

## **Target of Delisting the Beach Closings Beneficial Use Impairment in the Muskegon Lake Area of Concern**

### Introduction

In 1999, 2000, and 2001, excessive quantities of raw sewage were discharged into Muskegon Lake due to the failure of sewers and lift stations. Human contact advisories were posted during these events and millions of gallons of untreated sewage were discharged. In addition to sewage overflows, a tributary of Muskegon Lake, Ruddiman Creek, is on the MDEQ 303(d) list for pathogens. High levels of *E. coli* have been historically reported in this tributary and the source is unknown.

### Available Guidance

The Michigan Department of Environmental Quality has established the following restoration criteria for the Beach Closings Beneficial Use Impairment:

“This BUI will be considered restored when no waterbodies within the AOC are included on the list of impaired waters in the most recent Water Quality and Pollution Control in Michigan: Section 303(d) and 305(b) Integrated Report.”

### Delisting Target

Ruddiman Creek is currently on the Section 303(d) list for pathogens. Identification of the sources of *E. coli* and their remediation will be required for delisting. Because of the importance of Muskegon Lake as a recreational resource and the history of sewage infrastructure failures in its immediate watershed, the Muskegon Lake Public Advisory Council (PAC) voted to adopt a target for delisting the Beach Closings BUI that is more restrictive than the State of Michigan guidance. In addition to the identification of the source(s) and remediation of the pathogen problem on Ruddiman Creek, the PAC will require that contact advisories are not placed on Muskegon Lake due to sewage infrastructure failure.

The **Beach Closings BUI** will be considered restored when: (1) no waterbodies within the AOC are included on the list of impaired waters in the most recent Water Quality and Pollution Control in Michigan: Section 303(d) and 305(b) Integrated Report and (2) contact advisories have not placed on Muskegon Lake due to sewage infrastructure failure for three consecutive years beginning in 2006. Ruddiman Creek is the only waterbody in the Muskegon Lake AOC listed in the 2006 Integrated Report for pathogens. Compliance with the first part of the target will be achieved when Ruddiman Creek is no longer included in the 303(d) list of impaired waters.

The PAC will work with the MDEQ to develop the monitoring and assessment program for Ruddiman Creek as part of the TMDL process.

### Functional Equivalence

The proposed targets for the Muskegon Lake AOC are functionally equivalent to the MDEQ guidance as they require that no waterbodies within the AOC are included on the list of impaired waters in the most recent Water Quality and Pollution Control in Michigan: Section 303(d) and 305(b) Integrated Report as a condition for delisting. Ruddiman Creek is the only waterbody within the AOC that is listed in the 2006 Integrated Report and delisting of the BUI requires restoration to the extent that it is removed from the 303(d) list. The targets exceed the MDEQ guidance as they require that contact advisories are not placed on Muskegon Lake due to sewage infrastructure failure for three consecutive years beginning in 2006. Muskegon Lake is not included in the 2006 Integrated Report for pathogens.

### Programs for Monitoring and Assessing Restoration Success

Funding for the monitoring and assessment of Ruddiman Creek will be provided by the MDEQ as part of the TMDL process. If necessary, additional funds will be solicited by the PAC and/or Annis Water Resources Institute from the MDEQ CMI Program and GLNPO for supplemental monitoring and outreach programs. Quality Assurance Project Plans will be prepared for all supplemental assessment activities and agency approval will be obtained for all monitoring programs. All releases of sewage are reported to the Muskegon County Health Department and consequently, a specialized monitoring program is not necessary for Muskegon Lake.

Once three successive years of no contact advisories being placed on Muskegon Lake from sewage infrastructure failure has been achieved, the MLPAC will submit a status report to the MDEQ along with the acknowledgement that the BUI no longer applies to Muskegon Lake. The MLPAC will submit a request for formal delisting of the Beach Closings BUI to the MDEQ when the TMDL process results in the removal of Ruddiman Creek from the 303(d) list and no contact advisories were placed on Muskegon Lake from sewage infrastructure failure for three consecutive years.