

Welcome to the
CDC's Model Aquatic Health Code Network Webinar

**Freshwater Beach Monitoring: Best Practices,
Challenges, and Future Goals – Featuring Ottawa
County's Beach Monitoring Program**

5/29/25

3:00 PM ET

Listen via your computer speakers or

Call: 301-715-8592 / Webinar ID: 852 5557 3868

Questions may be submitted/upvoted via the Q&A box.

This webinar is being recorded.

NACCHO
National Association of County & City Health Officials

Webinar Agenda

NACCHO Announcements

Presentation: Freshwater Beach Monitoring

Questions & Answers

NACCHO Announcements



Scholarship Opportunity: NACCHO - National Certified Pool Operator Course Scholarship

Click [HERE](#) to access the interest survey link.



NACCHO Announcements

New Resources: *MAHC Quick Guide* – Preventing Pool Chemical Injuries



Visit
<https://www.naccho.org/mahc> to
view and download!

NACCHO Announcements



View recent MAHC Network webinar recordings and slides at <https://www.naccho.org/mahc>

View all 38 MAHC Network webinar recordings at <https://www.youtube.com/watch?v=8tiHVMCpKAQ&list=PLIMrymKEFdbeEPkoj2mStPeoIFLhloYGc&pp=iAQB>

Today's Presenter

Ryan Stamp

Environmental Health Technician
Ottawa County Health Department



Today's Presenter

Jerry Bingham Jr.
Health Commissioner
Ottawa County Health Department



Today's Panelist

Tracy Brown

Environmental Health Director
Ottawa County Health Department



***Safeguarding the Shoreline:
Beach Monitoring on Lake Erie.***





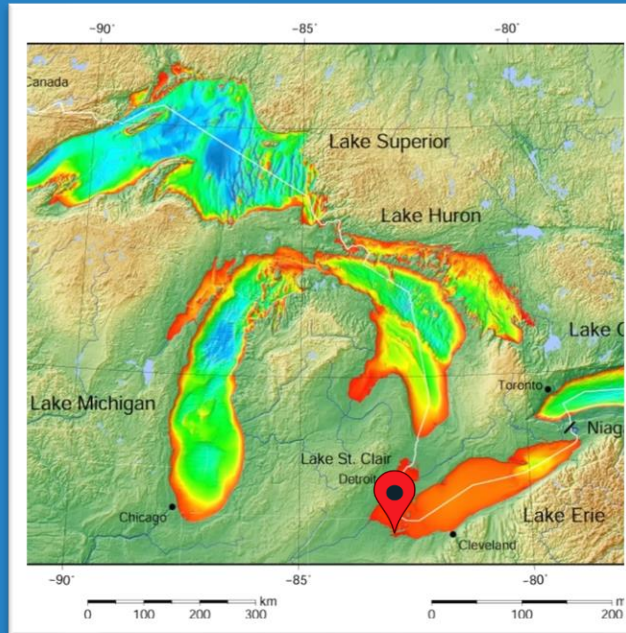
Welcome



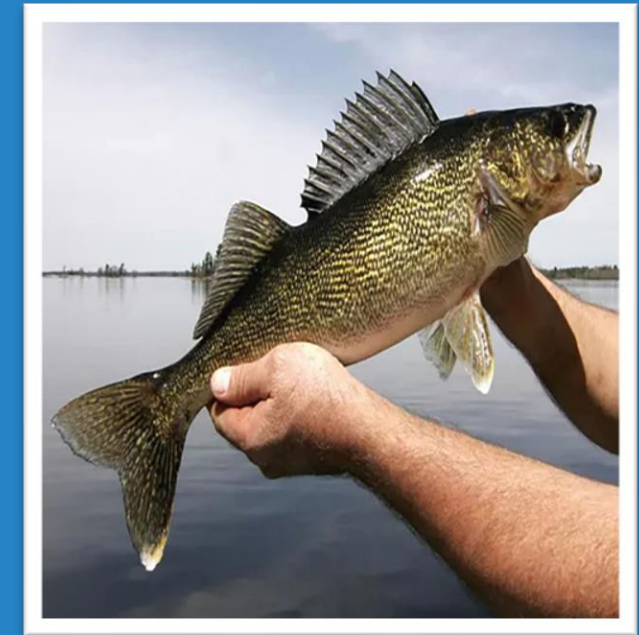
“Helping the citizens of Ottawa County to live healthier, happier, and longer lives.”



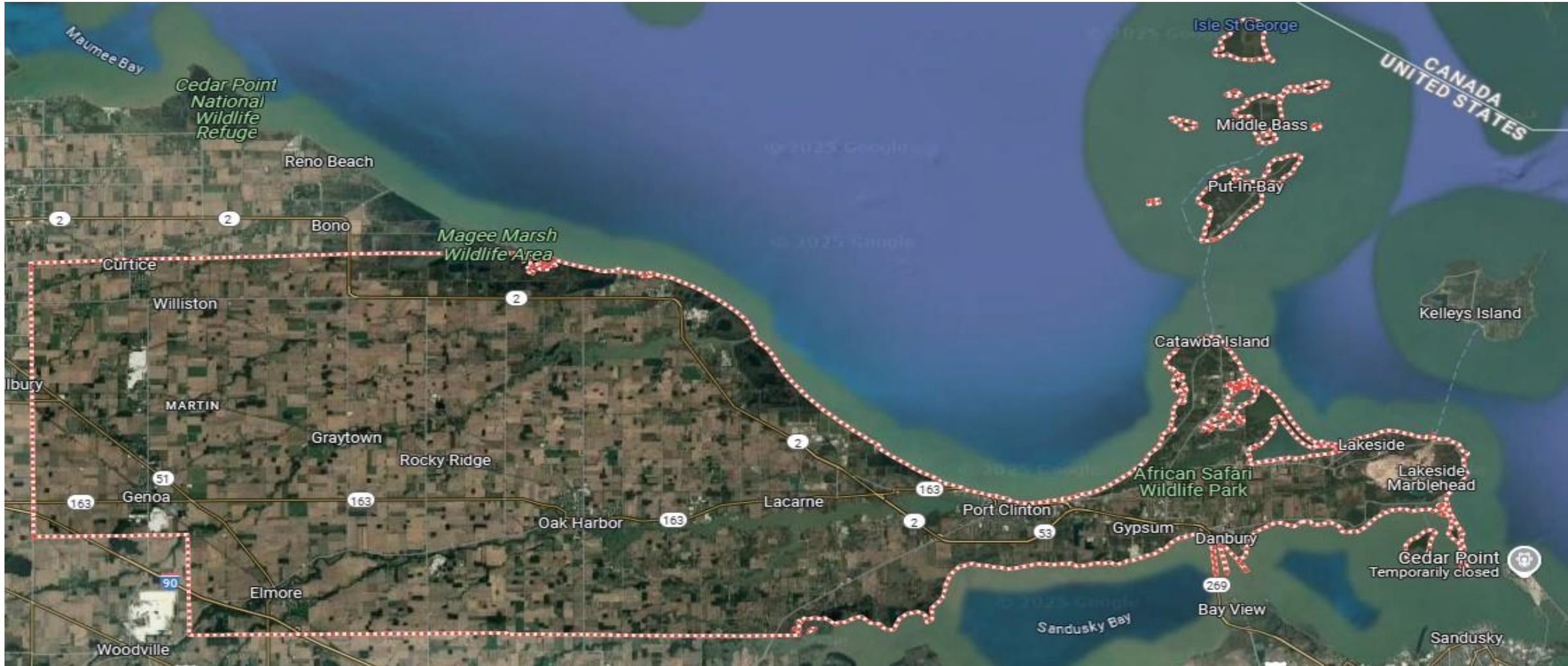
Lake Erie is one of the 5 Great Lakes



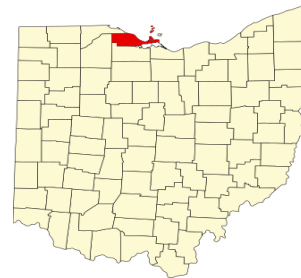
Lake Erie is the shallowest of the Great Lakes



We are known as the “Walleye Capital of the World”



OTTAWA COUNTY, OHIO



Situated in the Northwest part of Ohio.

Ottawa county boast 94 miles of beachfront. Which is the most in the state.¹

1. [HTTPS://DAM.ASSETS.OHIO.GOV/IMAGE/UPLOAD/OHIODNR.GOV/DOCUMENTS/COASTAL/PUBLIC-ACCESS/PAG-LE-02-OTTAWA-COUNTY.PDF](https://dam.assets.ohio.gov/image/upload/ohiodnr.gov/documents/coastal/public-access/pag-le-02-ottawa-county.pdf)

Beach Season Boom

Ottawa County currently has a population of 40,364 full-time residents. That number balloons to over 250,000 during the summer months.



82 Campgrounds



50 Manufactured Home Parks



25 Monitored Beaches

HISTORY

1980

Similar program under the Ottawa Co. Board of Health Public Place/Area Regulation

2012

OCHD becomes contractor for the ODH Bathing Beach Monitoring Project

- Added 7 public beach sites

2022

Environmental Health Technician Position created

- Added 16 private beaches

Kelley's Island
 East Harbor State Park
 Camp Perry
 Catawba Island
 Lakeside
 Lakeview
 South Bass Island State Park

Bay Point- North	Y-Condo Association
Bay Point- South	Yacht Port Beach
Bay Point- Market Beach	Zeller's Beach
Beachfront Resort LLC	
Castaway Campground	2023
Catawba Point Association	Maumee Bay State Park
Knecht's Beach Ltd	- Inland
Summer Breeze Association	Maumee Bay State Park
Vista Del Lago/ Grande Lake	- Erie
Vista Villa Association	
Waterfront II Condominium	
Willow Cove D & E Association	
Willow Cove Water Slip Condo	

~33
 samples/wk

PROCEDURES-PRESEASON

A Week Before Sampling Begins:

We send an email to all of last year's beach contacts to verify and update if needed.

Ottawa County has two islands from which we collect samples, adding an additional layer of complexity:

- Kelleys Island
- Put-In-Bay (also known as South Bass Island)

Due to time constraints, we ask the Ohio Department of Natural Resources (ODNR) officer on each island to collect the samples and place them on a ferry for retrieval on the mainland.

- Confirm Each Island Officer is/has:
 - Up to date with our procedures.
 - Enough sample bottles
 - Laboratory sample data forms

In Office:

Pre-label sample bottles with site locations for the upcoming week.

Verify availability of:

- Laboratory sample data forms
- Chain of custody forms

SUPPLIES

To have a successful monitoring season, a variety of supplies are needed:

1. Waders
2. Measuring stick/pole
3. Water thermometer
4. A compass
5. Handheld Anemometer
6. Sample Bottles
 1. One for testing- E.coli
 2. One for Turbidity
7. Cooler
8. Permanent marker
9. Spare outfit
10. An awesome pair of sunglasses to tie the look all together.



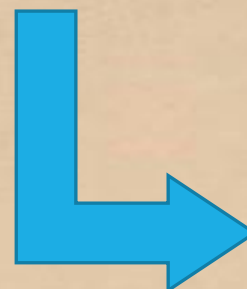
FORMS

Ohio Department of Health		Beach Water Monitoring Program	
Laboratory Sample Data Form			
Name of Beach Test Beach	Local Health Jurisdiction OCHD		
Monitoring Station Location: (Description)	Lake, Stream, or River		
Coordinates:			
Date Collected	Sample Collector		
Time Collected	Number of Bathers		
Weather Conditions (check all that apply) Sunny ___ Hazy ___ Cloudy ___ Rain ___	Water Appearance (Check all that apply) Cloudy ___ Clear ___ Evidence of Algae ___		
Wind Direction	Water Temperature (F)		
Wind Velocity (MPH)	Wave Direction		
Type & number of Birds (actual Count)	Wave Height (ft.) (circle one) 0-2 1-3 2-4 3-5		
Number of Birds <20 20-50 50-100 >100	Type and number of other animals		
Weather Conditions of past 24 hours	Abnormal Water Conditions		
Nearby Pollution Sources (Description)	Are any active at collection time? Yes ___ No ___		

Laboratory Sample Data Form



Beach Program Chain of Custody



BEACH PROGRAM CHAIN OF CUSTODY _____ / _____ /2025

Analyst Signature: _____ Incubator Temp1. _____ Incubator Temp2. _____

Beach #	Beach Location	Time Sampled	Time Analyzed	# Positive Large Wells	# Positive Small Wells	MPN	Rating	Turbidity
OC1	Camp Perry							
OC2	Lakeview Park							
OC3	Catawba State Park							
OC4	South Bass Island							
OC5	East Harbor Park							
OC6	Lakeside							
OC7	Kelley's Island							
OC8	Catawba Point Assoc.							
OC9	Summer Breeze							
OC10	Tall Timbers							
OC11	Willow Cove Water Slip Condo Assoc.							
OC12	Village of Genoa							
OC13	Waterfronts II							
OC14	Vista Villa							
OC15	Willow Cove D&E							
OC16	Beach Front Resort							
OC17	Grand Lake/Vista Del Lago							
OC18 N	Bay Point North Beach							
OC18 S	Bay Point South Beach							
OC18 M	Bay Point Market Beach							
OC19	Zeller's Beach							
OC20	Yacht Port Beach							
OC21	Y-Condo Club							
OC22	Castaway Harbor							
OC23	Knecht's Beach							
OC24 E	Maumee Bay SP- Erie							
OC24 I	Maumee Bay SP- Inland							

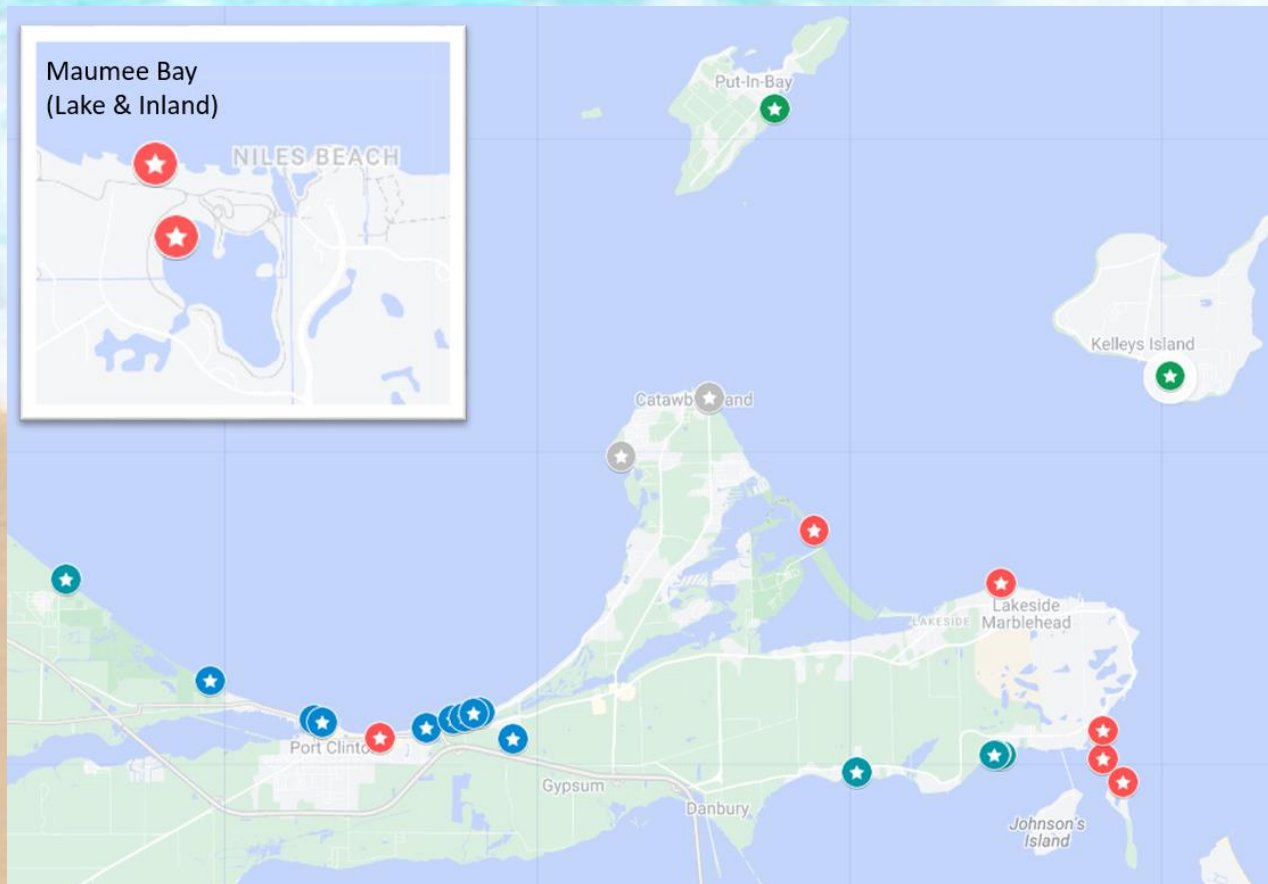
Signature of Sampler(s) _____

MPN Scale
 0-64 Good
 64-125 Fair
 126 and above Poor (three consecutive poor samples is advisory)
 235 and above Advisory

Notes:

Rev: 8/15, 5/23
 O:\Beaches\2025 Forms

SAMPLING FREQUENCY



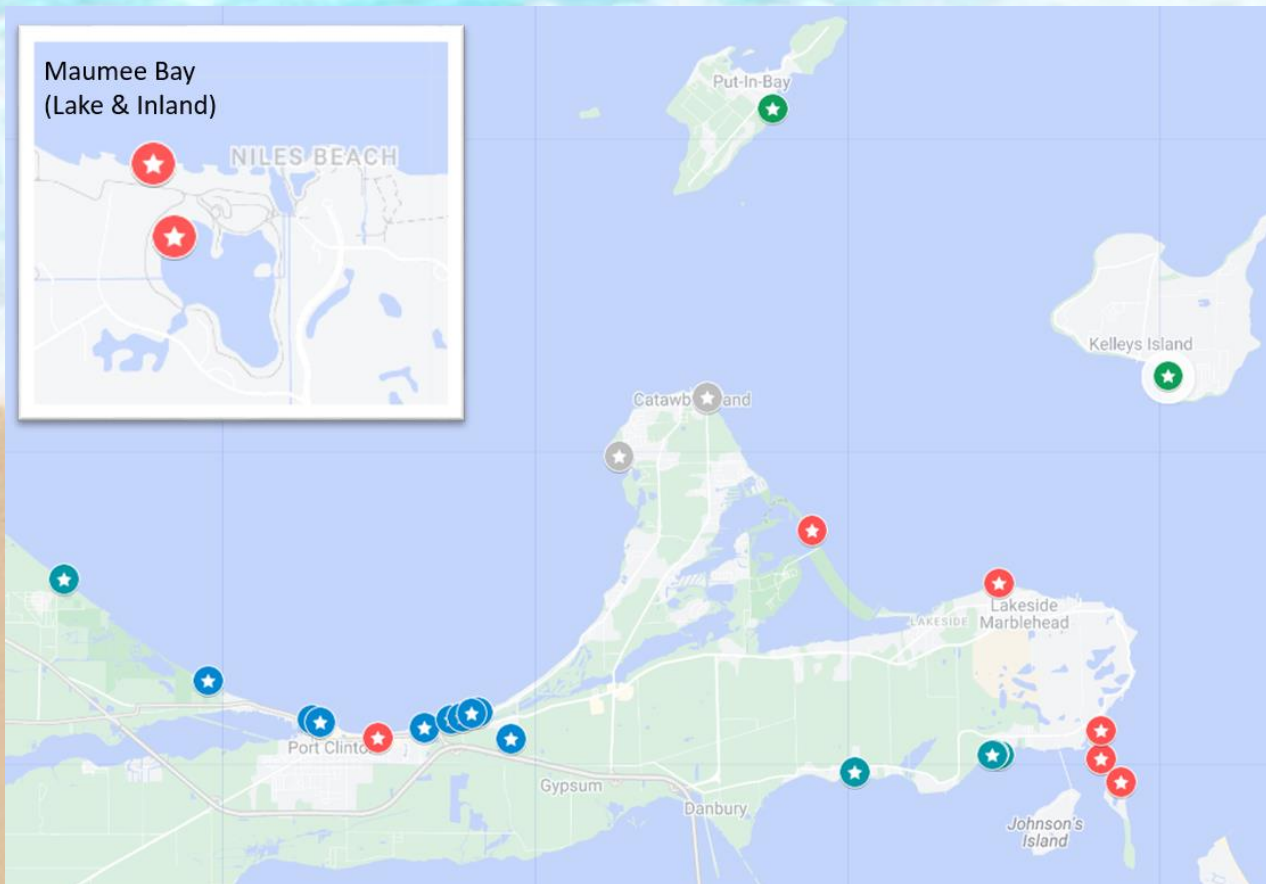
In our Program, beaches fall under two categories when it comes to frequency of sampling.

Tier 1 (high traffic)- 2 samples per week.

Tier 2 (low traffic)- 1 sample per week.

Additional samples maybe required depending on if an advisory is posted.

THE BEACHES



2x/Week

- Bay Point – North Beach
- Bay Point – Market Beach
- Bay Point – South Beach
- East Harbor State Park
- Lakeside Beach
- Lakeview (Port Clinton)
- Maumee Bay State Park – Inland
- Maumee Bay State Park – Erie

1x/Year

- Tall Timbers
- Genoa Quarry

1x/Week

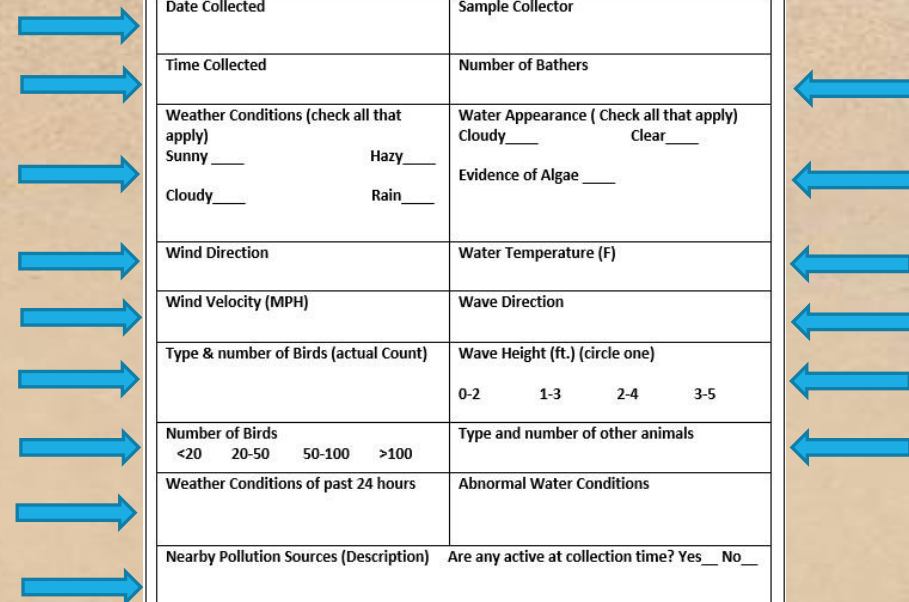
- Beach Front Resort
- Catawba Island State Park
- Catawba Point Association
- Kelly's Island State Park
- Knecht's Beach
- Summer Breeze Association
- Vista Del Lago/ Grande Lake
- Vista Villa
- South Bass Island State Park
- Waterfront II Condominium
- Y-Condo Association
- Yacht Port Beach
- Camp Perry
- Willow Cove Water Slip Condo Association
- Willow Cove D&E
- Castaway Harbor
- Zeller's Beach

TAKING THE SAMPLE

The first thing I do is put on my waders and grab two sample bottles. As I walk onto the beach, I take a visual survey of several things before stepping into the water.

- | | |
|--|-----------------------|
| 1. General Weather Conditions | 11. Water appearance |
| 2. Time and Date | 12. Water Temperature |
| 3. Number of bathers in and out of the water | |
| 4. Number of birds in and out of the water | |
| A. Type of birds | |
| B. In or out of the water | |
| 5. Any other animals on the beach | |
| 6. If there are any dead fish or nearby pollutants | |
| 7. Weather conditions for the last 24 hours | |
| 8. Wind direction and speed | |
| 9. Wave Direction | |
| 10. Wave Height | |

Ohio Department of Health		Beach Water Monitoring Program	
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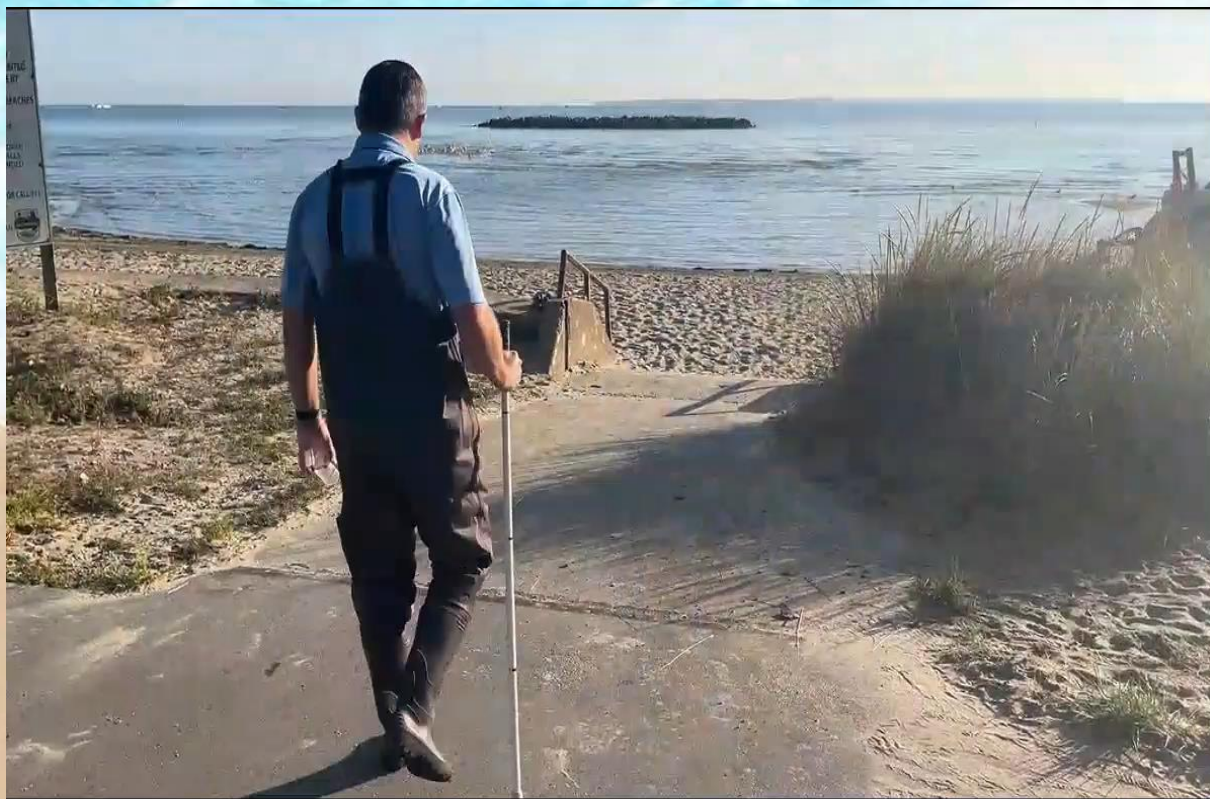


TAKING THE SAMPLE CONT.

Consistency is key to good sampling.

- At each location, we have a specific landmark to ensure we are sampling from the same spot every time.
- Each landmark is also documented in our procedures to maintain consistency, even if I am unavailable.





TAKING THE SAMPLE CONT.

To obtain a precise sample we have to wade out into 3 feet of water.

Once the 3-foot mark is reach, using one bottle at a time the samples are collected using a swooping method. The water that is collected is from 1 to 2 feet below the surface.

- While sampling, it is important make sure to collect water away from the area that was disturbed while walking out.

LAB DROP OFF

We contract with Erie County's Health Department, which performs all of our laboratory testing.

- We test four days a week, Monday through Thursday.
- We cannot test on Fridays because the lab's testing method takes 18 hours.

Each bottle is used for a specific test:

- The first bottle test for E. coli.
- The second bottle tests the turbidity of the water.



REPORTING

“BeachGuard” web portal

Interactive map with real-time beach monitoring notification system.

Visitors can see:

Location - Google Maps

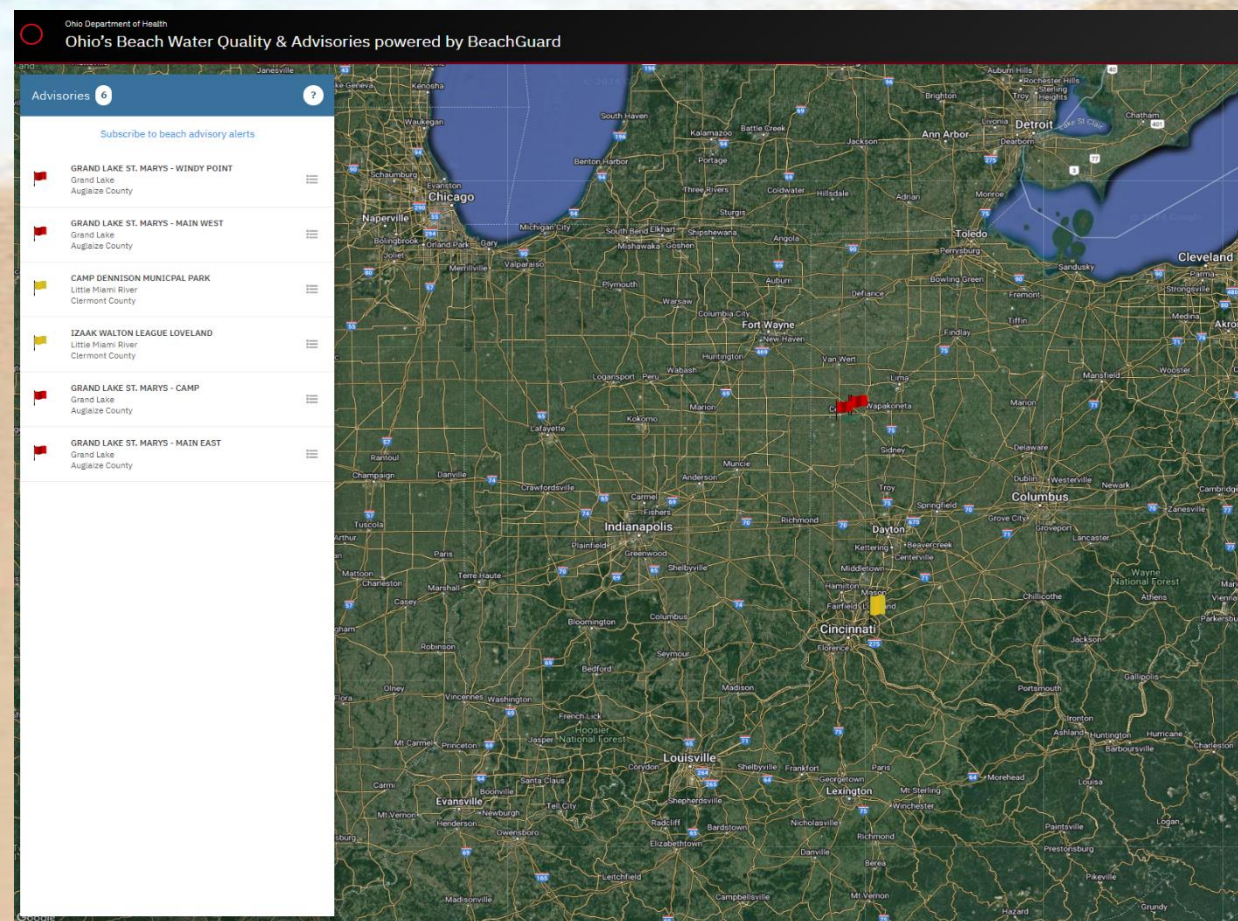
Advisories

Sampling Results

Monitoring Schedule

Survey Data

Sign up to receive an alert when there is a change in the advisory status



BEACHGUARD — ADVISORIES

*Advisory issued based off of recreational standards



Bacteria Contamination Advisory

Posted when the level of E.coli in the water has reached unsafe levels and could make you sick. Children, the elderly and those in ill health or weakened immune Systems are advised not to swim.

E. Coli > 235 MPN = POSTED ADVISORY



Recreational Public Health Advisory

Avoid all contact with the water. Algal toxins have been found at unsafe levels. Swimming and wading are not recommended. Keep pets away.

MICROCYSTIN > 88 µg/L = POSTED ADVISORY

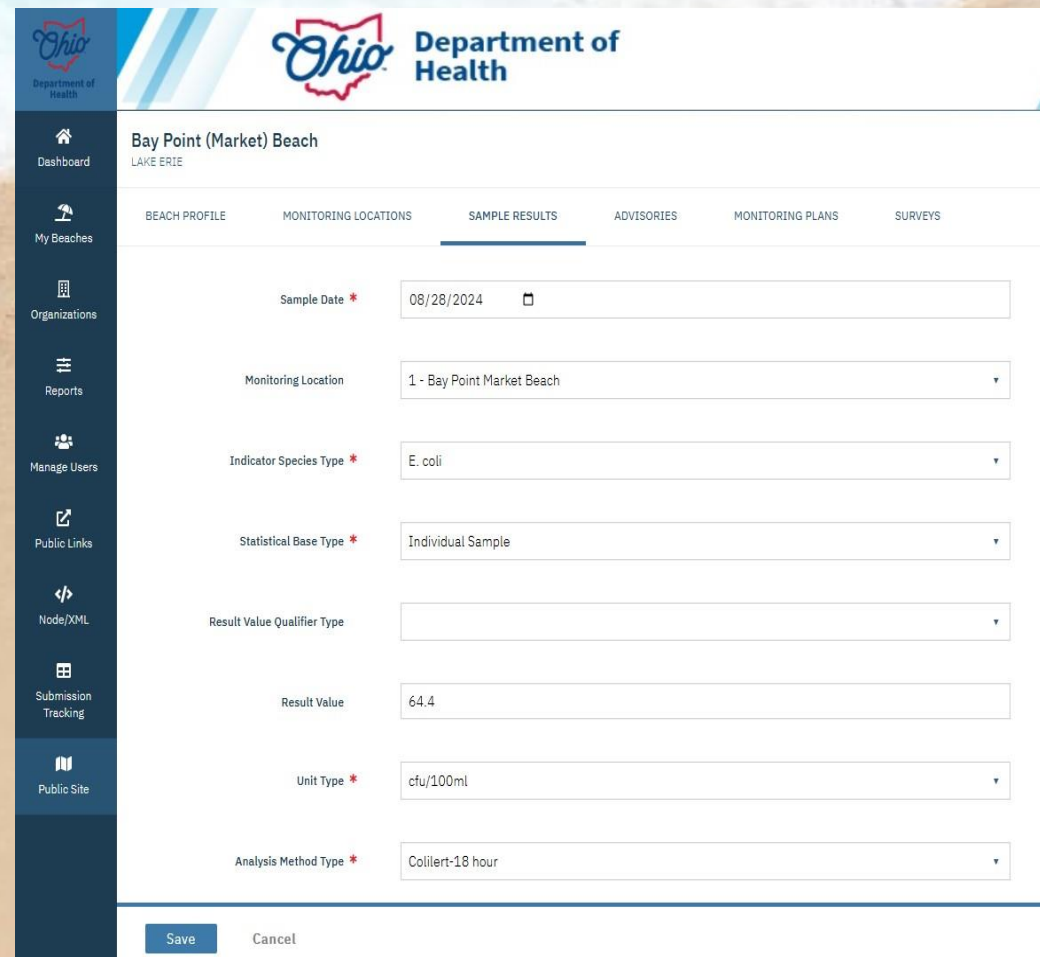
WARNINGS

We have a 4-tier grading system

1. Good 0-64 MPN
2. Fair 64-125 MPN
3. Poor 126-234 MPN
 - Three consecutive poor samples will elevate a beach to be placed under an advisory.
4. Advisory 235⁺ MPN
 - An advisory triggers a resample on the next scheduled collection day.

RESULTS

Once the lab emails the results, they are fully entered into the system, not just advisories. Lab results typically arrive early the next morning.



The screenshot shows a web application interface for the Ohio Department of Health. The page title is "Bay Point (Market) Beach" under the "LAKE ERIE" section. The navigation menu includes: Dashboard, My Beaches, Organizations, Reports, Manage Users, Public Links, Node/XML, Submission Tracking, and Public Site. The main content area has tabs for "BEACH PROFILE", "MONITORING LOCATIONS", "SAMPLE RESULTS" (selected), "ADVISORIES", "MONITORING PLANS", and "SURVEYS". The form contains the following fields:

- Sample Date *: 08/28/2024
- Monitoring Location: 1 - Bay Point Market Beach
- Indicator Species Type *: E. coli
- Statistical Base Type *: Individual Sample
- Result Value Qualifier Type: (empty)
- Result Value: 64.4
- Unit Type *: cfu/100ml
- Analysis Method Type *: Colilert-18 hour

At the bottom of the form are "Save" and "Cancel" buttons.

ADVISORIES

The bacteria sample results are above the acceptable threshold.“ What Now?

Lab results are
>235MPN

Enter data on
BeachGuard (alerts
EPA/ODH)


Alert private owner
and/or governmental
agency


Beach operator posts
“Advisory” signs to alert
beach goers of the
potential hazardous
conditions

OCHD resamples beach
and continues advisory
until a safe sample is
received.

ADVISORIES CONT.

Unfortunately advisories do happen and when they do they are posted immediately.





Department of Health

Bay Point (Market) Beach

LAKE ERIE

BEACH PROFILE
MONITORING LOCATIONS
SAMPLE RESULTS
ADVISORIES
MONITORING PLANS
SURVEYS

Advisory Type *

Advisory Reason Type

Start Date *


Reopen Date


Pollution Source Type

Issuing Organization *

Advisory Comment

Save
Cancel





Department of Health

Ohio's Beach Water Quality & Advisories powered by BeachGuard

Advisories 6

Subscribe to beach advisory alerts

- GRAND LAKE ST. MARYS - WINDY POINT

Grand Lake
Ashtabula County
- GRAND LAKE ST. MARYS - MAIN WEST

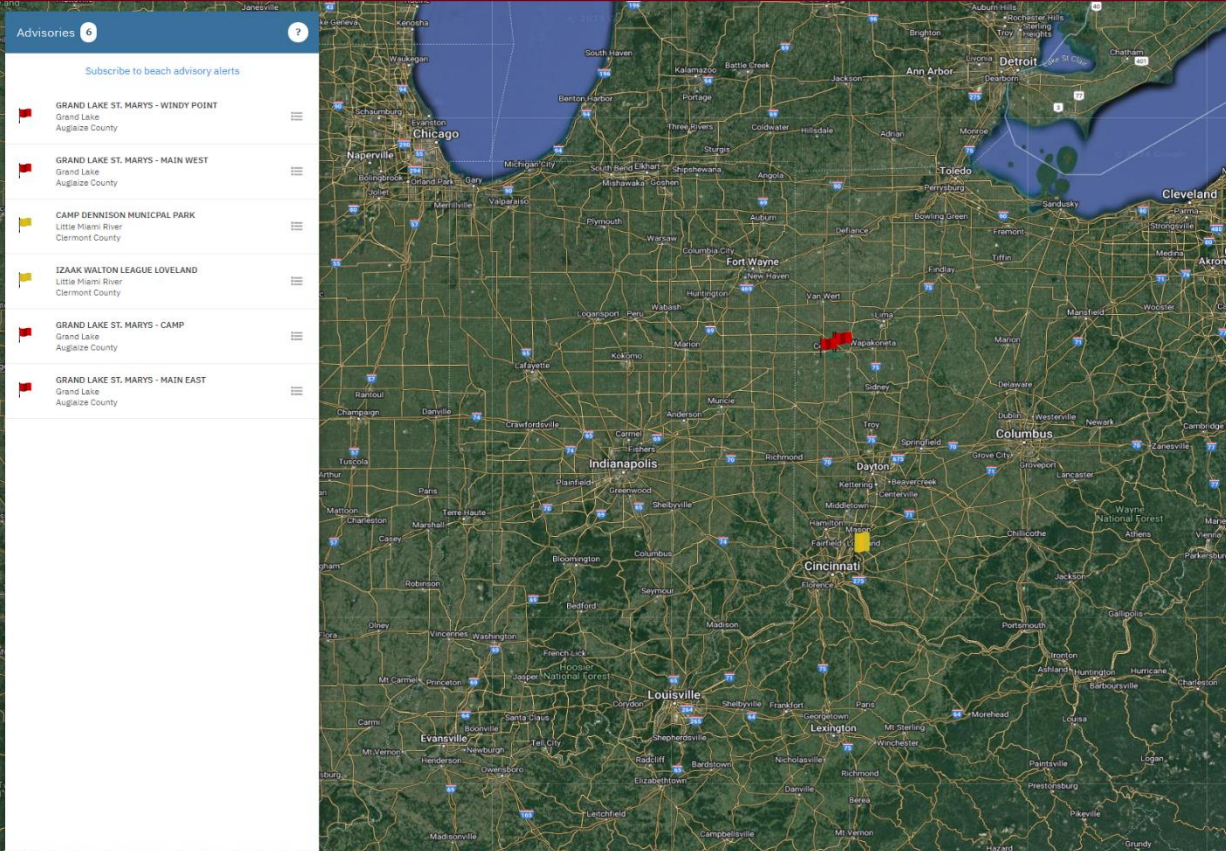
Grand Lake
Ashtabula County
- CAMP DENNISON MUNICIPAL PARK

Little Miami River
Clermont County
- IZAAK WALTON LEAGUE LOVELAND

Little Miami River
Clermont County
- GRAND LAKE ST. MARYS - CAMP

Grand Lake
Ashtabula County
- GRAND LAKE ST. MARYS - MAIN EAST

Grand Lake
Ashtabula County



ADVISORY CONT.

- After the advisory is entered into BeachGuard, an email is sent to the contact for that beach.
- We will also resample the next day and continue to sample until the total E. coli count falls below the advisory threshold.
- Once the advisory is lifted, BeachGuard is updated, and an email will be sent to the beach to remove its advisory signage.

The beach sample conducted on **MONTH DATE, YEAR** indicated that the water for **BEACH NAME** is above minimum standards for E. coli and is considered under Advisory. I have attached the result for your review.

The beach will be resampled **MONTH DATE, YEAR**.

If you have any questions, please contact me at (419) 734-6800.

The beach sample conducted on **MONTH DATE, YEAR** indicated that the water for **BEACH NAME** is below the advisory level for E. coli. The water advisory has been lifted. I have attached the result for your review.

If you have any questions, please contact me at (419) 734-6800.

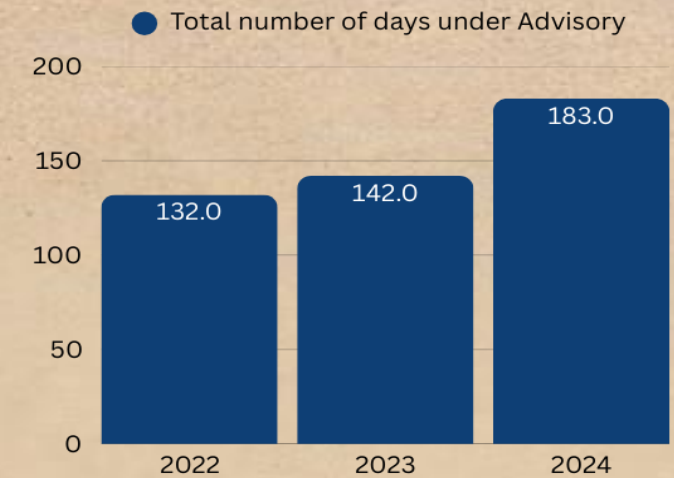
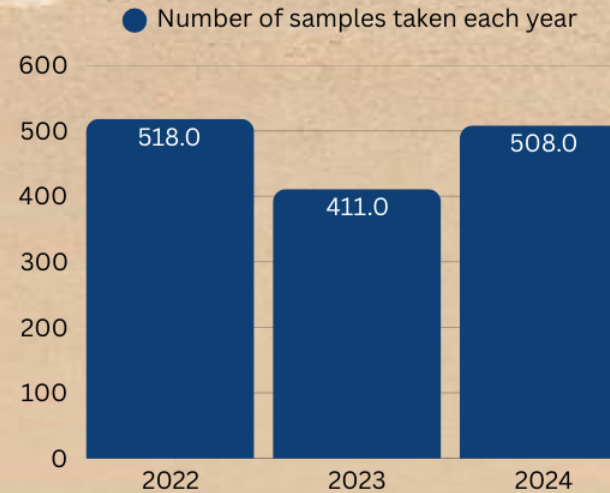
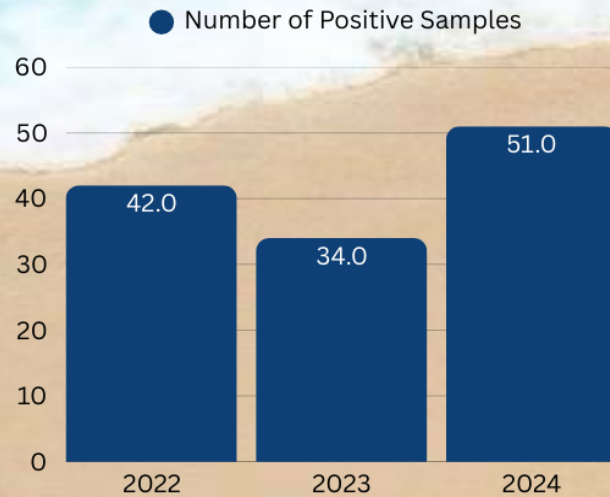
CHALLENGES

With every program there are always challenges to overcome.

- **Owners/Operators Not Wanting to Post Advisories**
 - Summer is a very short season to earn revenue for the entire year, and nothing hurts profits like an advisory.
 - There is often pressure to resample on the same day an advisory is issued due to planned events (e.g., a sailing race).
- **Uniformed Signage**
 - Not every location has an ideal spot to post an advisory notice.
- **Educating the Public**
 - Seasonal population changes and can make outreach difficult.
 - Finding effective and efficient ways to reach our target audience remains a challenge.

TRENDS

As you've seen throughout this presentation, we collect a significant amount of data, so much, in fact, that it took me quite a while to decide what to present to you today.



TRENDS CONT.

Maumee Bay consistently has the most advisories each year, largely due to its geological location.

Nestled within a bay, the water circulation is limited, this with other factoring such as:

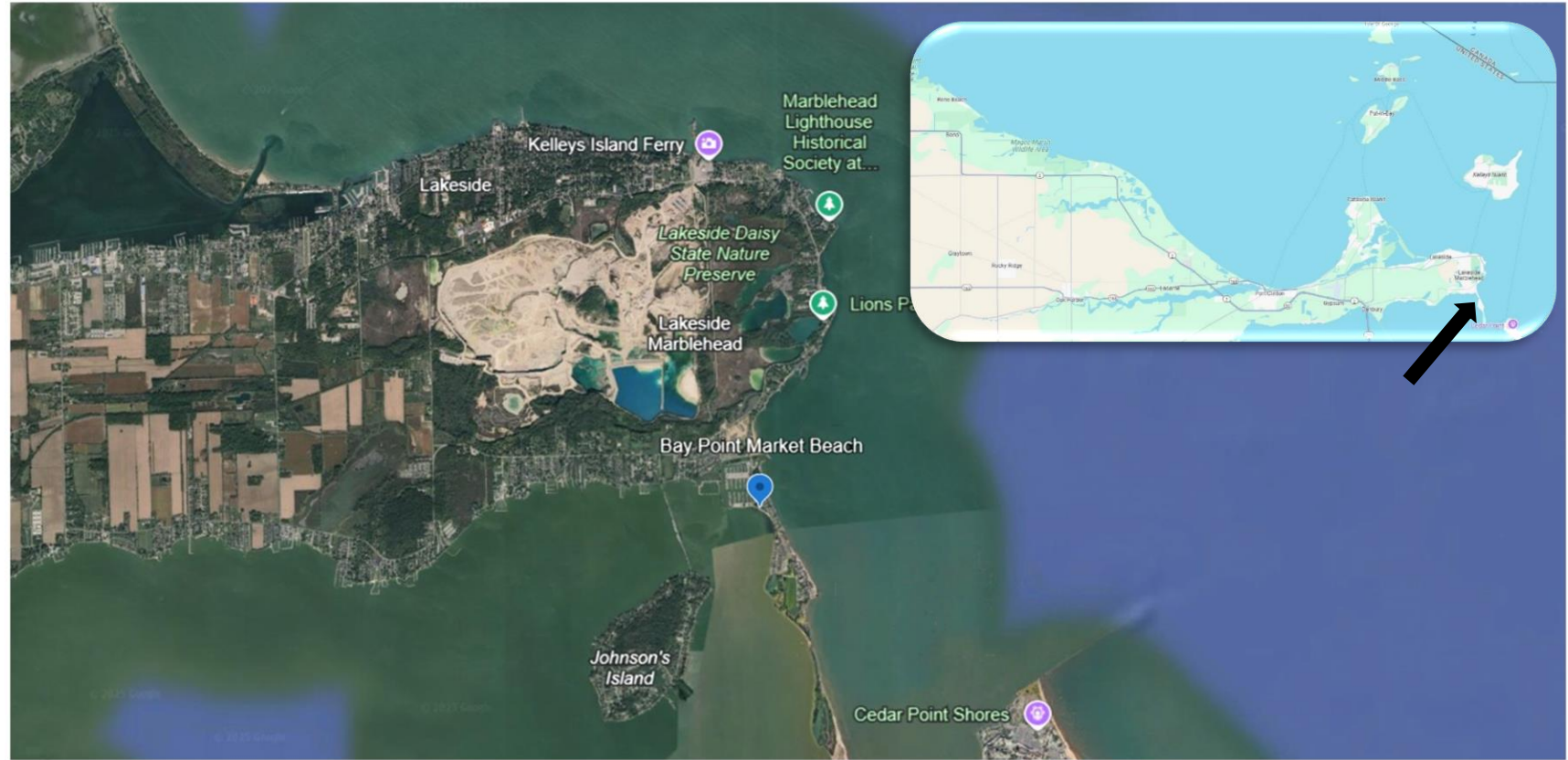
- Long periods of extreme heat
- Strong northeastern winds
- Heavy rain fall
- Large population of Canadian Geese

All help contribute to the increased levels of E.coli.



TRENDS CONT.

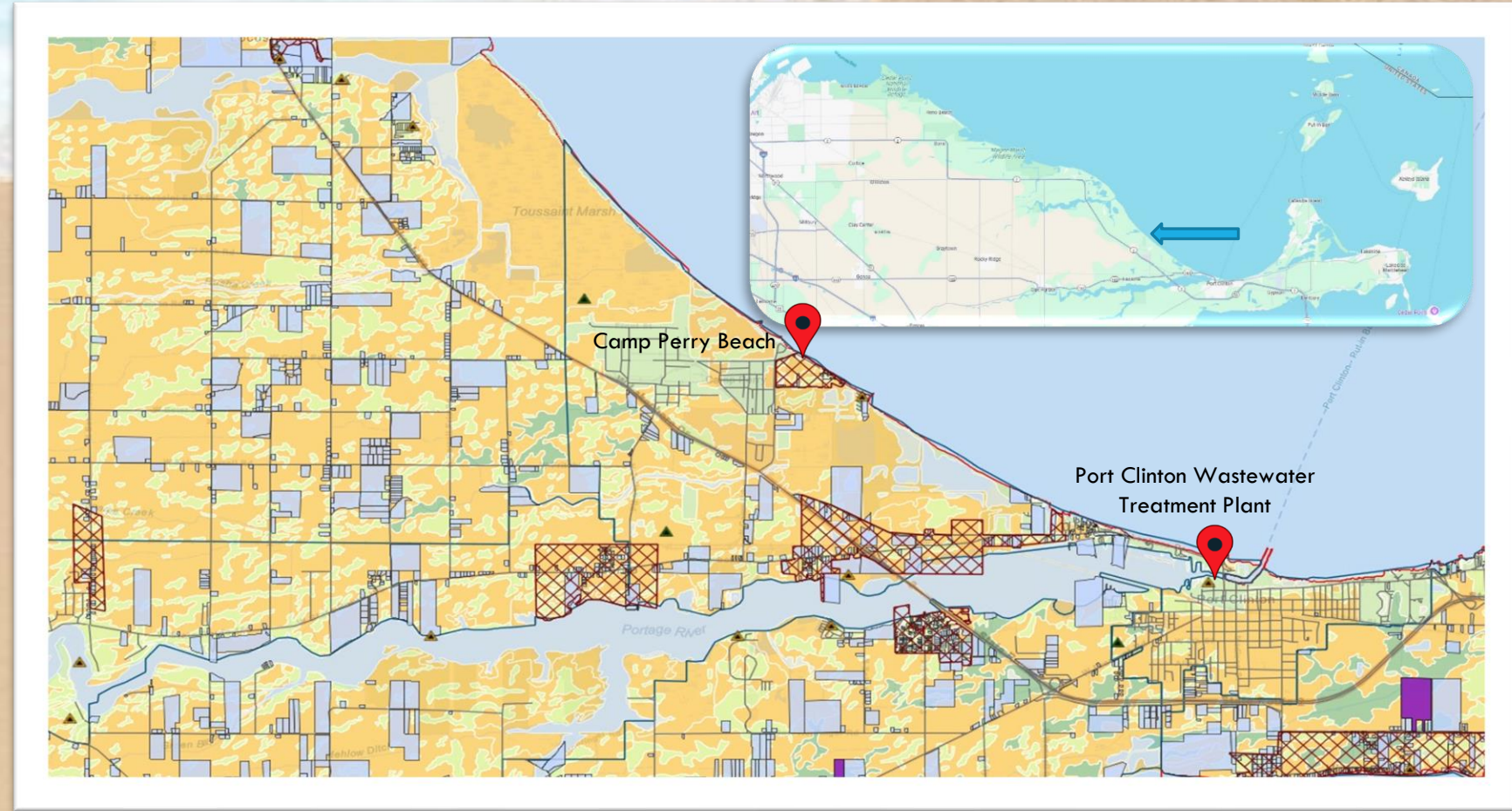
Bay Point Market is another example of a beach with minimal water circulation. Along with other factors discussed on the previous slide, such as extreme heat and heavy rain, these conditions contribute to it having the third-highest number of advisories.



TRENDS CONT.

Camp Perry Beach has the second-highest number of advisories, yet it doesn't follow the pattern seen in the previous two examples. So, why are there so many advisories??

An answer may be sewage systems, both private and public.



LOOKING FORWARD

Keeping one eye on the present while always looking forward.

1. Continue to add more beaches to our program.
 - We are currently in the process of adding an additional public beach to our monitoring for this season.
 - Using online mapping tools to locate other beaches that will need to be added in the future.
 - By adding as many beaches as we can it helps in two ways.
 1. Helps us protect the citizens utilizing our lake.
 2. It gives us a better picture of overall health of Lake Erie.
2. Standardized signage for all beaches.
 - This would help with the following.
 - No confusion or excuses for why advisories are not posted.
 - Add a QR code to the sign linking to the BeachGuard website to further educate people using beaches not only in Ottawa County, but throughout the state.

LOOKING FORWARD

Keeping one eye on the present while always looking forward.

3. Education

- Using tools such as social and print media in order to raise awareness of the program
- Going out to events like fairs, community/county events.

4. Predictive Modeling

- With the data we collect each day predictive modeling is the logical next step.
- The objective is to leverage real-time weather data to issue advisories promptly, eliminating delays associated with lab testing.

THANK YOU!

Questions?

Use the Q&A box to submit your questions!

Thank you for attending today's webinar!

You will receive a follow-up email with the webinar recording and slides.

For more information visit www.naccho.org/mahc

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National Association of County & City Health Officials