



# Massachusetts Department of Public Health

**150 YEARS**  
OF ADVANCING  
**PUBLIC**  
**HEALTH**

## RECREATIONAL WATER SEASON UPDATES

**MDPH Community Sanitation Program/MHOA  
Annual Spring Workshops  
April 2021**

# Topics

- Beach Tiered Monitoring Plan
- Sanitary Surveys
- Beach Sampling
- 2021 Post-After-One Exceedance List
- Cyanobacteria/Harmful Algal Blooms
- Environmental Public Health Tracking Tool

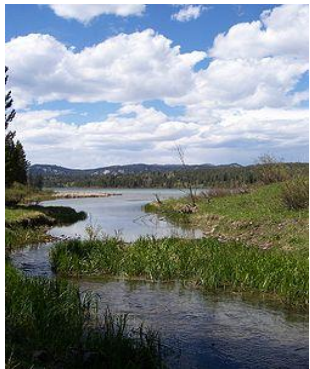
# Beach Tiers

Tiered Monitoring Plan classifies beaches (both marine and fresh water) according to frequency of use and potential for pollution

- Tier 1 = Heavily used beaches with known pollution concerns that are sampled more than once per week.
- Tier 2 = Higher use beaches with some pollution sampled once per week.
- Tier 3 = Beaches have no known pollution problems that have a sampling variance to test either once every 2 weeks, or once every 4 weeks.

# Sanitary Surveys

- In-depth assessment of beach and surrounding area
- Used to verify the relative health of beach and to identify potential sources of pollution
- Required when applying for a sampling frequency variance



# Variance & Sanitary Survey Forms

<https://www.mass.gov/lists/beaches-and-algae-forms>

### Sampling Variance Application

Name of beach \_\_\_\_\_ Town \_\_\_\_\_

The bathing beach regulations (105 CRM 445.000) allow for variances from the required weekly sampling to be issued for beaches that have at least two consecutive bathing seasons of weekly water quality data showing no bacteria exceedances. Variance applications require the completion of a sanitary survey. The Massachusetts Department of Public Health (MDPH) developed these forms to assist beach operators in conducting sanitary surveys of variance-eligible beaches and identifying information relevant for Massachusetts local boards of health (LBOH) when deciding on a new water sampling schedule (less often than weekly but at least monthly).

The sanitary survey must be performed by a professional who then completes Section 1 of this page and submits it, along with the sanitary survey to the LBOH for review. The LBOH reviews these along with any available epidemiological data related to the beach to decide whether the beach will receive a variance. If the LBOH approves the variance request, it determines a new sampling frequency, completes Section 2, and submits copies of the sanitary survey and this form to MDPH for review. MDPH will approve, deny, or modify the variance within 45 days of receipt; otherwise, approval is presumed (105 CRM 445.100 and 445.101).

**Section 1 (to be filled out by the professional who performs survey)**

I am a Registered Sanitarian, Registered Sanitary Engineer, or Certified Health Officer in the Commonwealth of Massachusetts and hereby submit this sanitary survey in partial fulfillment of requirements for obtaining a variance from weekly sampling under 105 CRM 445.000. In my professional opinion no conditions exist that constitute a risk to the public health for bathing, beyond that of swimming at beaches classified as acceptable under the Massachusetts regulations (105 CRM 445.000).

*I have agreed to submit this form by electronic means. I understand that an electronic signature has the same legal effect and can be enforced in the same way as a written signature. By typing my name below, I am electronically signing this form.*



Name \_\_\_\_\_ Professional License No. \_\_\_\_\_  
Date of Inspection \_\_\_\_\_ Date Survey Submitted to BOH \_\_\_\_\_

Form Updated: 4/29/2016 Page 1 of 2

### Beach Sanitary Survey Form

**Instructions for Electronic Form Completion**


1. Complete this form by typing responses in the fields provided and clicking in applicable boxes.
2. Save the form, adding the name of the beach in the filename.

For additional information, including sample photos, click  (if prompted, hold down the Ctrl key while clicking the link). To return to the Survey click  (again, if prompted, hold down the Ctrl key while clicking the link).


**Alternative Manual Instructions**

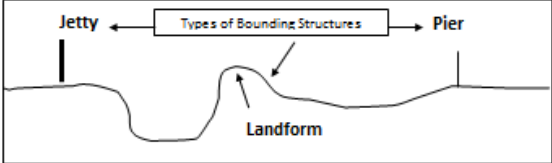
1. Print out pages 1-5 of the form and complete it manually, referencing additional information and sample photos on pages 6-14.
2. Scan the form and save it, including the name of the beach in the filename.

**Map**

1. Please send a topographic map of the beach and its surrounding area with this application. Online maps can be created using the Massachusetts GIS mapping tool OLIVER. Go to [http://maps.mass.gov/state/ma.us/map\\_ol/oliver.php](http://maps.mass.gov/state/ma.us/map_ol/oliver.php) Click on the icon for a sample 
2. What is the approximate length of the beach? \_\_\_\_\_ (specify feet or miles)

**Water Circulation**

3. Water currents:  Weak  Medium  Strong
4. Prevailing winds: A wind that consistently blows from one direction more than from any other.  N  E  S  W
5. Bounding structures (see diagram):   None  1 side  2 sides  
Landforms or structures that impact the flow and movement of water.



6. Horizontal distance between high and low tide (ft): \_\_\_\_\_
7. Water depth:  Shallow  Medium  Deep
8. Beach slope:  Low  Medium  Steep

Additional comments: \_\_\_\_\_

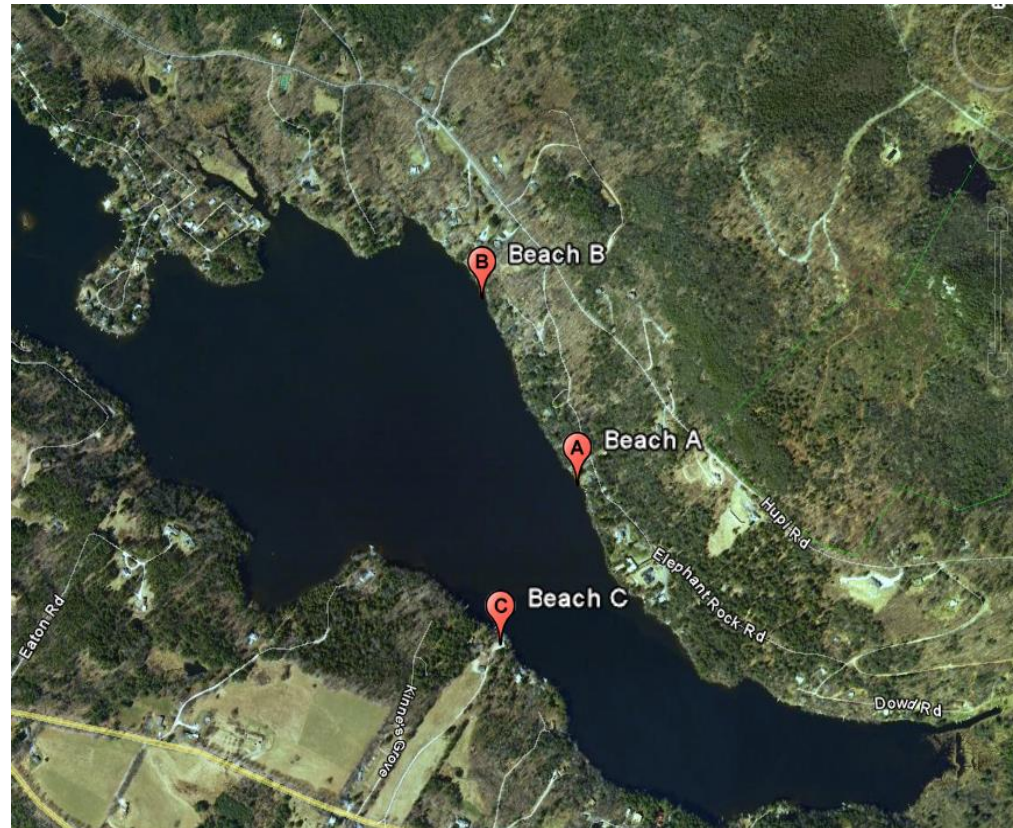
Form Updated: 4/29/2016 Page 1 of 14

# Beach Sampling

Q: If two beaches are right next to each other, can they take one sample?

A: Yes. As long as they meet the conditions in the regulations:

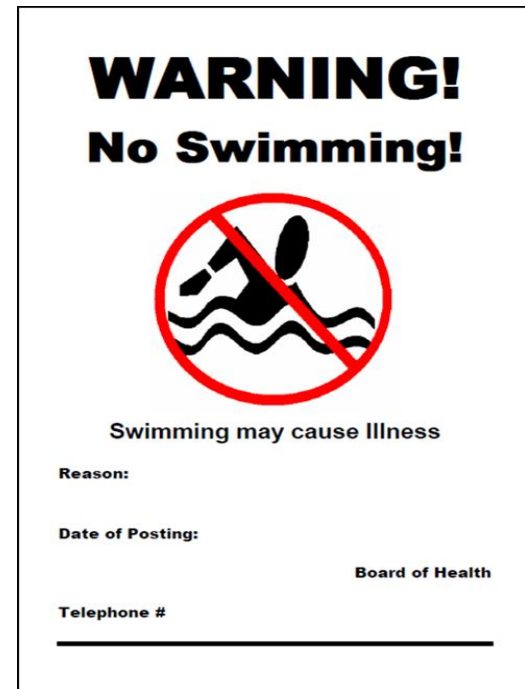
- No more than 500 shoreline meters apart
- Can't be separated by physical or man-made structures
- If the sample exceeds, all beaches close
- All operators fill out surrogate sampling form, which is approved by BOH





# Post-After- One Exceedance List

- When an exceedance occurs, one of two actions must be taken:
  - Resample
  - Post that day
  
- Most beaches can stay open after their first exceedance, provided a re-sample is collected the same day notification comes in
  
- Approx. 5% of beaches (~50) are required to post after a single bacteria exceedance
  - History of consecutive exceedances
  - Insufficient data



DPH recreational water quality criteria (CFU/100 mL)

Beach Type	Indicator	Single Sample	Geomean
Marine	Enterococci	104	35
Freshwater	Enterococci	61	33
	E. coli	235	126

# Beach Season Reminders

- Beach permits up to date
- Beach signs legible with correct dates of operation
- Postings are reported to DPH as they occur (i.e. during the season)
- Data submission can be automated if you ask the lab to copy DPH on BOH correspondence:

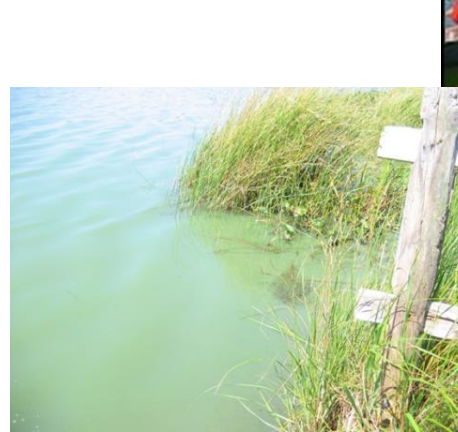
[dph-beach@mass.gov](mailto:dph-beach@mass.gov)



# Harmful Algae Blooms (HABs)

## Cyanobacteria

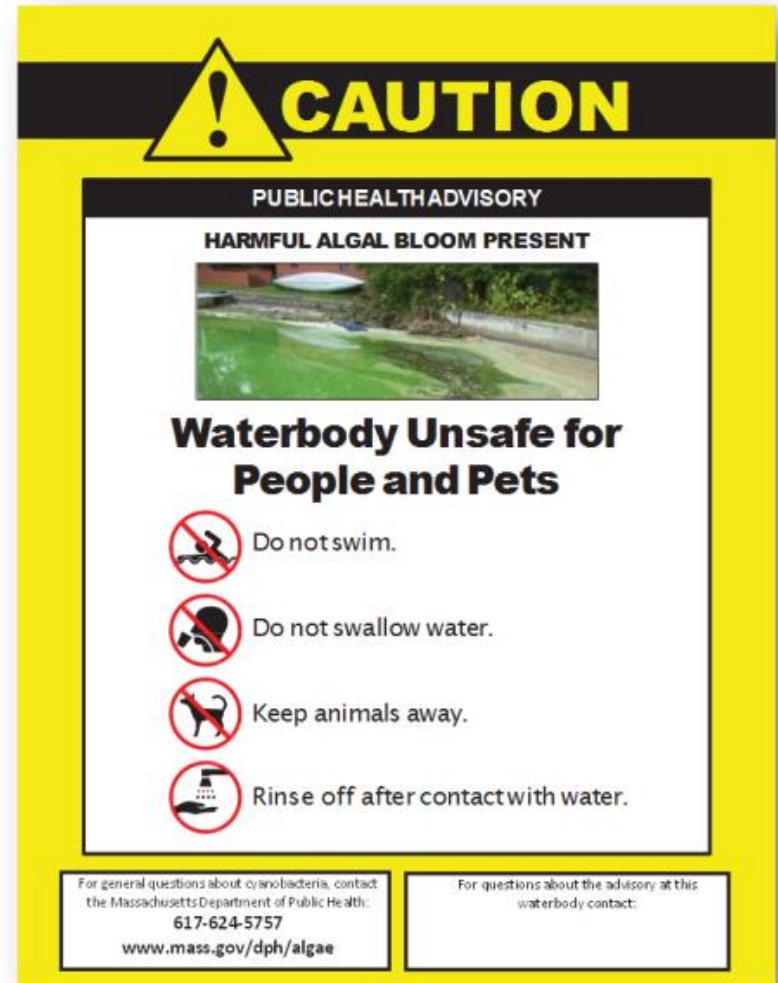
- Occur naturally in freshwater
- Certain environmental conditions can cause excessive growth – “**CyanoHAB**”
- Some species produce toxins (cyanotoxins)
- Human & animal health impacts



# Harmful Algae Blooms (HABs)

- Blooms have the ability to change locations & intensities quickly
- Municipal BOH responsible for issuing advisories
- DPH can provide technical assistance to BOHs


**WHEN IN DOUBT, STAY OUT!!**







The image shows a public health advisory sign for a harmful algal bloom. The sign has a yellow background with a black border. At the top, there is a black triangle with a white exclamation mark, followed by the word "CAUTION" in bold yellow letters on a black background. Below this, the text "PUBLIC HEALTH ADVISORY" and "HARMFUL ALGAL BLOOM PRESENT" is displayed. A photograph shows a body of water with a thick green algal bloom. Below the photo, the text reads "Waterbody Unsafe for People and Pets". There are four icons with red circles and slashes over them, each followed by a prohibition: "Do not swim.", "Do not swallow water.", "Keep animals away.", and "Rinse off after contact with water." At the bottom, there are two boxes: the left one provides contact information for the Massachusetts Department of Public Health (617-624-5757, www.mass.gov/dph/algae), and the right one is for waterbody contact.

**CAUTION**

PUBLIC HEALTH ADVISORY  
HARMFUL ALGAL BLOOM PRESENT



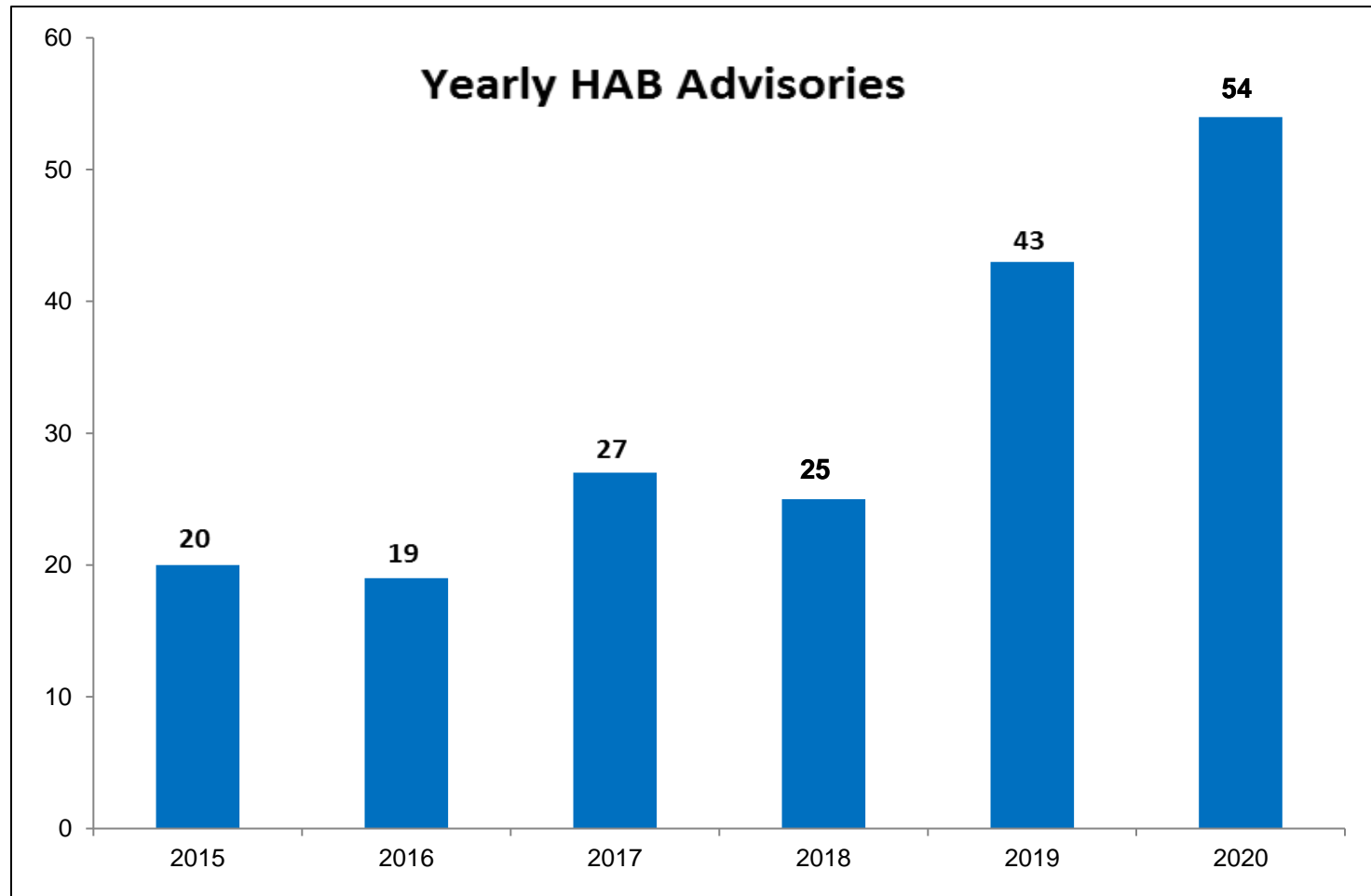
**Waterbody Unsafe for People and Pets**

-  Do not swim.
-  Do not swallow water.
-  Keep animals away.
-  Rinse off after contact with water.

For general questions about cyanobacteria, contact the Massachusetts Department of Public Health: 617-624-5757 [www.mass.gov/dph/algae](http://www.mass.gov/dph/algae)

For questions about the advisory at this waterbody contact:

# HABs – 2020 Season



# New HABs Guidelines

DPH recommends a public health advisory when **at least one** of the following criteria is met:

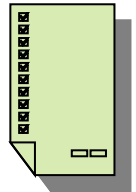
1. A visible cyanobacteria scum or mat is evident;
2. Total cell count of cyanobacteria exceeds 70,000 cells/mL;
3. Concentration of the toxin microcystins exceeds 8  $\mu\text{g/L}$ ; or
4. Concentration of the toxin cylindrospermopsin exceeds 15  $\mu\text{g/L}$



# New HABs Initiatives



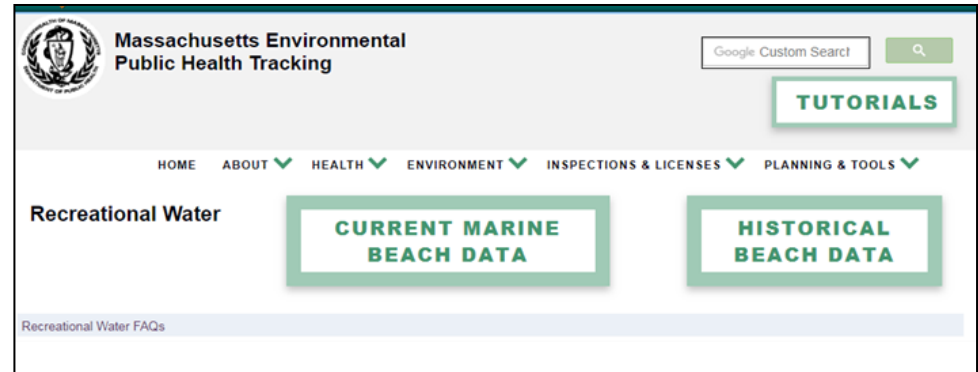
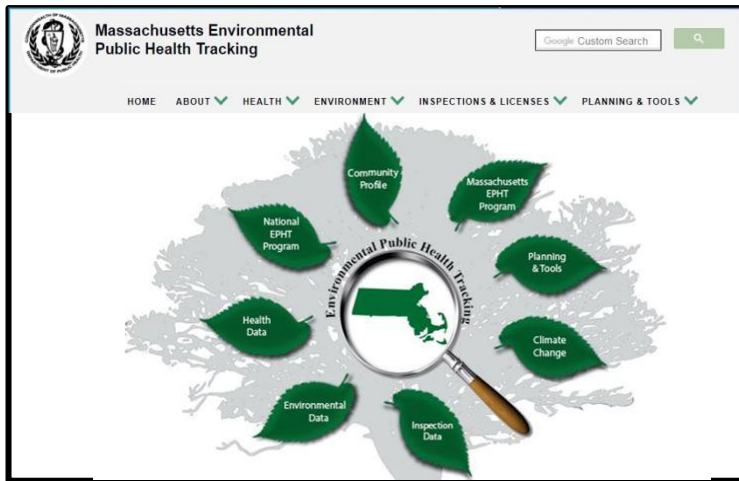
- Statewide HABs workshop:  
May 27th
- Development of an online HAB reporting form





# Historical Beach Data Now Available

<https://matracking.ehs.state.ma.us/Environmental-Data/recreational-water/index.html>



Historical Sampling Result Details			
Date Collected	Indicator	Level	Storm Event
08/29/2019	Enterococci	4 CFU/100 ml	NO
08/22/2019	Enterococci	6 CFU/100 ml	NO
08/15/2019	Enterococci	< 2 CFU/100 ml	NO
08/08/2019	Enterococci	3 CFU/100 ml	YES
08/01/2019	Enterococci	38 CFU/100 ml	NO
07/25/2019	Enterococci	< 2 CFU/100 ml	NO
07/18/2019	Enterococci	2 CFU/100 ml	YES
07/11/2019	Enterococci	2 CFU/100 ml	NO
07/02/2019	Enterococci	8 CFU/100 ml	NO
06/27/2019	Enterococci	8 CFU/100 ml	YES
06/20/2019	Enterococci	< 2 CFU/100 ml	YES
06/13/2019	Enterococci	4 CFU/100 ml	YES
06/06/2019	Enterococci	17 CFU/100 ml	YES
05/30/2019	Enterococci	17 CFU/100 ml	NO
05/23/2019	Enterococci	4 CFU/100 ml	NO
08/30/2018	Enterococci	< 2 CFU/100 ml	NO
08/23/2018	Enterococci	< 2 CFU/100 ml	YES
08/16/2018	Enterococci	2 CFU/100 ml	NO
08/09/2018	Enterococci	68 CFU/100 ml	YES
08/02/2018	Enterococci	4 CFU/100 ml	NO
07/27/2018	Enterococci	3 CFU/100 ml	YES
07/26/2018	Enterococci	408 CFU/100 ml	YES
07/19/2018	Enterococci	5 CFU/100 ml	NO

# Recreational Water Pages on EPHT

All marine and freshwater bacteria results:

The screenshot shows the 'Massachusetts Environmental Public Health Tracking' interface. At the top, there is a header with the 'Mass.gov' logo and 'EOHHS'. Below this is the 'BEH Bureau of Environmental Health' logo and the title 'Massachusetts Environmental Public Health Tracking'. The main content area is divided into four columns for selection:

- Select Beach(s) by:** Radio buttons for State, County, Community (selected), and Beach.
- Select Beach:** A large empty text box for selecting a specific beach.
- Select a Report Option:** Radio buttons for All Data and Summary.
- Select Year or Year Range:** Two dropdown menus for 'From:' and 'To:', both currently set to 'Year'.

Below the 'Select Geography:' list, there are links for 'Select all' and 'Deselect all'. At the bottom of the form are 'Cancel' and 'Submit' buttons.

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# Contact Information & Resources

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**Irena Draksic, Beach Inspector**

**Region – Cape & Islands and Buzzard's Bay**

**Phone – 617.634.2432**

**Email – [Irena.draksic@mass.gov](mailto:Irena.draksic@mass.gov)**

**Michael Beattie, Beach Inspector**

**Region – All other areas**

**Phone – 617.624.5757**

**Email – [Mike.beattie@mass.gov](mailto:Mike.beattie@mass.gov)**

**Beach website**

**[www.mass.gov/dph/beaches](http://www.mass.gov/dph/beaches)**

**Cyanobacteria website**

**[www.mass.gov/dph/algae](http://www.mass.gov/dph/algae)**

**Email**

**[dph-beach@mass.gov](mailto:dph-beach@mass.gov)**

**Environmental Toxicology Program**

**Massachusetts Department of Public Health | | Bureau of Environmental Health**