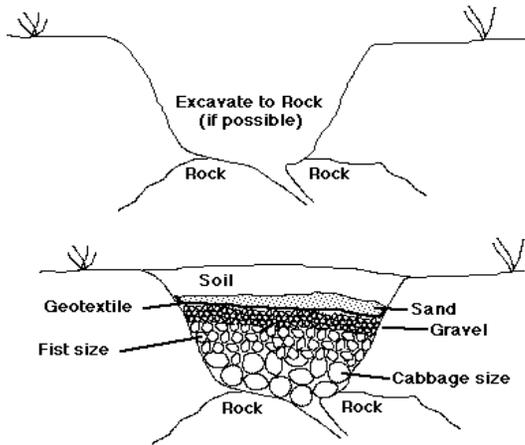


## Filling the Hole

Before you begin repairs, an evaluation needs to be conducted to ensure that utility lines and septic systems are not affected. The Health Department may be able to assist.



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 omit the bottom most layers (that is 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.

The County will determine if the structure 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.

### Where can I get more information on sinkholes?

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/)

Onslow County

Emergency Management: Call during working hours: (910) 347-4270

<http://www.onslowcountync.gov/>

# Sinkholes on Agricultural Land



  
Eastern Carolina Council



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

- **First and foremost:**  
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.
- Move vehicles and equipment.
- Secure the area with a fence, rope or tape. Keep children out of the area.
- Contact the Onslow County Emergency Operations Center during normal business hours at (910)347-4270. They investigate all sinkholes that develop in the county and will further advise you.
- Soil in and near an active sinkhole can collapse without warning, so keep a good distance away from the opening. You will be held liable if anyone is hurt on your property, so take proper precautions to secure the area.
- If a public road is involved, contact the local law enforcement authorities. They will help to secure the area.
- Document with photographs.
- Contact your insurance agent if structures are involved.

- Continue to observe the sinkhole for signs of enlarging, especially toward structures, septic system drain fields, waterlines, wells, buried tanks, and buried utility lines. This can be done by using a thin metal or fiberglass rod that is pushed into the soil. Areas near the sinkhole will offer less resistance to the rod than unaffected soil. Be aware of buried power lines when using a metal rod!

## Protect the Groundwater Supply

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. Don't put animal waste or carcasses of dead animals into the hole. Don't dispose of chemicals, chemical containers, or household trash in the hole. The water supply 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.

- Put a berm around the sinkhole to divert water away from the sinkhole and seed the berm to prevent erosion.

## 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.

