

Water You Testing: *A behind the scenes glance at recreational and environmental water testing*

Presented in partnership with:



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New Bedford Health Department
Water You Testing
May 29, 2025



BAY STATE PUBLIC HEALTH TRAINING HUB

Agenda

New Bedford Health Department Lab
Overview

Massachusetts Beach Monitoring Program

Water Sample Collection Procedures

Environmental Water Testing

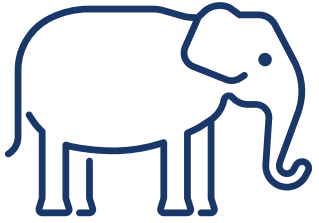
Potable Water Testing

Questions?



The New Bedford Health Department Laboratory

How do we serve the community?



Zoo Testing – Year Round



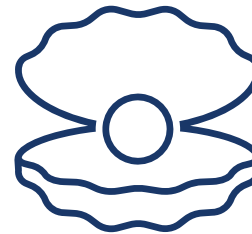
Environmental Testing – Year Round



Recreational Waters – Beach Season



Potable Water – Year Round



Oyster Depuration Tanks – Year Round

New Bedford Beaches

10 Beaches

21 Years



Fundamentals of Water Testing

The Bacteria

- Fecal Contamination

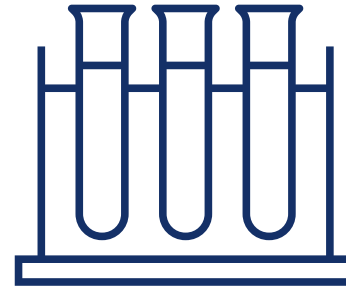
- Types of Bacteria

Coliforms: Total or Fecal

ex. E. coli

Fecal Streptococci – more importantly Enterococci

The Method



Count number of tubes with positive reaction



Count number of colonies on plate

Getting Started

Types of Beaches:

Public, Semi-Public, Private

Apply with Local Board of Health (BOH) and receive permit which expires every 2 yrs

Bathing and swimming is limited to public and semi-public beaches that meet the requirements of 105 CMR Minimum Standards for Bathing Beaches

MDPH provides financial support for sampling at municipal public marine beaches

400 SOUTH

Dates of Operation:
MAY 24 → LABOR DAY

Beach Operator Contact Information:
NB HEALTH DEPT
508-991-6199

PERMIT#: **03-MA622297**

NOTICE:
BACTERIA LEVELS ARE NOT
MONITORED OUTSIDE OF
THE ABOVE DATES OF OPERATION

WATER QUALITY
ACCEPTABLE

Beach Name

Dates of
Operation

Contact
information

Permit #

Note that
bacteria is
not
monitored
outside
dates of
operation

The Massachusetts Marine Beach Monitoring Program

How Does It Work?

Overview

- ~ Includes 60 Marine Cities and Towns
- ~ Opening = Test 5 days prior
sample 1x a week
thereafter
- ~ 12 Week Program

Exceedance Response

- ~ Generally:
 - one failure = immediate retest
 - failure of retest = immediate closure
- ~ Caveat: Close after 1 list

Sampling Procedures

How to Sample

- Highest density of swimmers – stay away from Jetties, seawalls, algae
- Beaches >500m may have multiple sample sites
- Depth of at least 3 ft – uncap, plunge and scoop away from you, dump top 1 in or so out, screw cap and transport
- Beach name, date, time, sample site, temp of waters
- PPE = safety first

Transporting the Sample

- Returned to lab within 8 hrs of sample collection
- Chilled to 10C ~ 40F or under

Getting Results

- Incubation time -> 24+/- 2 hrs
- 24 hr notification for exceedances

Beach Sampling Field Data Revised 2018

Town/City: _____											Time Delivered to Lab: _____								
Date Collected: _____											Delivered by: _____								
Collected by: _____											Relinquished to: _____								
ID #	Sample Location If beach has multiple samples, note location.	Marine or Fresh	Sample Time	Water Clarity: Clear Partly murky Murky			Water Temp (°F)	Wave Intensity: Calm Normal Rough			Days Since Rain '0' if within 24 hrs.	Potential Pollution Sources - if none, check "none"							
				C	P	M		C	N	R		# People in Water	# Birds	# Dogs	Algae	Trash	Animal/ Human waste	Wrack	None
Example	Sandy Beach	M	9:30 am	C	P	M	68	C	N	R	0	0	5	0					
Example	Sunset Pines	F	6:35 am	C	P	M	72	C	N	R	7	7	0	0		X			
Example	Excellent Point	F	1:00 am	C	P	M	70	C	N	R	2								X
				C	P	M		C	N	R									
				C	P	M		C	N	R									
				C	P	M		C	N	R									
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				C	P	M		C	N	R									
				C	P	M		C	N	R									
				C	P	M		C	N	R									

Cloud Cover: ☐ Clear ☐ Partly Cloudy ☐ Cloudy/Overcast

Comments: _____

Exceedance of Maximum Contaminant Level

Maximum Contaminant Level

How much bacteria is allowed in a single 100 mL sample of water?

Marine Water:

count not greater than 104 cfu/100 mL
geomean not greater than 35cfu/100mL

Fresh Water:

Count not greater than 61 cfu/100mL
Geomean not greater than 33cfu/100mL

Actual Counts

- Direct counts from plates that are incubated

Geomean

- Aggregate (summary) statistic that describes the last 5 values from sampling a single location
- Ex. 1, 5, 10, 2, 8 → 3.81
- Ex. 110, 92, 54, 2, 70 → 37.73
- Ex. 54, 60, 26, 44, 80 → 49.48

Reporting + Retesting

No exceedance

- Operators have 5 days to report to BOH once received from lab
- BOH has until Oct 31 to report to DPH
- Sample again next week

Exceedance

- 12 hrs from operator receiving validated lab results to BOH
- If closing beach – MDPH and signage must be updated within 24 hours
- Options:
 - Keep beaches open and retest
 - Close beach and retest - signage
 - Close beach and retest next week – signage

Closing a Beach

Reasons to Close a Beach

- Physical Quality: oils, grease, scum, solids, etc
- Safety Hazards: fast currents, sharp drop-offs, etc.
- Bacteriological Exceedance during a retest
- Weather
 - Safety during rough tides
 - Pre-emptive closures
- Caveat: Close after 1 list



Closure = Must have signage within 24 hours of validated exceedance results at each closed location

Reopening = notify BOH and DPH within 24 hours (or next business day) of reopening

400 SOUTH

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NOTICE:

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WARNING!

- CLOSED -



NO SWIMMING

Swimming may cause illness!



DATE: _____



Environmental Water Testing

Environmental Testing

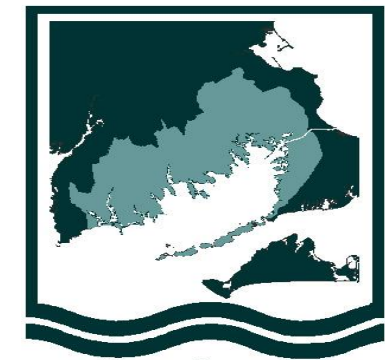
Who Does It?

- Environmental Justice Programs
- Local Estuary Programs and Watersheds
- Municipalities
- Environmental Infrastructure Programs

Our Environmental Clients



Buzzards Bay



National Estuary
Program



SRPEDD

Southeastern Regional Planning
& Economic Development District





Potable Water Testing

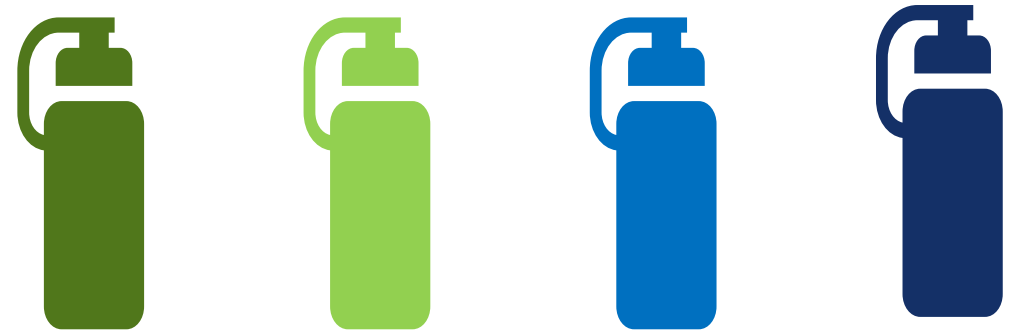
Drinking Water Testing

For Municipalities: Public Water System

- Based on Population Size
- eDEP monitored
- Failure = corrective action and retest

For Individuals: Well Water

- Up to homeowners to ensure water is safe
- Not eDEP monitored so no follow up



Potable Water according to DEP:

- nutrients: chemicals and metals at various quantities – ex. Manganese, nitrates, nitrites, etc.
- coliforms:
 - <40 sites: 0 cfu/100mL / month
 - >40 sites: <5% of samples

Questions?

Thank You!

Water You Testing:

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New Bedford
Health

Prevent. Promote. Protect.



For more information visit our website: <https://www.newbedford-ma.gov/health-department/>
Join us on Facebook and Instagram: @NewBedfordHealthDepartment

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