



What You Should Do When Your Well is Flooded¹

Jack Pittman and Arthur G. Hornsby²

Why should I be concerned?

Surface waters are susceptible to many sources of contamination. This is particularly true during a flood where sewage runoff and overflow from lakes, rivers, and streams may carry bacteria such as *E. coli* (Figure 1) and Cholera, protozoa such as Giardia, and viruses such as hepatitis. If surface water enters your well, it may contaminate the water that you rely on for drinking, cooking, and washing.

What should I do to protect my family from contaminated well water?

If there is a flood in your area, your county health department will issue a precautionary boil water notice through your local television, radio, and newspapers. In general, if flood waters have reached your well, if you notice any changes in the appearance or taste of your water, or even if you are unsure about the impact of flooding on the water quality in your area, you should boil all of the water you use for drinking, making beverages, cooking, brushing your teeth, or washing areas of the skin that have been cut or injured. (Be sure to cool the water first.) The water should be brought to a rolling boil

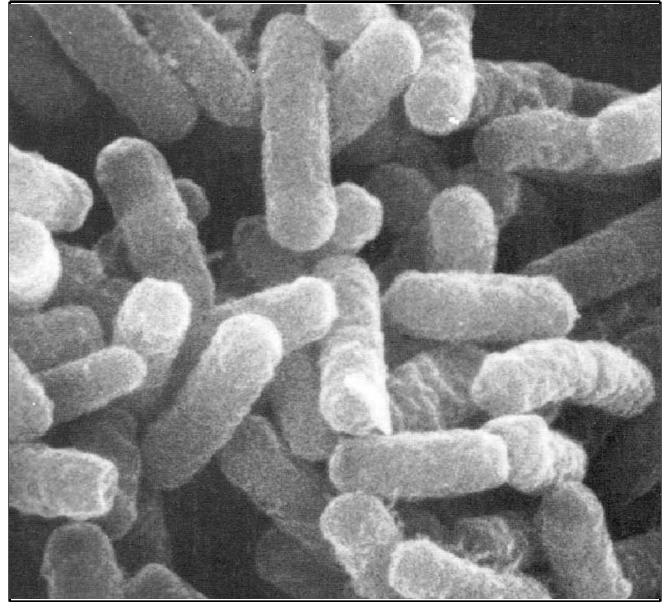


Figure 1. *E. Coli*

for at least one minute. Bottled water may also be used for all of these purposes.

How do I disinfect my well?

It is important to disinfect both the well and plumbing to assure that all infectious agents are killed. If you have water treatment devices, remove all membranes, cartridges, and filters and replace

1. This document is SL157, one of a series of the Soil and Water Science Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Originally written by Jack Pittman and published by the Florida Department of Health (FDOH). Republished with permission of FDOH in September 1999. Reviewed September 2003. Please visit the EDIS Web site at <http://edis.ifas.ufl.edu>.
2. Jack Pittman, Environmental Specialist III, FDOH; Arthur G. Hornsby, Professor Emeritus, Soil and Water Science Department, Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, 32611.

The Institute of Food and Agricultural Sciences (IFAS) is an Equal Employment Opportunity - Affirmative Action Employer authorized to provide research, educational information and other services only to individuals and institutions that function without regard to race, creed, color, religion, age, disability, sex, sexual orientation, marital status, national origin, political opinions or affiliations. For information on obtaining other extension publications, contact your county Cooperative Extension Service office. Florida Cooperative Extension Service / Institute of Food and Agricultural Sciences / University of Florida / Larry R. Arrington, Interim Dean

them after the chlorination process is completed. Both amount of chlorine and the length of time you allow it to remain in your system are important. Common unscented laundry bleach can be used effectively as a chlorine disinfectant. See Table 1 for chlorine bleach quantities and follow these steps:

- If the water is discolored, run the water until it is clear.
- Turn off and then drain your hot water heater. Chlorine is not effective in water above 105 degrees Fahrenheit.
- Bleed the air from pressure tanks so that chlorinated water can completely fill and sanitize them. Backwash water softeners, sand filters, and iron removal filters with chlorinated water.
- To avoid adding contamination to the well during disinfection, first clean the work area around the top of the well. Remove grease and mineral deposits from accessible parts of the well interior and flush the surfaces with 1/2 cup of laundry bleach in 5 gallons of water.
- Turn off the pump. Remove the cap or the well plug on the rubber seal. There are many types of well caps and plugs--if you have questions, you should contact a licensed well driller. If you have a submersible pump, you may also want to contact a licensed well driller for advice on disinfection procedures.
- Consult the bleach chart and pour in the recommended amount of bleach solution. (Your county health department may issue additional guidance.) Try to coat the sides of the casing as you pour. If you get chlorine on the pump or wiring, flush it thoroughly with fresh water to prevent corrosion.
- Re-cap or re-plug the well opening, and wait 30 minutes.
- Turn on and, if needed, reprime the pump. Open all of the faucets on the system one by one. Allow the water to run until there is a noticeable smell of chlorine. You may also want to flush the toilets. If you have outside faucets, you may want to direct the water away from sensitive

plants. If you cannot detect a chlorine odor, rechlorinate the system.

- Turn off the faucets and allow the chlorine to remain in the system for at least eight hours.
- Again open all of the faucets and run the water until there is no chlorine smell.

Is it safe now?

The only way to verify that the water is safe to drink is to have it tested. Although chlorine bleach is effective against microorganisms, it will not remove chemical contamination that may have gotten into your well. Contact your county health department for sampling instructions to get your water tested.

Please contact your county health department or the Department of Health, Bureau of Water and Onsite Sewage Programs at (850) 488-4070, or visit the FDOH Web site at <http://www.doh.state.fl.us> if you have questions.

Table 1. Amount of chlorine bleach to use for well and plumbing system disinfection.

	Well diameter in inches			
Depth (feet)	2	4	5	6
20	8 oz	8 oz	8 oz	16 oz
30	8 oz	8 oz	16 oz	16 oz
40	8 oz	8 oz	16 oz	16 oz
50	8 oz	16 oz	16 oz	32 oz
80	8 oz	16 oz	32 oz	32 oz
100	16 oz	24 oz	32 oz	48 oz
150	16 oz	32 oz	48 oz	64 oz
200	16 oz	48 oz	48 oz	64 oz
Conversions				
8 oz = 1 cup	16 oz = 1 pint	24 oz = 3 cups	32 oz = 1 qt.	48 oz = 1 1/2qts.
	64 oz = 2 qts.	80 oz = 2 1/2qts.	96 oz = 3 qts.	
The bleach should be diluted with 10 parts water. For example, mix 1 cup of bleach with 10 cups of water before pouring it into your well.				