

Beach Information Needs Survey

Page One

Introduction:

This is a critical juncture for beach management. The 2015-2020 Great Lakes Restoration Initiative Action Plan is currently being developed, while federal funding for monitoring has been cut. The Beach Health Interagency Coordination Team representing NOAA, USGS, EPA, and the Centers for Disease Control (CDC), would like to learn about your beach information needs.

This survey is a timely follow-up to the 2005 Beach Health Research Needs Workshop at the Great Lakes Beach Association Conference in Green Bay. Input provided at that time largely set the direction for beach health R&D over the past several years, including the development of sanitary surveys and rapid testing protocols, "Virtual Beach", the quantification of bacterial runoff from Great Lakes watersheds, and the development (in progress) of a Great Lakes swimmer's health registry.

Your time in answering these questions (est. 15-25 minutes, depending on your responses) can help to define beach health information needs and operational research objectives for the next several years and provide essential direction to the federal agencies involved.

PLEASE NOTE: If you are filling out this survey at the request of someone else in your organization, please send an email to David Rockwell (dcrockwe@umich.edu) under the subject line: "Participating in Survey," and include your name and organization. In this way, we can maintain an accurate roster and response rate, and allow the survey to be anonymous if you so choose. Many thanks!

Part A. Background

1. What type of organization do you work for?

- Municipal or county health department
- Tribal Government
- Wastewater utility or sewerage district
- Local parks/recreation department
- Private consultancy
- Nonprofit/non-government organization
- College or university
- Other (Please describe in Comment Box)

Comments

2. Approximately how many staff does your organization have ?

- Less than 10
- Between 10 and 30
- Between 30 and 50
- More than 50

3. How many Great Lakes beaches is your organization responsible for?

- none
- 1-2
- 3-5
- 6-10
- More than 10

4. Where are these Great Lakes beaches located?

- Lake Superior
- Lake Michigan
- Lake Huron
- Lake Erie
- Lake Ontario
- Lake St. Clair
- Connecting Channel (Please identify in Comment Box)

Comments

5. In what State are these Great Lakes beaches located?

- Illinois
- Indiana
- Michigan
- Minnesota
- New York
- Ohio
- Pennsylvania
- Wisconsin

6. In what County (Counties) are these beaches located?

7. In what tribal area (if appropriate) are these beaches located?

8. What is your role related to beach management? (Indicate ALL that apply)

- Monitoring -- sampling/ field observations
- Monitoring --lab analysis
- Public notification / beach posting
- Data reporting/analysis
- Remediation planning/implementation
- Management/supervision/administration
- Other (Please describe in Comment Box)

Comments

9. What proportion of your time would you say you devote to the combined roles noted above in Question 8?

- Less than a Quarter of my time
- A Quarter to Half of my time
- Half to Three Quarters of my time
- More than Three Quarters of my time

10. How many years (round to nearest year) have you been involved in Beach Management (tasks listed in Question 8)?

11. What proportion of overall staff time would you say your organization devotes to beach management (tasks listed in Question 8)?

- Less than 10% of overall staff time
- 10% to a Quarter of overall staff time
- A Quarter to Half of overall staff time
- Half to Three Quarter of overall staff time
- More than Three Quarter of overall staff time

12. Of your organization's overall work on beach management (tasks listed in Question 8), what proportion would you say is conducted by interns.

- We do not use interns for beach related work.
- Less than a Quarter of beach related work conducted by interns
- A Quarter to Half of beach related work conducted by interns
- Half to Three Quarters of beach related work conducted by interns
- More than Three Quarters of beach related work conducted by interns

Part B. Federal Funding

The Administration's FY14 federal budget does not include funding for monitoring water quality at coastal beaches.

13. Will your organization continue monitoring Great Lakes beaches without this source of funding?

- Yes, we will continue monitoring
- No, we will not continue monitoring (If “No” skip to Question 19 Part C)
- Unsure

14. How much of a reduction in your organization’s beach monitoring – in terms of the overall number of water-quality tests conducted – do you anticipate without federal funding?

- No reduction (i.e., maintain the current amount of water-quality testing)
- A less-than-25% reduction in water-quality testing
- A 25-50% reduction in water-quality testing
- A 50-75% reduction in water-quality testing
- A greater-than-75% reduction in water-quality testing
- Unsure

15. How likely is it that your organization will reduce water-quality sampling/testing by: (Indicate ALL that apply)

	Very Likely	Fairly Likely	Neutral or Unsure	Fairly Unlikely	Very Unlikely
Reducing the number of beaches monitored?	<input type="radio"/>				
Reducing the number of days monitored?	<input type="radio"/>				
Using predictive models in place of sampling/testing on some days?	<input type="radio"/>				
Instituting blanket swim-at-your-own-risk, except for safety (e.g., lightning, waves, sewage spill)?	<input type="radio"/>				
Screening which days to sample/ not sample? based on predictive models	<input type="radio"/>				

16. Will your organization continue to submit beach monitoring data to EPA, voluntarily?

- Yes
- No
- Unsure

17. Does your organization have its own beach website, where data on water quality can be accessed/ downloaded?

- Yes – current data only; i.e., latest water quality results
- Yes – current data plus past data
- No

18. Please describe any other plans you have for dealing with reduced funding:

Part C. Beach Research Needs

19. How important would you say the following research subject areas are for your organization's beach-related work?

	Extremely Important	Very Important	Moderately Important	Somewhat Important	Not at All Important	Not Sure
Rapid testing techniques (e.g., qPCR)	<input type="radio"/>					
Real-time water quality predictions and forecasts	<input type="radio"/>					
Microbial source tracking/ identification	<input type="radio"/>					
Quantitative microbial risk assessment	<input type="radio"/>					
Human health impacts of beach pathogens	<input type="radio"/>					
Cyanobacterial harmful algal blooms (HABs)	<input type="radio"/>					
Cladophora impacts/management	<input type="radio"/>					
Waterfowl impacts/management	<input type="radio"/>					
Watershed Bacterial Contribution	<input type="radio"/>					
Pollution remediation techniques	<input type="radio"/>					
Rip currents, structural currents or dangerous conditions	<input type="radio"/>					
Public perception/effectiveness of water quality notification procedures	<input type="radio"/>					
Economic Impacts	<input type="radio"/>					
Safe use/disposal of algal biomass	<input type="radio"/>					



21. B. If you had to prioritize, how would you rank them in terms of their usefulness? (This is a ranking question, kindly provide only one response for each row and column. Select each rank 1 through 5 only one time)

	1(Most Useful)	2	3	4	5(Least Useful)
Synthesis/summary of all studies on a given topic or question	<input type="radio"/>				
Science-based guidance on beach management issues or tasks	<input type="radio"/>				
Location-specific/Web-accessible data (e.g., water quality results; past and present rainfall, lake conditions, river discharge, etc...)	<input type="radio"/>				
Tools (i.e., software, on-line applications, smart phone apps) for beach management tasks like conducting sanitary surveys, predicting water quality, or notifying the public.	<input type="radio"/>				
Direct consultation/technical assistance	<input type="radio"/>				

22. If there are particular beach-relevant data that you would like the federal agencies to provide more of, please describe them here:

23. Overall, would you say that the Federal Agencies involved in beach-related research (EPA, USGS, NOAA, and CDC) are meeting your information needs?

Yes

No

24. How satisfied are you with the information services provided by the Federal Agencies involved in beach-related research?

	Very Satisfied	Satisfied	Neutral or Unsure	Dissatisfied	Very Dissatisfied
NOAA	<input type="radio"/>				
USGS	<input type="radio"/>				
EPA	<input type="radio"/>				
CDC (Center for Disease Control)	<input type="radio"/>				

25. Please provide any suggestions you have on how the federal agencies involved in beach-related research can better meet your organization's information needs?

Part D. Adoption of New Methods

26. Is your organization currently using quantitative Polymerase Chain Reaction (qPCR) for managing any of its beaches?

- Yes
- No (If "No" skip to Question 30.)
- Unsure (If "Unsure" skip to Question 30.)

27. For what purposes has your organization adopted qPCR? (Indicate ALL that apply)

- To inform advisory/closure decisions (i.e., whether or not to post)
- Source tracking/ identification
- Other (Please describe in Comment Box):

Comments

28. What year (beach season) did your organization first adopt qPCR for any of the uses noted above? (For example, "2011")

29. How much of a barrier would you say each of the following poses in terms of adopting qPCR within your organization?

	Extreme Barrier	Significant Barrier	Moderate Barrier	Slight Barrier	Not a Barrier	Not Sure
Lack of technical capacity (equipment)	<input type="radio"/>					
Lack of know-how/ trained personnel	<input type="radio"/>					
Lack of funding for equipment	<input type="radio"/>					
Lack of access to an outside qPCR facility	<input type="radio"/>					
Lack of funding for analytical cost (in-house)	<input type="radio"/>					
Lack of funding for analytical cost(outsourced)	<input type="radio"/>					
Lack of interest/support	<input type="radio"/>					

30. Is your organization currently using a predictive model (commonly referred to as a nowcast, swimcast, or forecast) for managing any of its beaches?

- Yes
- No (If "No" skip to Question 34 Part E)
- Unsure (If "Unsure" skip to Question 34 Part E)

31. For what purposes has your organization adopted a predictive model?

(Indicate ALL that apply)

- Inform advisory decisions (whether or not to post) on days when samples are collected
- Inform advisory decisions on days when samples are NOT collected
- Inform sampling decisions (e.g., whether or not to re-sample following an exceedance)
- Inform testing decisions (e.g., whether or not to run one type of test vs. another)
- Receive forecasts of future (e.g., 48 to 120 hour) water quality conditions
- Provide the public with forecasts of future water quality conditions
- Other (Please describe in Comment Box):

Comments

32. What year (beach season) did your organization first adopt a predictive model for any of the uses noted above?

(For example, "2011")

33. How much of a barrier would you say each of the following poses in terms of adopting predictive models within your organization?

	Extreme Barrier	Significant Barrier	Moderate Barrier	Slight Barrier	Not a Barrier	Not Sure
Lack of technical capacity (computers, Web access)	<input type="radio"/>					
Lack of adequate data	<input type="radio"/>					
Lack of know-how/ trained personnel to develop a model	<input type="radio"/>					
Lack of staff/time for developing a model (est. 1 week+)	<input type="radio"/>					
Lack of funding for developing models with contractors	<input type="radio"/>					
Lack of staff/time for making predictions (est. 10 minutes/day)	<input type="radio"/>					
Lack of staff/time for field observations needed to make predictions	<input type="radio"/>					
Lack of interest/support	<input type="radio"/>					

Part E. Tools and Training

34. Does your organization use EPA's Standardized Beach Sanitary Survey to guide data collection and recording?

- Yes
- No
- Unsure

35. Do you personally use any of the following online systems to access/download data relevant to managing beaches; e.g., water quality, weather conditions, lake conditions? (Indicate ALL that apply)

- Your state's beach website (e.g., BeachGuard or Beach Health)
- EPA's Beach Advisory & Closing Online Notification system (BEACON)(<http://watersgeo.epa.gov/beacon2/>)
- Environmental Data Discovery and Transformation (EnDDaT) (<http://cida.usgs.gov/enddat/>)
- Great Lakes Observing System (GLOS) website (<http://glos.us/>)
- Other (Please list in Comment Box)

Comments

36. Do you personally use the predictive modeling/decision-support software "Virtual Beach"?

- Yes
- No (If "No" skip ahead to Question 41)

37. What do you use Virtual Beach for? (Indicate ALL that apply)

- To operate (run) predictive models provided by an outside partner/contractor
- To develop predictive models for use in-house
- To develop predictive models for use by outside partners/clients
- To develop analytical models (e.g., for evaluating the relative influence of different sources of beach water pollution)
- Other (Please list in Comment Box)

Comments

38. What year (beach season) did you first use Virtual Beach for any of the purposes noted above?

(For example, "2011")

39. How important were the following considerations in your decision to use "Virtual Beach" for any of purposes noted above, in Question 38?

	Extremely Important	Very Important	Somewhat Important	Minimally Important	Unimportant
Decreasing funds for traditional (sample-based) monitoring	<input type="radio"/>				
Directive from a supervisor/management	<input type="radio"/>				
Its use at a number of other beaches	<input type="radio"/>				
Relative accuracy/timeliness of its outputs compared to lab results	<input type="radio"/>				
Ease-of-use (time required, level of complexity) to develop a model	<input type="radio"/>				
Ease-of-use to operate a model; i.e., make a daily prediction	<input type="radio"/>				
Compatibility of operating a model with routine workflow	<input type="radio"/>				
Software cost (free)	<input type="radio"/>				
Use of the software and its outputs being voluntary/discretionary	<input type="radio"/>				
Ability to test the software	<input type="radio"/>				
Ability to provide direct or indirect feedback/suggestions to software developers	<input type="radio"/>				
Availability of online data that can be used to build/operate a model	<input type="radio"/>				

Availability of ready-to-use models (provided by an outside entity)	<input type="radio"/>				
Availability of training	<input type="radio"/>				
Availability of technical assistance	<input type="radio"/>				

40. To the best of your recollection how did you first hear about Virtual Beach? (If unsure, you can list more than one)

- From a conference presentation or poster
- From an Email listserve (e.g. BeachNet)
- From a colleague who had used or tested it
- From a state or federal outreach specialist/ extension agent
- From a scholarly journal article
- From a technical report
- From a media report (e.g., Great Lakes Echo)
- Other (Please describe in Comment Box)
- Don't know/recall

Comments

41. Does someone else in your organization use Virtual Beach?

- Yes
- No
- Not sure

42. How familiar are you with "Virtual Beach" and what it does?

- I am very familiar with what Virtual Beach does
- I am moderately familiar with what it does
- I am slightly familiar of what it does
- I have previously heard of it, but am not at all familiar with what it does
- I have not previously heard of Virtual Beach

43. How interested are you in using Virtual Beach?

- Extremely Interested
- Very Interested
- Moderately Interested
- Somewhat Interested
- Not at all Interested
- Not sure

44. How helpful would it be to have beach management tools (i.e., software, online resources) to help with the following?

	Extremely Helpful	Very Helpful	Moderately Helpful	Somewhat Helpful	Not at all Helpful
Source identification	<input type="radio"/>				
Remediation planning	<input type="radio"/>				
Improved predictive modeling	<input type="radio"/>				
Optimized sample collection	<input type="radio"/>				
Improved online data access	<input type="radio"/>				
Improved public notification (e.g., smartphones, electronic signage)	<input type="radio"/>				
Safety-related forecasts/notification	<input type="radio"/>				
Other (Please describe in Comment Box)	<input type="radio"/>				

Comments

45. How helpful would it be to receive training on the following?

	Extremely Helpful	Very Helpful	Moderately Helpful	Somewhat Helpful	Not at all Helpful
Conducting sanitary surveys	<input type="radio"/>				
qPCR	<input type="radio"/>				
QMRA	<input type="radio"/>				
Accessing online data (e.g., GLOS, EnDDaT, etc.)	<input type="radio"/>				
Source identification	<input type="radio"/>				
Virtual Beach – developing predictive models	<input type="radio"/>				
Virtual Beach – operating predictive models	<input type="radio"/>				
Other (Please describe in Comment Box)	<input type="radio"/>				

Comments

46. How much time do you have for beach-related training/professional development?

- None
- 1 day/year
- 2 days/year
- 3 days/year
- 4-5 days/year
- Greater 5 days/year

47. To the best of your knowledge how much does your organization budget for beach-related training and professional development (e.g. conference registration, travel expenses)?

- Less than \$100 per year
- \$100-500 per year
- \$500 - 1000 per year
- More than \$1000/year

F. Communication.

A key element of the BEACH Act is communication of beach water quality/ beach health conditions to the swimming public.

48. Do you think the Federal Agencies can improve communication with beach managers and with the swimming public?

- Yes
- No (If "No" go to Question 51 The Conclusion.)

49. What do you think the quality of communications has been between:

	Very Good	Good	Neutral	Poor	Very Poor
Federal Agencies and Beach Managers	<input type="radio"/>				
Federal Agencies and Swimming Public	<input type="radio"/>				
Beach Managers and Swimming Public	<input type="radio"/>				

50. How can the Federal Agencies improve their communications with Beach managers.
Indicate All that apply.

- Host webcasts to demonstrate innovative beach water quality communication methods and tools
- Create an online tool box of innovative communication products, methods, and tools
- Have EPA continue to maintain its BEACON website and encourage states to continue submitting beach monitoring and notification data to EPA
- Establish a beach rating system (similar to "Blue Wave" or Heal the Bay's report card)
- Establish an electronic sign system alerting swimmers to beach water quality and hazardous conditions
- Other (Please explain in Comment Box)

Comments

51. How can notification links between beach managers with the public be improved? What would you recommend?: (Indicate ALL that apply)

- Conduct surveys of beach goers to assess effectiveness of beach water quality notification procedures
- Post beach advisory information in parking lots and/or parking meters
- Post a live camera at the beach (like Bradford Beach cam at: <http://milwcountybeaches.org/>)
- Enable public to receive beach water quality info with auto text messages. Distribute and post near food stands and bathrooms CDC's beach health promotion materials from <http://www.cdc.gov/healthywater/swimming/resources/index.html>
- Other (Please explain in Comment Box)

Comments

Conclusion

We greatly appreciate your taking the time to answer the above questions. We hope to share the results of this survey at the Great Lakes Beach Association Conference in Sheboygan, WI in October (<http://aqua.wisc.edu/solm/>).

We may wish to follow-up with respondents depending on the information we receive.

52. Would you be willing to be contacted?

- No
- Yes (Please provide contact info below)

Email Address (Name and Phone # optional) in textbox:

Thank you again for your time!

Thank You!

Thank you for taking our survey. Your response is very important to us.