



Water Quality Volunteer Program
Quality Assurance Training



## Certification Requirements

 Fill out the online <u>Water Quality Volunteer</u> Application and <u>Liability Waiver</u>

• Review the online Volunteer SOP

 Review the Quality Assurance Training Power Point (this document)

 Complete the in-person Site Certification (to be completed with DMR staff member)

### Sampling Strategy

- DMR uses the systematic random sampling strategy based on establishing an annual schedule early in the calendar year and adhering to that schedule throughout the year.
- A copy of your schedule will be emailed to you at the beginning of the year along with run directions and a run map.
- Every effort must be made to adhere to the scheduled sampling dates.





### **Equipment and Supplies**

- Cooler with calibrated thermometer
- Field data sheet
- Gel freezer packs (4)
- Sampling tongs
- Whirl-Pak bags
- Sample racks
- Permanent marker
- Pen
- Field thermometer
- GPS
- Hip waders (if sampling by land)



- Samples are taken with a sterile Whirl-pak bag and set of tongs.
- Samples must be kept sterile (no fingers in bags, minimize upwelling of sediment if land sampling, re-take sample if bag is leaking etc.).
- It is required to sample within 300 feet of station coordinates.
- If taken by land, the sampler must be standing in a minimum of 18 inches of water.
- The sample must be taken at a minimum depth of 8 inches.
- Samples should not be taken at low tide. (DMR recommends sampling 3 hours before or after high tide).



## Labeling Sample Bags

Headspace to allow shaking and aeration at the lab

Growing Area & Station #

**Sample Date** 

Sample Time

**Sampler Initials** 

- Use permanent marker.
- Write in the white space.
- Fill to the 4oz line but leave "headspace" as shown in the pictogram.
  - Use military time.



# Transporting & Storing Samples

- DMR will provide volunteers with a cooler, tongs, racks, a calibrated cooler thermometer and a calibrated field thermometer (if sampling by land, volunteers will need to provide their own hip waders).
- Samples must be placed in the cooler immediately after collection.
- The cooler must maintain a temperature <u>between 0 to 10 degrees Celsius</u> (DMR recommends using 4 ice packs to achieve this temperature range).
- Samples can be dropped at a DMR satellite fridge, the DMR lab in BBH or Lamoine, or a pick up with a DMR staff member can be coordinated.
- Samples must be processed at the lab within 30 hours of collection time.

## Field Sheet Requirements

- Time must be recorded in 24-hour format (military time).
- Date should be recorded as: Month-Day-Year.
- Temperature must be recorded in Celsius.
- Missed stations need a "missed station code" (back of data sheet).
- Missed stations still need attempted sample time.
- Any potential source of pollution observed needs an Adversity code (back of data sheet).
- Fill out chain of custody (number of samples **per sheet**, not the total samples per run).
- Mistakes need a **single line** strikethrough with date and initials of the corrector (can be in annotation style, ex. on next page).
- Use black or blue pen. Do not use pencil.



#### Front

### Field Sheet Example

#### Back

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	Missed Station	Area Letter	Station #	Military		Boat' Land	Temp °C	Strategy	Condition/ Adversity	Open/ Closed	Salinity 9/00	CFU/100 mL	50 mL	5 mL		Comments		
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For use with: SOP Water Collection and Transportation WQ Form No.: 1 Version No.: 2

Maine Dept. of Marine Resources Bureau of Public Health, Shellfish Sanitation Effective Date: 1/13/2020

#### ADVERSITIES

The letter in the ADVERSITIES column represents an adverse condition observed at the time the sample was collected (i.e. if it rained any time during the 2 days prior to collecting the sample the condition would be "P" (P for precipitation)). If there are 5 or more boats near the station that may adversely affect the water quality, the condition column would read "B" for boats.

- B Boats: Minimum 5 enclosed boats (i.e., not open skiffs) that might have a head
- F Flood: Use only during an officially declared statewide flood closure
  - H Habitation: Seasonal occupation of homes that might have an impact on water quality
  - M Marinas: Open business with 10 or more enclosed boats in the water
- N Nonpoint: Flowing streams, storm water pipes, or overland runoff
  - P Precipitation: Rain or mixed precipitation (i.e., thunderstorms, rainfall more than a drizzle)
- T Thaw: Snow and ice melt
- S Sewage Treatment Plant: during treatment plant malfunction or bypass events
  - W Wildlife: Waterfowl (10 or more), domestic or wild animals (i.e., at the station or in close enough proximity to have a possible impact) - Put details in "REMARKS" on front

#### Missed Station Field Code

- T= Tide: tide was too low to sample station
- A= Access: the station was not accessible due to trespass issues or natural obstructions
- S= Safety: The station could not be sampled due to safety issues
- I= Ice: The station was iced over and water was not available
- O= Other: Please note what the other is in comments for that station

#### Chain of Custody

- Relinquishing person sign and note:
  - Date, time and temperature when relinquished
  - Number of samples
  - Relinquished to: such as "receiving person", "cooler at drop off", "Lab Refrig."
- Receiving person must sign and note:
  - Date, time and temperature when received
  - Number of samples

## Chain of Custody

- Filling out CoC is mandatory every time the samples are moved (cooler to cooler, cooler to fridge, etc.). Always use the DMR provided cooler for sample transport.
- The number of samples entered correspond to each sheet rather than the full run and do not include missed stations.

#### Chain of Custody

Relinquished by	Date, Time & Temp (°C)	# Samples	Relinquished to	Received by	Date, Time & Temp (°C)	# Samples
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For use with: SOP Water Collection and Transportation WQ Form No.: 1 Version No.: 2 Maine Dept. of Marine Resources Bureau of Public Health, Shellfish Sanitation Effective Date: 1/13/2020

Run #: _ Collected by: _ Date Collected: _		_	Funs E. coli #3, Sta	ioad/Da liter Lo nel Loa 100 μL art plate	ot:		Time i Time Read Da	Initiated Analyst: Into air incubator: Into air incubator: Into water bath: Ite/Time/Analyst: Into water bath: Ite/Time/Analyst: Ite/Time/Analyst: Ite/Time/Analyst: Ite/Into water bath: Ite/Into wat
Missed Station Area Letter Station #	Military Time Boat/Land	Temp °C	Strategy Condition/ Adversity	Open/ Closed	Salinity (),	CFU/100 mL	5 mL	Comments
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#### Chain of Custody

Relinquished by	Date, Time & Temp (°C)	# Samples	Relinquished to	Received by	Date, Time & Temp (°C)	# Samples

#### **Boat Station GPS**

and	Run#			

es: This sheet can be printed out and used with field datasheet for recording GPS coordinates for each sample station for boat runs.

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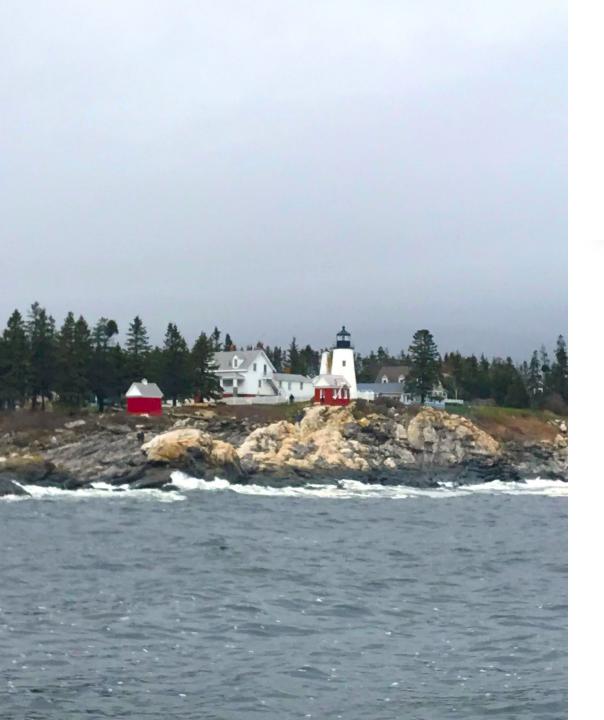
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## Training Check #1

- Within how many feet of the plotted station location must a sample be collected?
- 2. What is the minimum water depth required to take a sample?
- 3. What is the minimum sample depth?
- 4. Is it required to use a DMR cooler for sample transportation?





### Training Check #2

- 5. What should you do if your sample bag is leaking?
- 6. If samples are being dropped off at a temperature-controlled satellite location, what information must be on the Chain of Custody form?
- 7. What critical pieces of information must be written on the sample bag?
- 8. What is the acceptable temperature range for coolers?
- 9. Samples must be processed within how many hours of collection?

### Answers



- 1. 300 feet
- 2. 18 inches
- 3. 8 inches
- 4. Yes
- 5. Resample with a new, unopened bag.
- 6. Initials, date, time (military), temperature (C), number of samples, relinquished destination.
- 7. Growing Area, station #, date, time (military), and sampler initials.
- 8. 0-10° Celsius
- 9. Within 30 hours of collection

### Resources

• The volunteer application & waiver, this training guide, blank data sheets, blank GPS coordinate sheets, and the volunteer SOP can be found here:

https://www.maine.gov/dmr/node/779

• A copy of the FDA National Shellfish Sanitation Program (NSSP) Guide, to which DMR must comply, can be found here:

https://www.fda.gov/food/federalstate-foodprograms/national-shellfish-sanitationprogram-nssp

