Wet Weather Events (CSO, SSO, storm water and run-off)


**Dry Weather Impacts (algal blooms, wildlife, beach sands, submerged sediments)**


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**Public Communication and Education**


PUBLISHED ABSTRACTS

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Zmuda, J. Estimation of the *Escherichia coli* to fecal Coliform ratio in Wastewater Effluents and Ambient Waters of the Metropolitan Water Reclamation District of Greater Chicago, GLBA, Parma, OH 2004

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Francis, E. Transfer of Antibiotic Resistance Plasmids to *E. coli* in Beach Sand, GLBA, Parma, OH 2004

Kleinheinz, G. Effect of Temperature and Sand on *E. coli* Survival in a Lake Water Microcosm, GLBA, Parma, OH 2004

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Byappanahalli, M. Solar and Temporal Effects on *Escherichia coli* Concentration at a Lake Michigan Swimming Beach, GLBA, Parma, OH 2004


Byrd, D., The Tale of Two Beaches, GLBA, Parma, OH 2004

Dichter, G. Approved US EPA Technology for the Rapid Detection of *E. coli* in Fresh Waters and Enterococci in Marine Waters using DST™ Technology (Colilert®, Colilert-18®, and Enterolert®), GLBA, Parma, OH 2004

Edge, T. Microbial Source Tracking of Fecal Pollution Impacting Lake Ontario Beaches, GLBA, Parma, OH 2004
Francy, D. Source-Tracking Tools for Understanding Fecal Contamination and Predicting Water Quality at Lake Erie Beaches, GLBA, Parma, OH 2004


Kinzelman, J. Using a Public-Health Based Monitoring Program to Assess Recreational Water Quality Advisories and Initiate Remediation - GLBA, Parma, OH, 2004


McDermott, C. Source Tracking of Microbial Contamination at Lake Michigan (Door County, WI) Beaches Using Various Methods, GLBA, Parma, OH 2004

Nevers, M. Fixed and Random Factors Affecting *E. coli* Results at Southern Lake Michigan Beaches, GLBA, Parma, OH 2004

Parramoure, E., J. Kinzelman, and R. Bagley. Lake Michigan Surface Water Quality: Evaluating the Diurnal Variation of *E. coli* and its Response to Environmental Parameters, GLBA, Parma, OH 2004

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Rediske, R. Beach Monitoring in Muskegon County, Michigan: A Partnership between the Annis Water Resources Institute at Grand Valley State University and the Muskegon County Health Department, GLBA, Parma, OH 2004


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Stoekel, D. Results of Microbial Source Tracking Methods Comparison Studies. GLBA, Parma, OH 2004

Whitman, R. Toward a Regional Nowcast Model for Southern Lake Michigan Using Data Readily Available to Beach Managers. GLBA, Parma, OH 2004
Wirick, H. Beaches Environmental Assessment and Coastal Health (BEACH) Act. GLBA, Parma, OH 2004

**Public Communication and Education**

Corsi, S. Monitoring and Public Communication of Enteric Pathogen, Fecal Indicator and Real-Time Environmental Data at Madison, Wisconsin Beaches, GLBA, Parma, OH 2004

**Projects - Ohio State University Sea Grant**

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Heavy Metal Bioremediation Using Genetically Altered Biomass (project R/BT-6), Richard Sayre, The Ohio State University, March 2000-February 2003.

Development of Fluorescent Biosensors for *In Situ* Trace-Metal Quantification and Biomonitoring (project R/BT-8), Richard Sayre, the Ohio State University, June 2003-May 2005.

Understanding the Links between Policy and Patterns of Land Use Change in Urbanizing Watersheds: A Spatial Economic Model of Land Use Conversion (project R/ME-25), Elena Irwin, The Ohio State University, March 2000-February 2002.


Examining the Effects of Lake Water Level Variations on Sediment Resuspension (project R/ES-7), Diane L. Foster, The Ohio State University, March 2003-February 2005.

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Developing a spatial watershed model to predict the effects of watershed policies on coastal water quality and habitat change (project R/EM-23), Jay F. Martin, The Ohio State University, March 2003-February 2005.

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A comparison of Recreation and Amenity Values in the Lake Erie Basin (project R/ME-24), Brent Sohngen & Leroy Hushak, The Ohio State University, March 2001-February 2003.

The Economic Importance of Nature-based Tourism in Ohio’s Lake Erie Tourism industry: The Case of Ottawa and Erie Counties (project R/ME-27-PD), Leroy J. Hushak, The Ohio State University, April 2001-February 2002.


**Other**

Freshwater Shrimp Production in Southern Ohio (project R/A-16-PD); David Apsley, Laura Tiu, & Geoff Wallat; The Ohio State University Extension-South Centers, April-December 2002.

Impact of Latitude on Freshwater Shrimp Culture in Ohio (project R/A-17-PD); Donald McFeeters, Laura Tiu, & Geoff Wallat, The Ohio State University Extension-South Centers; Jeffrey M. Reutter, Ohio Sea Grant; May 2003-April 2004.
**Wet Weather Events (CSO, SSO, storm water and run-off)**


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US Geological Survey Reports

Wet Weather Events (CSO, SSO, storm water and run-off)

*Escherichia coli* at Ohio Bathing Beaches—distribution, sources, wastewater indicators, and predictive modeling
http://oh.water.usgs.gov/reports/Abstracts/wrir02-4285.html

Dry Weather Impacts (algal blooms, wildlife, beach sands, submerged sediments)

*Escherichia coli* in the swash zone at four Ohio bathing beaches.

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Forecasting Bacteria Levels at Bathing Beaches in Ohio.


Other Technical Reports

Wet Weather Events (CSO, SSO, storm water and run-off)


Dry Weather Impacts (algal blooms, wildlife, beach sands, submerged sediments)

Kinzelman J, R Bagley, S. L. McLellan. 2002. Microbiological and Molecular Examination of Recreational Water and Sediments at North Beach, Racine, Wisconsin - A Technical Report to the Wisconsin Department of Natural Resources, August 2002


Improving Beach Management

Beach Advisories, Posting and Closures SOLEC indicator # 4200 in State of the Great Lakes 2005


Public Communication and Education


WEB Pages

Great Lakes States’ Beach WEB Pages

IL: www.idph.state.il.us/envhealth/beachhome.htm
IN: www.in.gov/idem/beaches/proj.html
MI: www.michigan.gov/deq/1,1607,7-135-3313_3686_3730---C1,00.html
MN: www.pca.state.mn.us/water/beaches/
OH: www.odh.state.oh.us/ODHPrograms/BEACH/sample.htm
NY: www.beach.com/stateofthebeach/6-state/state.asp?state=NY
PA: www.great-lakes.net/beachcast/pa
WI: www.dnr.state.wi.us/org/water/wm/wqs/beaches/

**Great Lakes Sea Grant**

Ohio Sea Grant, [http://www.sg.ohio-state.edu/](http://www.sg.ohio-state.edu/)
Illinois-Indiana Sea Grant, [http://www.iisgcp.org/](http://www.iisgcp.org/)
Michigan Sea Grant, [http://www.miseagrant.umich.edu/](http://www.miseagrant.umich.edu/)
Minnesota Sea Grant, [http://www.seagrant.umn.edu/](http://www.seagrant.umn.edu/)
New York Sea Grant, [http://www.seagrant.sunysb.edu/](http://www.seagrant.sunysb.edu/)
Pennsylvania Sea Grant, [http://www.pserie.psu.edu/seagrant/seagindex.htm](http://www.pserie.psu.edu/seagrant/seagindex.htm)
Wisconsin Sea Grant, [http://www.seagrant.wisc.edu/](http://www.seagrant.wisc.edu/)

**State of Ohio**

Evaluate Ohio's Lake Erie beaches, [www.sg.ohio-state.edu](http://www.sg.ohio-state.edu)


*Escherichia coli* at Ohio Bathing Beaches—distribution, sources, wastewater indicators, and predictive modeling, [http://oh.water.usgs.gov/reports/Abstracts/wrir02-4285.html](http://oh.water.usgs.gov/reports/Abstracts/wrir02-4285.html)

Ohio Lake Erie Commission/EPA
[http://www.epa.state.oh.us/oleo/](http://www.epa.state.oh.us/oleo/)

U.S. Geological Survey Ohio District's "Beach-Monitoring Research" website (including information on Lake Erie research in which the Northeast Ohio Regional Sewer District has been involved): [http://oh.water.usgs.gov/beaches/](http://oh.water.usgs.gov/beaches/)

Ohio Department of Health's "Beach Monitoring" website (including links to Lake Erie beach sample results): [http://www.odh.ohio.gov/ODHPrograms/BEACH/beachmain.htm](http://www.odh.ohio.gov/ODHPrograms/BEACH/beachmain.htm)

**State of Michigan**

Michigan Beach Monitoring home page
[http://www.michigan.gov/deq/0,1607,7-135-3313_3686_3730--,-00.html](http://www.michigan.gov/deq/0,1607,7-135-3313_3686_3730--,-00.html)

Michigan Department of Environmental Quality – Great Lakes
US EPA

EPA Great Lakes National Program Office
http://www.epa.gov/glnpo/

USEPA Beach WEB Page
http://www.epa.gov/OST/beaches/

USEPA BEACH Act
http://www.epa.gov/waterscience/beaches/act.html

USEPA Beach Standards, Monitoring, and Notification
http://www.epa.gov/ost/beaches/

USEPA Beach home page
http://www.epa.gov/beaches/

EPA Great Lakes National Program Office
http://www.epa.gov/glnpo/

U.S. EPA's "Beach Standards, Monitoring, & Notification" website (including links related to the Clean Beaches Plan and the Beaches Environmental Assessment and Coastal Health Act of 2000)
http://www.epa.gov/waterscience/beaches/

U.S. EPA's "Wet Weather Discharges" website (including links to websites on the storm water, CSO, and SSO programs)
http://cfpub.epa.gov/npdes/wetweather.cfm

U.S. EPA's "Report to Congress: Impacts and Control of CSOs and SSOs" (delivered August 26, 2004)

http://www.epa.gov/glnpo/glindicators/water/beachb.html

http://www.epa.gov/glnpo/beach/

National coastal beach data (through 2003)
http://oaspub.epa.gov/beacon/beacon_national_page.main
Other Web Sites

Great Lakes Water Institute
http://www.uwm.edu/Dept/GLWI/ecoli/

Great Lakes Beach Association
http://www.great-lakes.net/glba/

Great Lakes Information Network (GLIN)
http://www.great-lakes.net/

Great Lakes Beach Association Annual Proceedings 2004

Beaches in the Great Lakes Region
http://www.great-lakes.net/tourism/rec/beach.html#new

Center for Disease Control; Healthy Swimming
http://www.cdc.gov/healthyswimming/beaches_rivers.htm
http://www.cdc.gov/healthyswimming/

Great Lakes BeachCast---many links from this site
http://www.great-lakes.net/beachcast/nr_moreinfo.html

Great Lakes Research Consortium (Dr. Jack Manno)
http://www.esf.edu/glrc/

Great Lakes Research Consortium publications
http://www.esf.edu/glrc/pubs.htm

Great Lakes Fishery Commission
http://www.glfc.org/

Great Lakes Environmental Research Laboratory/NOAA
http://www.glerl.noaa.gov/

NOAA Great Lakes Environmental Research Laboratory (GLERL)
Center of Excellence for Great Lakes and Human Health
http://www.glerl.noaa.gov/res/Centers/HumanHealth/

USGS Great Lakes Science Center
http://www.glsc.usgs.gov/

Great Lakes Commission
http://www.glc.org/
International Joint Commission
http://www.ijc.org/

International Joint Commission Research Inventory (queriable)
http://ri.ijc.org

Great lakes Protection Fund
http://www.glpf.org/

International Association for Great lakes Research
http://www.iaglr.org/

Duluth Streams
www.DuluthStreams.org

University Centers

Great Lakes at Buffalo State College
Great Lakes Environmental Education at Buffalo State College
The Great Lakes Program at the University at Buffalo
Great Lakes Aquatic Ecosystem Research Consortium, Ohio State University
Institute of the Environment, University of Ottawa
Environmental Modeling Centre, Trent University
Great Lakes WATER Institute