

NATURAL RESOURCES CONSERVATION SERVICE
MONTANA CONSERVATION PRACTICE STANDARD

PRESCRIBED GRAZING (ACRE)

CODE 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 quantity and quality 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 and 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 to 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.

Adequate quantity and quality drinking water will be supplied at all times during period of occupancy.

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).

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Conservation practice standards are reviewed periodically and updated if needed. To obtain the current version of this standard contact the Natural Resources Conservation Service.

NOTE: This type of font (AaBbCcDdEe 123..) indicates NRCS National Standards.
This type of font (AaBbCcDdEe 123..) indicates Montana Supplement.

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 objectives.

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.

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 Animal Health and Productivity

Plan grazing and/or browsing to match forage quantity and quality goals of the 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.

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 Research 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.

Bio-security 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 to protect livestock from severe weather, intense heat/humidity, and predators.

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 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.

Additional Criteria to Improve or Maintain Riparian and Watershed Function

Minimize concentrated livestock areas to enhance nutrient distribution and improve or maintain ground cover and riparian/floodplain plant community structure and functions.

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.

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.

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

Identify 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.

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.

Additional Criteria to Promote Economic Stability through Grazing Land Sustainability

Evaluate the economics of the forage system and associated infrastructure.

Develop a grazing system that provides sufficient forage quality and quantity for as much of year as possible to minimize supplemental feed cost.

CONSIDERATIONS

Protect soil, water, air, plant and animal resources when locating livestock feeding, supplementing, handling and watering facilities.

Livestock feeding, handling, and watering facilities will 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.

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.

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

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

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.

Promote operator economic stability through the consideration of management needs and objectives, while maintaining the health and vigor of grazing lands.

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

PLANS AND SPECIFICATIONS

The prescribed grazing plan shall conform to all applicable federal, state, **tribal** and local laws. Seek measures to avoid adverse affects to endangered, threatened, and candidate species and their habitats.

Prepare a prescribed grazing plan for all planned management units where grazing and/or browsing will occur according to state standards and specifications.

Prescribed Grazing Plan will include:

- Goals and Objectives clearly stated.

- Resource Inventory that identifies:
 - existing resource conditions and concerns
 - ecological site or forage suitability group
 - 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. **Document the number of domestic livestock (animal kind and class) and the estimated number of foraging wildlife species anticipated within the management unit(s).**
- **Rangeland Health assessment to evaluate three attributes: soil/site stability, hydrologic function and biotic integrity on at least 3 ecological sites. The three ecological sites may be the most common sites on a given ranch, but an assessment may be appropriate on ecological sites that are less common, but have high ecological importance.**
- 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.

Required minimum monitoring items include:

- **Goals and objectives for the ranch and the monitoring plan.**
- **Grazing use records outlining grazing periods and numbers of animals in each grazing unit.**
- **Monitoring method(s) to evaluate the effectiveness of the prescribed grazing strategy over time to meet resource goals – examples could include photographs, cover measurements and/or other acceptable methods or a combination of monitoring methods.**
- **Target and actual utilization records.**
- **Monitoring data will be used to make adjustments to grazing management as needed.**

OPERATION AND MAINTENANCE

Operation. Prescribed Grazing will be applied on a continuing basis throughout the occupation period of all planned 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 (Code 382), Pest Management (Code 595), Brush Management (Code 314), Pasture Planting (Code 512), etc., that are needed to effect adequate grazing and/or browsing distribution as planned by this practice standard will be maintained in good working order and are being operated as intended.

REFERENCES

- Barnes, R.F., D.A. Miller, and C.J. Nelson. 1995. Forages, The Science of Grassland Agriculture, 5th Ed. Iowa State University Press, Ames, IA.
- Bedunah, D. J. and R. E. Sosebee, Editors. 1995. Wildland Plants. Physiological Ecology and Developmental Morphology. Society for Range Management, Denver, CO.

Heitschmidt, R. K. and J. W. Stuth eds. 1991. *Grazing Management an Ecological Perspective*. Timber Press

Hodgson, J. and A.W. Illius. Editors. 1996. *Ecology and Management of Grazing Systems*. CABI, Wellingford, UK.

Holechek, J. L., R. D. Pieper and C. H. Herbel. 2000. *Range management principles and practices*. 5th edition. Prentice Hall, NJ.

Smith, D., R.J. Bula, and R.P. Walgenbach. 1986. *Forage Management* 5th ed. Kendall/Hunt Publ. Co. Dubuque, Iowa.

United States Department of Agriculture, Natural Resources Conservation Service. 1997. *National range and pasture handbook*. Washington, DC.

Vallentine, J.F. 2001. *Grazing management*. Academic Press, San Diego, CA.

Voisin, A. 1959. *Grass productivity*. Philosophical Library, New York.