AG. WATER QUALITY ACT

Photo courtesy of DOW

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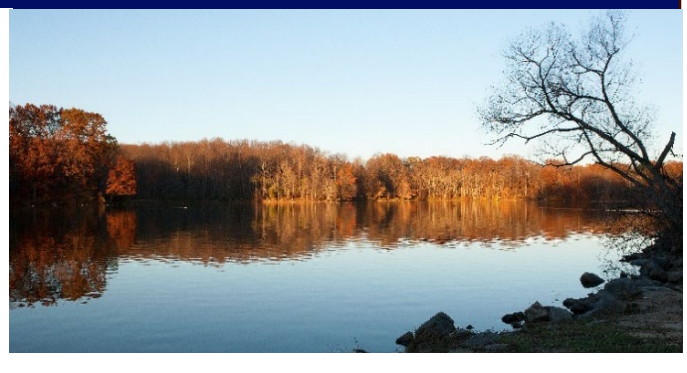

Photo courtesy of USDA ARS

Technical Assistance | Funding Assistance | Important Considerations

KARST FEATURES: SINKHOLES, SINKING STREAMS, AND CAVES

STREAMS & OTHER WATERS BMP #6

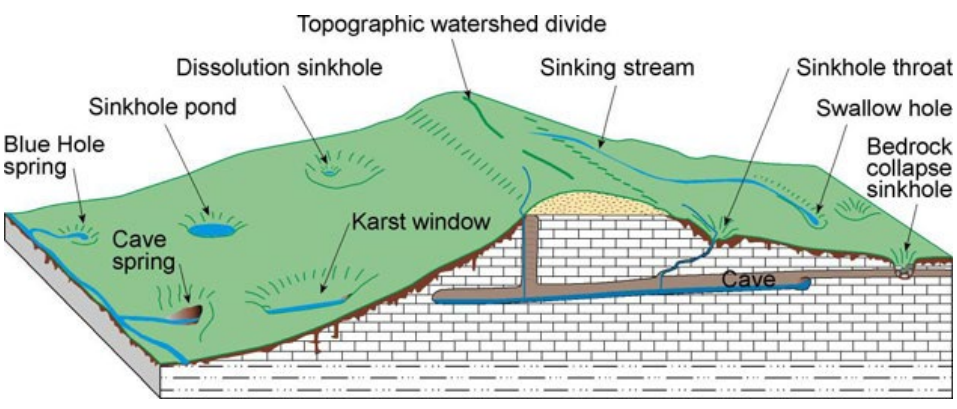

Image courtesy of Kentucky Geological Survey

Description:
Guidelines to manage and protect karst features, including, but not limited to sinkhole depressions, sinking and losing streams, and caves.

AWQA Minimum Requirements:

1. In cropped areas, open throat sinkholes, karst windows, and sinking or losing streams should be protected with a vegetative buffer. Establish and maintain vegetative buffers and rock filter strips used to disperse or prevent concentrated surface runoff from entering open throat swallow holes or swallets. Maintain use of cover crops in late fall and winter to help prevent soil erosion and minimize sediment-laden runoff into sinkholes with open throats. Runoff from feedlots, livestock pens and housing areas, and animal waste storage facilities should be controlled and prevented from directly entering open throat sinkholes, closed depressions, and sinking or losing streams. 2. Erosion and sediment pollution control plans and BMPs must be designed, implemented, and always maintained in effective operating order to prevent violations of state water quality standards (401 KAR 10:031 and KRS 224.70-100). 3. Measures shall be taken to prevent spills of potential contaminants such as fuels, lubricants, and any toxic chemicals directly into sinkholes, into the runoff draining into sinkholes, and into sinking or losing streams. Pesticide and fertilizer storage facilities and above ground and underground fuel storage tanks should be located as far as possible from sinkholes or any areas that contribute directly to the runoff entering sinkholes. 4. No sinkhole should be used as a disposal site for trash, animal carcasses, manure, poultry litter, or other farmstead waste. 5. If sinkholes are filled, any fill materials shall be of such composition that they will not adversely affect the biological, chemical, or physical properties of the receiving waters or cause violations of water quality standards.

Recommendations:
Sinkhole depressions and the areas around them should be routinely inspected for physical changes, including increased erosion and development of new open throats or swallow holes. Sinkhole formation typically increases from late fall through early spring, after dry weather or drought, and after intense rainfall. Construction and maintenance of farm ponds in karst areas may be problematic. Problems that may be encountered include pond leakage or collapse, development of new nearby sinkholes or accelerated development of existing sinkholes, changes in the areas affected by flooding, excess soil saturation, and groundwater seepage. If considering a pond in a karst area, consult with conservation technical assistance specialists.

Technical References

Extension Publication
AEN-109 – Sinkhole Management for Agricultural Producers

State Information
Kentucky Geological Survey Karst Information
Karst Geology Terms
Kentucky is Karst Country

Federal Information
Practice Code 527 – Sinkhole Treatment

Funding Assistance Options

Kentucky Ag. Development Fund (KADB/KAFC)
- Select from available program options here.

NRCS Environmental Quality Incentives Program (EQIP)
- Select from available program options here.

Important Considerations

Water Quality Benefit (💧-💧💧💧💧): 💧💧
(KEY: 💧=good, 💧💧💧💧=best: see PLET interface)