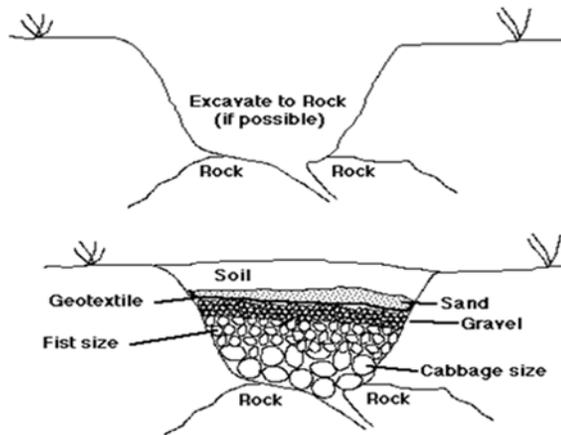


# Filling the Hole

Before you begin repairs, an evaluation needs to be conducted to ensure that utility lines and septic systems are not affected. Contact the Environmental Health Department for help locating your septic system.



A sinkhole is best repaired by excavating to rock then building an aggregate filter in the hole, however, our area has little rock.

1. Excavate the sinkhole down to rock if possible. Remove stumps and debris.
2. Put a layer of large stones in the hole (cabbage size).
3. Put a layer of smaller stones on top (fist size).
4. Put a layer of gravel on top of the small stones.
5. Cover the gravel with a geotextile fabric. This prevents the next layer (sand) from being lost through the gravel.
6. Cover the geotextile fabric with a layer of coarse sand.
7. Fill the remainder of the hole with soil. This can be layered to match the existing soil profile.

Ideally each layer is six inches to two feet thick.

When solid rock is encountered near the surface start with a smaller stone size or use thinner layers. It is important that the bottom layer be larger than the solution channel opening in the bedrock. The objective is to provide an open path for percolating water so that it cannot carry away soil and cause another sinkhole. The repair, as described, also provides good filtration of water.

## If a structure is affected

If your structure is damaged the County will determine if it is safe enough to use. If you are advised not to enter the structure, you should comply.

Your insurance agent will advise you regarding your coverage and options.

Damage to structures will require an expert to evaluate the situation. You may want to contact a company that does foundation repairs.

## Additional Information

### NC Geological Survey

[http://www.geology.enr.state.nc.us/Geologic\\_hazards\\_sink\\_holes\\_karst/sinkholes.htm](http://www.geology.enr.state.nc.us/Geologic_hazards_sink_holes_karst/sinkholes.htm)

### NC Division of Water Resources

[http://www.ncwater.org/Education\\_and\\_Technical\\_Assistance/Ground\\_Water/Sinkholes/](http://www.ncwater.org/Education_and_Technical_Assistance/Ground_Water/Sinkholes/)

# Sinkholes on Agricultural Land



# What do I do if I discover a sinkhole on my farm?

1. Ensure that life and property are safe. If a structure is involved and there appears to be structural damage, vacate the building immediately and stay away until it is examined.
2. Move vehicles and equipment.
3. Secure the area with a fence, rope or tape. Keep children out of the area.
4. Soil in and near an active sinkhole can collapse without warning, so keep a good distance away from the opening. You can be held liable if anyone is hurt on your property, so take proper precautions to secure the area.
5. If a large sinkhole is endangering a home or business contact Onslow County Emergency Management at 910-347-4270.
6. If a sinkhole is endangering a septic system contact Onslow County Environmental Health at 910-938-5851
7. If a sinkhole is in a roadway contact the NC Dept. of Transportation at (910) 341-2000.
8. Contact your insurance company.
9. Document the sinkhole with pictures.
9. For repairs to the sinkhole and any damages to your property - you will need to contact a grading/excavating company, a foundation repair company, or a septic system company depending on what has been impacted.
10. Make sure any company you hire is licensed and insured for the work you are contracting with them for.
11. Do not put-off repairing small sinkholes. Rain and runoff can enlarge sinkholes overnight. They are best dealt with when they are small and manageable.

## Protect the Groundwater

Surface water that enters a sinkhole passes directly into the groundwater with minimal filtration. In addition, waterborne contaminants that enter a sinkhole may be transported at a very high rate of speed, meaning that they enter the groundwater quickly.

- Do not put anything in the sinkhole except for what is advised by experts. A sinkhole is not a dump. The water supply or aquifer you contaminate might be yours!

- Do not apply manure, fertilizer, pesticides or other agricultural chemicals near the sinkhole. If any manure is near the sinkhole, incorporate it into the soil as soon as possible.
- Keep farm animals away from the sinkhole area.

## Vegetative Barriers

Depending on the site conditions, it is advisable to protect 10 to 200 feet around the sinkhole opening. Create a vegetative barrier or berm around the hole. Use dense low-growing plant material like Bermuda or Fescue Grass. This will help keep animals and water out of the sinkhole. It will also help to reduce soil erosion in sinkhole watersheds.



Source: <https://www.wisfarmer.com/story/news/2017/03/14/sinkhole-treatment-groundwater-protection-practice/99160278/>