United States Department of Agriculture

CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E472A

Manage livestock access to waterbodies to reduce nutrients or pathogens to surface water

Conservation Practice 472: Access Control

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial); Pasture; Range; Forest; Associated Ag Land; Farmstead

RESOURCE CONCERN: Water

ENHANCEMENT LIFE SPAN: 10 years

Enhancement Description

Installation of structures and implementation of grazing management actions that restrict livestock access to waterbodies in order to reduce nutrient loading or reduce the introduction of pathogens from manure, bio-solids, or compost to surface waters.

Criteria

- Manage livestock access to provide positive benefits to surface water quality, resulting in better manure distribution and reduction of nutrient input into surface waters like streams, ditches and other waterbodies.
- Use-regulating activities (e.g., gates, fences, and other barriers) shall be implemented to eliminate livestock access to streams to reduce nutrients in surface water.
- Limit stream access to hardened stream crossings or water access points. Preferably, install alternative water sources away from water courses and waterbodies.
- Implement riparian area grazing management strategies, including herding and seasonal exclusion with a rotational grazing system.

- Activities will complement the application schedule and life span of other practices specified in the conservation plan.
- Livestock activity will be monitored and regulated, and management plans will specify the intent, intensity, amounts, and timing of livestock exclusion access or exclusion from the target water course or waterbody. Activities may involve temporary or permanent livestock exclusion.
- Placement, location, dimensions, materials (e.g., gates), frequency of use (e.g., continuous), and frequency of monitoring shall be described for each activity,.

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Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, obtain a written grazing plan with guidelines and recommendations for matching the forage quantity and quality produced with the grazing and/or browsing demand from a qualified professional.
- ☐ For riparian grazing management strategies, prior to implementation, provide a grazing plan that includes a written narrative describing planned season of livestock grazing use.
- ☐ During implementation, keep pasture/herd in/out records.
- ☐ After implementation, make the following items available for review by NRCS to verify implementation of the enhancement:
  - Written grazing plan
  - Pasture/herd in/out records
  - Map showing locations of installed structures

NRCS will:

- ☐ As needed, provide additional technical assistance to the participant as requested.
- ☐ After implementation, complete forage utilization job sheet for NRCS Conservation Practice Standard Prescribed Grazing (Code 528).
- ☐ After implementation, verify implementation of the written grazing plan by reviewing plan and pasture/herd in/out records kept during enhancement implementation.

NRCS Documentation Review:

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I have reviewed all required participant documentation and determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

_____ _____

NRCS Technical Adequacy Signature Date

ALABAMA – E472A Supplement- Manage livestock access to waterbodies to reduce nutrients or pathogens to surface water

Install fences and manage grazing to restrict livestock access to streams and waterbodies. Applicable for ponds and blue-line streams on the topographic map.

Requirements:

1. Written conservation plan that includes producer goals, objectives and resource concerns. Plan map will show and label all fences, feeding/watering areas, and sensitive areas. Livestock must be restricted from streams.

2. Fences must be constructed according to the NRCS Conservation Practice Standard 382-Fence. Fences may be barbed wire, woven wire, or high-tensile electric depending on the livestock type. Fences should generally be located a minimum of 30 ft. from the streambank so that the existing grass may serve as a vegetated buffer and to allow access on the interior for vegetation management and maintenance issues. Livestock may only be allowed to flash-graze restricted areas on an infrequent basis. Livestock crossings should be limited to existing, stable crossings.

3. Average annual livestock dry matter needs will be balanced with available forage without deficiency for the yearly summary. The Forage/Animal Balance Worksheet will be completed to document.

4. Livestock will be rotated between at least 3 pastures in a particular functional-group (e.g. warm season pastures or cool season pastures) to facilitate prescribed grazing. Fences and water sources should be in place so that trails do not occur and concentrated livestock areas are minimized. Starting and ending grazing periods will meet the guidelines in the table below. Pastures will be sized and stocked to facilitate meeting the requirements for grazing heights and resting periods. It is anticipated that with a three-pasture rotation that each pasture would rest about 66 percent of the grazing cycle. Additional pastures are preferred and will enable more forage rest.

5. A contingency plan will be developed denoting the use of sacrifice areas for pasture management during drought or other weather-related events. These areas will be labeled on the conservation plan map.

6. Manure, biosolids, or compost should be applied according to NRCS Conservation Practice Standard 590-Nutrient Management.

7. Maintain grazing records to include pasture or field number, acres, forage type, animal type and number, forage height in and out-with dates. Records should be submitted quarterly. The Pasture Condition Score may be used to document improvements in grazing management.

Grazing will be managed according to the Prescribed Grazing (528) Standard.
The days of rest needed for plant recovery and regrowth range from 7 to 45 days, depending on the forage species (see below table). Stocking rates and growing conditions can also affect the forage growth. Grazing systems should be designed to meet the rest requirements of a specific forage as well as the needs of the livestock. For example, by using four pastures with 14 days of grazing per pasture, the grazing cycle is 56 days and each pasture rests 75% of the time or 42 days.

FORAGE GUIDELINES FOR PRESCRIBED GRAZING SYSTEMS

Common Forages	Begin Grazing (in)	End Grazing (in)	Usual days of Rest
Alfalfa grazing types	10	4	35 - 40
Bahia grass	6	2	10 - 20
Bermudagrass common	5	2	7 - 10
Bermudagrass hybrid	6	3	7 - 10
Big Bluestem	18	10	30 - 45
Dallis grass	6	3	7 - 15

Eastern Gama grass	15	8	30 - 45
Tall Fescue	6	3	15 - 30
Indiangrass	12	6	30 - 40
Orchard grass	8	3	15 - 30
Switchgrass	18	10	30 - 45

Grazing Management Records

Keeping accurate records is a continual and critical process in effective pasture and livestock management.

Pasture ID		Pasture acres		Forage type			
Soil test date		Lime/ Fertilizer rate		Lime/ Fertilizer type		Date applied	

Livestock		Date in	Forage height	Date out	Forage height	Notes (fertilizer applied)
Type	Number					

Pasture ID		Pasture acres		Forage type			
Soil test date		Lime/ Fertilizer rate		Lime/ Fertilizer type		Date applied	

Livestock		Date in	Forage height	Date out	Forage height	Notes (fertilizer applied)
Type	Number					

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Natural Resources Conservation Service

Pasture Condition Score Sheet

Operator:				**Date:**	
Evaluator:				**Pasture ID:**	
Soil(s), ESD(s) and or FSG(s):				**Livestock type:**	
Current Season's Precipitation (check one)	Above Normal ◦	Normal ◦	Below Normal ◦		
Seasonal Temperature Trend (check one)	Above Normal ◦	Normal ◦	Below Normal ◦		

Evaluate the site and rate each indicator based upon your observations. Scores for each indicator may range from 1 to 5. Sum the indicator scores to determine overall pasture condition score.

Indicator	1 Point	2 Points	3 Points	4 Points	5 Points	Score Points
Percent Desirable Plants* (Dry Weight; for Livestock Type)	Desirable species <20% of stand.	Desirable species 20 – 40% of stand.	Desirable species 41 – 60% of stand.	Desirable species 61 – 80% of stand.	Desirable species exceed 80% of stand.	
Percent Legume by Dry Weight	<5% **OR** >50% bloating legumes.	5-10% legumes **OR** >40% bloating legume.	11-20% legumes.	21-30% legumes.	31-40% legumes. No grass loss; grass may be increasing.	
Live (includes dormant) Plant Cover	Less than 40% is live leaf canopy. Remaining is either dead standing material, or bare ground.	40-65% is live leaf canopy. Remaining is either dead standing material, or bare ground.	66-80% live leaf canopy. Remaining is either dead standing material, or bare ground.	81-95% live leaf canopy. Remaining is either dead standing material, or bare ground.	More than 95% live (non-dormant) leaf canopy. Remaining is either dead standing material, or bare ground.	
Plant Diversity by Dry Weight (*See footnote at bottom of page)	**Diversity:** Very low	**Diversity**: Low	**Diversity:** Moderate	**Diversity:** High	**Diversity:** Very high	
	<50% desirable species **OR** 1 dominant desirable species in 1functional group **OR** No dominant desirable species and all minor species in each functional group totaling <15%	2 dominant desirable species in 1functional group **OR** 2 functional groups each represented by minor speciestotaling ≥15%	3 dominant desirable species in 1functional group **OR** 2-3 dominant desirable species in 2 functional groups **OR** 3 functional groups each represented by minor speciestotaling ≥15%	4 dominant desirable species in 2functional groups **OR** 3 dominant desirable species in 3functional groups **OR** 3 dominant desirable species in 2functional groups **AND** 1 additional functional group represented by minor species totaling ≥15%	4 dominant desirable species in 3functional groups **OR** 4 dominant desirable species in 2functional groups **AND** 1 additional functional group represented by minor species totaling ≥15%	
Plant Residue and Litter as Soil Cover (*Pull back canopy*)	Bare soil is very easily seen;	Openings of bare soil can be seen fairly easily;	Small openings of bare soil can be seen, but minimal;	No bare soil is easily seen;	No bare soil is seen;	
	There is <20% cover on the soil surface or it is excessive, and slow to break down.	Soil cover is 21-40%.	Soil cover is 41-60%.	Soil cover is 61-80%.	Soil cover is >80% with good biological activity and decomposition of older residue.	
Grazing Utilization and Severity	Pasture is overgrazed throughout.	Pasture consists primarily of overgrazed and/or refused areas (former dung areas, older plants, undesired plants).	Pastures show uneven grazing throughout with heavier grazing near water or feeding areas, or distinct zone grazing.	Pasture grazed evenly throughout with minimal overgrazing with some under grazed small areas and heavier use near water sources.	Pasture grazed evenly throughout with no overgrazing.	

*Use NRCS plant list for livestock species. Functional groups are as appropriate for your state (cool-season grasses, legumes, warm-season grasses, non-leguminous forbs). Any time there are more undesirables than desirables, it will be 1 point. Desirable species must total more than 50% of the total biomass. Dominant species are ≥15%. Functional groups must be ≥15% of stand to be counted.

Indicator	1 Point	2 Points	3 Points	4 Points	5 Points	Points

Livestock Concentration Areas (If field <1 acre, see ** footnote)	Livestock concentration areas are within 100 feet of, or are a direct conveyance to surface water, and cover more than 0.1 acre, including trails.	Livestock concentration areas are within 100 feet of, or are a direct conveyance to surface water, and cover less than 0.1 acre, including trails.	Livestock concentration areas are farther than 100 feet from and are not a direct conveyance to surface water, and cover more than 0.1 acre, including trails.	Livestock concentration areas are farther than 100 feet and are not a direct conveyance to surface water, and cover less than 0.1 acre, including trails.	Livestock concentration areas, including trails, not present.	
Soil Compaction and Soil Regenerative Features (***See footnote at bottom of page)	**Compaction:** Dense or thick platy layer very distinct;	**Compaction:** Dense or moderate platy layer noticeable;	**Compaction:** Thin dense or platy layer still present;	**Compaction:** Minor dense or platy layer; good aggregates common (crumbly soil);	**Compaction:** No dense or platy layers; crumbly soil throughout;	
	Roots: Dominantly horizontal; most shallow/sparse;	**Roots:** Numerous horizontal; moderate amount shallow/sparse;	**Roots:** Some horizontal with increasing downward;	**Roots:** Few horizontal, more downward through the soil profile;	**Roots:** Abundant growth primarily downward through the soil profile;	
	Color: Surface horizon same as subsoil;		**Color:** Surface horizon moderately darker than subsoil;		**Color:** Surface horizon dramatically darker than subsoil;	
	Soil Life: Few or no signs.	**Soil Life:** Signs scattered in surface layer.	**Soil Life:** Signs scattered throughout.	**Soil Life:** Signs numerous throughout.	**Soil Life:** Signs abundant throughout.	
Plant Vigor	No plant recovery after grazing/harvest. Pale, yellow or brown, or severe stunting of desirable forage.	Some recovery. Yellowish green forage, or moderately or slight stunting of desirable forage.	Adequate recovery of desirable forage. Yellowish and dark green areas due to manure and urine patches.	Good recovery of desirable forage. Light green and dark green foragepresent.	Rapid recovery of desirable forage. All healthy greenforage.	
Erosion (Circle all that apply; the overall indicator score will be the lowest rating indicated)	**Sheet and Rill:** Plant density is insufficient to stop runoff, with poor infiltration. Erosion easily visible throughout pasture;	**Sheet and Rill:** Plant density slows runoff. Erosion present and easily seen on steeper terrain;	**Sheet and Rill:** Plant density good and runoff moderate. If present, erosion concentrated on heavily used areas;	**Sheet and Rill:** Plant density high, runoff low, good infiltration. May have evidence of past erosion if present;	**Sheet and Rill:** Plant density high, no runoff, good infiltration. No evidence of present or past erosion;	
	Wind: Severescoured areas and deposition throughout;	**Wind:** Scoured areas common, deposition effecting plants;	**Wind:** Occasional scoured areas, litter windrolled;	**Wind:** Minimal soil exposed, some detatched vegetation windrolled, minor plant damage;	**Wind:** No exposed soil;	
	Streambank and/or Shoreline: Banks bare, major sloughing, no bank vegetation;	**Streambank and/or Shoreline:** More than half the bank vegetation trampled; sloughing.	**Streambank and/or Shoreline:** Less than half the bank vegetation trampled; eroding at crossing/entrances.	**Streambank and/or Shoreline:** Eroding at crossings, entrances; all the bank vegetation is intact and banks are stable.	**Streambank and/or Shoreline: V**egetation intact and stable, hardened crossings and alternative water sources used;	
	Gully: Very large mass movement, caving sides.	**Gully:** Advancing upslope, increasing fingering extensions.	**Gully:** Not all active but extensions present.	**Gully:** Stable with vegetative cover.	**Gully:** None, drainage ways vegetative.	

** If field size is less than 1 ac. Use 10% of field size in place of 0.1 acre. ***Use a shovel. Root and Compaction subindicators are primary and should be considered first. Soil color and soil life are secondary subindicators which can be considered where applicable.

Overall Pasture Condition Score	Individual Indicator Score	Management Change Suggested
45 to 50	5	No changes in management needed at this time.
35 to 45	4	Minor changes would enhance, do most beneficial first.
25 to 35	3	Improvements would benefit productivity and/or environment.
15 to 25	2	Needs immediate management changes, high return likely.
10 to 15	1	Major effort required in time, management and expense.

Overall Pasture Condition Score =

Comments/Notes: