

Colorado Grazing Land Planning

This document supplements National and State Resource Concerns and Planning Criteria, and provides field offices and planners with general and state specific information of what is needed for grazing land plans. This information provided here is from the following national guidance and should be referenced if the planner needs further guidance, *Chapter 11: Conservation Planning on Grazing Lands (National Range and Pasture Handbook 1997)*, *Grazing Land Conservation Activity Plans (code 110)*, *National Prescribed Grazing Standard*, and *National and State Resource Concerns and Planning Criteria*.

A grazing management plan is a site specific conservation plan developed which addresses one or more resource concerns on land where grazing related activities or practices will be planned and applied.

A grazing management plan will:

- Meet NRCS planning criteria for SWAPAE +H
- Will be developed following principles provided in Chapter 11 of the NRPH
- Comply with federal, state, tribal and local laws, regulations and permit requirements.
- Meet the client's objectives.

Plans on grazing lands do not need to include the entire operation but should include all lands that need to be logically planned and managed together as a management unit, defined as a Conservation Management Unit (CMU). For example on grazed lands, this would include all pastures that are grazed and managed together by a herd or in a rotation.

Goals and Objectives:

After NRCS has assisted the land manager in inventorying the resources, identify all symptoms and the causes of each, and identified all existing and potential problems; the landowner can structure management objectives that are ecologically, economically and socially sound for their individual operation.

Planning Criteria:

We inventory and analyze all identified resource concerns on the land use. There are required assessments for each land use, but almost all of the resource concerns can be found on grazing lands. It is the responsibility of the planner to be familiar with all the resource concerns applicable to the land use. If the resource concern is identified then evaluate accordingly using the appropriate measurement and assessment tool. Use the *National and State Resource Concerns and Planning Criteria* and the *Resource Inventory Assessment Worksheet (optional)* table located in the eFOTG, Section III, Resource Planning Criteria folder.

For Rangeland Minimum Required Planning Criteria*:

Soil Erosion – Sheet, rill, and wind	Degraded Plant Condition – Undesirable plant productivity and health
Soil Erosion – Classic or ephemeral gully	Degraded plant Condition – Inadequate Structure and composition
Soil Erosion – Stream bank erosion	Degraded Plant Condition – Excessive Plant Pest Pressure
Insufficient Water- Inefficient moisture management	Degraded Plant Condition – Wildfire hazard, excess biomass accumulation
Water Quality Degradation – Excessive sediment	Inadequate Habitat for Fish and Wildlife – Habitat Degradation

*Livestock Production Limitation resource concerns – inadequate feed and forage, inadequate livestock shelter and inadequate livestock water must be evaluated when land use is grazed.

For Pastureland Minimum Planning Criteria*:

Soil Erosion – Sheet, rill, and wind	Degraded Plant Condition – Undesirable plant productivity and health
Soil Erosion – Classic or ephemeral gully	Degraded plant Condition – Inadequate Structure and composition
Soil Erosion – Stream bank erosion	Degraded Plant Condition – Excessive Plant Pest Pressure
Insufficient Water- Inefficient use of irrigation water	Degraded Plant Condition – Wildfire hazard, excess biomass accumulation
Water Quality Degradation – Excessive sediment	

*Livestock Production Limitation resource concerns – inadequate feed and forage, inadequate livestock shelter and inadequate livestock water must be evaluated when land use is grazed.

Inventory the Resources Current Conditions

Documenting existing conditions requires a resource inventory that will identify the following:

- Existing resources conditions and concerns, as well as identify potential important resource problems that could be addressed in the plan.
- Identify the ecological site/range sites from soil interpretations and ground truth the actual ecological site/range site location.
- Identify the soils and soil interpretations
- Give site specific assessment of vegetation species, diversity, production and condition by land use and ecological site or soil type for pastureland.
- Identify location and condition of structural improvements (fences, water development, past grazing animal husbandry practices and past land treatments (seeding, brush management, prescribed fire, and herbaceous weed control).

Site Specific Inventory of Vegetation:

Inventory and assessment will include vegetation species, diversity, production and condition by land use and ecological site/range site (as applicable to range). Sampling location will be identified on benchmark resource map. **Minimum will be one per dominant ecological site within the CMU and additional sites as needed based on resource condition, soil variation, pasture management, special key areas, large pasture size etc.**

Considerations for key area placement:

- One per dominant ecological site
- Recommended one per pasture
- Prioritize by placing in an area where management change can typically affect the resource (>1/2 mile from water, avoid excessive slopes etc.)
- Consider placement based on proper documentation of the resource concern and various conditional states of the resource concern – include special consideration areas like riparian areas.
- Consider placement in areas to document past treatments.
- Size, scale and diversity of the pasture and how variation will influence management decisions

On Rangeland the following will be completed:

- Photo and document where inventory was sampled, include date, location and other important information.
- Current Composition and Production –
 - Clipping or ocular – ocular estimation is reserved for experienced planner that has 2 or more years of experience clipping in their work area. All planners will clip if they change location and are not familiar with the plant communities. All experienced planners will recalibrate with clipping at least once per year, during the growing season. It is recommended to recalibrate at various time throughout the growing season, within various plant communities or at the start of every new ranch inventory.
- Interpreting Indicators of Rangeland Health (IIRH) –Qualitative assessment of rangeland ecological processes.
 - Running the quantitative soil site stability slate test is optional. The bottle cap method may be used instead of the full test.
 - All indicators must be evaluated.
- Trend (optional)
- WHEG – use appropriate WHEG by species or by plant community. Consult with local biologist for technical assistance as necessary to determine which WHEG will provide the best information about the quality of habitat that exists on the CMU.
- Other appropriate tools based on planning criteria table as necessary.

On pastureland the following needs to be completed:

- Composition/Production
- **Pasture Score Index**
- Other appropriate tools based on planning criteria table as necessary.

Analysis of the Resource Data

Summarize benchmark conditions of resource concerns for the landowner identifying the location of the resources and the possible reasons the concern exists – this will help develop good conservation goals and determine which resource concerns will be addressed in the chosen conservation plan.

- Summary of Rangeland Health Assessment
- Other planning criteria measurement and evaluation tools (ex. SVAP2, WinPST)

Summarize existing plant community condition/trend/health.

- Composition summary – include Similarity Index
- Current year's estimated production amounts
- Rangeland Health

Discuss with land owner/operator current grazing management on plant communities. Provide forage available/animal demand analysis by pastures. Provide current available animal units (AU) or animal unit months (AUM's) vs. planned or potential AU or AUM's. NRCS does not establish grazing capacities. Neither does it require an agreed-on stocking rate in conservation plans. NRCS assists land users in making their own decisions concerning the number and kinds of animals that can safely and profitably grazed. **If FA funds are used to implement the grazing, then the landowner and NRCS need to agree on the grazing strategy that will ensure the terms of the program are being achieved by the practices implemented.**

Formulate and Evaluate Alternatives

This is done with the producer; they must have the willingness, values, skills and commitment to apply the system. Effects of each alternative are evaluated individually and compared to benchmark for their ability to solve or alleviate identified resource problems and meet client's objectives. Assist them in selecting management, facilitative and accelerating practices that will meet planning criteria and objectives. *Facilitating practice*, such as fences and water development, will be planned when needed to enable the application of the planned vegetation practices. *Accelerating practices* will be planned as needed to treat specific problems or opportunities that grazing management alone will not solve.

Make Decisions

Client selects the best suite of practices and a schedule of operations is developed. Final locations and specifications are initiated, quantities of each finalized etc. The landowner should be fully aware of what is expected of them in terms of change in management or other conservation practice specification expectations to meet desired resource goals.

Develop a conservation plan that includes all planned practices.

- Completed CPA-52.
- Develop a practice implementation schedule or schedule of operations

Plan Implementation

Develop a Grazing Strategy Plan (Prescribed Grazing Conservation Practice 528)

NRCS planners provide technical assistance to the client in the design and application of the prescribed grazing plans. Grazing strategies application is an ongoing process and NRCS should provide onsite assistance in a timely manner to continually assist clients in observing their resources and make grazing management decisions.

The grazing plan should demonstrate the planned grazing strategy that is needed to meet the goals and objectives and address the resource concerns. The plan shall be projected and planned to demonstrate to the landowner how the rotation allows period of grazing and recovery and other treatment activities.

The Plan shall include the following:

- A Forage-Animal Demand Balance developed for the plan, which ensures the forage produced and available meets forage demand of livestock and/or wildlife.
- A Grazing Schedule that includes the following:
 - Identifies herds and planned Animal Units
 - Identifies where and when grazing will occur for each management unit, based on dates and years.
 - Demonstrate rest periods during critical growth states for each management unit based on date and years.
 - Meets the growth needs of the plants
 - Meets the forage quality needs of the animals
 - Include considerations for other treatment activities on each management unit.
- A Contingency Plan that details potential problems (ie. drought) and serves as a guide for adjusting the grazing prescription to ensure resource management and economic feasibility with resource degradation.

- A monitoring plan developed with appropriate records to assess in determining whether the grazing strategy is resulting in moving towards the desired plant community and progressing towards the goals and objectives The monitoring plan should include, use
 - Location of key areas and key plants
 - What will be monitored – and protocol followed
 - How the information evaluated will be used to make management decisions

Evaluate the Plan

NRCS should provide follow up assistance. It is a continuous learning process between the NRCS planner and the client. Grazing management can often be fine-tuned through adaptive management to more efficiently and effectively accomplish objectives.

Plan revision may be needed through evaluation, if more fences, water development or accelerating practices are needed or completely revised grazing schedule. Follow the same steps in conservation planning to accomplish revisions.

Resource Inventories should be updated to make sure that we are providing the client recommendations that reflect current conditions of their management units, and reflect any additional or new resource or management goals.

Reasons to do a plan revision or updates may include the following:

- New resource inventory technology – update the plan to include new soils information, ecological site information or protocols.
- The existing inventory does not reflect current existing conditions
- New ownership of the grazing land unit.

Sources and Recommended Reading:

National Range and Pasture Handbook, NRCS GLTI 2003 Chapter 4: Inventorying and Monitoring Grazing Land Resources, Chapter 11: Conservation Planning on Grazing Lands.

<http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=STELPRDB1043084>

Grazing Management Plan Practices Activity Code (110) NRCS. CO November 2012. eFOTG Section III.

Conservation Activity Plans. http://efotg.sc.egov.usda.gov/references/public/CO/CO110_CAP_GM.pdf

National Standard and State Specification for Prescribed Grazing Code 528.

http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs143_025729.pdf

NRCS National Planning Procedures Handbook. January 2013.

<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=33237.wba>

National and State Resource Concerns and Planning Criteria. Colorado eFOTG. Section III.

http://efotg.sc.egov.usda.gov/references/public/CO/CO_ResourceConcerns&PlanningCriteria.pdf

Passey, H.B. 1969. The Art of Communication: Grazing Land Conservation and Application. [ftp://ftp-](ftp://ftp-fc.sc.egov.usda.gov/NEDC/consplan/communication.pdf)

[fc.sc.egov.usda.gov/NEDC/consplan/communication.pdf](ftp://ftp-fc.sc.egov.usda.gov/NEDC/consplan/communication.pdf)