

Ohio EPA Division of Surface Water

Monitoring 101

Workgroup for Water Resource Monitoring

March 4, 2015



Ohio EPA Water Quality Monitoring Program

What:

- biology (fish, macroinvertebrates)
- water column chemistry and bacteria
- flow
- physical habitat
- sediment
- algae/phytoplankton/toxins
- fish tissue



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Where:

- Statewide including rivers, streams, inland lakes and near shore of Lake Erie.
- Not all parameters are collected at each site.



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How:

- variety of chemistry methods including grab samples, composite samples, field meter readings, time series data sensors
- Acoustic Doppler Velocimeter equipment and level sensors for flows
- habitat assessment
- qualitative and quantitative macroinvertebrate samples
- electrofishing



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Ambient Monitoring Stations:

- 40+ stations with quarterly to monthly sampling for up to 30 years
- primarily chemistry with some biology, habitat and/or flow

Reference Sites:

- 500 on a once per 10 year cycle (~50/yr)
- chemistry, biology, habitat



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Watershed Surveys:

- focused effort for 1-2 years collecting data at ~5-square-mile drainage area and up
- to assess status and develop TMDLs as needed
- all data types collected in approximately 5 new watersheds per year

Inland lakes: water column/sediment chemistry

Near Shore Lake Erie: biology, chemistry, sediment

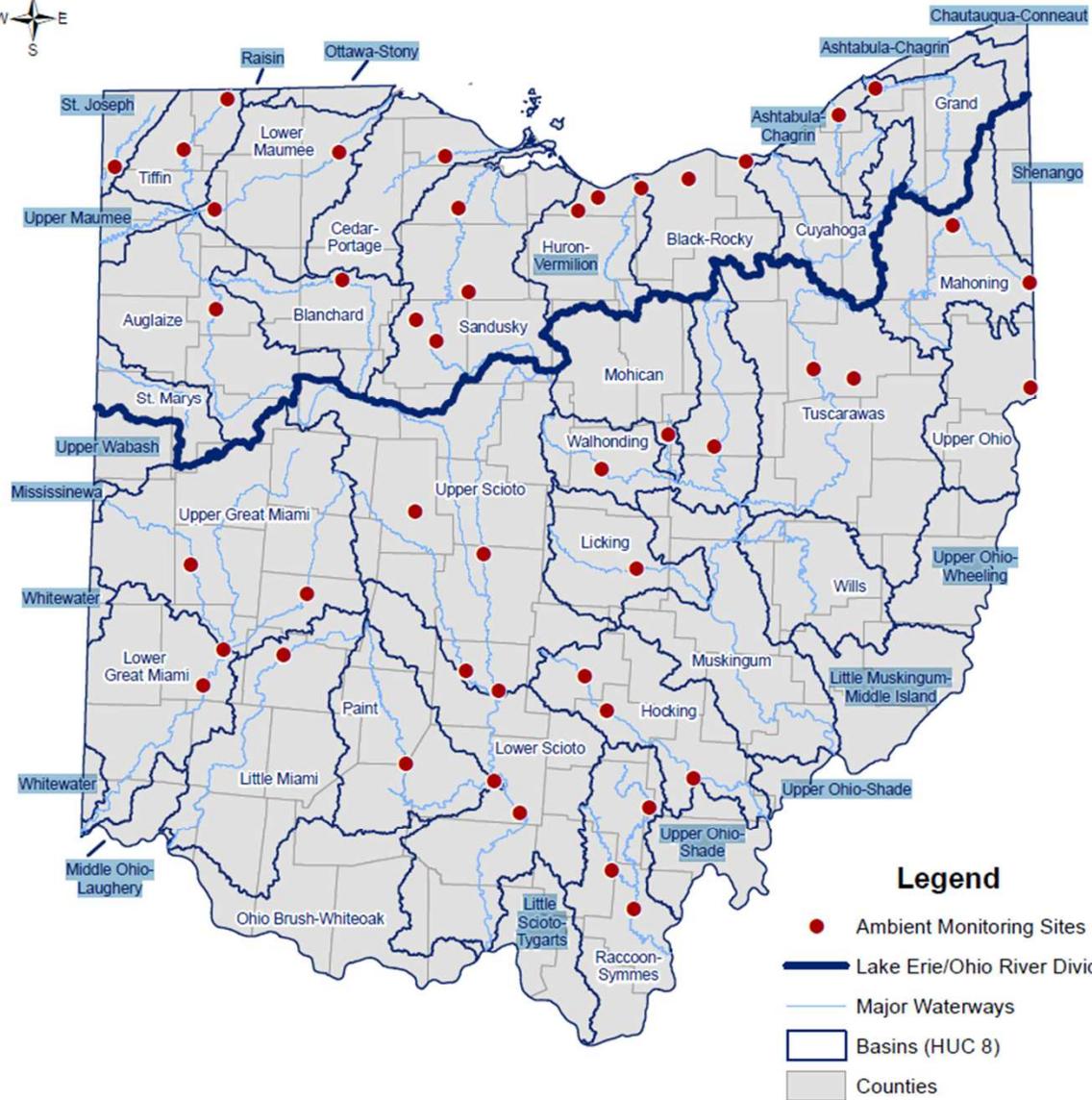


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Special Projects:

- baseline and follow up surveys for Section 319 and other grants
- use attainment analysis for undesignated streams
- identification of high quality resources, etc.





Scioto River (upper) Watershed TMDLs

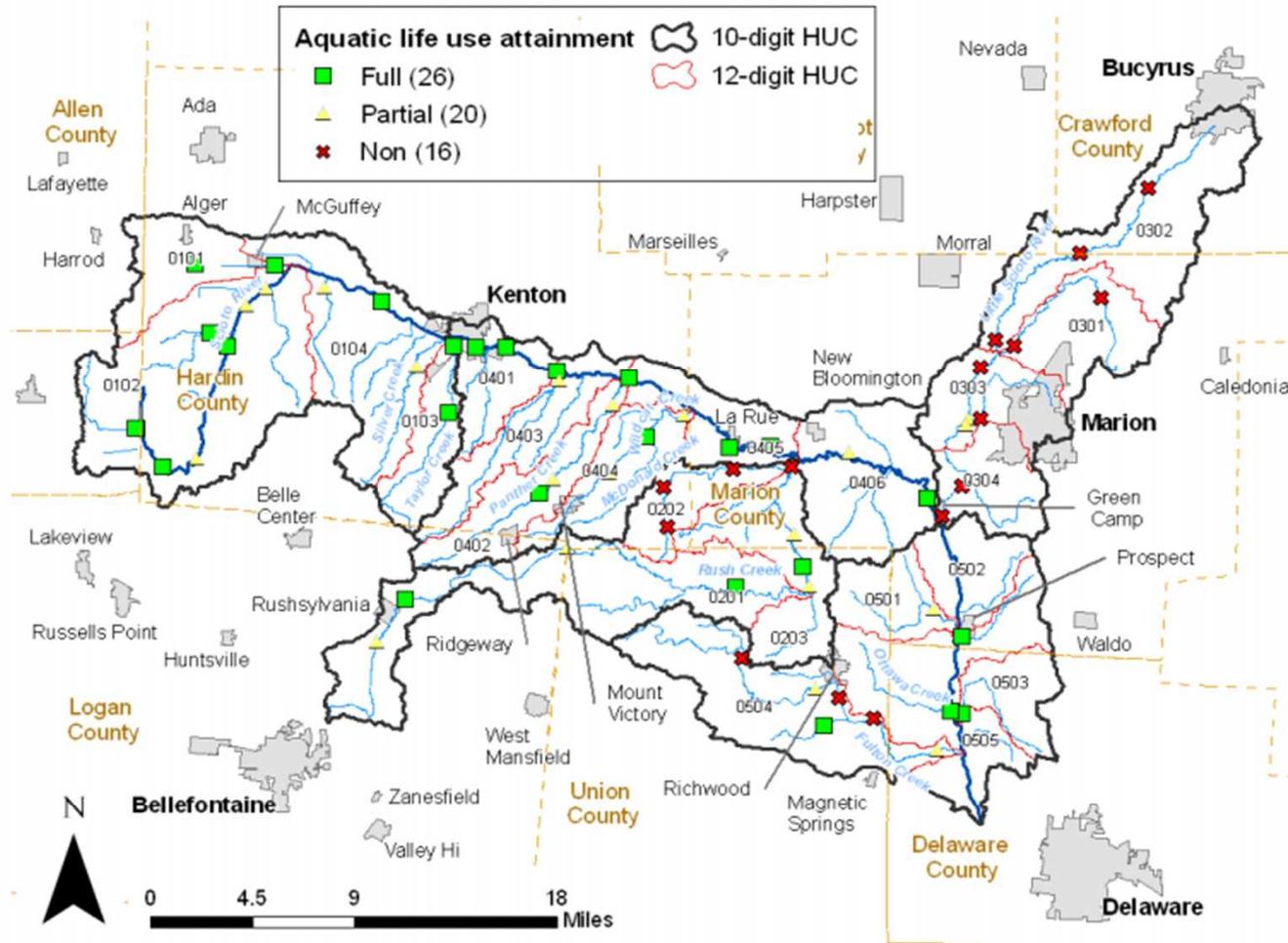


Figure B-4. Spatial distribution of the aquatic life use attainment status of the biological survey sites.

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- Changes in Past 10 years:
 - reduced ambient station frequency from monthly to quarterly
 - reduced sediment sampling
 - reduced parameter list
 - re-started inland lakes monitoring (integrated into surveys)
 - increased focus on data storage and handling and use/assessment of data



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- Anticipated Changes In The Near Future:
 - adding several ambient stations in western Lake Erie basin and southwest Ohio
 - adding biological component to select ambient stations
 - monthly sampling at select ambient stations
 - evaluating Lake Erie sampling locations
 - possible survey design changes for watersheds with approved TMDLs
 - integrating routine wetland monitoring into survey program



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- Questions?
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