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	☐ yes	☐ no	(explain):
Hydrometric Network	☐ yes	☐ no	(explain):
Pollutant Sources	☐ yes	☐ no	(explain):
Boat Traffic	☐ yes	☐ no	(explain):
Marinas	☐ yes	☐ no	(explain):
Boat dockage	☐ yes	☐ no	(explain):
Fishing	☐ yes	☐ no	(explain):
Bathing/Swimming	☐ yes	☐ no	(explain):
Bounding Structures:			
Jetty	☐ yes	☐ no	(explain):
Groin	☐ yes	☐ no	(explain):
Seawall	☐ yes	☐ no	(explain):
Other	☐ yes	☐ no	(explain):
Sanitary Facilities	☐ yes	☐ no	(explain):
Restaurants/Bars	☐ yes	☐ no	(explain):
Playground	☐ yes	☐ no	(explain):
Parking Lot(s)	☐ yes	☐ no	(explain):
Other	☐ yes	☐ 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)					

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	☐ yes	☐ no	(explain):
Air Temperature	☐ yes	☐ no	(explain):
Water Temperature	☐ yes	☐ no	(explain):
Cloud Cover	☐ yes	☐ no	(explain):
Wind Speed	☐ yes	☐ no	(explain):
Wind Direction	☐ yes	☐ no	(explain):
Longshore Current	☐ yes	☐ no	(explain):
Wave Height or Intensity	☐ yes	☐ no	(explain):
Other Weather	☐ yes	☐ no	(explain):

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):

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:

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: _____

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: _____

Were there any unusual results, such as extremely high or low values detected, or unusual trends? ☐ yes ☐ no If yes, explain what was found and any potential causes: _____

Are water quality annual trend data attached? ☐ yes ☐ no

Comments/Observations:

9. MODELING

Are models being used? ☐ yes ☐ no

If yes, list types of models being used and a brief description of the models:

Comments/Observations:

10. ADVISORIES/CLOSINGS

List any advisories and closings that occurred, whether bacteria levels were high, and any possible reasons for advisory or closing or high bacteria level, such as stormwater runoff, sewage spill, or wildlife on the beach.

Advisory or Closing (specify one)	Start and End Dates	Length of Advisory or Closing (Days)	Did Bacteria Concentrations Exceed GM or SSM Criteria?	Reason for Advisory or Closing or Possible Contributing Factors

Total number of closings issued: _____ Total number of days under an advisory: _____

Total number of advisories issued: _____ Total number of days beach was closed: _____

Comments/Observations:

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				
Bathhouse 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):

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

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

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

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

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: