

Connecticut Department of Agriculture

Bureau of Aquaculture

Water Quality Volunteer Program
Quality Assurance Training



Certification Requirements:

- You must be a member of a municipal shellfish commission, or other eligible municipal commission, and be approved by your Commissioner to participate in sampling
- Review the online Volunteer SOP
- Review the Quality Assurance Training Power Point (this document) and pass the associated online quiz
- Complete the in-person Sampling Certification with a DOAG staff member



Sampling Strategy

- DOAG uses the **Adverse Pollution Condition (APC)** sampling strategy. *ALL samples*, regardless of classification are collected during **APC**
- **APC** are defined as:
outgoing tide (1.5 hours after high tide through 1.5 hours after low tide), AND
The first 0 to 4 days following ≥ 0.5 " continuous rainfall events as measured by the official rain gauge designated for your Town
- **APC** samples may be collected while the area is in the closed status
- Sampling requirements vary depending on Growing Area classifications, so it is important to know your area & understand the classification regime
- All samples must be scheduled with DOAG staff by noon on Fridays *at the latest*. No sampling can be conducted without prior approval of DOAG staff.

Growing Area Classifications

- **Approved**

Areas that are open for the direct consumption of raw shellfish under all but “emergency” conditions

These areas close as a precaution after ≥ 3 ” of rain, or other impacting environmental conditions (severe storms, etc.)

Approved areas may reopen after the collection of satisfactory water samples and do not have a required closure time-frame

- **Conditionally Approved (CA)**

Areas that are open for the direct consumption of raw shellfish under certain conditions

CA areas close after a certain rainfall threshold has been reached, or following elevated river stages

CA areas must remain closed for 14 days, unless water and shellfish tissue samples are collected to support an earlier opening.

- **Conditionally Approved Seasonal (CAS)**

CAS areas have the same closure and reopening criteria, but are also closed seasonally due to poor water quality or boating activity in the summer months, inability to sample in the winter months, or for management purposes

Approved Station Sampling Requirements

- A **minimum of 5 Adverse Pollution Condition (APC)** (0-4 days following ≥ 0.5 " rain) samples must be collected from each approved water quality monitoring station annually to maintain the Approved classification
- A **total of 15 APC** samples is required for each 3-year data set
- If 5 APC samples are not collected in a calendar year, the deficit must be made up during the next calendar year

Conditionally Approved Sampling Requirements

- **1 sample per month** from *each CA area water quality monitoring station in the OPEN status for a total of 12 OPEN* condition samples from *each CA area water quality monitoring station* in a calendar year
- If open status samples are not collected in a particular month, **2 OPEN status** sample collections from *each CA area water quality monitoring station must be collected the following month*
- **AND**
- A *minimum* of **5 APC** (0-4 days following ≥ 0.5 " rain) samples is required from *each CA area water quality monitoring station annually*. These samples must be reflective of seasonality and occur under a variety of rainfall amounts ≥ 0.5 ". NOTE: APC samples collected in the CLOSED status will not contribute to the annual 12 open status sample requirement
- If 5 APC samples are not collected in a calendar year, the deficit must be made up during the next calendar year for **a required total of 15 APC samples** from *each CA area water quality monitoring station* in a 3 year period

Sampling to Reopen

- Water samples are required to reopen Approved areas following precautionary closures due to rainfalls ≥ 3.0 " measured by the designated rain gauge for your Town
- Water and shellfish tissue samples are required to reopen Conditionally Approved areas following rainfall closures *prior to 14 days*. Conditionally Approved areas may reopen on the 15th day without water samples, or an additional rainfall \geq the closure trigger
- Water and shellfish tissue samples are required to reopen Conditionally Approved and approved areas following sewage closures *prior to 21 days*.

Equipment and Supplies

- 120 ml single-use sterilized plastic specimen bottles supplied by DOAG in Milford, or 120 ml reusable plastic bottles provided by the CT Department of Public Health (DPH) laboratory in Rocky Hill
- Water-sampling tool (sampling stick): a \geq four (4) foot handle with a clamp, or holder, at one end to securely hold a sample bottle in a vertical position. Place a mark on the stick at 18" above the mouth of the bottle
- Cooler with ice and frozen ice packs
- Tide chart for the area being sampled
- Nautical chart of area, or GPS, showing locations of sampling stations approved by DOAG
- DOAG laboratory seawater collection form supplied by DOAG, DPH, or private laboratory, respectively
- Waterproof pen
- Hip waders if sampling from shore

Know Before You Go

- Are you on the lab schedule?
- Where are you sampling?
- Status of the area you are sampling
- Why are you sampling?
- Are your samples APC? Reopening? Monthly open?
- Tides
- Processing time limits



Sampling Method

- Samples are collected with an approved 120 mL sterilized container and a sampling stick
- Samples must be kept sterile (no fingers in cups, do not touch threads or inside of container lid, no sediment or debris in sample). Retake sample if bottle is cracked, leaking, or otherwise damaged
- All samples must be collected at a minimum depth of 18 inches of water
- Samples must not be collected from prop wash and should be collected upstream as far away as possible from bilge pump discharge
- Always collect water that is coming toward you when sampling in rivers or tributaries

Sampling Method

- If sampling by shore, allow sediments to disperse before collecting sample
- Do not sample if the water depth is less than 3' at the sample location
- Do not break ice to collect a sample. If area is frozen over, indicate that in the “remarks” section of the field sheet, do not collect the sample, and move to the next location

Sampling Method

- Samples are only collected during low or ebb (outgoing) tide. The sample window is 1.5 hours after high tide through 1.5 hours after low tide
- Place capped sample bottle in the sampling stick with the bottle opening facing up, remove the cap
- Take care not to contaminate the interior of the bottle, cap, or cap threads at any time when removing the cap and after it has been removed from the bottle
- Quickly plunge the sampling stick below the surface of the water to submerge the bottle to a depth of at least 18 inches
- Pour out enough water to provide at least a ½ inch air space at the top of the bottle. (A one-inch air space is needed for Public Health Department laboratory)
- Replace the cap securely, remove the bottle from the clamp and *immediately* place the bottle in the cooler with ice and ice packs

Sampling Method

- Samples are delivered *by the collector, or designated courier* to the DOAG laboratory in Milford, CT, or to the Department of Public Health Laboratory in Rocky Hill, CT. **NOTE: no samples will be accepted at either facility without prior authorization**
- **All samples must be delivered with a temperature control (TC).** At the first station take two samples, label one with TC and the other with the town code and appropriate station number
- Bottles must be kept upright to prevent loss of sample in the event of leakage
- Bottles must be kept above ice melt in cooler
- Samples must be *processed within 30 hours of the first sample collected.* Commissions should aim to deliver samples within 24 hours.
- Samples that have not been authorized by DOAG staff will not be processed

Sampling Method



- Headspace: do not fill bottle above threads, pour out water if necessary
- Record town code & station # using a pen or permanent marker
- **DO NOT USE** if label is torn or missing, if bottle has been: submerged in water, is visibly soiled, has loose or missing cap, has soap deposits or other particles inside, is deformed, or cracked

Resources

This training guide, blank data sheets, and the volunteer water collection procedure can be found here: **(NOTE NOT ALL MATERIALS HAVE BEEN UPLOADED)**

<https://portal.ct.gov/doag/aquaculture1/aquaculture/recreational-shellfishing>

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

<https://www.fda.gov/food/federal-state-local-tribal-and-territorial-cooperative-human-food-programs/national-shellfish-sanitation-program-nssp>