Michigan's Participation in the National Wetland Condition Assessment



Michigan Department of Environmental Quality

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"Statistical surveys designed to assess the status of and changes in quality of the nation's coastal waters, lakes and reservoirs, rivers and streams, and wetlands." (USEPA)

Series of surveys implemented by EPA and state and tribal partners addressing 4 waterbody types

- Lakes (2007, 2012, 2017)
- Streams and Rivers (2004*, 2008-9, 2013-14)
- Coastal (2010, 2015)
- Wetlands (2011, 2016)

*Wadeable Streams Assessment (precursor, slightly different but EPA includes it in summaries of all of the NARS)

- Goals
 - Assess all surface waters within the 48 conterminous states
 - Cost effective, nationally consistent, regionally relevant means of tracking status and trends
 - Helps to build and enhance state monitoring and assessment capacity



Builds from decades of research and pilots



National Wetland Condition Assessment

- First national scale evaluation of condition of U.S. wetlands
- Approx 1,000 in the lower 48 states
- Four Ecoregions (very large)
 - Coastal Plains
 - Eastern Mountain and Upper Midwest
 - Interior Plains
 - West



From USEPA 2011 NWCA Fact Sheet

2011 National Wetland Condition Assessment



 Vegetation is used to evaluate biological condition



National Wetland Condition Assessment

- Revealed Leading Problems in Wetlands.
 Largest areas of wetland were degraded by:
 - Surface hardening 27%
 - –Vegetation Removal 27%
 - Ditching 23%
 - –Nonnative plants 19%

National Wetland Condition Assessment

- State of Michigan partnered with USEPA to conduct the 2016 NWCA
- Sites are randomly selected by USEPA using the USFWS Status and Trends Plots

State of Michigan Wetland Monitoring Sites



Michigan had total of 19 sampling events in 2016
-17 sites, 2 revisits

 Michigan contacted landowners for permission to sample sites

National Wetland Condition Assessment

- 4 Person Crew
 - Botanist Lead (MDEQ)
 - Botanist Assistant (MDEQ)
 - Soils Lead (GLEC)
 - Soils Assistant (MDEQ)
- Long Field Days average 8-10 hours onsite, not including travel to and from the site or shipping/handling samples after



National Wetland Condition Assessment

- Protocols included sampling of several parameters:
 - -Vegetation
 - -Buffers
 - -Soils
 - -Hydrology
 - -Microcystin
- Based on a selected Point

2016 NWCA Protocols

- Point Verification verify point is wetland
- Assessment Area confirm AA and document characteristics





From 2016 NWCA Field Operations Manual

2016 NWCA Parameters

Buffer – summarize ground cover and vegetation type, stressors

 Vegetation – document plant species, collected for QA and unknowns



From 2016 NWCA Field Operations Manual

Assessment Area Setup Protocol





Place Veg Plots at specified locations on plot placement lines oriented through the AA CENTER on cardinal directions. Veg Plot 1 is placed 2m from the CENTER. **Plate 2. Wide Polygon AA Veg Plot Layout –** AA = ½ hectare polygon, width and length > 30m.

Example B

40m

4

25m



Place Veq Plots along plot placement lines originating from CENTER and defined by long and short axes of AA.

Example A – Wide Polygon AAs with width > 40 m: Place Veg Plots in a configuration matching the Standard Veg Plot Layout as closely as possible, while distributing Veg Plots relatively evenly along plot placement lines.

Example B – Wide Polygon AAs with width 30 to 40 m: Place 1 Veg Plot mid-way between the CENTER and AA boundary along only one placement line of the short axis, and 4 Veg Plots at uniform distances along long axis.

From 2016 NWCA Field Operations Manual



MDEQ map







2016 NWCA Parameters

- Soils soils profile and documentation, samples for lab
- Hydrology water source, stressors, recent indicators
- Water Chemistry samples collected for lab analysis
- Microcystin sample collected for lab analysis



2016 NWCA Future

2016 NWCA Site Data will be included in Michigan's Statewide Wetland Monitoring and Assessment Report



It's important for states to participate in NWCA to

- Build state monitoring and assessment programs (training, equipment, consistent protocols)
- State/tribal/local partners have local knowledge – better understanding of landscape, vegetation, and stressors
- More data collected in future NWCAs (2021, 2026, 2031, 2036....)
- You get to see things no one else does



Questions?