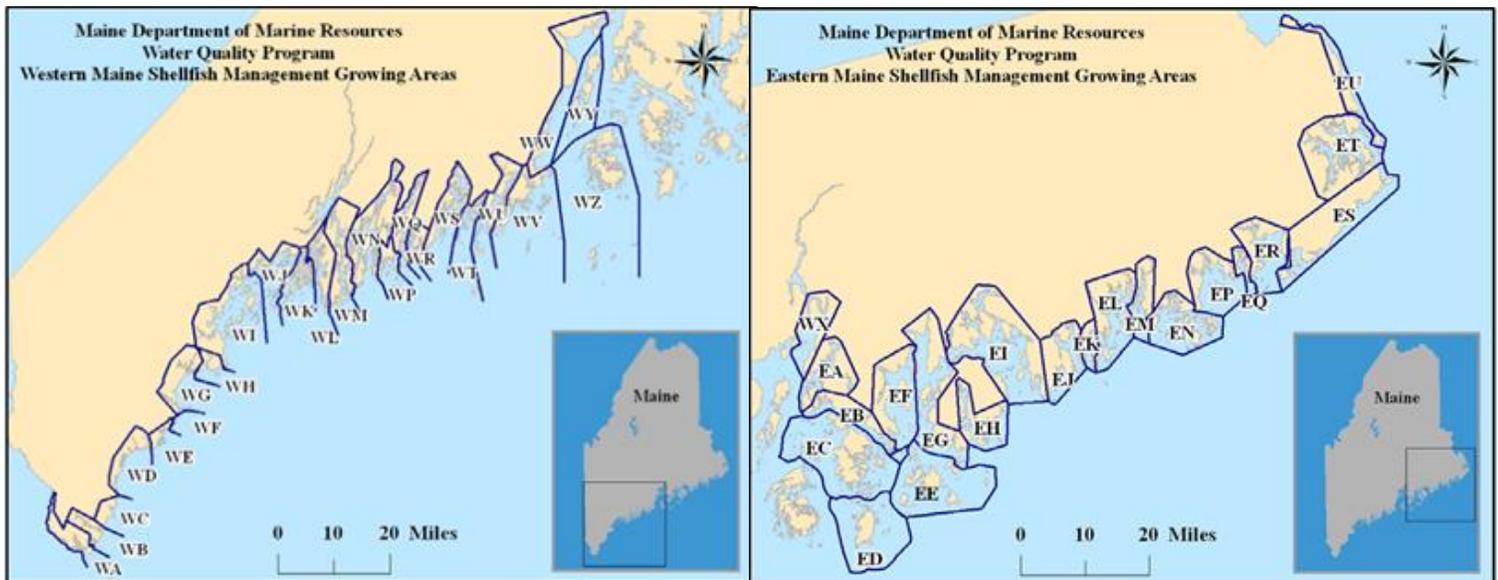


Maine Department of Marine Resources Bureau of Public Health Shellfish Growing Area Program: Water Quality Monitoring Volunteer Guidance Document

Definition/Background

The Shellfish Growing Area Program-Water Quality Component follows federal guidelines in establishing and implementing a shellfish program in Maine. The mission of this program is to protect the public health by properly classifying shellfish growing areas based upon environmental data and other observations according to the standards established by the National Shellfish Sanitation Program Model Ordinance. All shellfish areas in Maine are reviewed under this program and classifications are based upon uniform and consistent criteria. The objective of this classification system is to prevent shellfish from being harvested from areas that show evidence of bacterial contamination as this may cause illness or even death in human consumers.

To properly classify shellfish growing areas, the DMR must collect routine water samples from established sites a minimum of six times a year from the New Hampshire border to the Canadian border. Staff must also conduct shoreline surveys to search for potential sources of pollution to coastal flats and waters, institute special investigatory studies and must use data from all of these to write annual reports of varying lengths for each of the 45 shellfish growing areas (Figures 1 and 2). The DMR administers and provides enforcement for the current classification system for all growing areas. Trained volunteers have assisted in water quality sample collection for many years allowing State resources to focus on other aspects of the program.



Volunteer Eligibility

12 M.R.S.A. §6691. Water quality samplers

A commercial shellfish license holder who complies with the shellfish sanitation program's quality assurance and quality control training and certification requirements as administered by the department may serve as a volunteer water quality sampler for the department.

On February 27th, 2008, the DMR rejected **12 M.R.S.A. §6691** stating that in order to keep with the agency's understanding of the Marine Resources Committee's desire that all recommendations made by the 2007 Maine Peer Team Review of the Growing Area Program be implemented, the DMR would no longer allow any individuals who hold commercial shellfish licenses to serve as water quality samplers. At the same time, asking

permission to allow the few individuals who currently meet this definition to continue gathering samples for the Department.

This proposal would revise the current policy and allow certification of commercial shellfish license holders who have historically volunteered for the program while outlining requirements for new volunteers pending need as determined by the Bureau of Public Health. Guidelines for this change would include:

- Any shellfish license holder who has past water quality volunteer experience (> 1 year) with the DMR WQ Program could immediately begin fulfilling certification requirements;
- Any shellfish license holder new to the program will be required to sample in tandem with a non-license holder volunteer for one year before solo trips;
- And all volunteers will be required to sign an agreement between the DMR that outlines data collection accuracy requirements, training, expectations and professional conduct pertaining to collection of water quality samples as a DMR water quality volunteer.

Volunteer Training Requirements

Volunteers who sample for the Water Quality program are required to complete a two-part training; an online training component and a field site certification with a DMR staff member.

Training Part I: Online Training Component: The first part of training consists of an online training component touching on policies and general sampling technique. There is an associated training checklist that must be completed and submitted to DMR annually. A liability waiver must also be completed yearly prior to beginning sampling operations.

Training Part II: Site Certification: The second part of training will take place every year in the field. Generally, the site certification will occur on the first scheduled sampling date of the season. Volunteers will be contacted by the DMR with official site certification date. Annual site certifications are mandatory for all volunteers. Volunteers are not allowed to train other volunteers. An evaluation of each volunteer will be completed by staff at the time of the site certification and reviewed after the site certification is completed. DMR staff will make the effort to do these site certifications as early in the year as possible. Volunteers will be required to complete part one of the training before the site certification.

Volunteers should expect to be out for the full day during a site certification and will be required to visit every station in the run. During this training, staff will identify any and all stations where there might be issues to note during the sample year. Prior to each site certification date, staff will be responsible for meeting briefly with the Growing Area Program Supervisor and discuss any specific site issues that will be covered that day with the volunteer.

Site Certification Policy and Procedures

Field site certifications will be completed with an experienced DMR field staff member.

- Meeting date and time will be coordinated between DMR staff and volunteer.
- DMR field staff member will bring all required sampling gear to the site certification.
- Required paperwork must be completed prior to site certification.
- All volunteers being certified for the sampling run must be present at the site certification.
- A DMR field staff member will conduct this site certification to review sampling procedures and observe sample collection technique.
- DMR staff must observe all volunteers successfully collecting at least one sample.

- Staff will direct volunteers to new stations but volunteers will do the sampling.
- DMR may take control of water samples to simplify chain of custody during the site certification.
- DMR staff will fill out an evaluation checklist for the day.

Project Staff/ Organizational Chart

DMR will provide volunteers with a contact for scheduling and other sampling concerns. The contact will be responsible for training and all questions regarding policies for the volunteer program. If a volunteer would like to do additional work related to water sampling i.e. pollution source sampling, assist with shoreline survey work, rainfall data collection or any other special study for an area, the volunteer will need to contact the Growing Area Program Supervisor for their area: 633-9500 for western Maine (Kittery to Stockton Springs) or 664-2394 for eastern Maine (Stockton Springs to Eastport).

Sampling Design

All samples collected by volunteers will be from DMR designated sampling locations along the coast within each growing area. All stations are grouped into “runs” and each run is numbered geographically from most western to most eastern stations along the coast. Each DMR Water Quality lab has a similarly named run numbering system distinguishable by an E for east (Lamoine Lab) or W for west (Boothbay Lab) in front of each station number, and should be designated as such on datasheets and sample bags.

Random Run Collection Criteria

A sample run can consist of 10 to 30 sample stations. The DMR has determined that breaking runs down into smaller groupings puts an undue burden on the WQ program. The Department has created the current sample runs to be most effective and efficient with resources.

Volunteers coming into the growing area program must be prepared to commit to doing a full sampling run as determined by the Department, which can consist of up to approximately 30 stations. A volunteer or volunteer group who are assigned a complete run for the season can expect to spend a minimum of two hours, and up to eight hours, in the field on a scheduled random run sample day.

Each volunteer/volunteer group will start sampling when they know there will be a minimum of 18” of water at each site. This means that on a given sample day, a volunteer(s) will need to time their run when they know they will be able to get the most number of stations. Some stations may still be missed. It is expected that for those stations missed volunteers will do their best to go back to those stations on that same day, if possible.

Criteria for sampling conditional areas, boat runs, and other sample scenarios

The DMR is also required to sample conditional areas in the open status, which can mean additional sampling dates in the calendar year for some stations/areas. If a volunteer’s run contains conditional stations, the volunteer may be asked to sample those additional sample dates.

Volunteers may be asked to sample less stations than required for random runs due to certain conditions such as a partial flood closure or make up samples.

The table below outlines sample collection scenarios a trained volunteer could be asked to complete for the DMR Growing Area Program.

Table 1

Random Run Samples	~10 to 30 stations
Random Conditional Run Samples	≥6 stations
Make Up Samples	no minimum
Flood Samples/Reopening Samples	no minimum
Adverse Samples/Stream Samples	no minimum, approval needed from DMR staff
Accelerated Samples	no minimum, approval needed from DMR staff
Shellfish Samples	Permit needed, additional training and approval needed from DMR staff

Winter Sampling

When sampling in the winter, all attempts should be made to use safe practices. It is recommended that crampons be used if it is icy, snowshoes if it is necessary to walk long distances in deep snow, carry a cell phone for emergency calling, and use 4-wheel drive vehicles if sampling runs are in remote areas or on back roads. Walking out on ice-covered coves is discouraged. Sampling runs will be cancelled when state offices are closed due to inclement weather, and otherwise on a case-by-case basis. In the event of a missed run due to hazardous conditions, the missed run will be made up.

Aside from safety issues, there are water sample integrity issues with cold weather sampling. Samples with ice or ice slurry cannot be analyzed for fecal coliform. Bacterial cells tend to burst when subjected to freezing; any freezing that occurs once the sample has been collected will alter the original concentration of fecal coliform in that sample. If the sample is collected where ice is present, every effort should be made to exclude ice from the sample collection. If ice slurry is present, the slurry must be expelled before closing the bag. The sample must be protected from freezing and ice formation from the sample collection site to the eventual delivery to the laboratory. This may mean carrying the sample in a pocket from the sample site to the cooler in the vehicle. It may mean keeping the cooler inside the vehicle during the sample collection trip and transport to the laboratory; the coolers are not designed to protect from freezing if they are subjected to freezing temperatures and wind chill conditions. Freezing wind chill conditions can develop on a cold day in the bed of an open pickup truck during transport.

Sample Scheduling, Materials and Drop-Off Locations

Prior to the sampling season, all volunteers will receive via email and/or hard copy an updated map of the volunteer run they will be collecting; with all active stations, current directions with latitude/longitude coordinates, and the dates that each run should be completed for the year. If a volunteer(s) will be doing conditional area sampling, those additional dates will be noted and an additional list of conditional stations outlined. Because of the dynamic nature of the Shellfish Growing Area Program-Water Quality Component, stations can be activated, deactivated and/or made inactive throughout the year, which can change the number of stations in a run. If this occurs after the annual trainings, the DMR contact for that area will send updated information to that volunteer, and field staff may be required to fulfill any field training obligations to ensure quality samples are collected.

Sampling does occur year-round for staff. Like staff, volunteers that are paid by the towns (i.e. shellfish wardens or other public safety officers) may be expected to collect from January through December. Other volunteers will have a choice, based on comfort level and boat availability, whether to sample in December, January, February and March; but will be expected to collect samples from April through November.

Volunteers will need to confirm with staff a meeting time and place for the sample day if they are not dropping at a known drop-off location with a refrigerator (see Appendix I). If a volunteer is unable to collect on a specific sample date, they are responsible for notifying the DMR contact no later than 48 hours prior to that date, when possible.

Alternatively, if volunteers do not wish to use these drop-off locations, they may bring the samples directly to the DMR lab in Boothbay Harbor or Lamoine. The lab working hours are Monday through Friday, 8 am to 4:30 pm. All samples delivered directly to the DMR lab must be received within these normal operating hours on the same day the samples were collected. Volunteers must sign in at the front desk and wait for a DMR lab staff person to come and get them and escort them to the lab.

Any volunteer sampling by boat is required to provide GPS coordinates for all stations collected during each sampling trip or to use a GPS preprogrammed with station locations. Field sheets for GPS coordinate recording are available through DMR if a volunteer is not using a pre-programmed GPS unit. If a volunteer has boat problems or bad boating weather occurs on their scheduled sample date, contact DMR.

Accelerated Sampling

Volunteers can also sample if their town/municipality has been accepted by the DMR for accelerated sampling. These volunteers will receive dates and maps to collect samples outside the normal random run schedule dates. These volunteers will be required to fulfill all of the commitments of regular volunteer training and criteria for sampling. Volunteers that have made the commitment to sample on an accelerated schedule will be required to sample on all sample dates and if they miss a sample date it will not be rescheduled. Additionally, if a volunteer cancels or continually misses an accelerated sample date without just cause, DMR can decide to drop that volunteer out of the program.

Documentation and Records

Each time a volunteer takes a sample, a datasheet must be completed onsite for that sample. It is important that the original datasheet be the only record for that day. An example of how to fill out a datasheet can be found in the volunteer quality assurance training online document. The datasheet must be returned to the Maine DMR office along with all samples.

Equipment Inspection and Acceptance Requirements, Maintenance and Calibration

DMR will provide all necessary sampling equipment to collect samples. Each volunteer will be assigned their own cooler for the season. If anything needs to be replaced, it will be the **volunteer's responsibility** to notify the DMR Scientist or GA Supervisor for a replacement and they should not sample until the equipment is replaced. It is expected that all volunteers will use only DMR-issued equipment for QA/QC purposes and in the manner that they were trained. Volunteers will need to supply their own above-the-knee waterproof boots, transportation (vehicle or boat), first aid kit and a clock.

At each annual site certification volunteers will be required to bring all their sampling equipment in for inspection. At that time the DMR staff will look at, and confirm by checklist, the quality of the equipment and replace anything that does not meet minimum requirements. Also at this time volunteers will receive a set of new thermometers for that sampling year, and will turn in old thermometers.

Quality Control Requirements, Assessment and Response Actions

If there is a QA/QC issue with a volunteer(s) performance, the DMR Scientist or GA Supervisor will contact that individual/group leader, address the problem and figure out a course of action before they collect samples again. If the problem is due to unfamiliarity with sample locations or a misunderstanding of DMR water sampling protocol, a site certification and/or sample collection training must be done before the volunteer(s) collect on their own again.

THANK YOU FOR YOUR HELP!

Appendix A: Sample Drop-Off Locations

Western Maine Locations

1. **Waldoboro Town Office:** 1600 Atlantic Highway, Waldoboro Maine
2. **DMR Laboratory:** 194 McKown Point Road, West Boothbay Harbor
3. **Sagadahoc Communications Center:** 752 High Street, Bath
4. **Freeport Police Department:** 16 Main St, Freeport
5. **Scarborough Police Department:** 246 US Route 1, Scarborough

Waldoboro Town Office- Fire Station - 1600 Atlantic Highway, Waldoboro **Samples can be dropped here 24 hours a day**

- Go into town office, they will let you in after hours. Go to the left and the ambulance attendants will let you in. If ambulance is out, call Bill Bragg. Refrigerator is in first bay on the right.
- **From the South:** Take Route 1 North, past Boothbay and Newcastle, into Waldoboro. The Town Office is located to the left on Rt. 1 after the intersection for Jefferson St.
- **From the North:** Take Route 1 South, into Waldoboro. The Town Office will be located on the right after passing by CarQuest Auto Parts.

DMR Lab – 194 McKown Point Road, West Boothbay Harbor **Samples can only be dropped here between the hours of 8:00 am and 4:30 pm**

- *Entrance is through the front glass doors. Let the front desk know who you are and that you are dropping off samples for the water quality lab. They will direct you where to go.*

From the South:

- Take Route 1 North, through Wiscasset to Edgecomb.
- Turn right onto Route 27 South, to the Boothbay Harbor Region

From the North:

- Take Route 1 South, through Damariscotta and Newcastle to Edgecomb.
- Turn left onto Route 27 South, to the Boothbay Harbor Region.
- Once on Route 27: Travel to Boothbay Center (about 9 miles). Landmarks on right are Chamber of Commerce and Clipper Mart gas station/Subway sandwich shop.
- After Clipper Mart and just before Soldier Monument, turn right off Route 27. Go straight at the 4-way stop that immediately follows. This puts you on Corey Lane, also known as Lakeside Drive
- Follow this road to the stop sign at its southern end (about 2 miles; 2nd junction with Route 27).

- Continue straight across onto McKown Point Road and follow to its end (about 1 mile). We are the last facility, at the end of the road.

Sagadahoc Communications Center - 752 High Street, Bath

Samples can be dropped here 24 hours a day

- Entrance is located through the glass doors in the back. During normal hours you can just walk right in though both sets of doors and walk straight to the end of the hallway. The door is the last one on the left with the sign “Superior Court 3rd floor” pointing towards it. Go through door and the fridge is behind it. The combination is 1021.

From Route 1 North:

- “To 209 – Phippsburg” exit on your right
- Left onto High Street for short distance
- Left into the Sagadahoc County Communications Center

From Route 1 South:

- Get off on the right exit “To 209 – Bath / Phippsburg” (when going over bridge)
- Go straight at stop sign onto Vine Street and drive for 0.1 mile
- Right to yield onto Washington Street for a short distance
- Left at lights onto Center Street for 0.1 mile
- Left into the Sagadahoc County Communications Center

Freeport Police Department: 16 Main St, Freeport

Samples can be dropped 8 am -4 pm: doors are unlocked, after hours pick up phone next to door for dispatch, tell them you are DMR and they will send someone to let you in.

From 2-95 North:

- Take exit 20 for Desert Rd. into Freeport.
- Take a right off the highway, and straight through both lights by Shaws Supermarket.
- Continue onto Lower Main St.
- The Fire Station and the Police Department will be on your right before the stop lights for West St.

From 2-95 South:

- Take exit 22 for Mallet Drive.
- Yield to the right off the highway and continue to the stop lights.
- Right onto Main St.
- Pass through downtown Freeport.
- Left at the stop lights onto West St.
- Police Department and Fire Station will be your first right on West St.

Scarborough Police Department - 246 US Route 1, Scarborough

Samples can be dropped here 24 hours a day

- Entrance is located at the front parking lot entrance. When you get inside you pick up the phone to talk to an attendant. Tell them you are here to drop off DMR water samples. They will unlock the door behind you where you will see a DMR refrigerator. This is a shared fridge with Biotoxin. Transfer your samples to the fridge.

From 2-95South:

- Exit 2 for Scarborough/Old Orchard Beach and drive for 3.4 miles total
- Go through 4 traffic lights
- Left onto Westwood Avenue for short distance
- Left into the SPD parking lot

From 95North:

- Exit 36 to merge with 195E toward Saco/OOB and drive for 1.8 miles
- Exit 2B to merge with Route 1 North and drive for 7.6 miles
- Right onto Westwood Avenue for short distance
- Left into SPD parking lot

Eastern Maine Locations

1. ***Bass Harbor Ferry Terminal***, 114 Granville Road, Bass Harbor
2. ***Cobscook Community Learning Center***, 10 Commissary Point Road, Trescott Township

Open 7:30 am to 4:30 pm

Bass Harbor Ferry Terminal, 114 Granville Road, Bass Harbor

From Route 3 East in Trenton:

- Stay straight to go onto ME-198 S/ME-102 South. Continue to follow ME-102 South
- Stay straight to go onto Harbor Drive/ME-102A.
- Turn right onto Shore Road. Shore Road is just past Bass Harbor Woods Road
- Turn slight right onto Granville Road. Granville Road is just past McMullen Avenue

Cobscook Community Learning Center, 10 Commissary Point Road, Trescott Township

Open 24 hours/day: The fridge is in an outbuilding

From Route 1 in Whiting:

- Take Route 189 toward Lubec and Campobello Island, New Brunswick. Commissary Point Road is 1.8 miles on the left. The CCLC is the first driveway on the left.