



Metropolitan Water Reclamation District of Greater Chicago

Press Release

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New study of Endocrine Disrupting Chemicals in Chicago area waterways completed

Three university researchers and a Metropolitan Water Reclamation District of Greater Chicago (MWRD) scientist have chronicled the presence and biological effects of Endocrine Disrupting Chemicals (EDCs) in Chicago area waterways to determine the impact of these unregulated chemicals on urban waterways. Their findings concluded that EDCs are found throughout the waterways but exposure to the waterways showed no immediate harm to fish populations.

EDCs are found in many household and industrial products such as pharmaceuticals and personal care products. Because there is uncertainty on the overall impact of these unregulated chemicals on urban waterways, Thomas Minarik, MWRD Senior Aquatic Biologist, and others began studying the presence and biological effects of these chemicals throughout the waterways. Joining Minarik were Dr. Heiko Schoenfuss, St. Cloud State University in St. Cloud, MN; Dr. Dalma Martinovic-Weigelt, University of St. Thomas in Minneapolis, MN; and Dr. Melissa Schultz, College of Wooster in Wooster, OH.

The team collected and archived more than 1,000 water samples from 45 locations on the waterways from January 2009 through July 2012. Approximately 3,000 fish were analyzed and a mobile laboratory trailer was used to investigate sources of EDCs.

“Collaboration between academia and industry was exemplary for this study as both complimented one another toward the challenge of understanding this complex issue for an entire urban area,” said Minarik.

The group discovered that EDCs, including estrogens and personal care products, are common in the waterways, which is a finding that is consistent with other studies both nationally and globally. These compounds originate from runoff from streets after snowmelt and heavy rains, from treated wastewater, and from other sources. Water reclamation plants are not designed to completely remove these chemicals. Many EDCs can be controlled by properly disposing pharmaceuticals and pet waste, using bio-degradable cleaning supplies, and discontinuing the use of soaps that contain antibacterial agents.

“Most endocrine active compounds begin their journey into the aquatic environment in our own households and with our own actions. Every one of us can contribute to a reduction of these compounds in the wastewater stream by being more aware of the products used and their appropriate means of disposal,” said Dr. Schoenfuss.

Findings from this study will be published in the journal *Environment International*, and the *Journal of the American Water Resources Association* in three separate papers cited below. Additionally, the research team was recently awarded a National Science Foundation grant to continue their research in the Chicago area waterways as the MWRD works to upgrade two of its water reclamation plants to disinfection, which may lower the concentrations of endocrine disrupting chemicals in their effluents.



Sunfish in the holding tanks were collected at different locations within the Chicago area waterways as part of a study and are awaiting examination for evidence of endocrine disruption.



Thomas Minarik, MWRD Senior Aquatic Biologist, and three other scientists deploy a cage of fish in Salt Creek as part of a study to determine the presence and biological effects of Endocrine Disrupting Chemicals in Chicago area waterways.

Established in 1889, the MWRD (www.mwr.org) is an award-winning, special purpose government agency responsible for wastewater treatment and stormwater management in Cook County, Illinois. **Our water environment, take it personally.**