

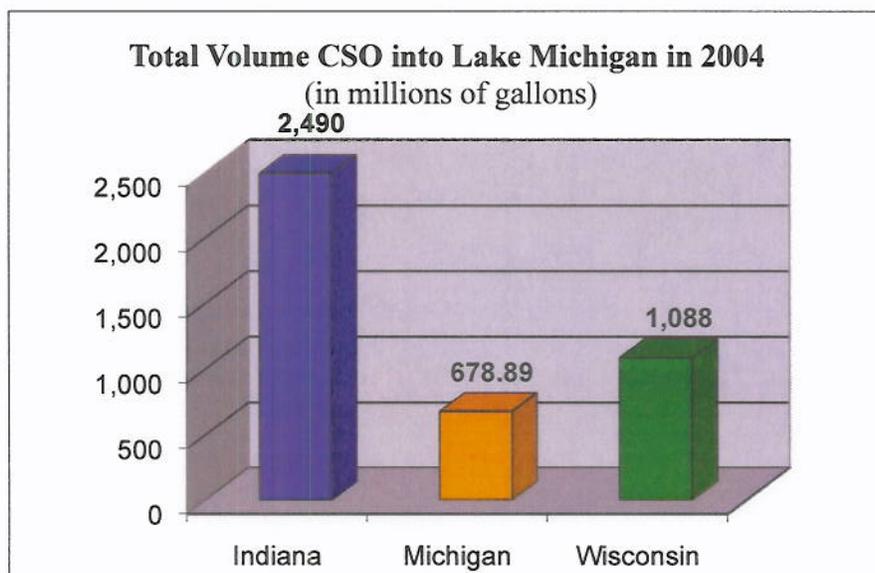
SEWAGE POLLUTION

➤ **Grade: C**

Explanation: While sewage pollution has declined, millions of gallons of runoff and sewage overflow are dumped into Lake Michigan each year, devastating to the environment and causing beach closures.

The Great Lakes are the source of drinking water for 30 million Americans. Lake Michigan, the Crown Jewel of the Midwest, provides miles of beaches, habitat and water recreation to millions of Illinoisans.

Many cities along the Great Lakes do not have the necessary infrastructure to divert sewage overflows during times of heavy rainfall. More than 24 billion gallons of sewage are dumped in the lakes each year; Detroit alone dumps an estimated 13 billion gallons of sewage into the Great Lakes annually. Research conducted by the U.S. Environmental Protection Agency showed 30 communities contain a total of 347-combined sewer outflow (CSO) outfalls that discharge into the Lake Michigan basin. Eighteen of those communities are in Indiana, 11 are in Michigan, and one is in Wisconsin. According to data from the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC), 6.5 billion gallons were discharged into Lake Michigan in 2010, and 107 million gallons were discharged into the lake from the Chicagoland area this year. Improving Chicago's storm water storage and treatment infrastructure is necessary to improve water quality in the area and mitigate direct public health implications of sewage pollution.



➤ **Action Item: Deadline to End Sewage Dumping in the Great Lakes, Disinfect the Chicago River**

Sewage dumping contributes to hundreds of beach closures along the Great Lakes each year. To fight back, Senator Richard Durbin (D-IL) and Senator Kirk introduced S. 147, *The Great Lakes Water Protection Act*, to give cities until 2031 to build the full infrastructure necessary to prevent sewage dumping into the Great Lakes. Violators of EPA sewage dumping regulations after 2031 will be subject to fines up to \$100,000 for each day a violation occurs. These fines will be directed to a newly established Great Lakes Clean-Up Fund within the Clean Water State Revolving Fund. Fines collected would go into this fund and be reallocated to the states surrounding the Great Lakes for wastewater treatment, habitat protection, and wetland restoration.

As part of a local effort to improve water quality in the Chicago Area Waterway System (CAWS), it is time to clean up the Chicago River to ensure that it is safe for recreational activities such as boating and swimming. Chicago is the only major city that does not disinfect its wastewater. The EPA has called for an aggressive cleanup of the Chicago River and in June 2011, MWRDGC voted to disinfect the wastewater dumped into the Chicago River. Seventy percent of the water in the Chicago River is made up of sewage or “effluent” material. In the near-term, it is important to work with local and state officials to see that this is completed to reduce the threat to public health and the environment. The Chicago River supports over six million residents in the city and it is time to disinfect sewage effluent that is dumped into river that runs through the nation’s third largest city.

MERCURY CONTAMINATION

➤ Grade: Incomplete

Explanation: Gaps in our knowledge of mercury levels in the Great Lakes make it very difficult to accurately grade the status of mercury in Lake Michigan. There is currently not enough data collected on Lake Michigan to understand the levels of harmful mercury or methyl mercury within the water column.

Mercury (Hg) is an element that is found naturally in minerals, rocks, plants soil, water, and the air. As it enters the environment through soil and lakes, mercury can be converted to a more toxic form, called methyl mercury, by bacteria. Methylmercury (MeHg) is particularly concerning since large amounts of methyl mercury can accumulate in fish tissue.

Human exposure to methylmercury most directly occurs through consumptions of contaminated fish. Mercury is a neurotoxin that can cause permanent developmental effects in young children. Mercury can adversely affect the human nervous system, brain function, and cause birth defects. EPA estimates that more than 300,000 newborns in the U.S. are born with unsafe levels of mercury in their system every year.

Although mercury levels in Lake Michigan are poorly understood, direct effluent discharge from industrial facilities, runoff from urban areas and atmospheric deposition to surface water and the surrounding watershed are all likely pathways for mercury into the Great Lakes. Mercury and Polychlorinated Biphenyls (PCB's) are two of the most common contaminants in aquatic ecosystems.

Total mercury levels in sediment and fish will vary depending on the ecology of the areas and the ability of various organisms to sequester mercury from the environment. Inland lakes tend to have higher concentration for mercury than the Great Lakes. Lacking a consistent monitoring program, fish advisories of our inland lakes are a clear indicator that mercury levels are indeed a problem in the Great Lakes region. Currently all of the states and provinces on the Great Lakes Region have fish consumption advisories due to methylmercury contamination for inland lakes and their connecting waters. The Illinois Department of Public Health has issued a statewide methylmercury advisory for predator fish, including a variety of bass, walleye, pike, and catfish. Although, current fish advisories for mercury for the Great Lakes region are for inland water bodies, this should not discount the serious threat mercury poses to the environment and Lake Michigan.