

DRAFT Poultry Producers Guide to Preparing for and Recovering from Hurricanes in the Southeast U.S.

This is a draft of guidance being developed by the USDA SE Climate Hub to help poultry producers prepare for and recover from hurricane damage.

This section will focus on:

- Emergency planning for your poultry farm
- Steps to take before the storm
- Recovery efforts after the storm

I. Pre-Hurricane Planning – Long-term Preparedness

Measures taken to protect managed land from hurricanes expected to come in months or years (i.e., the coming hurricane season and future hurricane seasons)

The Atlantic hurricane season extends from June 1 to November 30 of each year. Hurricanes and tropical storms pose unique and potentially deadly threats to areas in their paths. While human safety is of utmost importance, we have learned valuable lessons from previous hurricanes about the importance of considering animals (pets and farm livestock) in disaster planning. Hurricanes bring a host of potential challenges for commercial poultry farmers. Having a farm emergency plan in place long before hurricane season arrives is not only smart, it also can have a direct effect on your farm's profitability and long-term survival. A farm emergency plan can also save valuable time in a chaotic situation when clear thinking may be difficult because of multiple challenges that all require immediate attention.

Here are some tips for what to consider for your farm emergency plan:

- Include a map of your farm with all buildings and contents. Document emergency escape routes and procedures for each building on your property.
- List who will be responsible for what, and how they'll report fire, flooding, building collapses and other emergencies. Identify procedures to be followed by the people who remain to handle critical operations.
- Document procedures to account for all people and employees after an emergency evacuation.
- Pre-plan salvage operations and include a method of debris disposal and, should it become necessary, mortality disposal. Be aware of what materials the landfill nearest your farm will accept and establish alternatives if needed. Follow any specific procedures for disposal of chemicals or other hazardous materials to meet EPA requirements.
- Develop and maintain a list of all people connected with your farm that should be contacted in an emergency. Be sure to include names and all pertinent contact information. This can include owners, family members, employees, employee family members, suppliers and anyone else who is on your farm on a regular basis.

- Develop and maintain a list of emergency contacts. Include local law enforcement, fire departments, emergency medical responders, gas and electric providers, hospitals and insurance companies, poultry company representatives, feed mill personnel, state Department of Agriculture or Board of Animal Health officials, and local county Extension personnel. Keep copies of your emergency contact list in your home, your office, your glove compartment, with all family members, any key employees and in additional safe locations. The key is to always have an emergency contact list close at hand.
- Establish an inventory system. Know exactly what's on your farm at all times. You will need documentation for insurance purposes.
- Designate a safe location for offsite storage of important documents and records.
- Have a written crisis-management plan and make sure everyone knows their part should it become necessary to engage that plan
- Review your business plan. The worst time to find out that you don't have enough, or the right, insurance to cover your damages is when you need help recovering. Review your insurance policies with your agent on a regular basis to be sure you have adequate coverage for homeowners, vehicles, farm buildings and structures, crops, and flooding.

Documentation is discussed multiple times throughout this guide and its importance cannot be overstated. In addition to documenting the damage after the storm, it is critical to have a documented inventory (photos, videos, and lists) of your house, farm buildings, vehicles, and valuable equipment on your farm BEFORE the disaster occurred. This inventory will be very helpful in filing insurance claims later on. If possible, keep this inventory on your computer and have additional copies offsite away from your home or farm in a safe location.

Always be aware of developing weather conditions. Stay informed and make sure you are comfortable with hurricane terminology and know what to expect based on weather reports and advisories.

Understand the following terminology and categorization of hurricanes:

- **Tropical depression:** A system of clouds and thunderstorms with a defined surface circulation and sustained winds that do not exceed 38 mph.
- **Tropical storm:** A system of clouds and thunderstorms with a defined surface circulation and sustained winds 39-73 mph.
- **Hurricane:** A system of clouds and thunderstorms with a defined surface circulation and sustained winds 74 mph or higher.
- **Storm surge:** An abnormal rise of water pushed ashore by a storm, over and above the predicted astronomical tide. Storm surges, which are often the greatest threat to life and property, are affected by a number of complex factors and can vary in magnitude despite hurricane categories. For example, Hurricane Katrina, a category 3 hurricane, had a storm surge of 28 ft., while Hurricane Charley, a category 4 hurricane, had a storm surge of 6-8 ft.
- **Storm tide:** A combination of storm surge with normal tide, increasing the amount of water (e.g., a 15-foot storm surge with a 2-foot normal tide creates a 17-foot storm tide).
- **Hurricane/tropical storm warning:** Hurricane/tropical storm conditions are expected within 36 hours in specified areas.
- **Hurricane/tropical storm watch:** Hurricane/tropical storm conditions are possible within 48 hours in specified areas. Stay tuned to radio or TV for further information.
- **Short-term watches and warnings:** Provide detailed information about specific threats during hurricanes, such as flash flooding or tornadoes.

Understand the categorization of hurricanes

Categorization is adapted from the Saffir-Simpson Hurricane Wind Scale courtesy of the National Hurricane Center

- **Category 1:** Winds 74-95 mph, 119-153 km/h, very dangerous winds will produce some damage.
 - **Category 2:** Winds 96-110 mph, 154-177 km/h, extremely dangerous winds will cause extensive damage.
 - **Category 3:** Winds 111-129 mph, 178-208 km/h, devastating damage will occur.
 - **Category 4:** Winds 130-156 mph, 209-251 km/h, catastrophic damage will occur, well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls.
 - **Category 5:** Winds exceeding 157 mph, 252 km/h, catastrophic damage will occur, high percentage of framed homes will be destroyed with total roof failure and wall collapse. Category 3, 4, and 5 hurricanes are considered “major hurricanes.”
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II. Pre-hurricane Planning – Short-term Preparedness

Measures taken to prepare for an existing hurricane that is forecast to make landfall in the next week or less

When a Hurricane Is Forecast to Impact Your Area (1 to 7 days before)

The safety of your family and your own personal safety are more important than your farm or your chickens, so first and foremost, take whatever precautions necessary to protect your family and yourself. After that is accomplished, focus on protecting your farm. Once forecasters have put your area in a hurricane’s path, there are a number of precautions poultry growers should take to prepare for the storm. As a poultry grower, you should take the following steps to ensure the safety of your poultry farm:

- Be sure your backup generator(s) will start and run. Fill the fuel tank(s) and any portable fuel storage tanks you may have available. Have several extra filters (particularly fuel filters) available. Your generator(s) may have to run for several days until the power company can restore electrical power so take precautions in event of an extended power loss.
- If you have small chicks that may need supplemental heat, make sure you have adequate propane on the farm. If need be, schedule a propane delivery ahead of the storm.
- Keep your cell phones fully charged. Have rechargeable battery packs or charging cables for your vehicle to maintain communication. Realize texting may be a more valuable form of communication than calling when everyone is trying to talk at once and the system may be overwhelmed.
- Check your feed inventory yourself and call the feed mill if you are low on feed to schedule a delivery ahead of the storm. Do not depend on someone else to do this as your service tech and feed mill personnel will likely have their hands full. You don’t want to fall through the cracks and run out of feed if it can be prevented.
- Make sure drainage ditches and culverts around your chicken houses are free of debris and can carry away the maximum amount of water from near your houses. Flooding is always a concern with hurricanes. It may still occur but do everything possible to prevent it.

- Birds may have to be held on the farm longer than expected if flooding prevents live haul trucks from reaching the farm or processing plants are unable to operate. Expect disruptions to your normal routine and plan accordingly.
 - Make sure everything is nailed down securely. Check on the security of roofing and siding materials and windows and doors to make sure something won't blow open or away during the storm because of lack of proper maintenance.
 - Make sure farm equipment you will need after the storm, such as tractors with front-end loaders or skid-steer loaders, are fully fueled and operational.
 - Make sure any portable fuel storage tanks are full in event of an extended power outage. Fuel may be unavailable if service stations have no power.
 - Make sure your family vehicles are full of fuel. The electricity could be off for several days or even weeks after the storm so plan accordingly.
 - Secure outside objects around your farm – signage, feeder lids stacked outside, tools, etc. – so they don't blow away or become missiles.
 - Visit the bank and have some cash on hand. Merchants without electricity at their place of business will likely be unable to process credit or debit card transactions.
 - Put important documents into waterproof containers and store in a secure location.
 - If operating on generator power, monitor poultry house conditions frequently until electricity is restored. Make sure equipment such as feeders, well pumps, fans, lights, etc. continues to operate properly.
 - Make sure chain saws are in good working condition and stock up on fuel mixture and bar and chain oil. Sharpen the chain ahead of time and keep the saw file and saw wrench close at hand. It is also wise to keep a spare chain on hand, just in case.
 - If trees are down blocking roadways after the storm, carefully clear debris and make roadways around poultry houses accessible to vehicles (feed, chick delivery, and live haul trucks) as soon as it is safe to do so. Avoid downed power lines in or near roadways as these may still be live and represent an electrocution hazard! Think safety first! Treat downed lines as live, whether they are or not.
 - While it is essential to have the previously mentioned crisis management plan in place, it is just as important to remain flexible and be able to rapidly adjust as conditions change to meet the unique situations associated with each natural disaster.
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III. Post-hurricane Recovery

Measures taken to assess and repair damage after a hurricane

Immediately After the Hurricane has Passed

Again, make safety your first priority! Chicken houses and chickens can be replaced; you and your family cannot. Never take unnecessary risks! Never enter collapsed or damaged chicken houses until their structural integrity can be verified. Notify your poultry company and/or your state's Department of Agriculture or Board of Animal Health if you have chickens that are trapped inside collapsed poultry houses and may have to be euthanized. Immediately after a hurricane, poultry farmers will likely face losses or major damage to their homes, farm equipment, poultry houses, and possibly the birds inside those houses. Some farmers may have lost entire flocks, which can amount to hundreds of thousands of birds on farms with 4 or more poultry houses. Even though the poultry company that a farmer contract's with technically owns the birds while they are alive, the birds become the farmer's responsibility if they die on the farm. Therefore, in event of catastrophic flock losses associated with a hurricane, the burden and risks of disposing of all those hundreds of thousands of carcasses in a timely and safe manner falls on individual farmers. Cleanup efforts of this magnitude can be both challenging and expensive.

What to do if you lose birds:

1. **Document everything.** Keep records, take before and after photographs, log the hours you and others work. Document all losses both inside and outside the poultry houses. However, never enter a poultry house or any other building that is structurally unsound and at risk of collapse. Take photographs of damage (you'll need these for insurance claims later on), write down details such as the number of birds lost per house and the total number of carcasses to be disposed of. Keep a log book of the number of hours spent by yourself and others that may assist you and keep any receipts for work done on your behalf. You will need all this information when the time comes to apply for assistance programs such as the Livestock Indemnity Program and others that can help recover some of your losses. [Click here](#) for more information about federal programs available to help with your recovery costs.
2. **Report losses.** As soon as you know the extent of the damage, let your service technician, complex manager, or someone at the company you grow bids for know a reasonable estimation of your losses. Depending on the extent of the wind damage and flooding, it may be days before anyone from your poultry company can get to you. However, knowing the extent of the damage and losses as soon as possible will be critical to coordinating efforts associated with feed deliveries, chick deliveries, and live haul scheduling of flocks nearing harvest age.
3. **Choose an appropriate method for disposal.** There are several options for disposal of catastrophic bird losses depending on the situation and your location. Check with your state's Department of Agriculture or Board of Animal Health (hopefully, well in advance of any hurricane) and know what the options are in your area. Each option has advantages and disadvantages. Options include:
 1. **Composting.** Composting is simple, relatively inexpensive and biosecure. However, in a catastrophic loss situation, it will require a large amount of additional carbon material to mix with the carcasses. Knowing where that carbon source is located and having it on standby ahead of time can be extremely helpful in event it is needed. Composting will likely be the disposal method of choice during a hurricane because of

the high water table in many hurricane-prone areas that will prevent use of other options such as burial.

2. **Burial.** Burial is quick but is not recommended (and may be unlawful) in coastal plain areas or other locations where the water table is high because of the risk of soil and water contamination. Burial site regulations will vary by state but it is likely that the birds will have to be buried a certain distance below the ground, a certain distance above the seasonable high water table, and a certain distance from any wells, streams, or public bodies of water. Again, it is critical to know this information well ahead of time because things will be chaotic after the storm and it may be difficult to retrieve this information then. After the avian influenza outbreak in 2014-2015, some states required poultry growers to develop a catastrophic burial plan as part of their Nutrient Management Plan with the assistance of their local NRCS office. If you have such a plan, keep it handy because you will need it if you need to bury carcasses. If you utilize on-site burial, keep a record of the site and the burial history (how many birds, age, type (broilers, breeders, pullets), date, etc.
3. **Landfill burial.** Some landfills will accept carcasses but others will not. This may be less environmentally risky than some other options but may also be quite expensive. Verify with the landfill ahead of time if they will accept carcasses in event of an emergency and, if so, how many and what conditions may apply.
4. **Incineration.** Incineration is another option and may work well for daily mortality but it has not proven to be very effective in a catastrophic loss situation. It can also be very expensive due to fuel cost in a catastrophic loss situation.
5. **Rendering.** Rendering uses heat to convert carcasses into useful commercial products. Rendering may be a possibility if the rendering plant is operational after the storm, the birds can reach the plant within a timely manner (likely less than 48 hours), and there is not a lot of litter mixed in with the carcasses. However, rendering may be impractical or expensive for large numbers of carcasses. Again, it would be wise to call the rendering plant and know well ahead of time if rendering is an option, the maximum number of birds they would accept at one time, transportation fees, and any other associated costs or restrictions.

Within a Week Following Hurricane Impacts

1. **Again, document damage:** Once the storm has passed, unless there is danger to people, animals or property, take photos or video first and use the chainsaw second. Take photos of damaged crops and property, with notes describing what is in the pictures and where they were taken. Before and after pictures may help emphasize the situation. Many disaster assistance programs will come after the disaster, perhaps even years after the disaster, and a family can only receive assistance for damage that they have documented. For instance, the Emergency Conservation Program can compensate farmers for work they do returning the land to production, but only if the work is documented and if they have gotten authorization from their local USDA office in advance. Download this [Documenting Disaster Losses](#) (PDF) to learn more.
2. **Write everything down:** Get a notebook and keep it with you during the recovery period, writing down what you did, what officials you talked to about disaster programs, and notes from the conversation. If at all possible, have two people involved in the conversation so one can ask questions and the other can take notes. Do not expect yourself to remember everything that was discussed.

3. **Use disaster assistance resources:** [Click here](#) for links to a series of disaster resources.
4. **Take care of yourself during recovery:** Disasters and the recovery period afterward take a toll on human health. Learn about the common stages we, as individuals and communities, go through after a disaster strikes [here](#). Disaster recovery takes a long time and can be very stressful.

Within a Month Following Hurricane Impacts

After many natural disasters that result in widespread damage, additional programs often become available to aid with agricultural losses. These programs are not a guarantee, however, and are generally handled on a case-by-case basis depending on the storm's impact. In addition, these programs require additional processing time for a special appropriation from the U.S. Congress and presidential approval. While a special allocation may not be immediately available, it is important to document losses and to illustrate to your legislators the impact the storm has had on your farming operation. This information will help promote policy decisions and additional allocations that may become available. The U.S. Department of Agriculture (USDA) website for storm-related disaster information can be found at <https://www.usda.gov/topics/disaster/storms>. At that link there is information about Federal Emergency Management Agency (FEMA) aid and other disaster programs. There is also a more direct resource related to agriculture that can be accessed at <https://www.farmers.gov/recover>.

General Tips for Disaster Recovery

Assistance for disaster recovery may not be available until months or years after the disaster occurred. Because of this, it's very important to keep a record of the damages and losses sustained on your farm as well as your cleanup and recovery efforts following the disaster.

Once again, document everything! Before starting clean up, take pictures of all damage and losses. Keep a record of cleanup work and related expenses in a notebook or log.

Communicate early and often: Call the local FSA Office to report any losses or damages. Do this early on and check back in with them throughout the recovery process.

Keep a record of conversations: Keep a running log of what was discussed during conversations with agency contacts either in a notebook or another file. This creates a valuable, 3rd party record of your recovery efforts that may be used later on as documentation for assistance programs.

RAFI-USA Documenting Disasters Video: [bit.ly/Documenting Disasters](http://bit.ly/Documenting_Disasters)

All of the following programs need to be applied for through your local USDA Office unless otherwise stated.

Damage to Buildings or Equipment

Resources for damage to farm buildings, property, and equipment:

FSA Emergency Loans (EM): These low interest loans help producers recover from production and physical losses due to drought and flooding.

USDA fact sheet for EM – [bit.ly/EM florence](http://bit.ly/EM_florence)

Deadline: Applications for emergency loans must be received within eight months of the county's disaster or quarantine designation date.

Damage to Land

Resources to rehabilitate land severely damaged by natural disaster, including fence loss, debris removal, etc.

Emergency Conservation Program (ECP): provides emergency funding for farmers and livestock producers to rehabilitate land severely damaged by natural disasters. The program provides up to 75% reimbursement of costs, 90% for limited resource applicants. A site visit from your local FSA office will be required.

[USDA fact sheet on ECP – bit.ly/ECP Florence](https://bit.ly/ECP_Florence)

Deadline: Varies by incident – check with your local FSA office

Programs to Help with Damages to Litter Sheds

Your local NRCS office should be contacted to check program eligibility

- Emergency Conservation Program – If original structure was built through NRCS, then ECP may be the best fit for structure repairs.
- Environmental Quality Incentive Program (EQIP) – If original structure was built through NRCS, then EQIP may be better fit for a total re-do of the structure.
- If the structure was not originally constructed through NRCS, then it may not be eligible for either ECP or EQIP. However, if the structure requires a complete tear down & re-build, then EQIP may be a good fit. Please check with you local NRCS office for eligibility.
- **The new fiscal year for EQIP begins Oct. 1st.** Applications received between Oct. 1st and Nov. 2nd will be considered for the new fiscal year funding. Applications received after Nov. 2nd will be considered for future funding opportunities, should the opportunity present.
- Applicants should contact their local NRCS office to establish eligibility ASAP.

Summary

Being prepared and having a plan in place for recovery are necessary for poultry farmers living in hurricane-prone regions. Having a farm emergency plan is critical to hurricane preparedness for poultry growers throughout the Gulf Coast, Southeast, and Delmarva areas. However, even a thorough farm emergency plan may not answer all your questions in the storm's aftermath. If you have unanswered questions, you may contact your state's Emergency Management Office. In addition, your local Extension office should be able to help you get in touch with an expert to help pick up the pieces after a storm hits your area.

This draft guidance was developed by subject matter experts from Mississippi State University