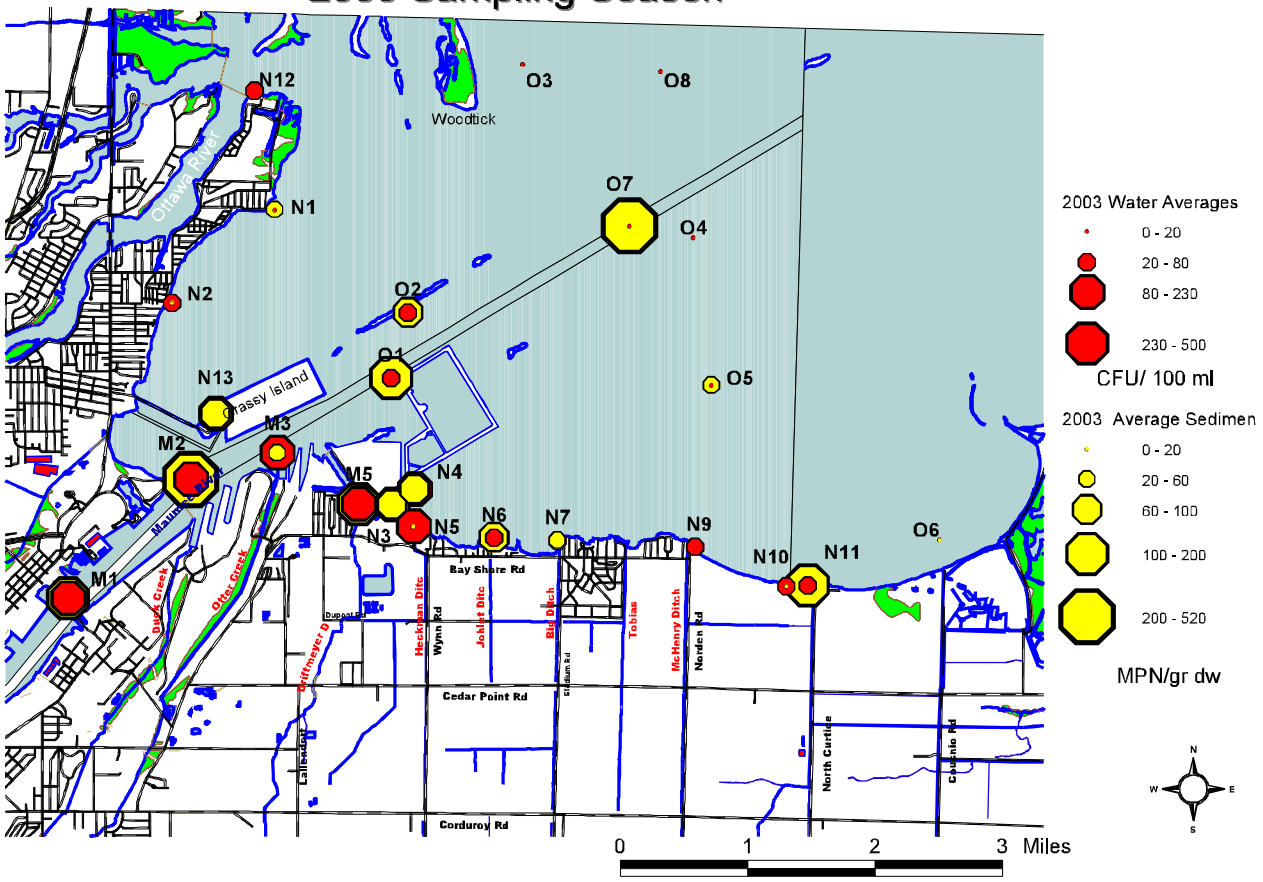
Maumee Bay Bacteria Study

E. coli Density Averages
2003 Sampling Season



2003 Data Suggest

- The Detroit River is not a significant source to Maumee Bay
- The Ottawa River does not appear to have a significant impact on Maumee Bay
- Concentrations of E. coli in water and sediments were higher in or near the Maumee River than at other sites. The Maumee River appears to be a significant source of E. coli in Maumee Bay.
- Bacteria levels coming out of the Toledo Edison Bayshore channel are about the same or slightly lower than the levels entering it.
- Most of the ditches flowing into the bay in Oregon and Jerusalem Township have a small impact, except for Berger Ditch/Wolf Creek, which appears significant.
- Very high E. coli densities were found in sediments of the shipping channel. Tests were conducted only at one site, roughly Lake Mile 3.5. E. coli concentrations in the water were low at this site, averaging less than 20 colonies/100 ml.
- Concentrations of E. coli were in the same range upstream and downstream from the Toledo Bay View Wastewater Treatment Plant. Concentrations of E. coli near the outfall of the Oregon WWTP were also at the same level as nearby sites. This indicates that wastewater plants were not significant contributors of E. coli to the bay on the days sampled in 2003.

2004 Questions

- What is the relation between E. coli from Berger Ditch and levels at the Maumee Bay State Park Lake Erie beaches?
- What area of the bay does Berger Ditch/Wolf Creek impact?
- Are there high E. coli densities at sites in the shipping channel sediments besides the site sampled in 2003?
- What are the E. coli sources in the Maumee River, and how far upstream are E. coli concentrations elevated?

2004 Sampling

Discontinue sampling at sites where high E. Coli concentrations were not found in 2003, and concentrate efforts at and extending from sites where high levels were found.

Berger Ditch/Wolf Creek
- Add an offshore sampling site northwest of the ditch

Shipping Channel
- Continue sampling at the 2003 sites near the CDF, and Lake Mile 3.5.
- Add a sampling point near Lake Mile 5.
- Add a sampling point between the 2003 sites at CDF 3 (Lake Mile 2) and Lake Mile 3.5.

Maumee River
- Add three sampling sites for 2004, which will provide E. coli data for sediment and water further upstream, but not will not provide definitive answers on sources:
  - Maumee River below Swan Creek
  - Maumee River at the Toledo Zoo
  - Maumee River below Perrysburg

The Maumee Bay Bacteria Study is being conducted by the University of Toledo Lake Erie Center, the US Geological Survey, and the Toledo Metropolitan Area Council of Governments (TMACOG). It is a three year study (2003-2005) to improve our understanding of the sources of E. coli bacteria impacting Maumee Bay, their movement, and survival.

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