

What You Should Do If Your Water Well Has Been Flooded

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Water from a well that has been flooded should be assumed to be contaminated. Do not use the well water for drinking, cooking, making ice, brushing teeth, or even bathing until you are satisfied that the water is not contaminated.

Floodwater can be contaminated by substances from upstream, such as sewage from flooded septic systems or wastewater treatment plants, manure, pesticides or fertilizer applied to cropland that was flooded. A septic system in the vicinity of a well also can cause contamination when the soil is flooded. Wells that are inside pits may be flooded even if the surface is not covered with water.

In order to ensure that the water is safe, the well should be disinfected, and then the water should be tested to make sure pathogens have been completely eliminated.

Decontaminating and disinfecting a well

If the well has been flooded by surface water, if it is a shallow well, or if the well is in an unconfined aquifer, one of the first steps should be to pump the well to remove potential contaminants. At least 3 well volumes of water should be pumped out from a faucet near the wellhead. At a minimum, pump the well for at least 1 hour before the disinfection process. Household plumbing, including the water heater, also should be flushed. The water should be clear and free of sediment.

Well contractors or drillers may be contacted to disinfect the well, but you can do it yourself in most cases. Texas Cooperative Extension has a detailed publication number L-5441, *Shock Chlorination of Wells*, explaining the procedures for disinfecting a well. Be sure to follow the instructions carefully, which include the following:

- Turn off electric power to the pump and remove the well cap.
- Prepare a bleach and water solution and pour the solution into the top of the well; the amount of bleach depends on the depth of water in the well and the diameter of the well casing.
- Recirculate the water by connecting a hose to a faucet and spraying the water back into the well for at least 10 minutes.
- Open every faucet in the system and let the water run until the smell of chlorine can be detected, then close all the faucets and seal the top of the well.
- Allow the chlorinated water to stand in the system for a minimum of 12 hours, preferably 24 hours.
- The following day, operate the pump by turning on all faucets, beginning with those outside, and flushing until there is no chlorine odor.

Testing well water

After disinfection, well water should be tested by a certified laboratory to ensure that there is no bacterial contamination. Some county health departments and local hospitals may also test water samples for bacteria. The cost for testing water for bacteria ranges from \$8 up to about \$30 depending on the lab.

Well disinfection will not provide protection from hydrocarbons (fuels, oils), pesticides, heavy metals and other types of non-biological contamination. If such contamination is suspected, due to the nearness of sources for these types of contaminants, special treatment is required. The Texas Commission on Environmental Quality has a list of laboratories certified in the state of Texas to perform analyses of drinking water samples that can be found at the following website: http://www.tceq.state.tx.us/assets/public/compliance/compliance_support/qa/sdwa_lab_list.pdf Homeowners can also call the Texas Cooperative Extension at (979) 845-2425 for more information.

Well damage

Another implication flooding can have on your well is the damage or deconstruction of the well in general. Fast moving floodwater can carry debris that could dislodge well construction materials or distort the casing. The coarse sediment in floodwater also could erode pump components. Inspect the well for physical damage or look for signs of leakage. In the case of a damaged well, consult a licensed water well contractor to find out if repairs are needed.

Additionally, flooding can damage your well pump and electrical systems. If the pump and/or electrical system have been under water **do not turn on the pump** because of the potential danger of electrical shock or damage to your well or pump. Once floodwaters have receded and the pump and electrical system have dried, have a qualified electrician check the wiring system.

Obtaining clean water

Individuals with flooded wells are encouraged to find an alternative source of water for drinking, cooking and washing. For example, you may be able to get water from a neighbor's well if you know it is safe, or from a public water supply. Purchasing bottled water also is a good alternative. If you can't find a convenient source of safe water, boil your well water for five minutes before use. Homeowners returning to their home after a flood may be anxious to use the water. But remember that flooding presents special health risks and requires extra attention to protect your family's health.

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