Prescribed Grazing (Acre) (528)

DEFINITION

Managing the harvest of vegetation with grazing *and/or browsing* animals.

PURPOSE

This practice may be applied as a part of conservation management system to achieve one or more of the following:

- Improve or maintain *desired species composition and* vigor of plant communities
- Improve or maintain quality and quantity of forage for *grazing and browsing animals'* health and productivity.
- Improve or maintain *surface and/or subsurface* water quality and quantity.
- *Improve or maintain riparian watershed function.*
- Reduce accelerated soil erosion and maintain or improve soil condition.
- Improve or maintain the quantity and quality of food and/or cover available for wildlife.
- *Manage fine fuel loads to achieve desired conditions.*

CONDITIONS WHERE PRACTICE APPLIES

This practice applies on all lands where grazing *and/or browsing* animals are managed.

CRITERIA

General Criteria Applicable to All Purposes

Removal of herbage will be in accordance with site production limitations, rate of plant growth, the physiological needs of forage plants, *and the nutritional needs of the animals.*

Plants shall be managed by using livestock to have grazing intervals and alternating rest periods for the plants to maintain forage in a vigorous vegetative state at its optimum nutrient value for the animal category. *For specifications, refer to the Prescribed Grazing Conservation Design Sheet.*

Adequate quantity and quality drinking water will be supplied at all times during period of occupancy. Refer to Conservation Practice 614 Watering Facility for specifications on quantity to provide. Grazing distribution and forage utilization is enhanced and trailing is reduced when water is available to livestock within ¼ mile. Placement of water facilities closer than ¼ mile reduces livestock travel distance and further enhances grazing utilization of available forage.

Adjust intensity, frequency, timing and duration of grazing and/or browsing to meet the desired objectives for the plant communities and the associated resources, including the grazing and/or browsing animal.

Manage kind of animal, animal number, grazing distribution, length of grazing and/or browsing periods and timing of use to provide grazed plants sufficient recovery time to meet planned objectives. The recovery period of non-grazing can be provided for the entire year or during the growing season of key plants. Deferment (non-grazing period less than one year) and/or rest (non-grazing period equal or greater than one year) will be planned for critical periods of plant needs.

Provide deferment or rest from grazing or browsing to ensure the success of prescribed fire, brush management, seeding or other conservation practices that cause stress or damage to key plants.

Manage grazing and/or browsing animals to maintain adequate vegetative cover on sensitive areas (i.e. riparian, wetland, habitats of concern, karst areas).

Exclude livestock from any forestland managed for timber or other forest product, wildlife or natural area, or where pasture management is not a primary objective.

Manage livestock movements based on rate of plant growth, available forage, and allowable utilization target.

Develop contingency plans to deal with expected episodic disturbance events e.g. insect infestation, drought, wildfire, etc.

Additional Criteria to Improve or Maintain the Health and Vigor of Plant Communities

Duration and intensity of grazing *and/or browsing* will be based on desired plant health and expected productivity of key forage species to meet management unit objectives.

Adjust grazing periods and/or stocking rates to meet the desired objectives for the plant communities and the associated resources, including the grazing animal.

Schedule livestock movements based on rate of plant growth rate, available forage, and utilization, not calendar dates. Changes in grazing management should be expected since climatic conditions like drought stress or ideal moisture, soil fertility, and competition are among several factors that stop or accelerate the growth rate of a forage species.

Plan periodic *deferment* from grazing *and/or browsing* to maintain or restore the desired plant community following episodic events, such as wildfire or severe drought.

Duration, intensity, frequency, and season of grazing will be applied to enhance nutrient cycling by appropriate manure distribution and nutrient uptake.

Where appropriate, soil test periodically for nutrient status and soil reaction and apply fertilizer and/or soil amendments according to soil test to improve or maintain plant vigor.

Additional Criteria to Improve or Maintain Quantity and Quality of Forage for Livestock Health and Productivity

Plan grazing *and/or browsing* to match forage quantity and quality with the goals of the livestock producer *within the capability of the resource to respond to management.*

Enhance diversity of rangeland and pasture plants to optimize delivery of nutrients to the animals by planning intensity, frequency, timing and duration of grazing and/or browsing.

Plan intensity, frequency, timing and duration of grazing and/or browsing to reduce animal stress and mortality from toxic and poisonous plants.

When drought, heat, or water saturated conditions occur, forage plants will be protected by removing the grazing *and/or browsing* animals from the pasture and into a confined area or sacrifice paddock. A sacrificial paddock should be an area with good resistance to frequent hoof traffic, a slight or no risk of soil erosion, and with low potential of manure runoff having a minimal impact on water quality.

Supplemental feed and/or minerals will be balanced with the forage consumption to meet the desired nutritional level for the kind and class of grazing and/or browsing livestock.

Dietary needs of livestock will be based on the National Resource Council's Nutrient Requirements of Domestic Animals or similar scientific sources with appropriate adjustments made for increased energy demand required by browsing or grazing animals foraging for food including travel to and from pasture site.

Biosecurity safeguards will be in place to prevent the spread of disease between on-farm or ranch classes of livestock and between livestock farm or ranch units.

Shelter in the form of windbreaks, sheds, shade structures, and other protective features will be used where conditions warrant protecting livestock from severe weather, intense heat/humidity, and predators.

Use of a small portion, 10 percent maximum, of woodland for *short term shade or* winter protection may be allowed. However, careful thought must be put into economic considerations of the benefits to herd health versus the economic value of trees being sacrificed as forest health, productivity, wildlife value, regeneration and diversity can be significantly reduced by compaction, trampling, browsing, grazing and other animal actions. This is a temporary solution to be managed as "flash" grazing. *Use only when herd health will not be put at risk due to contact with deer populations.*

See NRCS conservation practice standards Windbreaks and Shelterbelts 380 and 650 along with NRCS Biology Technical Note 16 or Grazing Technical Note 1 Precautions Needed for Livestock Heat Stress, Grazing Technical Note 2 Precautions Needed for Wintering Livestock Outside and Forestry Technical Note 18 Benefits Associated with Feedlot and Livestock Windbreaks.

Additional Criteria to Improve or Maintain Surface and/or Subsurface Water Quality and Quantity

Minimize concentrated livestock areas to enhance nutrient distribution and improve or maintain ground cover.

Plan intensity, frequency, timing and duration of grazing and/or browsing to:

- *Minimize deposition or flow of animal wastes into water bodies,*
- Minimize leaching of nutrients to the groundwater,
- *Minimize animal impacts on stream bank or shoreline stability,*
- *Provide adequate ground cover and plant density to maintain or improve infiltration capacity and reduce runoff,*
- *Provide adequate ground cover and plant density to maintain or improve filtering capacity of the vegetation.*
- *Protect stream banks from erosion and excessive sediment deposition.*

Concentrated water movement creating runoff from a sacrifice paddock where feeding areas and watering areas are stationary must be addressed by appropriate conservation practices. Follow all applicable NRCS conservation practice standards in these situations.

The feeding areas and watering facilities will be moved within the sacrifice paddock if at all possible. If the same sacrifice paddock is used every year, then soil samples will be taken yearly to check for nutrient thresholds according to NRCS conservation practice standard Nutrient Management 590.

Control livestock access to streams, seep areas, wetlands, ponds, and lakes by providing designated watering sites or by creating an alternative watering source or by moving water tanks away from the area of concern. *Refer to NRCS Watering Facility Conservation Practice 614 for specifications.*

Stream crossings and limited access points are acceptable and will be designed to NRCS conservation practice *standards Stream Crossing 578 and Water Facility 614.*

Additional Criteria to Improve or Maintain Riparian and Watershed Function

Minimize concentrated livestock areas to enhance nutrient distribution and improve or maintain ground cover.

Plan intensity, frequency, timing and duration of grazing and/or browsing to:

- *Provide adequate ground cover and plant density to maintain or improve infiltration capacity and reduce runoff,*
- *Provide adequate ground cover and plant density to maintain or improve filtering capacity of the vegetation.*
- *Maintain adequate riparian community structure and function to sustain associated riparian, wetland, floodplain and stream species.*

Grazing riparian areas will be managed so water quality is not impacted negatively. Riparian areas will be managed by only grazing the shoreline or stream bank for a short duration grazing period. *Do not graze riparian areas when the soil is saturated.* This is the NRCS definition of 'flash grazing.' Grazing riparian areas consisting primarily of herbaceous vegetation requires very careful management to assure the site is not overgrazed or damaged from livestock activity. *The minimum rest period for grazed riparian areas is 30 days.*

Additional Criteria to Reduce Soil Erosion and Maintain Soil Condition

Minimize concentrated livestock areas, trailing, and trampling to reduce soil compaction, excess runoff, and erosion.

Plan intensity, frequency, timing and duration of grazing and/or browsing to provide adequate ground cover, litter, and canopy to maintain or improve infiltration and soil condition.

Plan management unit layout and facilitating practice placement to minimize livestock trail erosion. Use Animal Trails and Walkways conservation practice 575 to minimize trail erosion.

Additional Criteria to Improve or Maintain Food and/or Cover for Fish and Wildlife Species of Concern

Indentify species of concern in the objectives of the prescribed grazing plan.

Plan intensity, frequency, timing and duration of grazing and/or browsing to provide for the development and maintenance of the plant structure, density and diversity needed for the desired fish and wildlife species of concern.

Provide rest from grazing during critical nesting and brooding periods. Refer to the Grassland Activity Dates found in section IV of the Michigan NRCS Field Office Technical Guide. Wildlife-friendly grazing plans include resting areas critical for the wildlife of concern, maintaining forage stubble heights of 8 inches, wildlife refuge areas located away from edges and woody cover, haying less than 50% of paddocks according to a wildlife friendly haying plan, a diversity of forage species including both warm and cool season

grasses, and a winter sacrifice area which will be reseeded.

Maintain healthy and vigorous vegetative cover on wildlife lands and permanent easement areas, subject to wildlife pressure beyond producer control. Allowing limited and closely managed grazing of herbaceous vegetation is beneficial to long-term stand quality and diversity.

Additional Criteria for Management of Fine Fuel Load

Plan intensity, frequency, timing and duration of grazing and/or browsing to reduce hazardous fuel loads.

Plan intensity, frequency, timing and duration of grazing and/or browsing to manage fuel continuity, load and other conditions to facilitate prescribed burns.

CONSIDERATIONS

Consider the potential effects of installation and operation of Prescribed Grazing on the cultural, archeological, historic, and economic resources.

Protect soil, water, air, plant and animal resources when locating livestock feeding (including minerals and salt), supplementing, handling (including fly rubs) and watering facilities.

Utilization or stubble height target levels are tools that can be used in conjunction with monitoring to help ensure that resource conservation and producer objectives are met.

When needed, rest areas for a period of time to ensure the success of prescribed fire, brush control, seeding, or other conservation practices.

Evaluate the economics of the forage system and associated infrastructure.

Where practical and beneficial, start the grazing sequence in a different management unit each growing season.

When weeds are a significant problem, prescribed grazing should be implemented in conjunction with other pest management practices *to promote plant community resistance to invasive species and* protect desired plant communities.

Maintain a good fertility (nutrient management) program through soil testing at least every three years and/or plant tissue testing.

If nutrients are being applied, Nutrient Management (590) will be applied.

When grazing operations already exist, the operation shall be improved by the benefits of moving from continuous grazing of one pasture to a prescribed grazing system, or from a rotational system to a managed grazing system.

Livestock feeding, handling, and watering facilities should be designed and installed in a manner to improve and/or maintain animal distribution. These facilities will also be designed and installed to minimize stress, the spread of disease, parasites, contact with harmful organisms, and toxic plants.

Prescribed grazing should consider the needs of other enterprises utilizing the same land, such as wildlife and recreational uses.

Consider improving carbon sequestration in biomass and soils through management of grazing *and /or browsing* to produce the desired results.

Full season grazing needs can be met by utilizing warm season forages, stockpiling cool season forages, or utilizing annually seeded crops. Develop a grazing system that provides forage for as much of the year as possible to minimize supplemental feed cost.

Animal husbandry requirements, which may affect the design of the grazing prescription, will be considered.

PLANS AND SPECIFICATIONS

The prescribed grazing plan shall conform to all applicable federal, state, local, and tribal laws and regulations. Seek measures to avoid adverse affects to endangered, threatened, and candidate species and their habitats. Utilize Michigan conservation sheets, technical notes and spreadsheets.

Prepare a prescribed grazing plan for all planned management units where grazing *and/or browsing* will occur according to state standards and specifications. The plan should be readily understood and useable by the decision-maker in their daily operations. The plan will be flexible for changing forage conditions and revised, as necessary, to meet management needs.

Prescribed Grazing Plan will include:

- Client Goals and Objectives clearly stated.

- *Resource Inventory that identifies:*
  - *Existing resource conditions and concerns*
  - *Ecological site or forage suitability group, as available*
  - *Identifies opportunities to enhance resource conditions*
  - *Location and condition of structural improvements such as fences, water developments, etc, including seasonal availability and quality of watering sites.*

- Forage Inventory of the expected forage quality, quantity, and species in each management unit(s).
- Forage-Animal Balance developed for the grazing plan, which ensures forage produced or available meets forage demand of livestock and/or wildlife of concern.
- Grazing Plan developed for livestock that identifies periods of grazing *and/or browsing, deferment*, rest, and other treatment activities for each management unit.
- Contingency plan developed that details potential problems (i.e., severe drought, flooding, insects) and serves as a guide for adjusting the grazing prescription to ensure resource management and economic feasibility without resource degradation.
- Monitoring plan developed with appropriate records to assess in determining whether the grazing strategy is *resulting in a positive or upward trend and is* meeting objectives.. Identify the key areas and key plants that the manager should evaluate in making grazing management decisions.

OPERATION AND MAINTENANCE

Operation: Prescribed Grazing will be applied on a continuing basis throughout the occupation period of all grazing units.

Adjustments will be made as needed to ensure that the goals and objectives of the prescribed grazing strategy are met.

Maintenance: Monitoring data and grazing records will be used on a regular basis within the prescribed grazing plan to insure that objectives are being met, or to make necessary changes in the prescribed grazing plan to meet objectives.

All facilitating and accelerating practices (e.g., Fence (382), Pest Management (595),Brush Management (314), Pasture Planting (512) (etc.) that are needed to effect adequate grazing distribution as planned by this practice standard will be maintained in good working order and are being operated as intended.

TECHNICAL REFERENCES

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- E2904 - Nutrient Recommendations for Field Crops in Michigan