OHIO RIVER VALLEY WATER SANITATION COMMISSION

Mississippi River Major Influences Tributary Perspective

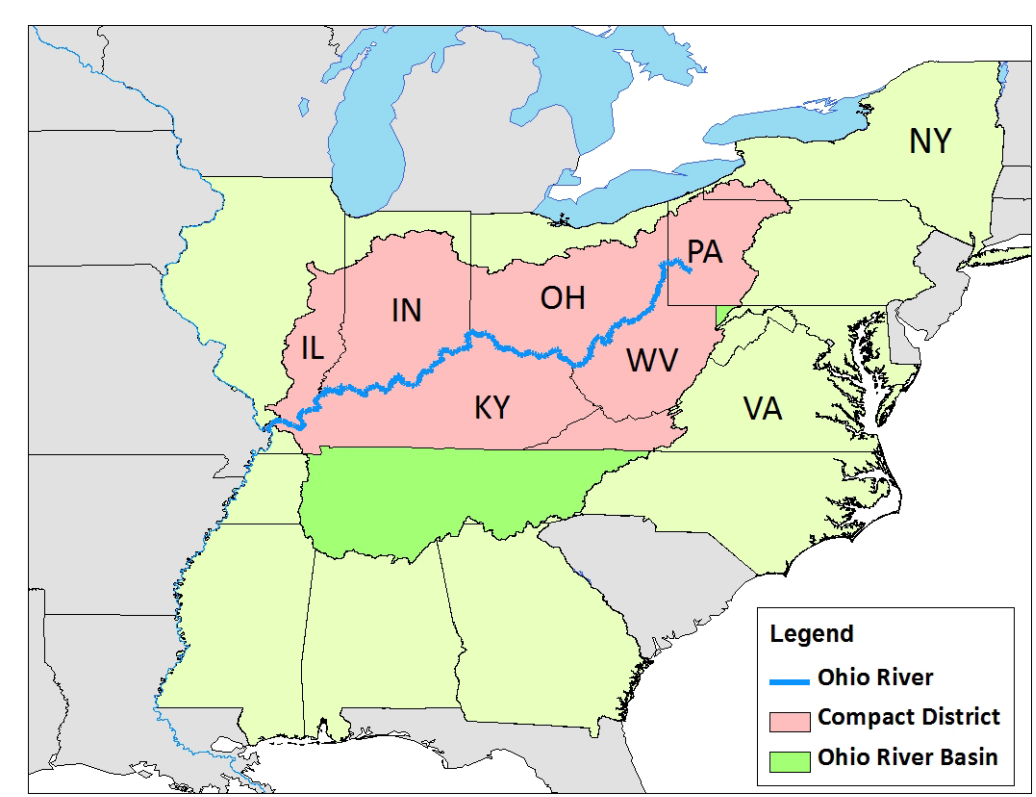
USGS Mississippi River Science Forum

February 16, 2023

Richard Harrison Executive Director

ORSANCO

- Ohio River Valley Water Sanitation Commission
- Established by Compact (1948)
- Ratified by Congress
- Eight signatory states
  - IL, IN, NY, KY, OH, PA, VA, WV

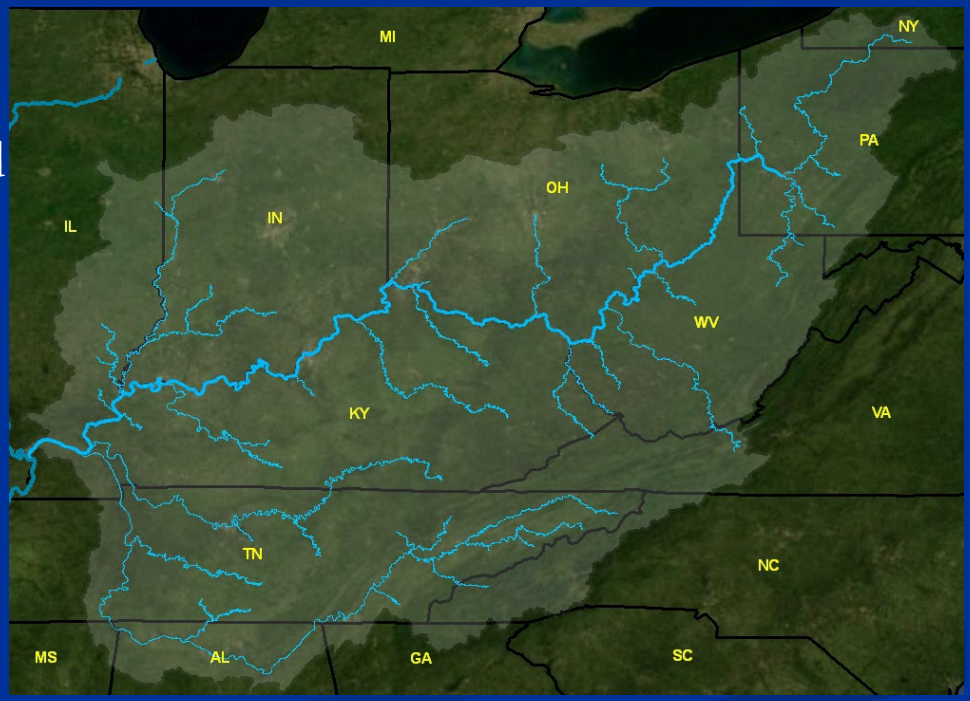


ORSANCO's Mission

- Our mission is to protect the interstate waters of the Ohio River Basin (District).
- Primary efforts on the mainstem.
- Multiple Uses Are All Important!
  - Drinking water for 5 million.
  - ~160 species of fish; Endangered mussels.
  - ~570 Industrial/municipal discharges.
  - High recreational use.
  - Fish consumption.
  - Transportation.

Ohio River Tributary Facts

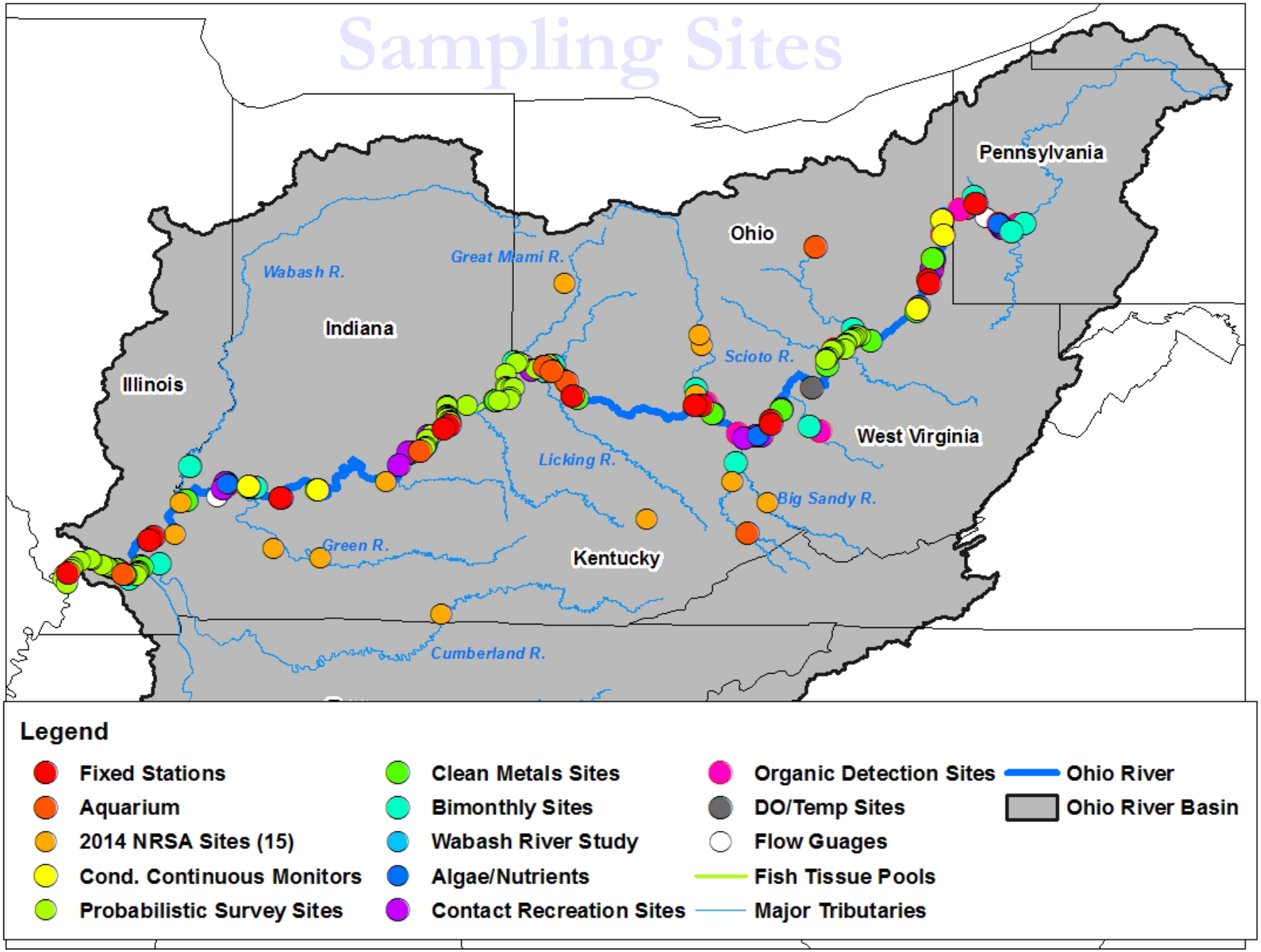
- 981 Miles from Pittsburgh to Cairo
- Drinking water source for 5 million people (33 intakes)
- 160+ species of fish; rich in mussels
- 20 locks and dams for flood control and navigation
- Recreational water resource
- 42 electric power generating plants
- 185 million tons of cargo transported annually
- Increases the flow of the Mississippi River by 135% at its confluence



Water Quality Programs

- Water Quality Monitoring & Assessment
- Biological Programs
- Pollution Control Standards
- Source Water Protection
  - Organics Detection System
  - Spill Detection & Notification
  - HAB's Monitoring & Response
- Public Involvement & Education

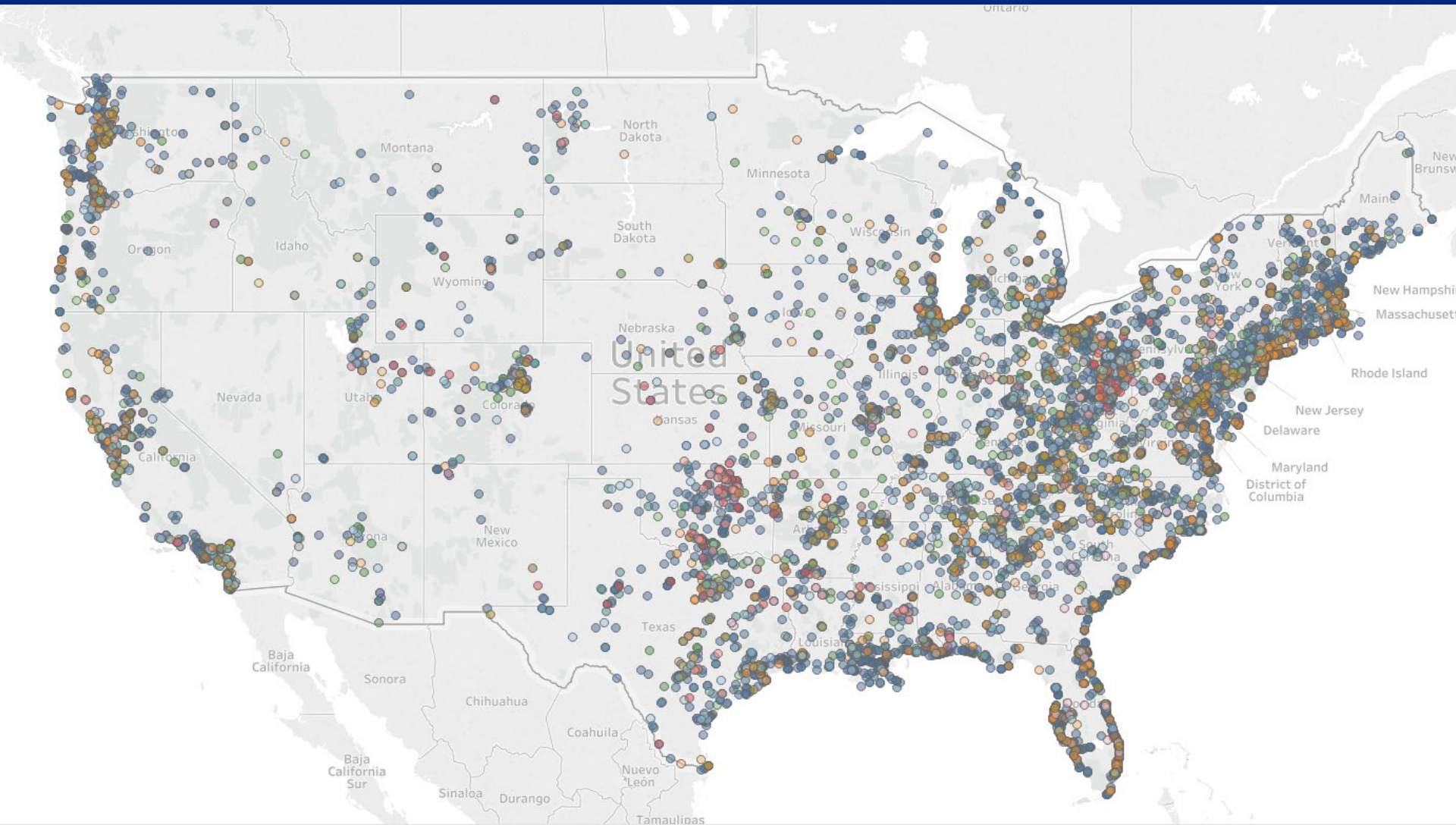
Sampling Sites

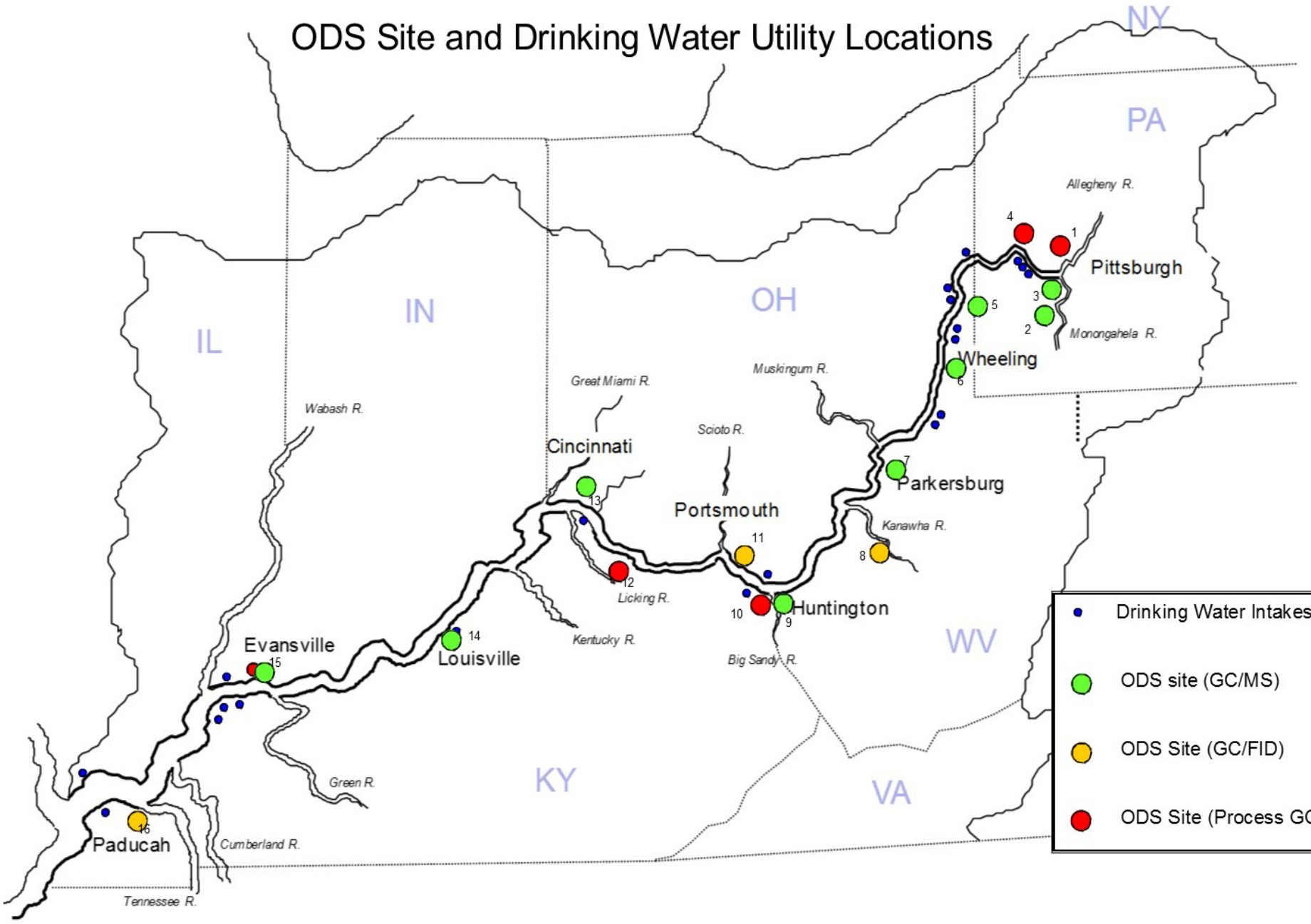


Spill Detection/Response

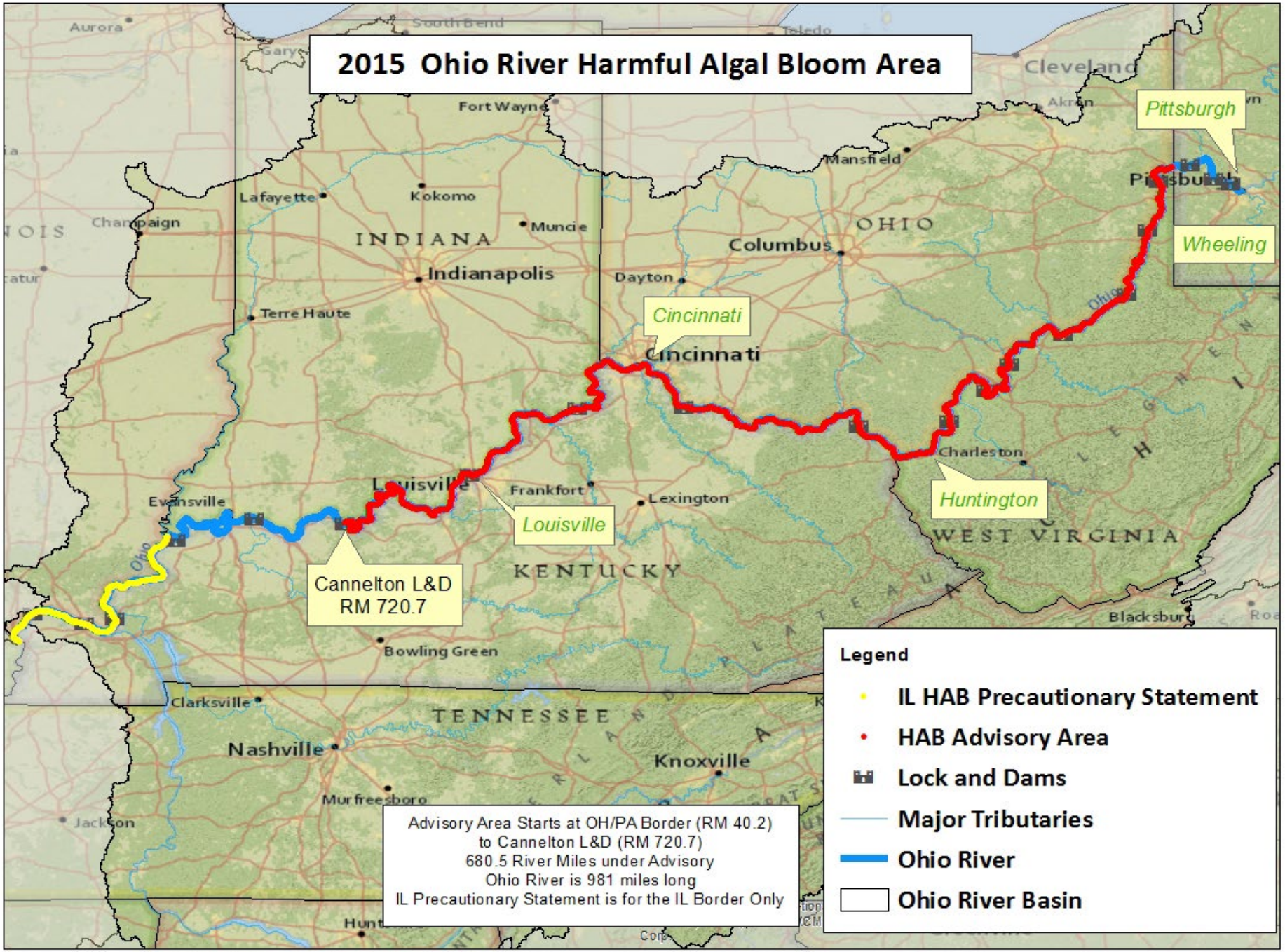
- Spills reported to ORSANCO-National Spill Report (NRC)
  - Approximately 600 reported annually
- Spills detected through ORSANCO Organics Detection System (ODS)- approximately 50 to 100 identified annually
- ORSANCO staff provide 24/7 review of NRC reports and appropriate response
- ORSANCO staff coordinate spill response with drinking water utilities, DEP's and other stakeholders
- ORSANCO uses a Spill Model to predict spill arrival times
- Major spills such as current East Palestine Train Derailment Spill require significant response

Occurrence of Spills Potentially Impacting Surface Water Sources (2010-2018)

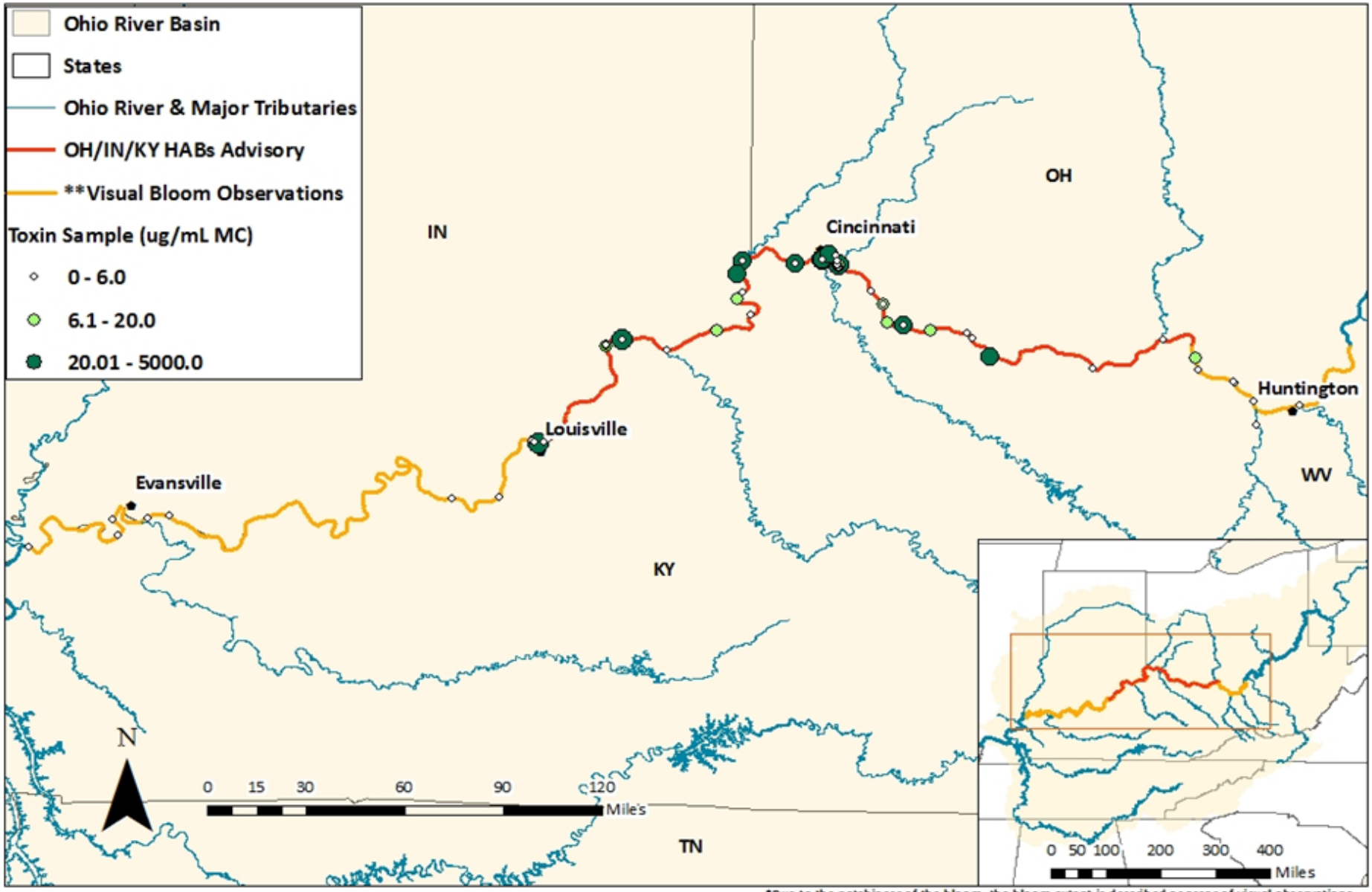



ODS Site and Drinking Water Utility Locations
NY
PA
IL
IN
OH
WV
KY
VA
Allegheny R.
Monongahela R.
Muskingum R.
Great Miami R.
Wabash R.
Scioto R.
Kanawha R.
Licking R.
Kentucky R.
Big Sandy R.
Green R.
Cumberland R.
Tennessee R.
Pittsburgh
Wheeling
Parkersburg
Cincinnati
Portsmouth
Huntington
Louisville
Evansville
Paducah
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Drinking Water Intakes
ODS site (GC/MS)
ODS Site (GC/FID)
ODS Site (Process GC)


2015 & 2019
Ohio River HAB
Events


2015 Ohio River Harmful Algal Bloom Area
Pittsburgh
Wheeling
Cincinnati
Louisville
Huntington
Cannelton L&D
RM 720.7
Aurora
South Bend
Gary
Fort Wayne
Cleveland
Akron
Mansfield
Lafayette
Kokomo
Champaign
Muncie
INDIANA
OHIO
Columbus
Indianapolis
Dayton
Terre Haute
Cincinnati
Charleston
Evansville
Louisville
Frankfort
Lexington
KENTUCKY
WEST VIRGINIA
Bowling Green
Blacksburg
Clarksville
TENNESSEE
Nashville
Knoxville
Murfreesboro
Jackson
Advisory Area Starts at OH/PA Border (RM 40.2)
to Cannelton L&D (RM 720.7)
680.5 River Miles under Advisory
Ohio River is 981 miles long
IL Precautionary Statement is for the IL Border Only
Legend
IL HAB Precautionary Statement
HAB Advisory Area
Lock and Dams
Major Tributaries
Ohio River
Ohio River Basin

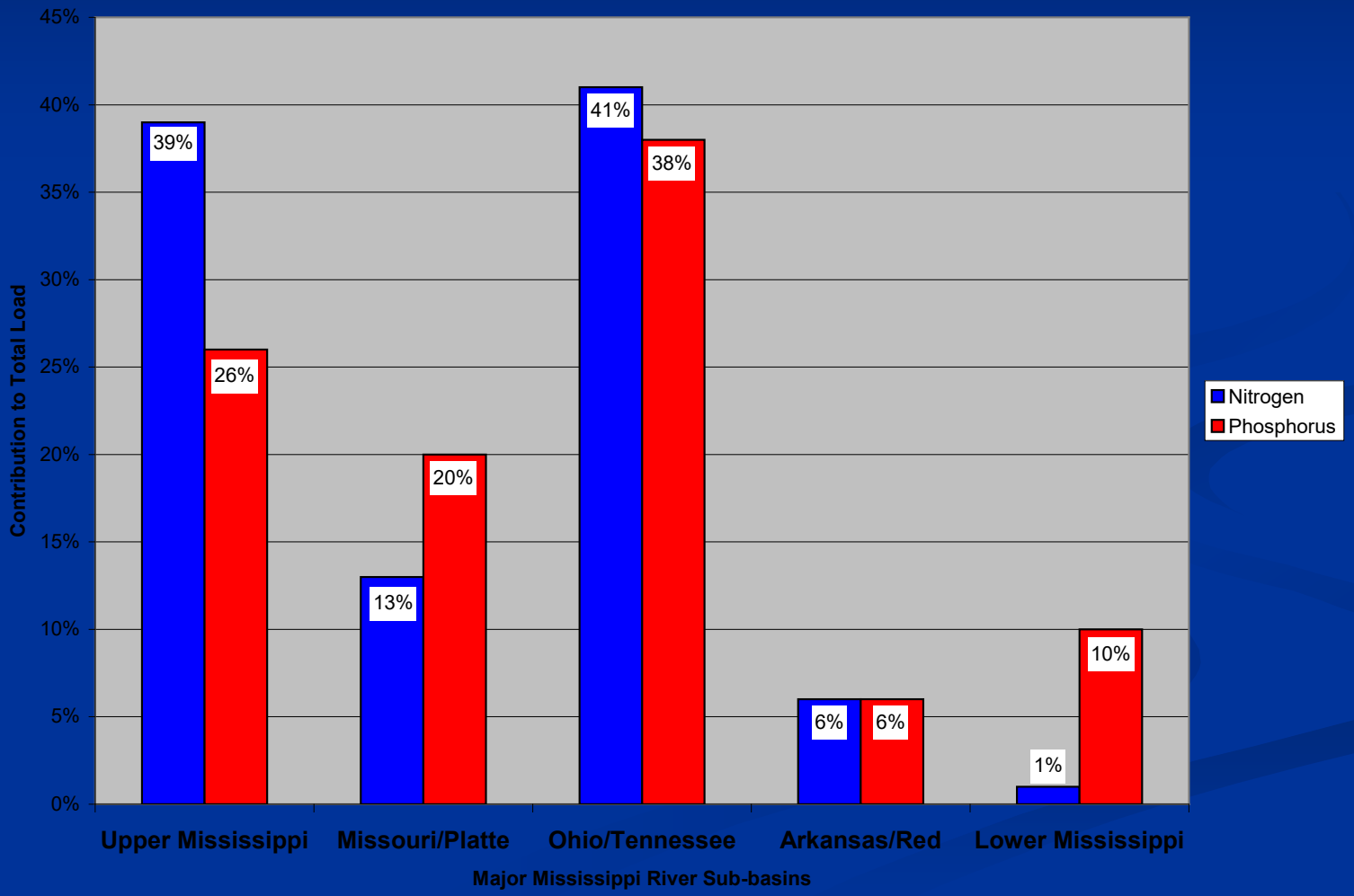
Ohio River HAB Extent 9/11/2019-11/05/2019



*Due to the patchiness of the bloom, the bloom extent is described as areas of visual observations.

Date: 12/20/2019

Nutrient Sources to Gulf of Mexico



Source: Gulf Hypoxia Action Plan

Gaps

- Real time monitoring systems for chemicals that are stored or transported adjacent or on the river
- Enhanced management of nonpoint sources of pollution
- Ambient conditions for high priority emerging contaminants
- Strong need for robust water quality data management platform

Next Steps

- Develop Prioritized Basin Restoration Plan
- Communicate case for funding
- Build robust data management platform for ORB and MRB
- Increased Coordination between key stakeholders


Questions?
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