Massachusetts Department of Public Health

RECREATIONAL WATER SEASON UPDATES

MDPH Community Sanitation Program / MHOA
Annual Spring Workshops
April 30 & May 2, 2024

Staff Introductions

DPH:

==> Bureau of Climate and Environmental Health (BCEH):

==> Environmental Toxicology Program (TOX):

==> Recreational Water Team

STAFF

- Logan Bailey……Lead Scientist
- Rachel Gladstone……Cyanobacteria / Harmful Algae Bloom Coordinator
- Kerri Strobeck……Beaches Project Manager
- Michael Beattie……Beach Inspector
- Bridget Ducey……Beach Inspector

Topics

Bathing Beaches

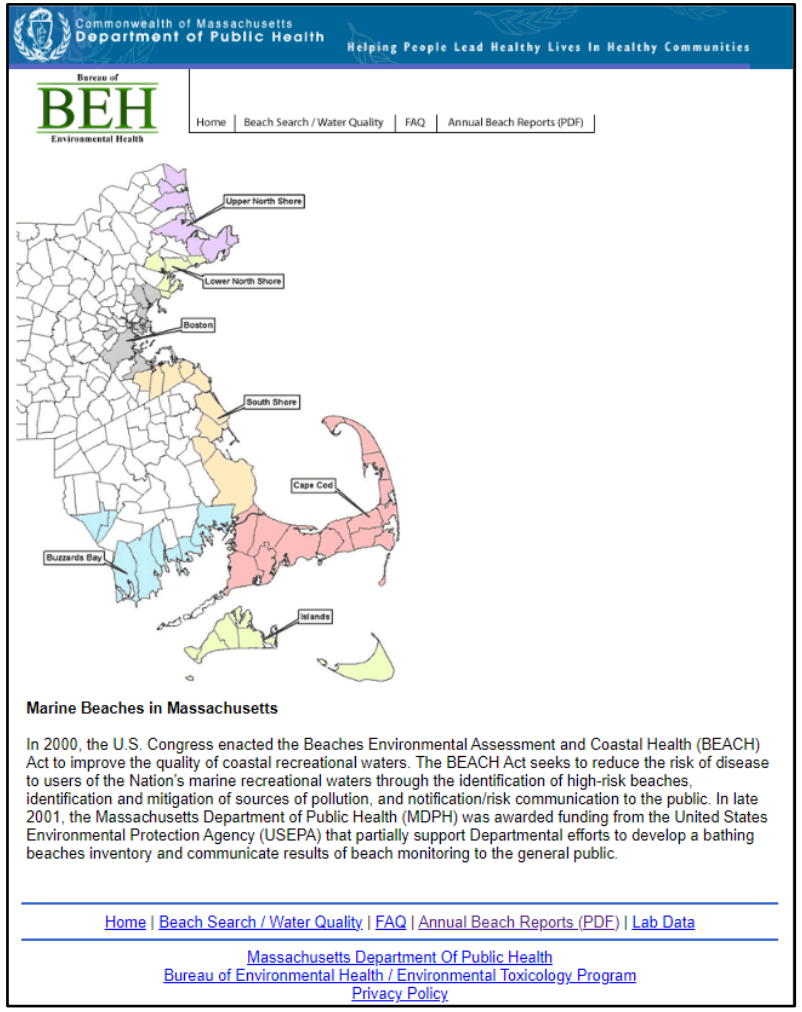
1. Online beach data dashboard
2. Overview of data portal
3. Live demo of data portal

Cyanobacteria Harmful Algal Blooms (CyanoHABs)

1. Background
2. DPH role
3. Visual evaluation of blooms
4. DPH resources


Bathing Beaches

Background: The Old DPH Website

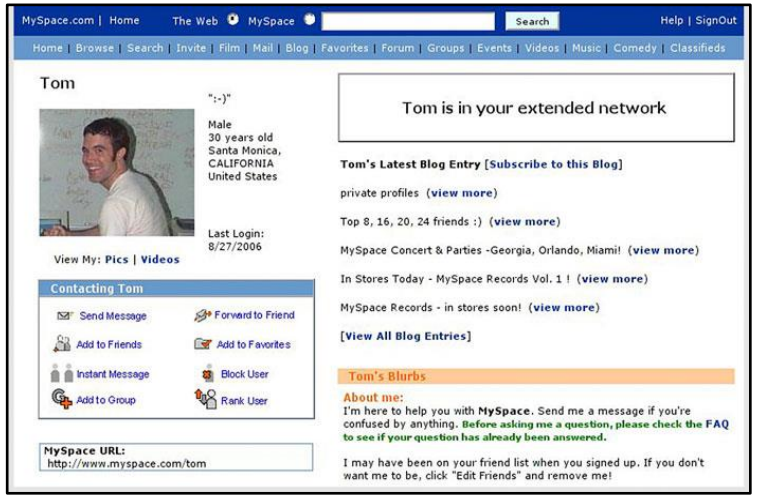


Features

- Launched in 2003
- Marine beaches
- Closure info
- Current sample results

Limitations

- Looked like it launched in 2003
- Only Marine beaches
- No "internal access" for BOHs
- RIP



New Website Launched in 2023

DPH launches new tool to track beach closures

More than 50 remain closed due to high bacteria levels and other causes.

By **Zeina Mohammed** Globe Staff, Updated August 2, 2023, 1:38 p.m.

Savin Hill Beach was closed Wednesday due to high levels of bacteria in the water. JOHN TLUMACKI/GLOBE STAFF

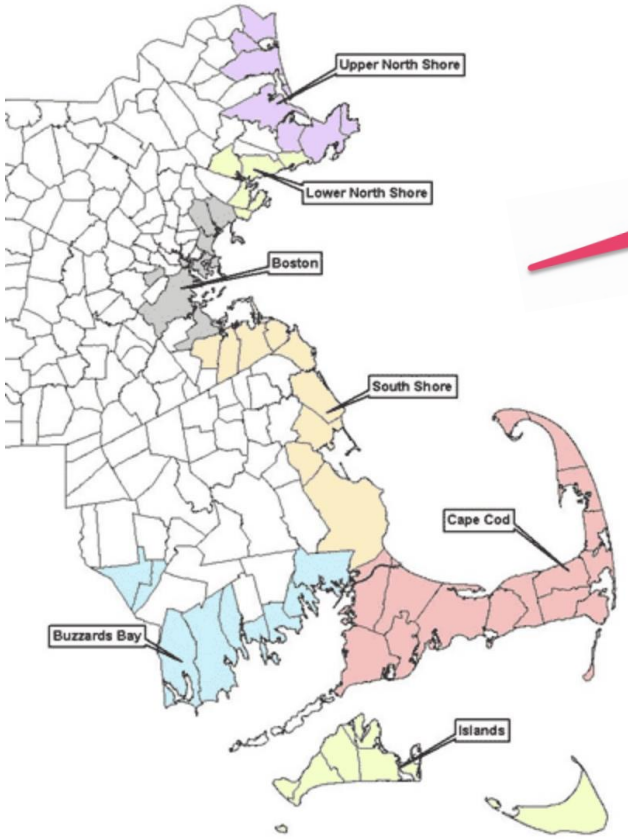
With more than 50 Massachusetts beaches closed due to heavy rain and sewage overflows, the Department of Public Health has launched a new tool to help people check the safety of their favorite swimming spots.

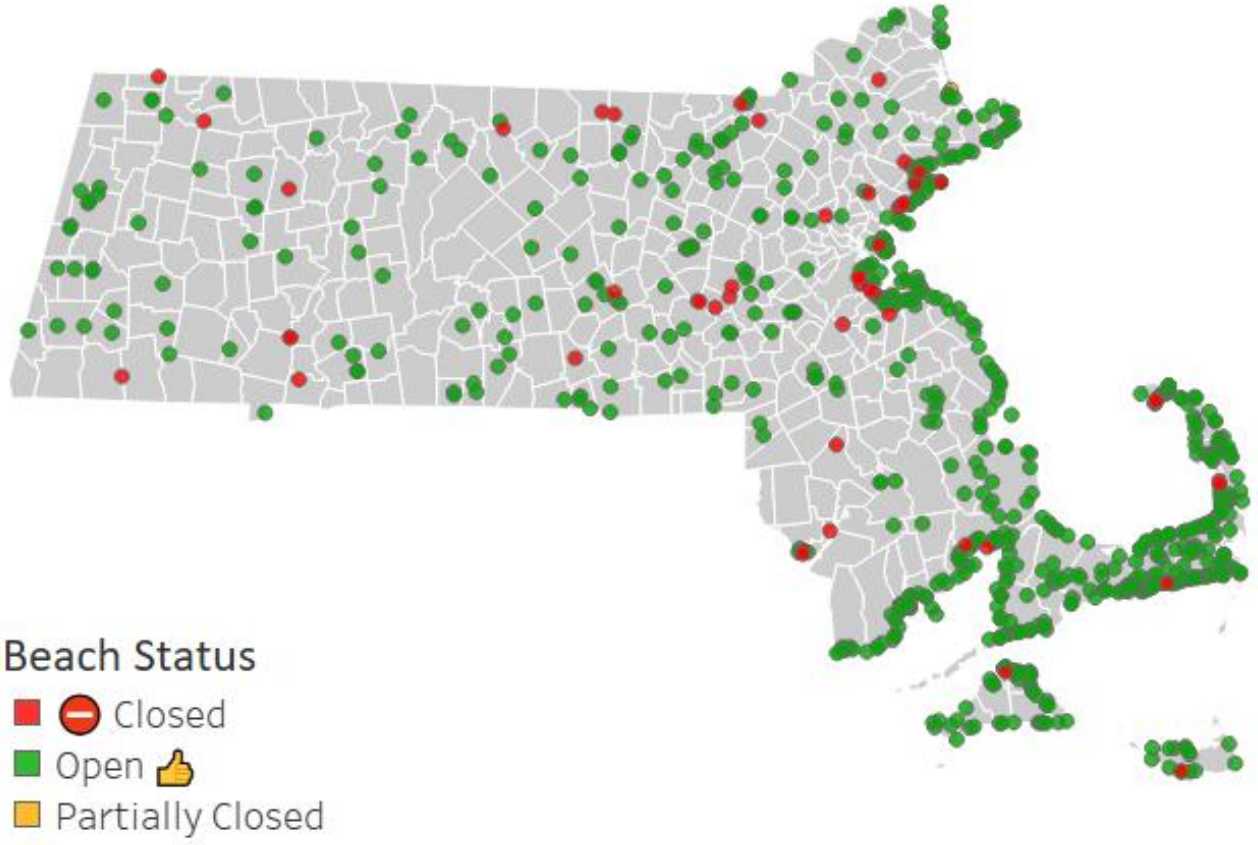
2023 Rollout

- Imminent need to build a whole new site - complete redesign
- “Internal” site launched in May (Portal)
- Online data dashboard published on Public site in July
- High demand for current sample/closure info

Big New Feature: Expanded Coverage

Beaches Covered by New Website

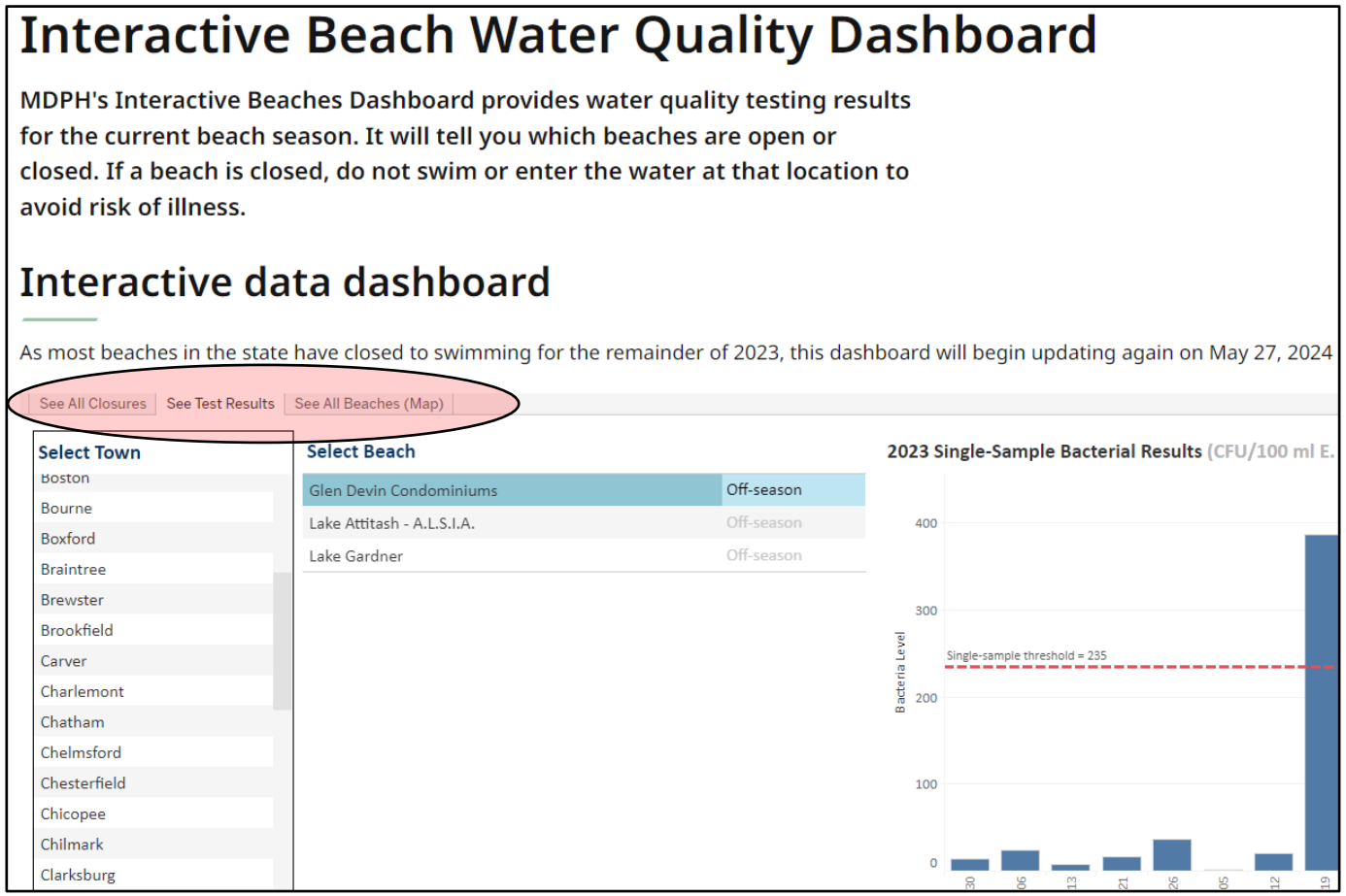




Dashboard: Access/Navigation

Direct: https://www.mass.gov/info-details/interactive-beach-water-quality-dashboard

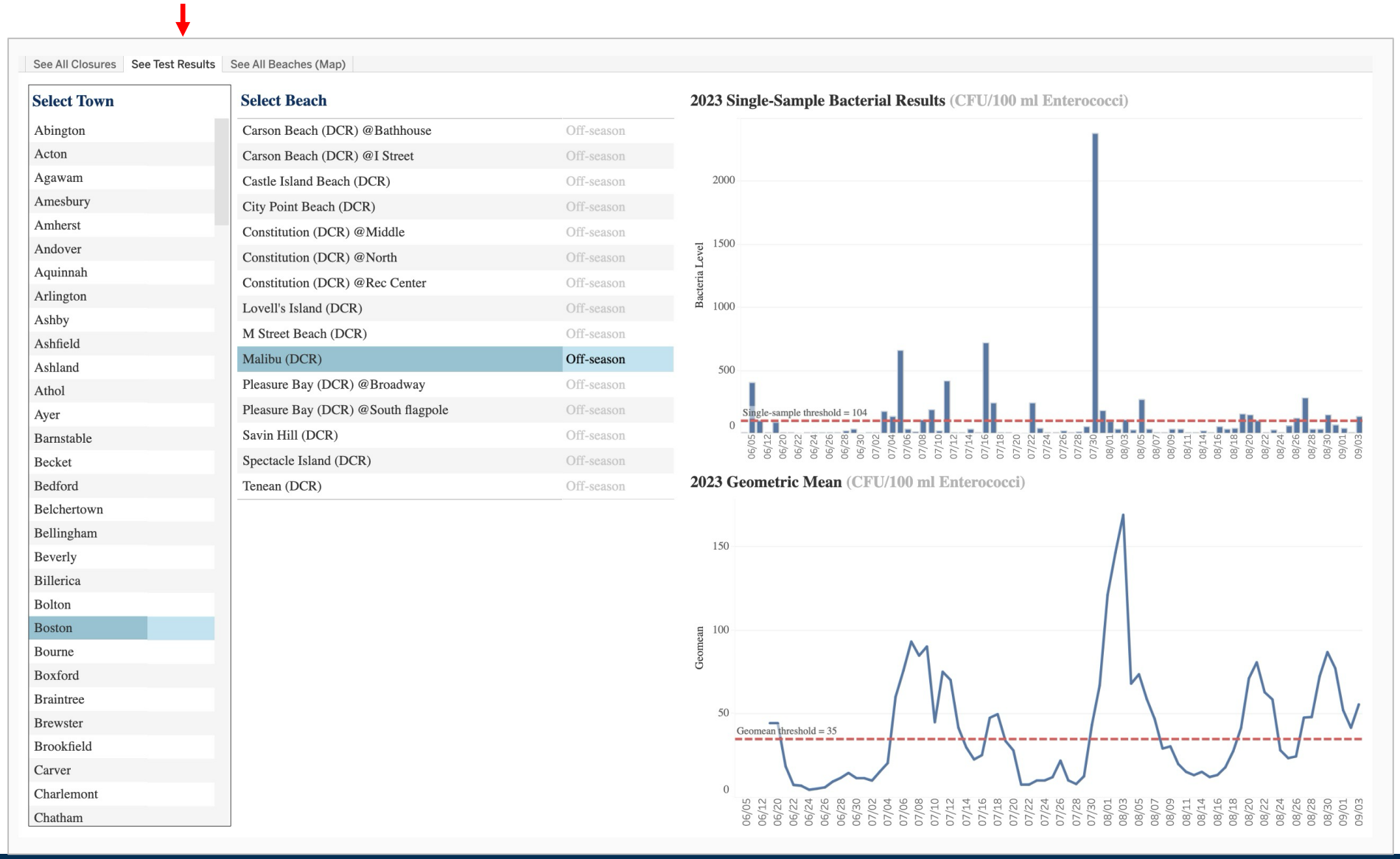
Easier: www.mass.gov/beaches



Beach Closures

Town	Name	Closure Reason
Agawam	Robinson Pond Beach (DCR)	Bacterial Exceedance
Ashby	Damon Pond Beach (DCR)	Bacterial Exceedance
Ashland	Ashland Reservoir-Main Beach (DCR)	Bacterial Exceedance
	Hopkinton Reservoir-Main Beach (DCR)	Bacterial Exceedance
	Hopkinton Reservoir-Upper Beach (DCR)	Bacterial Exceedance
Boston	Malibu (DCR)	Bacterial Exceedance
	Savin Hill (DCR)	Bacterial Exceedance
	Tenean (DCR)	Bacterial Exceedance
Braintree	Smith Beach	Bacterial Exceedance
Charlemont	Cold River Pool (DCR)	Bacterial Exceedance
Clarksburg	Mauserts Pond (DCR)	Bacterial Exceedance
Conway	Conway Swimming Pool	Other
Danvers	Sandy Beach @West	Bacterial Exceedance
Dennis	South Village	Bacterial Exceedance
Eastham	Cook's Brook	Bacterial Exceedance
	S. Sunken Meadow	Bacterial Exceedance
Framingham	Learned Pond Beach	Bacterial Exceedance
	Waushakum Beach	Bacterial Exceedance Harmful Cyanobacteria Bloom
Georgetown	American Legion Park	Other
Ipswich	Sandy Point - Plum Island (DCR) @North	Bacterial Exceedance
Lowell	Merrimac River - Bath House	Bacterial Exceedance
Lynn	Kings (DCR) @Eastern Ave.	Bacterial Exceedance
	Kings (DCR) @Kimball Rd.	Bacterial Exceedance
	Kings (DCR) @Pierce Rd.	Bacterial Exceedance
	Lynn Shore Beach (DCR)	Bacterial Exceedance
	Stacey Brook Outfall (No Swimming)	Bacterial Exceedance
Milton	Houghton's Pond @ Bathhouse (DCR)	Bacterial Exceedance

Dashboard: Test Results Tab



Structure: Portal and Dashboard

Portal

BOHs, Labs, DCR, DPH

- "Internal," behind-the-scene
- Labs enter data (or towns)
- Towns report postings and re-openings

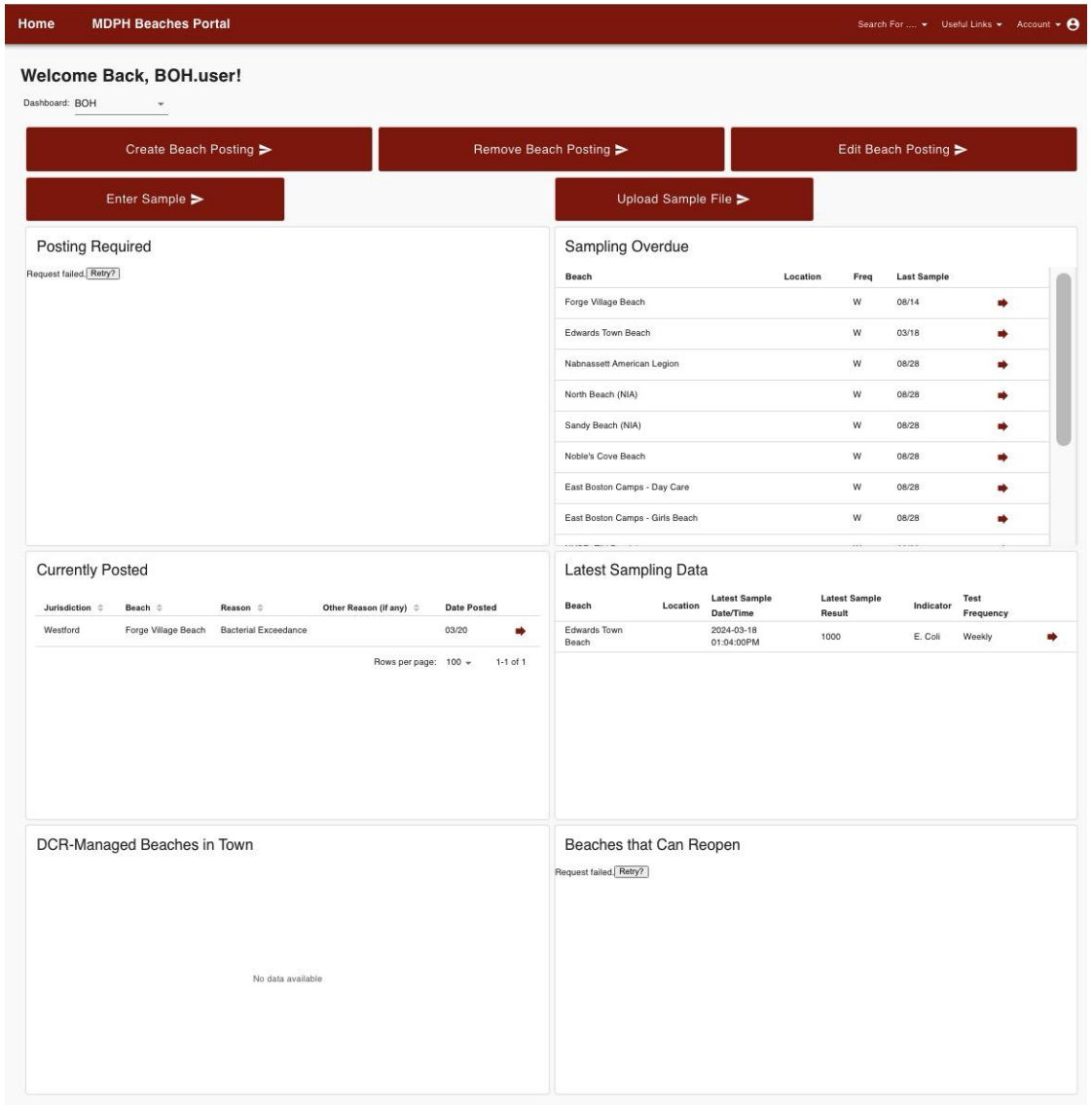
Dashboard

Public website

- Public site, updated 2/day with latest test results and closure information

The Portal - Basics

- **Different user types, different views**
  - BOHs & Labs, DCR, and DPH
- **Reporting data to DPH:**
  - Sample results
  - Beach postings & re-openings
- **Home page = beach overview:**
  - Latest sampling results
  - What's open and what's closed
  - What <u>needs</u> to be closed
  - What can be re-opened
  - General Beach info (waterbody, lat/long...)



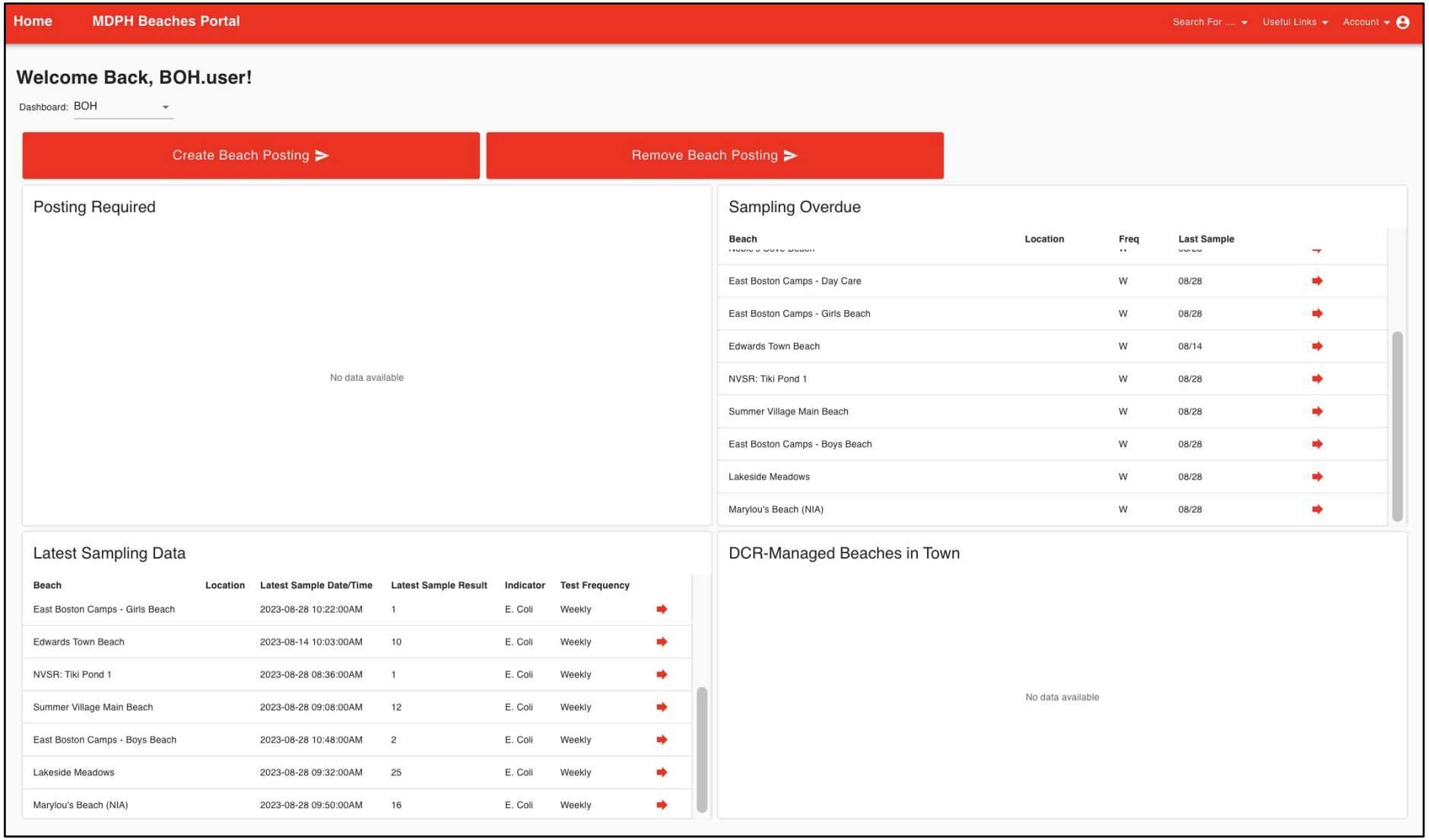
The Portal: Elements

Widgets

Buttons

Search For…

(Pages)



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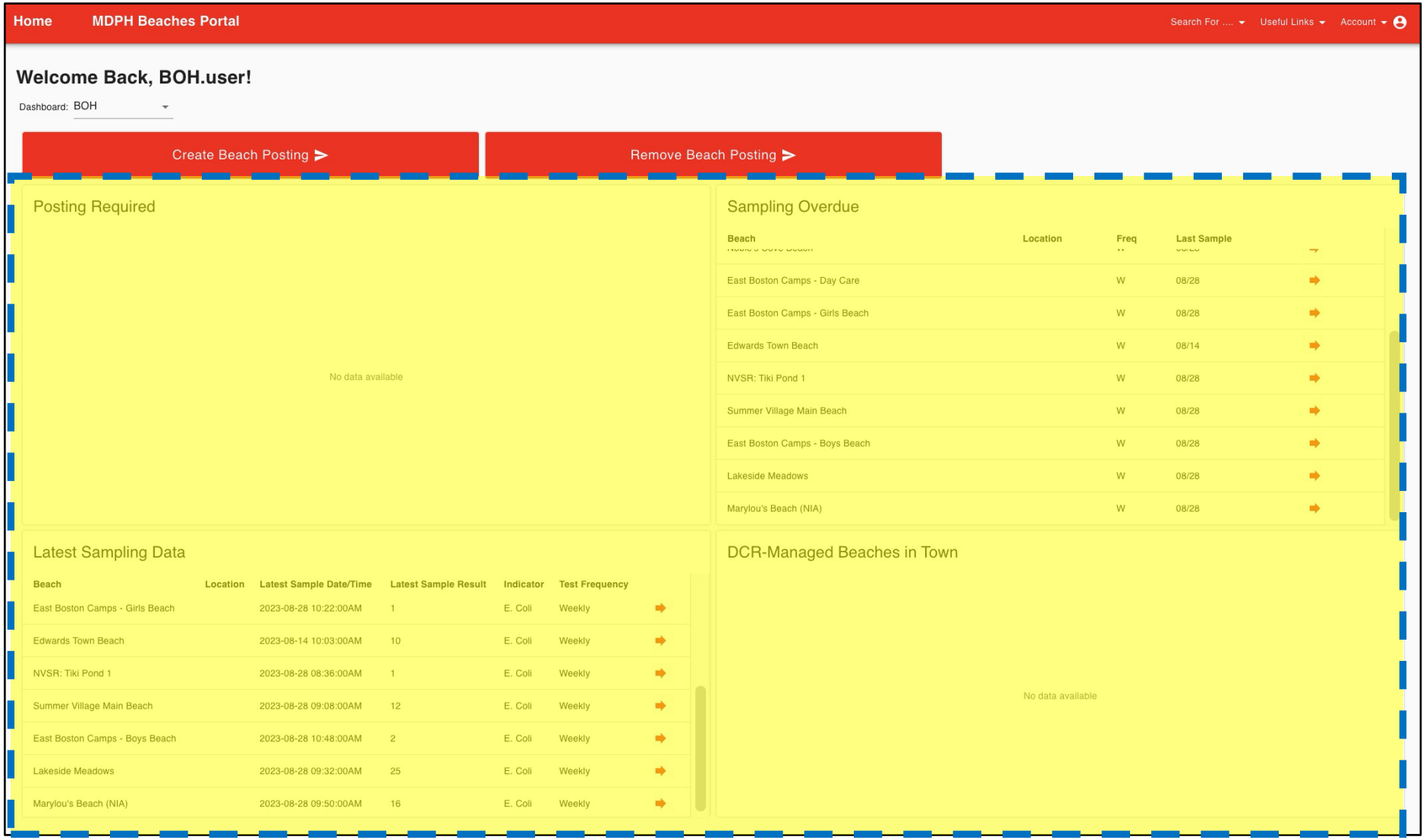

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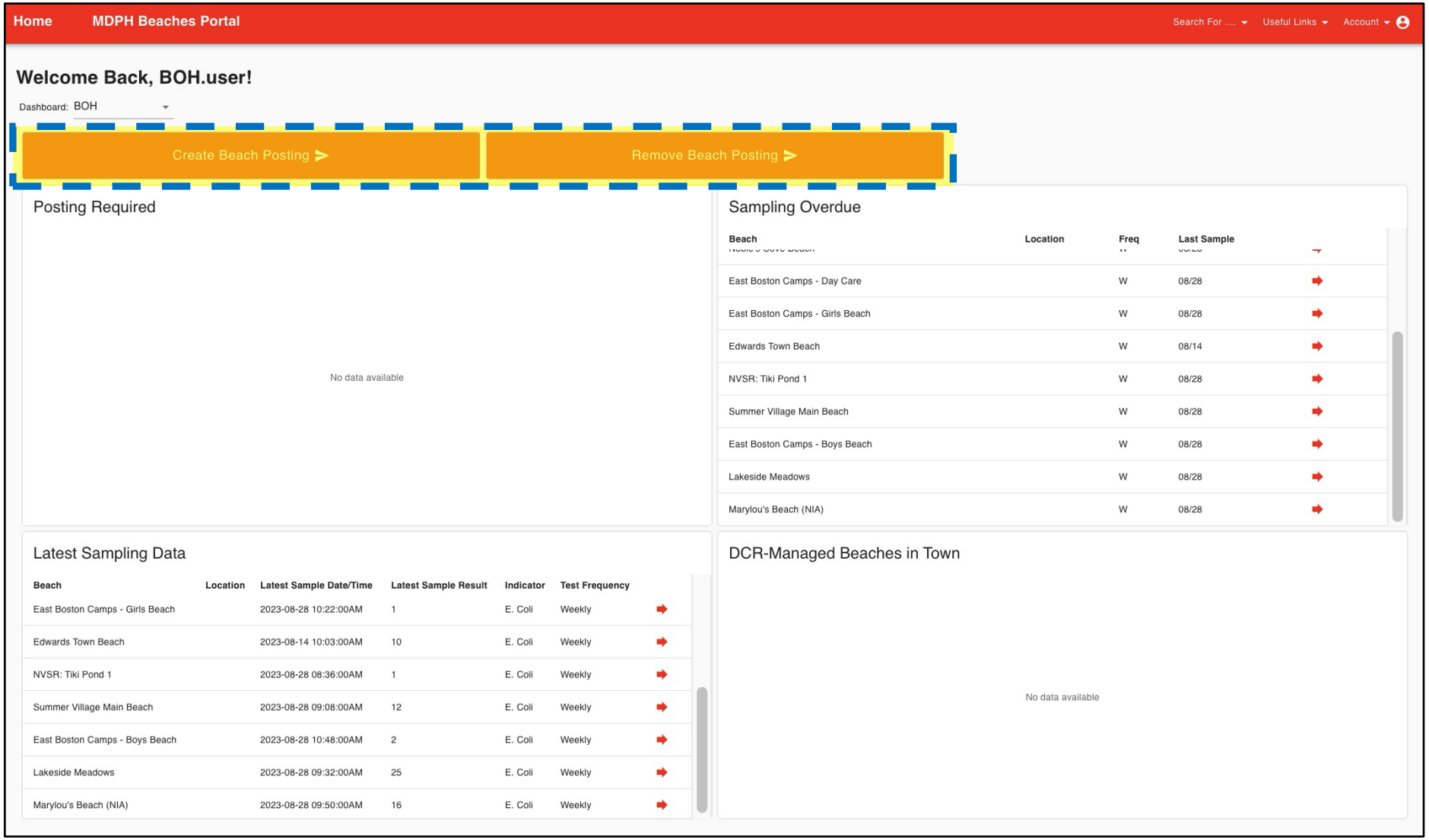

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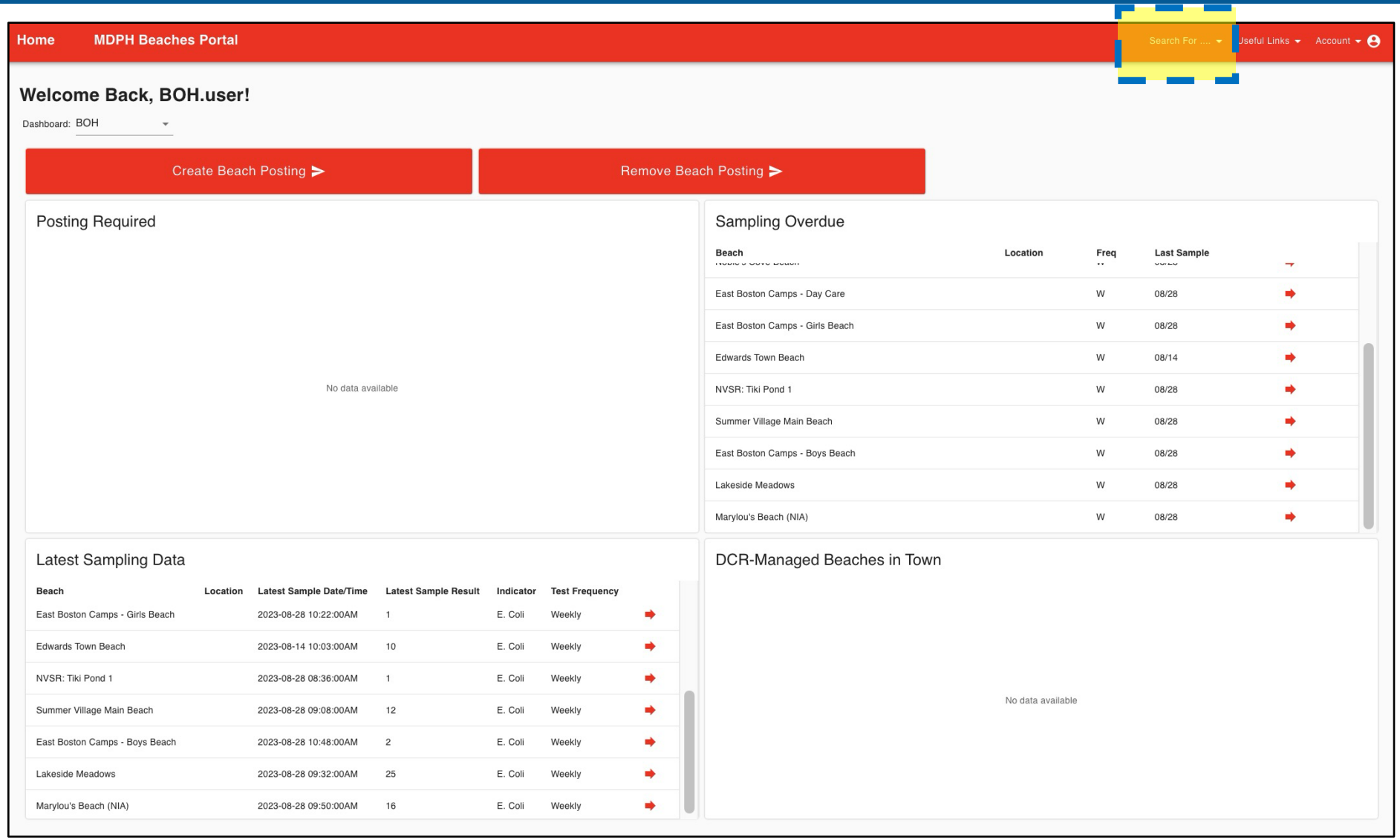
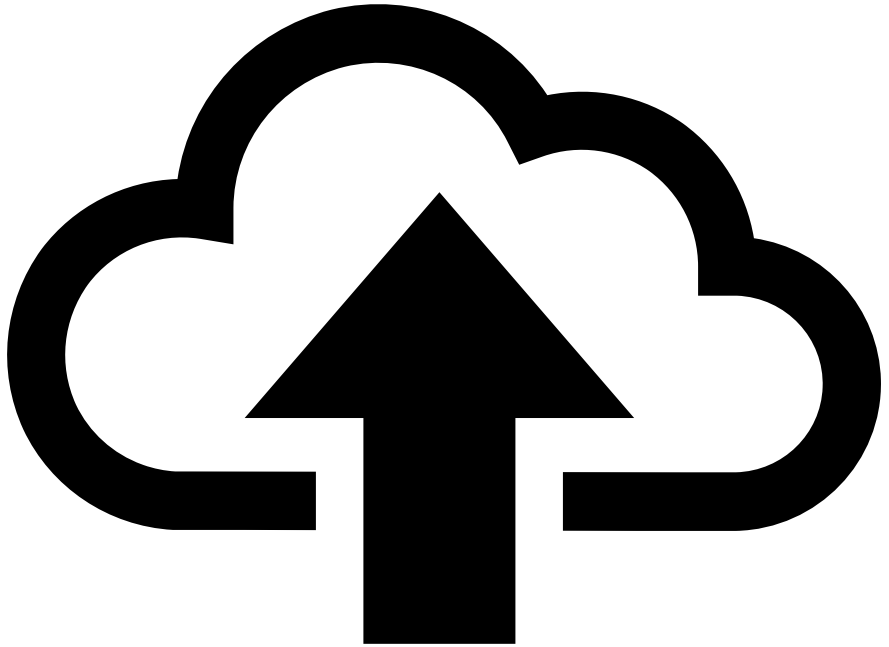


2024 Season Goals

POSTINGS

- Use Portal to report postings and re-openings (Publics will appear on the Dashboard)



DATA ENTRY

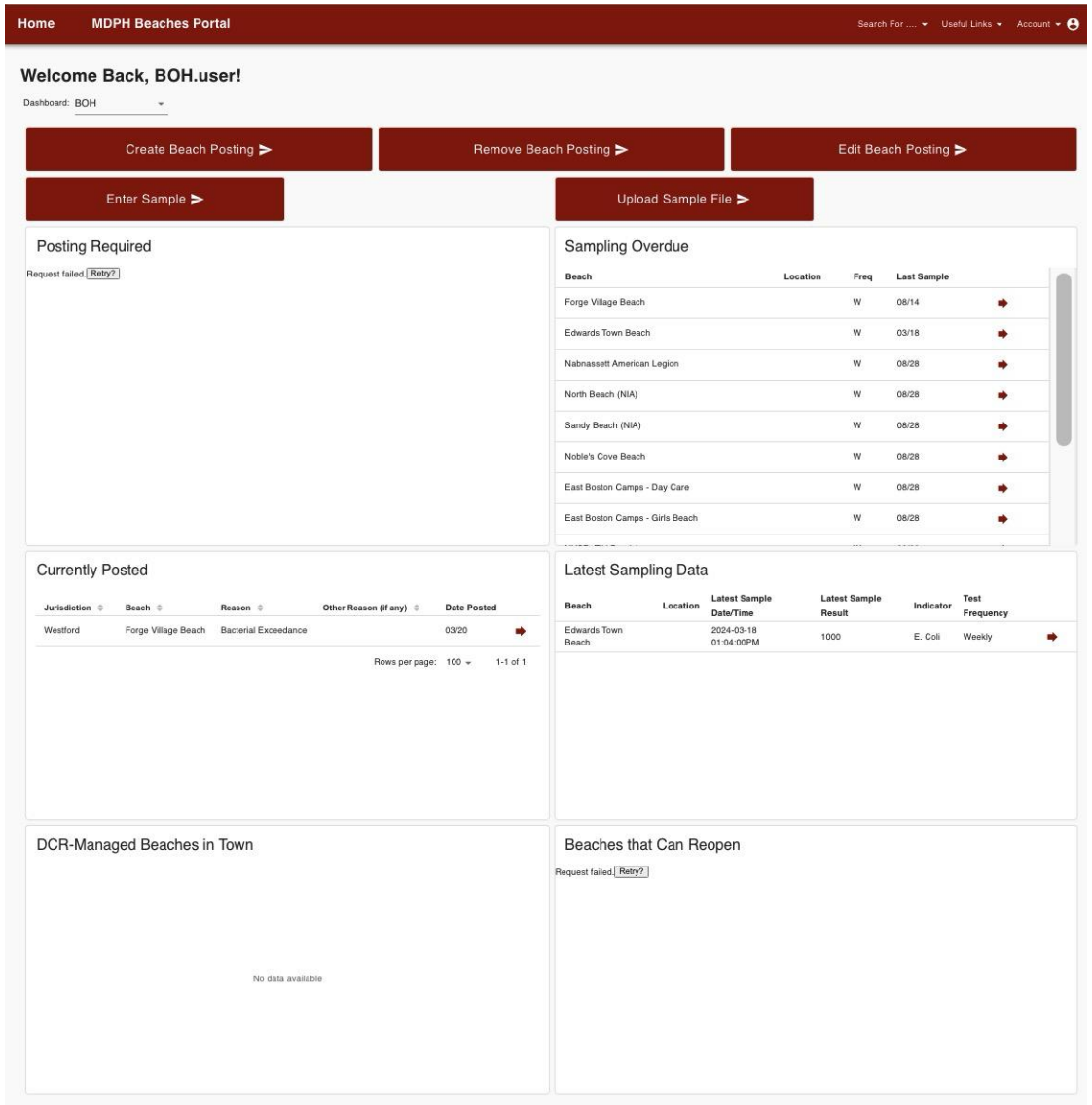
- Labs can do it
- BOHs can do it
- Semi-publics
- Think about when it's feasible to start...

Next Steps

1. **Receive data portal account**
   - Our vendor, SSG, will be sending account links
   - If you don’t see it, check your spam folder
   - Use link to set up password
   - Contact us to create accounts for additional users
2. **Explore data portal, get familiar**
3. **Reach out to your testing lab(s)**
   - Let us know when we should contact labs.
4. **Attend portal Office Hours** (dates TBD)

The Portal – Improvements since Last Year

- Lists currently posted beaches
- Calculates geomeans
- Gives reason posting is required (Single vs geomean)
- Tells you when you can reopen
- Town can enter results (not just lab)
- Edit postings
- Search beaches by waterbody
- Improved sorting for widgets



Cyanobacteria Harmful Algal Blooms (CyanoHABs)

Cyanobacteria Background

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

ENCOURAGES CYANOBACTERIA GROWTH

- High phosphorus (P) loading
- Warm temperatures
- High amount of sunlight
- Long water residence time
- Low water turbulence
- Thermal stratification of lake/pond
- Low grazing / lack of predators

ENVIRONMENTAL CONDITIONS

DISCOURAGES CYANOBACTERIA GROWTH

- Low phosphorus (P) loading & nitrogen (N) loading
- Cool temperatures
- Limited / low amount of sunlight
- Short water residence time
- High water turbulence
- Vertical mixing in lake/pond
- Grazing

Risk Management Approach

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 µg/L**
4. **Concentration of the toxin cylindrospermopsin exceeds 15 µg/L**

In 2020, HABs were reported to have caused:

- **95 cases of human illness**
- **1,170 cases of animal illness**

Source: CDC

Toxins were detected in 51% of HAB events reported to CDC in 2020.

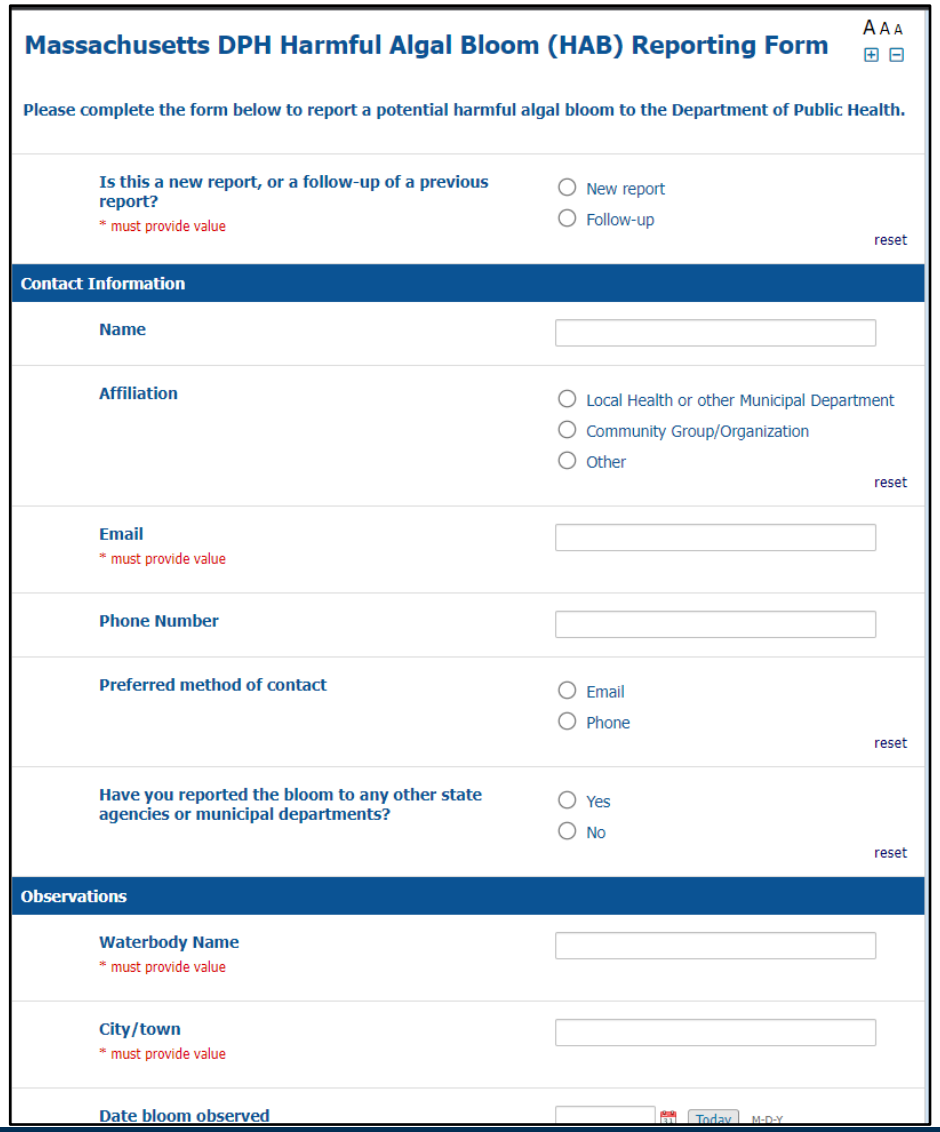
Source: CDC

Agency Roles in Responding to Blooms

- **Local BOHs** – responsible for responding to reports of cyanoHABs and issuing public health advisories
- **DPH/BEH** – provide technical assistance to BOHs dealing with cyanoHABs at recreational waterbodies
- **MassDEP** – responsible for cyanoHABs at drinking water sources

MDPH Online HAB Reporting Form (right):

https://redcap.link/HAB-Report-Form



Massachusetts DPH Harmful Algal Bloom (HAB) Reporting Form

Please complete the form below to report a potential harmful algal bloom to the Department of Public Health.

Is this a new report, or a follow-up of a previous report?
* must provide value
- New report
- Follow-up

reset

Contact Information

Name

Affiliation
- Local Health or other Municipal Department
- Community Group/Organization
- Other

reset

Email
* must provide value

Phone Number

Preferred method of contact
- Email
- Phone

reset

Have you reported the bloom to any other state agencies or municipal departments?
- Yes
- No

reset

Observations

Waterbody Name
* must provide value

City/town
* must provide value

Date bloom observed

IDENTIFYING CYANOBACTERIA HABs

Scum layers that form on the surface or bottom of a waterbody, commonly along shorelines or in protected coves

Murky, soup-like water consistency

Specks and dots in the water column

Paint like streak on the water surface

Bright green, blue-green, or reddish brown hued water

DPH Resources

DPH cyanoHAB resources:

- **May 14th** – DPH virtual statewide cyanoHAB workshop
  - Contact Rachel.Gladstone@mass.gov
- *COMING SOON:* Protocol for Sampling Freshwater Bodies to test for Cyanobacteria & Cyanotoxins
- Cyanobacteria in Recreational Waters - Guidance document for BOHs (online)
- Fact Sheet: Harmful Algae Blooms in Freshwater Bodies (online)

https://www.mass.gov/algae-blooms

NOT CYANOBACTERIA

Picture Source: Connecticut EEP

Contact Information

Environmental Toxicology Program
Bureau of Climate and Environmental Health
Department of Public Health

Email
dph-beach@mass.gov

Cyanobacteria website
www.mass.gov/dph/algae

Beach website
www.mass.gov/dph/beaches

Logan Bailey
Lead Scientist
Phone – 857.319.1104
Email – logan.bailey@mass.gov

Kerri Strobeck
Beaches Project Coordinator
Phone – 617.624.5757
Email – kerri.strobeck@mass.gov

Michael Beattie
Beach Inspector – Metro Boston, North & South Shores, Central MA
Phone – 781.445.3439
Email – mike.beattie@mass.gov

Bridget Ducey
Beach Inspector – Cape & Islands/Buzzards Bay, Western MA
Phone – TBD
Email – bridget.ducey@mass.gov

Rachel Gladstone
Cyanobacteria / Harmful Algae Bloom Coordinator
Phone – 781.540.6422
Email – rachel.gladstone@mass.gov