

Floods, Water Quality, Water Wells & Septic Systems

WELL WATER ISSUES

- Individual water wells may become contaminated due to impact by floodwaters.
- If the floodwaters do not come in contact with the well casing, they may still cause an impact to the groundwater which supplies the well. In some cases, floodwater may be contaminated with raw sewage. Groundwater contaminated with floodwater may lead to increases in turbidity (cloudiness) and possibly a rise in bacteria.
- In addition to the above, if the floodwaters rise around the well casing, they may cause problems with the electrical system that powers the pump. They may also damage the grouting around the casing, allowing floodwaters to directly impact the groundwater.
- If floodwaters overtopped the well casing, they may compromise the sanitary seal on the wellhead and flow down the casing itself. Sand and debris may damage the well pump and other internal components of the well.
- EPA guidance on flood-impacted wells, including disinfection and testing:
 - <http://water.epa.gov/drink/info/well/whatdo.cfm>
 - <https://www.epa.gov/privatewells/what-do-your-private-well-after-flood>
- Colorado Department of Public Health and Environment water testing information:
 - <https://www.colorado.gov/pacific/cdphe/drinking-water-private-wells>
 - <https://www.colorado.gov/pacific/coepht/private-well-water-and-your-health>
- Colorado Department of Public Health and Environment List of Safe Drinking Water Labs:
 - <https://www.colorado.gov/pacific/cdphe/dwllabs>
- There is a potential for long term groundwater impacts which may require ongoing well disinfection or the use of bottled water. This will not be known until the wells have been repaired, disinfected and water quality tested.
- Jefferson County Public Health (JCPH) does not regulate water wells or the quality of water they produce; well construction and permitting is handled by the Colorado Division of Water Resources (State Engineer's Office). JCPH recommends that water quality meet the Colorado Primary Drinking Water standards, but this is a recommendation only.

SEPTIC SYSTEM ISSUES

- Onsite wastewater treatment (septic) systems can be damaged by floodwater or rendered temporarily inoperable due to saturated groundwater conditions.
- Scouring floodwaters have the potential to physically damage septic systems by exposing underground components such as the septic tank or leaching field. Tanks may float and be carried away; leaching beds may be eroded away by floodwaters. In either case, large numbers of bacteria may be released. Damage such as this should be immediately apparent after the floodwaters recede. If the property cannot be connected to a public sewer, these systems must be repaired or replaced.
- JCPH regulates the permitting and installation of septic systems. Permits must be obtained when repairing a system.
- Even if the system has not been damaged by floodwaters it may still be impacted by rising groundwater levels that limit the ability of the septic system to function properly. Sewage may not drain properly, causing it to back up into the house, which may then require interior cleaning and disinfection. At a minimum, owners should reduce water use as much as possible to avoid overloading their septic systems. This situation should improve once groundwater levels return to normal, but that may take some time. In the interim, alternate means of wastewater disposal, such as portable chemical toilets, may be needed. When the floodwaters recede and access improves, site inspections of impacted properties should be performed.
- EPA guidance for septic system impacts:
<https://www.epa.gov/ground-water-and-drinking-water/septic-systems-what-do-after-flood>

For more information, visit Jefferson County Public Health at www.jeffco.us/public-health.