

Water Quality Trading in the Great Lakes: The Erie P Market

In January 2016, the Great Lakes Commission launched the Erie P Market to test water quality trading as a market-based nutrient reduction tool in the Western Lake Erie Basin (WLEB). In December of 2017, representatives from state environmental and agricultural agencies in Michigan, Ohio, and Indiana, signed a [Memorandum of Understanding \(MOU\)](#) that acknowledges the [Erie P Market Framework](#) as a potential guiding tool for intra and inter-state water quality trading in the WLEB. The province of Ontario also participates in the project as an observer. The Great Lakes Commission is currently in the process of recruiting credit sellers to pilot the Framework in key WLEB watersheds.

What are/were the drivers for starting a water quality trading program?

Runoff leaving agricultural fields and other non-point sources can contain phosphorus and other nutrients that ultimately end up in the Great Lakes and surrounding tributaries. This process of nutrient loading is directly linked to long-standing water quality issues in the WLEB such as the formation of Harmful Algal Blooms (HABs). The potential danger posed by HABs was brought to public attention in the summer of 2014, when Microcystin, a naturally occurring toxin associated with HABs, was detected near WLEB drinking water intakes. As a result, the nearly half million people who live in and around Toledo, Ohio and depend on the WLEB for their drinking water were unable to use their tap water for several days. Thankfully, Microcystin has not been detected near these intakes since 2014, but the potential for the problem to reoccur lingers as algal blooms continue to form each summer. The Erie P Market was created as an additional tool to combat nutrient-loading and HABs on a watershed-wide scale in the WLEB.

What do you hope to achieve with the program?

The goal of the Erie P Market is to improve water quality in the WLEB by incentivizing conservation actions on agricultural land to reduce the runoff of total phosphorus. Unlike many other water quality programs that have jurisdiction within a single state or province's boundaries, the Erie P Market Framework is designed to function across political lines. We believe that improving coordination between the three states and province that share the WLEB can increase the efficiency of future efforts to tackle this shared problem. The successful creation of the Erie P Market Framework and signing of the accompanying MOU by representatives from six agencies in three states has already moved the needle closer to achieving this goal.

What was the process to get the program created and running, and who are the players in the process?

In 2015, the Great Lakes Commission received a Conservation Innovation Grant (CIG) from NRCS to create and pilot the Erie P Market. Shortly thereafter we got to work building a diverse group of stakeholders from state/provincial and federal agricultural and environmental agencies, local conservation districts, and leading environmental and non-profit organizations with a presence in the WLEB. A subset of this [Trading Advisory Group \(TAG\)](#) was also designated as a [Project Management Team \(PMT\)](#), relied on more heavily for key administrative decisions. To date, the TAG and/or PMT have been convened for

13 webinars, and 4 in-person meetings. The discussions that took place at these meetings as well as multiple rounds of requests for feedback from TAG and PMT members ensured that the Erie P Market considered a wide-breadth of technical and administrative details.

Prior to drafting the Erie P Market Framework, research was done on existing programs and rules in each state and province within the WLEB, as well as other water quality trading programs. The results are summarized in a [Cross-cut Analysis of WQT Programs for WLEB Trading Considerations](#). Using the existing water quality trading rules and programs as a guide for the formulation of the Erie P Market Framework, we next set out to assess the potential supply of water quality credits, buyers of those credits, and the presence or absence of drivers for participation in the market. This assessment is summarized in a [Supply and Demand Technical Memorandum](#).

With the Erie P Market Framework Complete, and the MOU signed, several outreach flyers were created. These materials provide a succinct explanation of what it takes to become a [compliance buyer](#), [stewardship buyer](#), or [credit seller](#). The Great Lakes Commission continues to work with TAG and PMT members to recruit participants for the piloting of the Erie P Market.

What challenges did you face in development and implementation of your program?

Creating a framework that satisfied the rules and regulations of different state and provincial agencies with jurisdiction over portions of the WLEB was a delicate process. Our challenge was to create a trading program framework with guidelines that were concrete enough to yield defensible water quality benefits, but malleable enough to be accepted by siloed state and provincial agencies. Although our Canadian partners were active participants in the Erie P Market Framework's creation, the political complexities of purchasing credits across an international border did not allow them to sign the MOU alongside their US state agency counterparts. In addition, the background research on supply and demand concluded that a significant compliance driver does not currently exist in the WLEB. As a result, the Erie P Market Framework was designed to also allow for stewardship crediting, opening the market to a more diverse set of potential buyers.