



## GREAT LAKES BEACH ANNUAL SANITARY SURVEY

### 1. BASIC INFORMATION

Name of Beach:	Date(s) of Survey:
Beach ID:	Name of Waterbody:
Town/City/County/State:	Number of Routine Surveys Used:
Sampling Station(s)/ID:	Name(s) of Surveyor(s):
STORET Organizational ID:	Surveyor Affiliation:

### 2. DESCRIPTION OF LAND USE IN WATERSHED

Current Land Use in Watershed

Type	Residential	Industrial	Commercial	Agricultural	Other (specify):
Percentage					

Development	Describe
% undeveloped	
% developed	

How was land use measured:

Waterbody Uses:  Boating  Fishing  Surfing  Windsurfing  Diving  Other (specify)

Are maps of the beach area attached?  yes  no      Are maps of the watershed attached?  yes  no

List maps and their sources:

Does the detailed map include locations of:

Sample Points	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Hydrometric Network	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Pollutant Sources	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Boat Traffic	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Marinas	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Boat dockage	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Fishing	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Bathing/Swimming	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):

Bounding Structures:

Jetty	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Groin	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Seawall	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Other	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Sanitary Facilities	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Restaurants/Bars	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Playground	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Parking Lot(s)	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Other	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):

Erosion/Accretion Measurements

High Watermark Location Identification	Fixed Object Description (e.g., tree, building)	Distance from Fixed Object to High Watermark	Feet or Meters?	Distance between High Watermark Locations	Feet or Meters?
A				A↔B:	
B				B↔C:	
C				C↔D:	
D (optional)				D↔E:	
E (optional)					



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**Bounding Structures**

Bounding Structure	Number	Description or Comment
Jetty		
Groin		
Seawall		
Natural formation		
Other (specify):		
Other (specify):		

**Beach Materials/Sediments:**

Sandy     Mucky     Rocky     Other:

Or, Beach Materials/Sediments Lab Analysis (attach diagram or photographs of plot locations)

Name of Lab Used:			
Date of Sample Collection:			
Plot ID	Mean Grain Size Diameter	Uniformity Coefficient	Description of Plot Location:
Average			

Describe the results and conclusion of the sediment analysis and potential effects of the sediment distribution at this beach:

**Photos Taken in the Beach Area or Surrounding Watershed**

Image Number	Date/Time	File Name	Description of Photo (Include Pictures of High Watermark Locations and Corresponding Fixed Objects)

**Habitat around beach:**

Dunes     Wetlands     River/stream     Forest     Park     Protected Habitat or Reserve  
 Other:

**3. WEATHER CONDITIONS**

Examine the weather data collected over the prior beach season(s) along with bacteria sampling results.

Do the bacteria concentrations at this beach appear to correlate with any of the following?

Rainfall	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Air Temperature	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Water Temperature	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Cloud Cover	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Wind Speed	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Wind Direction	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Longshore Current	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Wave Height or Intensity	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):
Other Weather	<input type="checkbox"/> yes	<input type="checkbox"/> no	(explain):



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Have any statistical analyses been done to calculate the degree of correlation?  yes  no

Describe any analyses done, and any trends or correlations found (add lines if needed to describe in detail):

Average air temperature during beach season: \_\_\_\_\_ ° C or ° F | Average water temperature during beach season: \_\_\_\_\_ ° C or ° F

Average wind speed and direction during beach season (e.g., E or 90° at 15 mph):

Typical weather conditions:  Sunny  Mostly Sunny  Partly Cloudy  Mostly Cloudy  Overcast  Rainy

Rainfall total for the beach season (in): \_\_\_\_\_ | Average rainfall for all beach seasons (in): \_\_\_\_\_

Does rainfall intensity correlate with bacteria sample results?  yes  no Describe:

Number of significant rain events: \_\_\_\_\_ | What constitutes "significant?"  
(e.g., 1 inch or more rain)

Additional Comments/Observations:

### 4. PHYSICAL BEACH CONDITIONS

Beach length or dimensions (indicate Z1, Z2, and Z3 on a map)

Length (m): \_\_\_\_\_ | Width (average, in m): \_\_\_\_\_

Width Z1 (m): \_\_\_\_\_ | Width Z2 (m): \_\_\_\_\_ | Width Z3 (m): \_\_\_\_\_

Local water level variation: \_\_\_\_\_ feet \_\_\_\_\_ inches | Hydrographic influences (e.g., seiches):

Characterize any longshore or nearshore currents and their potential effects based on bacteria sampling results

Approximate beach slope at swim area: \_\_\_\_\_ %

Description and date of last beach rehabilitation (example: new sand, nourishment, dredging, etc., physical structures will be described in Sections 12 and 13):

Comments/Observations:

### 5. BATHER LOAD (# OF BEACH USERS)

Is bather load measured?  yes  no

If yes, describe how beachgoer numbers are calculated (i.e., turnstile, counting at noon, photographs):



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Beach Use

Beachgoer Category	Number of People Per Day Using the Beach					
	Peak Use for the Season (Daily Use)	Seasonal Average (Daily Use)	Holiday Average (Daily Use)	Weekend Average (Daily Use)	Weekday Average (Daily Use)	Off-Season Average if applicable (Daily Use)
Total people in the water						
Total people out of the water						
Total people at the beach						
Breakdown of Activities (if activities were broken down on the Routine-Onsite Sanitary Survey, summarize them here)						
Activity 1:						
Activity 2:						
Activity 3:						
Activity 4:						
Activity 5:						
Activity 6:						
Frequency of measurements (e.g., daily, weekly, monthly)						

Examine bather load data along with sampling results for the past beach season(s). Look at each sampling point. Does bather load appear to correlate with bacteria concentrations at any of these sampling points? Does the amount of people in the water or out of the water correlate with bacteria concentrations? Has a statistical analysis been done? Describe:

Comments/Observations:

**6. BEACH CLEANING**

Beach cleaning frequency during season:

Description of cleanup activities

	Leveling of Sand	Trimming or Removing Vegetation	Removing Debris	Removing Trash	Construction and Maintenance of a Temporary Pathway Directly to Open Water	Other (specify):
Check activities that were done						
Equipment used (if applicable)						

How often are floatables found at the beach?     Never     Sometimes     Frequently     Very frequently

Known sources of floatables:

Types of floatables found     Street litter     Food-related litter     Medical items     Sewage-related  
 Building materials     Fishing related     Household waste     Other:

How often is beach debris/litter found on the beach?     Never     Sometimes     Frequently     Very frequently

Known sources of debris:



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Type of Debris/Litter Found

- Street litter   
  Food-related litter   
  Medical items   
  Sewage-related   
  Building materials  
 Fishing related   
  Household waste   
  Tar   
  Oil/ Grease   
  Other:

Comments/Observations:

### 7. INFORMATION ON SAMPLING LOCATION

Description of Sample Points (include beach water and potential pollution sources)

Sample Point Name/ID	Location	Description	Sample Frequency	Time of Day of Sample Collection

Description of hydrometric network [note that this is a network of monitoring stations that collect data such as rainfall and stream flow]

Comments/Observations:

### 8. WATER QUALITY SAMPLING

Name of laboratory: \_\_\_\_\_ Distance to laboratory: \_\_\_\_\_ miles

Is there a sampling and analysis plan?  yes  no    Is it adequate?  yes  no (explain): \_\_\_\_\_

Are the sampling staff properly trained on sampling techniques, equipment maintenance, and calibration procedures?  yes  no

Biological Survey Results:

Were invasive/nonnative species present?  yes  no (describe): \_\_\_\_\_

Have algae blooms been observed during the beach season? (If so, specify duration and algae species) \_\_\_\_\_

Percent of beach season where algae was present in significant amounts in the nearshore water:  None  Low (1-20%)  
 Moderate (21-50%)  High (> 50%)

Percent of beach season where algae was present in significant amounts on the beach:  None  Low (1-20%)  
 Moderate (21-50%)  High (> 50%)

List types of algae found: \_\_\_\_\_

Colors of algae most commonly found: \_\_\_\_\_

List any infectious snails that were found: \_\_\_\_\_

List any dangerous aquatic organisms that were found: \_\_\_\_\_



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## Presence of Wildlife and Domestic Animals

Type	Degree of Presence (Low, Mod, High)	Does the Presence Appear to Correlate with Bacteria Results? (Yes, No, Don't Know)	Describe Further (include whether fecal droppings are seen and are a problem)
Geese			
Gulls			
Dogs			
Other (specify):			
Other (specify):			
Other (specify):			

Was a significant number of dead birds found on the beach during beach season?  yes  no

Describe types and numbers found and possible causes: \_\_\_\_\_  
\_\_\_\_\_

Was a significant number of dead fish found on the beach during the beach season?  yes  no

Describe numbers found and possible causes: \_\_\_\_\_  
\_\_\_\_\_

## Bacteria Samples Collected

Do you test for *Escherichia coli*?  yes  no Analytical Method Used: \_\_\_\_\_

Do you test for *Enterococcus*?  yes  no Analytical Method Used: \_\_\_\_\_

Do you test for fecal coliform?  yes  no Analytical Method Used: \_\_\_\_\_

List any additional bacteria tested and associated analytical methods: \_\_\_\_\_

Do you composite any bacteria samples?  yes  no If yes, explain: \_\_\_\_\_

How do this past season's bacteria results compare to that of previous years? \_\_\_\_\_  
\_\_\_\_\_

Do the bacteria results correlate to other parameters, such as water quality, weather, flow, bather load, algae, or wildlife?  yes

no Describe in detail analyses that were performed on the data (add additional lines as needed).  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Water Quality (check all that are measured regularly)

Temperature	pH	Rainfall	Turbidity	Conductivity	Other

How does the water quality data compare to data from previous years? \_\_\_\_\_  
\_\_\_\_\_

Do any data correlate with bacteria sample results?  yes  no If yes, explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_





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11. POTENTIAL POLLUTION SOURCES

Type of Source	Level of Concern (H, M, L, or NA)	Latitude*	Longitude*	Describe how this source might contribute to beach pollution and frequency of contribution
Wastewater discharges				
Sewage overflows				
Septic systems				
Subsurface sewage disposal				
Stormwater outfalls				
Natural outfalls				
CAFOs or AFOs				
Wildlife				
Agriculture runoff				
Urban runoff, industrial waste				
Marinas, harbors				
Mooring boats				
Domestic animals				
Unsewered areas				
Erosion-prone areas				
Landfills, open dumps				
Groundwater seepage				
Bathroom leakage				
Drains and pipes nearby				
Stream or wetland drainage				
Vacant areas				
Other (specify):				
Other (specify):				
Other (specify):				

\*If latitude and longitude are unknown, show the location on the detailed map and describe in the Comments/Observations section below.

Have potential pollution sources identified above been included on the detailed map?  yes  no (explain):

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Did you collect bacteria samples from any potential pollution sources, such as streams or outfalls?  yes  no (explain):

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If yes, describe any analyses performed and a summary of the results: \_\_\_\_\_

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Are there any discharge reports available for dischargers in the watershed?  yes  no If yes, attach report or pertinent sections and summarize here: \_\_\_\_\_

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Have any sources been remediated, or have steps been taken to remediate sources?  yes  no (explain):

Four horizontal lines for providing an explanation if the answer is 'no'.

Comments/Observations:

12. DESCRIPTION OF SANITARY FACILITIES

Bathhouses: Total number of bathhouses at the beach:

Number or ID	Location	Condition (Good, Fair, or Poor)	Distance from Waterline (feet)	Frequency of Cleaning (Daily, Weekly, Monthly)

Describe further. Include number of toilets, showers, sinks, etc., and whether these facilities are adequate to support beach use.

Litterbins: Total number of litterbins at the beach:

Number or ID	Location	Condition (Good, Fair, or Poor)	Distance from Waterline (feet)	Frequency of Emptying (Daily, Weekly, Monthly)

Describe further. Include whether number and location of litterbins is adequate to support beach use.

13. DESCRIPTION OF OTHER FACILITIES

List facilities in the beach area, such as restaurants, bars, playgrounds, parking lots, and dog parks.

Facility Name/Type	Location	Condition (Good, Fair, or Poor)	Distance from Beach (feet)	How might this facility contribute to water quality problems?

Comments/Observations: