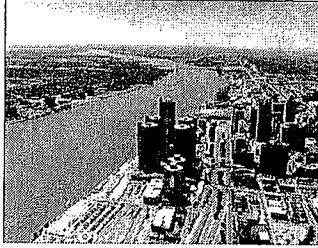


## Ecorse and Detroit Rivers Pre-Total Maximum Daily Load Stakeholder Meeting



Michigan Department of Environmental Quality, Water Bureau  
March 22, 2007

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### Meeting Objectives:

- TMDL background information
- Impairments
- Proposed *E. coli* sampling locations



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### What is a Total Maximum Daily Load (TMDL)?

- Section 303(d) of the Clean Water Act requires development of TMDLs for waterbodies that are not meeting water quality standards.
- $TMDL = \sum WLA_s + \sum LA_s + MOS$
- TMDLs can cover a wide variety of pollutants



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## How will the TMDL process work?



- The TMDL establishes allowable loading of pollutants to meet WQS based on pollution sources and in-stream conditions.
- The process allows the DEQ to establish controls to reduce pollution and restore the quality of the resource.

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## Impaired Reaches - *E. coli*

### Ecorse River - 25 Miles

·Detroit River confluence upstream, including Ecorse Creek and La Blanc Drain

### Detroit River - 25 Miles

·Lake Erie inlet upstream to the Lake St. Clair outlet

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## *E. coli* TMDL Development

- EPA has provided contractual support for assistance with sample collection in 2007
- TMDL will be a joint effort between DEQ and ECT in 2008
- Public involvement will be part of the process

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## The Basics...

- *Escherichia coli* is a sub-set of fecal coliforms whose presence indicates fecal contamination
- It is associated with the fecal material of warm-blooded animals and is an indicator organism used to predict the presence of other harmful microorganisms



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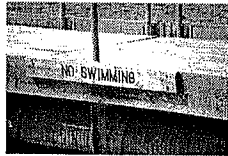
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## What are the impacts associated with *E. coli*?

- When *E. coli* and associated microorganisms are ingested, they can cause severe sickness.
  - Bacterial infections - Cholera, salmonellosis
  - Viral infections - hepatitis, gastroenteritis
  - Protozoa infections - cryptosporidiosis, giardiasis



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## How much is too much?

- Michigan's WQS for total body contact for *E. coli* is 130 *E. coli* per 100 ml (as a 30-day geometric mean) or 300 *E. coli* per 100 ml (during the same sampling event)
- Total body contact recreation May 1 to October 31



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## What are the sources of *E. coli*?

- Two major ones: Point and non-point sources.
- Point sources directly discharge to a waterbody via a pipe (WWTP or CSO).



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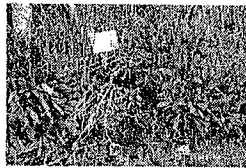
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## ■ Non-point sources:

- Failing septic systems



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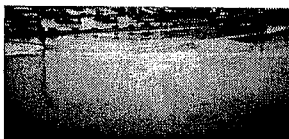
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## • Overland Run-off



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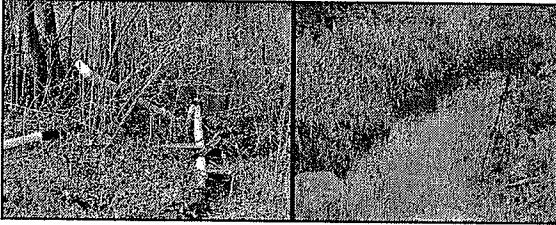
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■ Illicit discharges



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TMDL information

- Recently began developing load based *E. coli* TMDLs
- Allowable *E. coli* in both rivers will be 130 *E. coli*/100 ml as a thirty-day geometric mean and 300 *E. coli* per 100 ml as a daily maximum.



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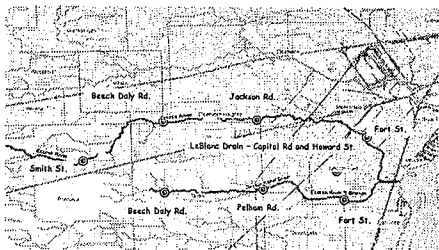
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2007 Proposed Ecorse River  
Sampling Locations



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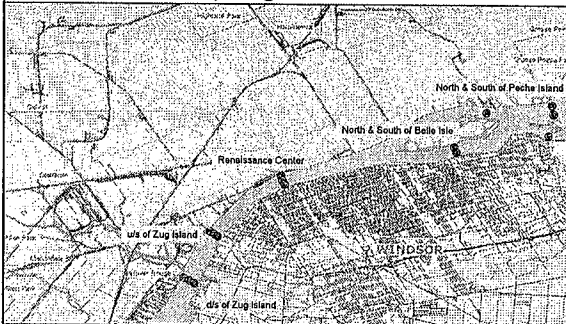
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## 2007 Proposed Detroit River Sampling Locations




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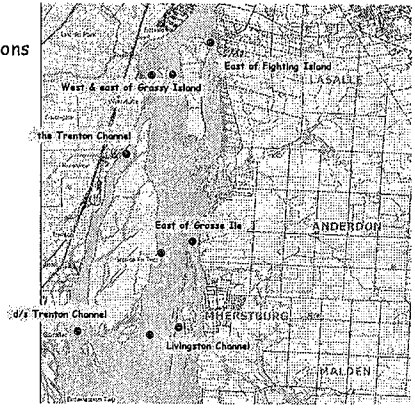
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### Detroit River sampling locations - continued




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### Available Water Quality/Quantity Data

- Illicit Connection Elimination for Ecorse Creek - Final Report (June 2005)
- Ecorse Creek Watershed Management Plan (May 2006)
- Upper Great Lakes Connection Channel Study (Dec 1988)
- Steady-state Flow Distribution in the St. Clair and Detroit Rivers (Aug 2001)
- CSO Plume Tracking Study in the Detroit River (2003)
- MDEQ CSO/SSO Annual Report 2004

*NB*  
 • *Ecorse Creek*

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Comments on proposed sampling locations

- Provide feedback by April 9, 2007
- Interested in local knowledge of water quality problems
- Encourage local participation and resource sharing



— some BST

MDEQ Information

- Contact: Christine Alexander
- Constitution Hall  
525 W. Allegan 2<sup>nd</sup> floor  
South Tower  
Lansing, MI 48933
- 517.373.6794 or  
alexandc@michigan.gov



— Sampling May - Oct 07

— Can share data as ~~soon~~ goes

— Schedule: draft  
late spring 2008  
Final 2008

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