



Center for Drinking Water Quality

PWS Routine Monitoring for Coliform Bacteria

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The Purpose of the Coliform Sampling Plan

Public water systems (PWSs) are required (under the *Revised Total Coliform Rule* and the *Ground Water Rule*) to routinely perform water quality sampling for bacteria called total coliform, the presence of which can indicate that there are also disease-causing microorganisms such as *E. coli*, viruses, or parasites in the water. Your PWS's coliform sampling plan tells you where and how many water quality samples you must take. This is especially important after a water sample tests total coliform present, because appropriate repeat sampling will help to identify if there are any problems in the water system infrastructure that allowed the bacteria to enter.

Routine, Repeat, and Triggered Well Samples

When a PWS's routine sample is **total coliform present** you are required to take three **repeat samples**. The purpose of taking repeat samples is to confirm the presence or absence of total coliform or *E.coli* bacteria in the PWS's distribution system. When a routine sample from a groundwater system is total coliform present this also *triggers* a requirement to take a well sample (from each well), referred to as a **triggered well sample**, which shows the quality of the PWS's source water. Note that triggered well samples are required in addition to the three repeat samples. The sampling sites that are referenced on the coliform sampling plan are defined below.

Primary sampling sites are samples from the distribution system; they should not be at the beginning or at the end of the distribution system. The primary sampling site is where you take your routine samples and one repeat sample. Some systems may have more than one primary sampling site.

Upstream and downstream sampling sites are within five service connections or five plumbing connections of the primary sampling site. The upstream and downstream sites are where you take the other two repeat samples.

Alternate sampling sites are for use only if the normal sampling sites are not accessible (for example building is locked, faucet is broken, flooding or other weather event). There is an alternate sampling site designated for each primary, upstream, and downstream sampling site. Notify Rhode Island Department of Health (RIDOH) when these are used.

Raw water (well) sampling sites show the quality of the water entering the PWS *before* pressure tanks, storage, or treatment. Raw water sampling sites are where triggered well samples are taken.

Entry point sampling sites are where the water enters the PWS *after* treatment and/or storage. Entry point sampling sites are important because RIDOH may ask PWS to use these under certain circumstances.

If a Routine Sample Is Total Coliform Present

DO NOT SHOCK CHLORINATE THE SYSTEM before collecting repeat, routine, or triggered well samples unless directed to do so by RIDOH.

Repeat samples must be taken within 24 hours. If the system is sampled by RIDOH then the routine sampling site(s), the upstream site, the downstream site, and the raw water sampling site(s) must all be available for repeat or triggered sampling within 24 hours of notification.

Water systems that purchase water from other systems must notify (and provide lab sample number to) the water system that they buy from within 24 hours of receiving the routine total coliform present result.

Water systems that have a 4-log disinfection unit and carry out Ground Water Rule compliance monitoring (chlorine monitoring) do not need to take triggered well samples.

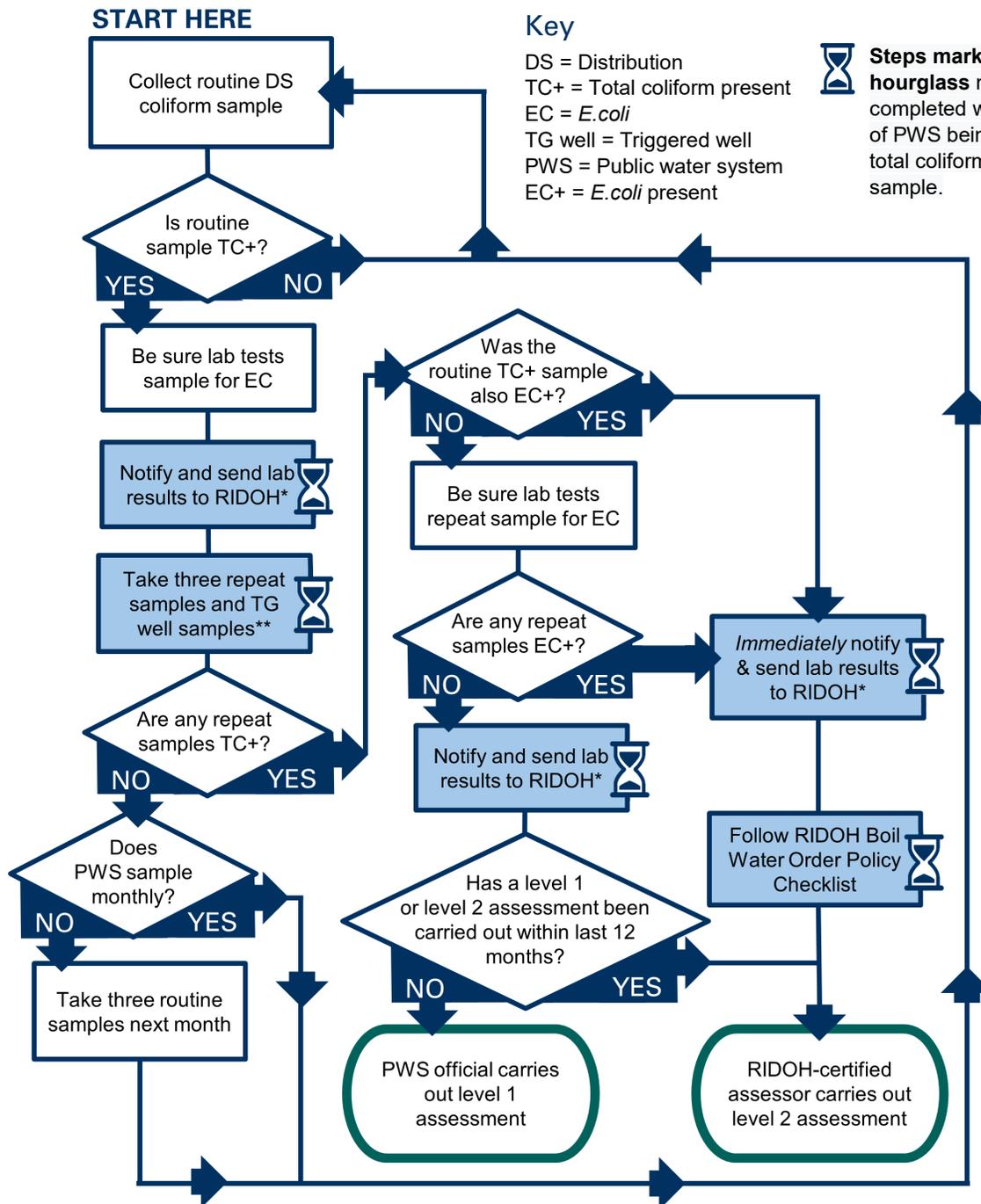


Assistance from Center for Drinking Water Quality

Total coliform present samples may cause you to have to carry out a level 1 assessment. A Center for Drinking Water Quality team member is available to provide telephone or in-person assistance with the assessment. If you have questions about any of the information on this factsheet or about the requirements for PWSs, please call the Center for Drinking Water Quality (401-222-6867) and ask to speak with the Revised Total Coliform Rule manager.

Sampling Process for Coliform Bacteria

The process below can be used to guide your system through coliform sampling. Refer to your *Coliform Sampling Plan* at each decision diamond to check qualities about your system that may affect your answer. Follow the flow of the arrows and be aware that some steps are time-sensitive. The oval-shaped steps are stopping points after which other actions may be needed before returning to routine sampling. **Apply the process to one sample at a time.** For example, if your PWS takes multiple samples per sampling period and two of them are total coliform present, then you must take six repeat samples within 24 hours. *Note: If your PWS takes 40 samples or more per month, parts of this process are different. Contact RIDOH with any questions.*



* **Notify RIDOH** of TC+ sample by phone or email; **your lab must submit** final results to RIDOH.
 ** Collect one triggered well sample for each well in use at the time. The sample must be collected at the raw water sampling tap, before any pressure tanks, treatment, or storage. If any wells were not in use, or any TG well result is EC+, contact RIDOH (401-222-6867 or DOH.RIDWQ@health.ri.gov) as soon as possible that day and ask to speak to the Ground Water Rule manager.