



# Great Lakes Coastal Beach Health Initiative

## Natural Science for Public Health

USGS Great Lakes Science Center  
USGS Water Science Centers  
(Michigan, Ohio, Wisconsin)

Managers of recreational beaches and public health officials need science-based information to make accurate beach closure decisions, improve beach monitoring, and better protect public health. Beach closures occur when pathogens or other contaminants are detected in the water and pose a threat to public health. This Initiative was proposed to bring together scientists and stakeholders throughout the Great Lakes region to reach a consensus on high-priority beach research issues, design a research strategy, and implement relevant scientific studies to meet partner needs. To address Great Lakes beach health concerns, scientists at the USGS Great Lakes Science Center and USGS Water Science Centers in Michigan, Ohio, and Wisconsin have implemented this pilot Great Lakes initiative and are currently focusing their efforts on 3 key beach science issues:

### Nonpoint-source contamination and source tracking

USGS scientists have the tools and capabilities to identify sources of contamination of recreational waters and help beach managers better understand complex environmental processes that affect beach health.

### Pathogens and Indicators

USGS scientists strive to provide beach managers with needed data on the type of pathogens present in water, their relation to contaminant indicator concentrations, and how they may affect human health.

### Methods for improved monitoring of beaches

GLSC scientists have developed a predictive model to determine *E. coli* concentrations in recreational waters and forecast potential swim advisories and beach closures.

### **BEACH CLOSURES COST \$\$ BIG BUCKS \$\$**

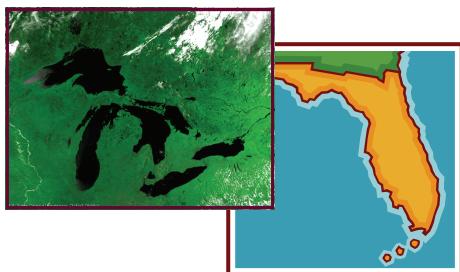


*The economic loss to a community from a swim closure day has been estimated to range from \$1,274 to \$37,030/day* (Coastal Health Strategy Team Report Draft, Great Lakes Regional Collaboration, 2005).

### **Joint Federal Beach Health Workshop**

A joint Great Lakes Beach Health Research Needs Workshop was held in November, 2005, that was sponsored by **USGS, NOAA, and EPA** in cooperation with the Great Lakes Beach Association. The purpose of this workshop was to listen to the needs and concerns of beach managers, public health officials, and other stakeholders and to define research priorities for addressing beach closure and recreational water quality issues in the Great Lakes. One of the goals of this workshop was to forge a new cooperation between federal agencies and state, tribal, and local groups concerned with beach health. A report containing the results of this workshop has been produced and will be used as a tool to guide future research direction by USGS and partner agencies.

### **What do Florida and the Great Lakes have in common?**



Although Great Lakes and Florida coastal areas differ in terms of geography, climate, water properties, and other factors, many similar beach health issues exist. USGS scientists in the Great Lakes and at the USGS Center for Coastal and Watershed Studies in St. Petersburg, Florida, are working closely with beach health managers and public health officials to address critical coastal beach health issues. An integrated, multi-disciplinary research effort between Florida and the Great Lakes has been proposed to obtain a broader scientific perspective on beach and public health issues and enable scientists to develop strategies for addressing these issues across geographic boundaries.