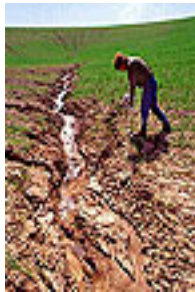


# ENVIRONMENTAL ASSESSMENT: GRAZING MANAGEMENT

## Environmental Benefits of Pasture

The environmental benefits of well-managed pasture include

- reduced soil erosion,
- improved air and water quality,
- better plant diversity, vigor, and production, and
- improved fish and wildlife habitat.



Inadequate cover and erosion  
Photo courtesy of ARS  
NRCS



Eroded stream due to unlimited access  
Photo courtesy of USDA NRCS



Path to maintain bank  
Photo courtesy of USDA

Improving grazing management will result in more grass cover and improved soil structure that will allow a higher percentage of the rainfall to infiltrate the soil, where it can be used for plant growth, rather than running off resulting in soil erosion and sedimentation problems. The ecological processes, including decomposition of manure and increase in a highly managed pasture. Nutrients can then be recycled several times during the growing season. The overall soil quality improves with improved grazing management.

## Water Quality Risk Assessment

The following checklist will help you assess the potential for water quality problems in surface and groundwater on or adjacent to the farm. This checklist was adapted from a similar tool developed by the Florida Cattlemen's Association with funding from United States Environmental Protection Agency. By answering the questions in the checklist, you can identify sources of potential problems, and prioritize areas where action is needed.

Rate the following conditions in your pastures from 1 (low) to 5 (high):

I. Soil Erosion		SCORE
A.	Is there soil erosion or bare areas, due to livestock having access to stream banks?	
	1 <20% of banks have erosion or denuded/bare areas	1
	2 <40% of banks have erosion or denuded/bare areas	2
	3 <60% of banks have erosion or denuded/bare areas	3
	4 <80% of banks have erosion or denuded/bare areas	4
	5 almost all banks have erosion or denuded/bare areas	5
	YOUR SCORE:	
B.	Is there soil erosion from roads that runs into nearby wetlands, lakes or streams?	
	1 Never	1
	2 Only following very large storms (> 2 inches of rain)	2
	3 Usually some erosion following minor storms (> 1 inch of rain)	3
	4 Usually some erosion (plume of sediment) every time it rains	4
	5 Observable delta of sediment into nearby water bodies	5
	YOUR SCORE:	
C.	Have you observed muddy water leaving your property following a storm event?	
	1 Never	1
	2 Only following very large storms (> 2 inches of rain)	2
	3 Usually some turbidity following minor storms (> 1 inch of rain)	3
	4 Usually some turbidity every time it rains	4
	5 Water is always a little turbid, even when it doesn't rain	5
	YOUR SCORE:	
D.	Is there soil erosion and/or bare areas present at discharge site?	
	1 No soil erosion or denuded areas present	1
	2 <20% soil erosion or denuded areas present	2
	3 20-40% soil erosion or denuded areas present	3
	4 >40% erosion or denuded areas present	4
	YOUR SCORE:	
E.	Have excess vegetation and sediment been removed from drainage ditches?	
	0 N/A No drainage ditches	0
	1 Both vegetation and sediment mechanically removed within 5 years	1
	3 Herbicide applied to vegetation and no sediment removed	2
	5 No maintenance of vegetation or sediment with in 5 years	5
	YOUR SCORE:	

**Soil Erosion (Average of all Erosion Scores) \_\_\_\_\_**

If your score averages 2 or less in any category, keep up the good work in that category. If your score averages greater than 2 in any category, you may have a problem which could lead to a violation of water quality standards and should be investigated further.

<u>II. Nutrients</u>		SCORE
A.	Soil and Forage Analysis	
	0 N/A No fertilization practices used	0
	1 Soil analysis is used for pH	1
	1 Soil and/or forage analysis is used as an indicator of plant nutritional needs	1
	5 University or government recommendations not used to determine plant needs	5
	YOUR SCORE:	
B.	Nitrogen fertilization rates are based on:	
	0 No nitrogen fertilizer used	0
	1 Plant needs or university/government recommendations	1
	3 Plant needs, but sometimes extra is applied to guarantee forage quality and quantity	3
	5 No analysis taken	5
	YOUR SCORE:	
C.	Phosphorus fertilization rates are based on:	
	0 No Phosphorus fertilization used	0
	1 Plant needs or university/government recommendations	1
	3 Plant needs, but sometimes extra is applied to guarantee forage quality and quantity	3
	5 No analysis taken	5
	YOUR SCORE:	
D.	Manure Management	
	1 Livestock waste is spread evenly in the pasture by grazing cattle	1
	2 Livestock waste is spread mostly evenly in the pasture by grazing cattle	2
	4 Livestock waste is spread poorly in the pasture by grazing cattle	4
	5 Livestock waste is concentrated in small areas of the pasture such as around supplemental feeding sites and shade near water bodies and ditches	5
	YOUR SCORE:	
E.	Overall nutrient management	
	0 If No fertilization is added	0
	1 Nutrients contributed from organic matter, legumes, and manure are always considered when determining fertilization rates needed to meet plant needs	1
	3 Nutrients contributed from organic matter, legumes, and manure are sometimes considered when determining fertilization rates needed to meet plant needs	3
	5 Nutrients contributed from organic matter, legumes, and manure are not considered when determining fertilization rates needed to meet plant needs	5
	YOUR SCORE:	

**Nutrients (Average of all Nutrient Scores) \_\_\_\_\_**

If your score averages 2 or less in any category, keep up the good work in that category. If your score averages greater than 2 in any category, you may have a problem which could lead to a violation of water quality standards and should be investigated further.

<u>III. Pasture Management</u>		Score
A.	Stocking Rates / Forage utilization	
	0 Stocking rates with abundant and forage excesses and availability	0
	1 Stocking rates forage production meeting grazing needs	1
	3 Stocking rates maybe threatening the sustain ability of forage production during the growing season	3
	5 Stocking rates severely over grazing pastures with no excess forage availability (during growing season / rainy season)	5
	YOUR SCORE:	
B.	Grazing system	
	1 Low density grazing	1
	1 Pastures are subdivided and rotational grazing is practiced	1
	5 Rotational grazing is not practiced	5
	YOUR SCORE:	
C.	Livestock distribution	
	1 Livestock are highly encouraged to move about the pasture by placement of water sources, shade and supplemental feed	1
	2 Livestock are moderately encouraged to move about the pasture by placement of water sources, shade or supplemental feed	2
	4 Livestock are somewhat encouraged to move about the pasture by placement of water sources, shade or supplemental feed	4
	5 Livestock are not encouraged to move about the pasture	5
	YOUR SCORE:	
D.	Livestock Access to Water bodies (water bodies include streams, lakes, and ponds)	
	1 Livestock do not have access to water bodies	1
	2 Livestock only have limited access to water bodies at specific points for crossing and watering, with appropriate soil erosion control measures	2
	2 Livestock have unlimited access to water bodies pasture but at <b>low density grazing</b>	2
	3 Livestock have unlimited access to water bodies but on a rotational grazing scheme	3
	5 Livestock have unlimited access to water bodies at <b>high density grazing</b>	5
	YOUR SCORE:	
E.	Denuded Areas (or bare spots)	
	1 There are no areas of the pasture that are denuded of vegetation	1
	2 The only areas denuded of vegetation are around shade, alternative water sources or supplemental feed areas that are more than 100' away from water bodies	2
	3 There are a few areas denuded of vegetation for less than 30 days that are greater than 50' from water bodies	3
	4 There are a few areas constantly denuded of vegetation that are greater than 50' from water bodies	4
	5 There are constantly denuded areas within 50' of water bodies	5

		YOUR SCORE:	
F.	Buffer Strips		
	1 There's a buffer strip 50' or more wide of good vegetation along all water bodies		1
	2 There's a buffer strip 25' wide along all water bodies		2
	3 There's a buffer strip 10' wide along all water bodies		3
	4 There's a buffer strip 5' wide along all water bodies		4
	5 There's no buffer strip along water bodies		5
		YOUR SCORE:	

**Pasture Management (Average of Pasture Management Scores) \_\_\_\_\_**

If your score averages 2 or less in any category, keep up the good work in that category. If your score averages greater than 2 in any category, you may have a problem which could lead to a violation of water quality standards and should be investigated further.

<u>IV. Concentrated Animal Runoff</u>		Score
A.	If you periodically keep cattle in concentrated areas, such as winter feeding, do you	
	1 Prevent all of the runoff from the concentrated area from reaching streams	1
	2 Route all of the runoff through vegetated filter strips before it gets to streams	2
	3 Collect some of the runoff in ponds or vegetated filter strips before it gets to streams	3
	5 Allow uncontrolled runoff from the concentrated area directly to streams	5
	YOUR SCORE	
B.	Are your cattle feeding areas located within 200' of a stream?	
	0 None of them are located within 200' of a stream.	0
	3 All of them are located within 200' of a stream.	3
	YOUR SCORE:	

**Concentrated Animal Runoff (Average of all scores) \_\_\_\_\_**

If your score averages 2 or less in any category, keep up the good work in that category. If your score averages greater than 2 in any category, you may have a problem which could lead to a violation of water quality standards and should be investigated further.

**Ground Water Risk Assessment**

<b><u>I. Potential Contamination</u></b>		Score
A.	Is there pesticide and fertilizer handling and mixing areas near water wells?	
	1 > 200' from a well	1
	2 within 200' to 150' from a well	2
	3 within 150' to 100' from a well	3
	5 less than 100' from a well	5
	YOUR SCORE:	
B.	Is there fueling and fuel storage areas near water wells?	
	1 > 200' from a well	1
	3 150' to 200' from a well	3
	5 less than 150' from a well	5
	YOUR SCORE:	
C.	Is there feeding areas near water wells?	
	1 > 200' from a well	1
	2 200' to 50' from a well	2
	3 50' to 25 ' from a well	3
	4 25' to 5 feet from a well	4
	5 within 5' or within the pens	5
	YOUR SCORE:	
D.	Are anti-siphon devices attached to the well system?	
	1 All discharge points have backflow preventers	1
	2 All discharge points to water troughs and potential siphoning points have backflow preventers	2
	5 no backflow preventers are on the system	5
	YOUR SCORE:	
E.	Do wells have the ability to be closed?	
	1 All wells have been properly capped, sealed or have control valves and the values are above ground level	1
	2 Wells have been properly capped, sealed or have control valves but at ground or below ground level	2
	4 Only some of the above ground wells have the ability to be closed	4
	5 No wells above or below ground have been closed.	5
	YOUR SCORE:	

**Ground Water Potential Contamination (Average of all scores) \_\_\_\_\_**

If your score averages 2 or less in any category, keep up the good work in that category. If your score averages greater than 2 in any category, you may have a problem which could lead to a violation of water quality standards and should be investigated further.



Stephen Boyles, Ph.D.  
Ohio State Beef Extension Specialist  
[Boyles.4@osu.edu](mailto:Boyles.4@osu.edu)  
Phone: 614-292-7669