

# ORSANCO Emergency Response

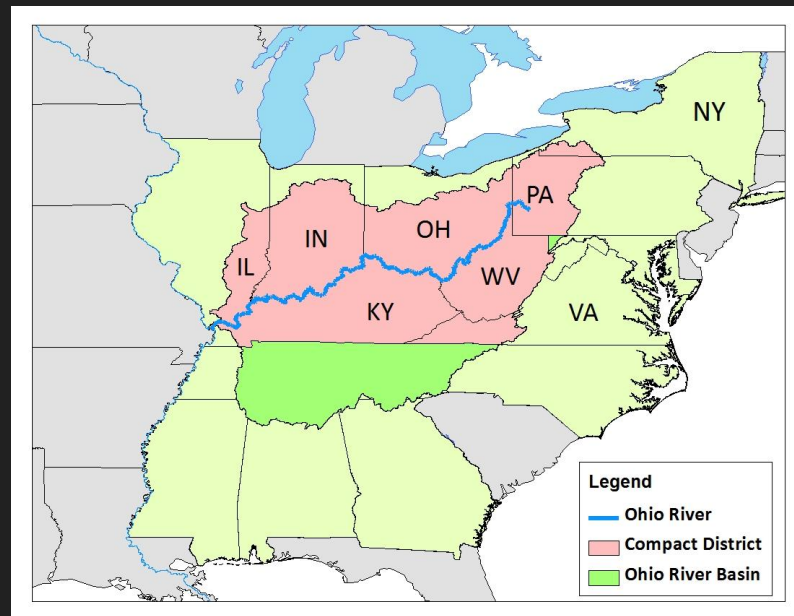


Regional Response Team 5 Meeting  
April 15-16, 2025

Jamie Tsiominas

# Ohio River Valley Water Sanitation Commission

- ❓ Established by Compact in 1948- Ratified by Congress
- ❓ 8 signatory states for pollution abatement and future protection for Ohio River and tributaries
  - ❓ IL, IN, KY, OH, NY, PA, VA, WV



# Our Mission

❑ **To protect the Uses of the Ohio River**

❑ **Monitor and Assess:**

- ❑ Safe for Drinking Water
- ❑ Safe to Recreate
- ❑ Safe for Fish Consumption
- ❑ Safe for Aquatic Life



# Program Areas

## ? Source Water Protection

- ? Spill Notification and Response
- ? Organics Detection System (ODS)
- ? HAB monitoring and response

?

## Water Quality Monitoring and Assessment

- ? Contact Recreation-Bacteria
- ? Bi-Monthly Monitoring
- ? Special Projects – Mercury, PFAS



## ? Biological Programs

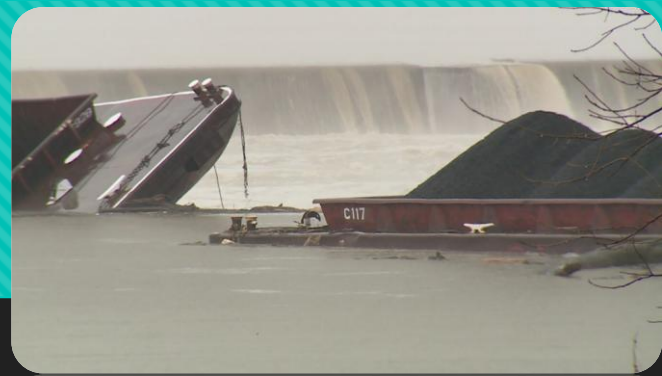
- ? Fish aquatic life
- ? Macroinvertebrates (bugs) life

## ? Public Involvement programs

- ? Environmental Education (FORE)
- ? River Sweep



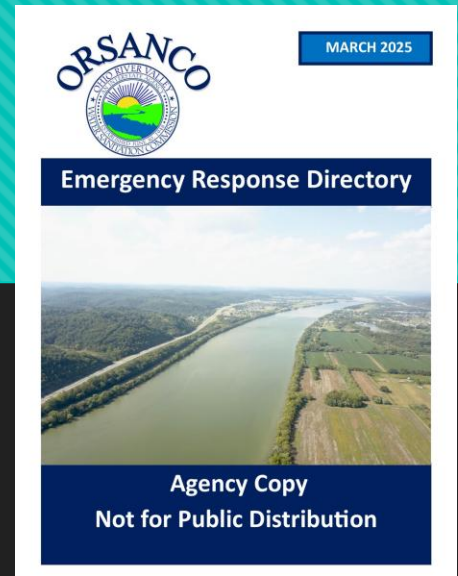
# Spill Response Resources



- ❑ **Communication: Notification to Drinking Water Utilities**
- ❑ **Collaboration: With State and Federal agencies and other local partners/stakeholders**
- ❑ **Boots on the Ground: Sampling, monitoring, visual confirmation if needed**
  - ❑ **Sampling by Boat (conditions permitting)**
- ❑ **Time-of-Travel Modeling: Spill model uses National Weather Service flow data**
- ❑ **Analytical Support: Primarily Volatile Organic Compounds**

# Communication/Collaboration

- ❑ **ORSANCO receives spill reports from the NRC**
  - ❑ all counties bordering the Ohio River
- ❑ **ORSANCO Staff provides notification**
  - ❑ By phone to nearby Drinking Water Utilities
  - ❑ By email to Spills Distribution List
- ❑ **Facilitate Interstate Communication**
  - ❑ State and Federal Agencies
  - ❑ Drinking Water and Industrial Intakes
  - ❑ Media
  - ❑ Coordinate Conference Calls if needed



## Emergency Response Directory

- State/Federal contacts
- Water utilities
- Key river features

# Time-of-Travel Modeling

## ? Ohio River Spill Modeling System

? Input date, time, amount, duration, decay

? Uses daily HEC-RAS flow file from NWS

## ? Predicts plume time-of-travel

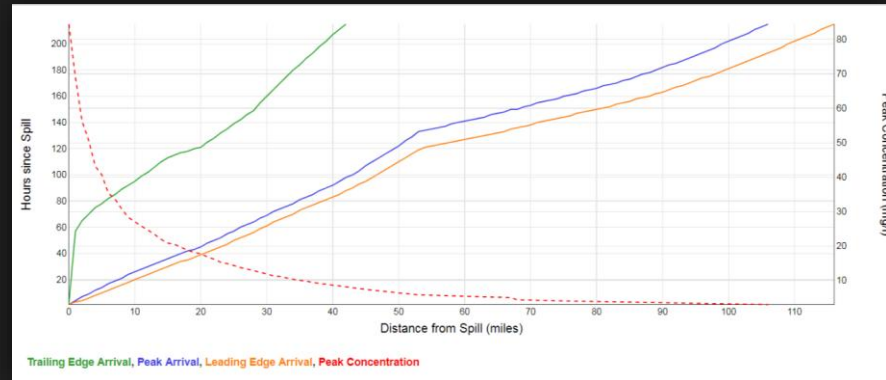
? Leading edge; peak; trailing edge

## ? Estimates pollutant concentration

## ? Utilized to:

? Inform water utilities and others of spill location

? Inform sampling crews where to monitor



# On River Spill Tracking



- ❑ Water quality sampling to track plume
  - ❑ Shore-based (access points, locks & dams)
  - ❑ Boat-based (safety limitations)
- ❑ Provide coordination of multi-agency sampling efforts
- ❑ Available Resources
  - ❑ Boats – flow-through monitoring
  - ❑ Multi-parameter datasondes
  - ❑ Water and sediment samplers
  - ❑ Fluorimeters
  - ❑ Biological sampling



# Spill Detection Monitoring Network

## ? Organics Detection System (ODS)

- ? Daily analysis of water samples for volatile organic compounds for spill detection

- ? 16 stations (13 mainstem + 3 tribs)

- ? Detect thousands of compounds

- ? Calibrated for 30 VOCs

## ? Provide coordination of laboratory services

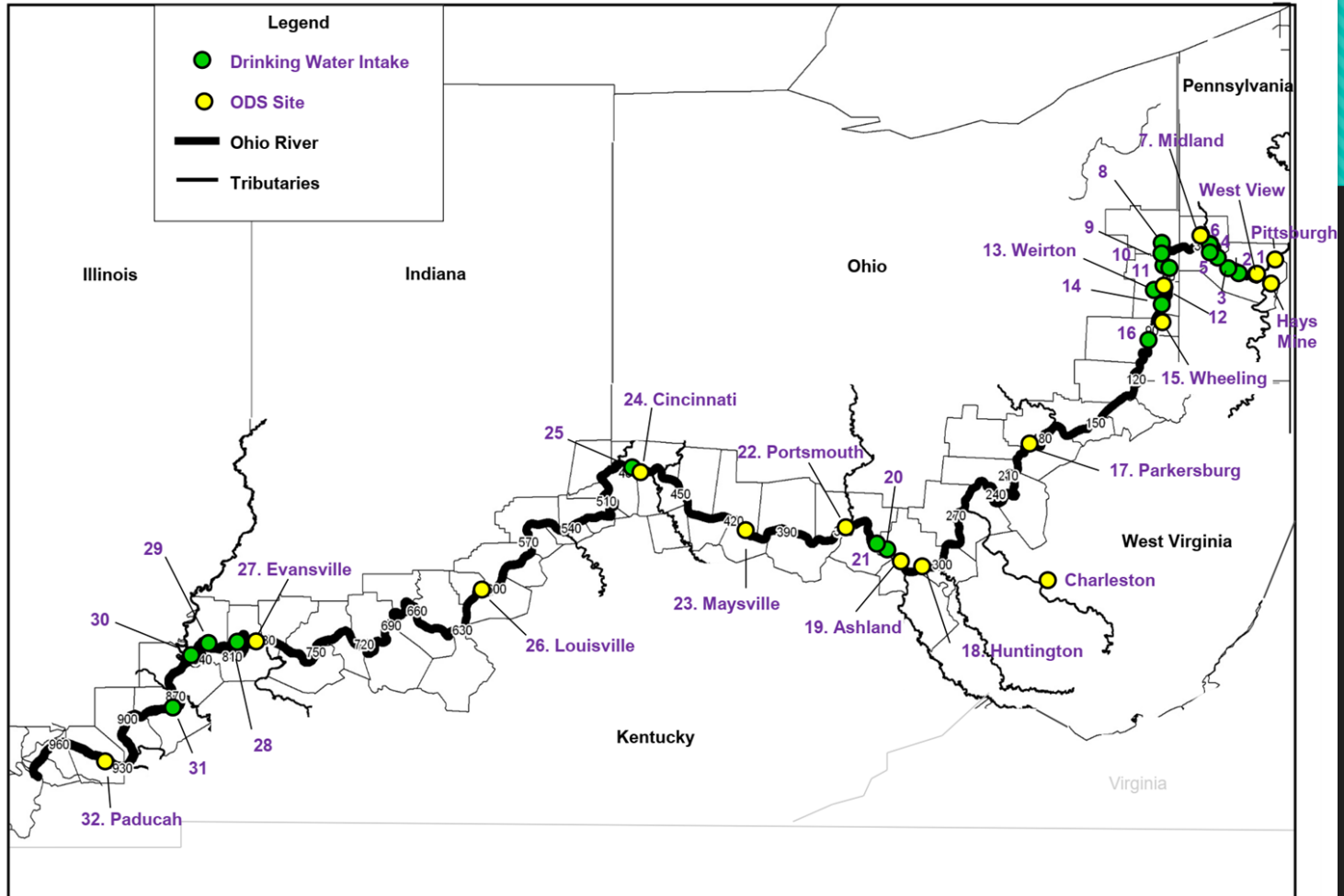
- ? Within ODS network

- ? Contract laboratories

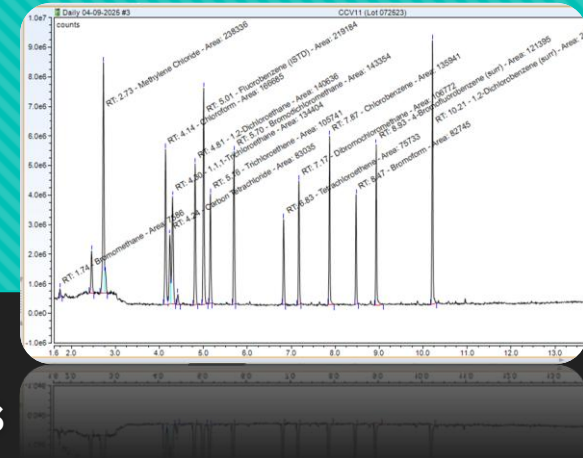
Gas Chromatograph/  
Mass Spectrometer



# Organics Detection System (ODS) Sites



# ODS Network Functions



? Routine screening and ambient monitoring at intakes

? Alert operators of events that may impact treatment

? Enhanced monitoring capabilities during spill events

? Increase sampling frequency

? Perform confirmation analyses

? Provide analysis to assist plume tracking

? Develop methods for contaminant analysis

? Foster improved communications and information sharing among water utilities

# Routine Monitoring

- ❑ **Samples collected and screened daily**
  - ❑ Not all plants have ODS operators on weekends
- ❑ **Samples typically from raw water line**
  - ❑ Represents water drawn into plant at intake depth
- ❑ **ODS operators notify ORSANCO if detection  $>2$  ppb or distinct observable pattern of low level detections**
- ❑ **Over 1,500 samples screened monthly from all sites in ODS network**



# Rapid Response Surveillance

- ❑ Portable GC/MS Units that can be transported easily to run Volatile Organics samples in the field during spill event
- ❑ Useful for quick turnaround time, especially if no ODS site nearby or in remote areas
- ❑ Great for determining Time of Travel to alert downstream utilities, and leading edge of spill for informed sampling continuation
  - ❑ 2 options: Griffin FLIR G510 or Inficon Hapsite
  - ❑ May even be able to set up in lab setting to use as a “fixed station”

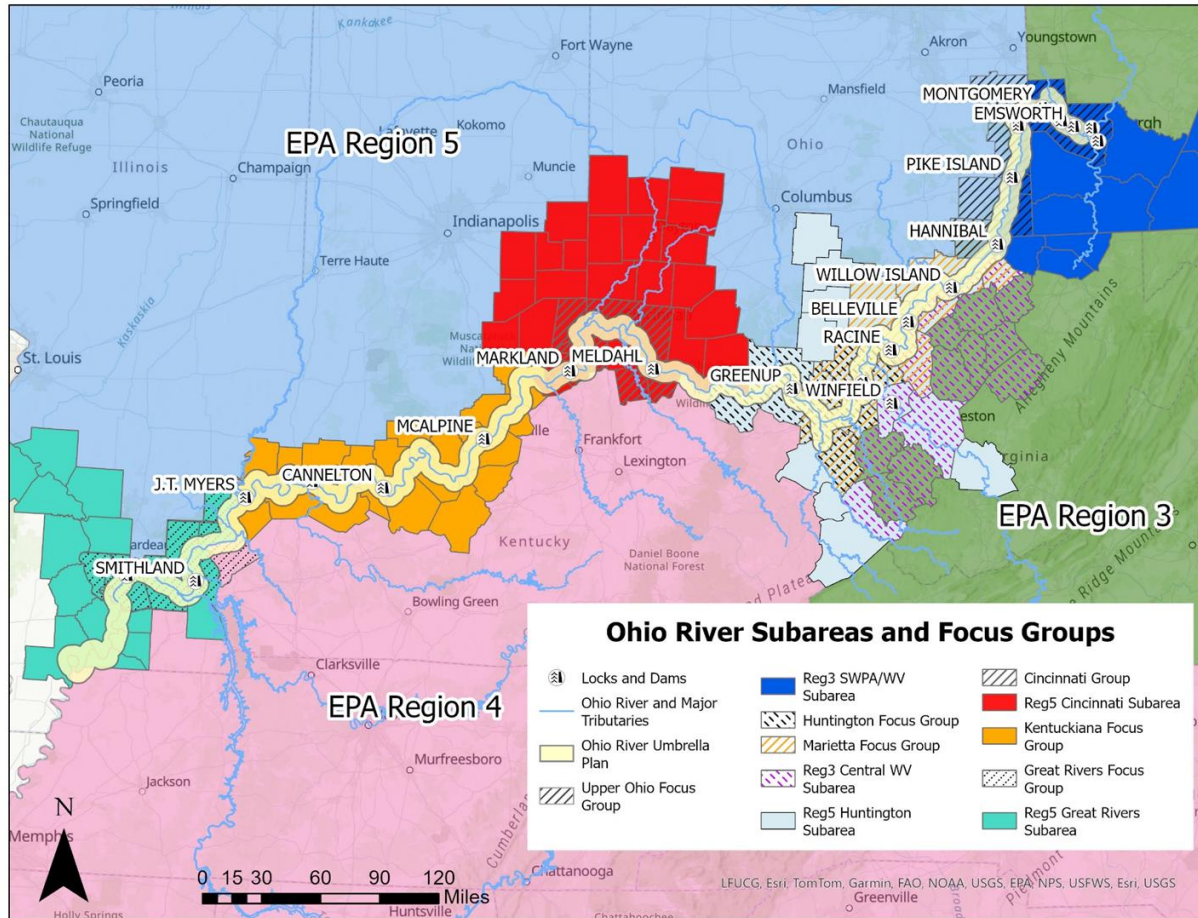


# Facilitating Emergency Response Preparedness

## **[?] Emergency Response Focus Groups**

### **[?] Engage federal/state/local ER personnel**

- [?] Upper Ohio River (Includes PA down to Hannibal L&D)**
- [?] Marietta Ohio/Huntington (Hannibal [to Big Sandy River] to Meldahl)**
- [?] Greater Cincinnati (Meldahl to Markland L&D)**
- [?] Kentuckiana (Markland to Wabash River)**
- [?] Great Rivers Coordination Group (Paducah area and Mississippi River)**



- Upper Ohio River
- Marietta/Huntington
- Greater Cincinnati
- Kentuckiana
- Great Rivers Coordination Group

# Focus Groups



- ❑ For “Boots on the Ground” Responders of Spills
- ❑ Many groups haven’t met since pre-Covid
  - ❑ Many personnel have retired/departed
  - ❑ Rotation of Coast Guard Staff
- ❑ Intended to keep contact for coordination before an incident occurs

# Future Goals



- ❑ ORSANCO to Facilitate meetings for upper groups in 2025
  - ❑ July-August timeframe?
  - ❑ Attend additional meetings
- ❑ Distinguish delineation between Marietta and Huntington group (working with R3)
- ❑ “Ohio River Wide RRT Meeting”
  - ❑ Host combined meeting for entire Ohio River at once
    - ❑ Mix of Focus groups and RRTs Personnel
      - ❑ All RRT Regions
    - ❑ Last done 10 years ago
    - ❑ First half of 2026?

# Questions/Comments?



**Jamie Tsiominas**  
**Senior Environmental Scientist**  
**Emergency Response/  
SWP/ODS/ "IT Life"**  
[jtsiominas@orsanco.org](mailto:jtsiominas@orsanco.org)

**Lila Ziolkowski**  
**Technical Programs Manager**  
**Emergency Response/  
Source Water Protection**  
[lziolkowski@orsanco.org](mailto:lziolkowski@orsanco.org)