

Breakout Group Two: Option 1

Monitoring for Bacterial Contamination in the Lake St. Clair Watershed

Moderator: Steve Lichota, Assoc. Director, Environmental Health, Macomb County Health Department

Jim Buzonik, Macomb County Health Department

- Lowest number of beach closures in Macomb County in the last 8 years
- 44 of the 50 closures were at beach
- Rain events double the amount of E coli
- In trying to get significant correlations, precipitation is very important at 3 beaches, air temperature is also an important factor
- Shoreline sampling has proven very important – drains have shown very high levels of E coli. Illicit connections have been removed, and E coli numbers have improved significantly
- Macomb County IDEP has reduced 32,176,940 gallons per year of wastewater

Kristen O. Jurs, Stormwater Coordinator, St. Clair County Health Department

- Goals of St. Clair IDEP are to increase water quality and decrease amounts of beach closures
- Outfalls have been identified and mapped using GIS – 3,087 miles of streams/ditches have been surveyed, 6,170 outfalls have been located, 448 illicit discharges have been located
- Developed a Hot List – high E coli levels, also unusual physical parameters (odor, color, clarity)
- 32 million gallons of sewage has been kept out of waterways as result of the program
- Beach closings were down to 6 in 2006 and 2007

Sheridan Haack, U.S Geological Survey, Michigan Water Science Center

- Sources of E coli – wastewater, CSOs, land application of municipal biosolids, illicit connections, animal sources
- Fecal pollution concerns: pathogens – E coli, protozoa, viruses; other concerns – nutrients, organic carbon (oxygen demand), chemicals, pharmaceuticals
- Indicators need to come from fecal sources (need to avoid false positive and false negative readings)
- E coli is poor indicator of viruses or protozoa; but E coli is associated with human disease, inexpensive and easy to test for, and natural waters generally don't have high concentrations of E coli
- Other indicator options: coliphage, clostridium perfringens, bacteroides, genes for bacteria from humans and animals, chemical indicators – perfumes, pharmaceuticals
- E coli is not the problem, necessarily, but is all the other nasty materials that accompany fecal waste in the water