

Pre-Workshop Reading Materials for Healthy Urban Waters 2021: Working Group on Contaminants of Emerging Concern in the Huron-to-Erie Corridor

Introduction

With previous support from the Fred A. and Barbara M. Erb Family Foundation, Healthy Urban Waters (HUW) is now formally embedded within Wayne State University (WSU). HUW plays a significant role in research and outreach associated with the Huron-to-Erie corridor and the watershed that impacts these significant freshwater resources. Our urban watershed needs continued and expanded services to combat *new* threats. This program serves this need.

Contaminants of emerging concern (CECs) may be chemicals, such as pharmaceutical and personal care products (PPCPs), pesticides, per- and polyfluoroalkyl substances (PFAS), and microplastics, that were not previously detected, have unknown public health or ecological impacts based on the levels detected in the environment, and/or remain unregulated. Our previous studies evaluated over 150 CECs in the Great Lakes ecoregion in the Lake Huron to Erie corridor centered around Detroit. The support for this program from the Fred A. and Barbara M. Erb Family Foundation will help expand our efforts to meet these regional needs in collaboration with our partners in the watershed.

Program Activities and Outcomes

HUW's vision for healthy and sustainable urban waters is achieved through education, technology transfer, research and collaboration. The following program activities will advance this vision.

Outcome #1: Development of a *strategic plan* for understanding and communicating the presence, source, treatment and mitigation options for contaminants of emerging concern in the Huron to Erie Corridor watershed and adjacent resources.

Activities: We will collaborate closely with regional watershed organizations, local and regional governments, water utilities and regulatory agencies to understand and document existing sources of information about CECs in the region. Meetings and discussions with these partners will be held before developing the strategic plan that will guide program activities. The strategic

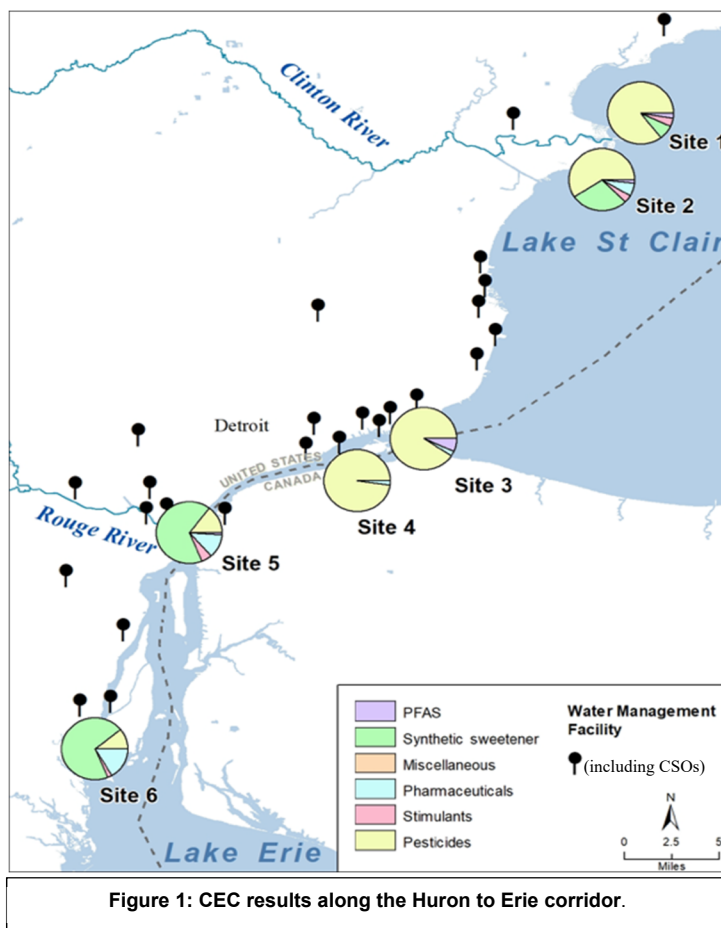


Figure 1: CEC results along the Huron to Erie corridor.

plan will address raw/source water inputs to drinking water systems, wastewater, groundwater, surface run-off, and other point and non-point contributions of CECs to the corridor. The plan will also outline advocacy activities that will lead to greater protection from CECs for the corridor. While a significant portion of the sampling plan has already been designed to prepare for this funding, the strategic planning workshop will seek additional input. The sampling plan and other parts of the program will undergo further development as part of this effort.

Prior HUW programs funded by the Fred A. and Barbara M. Erb Family Foundation over the past six years focused on broad-based capacity building and environmental stewardship within the Huron-to-Erie Corridor. This program will focus on emerging contaminants in the corridor at a more quantitative level and with greater coordination with stakeholders. We will build on and expand connections with community groups, watershed organizations, local and regional water utilities and government agencies. More significantly, we will deepen the relationships and collaborations that already exist. These relationships will be essential to the development of an inclusive strategic plan focusing on CECs for the next three years.

The strategic planning effort will be informed by reviewing literature, data and documents compiled by our team during the first three months of this program. A strategic planning workshop in October 2021 will be designed to ensure that the subsequent 2 ½ years of effort will benefit from the input of all interested stakeholders. Support from workshop collaborators and participants will be essential for program success. The resulting **strategic plan** will provide a roadmap for Outcome #2 and Outcome #3. This roadmap will clarify technical sampling and analysis questions such as which specific CECs to investigate, other parameters to be monitored (e.g., temperature, flow, turbidity, conductivity, phosphorus, and nitrogen), sampling locations and media, and sampling frequency. The plan will also address questions about coordinated information platforms, outreach activities, and other information-sharing practices.

Outcome #2: Informational materials from *collected data* (maps, reports, educational tools, videos, research articles, and exhibits) that describe and document the presence, source, treatment and mitigation options for CECs in the Huron to Erie Corridor watershed. Materials may advocate for mitigation of CECs within water resources of the Huron-to-Erie Corridor.

Outcome #3: Collaboration platform for water resource quality in the Huron to Erie corridor.

HUW will continue collaborating with community, watershed organizations, water utilities, and other stakeholders. Our existing events, Water@Wayne and the HUW Symposiums, will continue and will partner with local organizations to expand our engagement with residents through “taking the talks to the community.” Our annual symposiums in partnership with the Great Lakes Water Authority (held at Water Works Park) will also continue. These exchanges have put researchers in direct contact with the engineers and technicians that have daily responsibility for water and wastewater operations, enabling technology transfer in two directions. We intend to increase efforts to empower community groups in bringing critical research topics, including contaminants of emerging concern, to the attention of the regulatory and industrial sector. This collaboration platform will include various tools, including data dashboards, exhibits, seminars, symposiums, videos and social media.