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# Flood Recovery Checklists for Farmsteads

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## Farm Buildings

- ❑ Shut off main power to flooded structures prior to entering. Do not turn on the power to a flooded structure until it has been inspected and a licensed electrical contractor or electrical inspector has determined it is safe. Shut off all gas lines, if applicable.
- ❑ Check a building's structural strength. If the building has moved, shifted or twisted, it may not be safe to enter. Check if the roof and walls are straight or bowed. Check the foundation, sill, plate, roof and walls for damage. Look for connections or joints that have separated. If the building has extensive damage, tearing it down and starting with a new building probably will be less expensive than attempting to repair the damaged structure.
- ❑ Keep children and pets away from flooded areas and buildings. Children should not help with clean-up efforts or play in flood water.
- ❑ After the water subsides, clean and dry out the building as much as possible. This can include using a sump pump, mops, brooms and brushes, and fans and/or natural ventilation.
- ❑ Floors probably will be covered with layers of silt and mud. This will need to be removed, and that is easier to do before the mud or silt dries.
- ❑ When the wood is dry, inspect laminated woods, such as plywood, that have been immersed in water to be sure laminations still are bonded together firmly. Check nails to determine whether they are secure.
- ❑ If the building was insulated, the wet insulation must be removed. Floodwaters often will leave absorbent material with a foul odor that is difficult to remove. When checking the insulation, expect it to be wet above the high-water level because of the material's wicking action.
- ❑ If the interior wall sheathing is drywall, it will need to be replaced. Usually the interior sheathing in the out-buildings will be wood, which can be dried. After the sheathing and insulation are removed, inspect the wall studs, sills and plates for structural damage. Damaged components will need to be repaired or replaced.
- ❑ Thoroughly clean milking equipment, grain augers, ventilation fans and other items that were immersed in the floodwaters to remove grit or other contaminants.
- ❑ Clean, dry and lightly oil all metal tools to prevent rusting. Power tools with motors need to be reconditioned by the original manufacturer or its approved representative, or replaced. Floodwaters leave deposits in motors that may cause electrical faults, creating a safety hazard.

## Electrical Equipment

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- ❑ Shut off main power to flooded structures prior to entering. Do not turn on the power to a flooded structure until it has been inspected and a licensed electrical contractor or electrical inspector has determined it is safe. Shut off all gas lines, if applicable.
- ❑ Animals housed in mechanically ventilated buildings may need to be moved to prevent acute exposure to hazardous gases.
- ❑ Inspect wiring and plumbing for damage. All breaker panel boards, breakers, fuses, disconnect switches, controllers, receptacles, switches, light fixtures and electric heaters that have been submerged generally must be replaced. Check with an electrician.
- ❑ All electrical equipment, electric motors and other similar equipment such as appliances that have been submerged need to be reconditioned by the original manufacturer or its approved representative, or replaced. Electrical wiring may require replacement, depending on the type of wire or cable and its use. Splices and terminations must be checked to make sure they comply with the National Electrical Code.

## Water Systems

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- ❑ If you are using a well for your water supply, test the water to determine if it is safe for human or livestock consumption.
- ❑ A well that has been contaminated by floodwaters usually can be cleaned and sanitized. See “Cleaning Flooded Wells” at <https://www.ndsu.edu/agriculture/ag-hub/ag-topics/natural-resources-and-facilities/facilities/cleaning-flooded-wells> for instructions.
- ❑ If you’re using a rural water system, check for breaks or leaks in the supply and distribution pipes. Flushing all your water lines after the flood also is a good idea.

## Flooded or Spilled Pesticides and Fertilizers

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- ❑ If pesticides are flooded, secure the area or building. Survey the flood damage, wearing the appropriate personal protective equipment.
- ❑ If the spill is an emergency and/or is a potential threat to human health or safety call 9-1-1.
- ❑ Report the spill through the North Dakota Unified Spill Reporting System online at [www.spill.nd.gov](http://www.spill.nd.gov) or by calling 833-997-7455 regardless of the size of the spill.

- ❑ When cleaning, treat all surfaces, equipment, containers, water and sludge as if they are contaminated. Avoid skin, eye and inhalation exposure by wearing the appropriate personal protective equipment listed on the pesticide label (if known). If the product is not labeled or if the product label is illegible, wear the protective clothing you would normally wear when applying pesticides. At a minimum, wear a long-sleeved shirt, long pants, shoes and socks, and chemical resistant gloves when handling or loading the products.
- ❑ Damaged pesticides can be disposed of free of charge through Project Safe Send, which is held annually in July at various locations across the state. Dates and locations typically are advertised in June. More specific information, including free, heavy duty plastic bags, may be obtained from the North Dakota Department of Agriculture’s Pesticide Outreach Specialist at 701-425-3016.

## Fuel and Oil Spills

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- ❑ Ventilate to reduce vapors that are combustible and hazardous to your health.
- ❑ Wear rubber gloves, overshoes and a proper respirator because exposure to fuel, oil and chemicals can cause health issues.
- ❑ Report fuel spills through the North Dakota Unified Spill Reporting System online at [www.spill.nd.gov](http://www.spill.nd.gov) or by calling 833-997-7455 and to your insurance company.
- ❑ For cleanup and disposal details, contact the North Dakota Department of Environmental Quality Spill Investigation Program at 701-328-5210.
- ❑ Use absorbent materials to collect the oil or fuel.
- ❑ Discard porous materials that are impossible to clean, by locating a household hazardous waste collection site nearest you:  
<https://deq.nd.gov/WM/HazardousWasteProgram/HouseholdHazardousWaste.aspx>
- ❑ Use products intended for petroleum removal to clean concrete. Structural wood can be cleaned using products specifically designed for petroleum removal, but removing the petroleum product adequately may not be possible if it has soaked into the wood.
- ❑ Remove impacted soil and dispose at a state-approved landfill for treatment or as directed by the North Dakota Department of Environmental Quality, Division of Waste Management.

## Flooded Grain Bins

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- ❑ Electric wiring, controls and fans exposed to water need to be evaluated and possibly reconditioned or replaced. Do not energize wet components. Be sure the power is off before touching any electrical components of flooded systems.
- ❑ Grains swell when wet, so bin damage is likely. Bolts can shear or holes elongate. Look for signs such as stretched caulking seals, misaligned doors or similar structural problems.
- ❑ Salvage wet feed and grain as soon as possible. Both will begin to heat and mold very quickly, leading to spoilage as well as the possibility of spontaneous combustion. Get the wet grain to a dryer quickly if possible. This is the surest way to save wet grain.
- ❑ Safety procedures to enter a grain bin can be found here: <https://www.ndsu.edu/agriculture/ag-hub/publications/caught-in-grain>
- ❑ Unloading from the center sump may not be possible because wet grain likely will not flow. One option is unloading the grain from the top using a pneumatic conveyor or any other means.
- ❑ If the grain depth is only a couple of feet, a natural-air bin drying system with a perforated floor and a high-capacity drying fan should be able to dry the grain. Verify that the air is coming through the grain. Supplemental heat can be used to speed drying, but do not raise the air temperature more than 10 or 15 degrees.
- ❑ Moldy grain creates a human respiratory hazard. Breathing mold spores can cause severe allergic reactions or other health concerns. Wear a mask or respirator approved to remove mold spores. The mask should have an N95 rating or higher.
- ❑ Composting carcasses is an effective management tool that kills pathogens, reduces volume and transforms the animal into a soil amendment.
  - Access the NDSU Extension 4 Easy Steps for Composting Dead Livestock publication for more information:  
<https://www.ndsu.edu/agriculture/ag-hub/publications/4-easy-steps-composting-dead-livestock>
- ❑ Bury a carcass 4 feet above the water table and cover it with 4 feet of fill. Mound the soil to shed water. Areas with sandy or gravelly soil and a shallow groundwater table must not be used for burial sites. Burial sites must be a minimum of 200 horizontal feet from surface water.
- ❑ Incinerating a carcass must be done in an approved incinerator.
- ❑ Dispose of carcasses at an approved municipal solid waste landfill. Contact the North Dakota Department of Environmental Quality, Division of Waste Management for a list of approved landfills. Contact the landfill to determine disposal protocols.

## Containment Pond Management

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- ❑ If a containment pond has an unpermitted release or becomes inundated with floodwaters, producers must call the North Dakota Department of Environmental Quality, Division of Water Quality at 701-328-5210 to report the incident.
- ❑ Monitor containment pond levels to maintain two feet of freeboard and inspect dikes for erosion to prevent a discharge.
- ❑ To maintain the structural integrity of the pond, pump before discharge occurs and apply effluent to cropland or pastureland as soon as the ground thaws. Apply the effluent on level or gentle sloping landscape and avoid surface waters. If you have any issues or questions, contact the NDDEQ Division of Water Quality at 701-328-5210. Permission to pump (permitted release) is required.
- ❑ Access the NDSU Extension Containment Pond Management publication for more information:  
<https://www.ndsu.edu/agriculture/ag-hub/publications/containment-pond-management>

## Livestock Mortalities

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- ❑ Keep good records and document any livestock losses. Losses due to flooding may be eligible for payments through the USDA Farm Service Agency's (FSA) Livestock Indemnity Program. A notice of intent must be submitted to the FSA within 30 days of the event causing the loss. Reach out to your local FSA office for program details and requirements.
- ❑ Carcasses must be disposed of in an approved method within 36 hours of death. Approved methods include rendering, incineration, burial, composting and landfilling. Access the NDSU Extension Animal Carcass Disposal Options publication for more information:  
<https://www.ndsu.edu/agriculture/extension/publications/animal-carcass-disposal-options-rendering-incineration-burial-composting>



## Livestock Care After a Flood

- ❑ Flood conditions can release anthrax spores. If your farm or ranch is in an area with a history of anthrax contact your local veterinarian about vaccinating your livestock.
- ❑ Observe animals for any signs and symptoms of flood related injuries or illness in poultry and livestock. They include lameness, animals off by themselves, or any abnormal behavior. Contact your veterinarian for assistance with management and/or treatment.
- ❑ Animals stranded by floodwaters may be hungry and should be introduced to good quality hay only. Stranded animals on high energy diets that have been off feed due to flood waters must be slowly introduced to high energy rations over a 7-to-10-day period.
- ❑ Clean debris from pens and pastures to reduce the chance of injury to animals and risk of hardware disease from ingesting debris such as nails, wire, fence staples or other metal.
- ❑ If you have a feed mill, grinder-mixer, total mixed ration mixer or forage harvester equipped with a magnet, make sure the magnet is in place and working properly.
- ❑ You may need to move dairy cows to a neighbor's milking unit, use natural instead of mechanical ventilation and feed by hand if your buildings are not usable.
- ❑ Wet feed may mold and/or spoil. Moldy or spoiled feed may be toxic to livestock. We recommend testing flooded feeds to ensure they are safe for consumption. Contact the NDSU Veterinary Diagnostic Laboratory for more information on testing livestock feed at <https://www.vdl.ndsu.edu/> or 701-231-7527.
- ❑ See more in "Caring for Livestock During and After Flooding" <https://www.ndsu.edu/agriculture/ag-hub/caring-livestock-during-and-after-flooding>.

## Crop Fields

- ❑ Wear appropriate personal protective equipment, such as mud boots and waterproof gloves, while clearing debris from fields.
- ❑ Have soil tested before seeding a crop because flooding may have affected soil nutrients.
- ❑ Flooded fields may be slow to dry. Avoid operations on wet soils to prevent ruts and reduce the risk of getting equipment stuck or buried. Limit load weights to reduce soil compaction.
- ❑ Flooded fields may also be exposed to crop pests, such as Soybean Cyst Nematode (SCN) or weed seeds. When walking or using transportation, such as an all-terrain vehicle (ATV) or utility task vehicle (UTV), to remove debris from fields, take time to wash soil clods off your footwear and ATV/UTV. This helps reduce the risk of spreading soil-borne pests and weed seeds from field to field. For more information regarding ATV clean-up and sanitation: <https://www.ndsu.edu/agriculture/ag-hub/publications/between-field-atv-cleanup-and-sanitation>

**For more information, see  
[www.ag.ndsu.edu/flood](http://www.ag.ndsu.edu/flood)**

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