



# Ottawa County Health Department



**Public Health**  
Prevent. Promote. Protect.

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## AFTER FLOOD CLEAN UP GUIDELINES

The Ottawa County Health Department is providing guidance to residents affected by recent flooding. Possible disease causing contaminants may be present in flood waters causing wells to become contaminated. Contact with flood waters may also be a health hazard.

Persons in contact with flood water should wash hands with soap and disinfected or boiled water before preparing or eating food; after toilet use; after participating in flood cleanup activities and after handling articles contaminated with flood water or sewage.

### TIPS FOR BEGINNING FLOOD CLEAN UP

If your community has been flooded, it is time to begin the cleanup process while assessing the property as well as any flood damage. The following information may act as guidance on where to begin the process of flood cleanup.

1) **FIRST STEP: Call your Insurance Agent**

If your home has suffered damage, call the agent who handles your flood insurance to file a claim. If you are unable to stay in your home, make sure to say where you can be reached.

2) **Take Photos of Damage**

To make filing your claim easier, take photos of any water in the house and save the damaged personal property. If necessary, place these items outside the home. An insurance adjuster will need to see what's been damaged in order to process your claim.

3) **Structural Damage**

Check for structural damage before re-entering your home. DO NOT go in if there is a chance of the building collapsing.

4) **Gas**

Upon re-entering your property, do not use matches, cigarette lighters or other open flames since gas may be trapped inside. If you smell gas or hear hissing, open a window, leave quickly, and call the gas company from a neighbor's home.

5) **Electricity**

Keep power off until an electrician has inspected your system for safety.

6) **Plumbing**

Check for sewage and water line damage. If you suspect damage, avoid using the toilets and the tap and call a plumber.

7) **Food**

Throw away any food that has come into contact with flood waters. This includes any canned good items.

8) Water Quality

If your well has been effected by flood waters, boil water for drinking and food preparation until water supply has been tested safe.

9) Repair

Make sure to follow local building codes and ordinances when rebuilding. Use flood-resistant materials and techniques to protect your property from future flood damage.

## PREVENTING DAMAGE FROM MOLD

Following a flood, conditions in your home may be ripe for an outbreak of mold, one of the most serious sources of damage to your family possessions.

### What is Mold?

Mold, a common term for fungus, attacks organic materials such as paper, books, cloth, photographs, and leather. Mold grows from spores, which are everywhere in our environment. Usually these spores are inactive, but they will germinate when the relative humidity exceeds 70 percent. Temperatures above 65 degrees increase the likelihood of mold growth.

### What does it look like?

Active mold growth is slimy or fuzzy and is usually green, black, orange or purple. Inactive mold is dry and powdery and may be white. In early stages, the mold may look like a fine web; in full bloom it looks bushy. Mold spores spread easily; they are carried by air currents, pets and people.

### What harm can it do?

Active mold "digests" organic materials such as cloth book covers or the cellulose that composes paper. It can also make permanent stains.

### Is mold dangerous to humans?

It can be hazardous to people with respiratory problems. Only a few species are toxic, but many can cause allergic reactions or irritate skin. If you handle moldy materials, work outdoors when possible and wear protective clothing; respirator mask with filter, disposable plastic gloves and clothing you can wash in very hot water or discard. If you are concerned about the toxicity of the mold, your local hospital can refer you to a mycologist.

### How can I stop mold from spreading?

Work fast. Under the right conditions, mold can spread and grow quickly. Lower the humidity and temperature. Remember that mold cannot grow in low relative humidity and low temperature. Open the windows if outside humidity is lower than inside; otherwise, use air conditioning. Install dehumidifiers and empty them often. Isolate any moldy objects. Seal moldy trash in plastic bags and remove them immediately. Objects you can save should be dried or frozen as soon as possible. Freezing inactivates mold. Keep the area clean. Mold may remain on shelves and in cupboards where valuables were kept. Clean these surfaces with a disinfectant such as Lysol, and then increase air circulation in the room. Use fans only after moldy objects are removed and all display and storage areas are clean.

### How can I save moldy possessions?

Air dry them away from other objects. Spread out papers, stand books on end and fan the pages open. Use blotting materials like clean towels or absorbent paper between layers of cloth or paper. Increase air circulation with a fan, but don't aim the fan directly at the objects.

If you can't dry the objects quickly or you have a large quantity, you can freeze books, documents and small textiles until conditions are right to dry them. Do not freeze moldy photographs. Although ultraviolet light can be damaging, brief exposure to sunlight can stop mold growth and aid drying. Exposure should not exceed 30 minutes. Clean the mold only after it is dry and inactive. Very gently wipe or brush away the mold residue. Work outdoors if possible and always wear protective clothing and a respirator. Avoid harsh cleaning products and bleach; they can ruin objects. Never vacuum fragile items. Use a household vacuum cleaner outdoors, since the exhaust will spread mold spores. Be sure display and storage areas are free of mold before you return any clean object to its proper place. Reinspect the objects from time to time for any new mold growth.

Valuable artifacts and photographs should be handled by a professional conservator. If you would like a free referral for a conservator, you may contact the American Institute for Conservation of Historic and Artistic Works, 1717 K Street, NW, Ste. 301, Washington, DC 20036 (202) 452-9328.

## PRECAUTIONS AND SAFETY TIPS

Your home has been flooded. Although flood waters may be down in some areas, many dangers still exist. Here are some things to remember in the days ahead.

- Roads may still be closed because they have been damaged or are covered by water. Barricades have been placed for your protection. If you come upon a barricade or a flooded road, go another way.
- Keep listening to the radio for news about what to do, where to go, or places to avoid.
- Do not allow children to play in flood areas
- Wear rubber boots, rubber gloves, and goggles during cleanup of affected area
- If you must walk or drive in areas that have been flooded beware of the following:
  - Stay on firm ground. Moving water only 6 inches deep can sweep you off your feet. Standing water may be electrically charged from underground or downed power lines.
  - Flooding may have caused familiar places to change. Flood waters often erode roads and walkways. Flood debris may hide animals and broken bottles, and it's also slippery. Avoid walking or driving through it.
  - Play it safe. Additional flooding or flash floods can occur. Listen for local warnings and information. If your car stalls in rapidly rising waters, get out immediately and climb to higher ground.

### Staying Healthy

- A flood can cause emotional and physical stress. You need to look after yourself and your family as you focus on cleanup and repair.
- Rest often and eat well.
- Keep a manageable schedule. Make a list and do jobs one at a time.
- Discuss your concerns with others and seek help. Contact Red Cross for information on emotional support available in your area.

### **RESOURCES FOR HELP**

American Red Cross  
Ottawa County Chapter  
270 James St  
Holland, MI 49424-1826  
Phone: 616-396-6545

- Contact your insurance agent to discuss claims.

- Listen to your radio for information on assistance that may be provided by the state or federal government or other organizations.
- If you hire cleanup or repair contractors, be sure they are qualified to do the job. Be wary of people who drive through neighborhoods offering help in cleaning up or repairing your home. Check references.

## **OTHER CONCERNS ABOUT FLOOD WATERS**

Flood waters may contain fecal material from overflowing sewage systems, and agricultural and industrial byproducts. Although skin contact with flood water does not, by itself, pose a serious health risk, there is some risk of disease from eating or drinking anything contaminated with flood water. If you have any open cuts or sores that will be exposed to flood water, keep them as clean as possible by washing well with soap to control infection. If a wound develops redness, swelling, or drainage, seek immediate medical attention.

In addition, parents need to help children avoid waterborne illness. Do not allow children to play in flood water areas, wash children's hands frequently (always before meals), and do not allow children to play with flood water contaminated toys that have not been disinfected. You can disinfect toys using a solution of one cup of bleach in 5 gallons of water.

## **QUESTIONS?**

Contact the Ottawa County Health Department at (616) 393-5645



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## WELLS, SEPTIC SYSTEMS AND FOOD SAFETY DURING FLOOD EVENTS

The Ottawa County Health Department is providing guidance to residents affected by recent flooding. Do not drink or use water from wells that have been submerged in flood waters. Possible disease causing contaminants may be present in flood waters causing wells to become contaminated. Contact with flood waters may also be a health hazard.

Persons in contact with flood water should wash hands with soap and disinfected or boiled water before preparing or eating food; after toilet use; after participating in flood cleanup activities and after handling articles contaminated with flood water or sewage.

If your well head is surrounded by or covered by water, do not use the water for consumption, cleaning, or cooking until it is tested and approved by the health department. Call the Environmental Health Services for details (616) 393-5645

### DRINKING WATER WELLS

If your home is served by a private well please check well for signs of contamination. If your well has been submerged by flood waters, or is currently surrounded by flood waters, you must assume that the water source is contaminated until proven safe. If your well has been submerged, the Ottawa County Health Department is advising you to purify all water used for drinking, cooking, cleaning kitchen and bathroom surfaces, and washing (eating & cooking utensils, hands, & body). For information on how to purify your water source or on how to obtain uncontaminated water please refer to the Boiling Water Advisory enclosed.

Tips to Remember:

- It is important to note that any person(s) that are exposed or have contact with flood waters should wash as soon as possible using soap and a pure water source.
- Do not use water that has a dark color, an odor, or contains floating material.
- Keep children and pets out of affected area until cleanup has been completed.
- Boil water at a rolling boil for 3 minutes to disinfect or use bottled water.

#### After a Flood Event

Swiftly moving flood water can carry large debris that could loosen well hardware, dislodge well construction materials or distort casing. Coarse sediment in the flood waters could erode pump components. If the well is not tightly capped, sediment and flood water could enter the well and contaminate it. Wells that are more than 10 years old or less than 50 feet deep are likely to be contaminated, even if there is no apparent damage. Floods may cause some wells to collapse.

- Electrical System - After flood waters have receded and the pump and electrical system have dried, do not turn on the equipment until the wiring system has been checked by a qualified electrician, well contractor, or pump contractor. If the pump's control box was submerged during the flood all electrical components must be dry before electrical service can be restored. Get assistance in turning the pump on from a well or pump contractor.
- Pump Operation - All pumps and their electrical components can be damaged by sediment and flood water. The pump including the valves and gears will need to be cleaned of silt and sand. If pumps are not cleaned and properly lubricated they can burn out. Get assistance from a well or pump contractor who will be able to clean, repair or maintain different types of pumps.
- Water Quality - After a flood has occurred in your area you will want to have your water source disinfected and tested to ensure that it is safe to use for cleaning, cooking, washing, and consumption. Licensed well drillers can disinfect your well. Residents may also obtain a test kit from any Ottawa County Health Department location. Call (616) 393-5645 for details.

The Ottawa County Health Department is advising all residents with wells submerged by flood waters to purify all water used for drinking, cooking, and washing eating and cooking utensils. Also, purify the water used for washing hands, body, and kitchen/bathroom surfaces.

Safe purified water for drinking, cooking and personal hygiene includes:

- Bottled Water
- Boiled Water
- Chemically Treated Water

#### Guidelines for Treatment of Water

- Bottled Water
  - ensure that you know the water came from a safe source
- Boiled Water
  - Boil water for 3 minutes at a rolling boil and refrigerate
  - Kills bacteria & parasites
- Chemically Treated Water
  - Unscented Chlorine Bleach:(5.25% sodium hypochlorite) (NOT lemon, sea breeze, or wildflower scents, etc)
  - Clear Water: add 1/8 teaspoon (~0.75 mL) of bleach to 1 gallon of water let stand for 30 minutes
  - Cloudy Water: add ¼ teaspoon (~1.50 mL) of bleach to 1 gallon of water let stand for 30 minutes
  - Chlorine Tablets: purchase at store and follow the directions that are provided
  - Iodine Tablets: purchase at store and follow the directions that are provided

\*NOTE: Water treatment through chemicals will NOT kill parasitic organisms

#### Personal Hygiene

- Hand washing
  - Use treated water and soap to wash your hands
- Brushing your Teeth

- Use treated water ONLY

## SEPTIC SYSTEMS

If your home is served by a private septic system, and your system has been submerged by flood waters, or is currently surrounded by flood waters, you may experience problems with system function.

### During a Flood Event

**Whenever the water table is high or your sewage system is threatened by flooding there is a risk that sewage will back up into your home. The only way to prevent this backup is to relieve pressure on the system by using it less.**

- If possible, don't use the system if the soil is saturated and flooded. The wastewater will not be treated and will become a source of pollution. Conserve water as much as possible while the system restores itself and the water table falls.
- Do not pump your septic tank during a flood event.
- Do not open the septic tank for pumping while the soil is still saturated. Mud and silt may enter the tank and end up in the drainfield damaging it.
- Pumping tank(s) could cause the tank(s) to float out of the ground and may damage the inlet and outlet pipes.
- The best solution is to plug all drains in the basement and drastically reduce water use in the house.
- Locate any electrical or mechanical devices the system may have that could be flooded to avoid contact with them until they are dry and clean.

### After a Flood Event

- Do not use the sewage system until water in the soil absorption field is lower than the water level around the house.
- Have your septic tank professionally inspected and serviced if you suspect damage.
  - Signs of damage include settling or an inability to accept water. Most septic tanks are not damaged by flooding since they are below ground and completely covered. However, septic tanks and pump chambers can fill with silt and debris, and must be professionally cleaned. If the soil absorption field is clogged with silt, a new system may have to be installed.
- Only trained specialists should clean or repair septic tanks because tanks may contain dangerous gases.
- If sewage has backed up into the basement, clean the area and disinfect the floor.
  - Use a chlorine solution of a half cup of chlorine bleach to each gallon of water to disinfect the area thoroughly.
- Pump the septic system as soon as possible after the flood.
  - Be sure to pump both the tank and lift station. This will remove silt and debris that may have washed into the system. Do not pump the tank during flooded or saturated conditions.
- Do not compact the soil over the soil absorption field by driving or operating equipment in the area.
  - Saturated soil is especially susceptible to compaction, which can reduce the soil absorption field's ability to treat wastewater and lead to system failure.
- Examine all electrical connections for damage before restoring electricity.

- Be sure the septic tank's manhole cover is secure and that inspection ports have not been blocked or damaged.
- Check the vegetation over your septic tank and soil absorption field. Repair erosion damage and sod or reseed areas as necessary to provide turf grass cover.

## FOOD SAFETY

Dispose of any spoiled or contaminated food. Contaminated food is any food that came into contact with the flood water. If you are unsure if the food came into contact with flood water it is best to dispose of the food to prevent illness.

- Throw away any food that came into contact with flood water. Undamaged commercially canned foods can be saved
  - Remove the labels
  - Wash cans with purified water
  - Disinfect the cans with a solution of 1 cup of unscented chlorine bleach (5.25% sodium hypochlorite) in 5 gallons of water
  - Relabel the cans with a marker, be sure to include the expiration date
- Food containers with screw-caps, snap-lids, crimped caps, twist caps, flip tops, and home canned foods need to be thrown away because they **CANNOT** be disinfected

### Frozen & Refrigerated Foods

If your refrigerator or freezer will be without power for a long period:

- Seek freezer space at a friend's home or a commercial freezer
- Use dry ice
  - 25lbs of dry ice will keep a 10 cubic foot freezer below freezing for 3 to 4 days
  - Be careful when handling dry ice
- Any food at room temperature for two hours or more should be discarded.
- Any food that has an unusual odor, color, or texture should be discarded
- **When in doubt, throw it out**

### Infant Formula

Use only pre-prepared, canned baby formula that requires no added water, rather than powdered formulas prepared with treated water.

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