

Proposed Amendments to Bathing Beach Regulations (105 CMR 445.000)

MDPH Bureau of Environmental Health

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Outline

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Crane's Beach-Ipswich

I. Background

- BEH presented to the Public Health Council on April 9, 2014 proposed amendments to the State Sanitary Code, Minimum Standards for Bathing Beaches (105 CMR 445.000, Chapter VII).
- The proposed amendments seek to address limitations in the testing methodology and incorporate information gained over 13 years of bathing water testing.

I. Background (cont.)

- Proposed Amendments:
 - For beaches with a history of more frequent elevated bacteria levels that remain for more than 24 hrs, postings will continue to be required after each instance of elevated bacteria levels.
 - These are the beaches more likely to have non-transient bacteria contamination and known pollution sources (e.g., combined sewer overflows).
 - A “history” is defined as one or more consecutive exceedances in two or more of the last four beach seasons.
 - For beaches with a clean history of (infrequent and transient) elevated bacteria levels, a posting will be required after two samples collected on consecutive days show elevated bacteria levels.

II. Public Comment Period

- Public Comment Period: April 11-28, 2014
- Public Hearing on April 28, 2014

II. Public Comment Period (cont.)

- BEH staff gave a presentation on the proposed amendments to approximately 65 local health agents at a Massachusetts Health Officers Association workshop in Hyannis on April 17, 2014.
- The proposal was met with enthusiastic support from local health officials.

II. Public Comment Period (cont.)

The Boston Globe

Editorials

EDITORIAL

Taking down the red flag at beaches this summer

| APRIL 20, 2014

AN OVERABUNDANCE of caution on the part of state health officials leads to scores of unnecessary beach closures each season. That could change as early as this summer, under a new and sensible water testing proposal from the state Bureau of Environmental Health.

Currently, bathers depend on a flag system to determine water quality. Blue flags fly on beaches deemed safe for swimming, while red flags indicate unacceptable levels of bacteria. But the usefulness of such a system is limited by the 24-hour turnaround needed to evaluate the daily water sample. Basically, a bather looking at a red flag today would be making a decision based on yesterday's results. And people, for the most part, would be worried over nothing. Thirteen years of state data showed that approximately 80 percent of beach closings occur on days when the water is perfectly acceptable for swimming.

Wisely, state health regulators propose to keep beaches open unless water samples from two consecutive days show elevated levels of bacteria. It's a smart solution that should prevent about 200 beach closings this summer. Beaches with stubborn bacteria problems, such as Wollaston in Quincy and King in Lynn, would still be required to close after a single sample showing unacceptable levels of bacteria.

The \$5 billion cleanup of Boston Harbor utterly transformed the water's edge. People can swim without a second thought at most beaches from Nantasket to Winthrop. The new water sampling proposal simply reflects that refreshing situation.

III. Summary of Comments Received and DPH Response

- Staff were asked by Public Health Council members at the April PHC meeting to evaluate whether there may be a bacteria level at which a Day 1 exceedance at a beach could reliably predict that the Day 2 sample would also be an exceedance.
- Written testimony was received during the comment period from 4 organizations:
 - Bourne Board of Health Agent
 - Massachusetts Water Resources Authority
 - Save the Harbor/Save the Bay
 - Surfrider Foundation

III. Summary of Comments Received and DPH Response

- Is there a bacteria level at which a Day 1 exceedance at a beach could reliably predict that the Day 2 sample would also be an exceedance?
 - DPH staff reviewed over 46,000 water samples (from a period of 2011-2013).
 - At beaches that will not be required to post until two consecutive days of exceedances (those not eligible will still be required to post after any exceedance), approximately 97% of samples (marine and freshwater combined) met water quality standards.
 - At beaches proposed to post after 2 days, second day exceedances represent only 0.2% of the 46,000 samples evaluated.
- When evaluating historical data to determine if a threshold value may exist, above which an initial exceedance is followed by a confirmatory exceedance on the next day, no clear pattern emerged. For example, the maximum value for marine beaches was 10,100 cfu/100 ml. The following day, water sampled at this marine beach was measured at 20 cfu/100 ml. The standard is 10⁴ cfu/100 ml. Three other samples that exceeded 5,000 cfu/100 ml, were correspondingly low (10 or less cfu/100 ml) the following day. Similar results were observed at freshwater beaches.

III. Summary of Comments Received and DPH Response

- Review of the small amount of data where elevated bacterial levels continued following a day 1 exceedance support the fact that weather patterns, such as high rainfall amounts, are better predictors of high magnitude bacterial counts.
- For example, elevated bacterial levels at four beaches in New Bedford on August 29, 2011 can be explained by the impacts of Tropical Storm Irene.
- In these types of cases, local health officials already have the option of pre-emptively closing beaches due to such concerns. DPH will work with local public health officials to ensure that consideration of these actions is uniform statewide.

III. Summary of Comments Received and DPH Response

<u>Comment</u>	<u>Organization</u>	<u>Department Response</u>
The proposed change will reduce the number of inaccurate postings, but the vast majority of red flags will continue to fly on days when the water is clean. Requiring beach postings based on yesterday's test results is a very imperfect way to manage a beach.	Save the Harbor/Save the Bay	We agree that the proposed amendment will significantly reduce the number of inaccurate postings at beaches across the Commonwealth. DPH does not require a flagging system at beaches as a form of notification.
Postings based on site specific criteria (e.g., rainfall, tide) and other predictive tools are more accurate than the current testing methodology.	Save the Harbor/Save the Bay, Massachusetts Water Resources Authority	DPH agrees that along with large data sets and recent testing results, modeling of rainfall amounts can be an effective tool. DPH has applied such a system at the annual Charles River swim event in Boston. If the model and/or recent test results suggest elevated bacteria levels, cancellation of the event is recommended. However, given that the amount of data to support modeling is not available for most beaches statewide, most local health officials would not be able to use such a protocol.

III. Summary of Comments Received and DPH Response

<u>Comment</u>	<u>Organization</u>	<u>Department Response</u>
Due to the limitations in the current testing methodology, more resources should be invested in sanitary surveys and bacteria source tracking and less in daily testing.	Massachusetts Water Resources Authority	Daily testing is not required by DPH regulations. DPH agrees that sanitary surveys and bacteria source tracking are important tools for evaluating bathing water quality.
The proposed regulatory amendment appears to prioritize economic impacts over protection of public health/leave the public more vulnerable to waterborne illness.	Surfrider Foundation	DPH staff reviewed historical beach water quality data for beaches that would be posted after two consecutive days of exceedances (those not eligible will still be required to post after any exceedance). 97% of all samples (marine and freshwater combined) met water quality standards. For beaches proposed to post after two days, only 0.2% of all beach samples evaluated had a second day exceedance.

III. Summary of Comments Received and DPH Response

<u>Comment</u>	<u>Organization</u>	<u>Department Response</u>
DPH should consider changing the basis of the geometric mean calculation, as specified in 105 CMR 445.031, from the 5-most recent samples to all samples from the previous 30 days. The 30-day basis represents more of a long-term trend, especially for beaches sampled daily.	Massachusetts Water Resources Authority	DPH will consider modification of the calculation of the geometric mean in future regulatory amendments.

IV. Next Steps

- Department staff have concluded that the proposed amendments do not warrant further modifications based upon comments received.
- Department staff request approval for final promulgation of the amendments.
- Following PHC approval, the Department will file the amendments with the Secretary of the Commonwealth for publication in the *Massachusetts Register*.
- DPH plans for amended regulations to take effect in early June 2014 for the majority of the bathing beach season.

V. Questions?



Nantasket Beach- Hull