

**CLIFTON RANGER DISTRICT
APACHE/SITGREAVES NATIONAL FOREST
ANNUAL OPERATING INSTRUCTIONS (AOI)**

Copperas Allotment

2020-2021

I. PERMITTED USE:

The following table illustrates the number of livestock and season of use permitted on the Copperas Allotment as per Term Grazing Permit # 03010343 issued to [REDACTED] on May 19, 2020.

KIND	CLASS	NUMBERS	AUM	SEASON OF USE
Cattle	Cow/Calf	171	2052	03/01 – 02/28
Horse	Horse/Mule	4	58	03/01 – 02/28

II. AUTHORIZED USE:

The following numbers and classes of livestock are authorized to graze on the Copperas Allotment this year.

KIND	CLASS	NUMBERS	AUM	SEASON OF USE
Cattle	Cow/Calf	171	2052	03/01/2020-02/28/2021
	Yearling			
	Bull			
Total Head:				
Horse/Mule	Mature	4	58	

III. ROTATION SCHEDULE: Livestock use is authorized as follows in the pasture rotation schedule. Deviations from this will be considered not in compliance and must be made in advance and amended in the AOI to remain in compliance with Forest Officer Instructions. Additionally, as stated in previous communication livestock will not be authorized access to graze a pasture if there is no guarantee that the improvements (fence, water, etc.) will support grazing activity without risk of livestock accessing areas not authorized.

Actual dates may vary (+ or – 5 days) dependent on utilization levels, range conditions and time required moving livestock.

PASTURE	NUMBER	SEASON OF USE	GRAZING INTENSITY	KEY AREA	KEY SPP
Coalson	171	03/01/20 - 06/30/20	Conservative, 31-40%	C3, P13, P12, C2, P6, P4, P5	TBD
Breeding – South	171	07/01/20- 10/31/20	Light 0-30%	C1, P7, P11, P8, P10, P9	TBD
Bullard *	171	11/01/20 – 02/28/2021	Conservative, 31-40%	TBD	TBD

** Note: November – December moving to Stacy Ranch to work then back onto Copperas.

IV. ALLOWABLE USE STANDARDS (Grazing Intensity) See Appendix for management strategies.

Allowable use of forage is based on the amount and kind of forage on the allotment, plant needs, range condition, trend, and grazing management strategy. Duration, frequency, and timing may be manipulated within the grazing schedule to meet allowable use standards. Grazing intensity may be described in terms herbage removed during the grazing and/or growing period, or as a utilization level at the end of the growing period. Removal of leaf material, when the plant is actively growing can affect root growth which in turn affects future leaf growth. Sufficient leaf area is essential to support plant functions through photosynthesis.

The allowable use levels for this allotment are established for key areas and key species by pasture for the time period livestock are in a pasture. The use on key species in key areas should be used as an indicator to the length of the grazing period allowed in each pasture. The establishment of the utilization standards is consistent with 36 CFR 222 regulations, FSM 2210 and 2230, and FSH 2209.21.

For simplicity, key areas are generally considered as follows: 1) full capacity rangeland located on ridgetops/mesas within a ¼ mile from available water sources; 2) canyon bottoms/riparian areas with free flowing water or springs regardless of distance from water; 3) any area containing full capacity range with erosive soils and insufficient/marginal vegetative ground cover to protect the soil; and/or 4) areas containing critical habitat, whether occupied, suitable and unoccupied, or potentially suitable habitat, for threatened, endangered, or proposed species that are of concern to the Forest Service.

Key areas have been designated in cooperation with the Forest Service and the current or past permittee.

Grazing Intensity is discussed by Holechek and others (Holechek, Jerry L., Rex D. Pieper, and Carlton H. Herbel. 2004. Range Management, Principles & Practices. Prentice Hall, page 248):

Table 3. Qualitative characteristics of grazing intensity categories used to characterize New Mexico rangelands (Holechek & Galt, 6/00. Rangelands).

Qualitative Grazing Intensity Category	Use of Forage by Weight	Qualitative Indicators of Grazing Intensity
Light to non-use	0-30	Only choice plants (key species) and areas show use. There is no use of poor forage plants
Conservative	31-40	Choice forage plants (key species) have abundant seed stalks; Areas more than a mile from water show little use: About one third to one half primary forage plants show grazing on key areas.
Moderate	41-50	Most of accessible range show use; Key areas show patchy appearance with one half to two thirds of primary forage plants (key species) showing use; Grazing is noticeable 1-1½ miles from water
Heavy	51-60	Nearly all primary forage plants show grazing on key areas: Palatable shrubs show hedging; Key areas show a lack of seed stalks: Grazing is noticeable in areas over 1½ miles from water
Severe	61+	Key areas show a clipped or mowed appearance (no stubble ht.): Shrubs are severely hedged; There is evidence of livestock trailing to forage: Areas over 1½ miles from water lack stubble height.

Describing Grazing Intensity (FSH 2209.13 – GRAZING PERMIT ADMINISTRATION HANDBOOK CHAPTER 90 – RANGELAND MANAGEMENT DECISIONMAKING. See **Appendix for species specific stubble height.**

Grazing intensity may be described in terms herbage removed during the grazing and/or growing period, or as a utilization level at the end of the growing period. It is important to clearly define how intensity is being viewed and described. Removal of leaf material, when the plant is actively growing can affect root growth which in turn affects future leaf growth. Sufficient leaf area is essential to support plant functions through photosynthesis. Heavy to severe intensity or utilization can affect current plant development and growth, as well as growth during subsequent growing seasons.

V. ADMINISTRATION

1. The permittee will record actual use as it occurs; including livestock numbers and dates your permitted livestock are in a pasture. This information will be reported at the next annual or semi-annual operating instruction (AOI) meeting.
2. Any change or deviation from this Annual Operating Instructions is to be coordinated and confirmed in advance with the District in an AOI amendment. Additionally, as per terms and conditions of the grazing permit, the permittee shall provide 5 days' notice of moving livestock on or off the allotment. Credit or refunds generated are based upon this documentation. If emergency conditions require making a change immediately, the permittee will notify the District as soon as practical.
3. Livestock remaining in pastures beyond the specified rotation date, that are allowed to drift between pastures, or grazing in rested pastures may be considered a violation of your Term Grazing Permit.
4. Livestock should be moved (before, with notification) and/or when forage utilization objectives have been met or within 1 week of planned rotation dates, unless changes have been confirmed with District Range personnel.
5. The District may spot check range improvements before the entry date to insure improvements are in a satisfactory condition. Livestock will not be allowed to enter pastures if assigned improvements are not maintained to proper standards. Livestock are not allowed to enter pastures if fences will not keep livestock where they are placed.

VI. SALT AND MINERAL BLOCK

Typically, salt or mineral blocks are not to be placed within a quarter mile of water or drainage bottoms. With District Ranger approval, salt may be placed closer than a quarter of a mile to water for specific purposes. Salt will be used to attract cattle to areas of a pasture typically not utilized and or for soil/range condition treatment purposes. Blocks may be removed by the District if found near water, over-utilized areas, meadow bottoms or roads. Feeding and/or supplements such as molasses are not authorized, unless on a case by case for specific purposes and approved by the District Ranger.

VII. MONITORING

Monitoring and evaluation is an essential aspect of good rangeland management. Monitoring and evaluation can be described as the gathering of information so the manager knows what is happening to rangeland resources and why. The intent of monitoring and evaluation is to test the success of the management strategy and if needed, make adjustments. The following types of monitoring can be collected and will be used by the Forest Service for management decisions.

1. Forage Production
2. Forage Utilization/ Stubble Height measurements.
3. Photo Points
4. Condition of Improvements
5. Actual Use
6. Grazing Response Index
7. Precipitation.

XII. APPENDIX

92.14b – Describing Grazing Intensity (FSH 2209.13 – GRAZING PERMIT ADMINISTRATION HANDBOOK CHAPTER 90 – RANGELAND MANAGEMENT DECISIONMAKING.

Grazing intensity may be described in terms herbage removed during the grazing and/or growing period, or as a utilization level at the end of the growing period. It is important to clearly define how intensity is being viewed and described. Removal of leaf material, when the plant is actively growing can affect root growth which in turn affects future leaf growth. Sufficient leaf area is essential to support plant functions through photosynthesis. Heavy to severe intensity or utilization can affect current plant development and growth, as well as growth during subsequent growing seasons.

Grazing Intensity is discussed by Holechek and others (Holechek, Jerry L., Rex D. Pieper, and Carlton H. Herbel. 2004. Range Management, Principles & Practices. Prentice Hall, page 248):

Grazing Intensity as depicted as a utilization level at the end of the growing season as discussed by Holechek and Galt (Holechek, Jerry L. and Dee Galt. 2000. Grazing Intensity Guidelines. *Rangelands* 22(3): 11-14):

Light to non-use	0-30 percent
Conservative	31-40 percent
Moderate	41-50 percent
Heavy	51-60 percent
Severe	61+ percent

Qualitative Grazing Intensity Category	Use of Forage by Weight	Stubble Height Guide		Forage Residue Guide ¹
		Blue Grama	Western Wheatgrass	
	-- (%) --	---- (inches)----		(lbs/acre)
Light to non-use	0-30	2.5+	7.0+	435+
Conservative	31-40	2.0-2.5	4.0-5.0	350-435
Moderate	41-50	1.5-2.0	3.0-4.0	265-350
Heavy	51-60	1.0-1.5	2.0-3.0	180-265
Severe	> 60	< 1.0	< 2.0	< 180

¹We have found residue guidelines developed by Benient (1969) for blue grama rangelands in Colorado apply well to New Mexico blue grama rangelands.

Qualitative Grazing Intensity Category	Use of Forage by Weight	Stubble Height Guide					
		Black Grama	Dropseed	Threawn	Tobosa	Sacaton	Sideoats Grama
	(%)	(inches)					
Light to non-use	0-30	5+	9+	5+	9+	16+	9+
Conservative	31-40	4-5	8-9	4-5	7-9	14-16	8-9
Moderate	41-50	3-4	6-8	3-4	5-7	12-14	6-8
Heavy	51-60	2-3	4-6	2-3	3-5	10-12	4-6
Severe	> 60	< 2	< 4	< 2	< 3	< 10	< 4

Qualitative Grazing Intensity Category	Use of Forage by Weight	Stubble Height Guide				
		Arizona Fescue	Western Wheatgrass	Intermediate Wheatgrass	Mountain grass & Kentucky Bluegrass	Mountain Muhly
	(%)			(inches)		
Light to non-use	0-30	8+	7+	10+	5+	5+
Conservative	31-40	6-7	4-5	8-10	4-5	4-5
Moderate	41-50	5-6	3-4	6-8	3-4	3-4
Heavy	51-60	4-5	2-3	4-6	2-3	2-3
Severe	> 60	< 4	< 2	< 4	< 2	< 2

SOILS:

Where "impaired soils" exist and soil loss exceeds the tolerance soil loss; potential capacity (PC), those acres will not be counted toward an estimated carrying capacity unless under intensive management. See FSH 2209.21, Sec 21, 23 and 53.3-1e for details. Additionally, where we find "unstable soils" and natural soil loss exceeds tolerance; no capacity (NC) and knowing these soils cannot be used without causing long term resource damage, these acres cannot be counted toward potential carrying capacity either. See FSH 2209.21, Sec 21, 23.3.

PROPER FORAGE USE AND RANGE CONDITION:

Proper forage use is the degree of grazing use plus trampling and spoilage that individual species can sustain while maintaining vigor, forage production and reproductive capacity of the plant. Allowable use is determined from proper use and is the level of grazing use that can be permitted on an area when all influencing factors are considered. Allowable use values are a tool to improve range health and plant vigor.

Range condition is based upon the latest range analysis data. Much of what we have is old with regard to the large amounts of data. However, we are actively collecting monitoring data to determine a comparison to the older data. Range condition classifications will be determined on a site by site basis during field reviews to check the on-the-ground forage production estimates.

DISTANCE TO WATER:

Reduction in Cattle Grazing Capacity for Distance to Water

Miles	Grazing Capacity Reduction
0-1	None
1-2	50%
2 - <	Considered 100% Ungrazable

STEEPNESS OF SLOPE:

Reduction in Cattle Grazing Capacity for Different Percentage of Slope

Percent Slope	Grazing Capacity Reduction
1-10%	None
11-30%	30%
31-60%	60%
60% and >	Considered 100% Ungrazable

LIVESTOCK FORAGE CONSUMPTION:**Daily and Monthly Forage Intake (Dry Matter Equivalent) Needs of Dry Cow and Cow/Calf Pair**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Days/mo	31	29	31	30	31	30	31	31	30	31	30	31
lbs/day dry	17	17	17	17	17	17	17	17	17	17	17	17
lbs/mo dry	527	493	527	510	527	510	527	527	510	527	510	527
lbs/day c/c				29	29	29	29	29	29	29		
lbs/mo c/c	527	493	527	870	899	870	899	899	870	899	510	527

NOTES FOR NEXT YEAR: