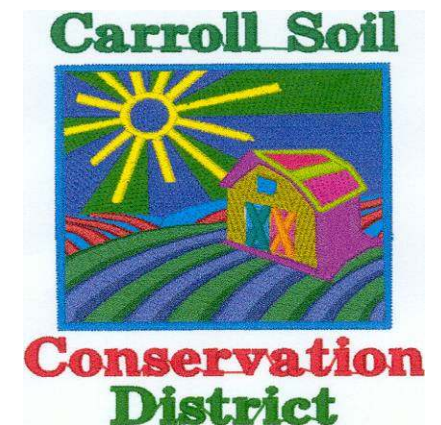


Eric Hines
USDA/NRCS
District Conservationist

CAROLL SOIL
CONSERVATION
DISTRICT



- Sources of Livestock Waste Lost From Farms
- Livestock Conservation Best Management Practices to reduce potential pollution of surface water from livestock
- Federal Farm Bill Conservation Programs

Potential Sources for the Loss of Livestock Waste to Surface Waters on a Farm

- Livestock having access to streams and surface waters
- Inadequate buffers between livestock areas and streams and other surface waters
- Lack of or inadequate Animal Waste Storage
- Manure buildup and runoff from livestock feeding areas and walkways.
- Improper application of manure on crop fields

Conservation BMPs to Help Prevent Pollution From Livestock Waste

- Stream Protection Practices
- Stream Side Buffers
- Waste Storage Facilities
- Heavy Use Area Protection
- Improved Waste Utilization
- Prescribed Grazing



Sources of Potential Pollution From Livestock

Livestock having access to streams and other surface waters



Stream Protection Stream Fencing



Stream Protection

Before



After



Additional Stream Protection BMPs



- Stream Fencing
- Watering Troughs
- Stream Crossings
 - Culverts, Fords, or Bridges
- Stream Side Buffers
 - Riparian Forested Buffers
 - Grass Filter Strips

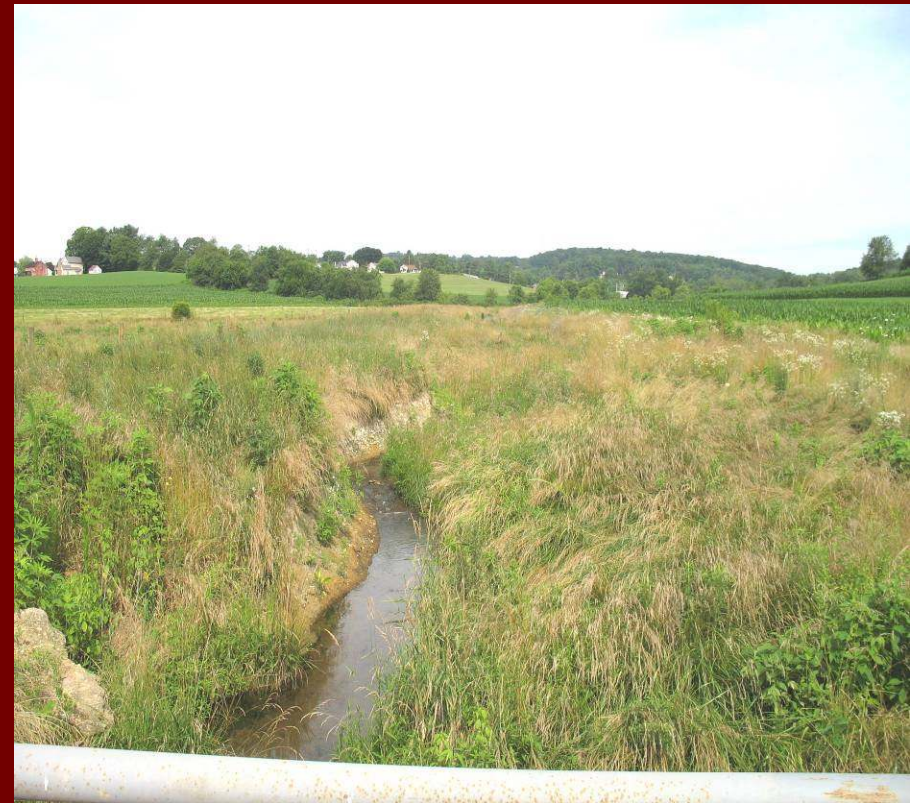


Stream Buffers

Riparian Forest Buffer



Herbaceous Grass Buffer



Lack Proper Animal Waste Storage Facilities



Benefits of Proper Waste Storage

- Helps with Nutrient Retention
- Helps Prevent Potential Loss and Decreases Potential Environmental Impact
- Easier Handling and Application
- Improves Timing of Manure Application

REMEMBER

Manure It Adds Up Quick!

- Lactating Dairy Cow ~ 95lb of Manure a Day
- Dry Dairy Cow ~ 75lbs of Manure a Day
- Beef Cow ~ 64lb of Manure a Day
- Horse ~ 50lb of Manure a Day



Animal Waste Storage Facilities



Unprotected Feeding and Heavy Use Areas



Heavy Use Feeding Areas and Manure Handling Structures



Livestock Walkways



Cattle Walkways



Improved Waste Utilization

- **Application Method**
- **Surface Condition**
- **Timing**
- **Setbacks**



Improved Waste Utilization



Improved Application Methods

- Application with Minimum Till incorporation
- Direct Injection
- Remember:
Incorporation is good, but too much tillage will lead to increased soil erosion



Improved Waste Utilization cont.

■ Timing of Application

- Application of manure as close to the planting date of a crop as possible.
- Weather conditions: avoiding spreading manure on frozen or very wet ground or during periods of excessive rainfall
- Use of Cover Crops

■ Surface Condition

- Surface Residues or a Growing Crop such as hay, pasture or cover crop
- Avoiding application on steep slopes or frequently flooded areas



Setbacks

From Surface Waters for Manure Application

Filter Strips



No Application Zones








Overgrazing

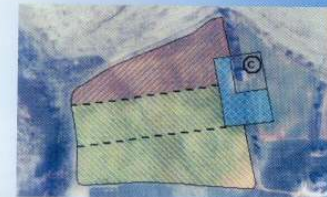


Prescribe Grazing Systems

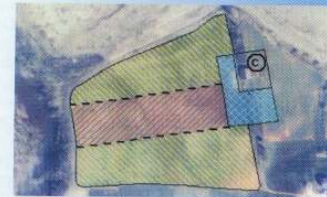


Rotating Pattern Example

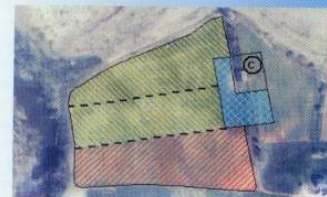
Key:  Grazing  Corral
 Resting (Regrowing)  Fence
 Sacrifice Area



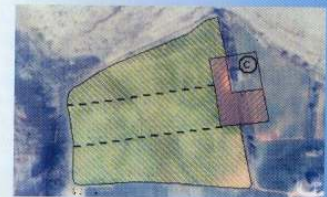
Grazing Paddock 1



Grazing Paddock 2



Grazing Paddock 3



*Bad Weather- Graze this area anytime the pastures are too wet.
Should be the best drained field.*

Federal Conservation Programs

■ Farm Bill Programs

- Help farmers by providing cost share assistance to help farmer install conservation BMPs.
- Usually cost share 50-75% of the cost of the BMP installation
 - **Ex. \$75,000 manure storage facility = \$56K federal dollars and \$19K from the farmer.**

■ Programs

- **EQIP** (Environmental Quality Incentive Program)
- **AMA** (Agricultural Management Assistance)
- **CRP/CREP** (Conservation Reserve Enhancement Program)

Environmental Quality Incentive Program (EQIP) & Agricultural Management Assistance (AMA) Programs



- Focus Primarily on Livestock Producers and Erosion and Crop Management
- Main Federal Program for Animal Waste Storage Facilities, HUAs and Prescribe Grazing Practices, Transition to Organic Production, etc.
- Cost Share up to 75%

Conservation Reserve Enhancement Program (CREP)

- Main Stream and Wetland Buffer Program in Maryland
- Cost shares up to 90% of the cost of buffer installation and associate practices (Stream Fencing, Water Troughs, Stream Crossings)
- Buffer must be at least 35ft wide and can go up to 150ft wide
- Pays a annual rental rate for buffer area (10 to 15 year contracts)
- Farmers is responsible for maintenance and insuring the establishment of buffer area



QUESTIONS?

Stream Protection Plan

%

Water Troughs



Stream Crossings



Streams



