

## Addressing Manure Contamination in Residential Wells

*Information about what to do if your well, or a nearby well, is contaminated by manure or agricultural runoff. This fact sheet builds on information provided in the Department of Health Services (DHS) “Manure Contamination of Residential Wells” fact sheet ([www.dhs.wisconsin.gov/publications/p4/p45088.pdf](http://www.dhs.wisconsin.gov/publications/p4/p45088.pdf)).*

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When runoff from fields or other potential sources of contaminants get into the groundwater that supplies your well, you may notice changes in the taste, smell, color, or cloudiness of your water. Even if you don't notice changes, it is still possible that your well could be contaminated. This is why DHS recommends that people test their wells at least once a year for bacteria and nitrate.

### What do I do if I think my well water has been contaminated by manure?

Some common reasons why people become concerned that their well has been contaminated by manure are:

- They notice changes in the quality of the well water, such as changes in taste, color, or smell (like manure).
- They are notified by the local health department, the DNR, or a neighbor about a nearby well that is contaminated.
- They are concerned that the well may have been contaminated by manure but they have not noticed any changes in the quality of the water.

If you are concerned that your well has been contaminated by manure, you should do the following:

- **Important! If you notice changes in the quality of your well water, you should immediately stop using the water for all household uses other than flushing toilets.**
- Test your well for total coliform and *E. coli* bacteria. Contact your local Department of Natural Resources (DNR) office ([www.dnr.wi.gov](http://www.dnr.wi.gov)) or your local health department ([dhs.wisconsin.gov/localhealth/](http://dhs.wisconsin.gov/localhealth/)). They can help you by recommending if there are other water tests you may want to run, based on your situation. For more information on water testing, see the DHS fact sheet “Manure Contamination of Residential Wells” ([www.dhs.wisconsin.gov/publications/p4/p45088.pdf](http://www.dhs.wisconsin.gov/publications/p4/p45088.pdf)).
- Use water from a “known safe source” for drinking and food preparation until you get your water testing results back from the lab. For more information on what a “known safe source” of water is, see the “Use water from a known safe source” section on page two.

### My well test results came back “unsafe,” what should I do?

Contact your local DNR office or your local health department. Depending on your well test results and if changes were noticed in your water quality (for example, changes in taste, color, or smell), they will recommend the ways that your well water can be used safely.

“Do Not Drink” and “Flush Only” advisories are the two most common types of recommendations given to people dealing with contamination of their well. These recommendations are based on how much contamination may be in your well water. These recommendations should be followed until the problem is corrected and testing shows that there are no coliform or *E. coli* bacteria in the well water.

| “Do Not Drink” Advisory  | “Flush-Only” Advisory  |
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| <ul style="list-style-type: none"> <li>• Do not use your water for drinking, food preparation, brushing teeth or washing open cuts or wounds.</li> <li>• Some people (infants, elderly, people with weakened immune systems) should not bathe in the water. Consult your health care provider for individual advice.</li> <li>• Healthy adults can use this water for bathing.*</li> </ul> | <ul style="list-style-type: none"> <li>• Use your water only for flushing toilets.</li> <li>• Do not use your water for drinking, food preparation, bathing, brushing teeth or washing open cuts or wounds.</li> </ul> |

*\*Care should be taken to avoid swallowing water or getting water in the eyes. Consider giving sponge baths to children that aren't infants to keep them from accidentally swallowing the water.*

**You should also do the following:**

- Use water from a “known safe source” for drinking, food preparation, washing uncooked produce (vegetables and fruit), brushing teeth, washing open cuts and wounds, and bathing infants. Examples of water from **known safe sources** are:
  - § Bottled water
  - § Water from wells that are not contaminated, such as water from a friend or family member’s house that is in a different part of town
  - § Water from a municipal system that regularly tests for bacteria and disinfects the water
- Do not use water spigots on refrigerators or other appliances (such as ice makers and soda machines) that use well water.
- Throw out all ice or beverages made with potentially unsafe water.
- Pets can get some of the same diseases as people. It is a good idea to give them drinking water from a “known safe source” as well. For fish or other aquatic pets, consult your veterinarian or local pet store for more advice.
- Wash and sanitize any water storage containers (for example, buckets or gallon jugs) before they are filled with water from a “known safe source.” To do this, follow these steps:
  - § Wash the storage container with dishwashing soap and water and rinse completely with water from a “known safe source.”
  - § Make a “sanitizing solution” by mixing 1 teaspoon (5 milliliters) of unscented liquid household chlorine bleach in one quart (4 cups or 32 ounces) of water.
  - § Add the sanitizing solution to the container.
  - § Cover the container and shake it well so that the sanitizing solution touches all inside surfaces of the container.
  - § Wait at least 30 seconds and then pour the sanitizing solution out of the container.
  - § Let the empty container air-dry before use OR rinse the empty container with water from a “known safe source.”

- How to wash dishes if your well water is contaminated:
  - § In general, household dishwashers are safe to use if the water reaches a final rinse temperature of 150 degrees or more, or if it has a heated dry cycle. If your dishwasher has a “sanitize cycle” setting or has a “NSF/ANSI 184” certification, then the final rinse temperature is 150 degrees or higher. You can also contact the dishwasher manufacturer to find out this information.
  - § Washing dishes by hand is generally okay unless you have noticed any changes in your water’s color, taste, or smell, or if you have been issued a “Flush-Only” Advisory. To wash dishes by hand, do the following:
    - Wash dishes with soap and warm water as you normally would.
    - Rinse with water from a “known safe source.”
    - Make a sanitizing solution by mixing 1 teaspoon of unscented household liquid bleach with 1 gallon of water.
    - Soak dishes in the sanitizing solution for at least 1 minute.
    - Let the dishes air dry completely.
  - § Another option is that you can use disposable dishes and utensils until the problem is fixed. If you have noticed changes in your water’s color, taste, or smell, or you have been issued a “Flush-Only” Advisory, it is safest to only use disposable dishes and utensils.
- Talk to your doctor and call your local health department right away to let them know about your concerns if you or a family member has diarrhea, nausea, vomiting, cramps, or fever that you believe is due to manure contamination of your well.

## How do I correct the problem with my well water?

1. **Disinfect your well:** The full plumbing system should be disinfected. To disinfect your well, contact a licensed well driller or pump installer for help, or you can do it yourself.

For more information, see the DNR brochure “Bacteriological Contamination of Drinking Water” ([dnr.wi.gov/files/PDF/pubs/DG/DG0003.pdf](http://dnr.wi.gov/files/PDF/pubs/DG/DG0003.pdf)).

If you live in the arsenic contamination areas of northeastern Wisconsin, see the DNR brochure “Well Chlorination in Arsenic Sensitive Areas”

([dnr.wi.gov/topic/groundwater/documents/arsenic/wellchlorination.pdf](http://dnr.wi.gov/topic/groundwater/documents/arsenic/wellchlorination.pdf)).

2. **Retest:** After disinfection, wait about a week and retest your well water again for total coliform and *E. coli* bacteria.

3. **Take further action if disinfection doesn’t work:** If your well water still does not test “safe” after disinfection, you should have your well inspected to investigate other possible reasons for the problem. Possible reasons for the problem may include:

- Problems with the structure of the well, which lets surface water get into the well
- Well casing that is not deep enough to keep surface water from getting into the well.
- Continued contamination coming from sources such as nearby leaking septic tanks or improperly abandoned wells.

**Have your well inspected by a licensed well driller or pump installer.** Depending on the results of your well inspection, your local health department or the DNR may have more recommendations. This could include other types of water testing, investigating other possible sources of contamination (such as nearby septic systems), or replacement of the well. If the inspection finds that your well is in poor condition (such as insufficient casing), it means that the well may be at greater risk of contamination in the future.

**You may need to get water from a different source.** If you are going to replace the well, work with a licensed well driller. In some cases, it is possible to connect to another nearby source of safe water (such as a municipal system). The licensed well driller can advise you on options that may work for you.

A replacement well should be carefully constructed with additional casing to better protect your water from possible future problems. Your old well should be properly filled and sealed. This is because an old well that is not filled and sealed can act as a direct link between the surface and groundwater, and put your new well at risk of contamination in the future. You can find more information on this topic at [dnr.wi.gov/topic/wells/fillingsealing.html](http://dnr.wi.gov/topic/wells/fillingsealing.html).

**You may need to install a treatment device.** Sometimes it is not possible to fix an existing well or drill a new well to correct a bacteria problem with the well. If this is the case, then you may want to consider installing a treatment device. You should contact DNR to talk about this since their approval is required before installing a treatment device for bacteria. For more information, contact your local DNR office.

**If your well has had a history of problems with contamination from surface runoff and manure, you should test it more than once per year.**

### **For more information**

For answers to general questions about contamination of residential wells by manure and agricultural runoff, see the DHS fact sheet “Manure Contamination of Residential Wells” (provide link)

For health related questions, contact:

- Your local health department: <https://www.dhs.wisconsin.gov/lh-depts/counties/index.htm>
- The Wisconsin Department of Health Services: 608-266-1120 or [www.dhs.wisconsin.gov](http://www.dhs.wisconsin.gov)

For questions about your well, contact DNR website: [dnr.wi.gov/](http://dnr.wi.gov/), search keyword “wells”

To report a manure spill, contact the DNR Spills Hotline: 1-800-943-0003

For questions about manure management, contact The Department of Agriculture, Trade, and Consumer Protection (DATCP): 608-224-4501 or [http://datcp.wi.gov/Farms/Nutrient\\_Management/index.aspx](http://datcp.wi.gov/Farms/Nutrient_Management/index.aspx)