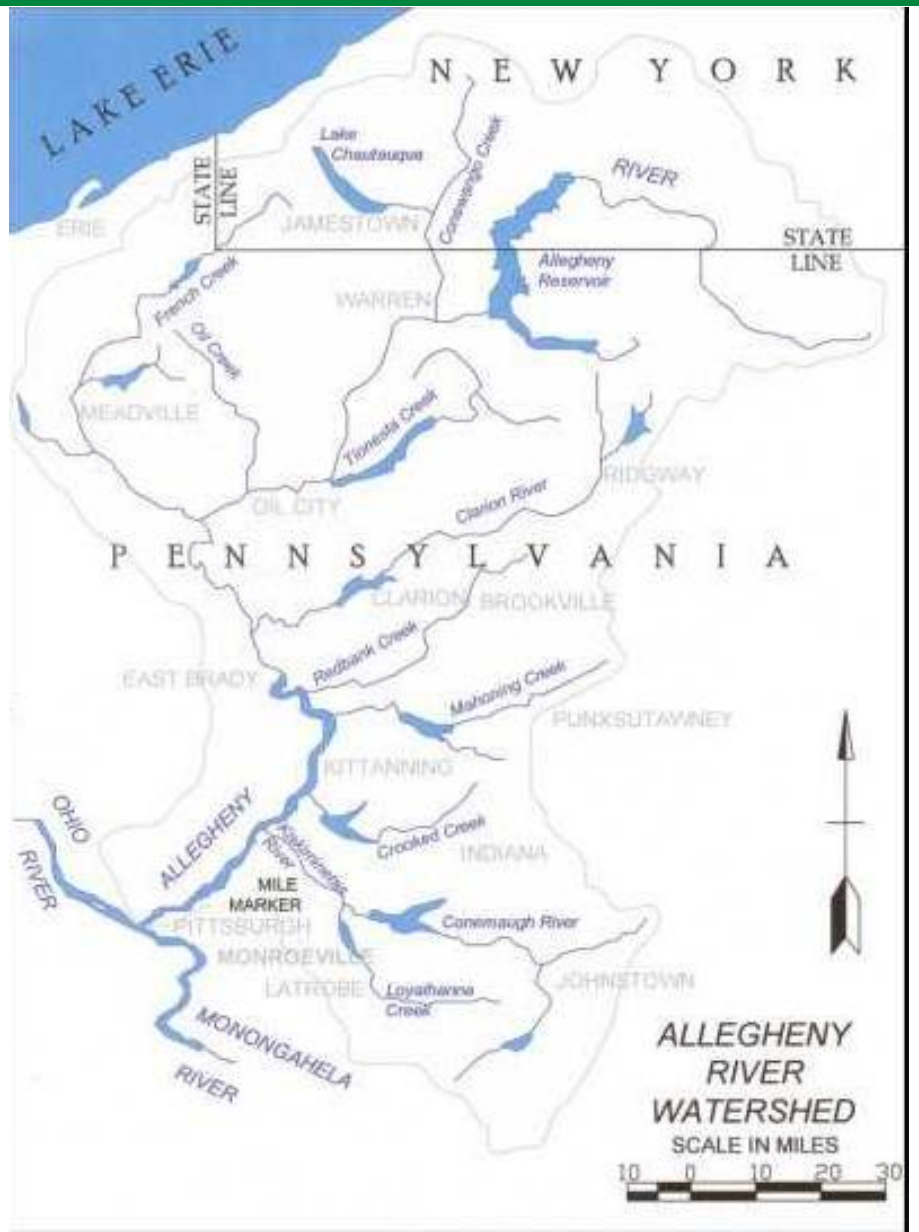
Allegheny River Basin



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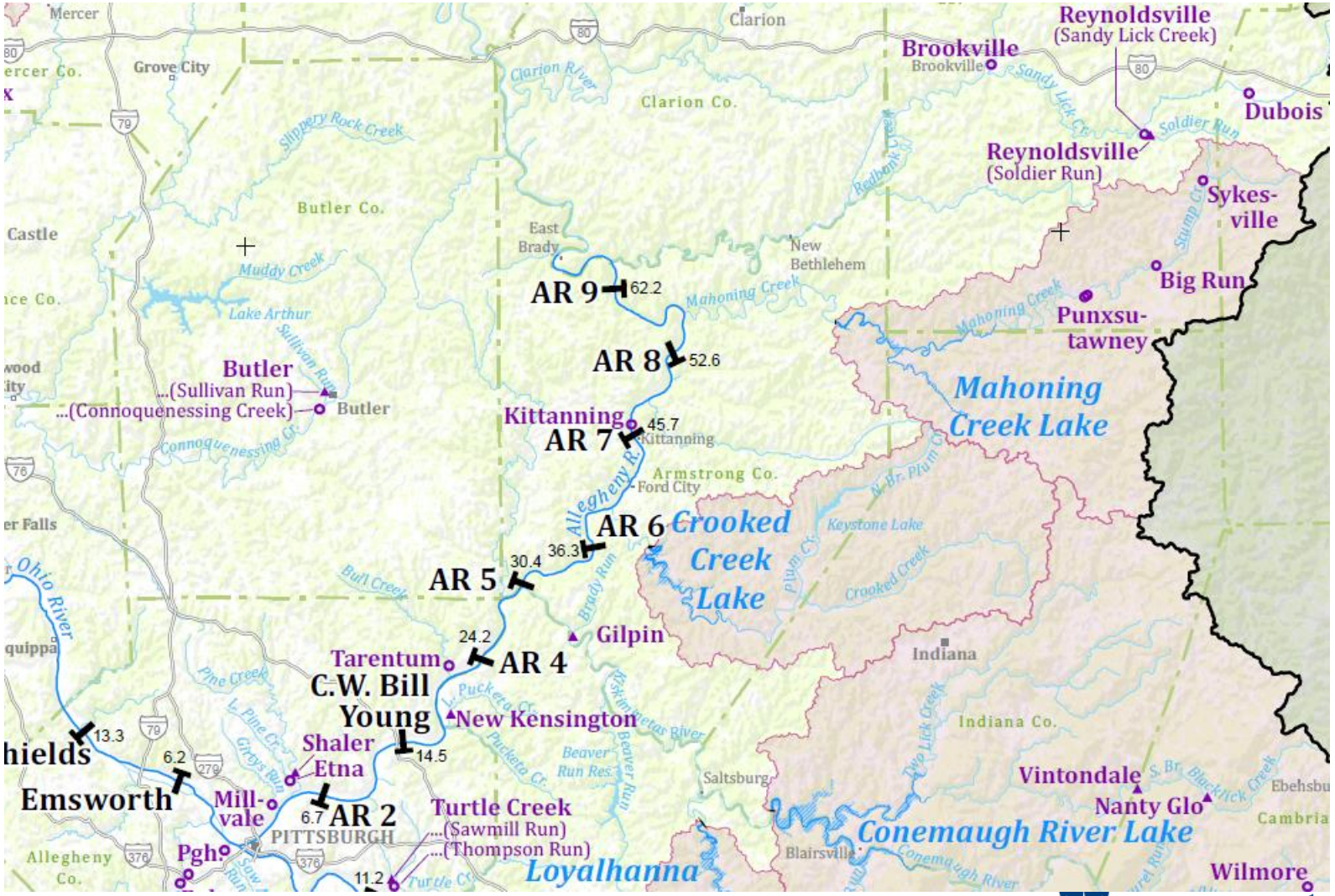
Allegheny River Water Systems



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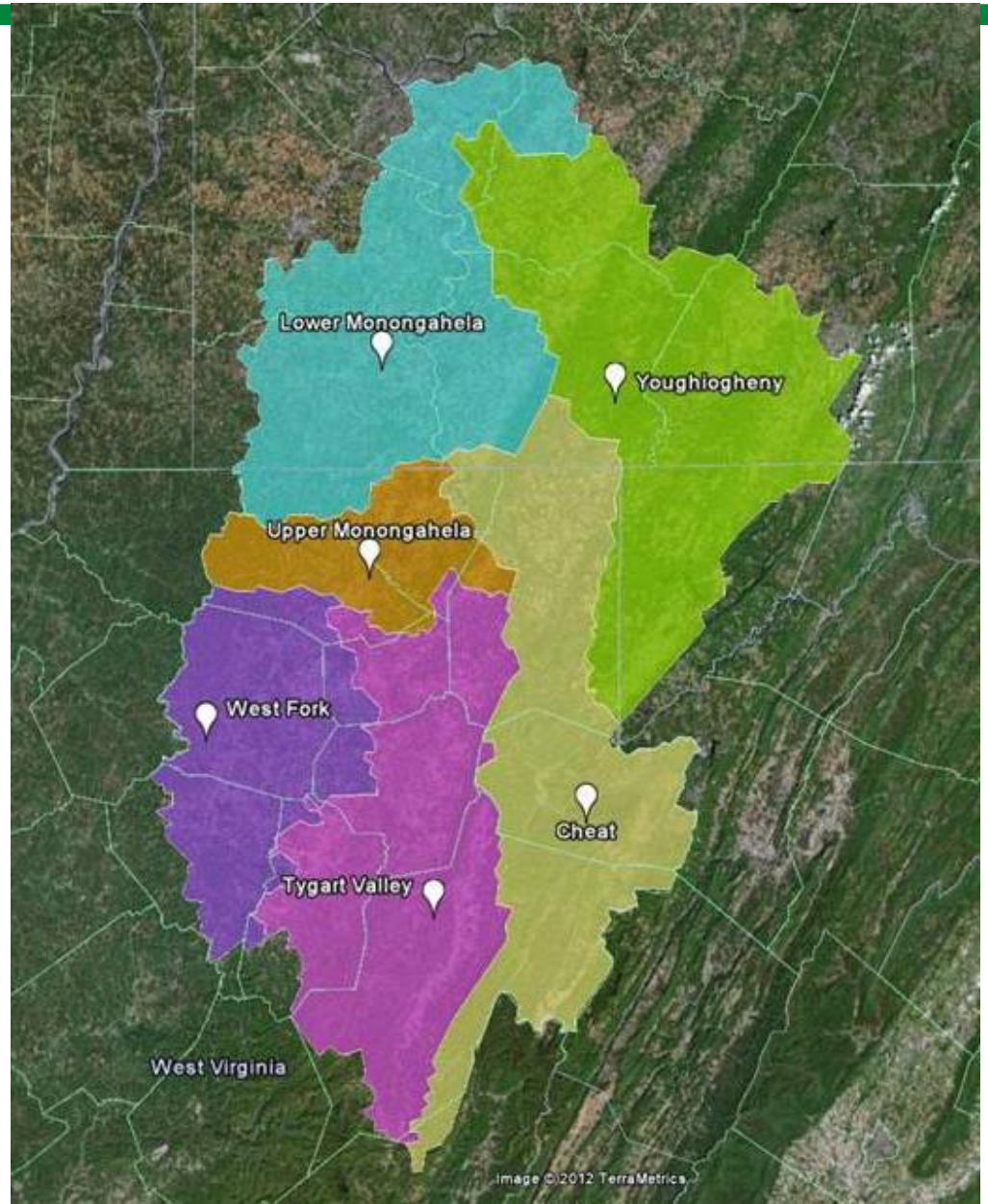
Monongahela River Basin



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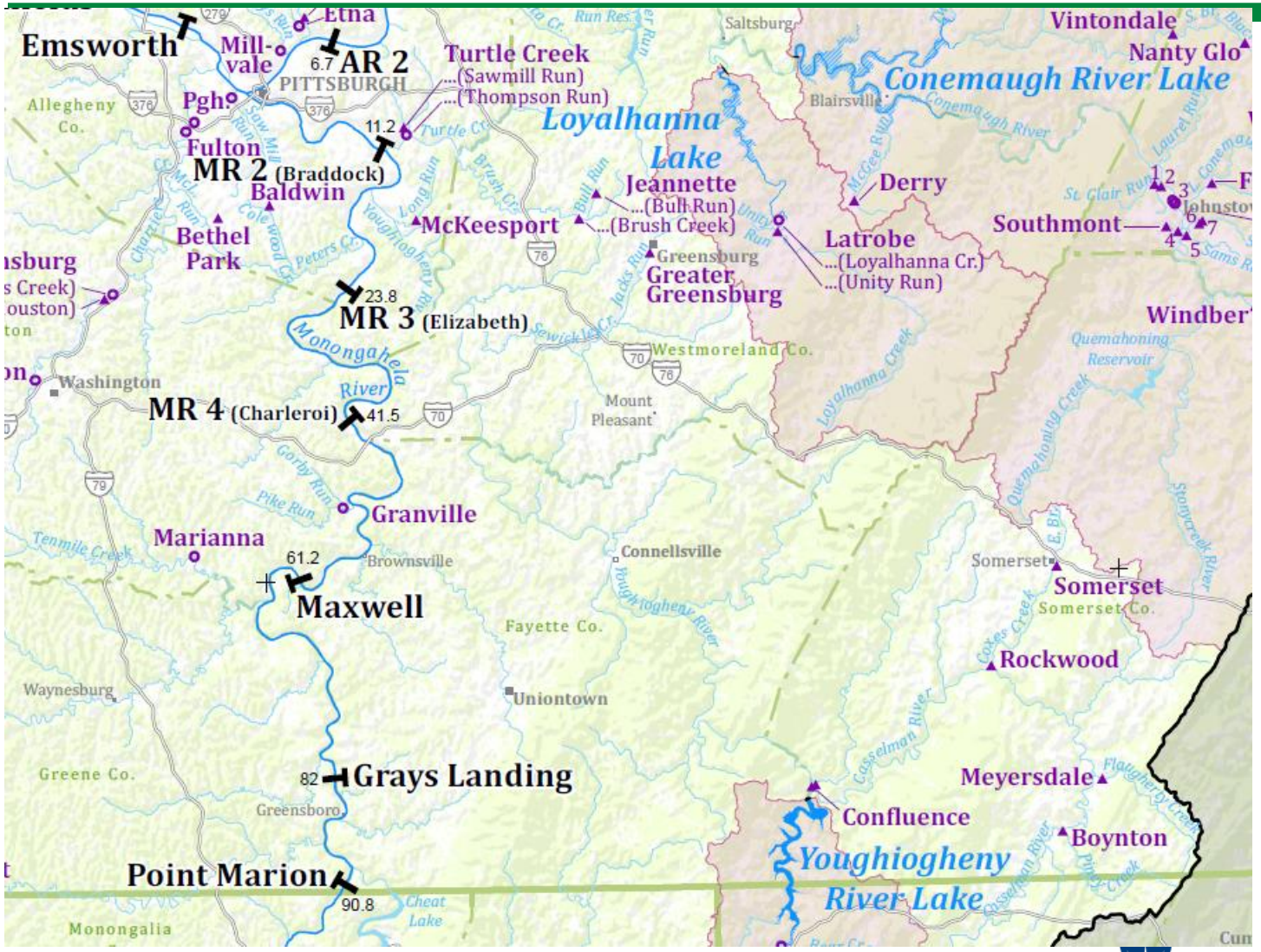
Monongahela River Water Systems



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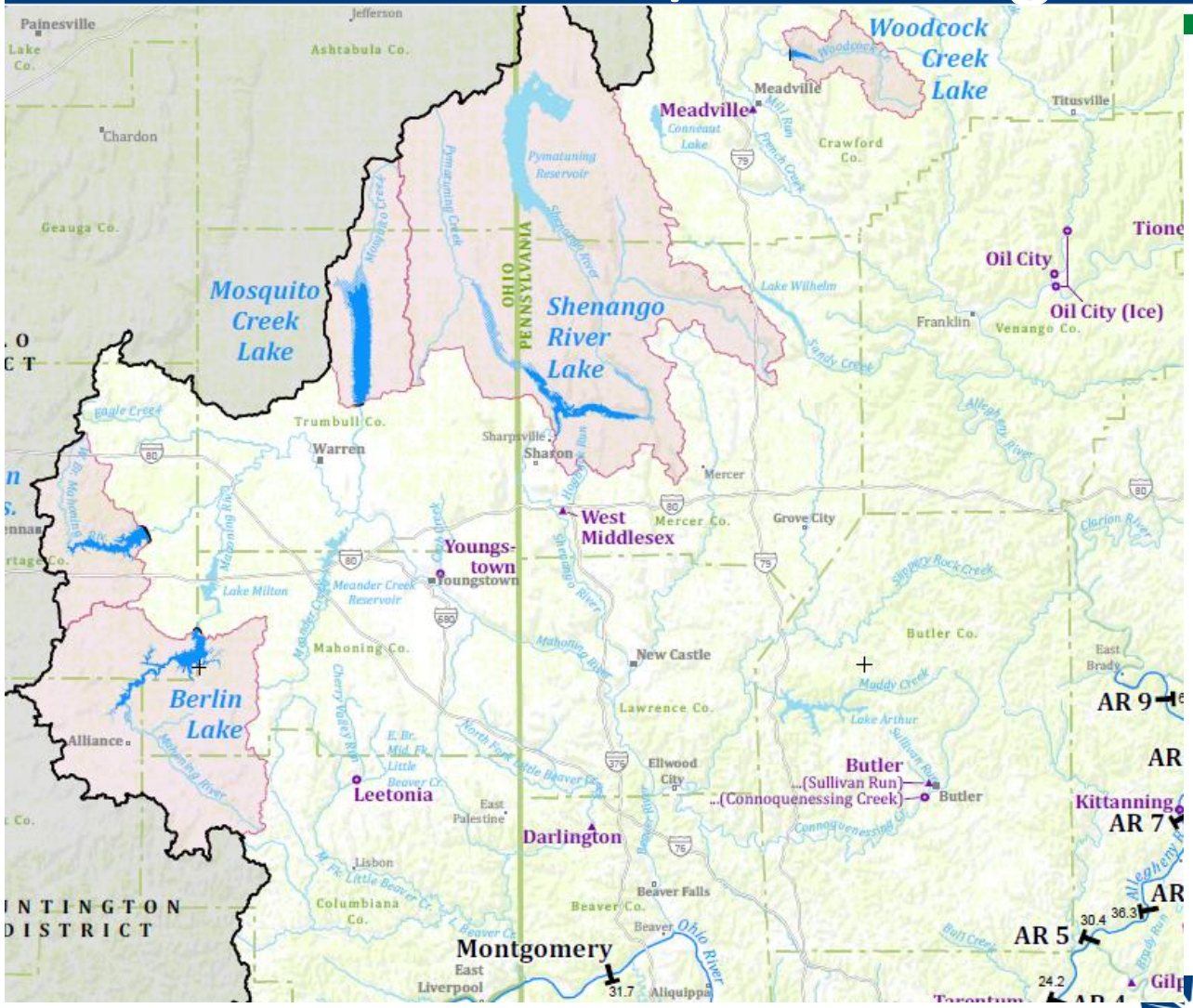
Beaver/Shenango River



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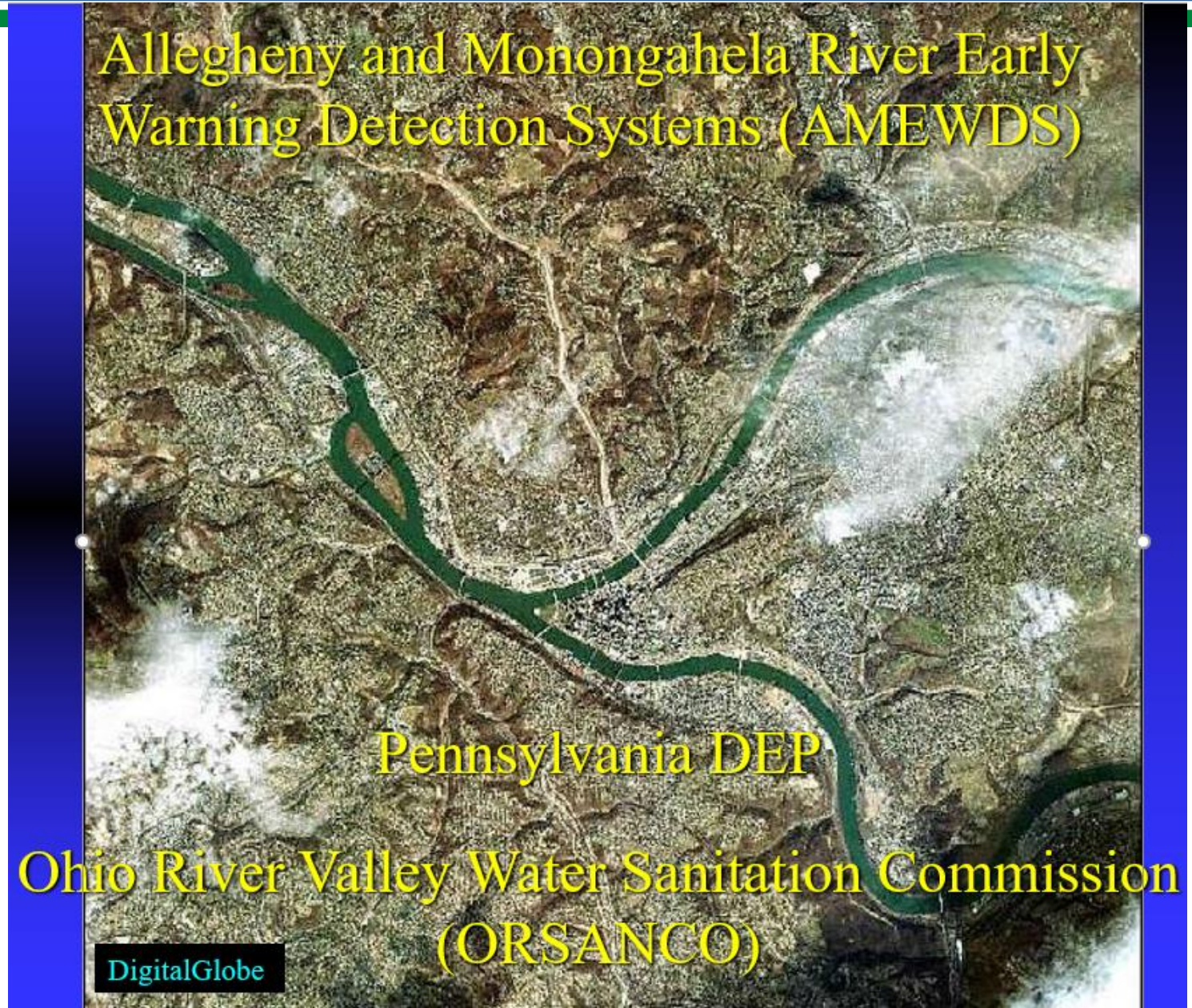
AMEWDS


Allegheny and Monongahela River Early Warning Detection Systems (AMEWDS)
Pennsylvania DEP
Ohio River Valley Water Sanitation Commission (ORSANCO)
DigitalGlobe

RAIN

River. **Alert. Information. Network**

Alert

- Early Warning Spill Detection System
- HACH/Welbeck equipment
- Infrastructure to collect data - alerts/alarms

Information

- Data collected
- Website/blog
- Outreach materials
- Public facing map

Network

- Members & partners
- Member meetings, conferences, events
- Professional development

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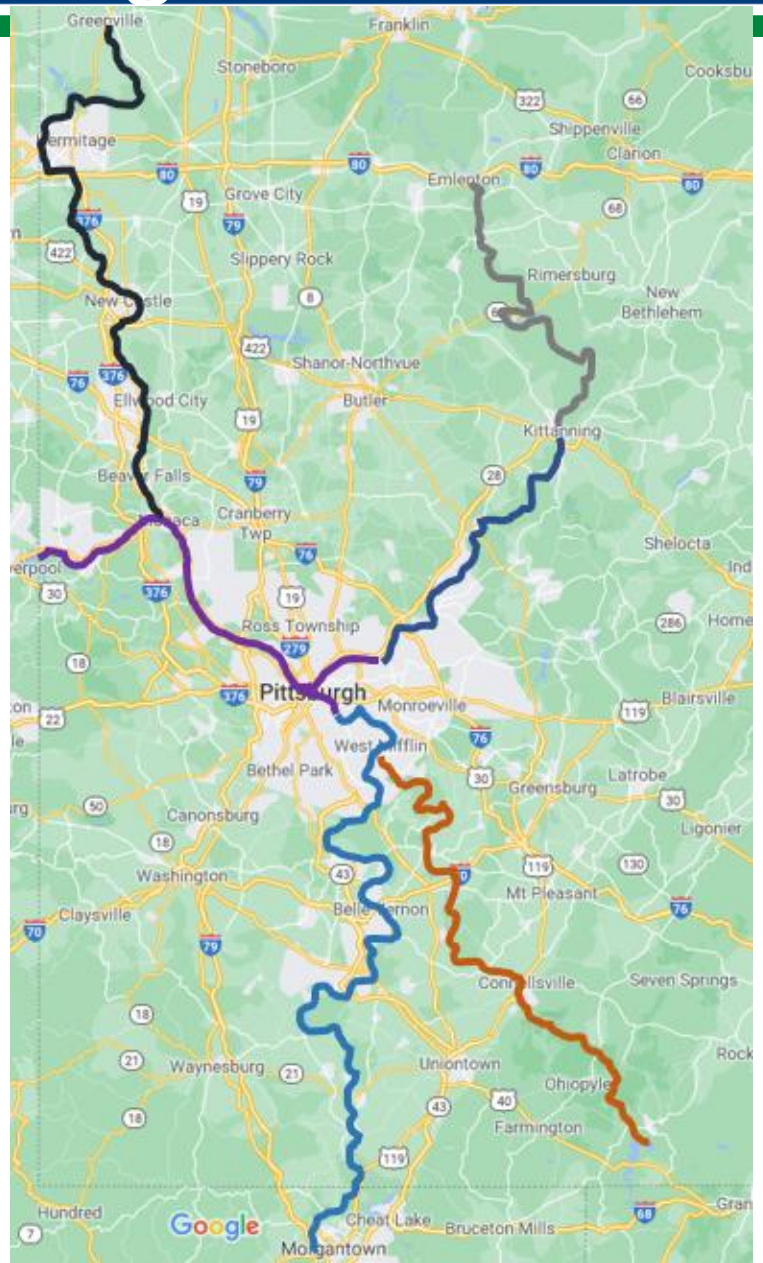
River Regional SWP Partnerships



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SW PA Water Network

Accelerating Transformational Change in Pittsburgh's Three Rivers

Phase I Report

VISION STATEMENT

Southwestern Pennsylvania water resources are sustainably, equitably and collaboratively managed to protect public health and the environment, enhance community and system resilience, and deliver economic, ecological and social benefits for all people of the region.

THE HEINZ ENDOWMENTS
HOWARD HEINZ ENDOWMENT • VIRA I. HEINZ ENDOWMENT

The Water Center
UNIVERSITY of PENNSYLVANIA

June 2019

There is consensus around the fact that this network should be co-created and implemented by a broad base of stakeholders including (and not limited to):

- Government (federal, regional, county, municipal),
- Environmental NGOs,
- Watershed groups,
- Community groups, economic development groups,
- Water recreational advocates,
- Academia/thought leaders,
- Agricultural/farming representatives,
- Elected officials,
- Private sector/industry representatives,
- Water utilities, and
- Environmental justice advocates.

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Bureau of Safe Drinking Water

Thomas McCaffrey, P.G.
412.442.4212
tmccaffrey@pa.gov

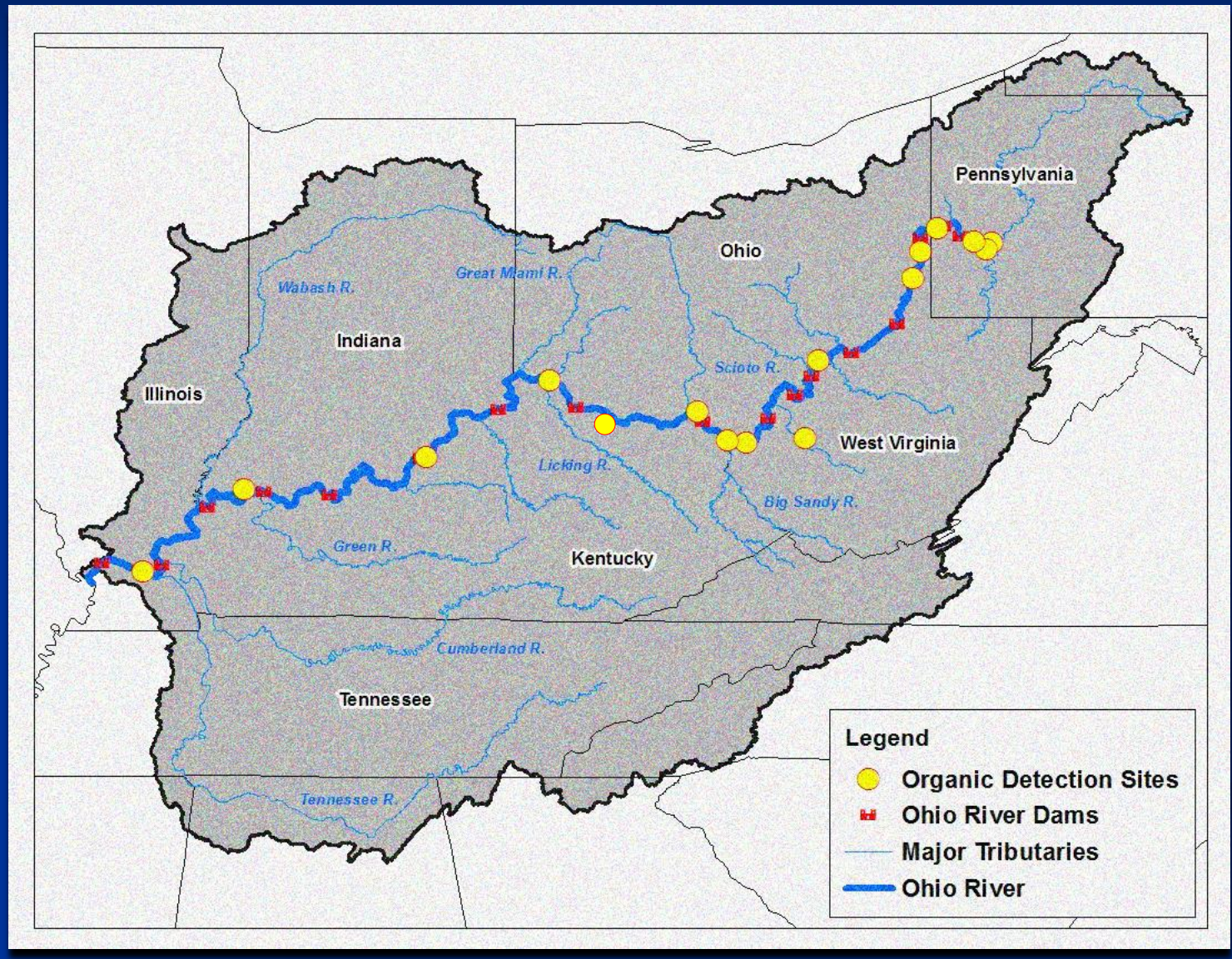
Agenda Item 5:
ORSANCO Source Water Protection & Emergency Response Programs Update

Sam Dinkins

Outline

- Source Water Protection
  - Organics Detection System Activities
  - WaterSuite
  - Harmful Algal Bloom Update
- Emergency Response
  - Mahoning River Benzene Detections

Organics Detection System Map

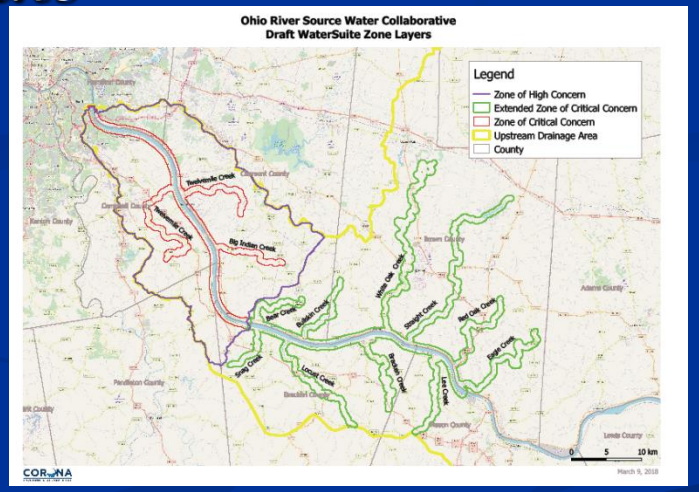


Organic Detection System Update

- Discounted GC/MS Ordered
  - Demo unit used by manufacturer for training
  - Cost is approx. 1/3 retail price
  - Plan to install at Portsmouth site
- Data Management & Alert System Project
  - Develop centralized data management system and automated alert system to notify staff when detections occur
  - Discovery phase complete
  - Finalizing agreement with RedHawk Technologies to implement

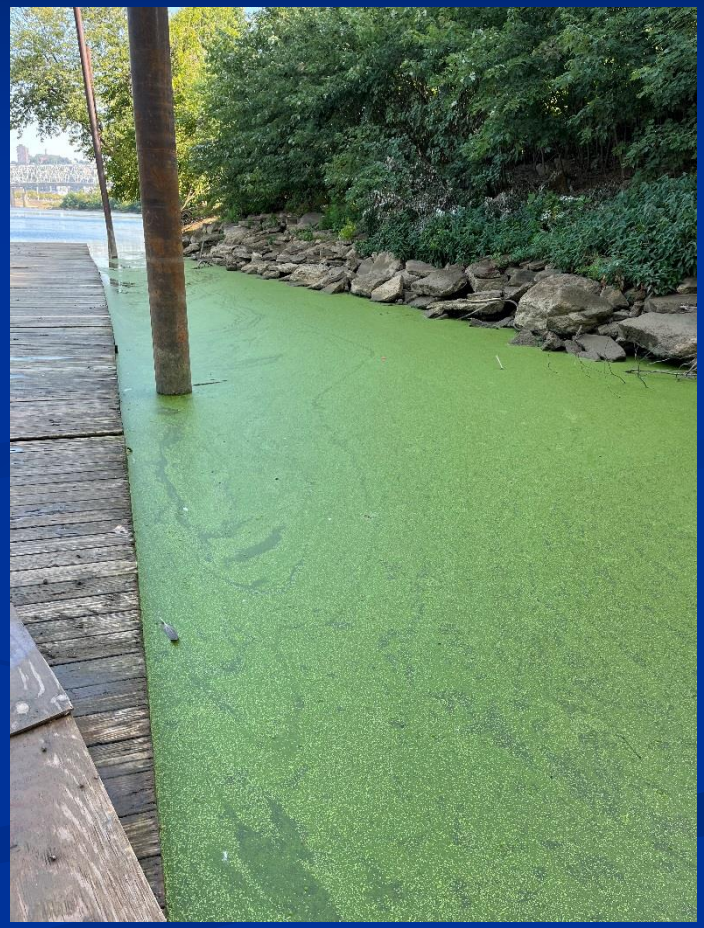
WaterSuite

- GIS database tool to assist water utilities in assessing potential water quality risks
- Utilized to map and prioritize contaminant threats
- Two project areas:
  - Allegheny River
  - Ohio River: Huntington, WV to Louisville, KY
- Purchased one-year subscription
  - Will evaluate software utility and potential for ORSANCO to serve as hub to aid drinking water utilities' source water protection efforts



2022 HAB Activities

- No HABs in summer 2022.
- Report of algae on Licking River/Ohio River on 9/19. Investigation found duckweed.
- Continue to operate sensors at Pike Island, Meldahl, Markland and Newburgh L&Ds.
  - Sensors operate June-October.
- Continued work on the HAB app.
  - Working with NWS on bringing in 30 day flow forecast to extend model range.



Timeline of Response to Benzene/Toluene Detections

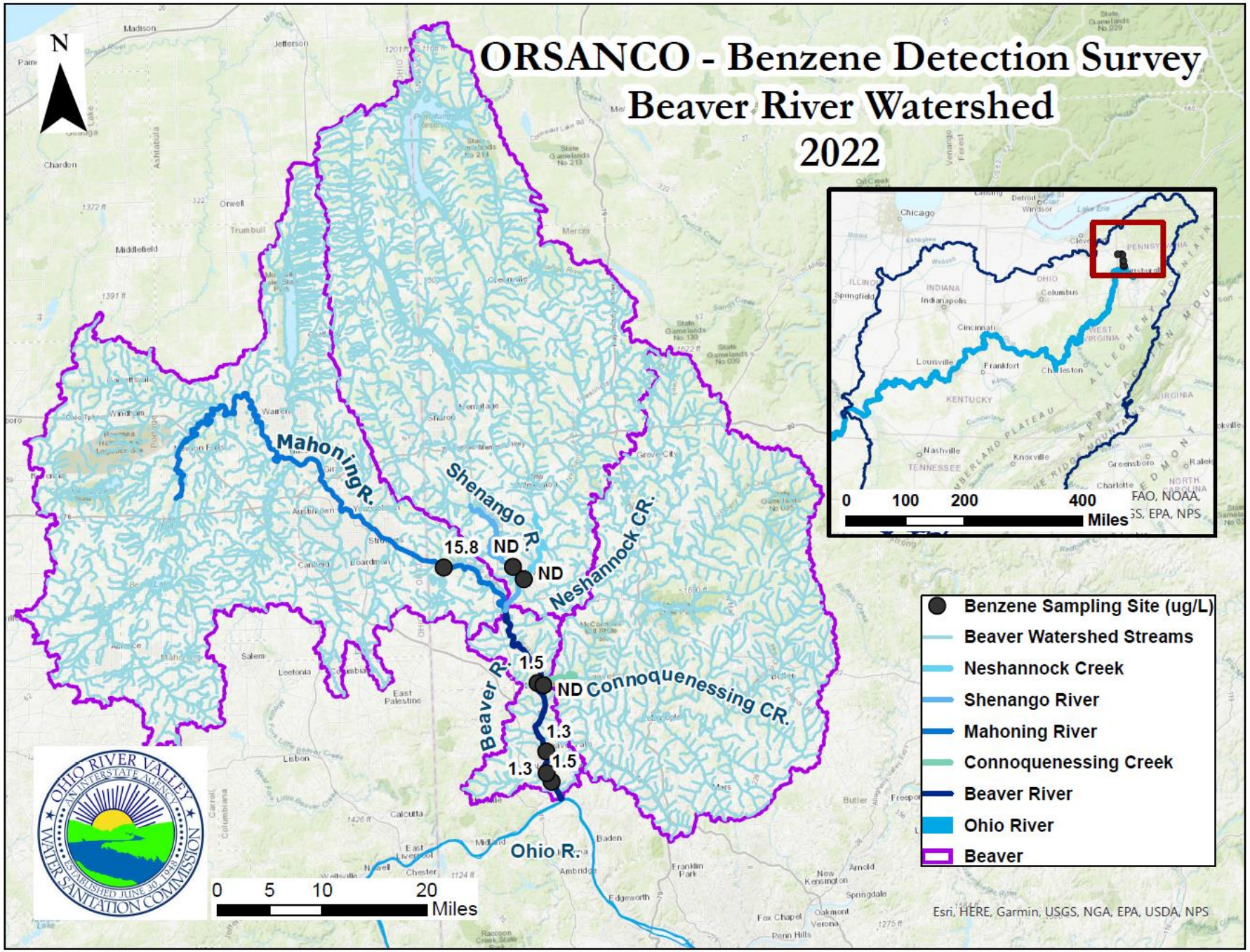
- Feb 1, 2022 – First detected Midland, PA
  - No spills reported
- Feb 4 – West View Water detects styrene in samples dating back to Jan 29
- Feb 6 – USEPA/PADEP collect samples upstream of West View
  - All non-detect

Timeline of Response to Benzene/Toluene Detections

- Feb 9-10 – ORSANCO staff determine West View GC malfunctioned resulting in false-positive for styrene at West View
- Feb 11 – Beaver Falls receives results of benzene detection from Feb 2
- Feb 11 – ORSANCO detects benzene in Beaver River

Timeline (cont.)

- Feb 12 – ORSANCO samples throughout Beaver Watershed
  - Results indicate source is on the Mahoning River


ORSANCO - Benzene Detection Survey
Beaver River Watershed
2022
N
Mahoning R.
Shenango R.
Neshannock CR.
Beaver R.
Connoquenessing CR.
Ohio R.
15.8
ND
ND
1.5
ND
1.3
1.5
1.3
0 5 10 20
Miles
0 100 200 400
Miles
Benzene Sampling Site (ug/L)
Beaver Watershed Streams
Neshannock Creek
Shenango River
Mahoning River
Connoquenessing Creek
Beaver River
Ohio River
Beaver
Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS

Timeline (cont.)

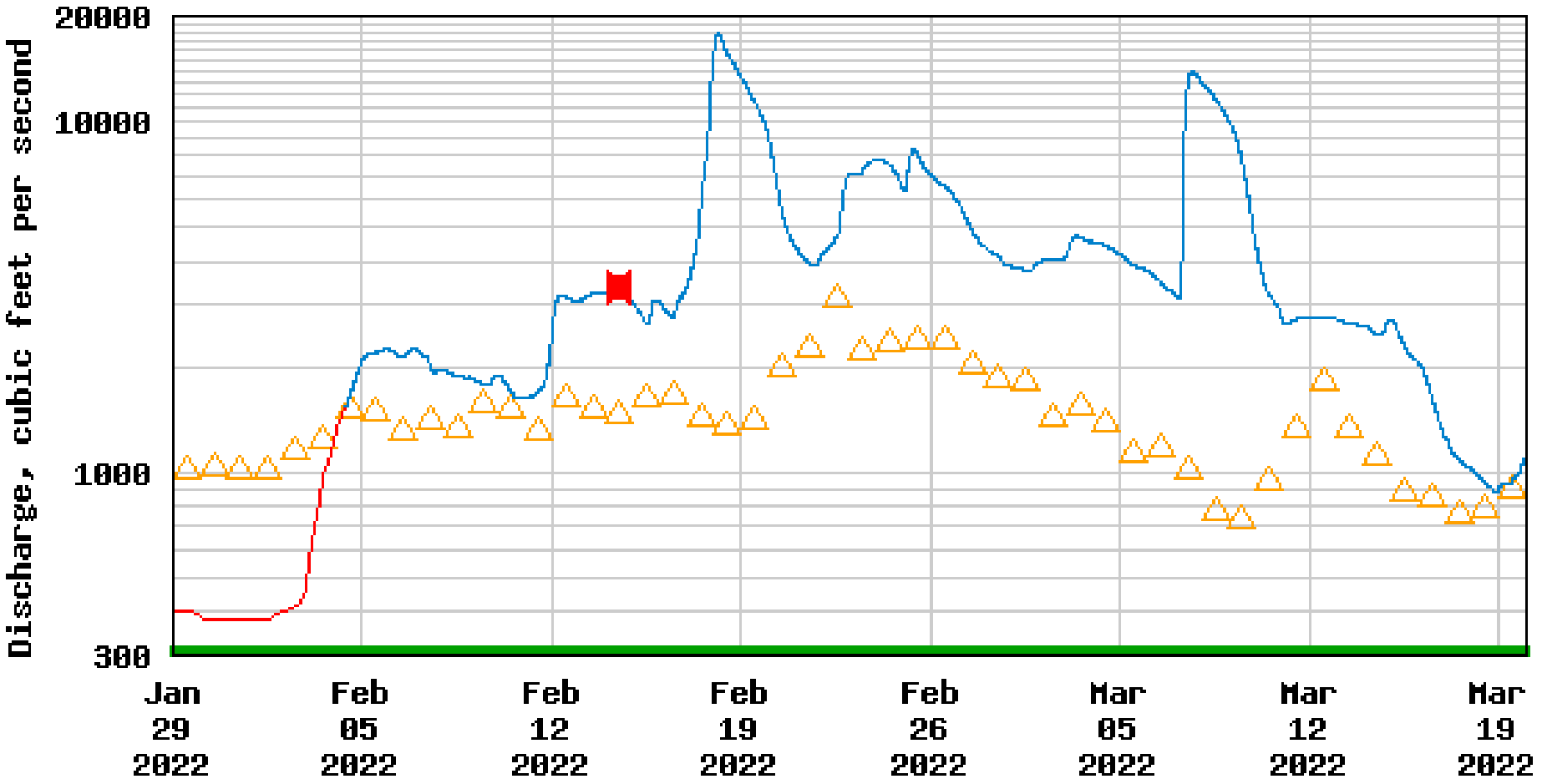
- Feb 16 – OEPA/PADEP conducted sampling
  - Source is isolated to 4-mile stretch of Mahoning R. near Lowellville, OH
- OEPA has since conducted multiple rounds of sampling
  - Source remains unknown
- High water levels and limited river access have limited sampling efforts

Continued Efforts

- Benzene continued to be detected at multiple Ohio River locations for roughly 2 months
- Two additional peaks detected on the Ohio River starting Feb 19 and March 9
- ORSANCO continues to analyze Beaver Falls samples as needed
- OEPA sampling conducted June 27 detected benzene & toluene in the Mahoning River

USGS

USGS 03099500 Mahoning River at Lowellville OH

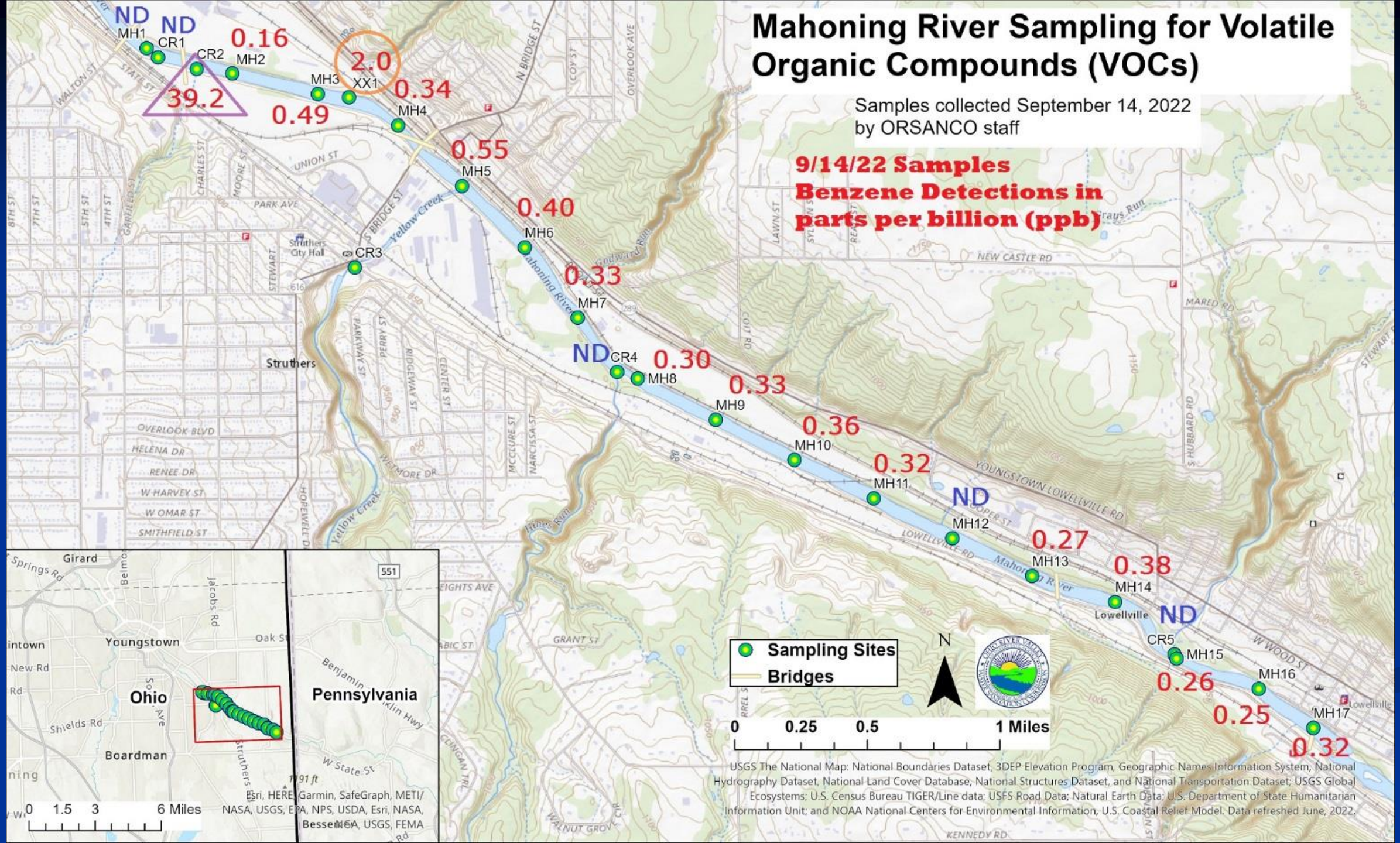


Recent Developments

- Multi-agency virtual meeting held to discuss future sampling (OH, PA, EPA, FWS, ORSANCO)
- ORSANCO conducted survey of Mahoning River on September 14 to isolate source area
- OEPA will follow-up to identify source

VOC Screening Results
Sept 14, 2022

- Non-detects observed at upstream end of study area (MH1) and at MH12
- All other Mahoning River sites had benzene detections, though most were below lower limit of calibration (i.e. <0.5 ppb)
- Quantifiable benzene detections observed at Mahoning River sites XX1 and MH5
  - XX1 – 2.0 ppb
  - MH5 – 0.55 ppb
- Four of the five creeks sampled were non-detect for benzene
- Unnamed Creek #2 (CR2)
  - Benzene 39.2 ppb; Toluene and xylene also detected

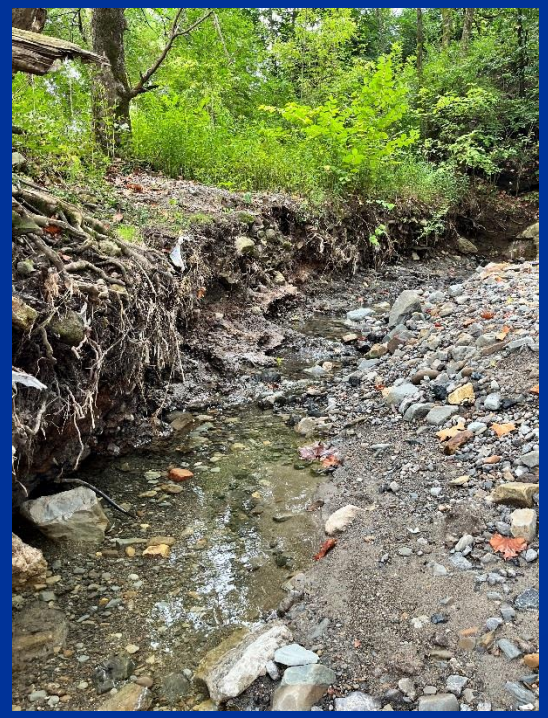

Mahoning River Sampling for Volatile Organic Compounds (VOCs)
Samples collected September 14, 2022
by ORSANCO staff
9/14/22 Samples
Benzene Detections in
parts per billion (ppb)
ND
MH1
ND
CR1
CR2
0.16
MH2
39.2
2.0
MH3
XX1
0.49
0.34
MH4
0.55
MH5
0.40
MH6
CR3
0.33
MH7
ND
CR4
0.30
MH8
0.33
MH9
0.36
MH10
0.32
MH11
ND
MH12
0.27
MH13
0.38
MH14
Lowellville
ND
CR5
MH15
0.26
MH16
0.25
MH17
0.32
Struthers
Yellow Creek
Mahoning River
Sampling Sites
Bridges
N
0 0.25 0.5 1 Miles
Girard
Youngstown
Ohio
Pennsylvania
Boardman
0 1.5 3 6 Miles
USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed June, 2022.

Other Observations

- Distinctive petroleum-like odor observed at CR2
- Pronounced sheen would form if bottom sediment disturbed near mouth of CR2
- Small, patchy sheens observed throughout study area
- General odor of chlorinated waste-water observed throughout study area
- Most Mahoning River sites and Yellow Creek (CR3) had detections for chloroform
  - Yellow Creek also had detections for bromodichloromethane and methylene chloride
- Bleached out mussels observed throughout the study area

Ongoing Activities

- OEPA conducted a follow-up survey on Sept 28 focusing on the unnamed creek (CR2).
- ORSANCO continues to run samples for Beaver Falls Water




Questions?

Agenda Item 6:
Biological Programs Update

Informative Item – No Action Required

Ryan Argo
rargo@orsanco.org

ORSANCO Biological Sampling Overview

- Sample 3-4 pools per annually
  - Fish assemblages (night-time electrofishing)
  - Macroinvertebrate assemblages (Hester-Dendy, kick net)
  - Habitat assessment (benthic substrate, aquatic macrophytes)
- 15 random sites per pool (scores averaged)
  - Collectively represent the condition of pool
  - Scored using a fish (*m*ORFIn) and macro (ORMIn) indices
- 18 river-wide fixed stations (fish, macros, habitat); 2004-present
- River-wide fish tissue collection
  - Additional collections on behalf of IDEM
- Basin-wide mobile aquarium displays
  - Repairs to brakes, tires, and axles
  - Training new educational staff

2022 Biological Activities

IDEM FT Collections
John T. Myers

PFAS Added to All
Routine Fish Tissue

Belleville

Tributary Survey
Olmsted

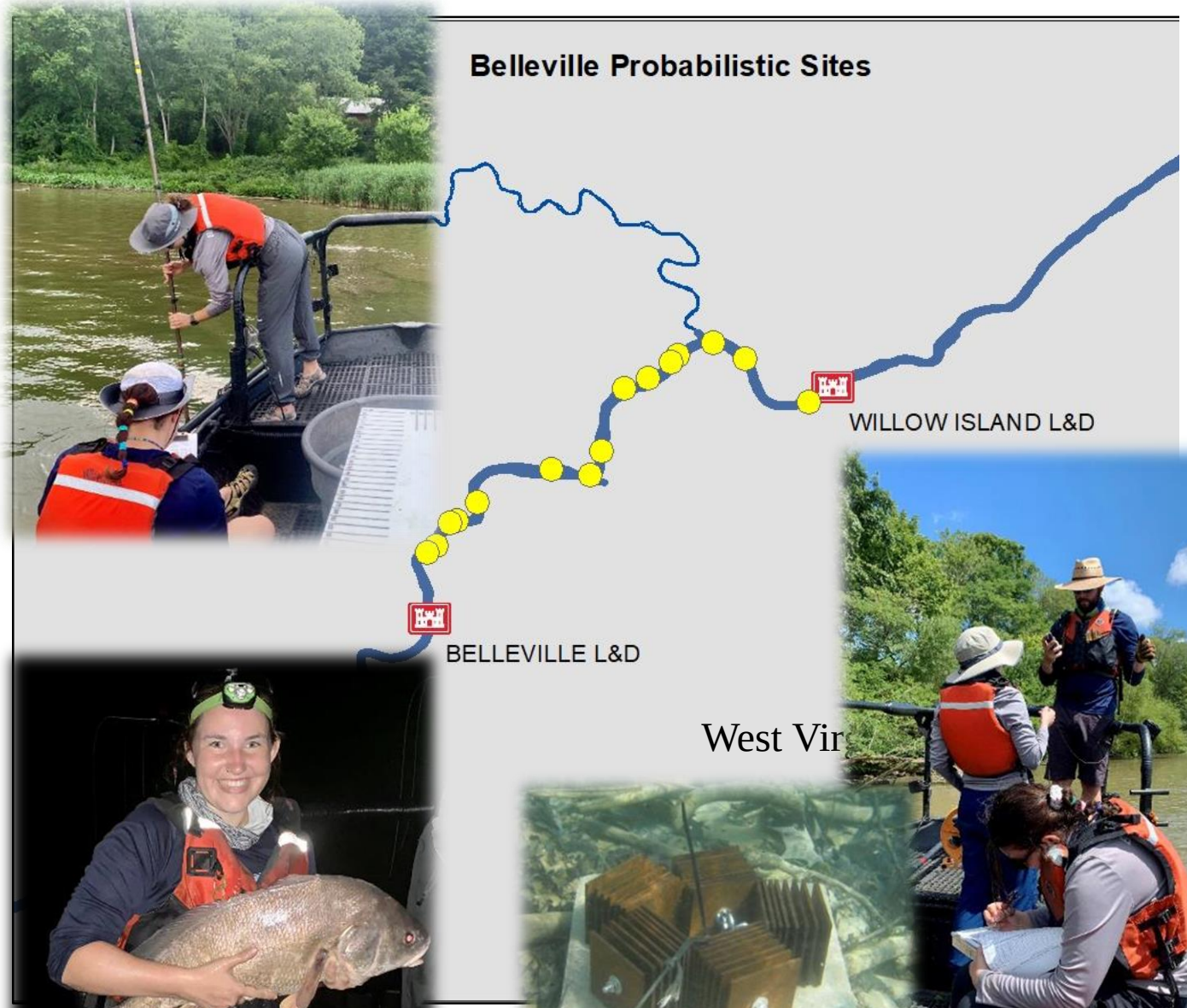
KDOW Metals Samples

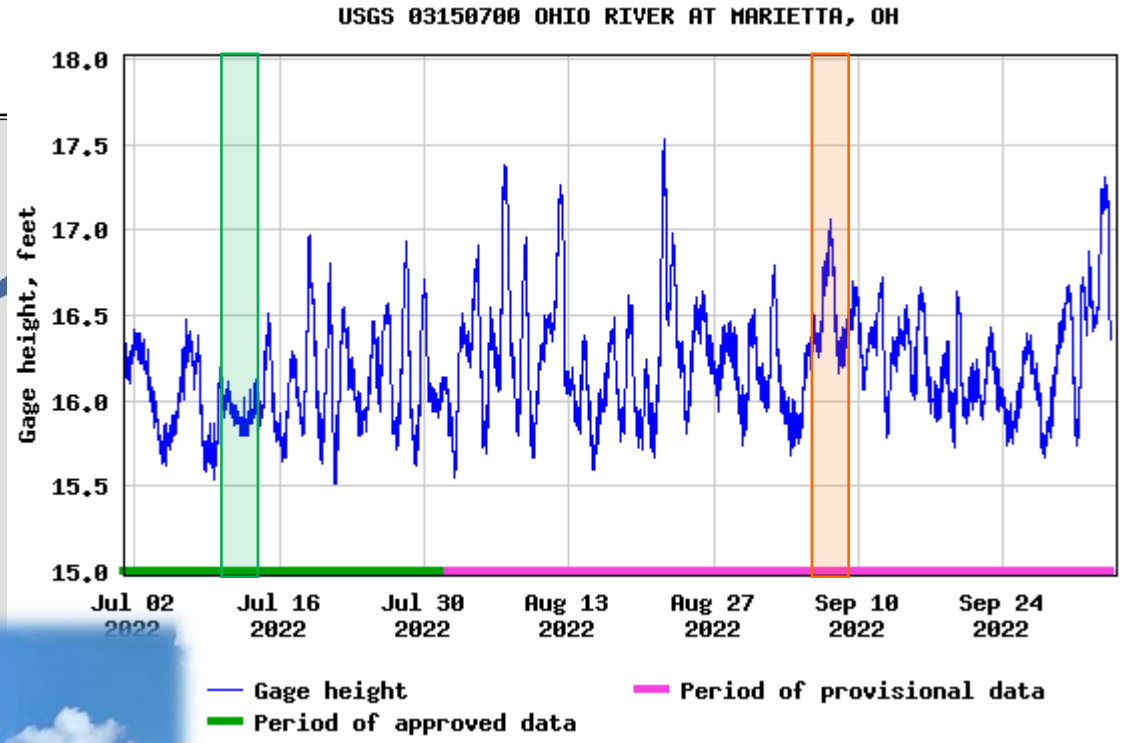
Open Water

- 15 random 500m sites per pool
  - Fish Community
  - Macroinvertebrate Community
  - Fish Tissue Collections
  - Instream Habitat & SAV
  - Paired Water Quality Samples
  - Special Projects

Locks and Dams
Fixed Stations
Major Tributaries
Belleville Pool
JT Myers Pool
Olmsted Pool
Open Water
Ohio River
Ohio River Basin

Belleville Pool





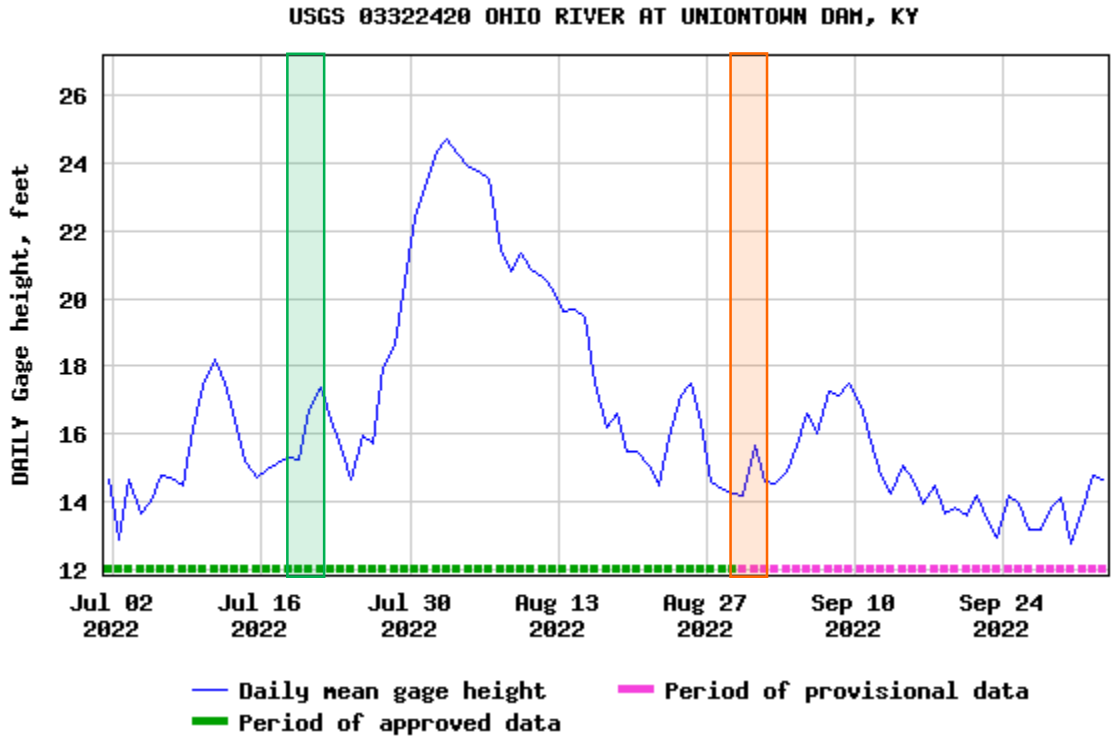
Surveys Completed

- Habitat & Fish Survey: 7/11 – 7/14
- SAV Survey & Macro Deployed: 9/6 – 9/9

Remaining Activities

- Retrieve HD and Macro Kicks: 10/17 – 10/21

John T. Myers Pool



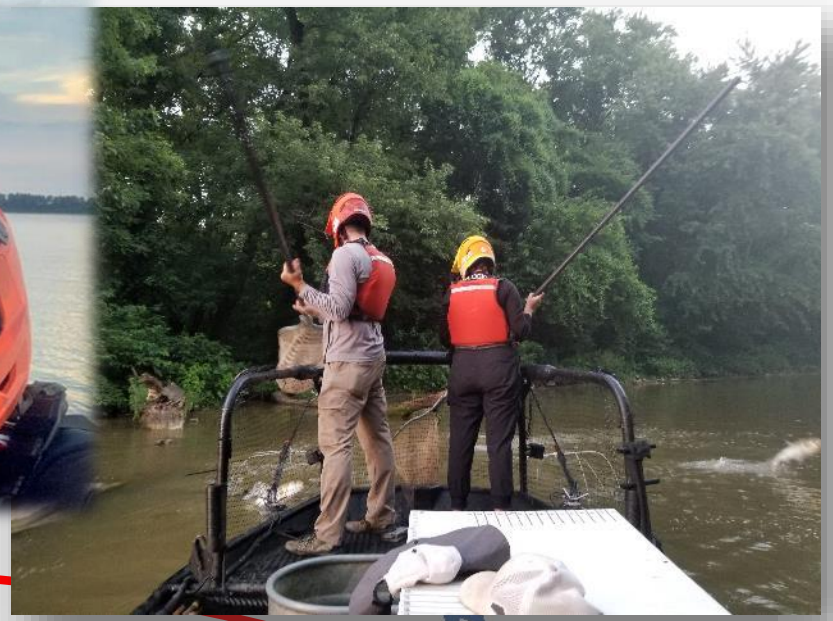
Surveys Completed

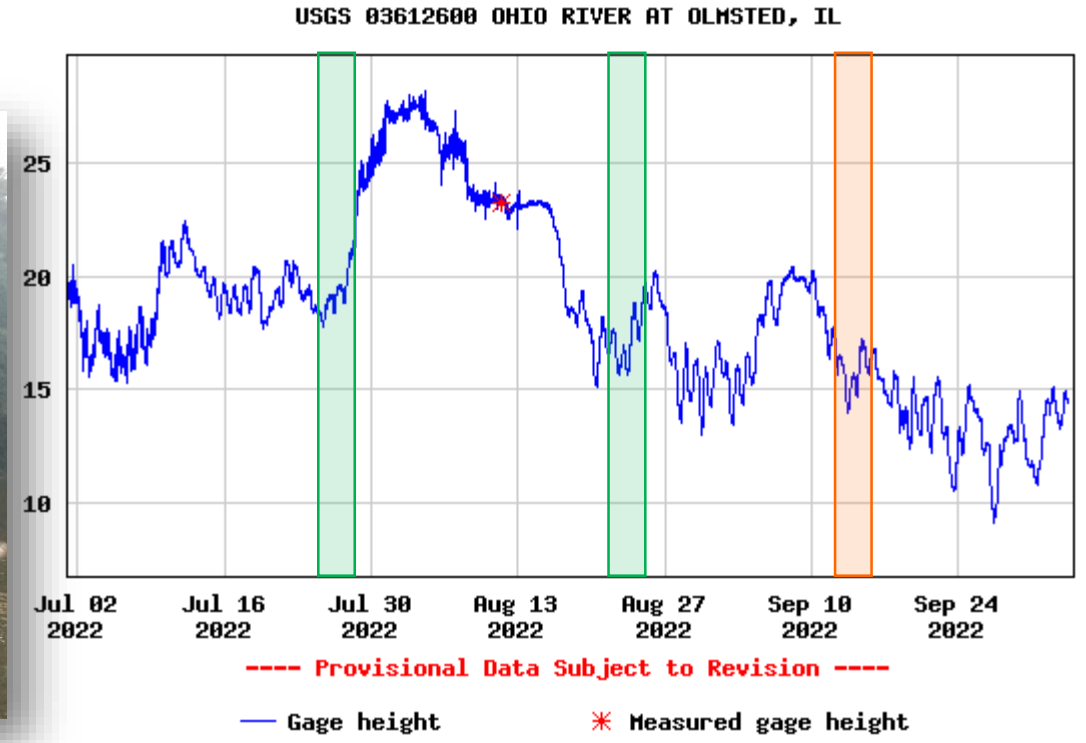
- Habitat & Fish Survey: 7/18 – 7/22
- SAV Survey & Macro Deployed: 8/29 – 9/2
- KDOW Water Samples: 2 of 3 rounds
- IDEM FT Collections: 2 of 4 composites

Remaining Activities

- Retrieve HD and Macro Kicks: 10/10 – 10/14
- KDOW Water Samples: 3rd round
- IDEM FT Collections: 2 TL4 composites

Olmsted Pool





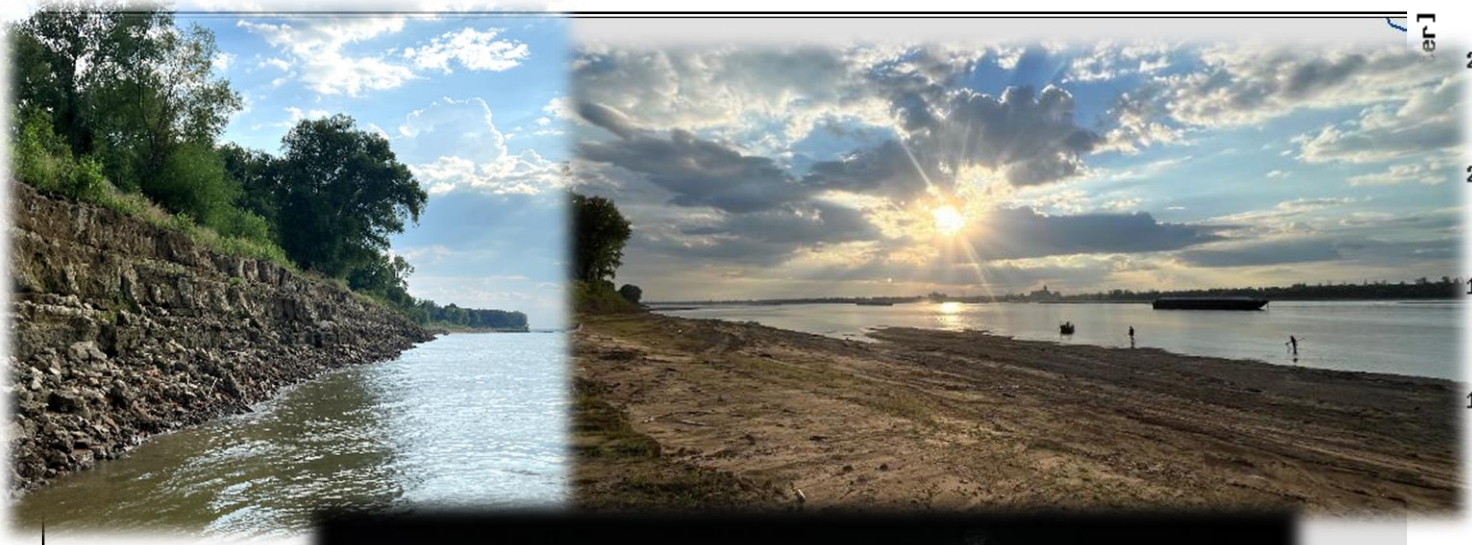
Surveys Completed

- Habitat & Fish Survey: 7/25 – 7/27 & 8/22 – 8/25
- SAV Survey & Macro Deployed: 9/12 – 9/16
- KDOW Water Samples: 2 of 3 rounds

Remaining Activities

- Retrieve HD and Macro Kicks: 10/24 – 10/28
- KDOW Water Samples: 3rd round
- ILEPA Tributary Survey: Safety & Access concerns

Open Water Section



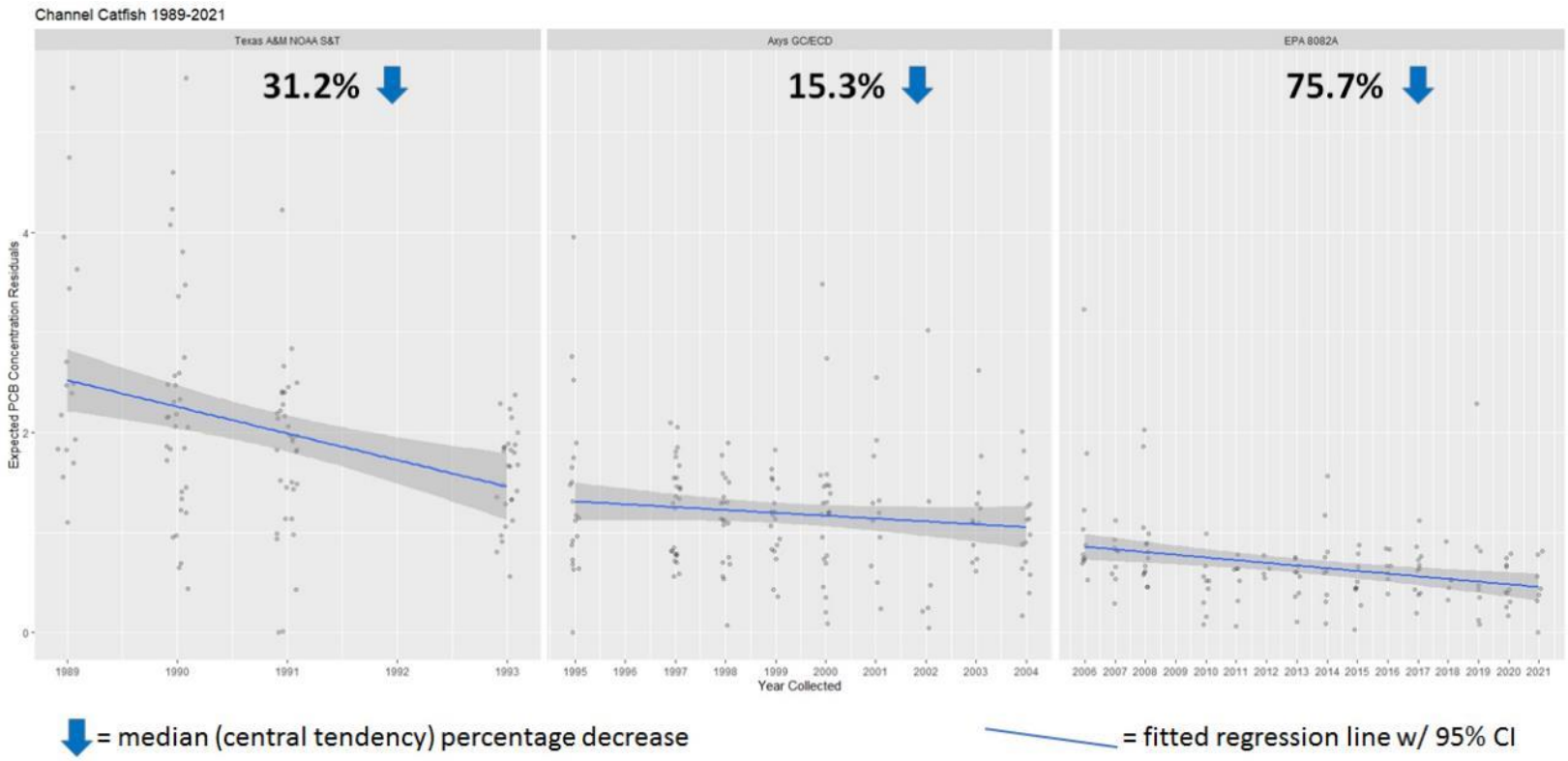
Surveys Completed

- Habitat & Fish Survey: 9/19 – 9/23
- SAV & Macros: Conditions not favorable at most sites, collected kicks where safe and able
- ORSANCO FT Collections: 5 composites

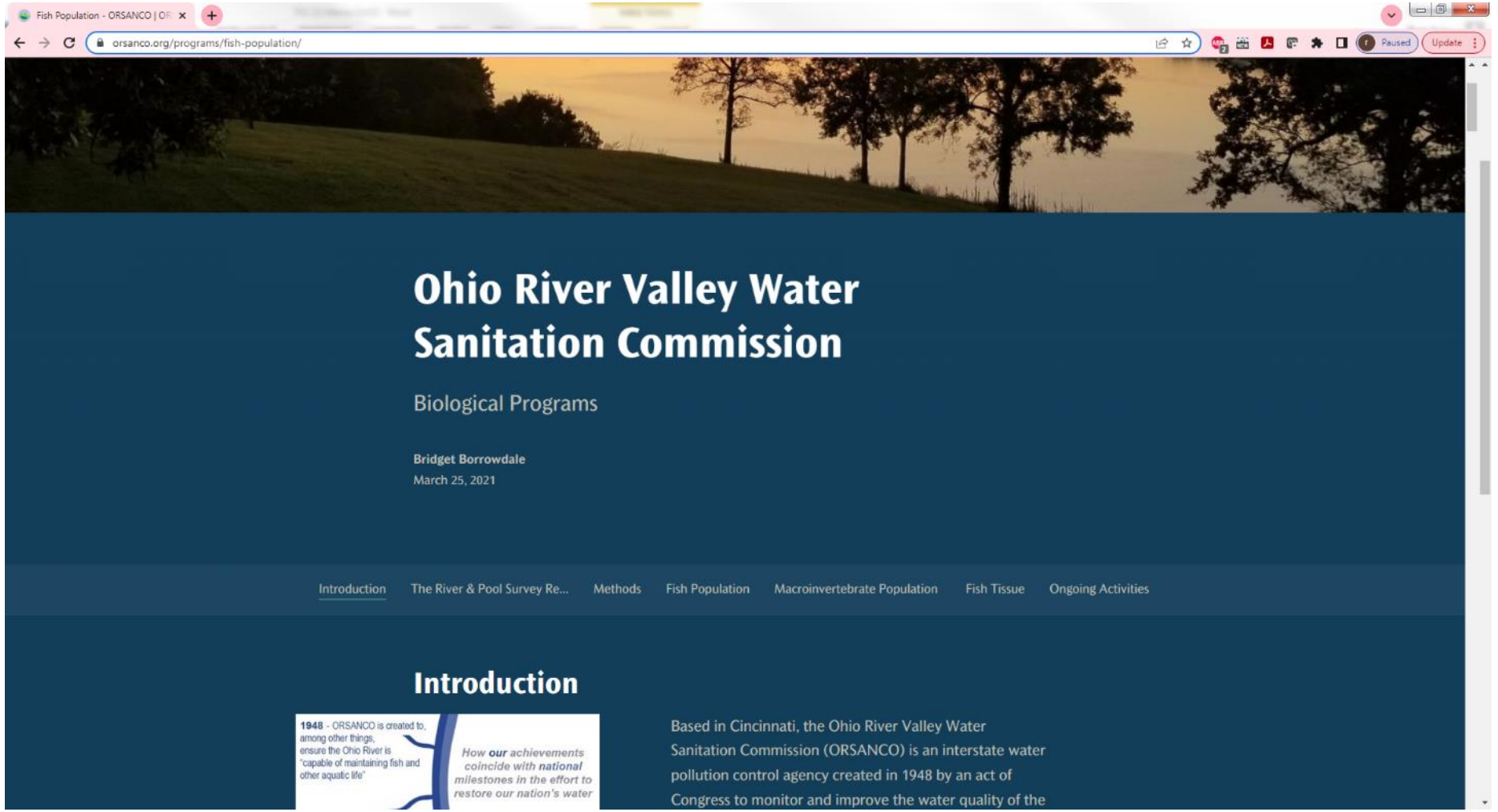
No Remaining Open Water Activities

PCB Fish Tissue Trends Analyses Update

- Danny Cleves developed approach to address inherent biases in ORSANOC's PCBs datasets
- Incorporated most recent 2020 data - presented at last June TEC meeting
- Journal article in prep detailing the statistical process and results
- Investigating whether data are sufficient to include additional species in analyses (e.g. Common Carp)



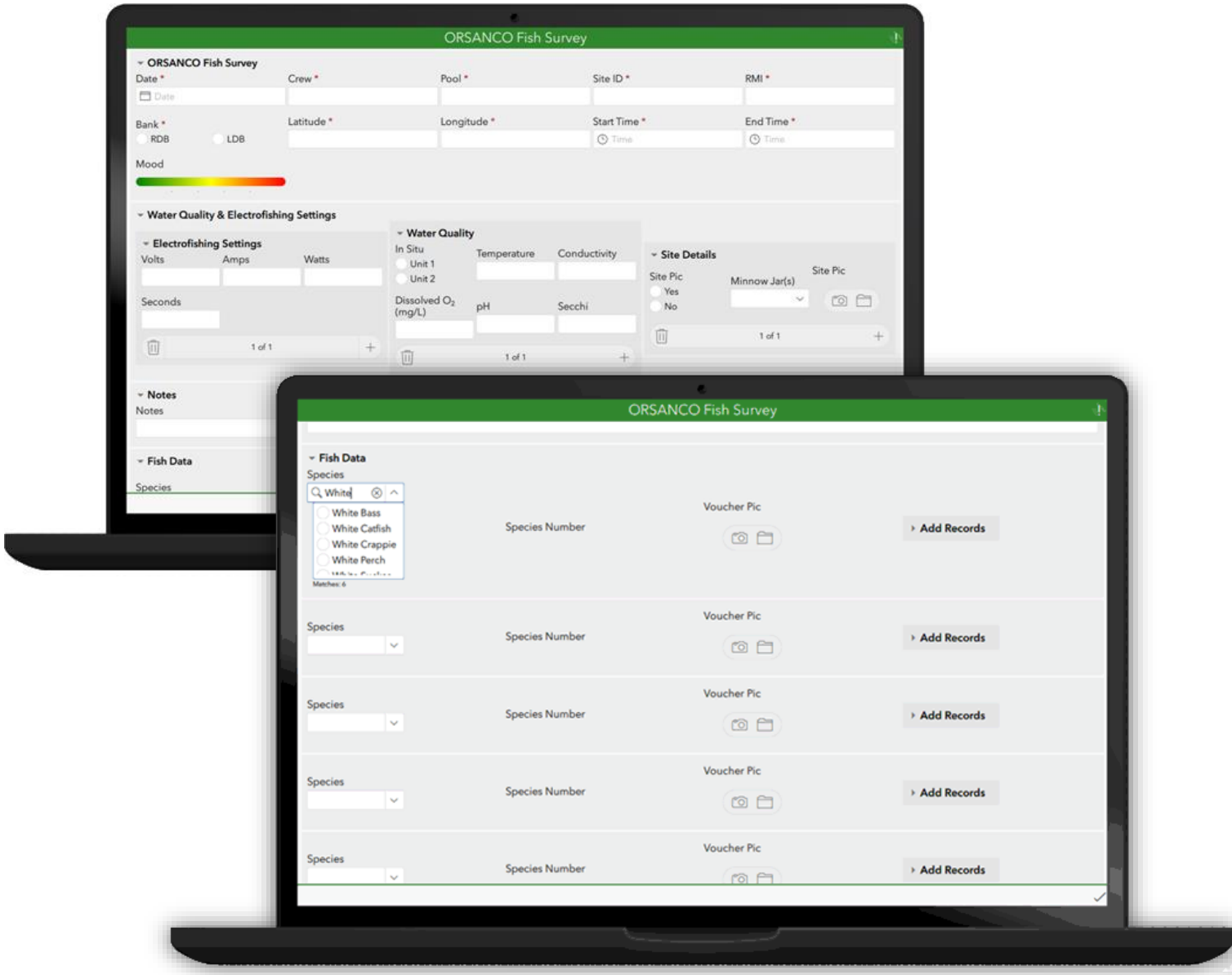
Biological Programs Website Update



Monitoring Programs – Digital Forms

ESRI product – ArcGIS Survey123

- Staff have developed digitized several field forms
- Bimonthly/Clean Metals
  - Event Data
  - Site Information
  - Sonde Measurements
- Biological
  - Site information
  - Habitat
  - Vegetation
  - Electrofishing
- Training required before employing
- Awaiting ESRI resolution of data output limitations

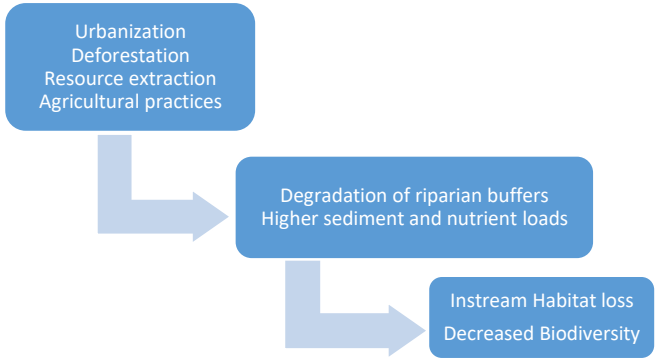


Ohio River Restoration Plan

- Plan to secure new federal funding in support of restoration efforts within the Ohio River basin
  - Separate committees of stakeholders drafting chapters dedicated to
    - Acid Mine Drainage
    - Climate Change
    - Equity and Justice
    - Hydrology
    - Infrastructure
    - Non-point
    - Invasive Species
    - Species and Habitat
    - Toxic Pollution
    - Water Quality
- ORSANCO Staff are involved at various levels
  - Biological staff are leading and/or contributing to several chapters

Example Content: Species & Habitat

1. **Problem Statement (Narrative)**
   - Known stressors and effects on focus area
   - Importance of focus area within and beyond the basin
     - e.g. biodiversity and ecosystem services
   - Actionable level of restoration



2. **Establish Long-Term Goals to address identified stressors**

"Aquatic ecosystems of the Ohio River basin sustain diverse populations of native fish, mussels, and other wildlife species, especially those that are threatened and endangered."

3. **Develop Short-Term Actions (incremental steps towards Long-Term Goals)**
   - "Centralization of all status, distributional, and requisite habitat data relative to species of greatest conservation need."
   - "Inventory and assess riparian and instream habitats of basin streams and rivers; prioritizing them for protection and restoration."

4. **Estimated Implementation Cost** - Ongoing

Toxics Chapter Content: ORB Fish Cons. Adv.

	State	Contaminant	Lakes				Rivers/Streams				Ohio River Main Stem				General Statewide Restrictions
			One/Week or >1/Week	One/Month or Two/Month	Six/Year	DNE	One/Week or >1/Week	One/Month or Two/Month	Six/Year	DNE	One/Week or >1/Week	One/Month or Two/Month	Six/Year	DNE	
BASIN	Alabama	Mercury	n/a	3	n/a	3	n/a	11	n/a	9					n/a
		PCBs	n/a	1	n/a	-	n/a	-	n/a	-					
		PFOS	n/a	-	n/a	1	n/a	1	n/a	-					
	Georgia	Mercury	4	2	n/a	-	-	-	n/a	-					n/a
	Maryland*	Mercury	2	3	n/a	-	-	-	n/a	-					n/a
	Mississippi	PCBs	n/a	-	-	-	n/a	-	-	-					n/a
	New York	Mercury	-	-	n/a	-	-	-	n/a	-					One/Week - PCBs
	North Carolina	Mercury	4	1	n/a	-	-	-	n/a	-					One/Week - MeHg
	Tennessee	Chlordanes	n/a	1	n/a	-	n/a	-	n/a	1					Differ between general versus sensitive populations
		Mercury	n/a	7	n/a	-	n/a	15	n/a	3					
		PCBs	n/a	6	n/a	4	n/a	-	n/a	2					
	Virginia	PCBs	n/a	3	n/a	-	n/a	8	n/a	6					n/a
MAIN STEM	Illinois	Mercury	8	-	-	1	5	-	-	-	Yes	-	-	-	One/Week - MeHg
		PCBs	1	-	-	-	2	1	-	-	-	Yes	-	-	
	Indiana	Mercury	37	2	-	-	53	12	-	-	Yes	Yes	-	-	Differ between general versus sensitive populations and by species consumed
		PCBs	20	8	1	2	49	37	11	12	Yes	Yes	Yes	-	
	Kentucky	Mercury	-	1	-	1	-	1	-	1	-	Yes	-	-	Differ between general versus sensitive populations and by species consumed
		PCBs	-	2	-	1	1	2	1	5	-	Yes	Yes	-	
	Ohio	Arsenic	2	-	n/a	-	-	-	n/a	-	-	-	n/a	-	One/Week
		DDT	-	-	n/a	-	-	1	n/a	-	-	-	n/a	-	
		Mercury	1	47	n/a	-	-	40	n/a	-	-	-	n/a	-	
		PAHs	-	-	n/a	-	-	-	n/a	1	-	-	n/a	-	
		PCBs	-	5	n/a	-	1	15	n/a	1	-	Yes	n/a	-	
	Pennsylvania	Mercury	n/a	14	-	-	n/a	6	-	-	n/a	-	-	-	One/Week - PCBs
		PCBs	n/a	2	-	-	n/a	6	2	3	n/a	Yes	Yes	Yes	
	West Virginia	Mercury	-	1	-	-	-	3	-	-	-	-	-	-	Differ between general versus sensitive populations and by species consumed
		PCBs	-	1	-	-	-	1	-	1	-	Yes	Yes	-	

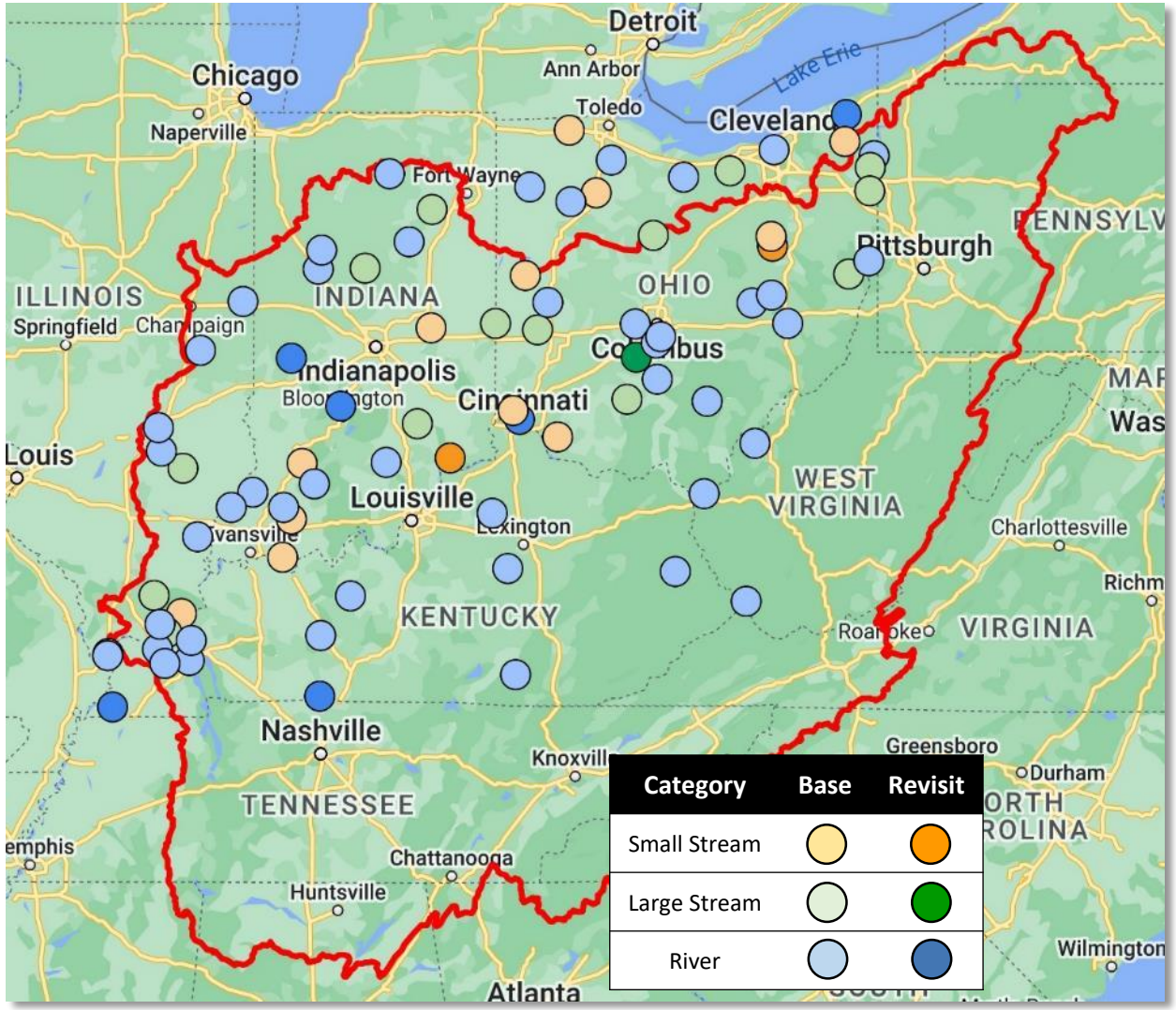
* MD - One additional lake, Broadford Lake, has a recommendation (Three/Month) that falls in between the consumption frequencies shown.

2023/24 ORSANCO NRSA Events

- 92 Events in 4 Ohio River Basin States
  - OH – 40
  - KY – 16
  - IN – 23
  - IL – 13

- Funding begins Oct. 2022 (FY23-FY25)
  - Just awarded the grant to fund collections
    - allows up to 5yr carryover
  - Begin site recon and evaluation this winter
  - Contractual Fish Biologist starting early 2023

- Annual Monitoring Impacts
  - 2x normal field season travel weeks
  - Decrease to 2 pool surveys in ‘23 & ‘24
  - Possibly impact fixed station surveys & Aquarium displays



2021 BWQSC Recommendations - Progress

1. ✓ Approve the use of fish survey results from Dashields, Hannibal, Markland, and McAlpine in final 2021 pool assessments.

2. ✓ Review Dashields, Hannibal, Markland, and McAlpine macroinvertebrate data with the BWQSC for potential use in final 2021 pool assessments, once data are available.

3. Conduct 2022 biological surveys in Belleville, John T. Myers, and Olmsted pools, as well as six probabilistic sites in the open water section below Olmsted Locks and Dam.

4. ✓ Add analyses for PFAS compounds to all ORSANCO Ohio River fish tissue collections.

5. Evaluate the necessity to recalibrate biotic indices following the 2022 field season.

6. ✓ Support the analytical methods used in evaluating potential PCB trends in ORSANCO's fish tissue dataset.

7. ✓ Support ORSANCO staff's continued participation in upcoming 23/24 USEPA National Rivers and Streams Assessment (NRSA), recognizing that this may affect concurrent Ohio River activities.

Agenda Item 7:

Broad Scan Survey of Unmonitored Parameters Included in the Commission's PCS.

Heath

Committee

- Composed of TEC members and their designees.
- Committee met Aug. 19 & Sept. 23.
- Reviewed 2013 Broad Scan survey monitoring design and results.
- Discussed budget and options for repeating a survey in Federal FY23.

Broad Scan Survey

- Only a small subset of water quality parameters contained in ORSANCO's Pollution Control Standards are included in our routine monitoring programs.
- A survey of 104 parameters included in the PCS but not routine monitoring programs was completed in 2013.
- EDI sampling was completed for two rounds of sampling at 3 locations (upper, middle and lower river).
- There were no detections of any parameters.
- Objectives of this work to determine if additional parameters should be included in routine monitoring.
- Recommendation is to repeat the survey but need a team to review specifics of the monitoring effort.

Committee Recommendation

- Repeat the original broad scan survey.
- 2 Rounds sampling by EDI at 3 sites; one week per round.
- Equipment blank with every sample.
- One Field & one trip blank for each round.
- Late spring/summer & fall of 2023.

Budget UsingFederal Monitoring Initiative Funds

- Total Available Funding = $66,000
  - Analytical Costs (16 @ $2,475) $39,600
    - Includes PCBs 1668 congeners; not dioxin
    - EDI samples at 3 sites, 2 rounds.
    - Equipment blanks with every sample; weekly field & trip blanks.
  - Staff Travel (3 staff, 1 week per sampling round' gas) $ 5,000
  - Shipping (est. 8 coolers @$300) $ 2,400
  - Supplies $ 1,000
- Subtotal $48,000
- $18k remaining for staff time (3 staff, 2 wks) $18,542

Questions??

Other Business:

- Comments by Guests
- Announcement of Upcoming Meetings
- Adjourn

Chair, Scott Mandirola