Certified Water Operator

All Public Water Systems must have a Certified Licensed Water Operator. The operator is responsible for ensuring that the water system is running smoothly and meeting all of the regulatory requirements. A campground can either hire an operator or have a staff member obtain a license. A list of operators in each Massachusetts town is available on www.state.ma.us/dep or can be obtained by contacting your DEP regional office. To obtain a license, an individual must pass a two-hour exam and apply to the Massachusetts Board of Registration for a Very Small System license. Individuals interested in taking the exam should contact Experior Testing at 508/624-0826.

Submitting Paperwork

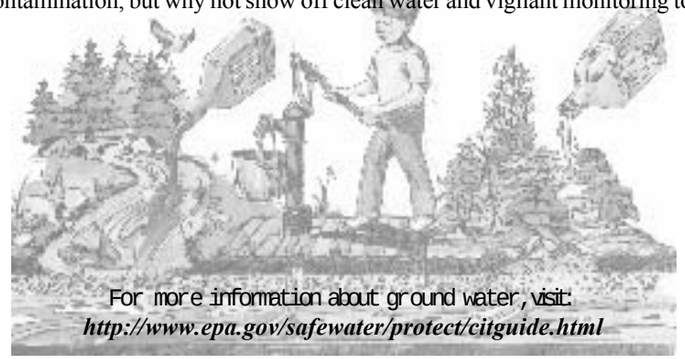
All Public Water Systems are expected to submit various forms and documents to DEP in a timely fashion. All sample results must be submitted to the regional office by the 10th of the month following a sampling period. For example, the results of a bacteria sample collected in June must be submitted by July 10. In order for DEP to have accurate and up-to-date files, campgrounds will periodically receive water system forms such as Annual Statistic Report, Cross Connection Survey, and Self Sanitary Survey. It is important that these forms be completed as accurately as possible and submitted to DEP within the time frame specified on the cover letter. DEP staff are always available to assist campgrounds in completing any of this paperwork. The campground should keep a copy of all submitted paperwork on premises for ten years.

Public Notification

In the event that your water system fails to submit water sampling results or exceeds acceptable levels, it will be necessary to post a notice in a conspicuous location at the campground. DEP Regional staff will instruct you on the required language and the duration of posting.

The Good News and the Bad News

Keep in mind that posting information about water, good and bad, means a lot to your guests. Drinking water is a serious concern, and your guests will appreciate notices about safe water test results as much as they need information about test failures. You are *required* to post notices about contamination, but why not show off clean water and vigilant monitoring too?



Ground Water Basics

If your campground uses a well or spring it might seem like you've got the best water around. However, both wells and springs are susceptible to contamination.

Wells and springs are replenished with precipitation that eventually seeps into the ground and fills the spaces in soil and rock. Springs are formed where this water seeps back out of the ground. Wherever water flows from the surface into the ground (and back into springs) there is potential for contamination. This is why it is essential to not only test ground water used for drinking, but to protect it.

Contacts and Additional Sources of Information

U.S. Environmental Protection Agency
www.epa.gov/safewater

National Drinking Water Clearinghouse
www.ndwc.wvu.edu

Safe Drinking Water Act Hotline
800/426-4791

Massachusetts Department of Environmental Protection:
http://www.state.ma.us/dep

Western Regional Office
Dan Laprade 413/755-2289
Mike McGrath 413/755-2202

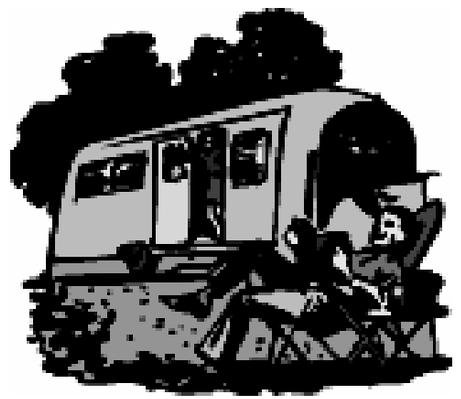
Central Regional Office
Kelly Momberger 508/849-4023
Ted Cody 508/767-2838

Northeast Regional Office
Hilary Jean 978/661-7662
William Zahoruiko 978/661-7639

Southeast Regional Office
Dan DiSalvio 508/946-2783
Scott Lussier 508/946-2732

NEIWPCC

Safe Drinking Water And Your Campground



A resource for Massachusetts campgrounds.

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Providing safe drinking water is an essential part of offering an enjoyable recreational experience for campground guests. As the operator of a campground you have responsibility for the safety of the water supply, but maybe you aren't sure where to begin. This publication describes how you can ensure that your water stays clean and that your facility complies with regulations: in short, ***Protect Your Well*** *and* ***Follow Testing Requirements****.*

Are You a Public Water System (PWS)?

By definition, most campgrounds are public water systems. A Public Water System is any water system with at least 15 service connections or serves more than 25 people a day, more than 60 days a year. The regulations governing Public Water Systems (Massachusetts Drinking Water Regulations 310 CMR 22.00) are lengthy – over 150 pages – and complicated. Fortunately, most of the requirements for campgrounds can be met by carrying out the following three actions: conducting water tests; having a certified water operator; and submitting State required paperwork.

Testing Requirements

The Massachusetts Department of Environmental Protection (DEP) issues every Public Water System a sampling schedule which will specify when samples for bacteria, nitrate, nitrite, and sodium must be collected. Samples must be analyzed at a State Certified Laboratory and the results submitted to the DEP regional office. A list of Certified Laboratories is available at www.state.ma.us/dep or can be obtained by contacting your DEP regional office.

Water Contaminants

Total Coliform Bacteria is tested in terms of a positive (meaning bacteria are present) or negative (meaning they are absent) reading.

Coliform bacteria act like a warning sign when found in water. They are common in the environment and in general are not harmful. The presence of these bacteria in drinking water usually signals a problem with the water treatment system or the distribution pipes. This can mean that the water is also contaminated with disease causing bacteria or viruses.

Fecal Coliform and E. coli are bacteria that live in human and animal waste. The presence of these bacteria in drinking water suggests contamination by sources like malfunctioning septic systems or a manure pile for example. If ingested, these bacteria can cause short-term effects including diarrhea, nausea, and headaches. Infants, young children, older persons, and immuno-compromised individuals are most susceptible to infections from these bacteria.

Nitrates and Nitrites are tested in terms of a maximum contaminant level (MCL), the total level of a contaminant allowable in drinking water by law.

Nitrates (NO_3) and Nitrites (NO_2) are molecules composed of nitrogen and oxygen that can combine with many different compounds. The major source of these nitrogen compounds is fertilizer. Once in the body, nitrates are converted to nitrites. In the short run, excess level of nitrates or nitrites in drinking water can interfere with the oxygen-carrying capacity of blood. This condition is especially dangerous to infants and pregnant women. Symptoms include shortness of breath and blueness of the skin. Long-term exposure to nitrates and nitrites above the MCL can lead to serious health problems.

Other additional water contaminants include inorganics (e.g. arsenic) and organics (e.g. pesticides), for which campgrounds do not have to monitor. If you suspect contamination, please contact your DEP regional office for instructions on how to proceed.

Season Startup and Shutdown

Proper startup procedures in the spring and shutdown procedures in the fall can go a long way in avoiding water quality problems, unexpected delays, and inconveniences to the campers. Campgrounds should work with their certified water operator to put together a formal step-by-step procedure.

When formulating a plan consider the following information:

Startup

- Campgrounds that have a large network of older pipes and storage tanks should probably shock chlorinate the entire system. Lower chlorine dosages (< 50 mg/L) over a longer period of time (24 hrs) are preferred. It takes 1 pint of standard bleach to achieve a 50 mg/L dosage for 100 gallons of water.
- Where practical, the interior of large atmospheric tanks should be brushed and sprayed down with a strong chlorine solution.
- Water should be flushed thoroughly through every fixture and faucet in the campground. Remove any aerators and screens during flushing.
- All valves should be exercised to be sure they are in good working order.
- Use a simple circular pressure gauge with a hose attachment to check for system leaks or faulty valves. Also, perform a cross connection survey.
- Once everything is cleaned and flushed a special bacteria sample should be taken at least one week prior to the planned opening date. This will allow time to troubleshoot any problems.

Shutdown

- The entire system should be drained. Well and tank vents should be checked.
- The water meter should be removed and stored in an area not subject to freezing. Remember to cap the exposed pipe to prevent contamination.

An Ounce of Prevention is Worth a Pound of Cure

An examination of the costs of water clean up versus the cost of source water protection reveals that it is much easier and cheaper to prevent contamination than to try to clean it up. Here are some steps you can take to help keep source water safe and clean.

Protect your well

- Post signs to protect the area around your source.
- Make sure your staff is aware of the location of your source.
- Avoid using pesticides, fertilizers, herbicides, and road salt near your source.
- Dispose of hazardous chemicals like motor oil, degreasers, fuels, paint, and thinners on local hazardous waste collection days.
- Protect old or dry wells from contamination by hazardous materials. Old or dry wells can lead directly to your source water.
- Consider having old wells filled to prevent this kind of contamination .
- Do not place dumpsters within Zone 1.
- Make sure your well cap is tight-fitting and that is has no openings through which small animals could contaminate your source.
- Do not cut the well casing below the ground surface.
- Regularly inspect visible parts of the well for damage (corrosion, cracking).

Maintain and protect your septic system

- Protect your septic system from contamination by hazardous materials. Materials that go down the drain can kill the functionality of your septic system and even end up in the ground.
- Have your septic system pumped on a regular basis.

Educate and inform your guests

- Inform visitors of the location of dump out stations.
- Post directions for proper operation if the dump station is self-service. Include details about the kind of materials that should not be dumped at the station.
- Post warnings about protecting your septic system wherever guests have access to drains.

Be proactive in protecting your water source

- Be aware of any possible contamination sources nearby (livestock, pesticides, underground fuel storage tanks, leaking vehicles, etc.).
- Contact the DEP regional office about the possible need for testing when there is any change in the color, taste, or odor of the water.
- Contact he DEP regional office about the possible need for testing after a flood or spill.