



United States
Department of
Agriculture

Land Trust Roundtable Farm Conservation Practices

Kinder Farm Park

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Helping People Help the Land



**Sheet/Rill
Erosion**



Gully Erosion



Leave previous crop residue on the soil surface by limiting tillage.

- Prevent soil erosion and protects water quality
- Adds organic matter to the soil as it decomposes
- Reduce soil compaction



Cover crops are close-growing crops that temporarily protect the soil when crop residues are not adequate.

- Prevent soil erosion
- Adds organic matter to soil
- Trap nutrients
- Improve soil tilth
- Reduce weed competition
- Provide winter cover for wildlife





Crop rotation is changing the crops grown in a field, usually year by year.

- Reduce soil erosion by rotating higher residue crops with lower residue crops
- Reduce pesticide use by breaking pest cycles
- Provide nutrients when legumes used
- Adds diversity to an operation



Strip Cropping



Growing strips of different crops across a field

- Reduces sheet and rill erosion
- Reduces runoff





Contour farming is farming with row patterns that run nearly level around the hill – not up and down the hill.

- Reduce soil erosion
- Increase water infiltration
- Improve water quality by reducing sediment transport



Grassed waterways are shaped and vegetated to safely convey storm runoff to a stable outlet

- Vegetation filters out sediment
- Prevent gully erosion
- Provide cover for small birds and animals

Maintenance

- Annual mowing to maintain dense vegetation
- May need reconstruction when filled with sediment



Controls the grade and head-cutting in channels

- Stabilizes outlets
- Stabilize channel grades
- Stop head-cuts and advancement of gullies



Establish and maintain permanent vegetative cover

- Protect soil and water resources
- Provide wildlife habitat



Maintenance

- Mowing or burning to maintain herbaceous cover
- Disking and/or over-seeding to maintain vegetative diversity
- Control invasive species



Surface Drainage (Ditches)



**Spinner Ditch
(Temporary)**

Ditch Bank Erosion



A structure to manage the flow, direction, and elevation of water

- Control the amount, rate, and timing of water table drawdown in crop production
- Control runoff from crop fields
- Manage water levels for wildlife
- Improve water quality

Maintenance

- Board removal/replacement
- Check structures for erosion
- Remove debris blocking structures





Filter Strip/Herbaceous Buffer



Strips of grasses, forbs, and legumes that filter or clean runoff and remove contaminants before they reach water bodies or water sources

- Cover and food for wildlife
- Reduce soil erosion and stabilize ditch banks
- Provide setbacks for row crop operations
- Trap sediment and nutrients in runoff

Maintenance

- Mowing/burning to maintain herbaceous cover
- Filter Strips installed to trap sediment may require frequent mowing to maintain dense vegetation
- Buffers for wildlife mowed less frequently and not during primary nesting season (Apr 15-Aug 15)
- Control invasive species



An area of predominantly trees and/or shrubs located adjacent and up-gradient from water bodies

- Reduce pollution in runoff
- Improve habitat
- Provide shade to maintain water temps



Maintenance

- Maintain fences for livestock exclusion
- Remove tree shelters
- Control invasive species
- May require annual mowing for 3 years or more to reduce plant competition

A strip of grasses, forbs, and/or shrubs at the edge of a field

- Reduce sheet and rill erosion
- Filter runoff
- Provides turn area for equipment
- Habitat for wildlife, pollinators, beneficial insects



Maintenance

- Mowed annually or more often when used for turning
- For wildlife habitat, mow no more than once a year and not during nesting season
- Control invasive species



Dense vegetation in a linear arrangement

- Provide wildlife food and cover
- Intercept airborne particulate matter
- Provide visual, odor, and noise barriers
- Delineate or break-up fields
- Reduce erosion due to wind

Maintenance

- Control invasive species
- Replace dead/dying plants



- Manure management
- Erosion control
- Runoff control



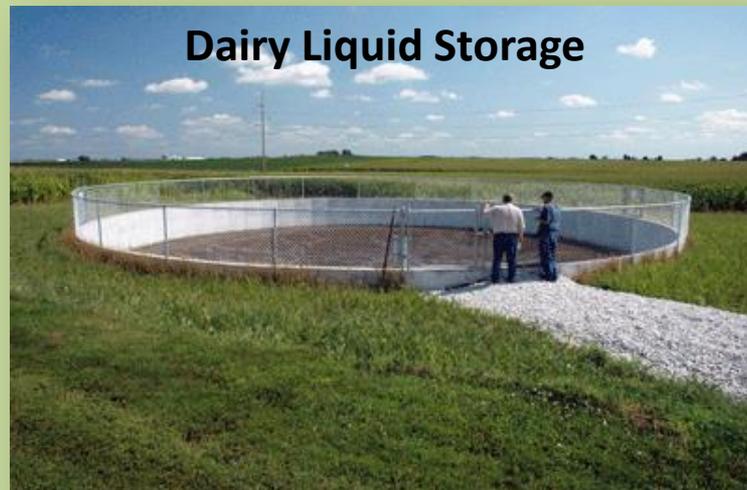
- Temporary storage of livestock manure and waste
- Implemented as part of a waste management system

How it helps...

- Keep waste out of storm runoff
- Facilitate handling and processing

Maintenance

- Variable depending on type of structure and system





Horse Manure Storage

**Beef Manure Storage Combined
with Covered Feeding Area**



Waste Storage Facility



Push Wall

**Push Wall with Manure
Pushed over Top of Wall**



Lined Lagoon



Standing Water in Manure Storage Structure

Stabilization and protection of areas frequently used by people, animals or vehicles

- Reduce and/or eliminate runoff
- Reduce erosion
- Protect water quality
- Facilitate waste management

Maintenance

- Regular cleaning depending on operations and maintenance plan



Heavy Use Area (HUA)



Feeding Structure

Covered Loafing Area



Heavy Use Area



**Crushed Stone HUA
(foreground)**

HUA Protected with Mulch



Animal Mortality Facility



A facility for the treatment or disposal of livestock or poultry carcasses

- Decrease pollution of waters
- Mitigate odors
- Prevent spread of disease



Maintenance

- Proper turning of pile to maintain optimal conditions
- Rotating bins



Not Turning Pile (above)

Seepage from Compost Due to Anaerobic Conditions (left)



Collect, control, and transport roof runoff

- Diverts “clean” water from “dirty” water
- Reduce soil erosion
- Protect structures

Maintenance

- Ensure gutters functioning
- Gutters can be problematic with heavy snow loads

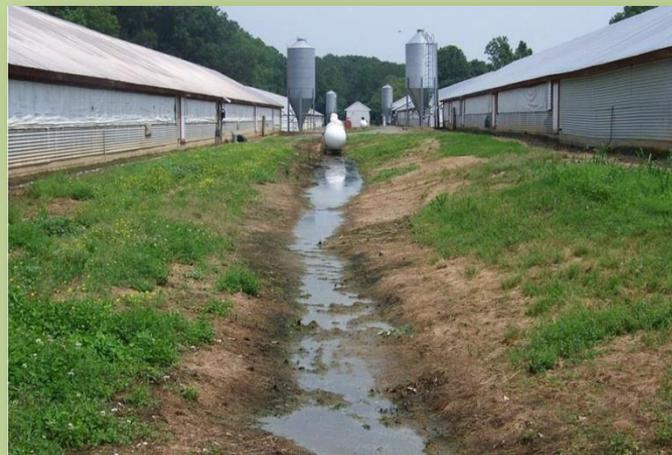


Grass or other vegetation established to stabilize eroding areas

- Reduce soil erosion
- Reduce runoff of sediment, nutrients, and chemicals
- Protect land disturbed by construction
- Provides some wildlife habitat

Maintenance

- May require regular mowing to maintain dense vegetation



**Excellent Maintenance of Critical Area
and Heavy Use Areas**



**Lack of Cover in Critical Area and
Drainage Swale**



Agrichemical Handling Facility



Provides a safe environment for storage and handling of agricultural chemicals

- Reduce contamination of soil and groundwater
- Prevent runoff of chemicals into waterways



System to address needs of livestock while conserving natural resources

Resource Concerns

- Overgrazed, no pasture management
- Eroding pasture and stream banks
- Sediment and manure in runoff
- Stream habitat degradation



- Prevent or control access by domestic animals, people or vehicles to sensitive or hazardous areas
- Manage grazing/pasture resources
- Minimize liability and human health concerns

Maintenance

- Tension on high-tensile fence
- Vegetative growth near electric fence
- Signage and gates near hazardous areas (e.g. lagoons, pits)



Travel ways to facilitate animal movement

- Provide access to forage and water
- Improve grazing efficiency
- Protect areas from erosion

Maintenance

- Typically has a small adjacent vegetated area for runoff
- Fence maintenance



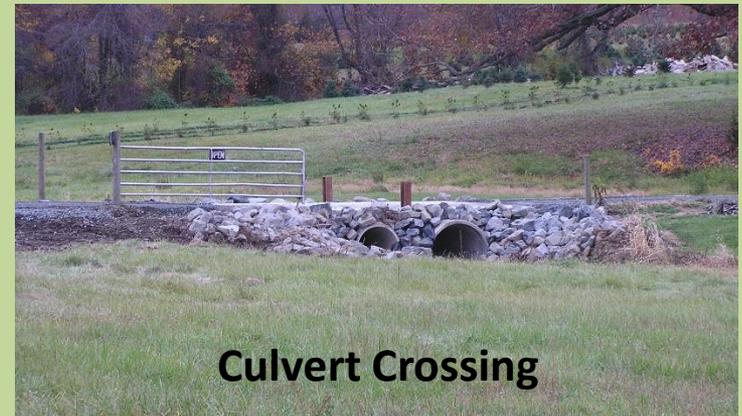
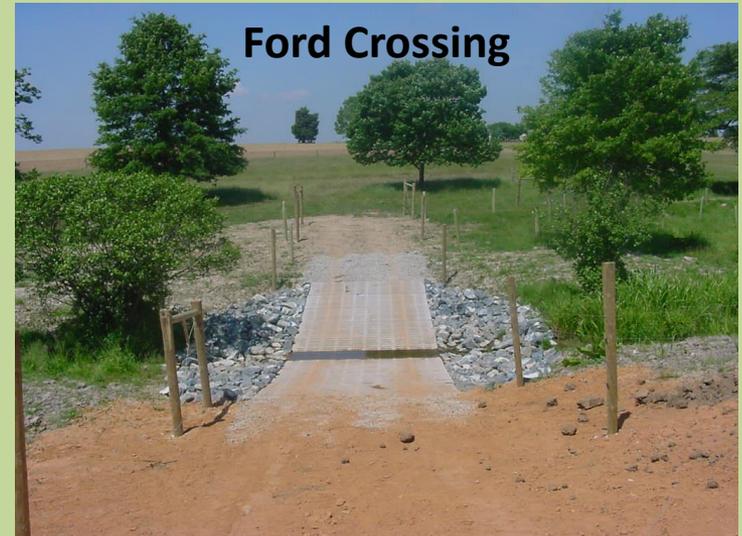
Stabilized area or structure across a stream for people, livestock, equipment, or vehicles

- Reduce pollutant loadings
- Reduce stream erosion
- Provide access for better pasture management

Maintenance

- Fence and gates to restrict access
- Remove debris from culverts and bridges

Note: Culverts should be sized and placed to provide fish passage



Watering Facility



A permanent or portable device to provide water for livestock

- Meet livestock needs
- Improve animal distribution
- Should have a heavy use area pad around it to protect against soil erosion



Managing the harvest of forage with livestock

- Improve or maintain forage quantity and quality
- Reduce erosion
- Reduce runoff and improve water quality
- Manage vegetation communities and habitat



Keys

- Pasture should always have sufficient cover of desirable vegetation
- Animals removed from pasture or paddock when grass grazed to a minimum height

Wetlands and Wildlife



A water impoundment

- Provide water for livestock, fish and wildlife, recreation, fire control, irrigation

Maintenance

- Mow berms and dikes to maintain herbaceous vegetation
- Remove debris from water control structures
- Fence our livestock





Wetland Restoration/Creation



Re-establish or rehabilitate a degraded wetland, or create a wetland where one never existed, to provide wetland functions, values, and habitats





Wetland Restoration/Creation



- Mow berms/dikes to maintain herbaceous cover
- Limited water level management
- Control invasive species
- Check structures for erosion

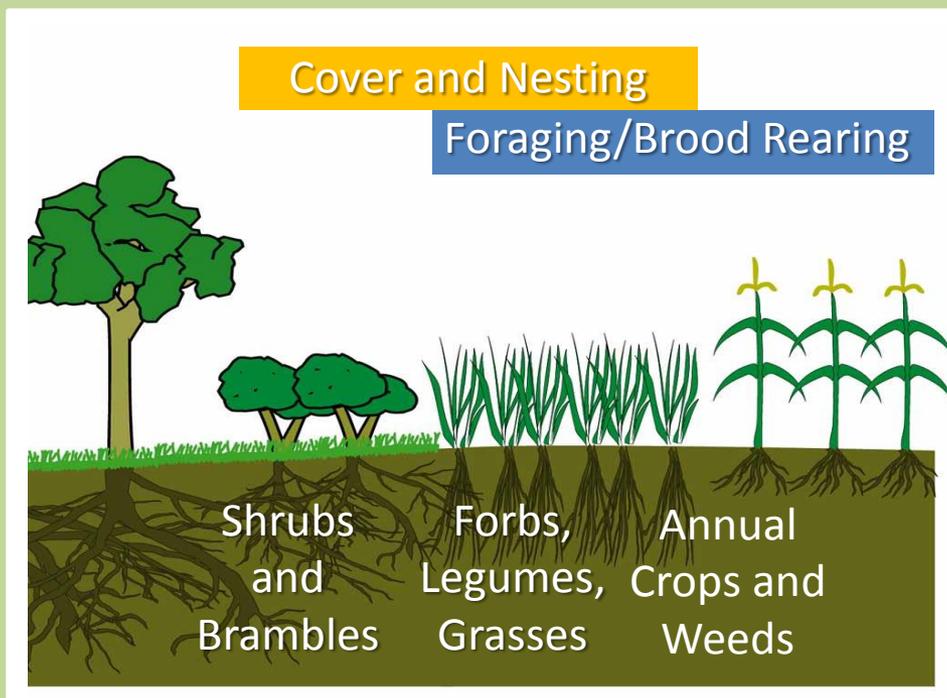


Shallow inundation of land to provide habitat for fish and wildlife

- Manage water level drawdowns for targeted wildlife
- Mow berms to maintain herbaceous cover
- Inspect berms and structures for erosion
- Control invasive species



Manage early plant succession to benefit wildlife or natural communities





Brush Management Herbaceous Weed Control



Removal or reduction of undesirable herbaceous or woody plants

- Maintain/enhance wildlife habitat
- Restore natural plant communities
- Control invasive species and restore desired vegetative cover

Key Requirements

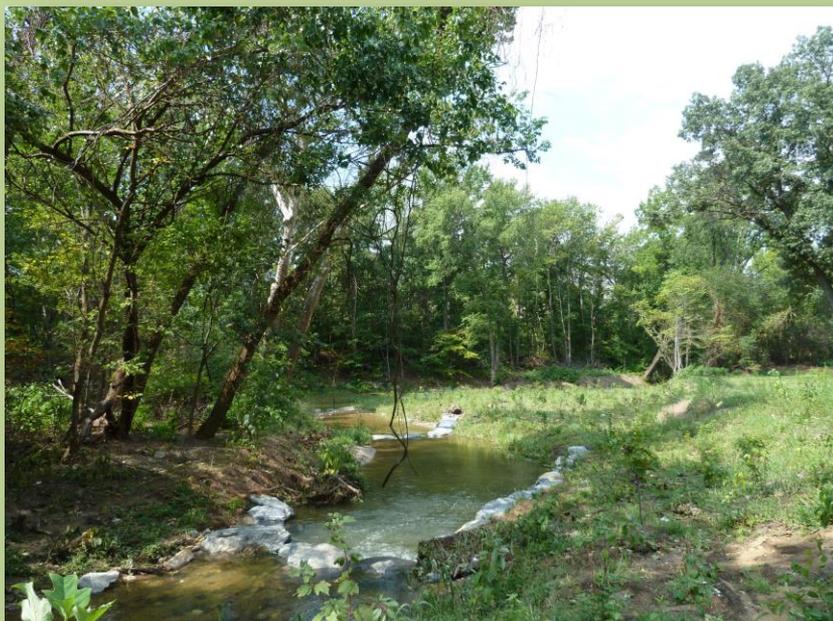
- Must result in establishment of natural or desirable vegetation
- Limited to 3 years of treatment

Stream Restoration

Streambank/Shoreline Protection



- Maintain, improve or restore functions of a stream to meet needs of aquatic species
- Stabilize stream banks and shorelines



Modification or removal of barriers that restrict or impede aquatic organism movement





More Information



NRCS Conservation Practice Standards and supporting information are available on the electronic Field Office Technical Guide at:

http://efotg.sc.egov.usda.gov/efotg_locator.aspx