USDA Natural Resources Conservation Service
U.S. DEPARTMENT OF AGRICULTURE

Controlling Ephemeral Gullies

Conservation Practices to Consider

What is an Ephermeral Gully?

Ephemeral gullies are channels that form in natural concentrated flow areas. They are often filled in by annual tillage and form in the same location after additional runoff events.

USDA Program Participants

The Food Security Act of 1985 (Farm Bill) requires USDA program participants who farm fields designated as Highly Erodible Land (HEL) to control sheet and rill erosion and wind erosion to an acceptable level, control all ephemeral gullies, and maintain wetlands. The presence of an ephemeral gully on cropland is a violation of the 1985 Food Security Act and must be addressed to remain compliant and eligible for USDA programs..

Each spring and fall, the Natural Resources Conservation Service (NRCS) conducts compliance reviews on a random selection of highly erodible fields to determine if erosion has been adequately controlled. Non-compliance can affect program benefits.

To learn more about conservation planning assistance, visit the staff at your local NRCS office to improve management for all resource concerns. NRCS staff are available to help you make the best choices to protect your operation and resources.

Conservation Practices

Conservation practices like grassed waterways, critical area planting, cover crops, and no-till can be used together to prevent gully erosion or to address an issue once it has developed. Each practice has limitations as to when and what situation is effective. Size and slope of the watershed are key factors for deciding the practice best suited to control an ephemeral gully.

Grassed Waterways

A shaped or graded channel that is planted to perennial vegetation to convey surface water at a non-erosive velocity using a broad and shallow cross section to a stable outlet.

- Since grassed waterways are incorporated into the landscape, carefully planned farming around them is critical to ensuring longevity and effectiveness to reduce concetrated flow.
- The waterway design incorporates the predicted volume of runoff and velocity.
- Maintenance will be needed to keep water from running alongside the grassed area.
- Plant crop rows into the grassed waterway to ensure runoff enters it. Do not stop planting alongside it.
- Shut the sprayer off before crossing the waterway to maintain good grass cover.
- Limit driving on a wet waterway. Tire tracks can start gullies.

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Critical Area Planting

Establishing permanent vegetation on sites that have, or are expected to have, high erosion rates, and on sites that have physical, chemical, or biological conditions that prevent the establishment of vegetation with normal seeding/planting methods.

- In areas with ephemeral gullies, seed perennial grass in the flow channel of the drainage way.
- Seed with the natural shape of the land.
- Practice is effective for smaller watersheds with a defined channel or draw that can be seeded.
- Controlling larger storm events is a challenge as water may not flow into the critical area planting.

Cover Crops

Grasses, legumes and forbs planted for seasonal cover and other conservation benefits to the soil.

- Plant prior to commercial crop harvest or immediately after harvest and terminate as late as practical.
- Effective in medium to small watersheds when the drainage way is small and flat (not channelized in a ditch).
- Choose species that provide adequate erosion protection and meet other producer objectives.
- Do not till or mechanically harvest the cover crop to maximize surface cover.

No-Till

Growing crops without disturbing the soil from planting through harvest.

- No-till keeps the soil covered, helping to reduce soil erosion.
- No-till is effective in reducing ephemeral gully erosion in small watersheds with relatively wide and flat drainage ways (not channelized in a ditch).
- It takes several years of continuous no-till to be effective in reducing ephemeral gullies.

For More Information

For more information about how to prevent soil erosion or address the issue once it is affecting your property, contact your local NRCS field office. Get contact information at **nrcs.usda.gov/contact/find-a-service-center.**

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