OHIO: WATER QUALITY MONITORING NETWORK

The Ohio Environmental Protection Agency (Ohio EPA) has assisted in the establishing a comprehensive/continuous water quality monitoring network specific to tracking progress toward meeting the Ohio Domestic Action Plan and Annex 4 goals.

Monitoring locations have been established at 41 Lake Erie tributary sites. These are located at key subwatersheds and the most practical locations near the mouths of direct primary tributaries to Lake Erie. The monitoring stations are maintained and sampled by Heidelberg University’s National Center for Water Quality Research (NCWQR) and U.S. Geological Survey (USGS). Ohio EPA will coordinate these monitoring activities with other jurisdictions, particularly for the Maumee River watershed shared with Michigan and Indiana.

Ohio EPA, in cooperation with NCWQR and USGS, will continue to develop and implement a program to monitor and track water quality improvements resulting from nutrient reduction practices and best management practices. These correlations will be developed at the finest scale practical, whether it is edge-of-field or watershed level.

In an effort to increase coverage of water quality monitoring stations, the USGS is installing “Super Gages” which are conventional streamflow gages equipped with continuous water quality monitors. Once calibrated, these gages will provide real-time data, which will help improve the understanding of watershed processes.

Funds for the load monitoring stations are from federal, state, and local governments, as well as private enterprises. In 2018 monitoring partners brought four new stations online. Annually, between 100-500 water quality samples are collected at every site. The timing of which samples are collected is strategic to allow for the calculation of continuous nutrient loads. These loading data allow for a better understanding of each tributary’s contribution to nutrient delivery to Lake Erie. They are also used to track changes in nutrient delivery based on land use changes/best management practices adoption.

Results from water quality monitoring at 9 locations in Ohio can be found in the Water Monitoring Summary, which is published by the Ohio Lake Erie Commission. The Water Monitoring Summary, which is published annually, provides a brief background on water quality monitoring as well as reports out Spring loadings for Dissolved Reactive Phosphorus, Total Phosphorus and Nitrogen.

In 2019 the Ohio Lake Erie Commission will also release an expanded summary that includes the nutrient loading data for all Lake Erie tributary monitoring sites. This expanded report will be accompanied by a spreadsheet in which the actual loading and flow weighted mean concentration values for each site can be downloaded.
In addition to the Water Monitoring Summary, tributary data from the National Center for Water Quality Research (NCWQR) is publicly available on their [website](#), which is updated on a quarterly basis. The NCWQR also provides a Quality Assurance Project Plan, tutorials on how different loadings are estimated, and a tool to estimate nutrient loadings from tributaries.

All of the water quality chemistry samples that USGS collects can also be downloaded from their website. Most of the sites in the Maumee River basin that USGS monitors can be accessed via a map based [website tool](#).

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