Plant Enhancement Activity – PLT02 – Monitoring key grazing areas to improve grazing management

Enhancement Description

Adjust grazing management based on monitoring data. Monitor key grazing areas to determine if current grazing management is meeting management goals and objectives. A key grazing area is a small area of a grazed field that is identified as being representative of the entire field.

Land Use Applicability

Pastureland, rangeland and forestland

Benefits

Proper grazing management will maintain and improve vegetation and soil conditions, improve water quality, and enhance wildlife habitat. Monitoring can be utilized to determine if current grazing management actions are having the desired effect on natural resources. Monitoring enables managers to make decisions and adjust management strategies as needed

Criteria

1. Key grazing areas will be established for each grazed field
2. Each key grazing area will be monitored annually once established
3. Monitoring will include a photo for each pasture of key grazing area and use of one or more of the following techniques:
    a. Rangeland apparent trend
    b. Plant productivity determinations
    c. Measurements of key forage plant heights (before and after grazing)
    d. Locally applicable methods such as those described in the "Monitoring for Grasslands, Shrublands and Savanna Ecosystems http://usda-ars.nmsu.edu/monit_assess/monitoring.php

Documentation Requirements

1. A written grazing plan which meets the CSP eligibility requirements
2. A map showing the location of each key grazing area
3. Photographs from the fixed photo location points
4. Written documentation of the monitoring data collected
5. Written documentation of how monitoring data was used to adjust grazing management plans including modifications and objectives.

Michigan Supplement

Plant Enhancement Activity-PLT02- Monitoring Key Grazing Areas To Improve Grazing Management

Michigan criteria for:

3. a - Use the Pasture Condition Score sheet for the Midwest from Section IV of the eFOTG to document trends.
3. b - Plant productivity can be determined using
    - MI Pasture Stick grid and correlated forage mass per inch per acre
    - Weight of collected clippings from a 1 foot square portion of the key grazing area
3. d - Locally Applicable Method for Michigan is the Step Point Method

Documentation

1. Written Grazing Plan- will meet the criteria for MI NRCS Prescribed Grazing 528 conservation practice standard. Technical Note Grazing # 3 - Designing a Prescribed Grazing System may assist planners in writing a grazing plan.

2. Photo Point
    - For each photo point, at least one close-up and one landscape photo will be needed. Close-up photographs show specific characteristics of an area such as soil surface, ground cover, or litter. Landscape photographs document broad changes in conditions over time.
    - Photographs should be taken at least annually at the same time each year.
    - Brief description of how data was utilized in refining management decisions.

    Photo Point Procedure:

    - Establish the photo point and mark with a brightly painted steel or wooden post.
    - On the data sheet provided, briefly describe the photo point location and why the site was selected.
    - For landscape photographs, record a compass direction to help position the camera for future photographs. If possible, include a landmark in the background or place a second permanent marker about 20 feet away from the photo point marker to line up the photograph.
    - For close-up photographs, lay a frame at the desired location (next to the marking stake or within a few feet of the stake, if the area is disturbed by livestock). Two carpenter rulers can be utilized to create a 3 ft. X 3 ft. square frame. Standing over the frame, take a photograph looking down at the frame. Try to avoid casting a shadow across the frame when taking the photo.
    - Be sure to include a photo ID card that is large enough to be visible in the picture identifying the date, photo point number, and pasture name and/or number.

3. Monitoring Data Collected

- Pasture Condition Score sheet submitted for each year. Try to evaluate the key grazing area at the same time of year annually.
- Plant Productivity Determinations:
  - Pasture stick records will record the date, forage height, the estimated pounds per acre per inch from the MI Pasture Stick and the total forage in pounds per acre calculated by using the multiplication formula on the Pasture Stick.
  - Clipping records will record the date and weight of clippings. It is possible to calculate the amount of dry matter before and after a grazing period using a 1 sq. foot square frame or right angle and a scale or balance.
    - Obtain a lunch sack or baggie to hold forage. Weigh the bag empty. Record the weight.
    - Place square frame or other tool onto forage. Hand-pick all forage in the 1 sq. foot area by clipping or nipping off at 3 inches above the soil surface. Place forage in bag.
    - Weigh forage and bag. Record weight.
    - Subtract empty weight from forage and bag weight. Multiply the new weight by a moisture correction factor of 0.35 (for 35% dry matter.)
    - Multiply the corrected weight calculated above by 96 to convert grams per square foot to pounds per acre. OR multiply by 43560 to convert pounds per square foot to pounds per acre. OR multiply by 2723 to convert ounces per square foot to pounds per acre. Record calculated forage dry matter.
    - Repeat annually to document maintaining or improving wildlife cover.
  - Grazing records will document the date entering a paddock, forage height, date exiting and forage height, any notes on management. The CSP Grazing Record sheet may be used. Duplicate record sheet as needed.
  - Measuring Key Forage Plant Heights
    - Identify and record the key plant species to be monitored. In grazed warm season grass mixed stands, the key species should be Big Bluestem. In cool season grass or mixed grass legume pastures, monitor the plant species that are wildlife friendly.
    - Before the grazing period begins, measure the key forage plant height at several locations in the pasture. Record the average height and date grazing begins.
    - Near the planned end of the grazing period monitor key forage plant heights. When grazed heights reach 4 inches above the soil surface, remove livestock from pasture. Measure key forage heights at several locations in the pasture. Record the average height and date grazing ends.

4. Step Point Monitoring Method

Procedure:

- For each step point transect, at the beginning point, select a point in the distance along the direction utilized in the photo point landscape photo. Every two paces, record the presence or absence of cover at the tip of one boot. When cover is present, record whether the cover is vegetation, rock, or litter. Otherwise, record as bare ground.

- Document the cover at each step point/transect point. An example form is provided.

Step Point Transect Form

Date: _____ Observer: _____

Pasture: _____ Transect ID: _____

Step Number	Cover			Bare Ground	Step Number	Cover			Bare Ground
	Veg.	Rock	Litter			Veg.	Rock	Litter	
1					26				
2					27				
3					28				
4					29				
5					30				
6					31				
7					32				
8					33				
9					34				
10					35				
11					36				
12					37				
13					38				
14					39				
15					40				
16					41				
17					42				
18					43				
19					44				
20					45				
21					46				
22					47				
23					48				
24					49				
25					50				

% Vegetative cover = ____ vegetation points X 2 = _____%

% Rock cover = ____ rock points X 2 = _____%

% Litter cover = ____ litter points X 2 = _____%

% Bare ground cover = ____ bare ground points X 2 = _____%

Photo Point Info Sheet

Pasture Name: _____

Photo Point ID: _____

Observer: _____

Date: _____

GRAZING RECORDS

NAME:				Total Pasture Acres**:**			
Farm or Tract:							
Management Unit		Livestock		Date In	Forage Height Inches	Date Out	Forage Height Inches
Key Forage	Acres	Type	Number				

Notes: