

Dr. Shannon Briggs  
Department of Natural Resources and Environment



# Top Ten Great Lakes Beaches



Nominations to Dr. Beach due 10/31/10  
(Dr. Stephen Leatherman)





[Click Here To See The List Of The Top 10 Beaches Of 2010](#)

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**Submission deadline is October 31, 2010**

[http://www.drbeach.org/gl\\_reg.htm](http://www.drbeach.org/gl_reg.htm)

[Top 10 Beaches](#)

[Dr. Beach's 50 Beach Criteria](#)

[Your Beach Prescription](#)

[All About Beaches](#)

[Beachfinder](#)

[About Dr. Beach](#)

### Do You Represent A Beach Or Municipality In The Great Lakes Region? Tell Us About Your Beach.

Beginning in 2011, Dr. Beach will be announcing the Top 10 Beaches Of The Great Lakes Region and we want to ensure that your beach is considered. If you represent a beach destination or municipality (for example: CVBs, DMOs, TRDs or business chambers), please complete the form below. We will then provide you with an information form that provides Dr. Beach with important details about your beach, so that he might better evaluate it in accordance with his set criteria. We hope that you are excited about next year's list. We certainly are!

**Submissions Deadline is October 31, 2010.**

#### BEACH INFORMATION

Beach Name:

Beach Location:

#### YOUR CONTACT INFORMATION:

Your Name:

Email address: \*



**16 Great Lakes Restoration  
Initiative Projects  
for 224 Beaches in Michigan**



# Builds on 5 years of work...

## Great Lakes Interagency Task Force



### Great Lakes Regional Collaboration Strategy



To Restore and Protect the Great Lakes



December 2005



Map Image Courtesy of GLIN



A scenic view of a beach with a calm sea and a blue sky with light clouds. The text is overlaid in the center.

Partners  
Projects  
Progress





# Great Lakes Beach Association



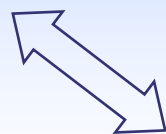
A story of collaborations...



# Federal Collaboration on Beach Health in the Great Lakes



Remediation, Decision Support,  
& Environmental Research



**BEACH HEALTH INTERAGENCY  
COORDINATION TEAM**



Operational Forecasting  
& Research

Beach Water Quality  
Forecasting  
Coordinator



Monitoring & Modeling  
Research

*Courtesy of David Rockwell*





A scenic view of a beach with a blue sky and ocean. The sky is a clear, vibrant blue with a few wispy white clouds. The ocean is a deep blue, meeting the sky at a clear horizon line. The beach in the foreground is a mix of light and dark sand, with some small rocks and pebbles scattered across it. The overall atmosphere is calm and serene.

# GLRI

## Beach-Focused Opportunities

1. Beach Sanitary Surveys
2. Models
3. Communication
4. Rapid Methods

# Michigan Strategy

Statewide effort involving Michigan's DNRE and its partners to develop, refine, and use new tools to improve beach water quality and provide timely, meaningful information to the public.



A scenic view of a beach with a clear blue sky and calm water. The text is overlaid on the image.

# Focus on Fixing 224 Beaches

- in Areas of Concern
- scheduled for a TMDL
- at risk for the 303(d) list
- need better monitoring

# Great Lakes Monitoring Frequency

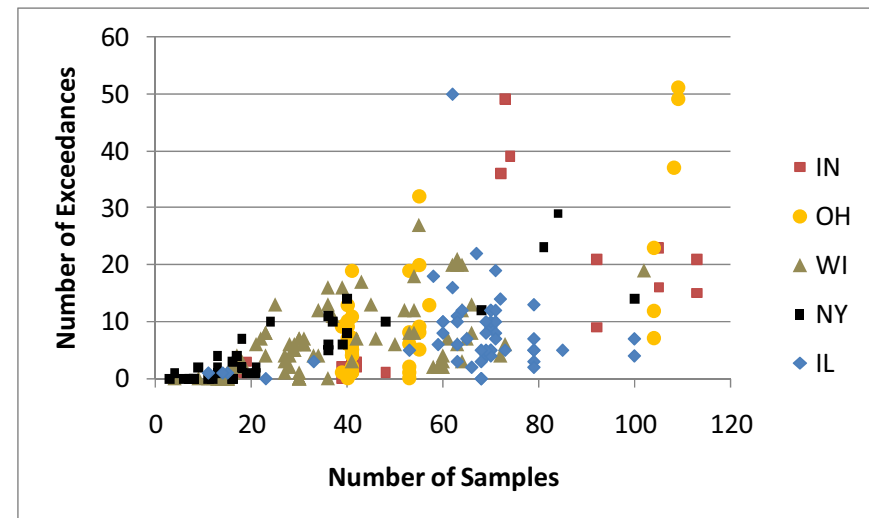
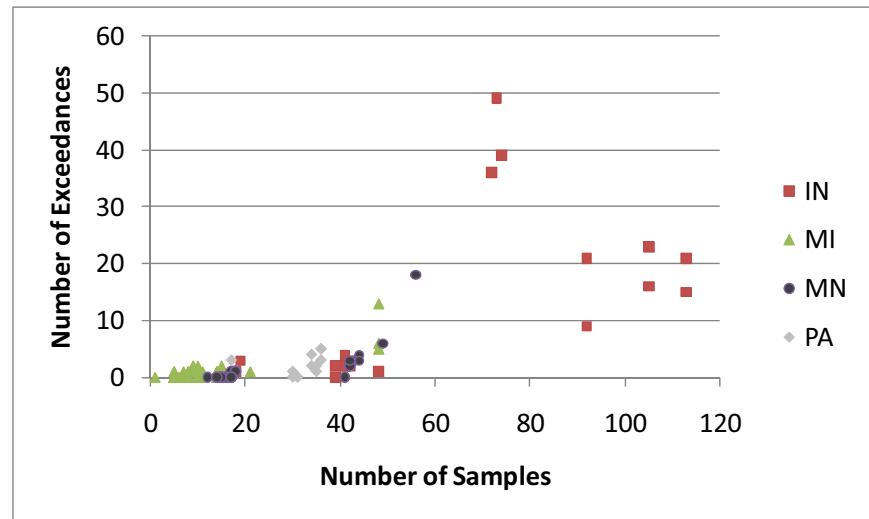
Each point represents a single 2008 beach location

Results may be influenced by frequent monitoring at highly urban beaches

- However, some frequently-monitored beaches have fewer than 5 yearly exceedances

May be difficult to interpret data where monitoring takes place fewer than 3 days a week (45 samples)

Meredith B. Nevers  
USGS, Great Lakes Science Center  
Sheridan K. Haack  
USGS, Michigan Water Science Center





# Identify Potential Contamination Sources

Investigate areas with high counts

*Initial thoughts are on storm water and  
nonpoint sources*

Other sources

*Site-specific sources*

# Beach Sanitary Surveys

13 selected proposals (out of 43)

*Provided foundation for all projects*

1. Improve use of sanitary surveys, wet weather monitoring, initiate source tracking, increase frequency of monitoring
2. Source Tracking at TMDL & *at risk* beaches
3. Fix the problems (bulldozers, engineers)





# Lake St. Clair - New Baltimore Park Beach



The following advisory is in effect:

**Closure**

Start Date: 9/14/2010  
Issued By: Macomb County Health Department  
Comment:

New Baltimore Park Beach is monitored by [Water Bureau, MDEQ](#) this year.



Beach Detail

Closures and Advisories

Sampling Results

Monitoring

Surveys

## Beach Details

Beach Name: New Baltimore Park Beach  
Beach Description:  
Facilities:  
Accessibility: Public Owned, Public Access  
Other Information:

## Beach Location

Central Latitude/Longitude: 42.67757 / -82.73396 [View Map](#)  
County: Macomb  
Township: New Baltimore  
Ownership Type:  
Park Name:

## Other Information

EPA PRAWN Beach ID: MI000560

## Lake St. Clair - New Baltimore Park Beach



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Issued By: Macomb County Health Department

Comment:

New Baltimore Park Beach is monitored by [Water Bureau, MDEQ](#) this year.

[Beach Detail](#)[Closures and Advisories](#)[Sampling Results](#)[Monitoring](#)[Surveys](#)

Display Surveys for Year:

**Survey Performed On:**

[10/15/2010 10:12 AM](#)

**Surveyor(s)**

shannon



# Lake St. Clair - New Baltimore Park Beach

Monitoring Point: 7337

Survey Performed On: 10/15/2010 at 10:12 AM

Surveyor(s): shannon

Surveyor  
Affiliation:



## Beach Conditions

**Temperature:** 78° F  
**Wind Speed:** 10 mph  
**Direction:** 15  
**Last Rain:** 1.2in occurred <24 hours ago  
**Rain Intensity:** Misting  
**Weather Cond.:** Partly Sunny  
**Wave Intensity:** Calm  
**Wave Height:**  
**Longshore Speed:** 15 cm/sec  
**Direction:** 15  
**Comments:**



## Water Conditions

**Water Temp.:** 56° F  
**Change in Water Color?**  
**Water Odor:** None  
**Turbidity:** Slightly Turbid  
**NTU:**  
**Comments:**



## Bather Load

**People in the water:** 50  
**People out of the water:** 50  
**Total People:** 100  
**Bather Comments:**

Bather Activity	Number Of People
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## Potential Pollution

Name	Conduit	Amount	Flow Rate	Volume	Characteristics
<b>Bacteria found in above sources:</b>			Yes		
<b>Floatables:</b>					
<b>Debris/Litter:</b>					
<b>Debris Amount:</b>			Low (1-20%)		
<b>Algae in Nearshore Water:</b>			Low (1-20%)		
<b>Algae on Beach:</b>			Low (1-20%)		
<b>Algae Types:</b>					
<b>Algae Color:</b>			LT_GREEN		
<b>Dead Fish Found:</b>					
<b>Pollution Comments:</b>					

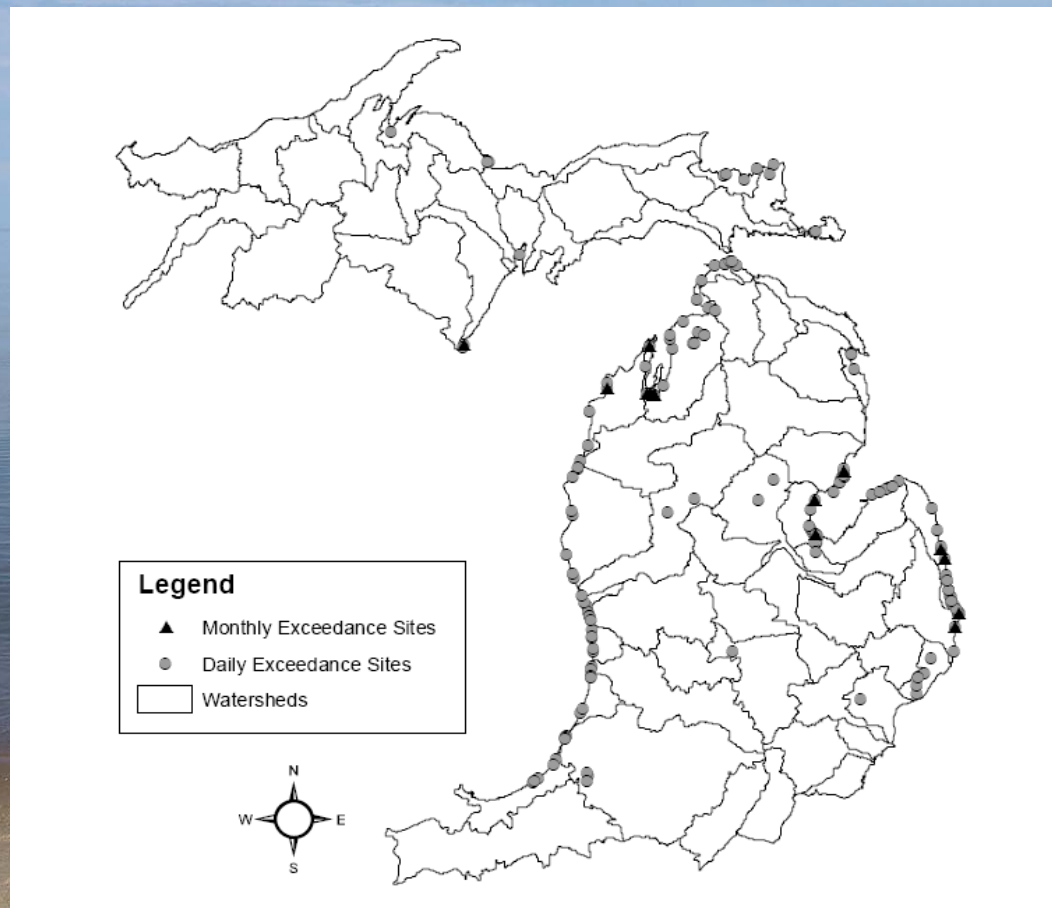
Wildlife Type	Number Present	Bird Type	Number Found Dead
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Print

Return to Beach Details

# Beach Sanitary Surveys

Source Tracking with MSU at  
14 beaches (AOC, TMDL)



# Beach Sanitary Surveys

Grand Haven City Beach, Grand Haven State Park Beach,  
and Rosy Mound Recreation Area Beach In Ottawa County

Pier Park Beach in Wayne County

Metropolitan Beach & Memorial Park Beach in Macomb  
County

Bay City Recreational Area Beach, Whites Beach, &  
Caseville County Park Beach in Saginaw Bay

Four Mile Beach & Sugar Island Township Park Beach in  
Chippewa County

Traverse City State Park Beach, Bryant Park Beach, & East  
Bay Park Beach in Grand Traverse Bay



A scenic view of a beach with a clear blue sky and calm water. The sky is a deep blue with a few wispy white clouds. The water is a lighter blue, meeting the horizon line. The beach in the foreground is composed of light-colored sand and some small rocks.

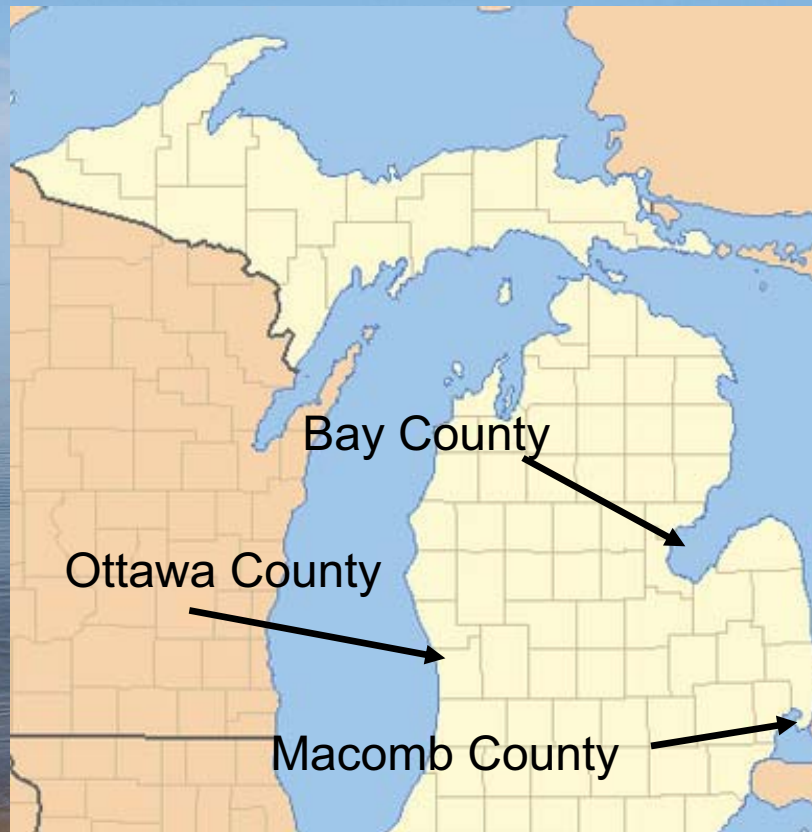
# Beach Forecasting Models

## 2 of 8 selected proposals

Developing & Integrating Models  
5 beaches

Forecasting Beach and Nearshore  
Health Effects Using QMRA

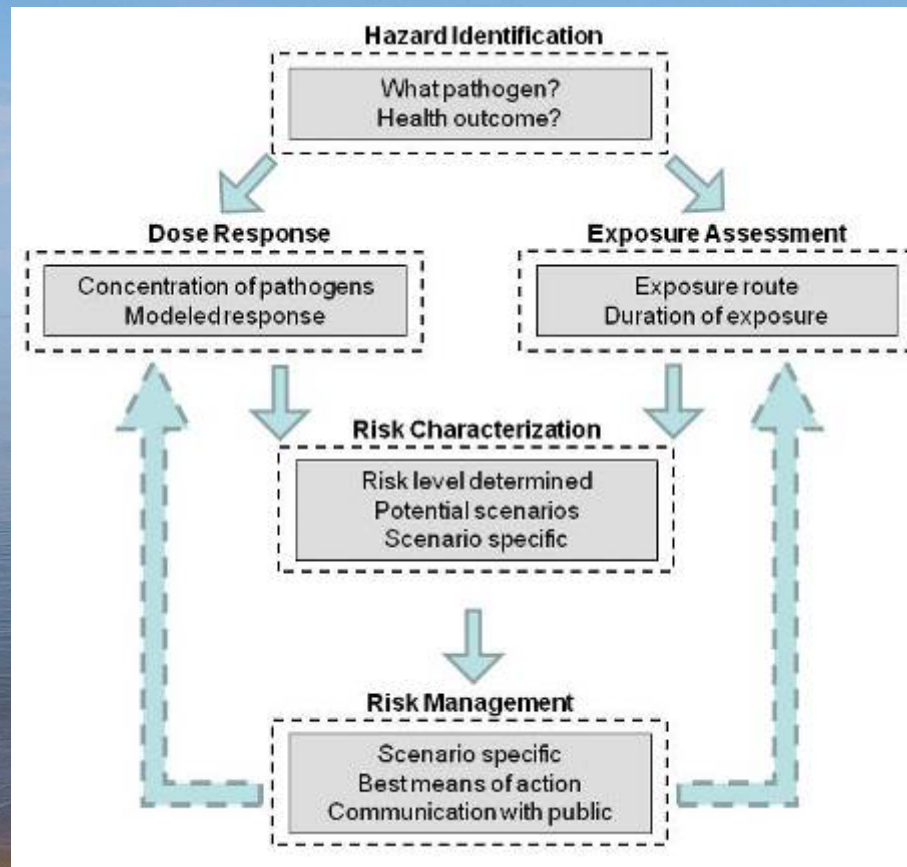
# Developing & Integrating Models: 5 beaches





# Forecasting Beach and Nearshore Health Effects Using QMRA

Quantitative Microbial Risk Assessment



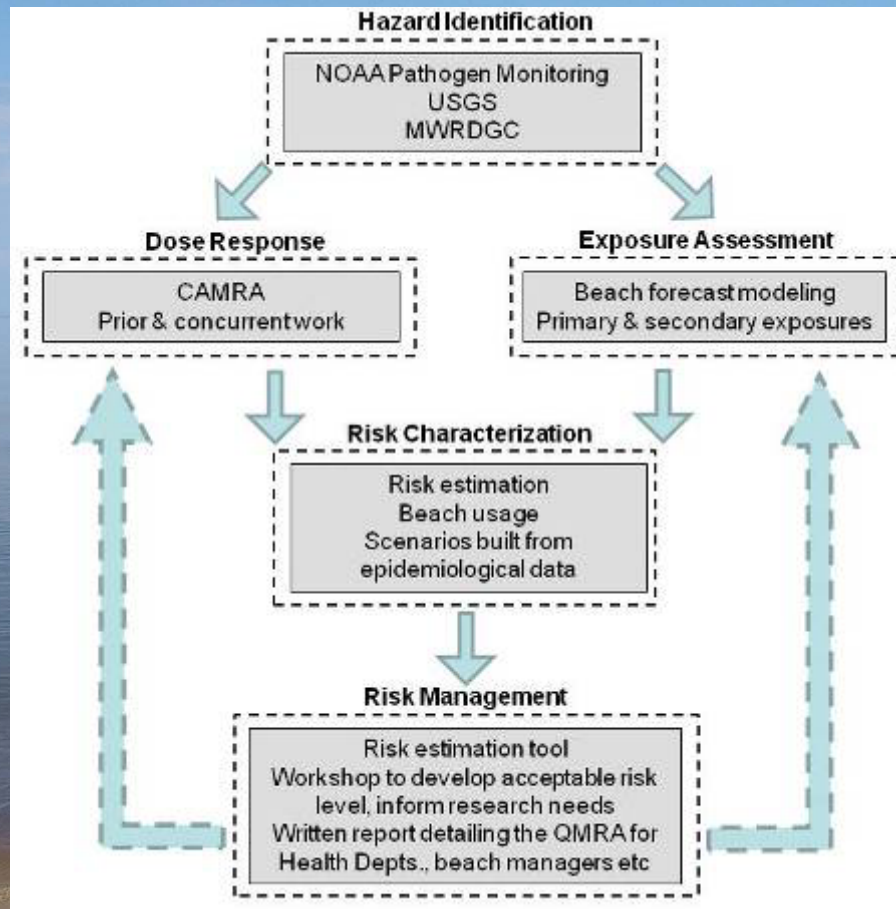
Mark H. Weir Ph.D.  
Joanna M. Pope Ph.D.





# Forecasting Beach and Nearshore Health Effects Using QMRA

Quantitative Microbial Risk Assessment



Mark H. Weir Ph.D.  
Joanna M. Pope Ph.D.



# Communicating Beach Data to the Public

1 of 5 selected proposals

## Healthier Great Lakes Beaches

1. Training Videos for Rapid Methods
  - qPCR and IMS-ATP
2. Workshops & Online Material
  - Journalists and Beach Managers
3. In-depth News Coverage
  - Beach and Nearshore Health Issues







# Rapid Methods

## 1 of 5 selected proposals

Building Beach Manager's Capacity for Using Rapid Tools  
*Training effort from a collaboration of members of the  
Great Lakes Beach Association*

Onsite Training and Technical Assistance  
QA/QC

How to Manual

Online Tools, References, & Resources

Production will eventually provide online Training video and DVD



# Rapid Methods Training

**PI: Shannon Briggs**

**CoPI: Asli Aslan-Yilmaz**

**CoPI: Erin Dreelin**

Designing the workshop materials, lecture in the workshops. development of the how to manual, perform the on-site training, Co-ordinate the intercalibration study between the health departments between health departments.

Oversee the communication with the health departments, facilitating the workshops.

**CoPI: Irene Xagorarakis**

Oversee the methodology in training tools, lecture in the workshops

**Advisor: Julie Kinzelman**

Assist with the development of the "how to manual", lecture in the workshops

**Advisor: Donna Francy**

Coordinate with USGS workshops

## HEALTH DEPARTMENTS AND RELEVANT BEACHES

- Ottawa County Health Department (Lake Michigan)
- Health Department of Northwest (Lake Michigan, Grand Traverse Bay, Lake Huron)
- Bay County Health Department (Saginaw Bay, Lake Huron)
- Macomb County Health Department (Lake St. Clair)
- Chippewa County Health Department/Lake Superior State University (Lake Superior, St Marys River)

# Beach Sanitary Surveys

Fix the problems

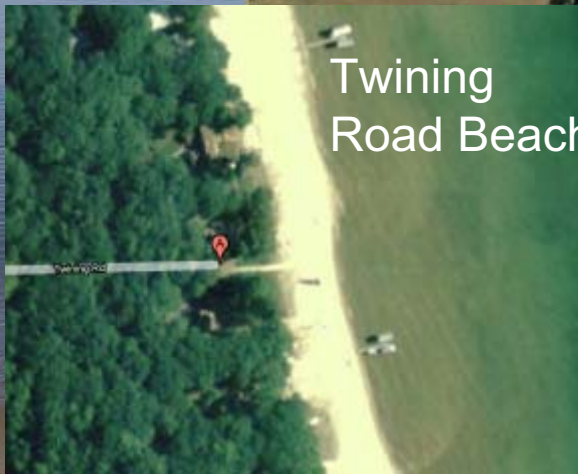
(Bulldozers, Engineers, Drain Commissioners)





# Beach Sanitary Surveys

## Restoring Three Arenac County Beaches









# Beach Sanitary Surveys

## Bryant Park Beach Remediation



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### Watershed Center Grand Traverse Bay



advocacy. *Because it's all about the Bay!*

The Watershed Center advocates for clean water in Grand Traverse Bay and protects and preserves its watershed.

The Watershed Center has worked since 1990 to protect our Grand Traverse Bay region's water quality--and our quality of life.

The Bay's watershed encompasses nearly 1,000 square miles and covers major portions of 4 counties: Grand Traverse, Antrim, Leelanau, and Kalkaska. Minor portions of the watershed are found in Charlevoix and Otsego counties.

We use every tool in our toolbox to protect our Up North water quality: on-the-ground projects, public education and



Grand Traverse County MICHIGAN

[AbTech](#)

**AbTech**  
INDUSTRIES



CITY OF  
TRAVERSE CITY  
MICHIGAN

A scenic view of a beach with a calm sea and a blue sky with light clouds. The text is overlaid in the center.

Partners  
Projects  
Progress



# Ottawa County Beaches

**PARTNERS:** The OCHD will collaborate with researchers at the National Oceanic and Atmospheric Administration, the United States Geological Survey, the Michigan Department of Natural Resources and Environment, and the University of Michigan, and Michigan State University.

Researchers from those organizations have expressed interest in accessing data gathered through this sanitary survey project to create water quality forecasting and/or predictive modeling tools. Once created, those tools will empower the OCHD to make more effective and timely public health decisions to protect nearshore health.

# Ottawa County Beaches

PLAN: This sanitary surveying project will use the EPA's standardized form and will call for measurements of a number of environmental and meteorological data present during the time of sampling. Water samples for *E. coli* and enterococci bacteria will also be collected during the sanitary surveys and processed at the OCHD. Those surveys will be conducted four times per week at both beaches during the twenty week summer swim season. The OCHD will conduct this project during the summers of 2010 and 2011.



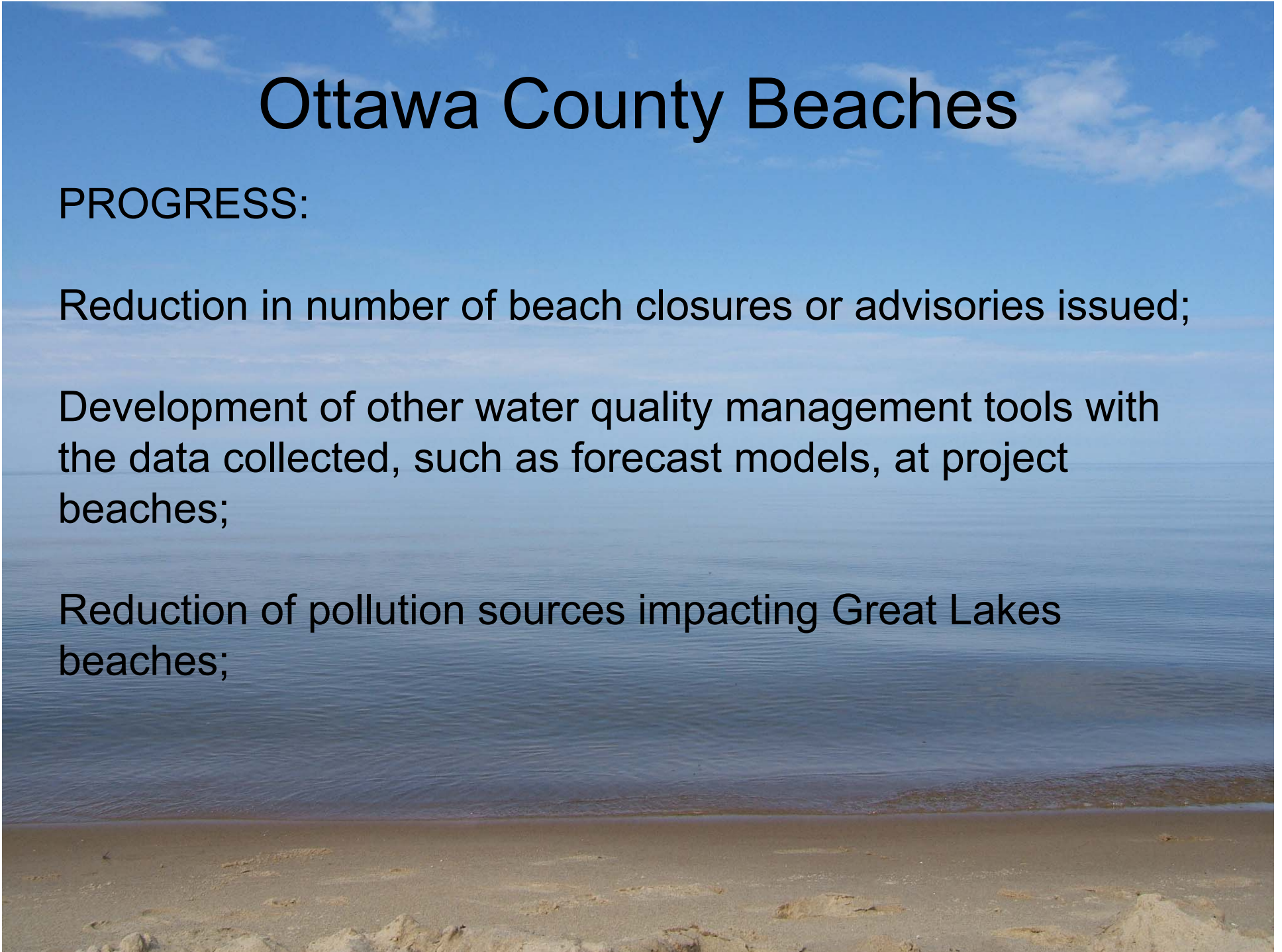
# Ottawa County Beaches

## PROGRESS:

Reduction in number of beach closures or advisories issued;

Development of other water quality management tools with the data collected, such as forecast models, at project beaches;

Reduction of pollution sources impacting Great Lakes beaches;





# Ottawa County Beaches

## PROGRESS (continued):

Improved water quality at Great Lakes beaches due to reduction in pathogen indicator organisms, algal, and chemical contamination;

Improved protection of public health at Great Lakes beaches;

Increased coordination and collaboration among water and health departments;

Increased knowledge of sources of pollution impacting Great Lakes beaches for better beach management decisions.



Ottawa County Beaches

Next Steps?

Take Steps to the Beach!