Santa Fe National Forest

Ongoing Grazing Compliance Report for Range Allotments within the Jemez Mountains Salamander Habitat

Photo: Alamo Allotment, Sawyer Mesa, Santa Fe National Forest, Jemez Ranger District.

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Ongoing Grazing in the Jemez Mountains
Consultation # 02ENNM00-2016-F-0367
Monitoring Framework

Executive Summary

Consultation with the U.S. Fish and Wildlife Service (hereby known as the "Service") regarding the impact of ongoing cattle grazing within range allotments on the Santa Fe National Forest that contain Jemez Mountain Salamander (JMS) or their Critical Habitat was completed in July of 2018. As part of the Service's Biological Opinion that ongoing grazing "may affect, and is likely to adversely affect" Jemez Mountain Salamander and their Critical Habitat they placed certain terms and conditions on the Forest is required to monitor grazing intensity within specific range allotments and pastures. This compliance report details the impacts of the 2019 grazing season on those allotments.

In summary, fifteen cattle allotments and twenty key areas on the Santa Fe National Forest were identified to monitor grazing pressure in areas that are either known to contain occurrences of Jemez Mountain Salamander or fall within modelled suitable habitat for the salamander. It should be noted that 14 of these key areas fall completely or partially within designated Critical Habitat (CH) and six of these areas fall outside CH. Finding an index to measure upland grazing pressure in salamander habitat proved to be extremely difficult but it was agreed upon that maintaining a stubble height of four inches within allotments would provide a reasonable surrogate for allowable grazing pressure (Appendix A).

In FY19, all 15 allotments were monitored and measurements were obtained in 19 out of 20 key areas (Table 1). These areas were monitored between the dates of June 6, 2019 through November 6, 2019. The earlier monitoring dates took place when cattle were known to be off or were not utilizing the key areas. It was noted that the above average rainfall for 2019, as compared to the previous decade, yielded ample forage outside of key areas and reduced typical grazing pressure. Due to range staffing issues measurements from the Lake Fork Mesa key area could not be obtained. However, since it was one of two key areas on the San Diego Allotment, the measurement from the other key area (126 key area) served as the allotment average. Attempts will be made again this year to monitor all 20 key areas including the Lake Fork Mesa.

Of the 15 allotments that were monitored, 12 maintained a stubble height of above four inches. However, three of the allotments fell below the four-inch stubble height requirement. Two of the allotments were on the Coyote District (Coyote and Youngsville allotments) and one was on the Espanola District (Polvadera allotment). It should be noted that all three of the key areas found within these allotments fall outside JMS Critical Habitat. Mitigation measures will be put in place in 2020 to maintain a four-inch stubble height within these allotments. These may include but are not limited to more in-depth monitoring, additional rotation of cattle, reduction of head, or other means to reduce grazing pressure. Non-compliance occurs when allotments fall below the four-inch measurement on two successive years. If opportunity arises, attempts will be made to correlate grazing pressure within key areas to actual grazing pressure in upland areas where salamanders are more likely to be found.

Introduction and Purpose of Monitoring Protocol

The following protocol is designed provide a framework for monitoring of the effect of grazing on the Jemez Mountains salamander as detailed in the biological opinion for Consultation # 02ENNM00-2016-F-0367. The monitoring framework specifically relates to the take statement within the biological opinion and the accompanying term and condition 1.1., which are listed below.

Issuance of Take Criteria (language from July 25, 2018 biological opinion):

1. Up to light to moderate use (approximately 35% forage utilization) averaged across all areas of allotments which contain critical habitat or are considered high probability of occupancy areas for any one year; or
2. Up to moderate use (approximately 50% forage utilization) within any one allotment in areas which contain critical habitat or are considered high probability of occupancy areas for more than one year in a row.

Issuance of Take Criteria (language translated to Holecheck and Galt terminology):

3. Up to light to conservative use (approximately 0%-40% forage utilization) averaged across all areas of allotments which contain critical habitat or are considered high probability of occupancy areas for any one year; or
4. Up to moderate use (approximately 50% forage utilization) within any one allotment in areas which contain critical habitat or are considered high probability of occupancy areas for two consecutive years.

Terms and Conditions from the Biological Opinion:

1.1. The Forest shall monitor use within areas of allotments considered within critical habitat, assumed occupied areas or high probability of occupied areas through the establishment of at least 1 key area monitoring point per 5,000 acres on each allotment. Forage use determinations shall be accomplished using monitoring protocol based on accepted range management guidelines established in cooperation with the Service within 90 days of the receipt of this BO.

- **Completed. All fifteen allotments monitored as required (Table 1.)**

1.2. The Forest shall submit annual forage use monitoring reports to the New Mexico Ecological Services Field Office within 90 days of the end of the grazing season. These reports shall briefly document the forage utilization on each allotment within the key areas identified, as well as the average forage utilization across all four districts. These reports shall also briefly document the effectiveness of the terms and conditions and locations of listed species observed, and, if any are found dead, the suspected cause of mortality.

- **Completed. Monitoring reports are attached as Appendix B.**

1.3. The Forest shall coordinate with the Service prior to the beginning of each grazing season to determine appropriate implementation of monitoring protocol.

- **Ongoing. The Forest Service will coordinate with the Service for potential changes to monitoring protocol.**

1.4. The Forest shall coordinate with the Service at the end of each grazing season to evaluate the monitoring protocol and discuss any needs for adaptation prior to the next grazing season.

- **Ongoing. The Forest Service will coordinate with the Service on alternate monitoring opportunities.**

Acknowledgements:

The Forest Service would like to thank all the Range Staff on the Coyote, Cuba, Espanola, and Jemez Ranger Districts of the Santa Fe National Forest. In particular, William "Jimmy" Eaton and Rachel Suazo who coordinated and compiled all monitoring efforts on the Districts. We would also like to thank Jemez District Biologist, Andre Silva for his salamander expertise and Christine Bishop, Range Program Lead for the Santa Fe National Forest. All were instrumental in developing this report. Of course, we would also like to thank Michelle Chrisman and Susan Pruitt of the U.S. Fish and Wildlife Service for their willingness to always provide advice and support on how best to monitor our threatened and endangered wildlife resources.

Table 1. 2020 Stubble Height Measurements within allotments on the SFNF occupied by Jemez Mountain Salamanders.

District	Allotment	Key Area Location	Average Stubble Height for Key Area	Average Stubble Height for Allotment	Utilization Measured	Date of Monitoring	In Compliance (Y/N)	Notes on Compliance
Coyote	Coyote	Mesa del Ojo	2.84	2.84	Unknown	10/22/2019	N	See A below
	Mesa del Medio	Princessa	4.37	4.37	Unknown	10/22/2019	Y	See B below
	Youngsville	Cerro del Grant	3.13	3.13	Unknown	10/22/2019	N	See C below
Espanola	Chicoma	Cienega Redonda	4.21	4.21	Unknown	11/4/2019	Y	See D below
	Polvadera	Mountain	3.12	3.12	Unknown	11/4/2019	N	See E below
Cuba	Ojito Frio	Telephone Canyon	8.51	8.51	>10%	7/31/2019	Y	See F below
	Penas Negras	Vallecito Coyote	12.02	12.02	3%	8/20/2019	Y	See G below
	South Ojitos	Middle Fork	5.59	5.59	27%	11/6/2019	Y	See H below
Jemez	Alamo	Graduation Flats	4.47	7.27	30.21%	7/31/2019	Y	See I below
		Sawyer Mesa	10.07		8.25%	7/31/2019		
	Cebolla-San Antonio	Pony	8.97	9.72	>10%	6/27/2019	Y	See J below
		Road	4.12		27.66%	9/15/2019		
		Sandoval	12.74		>5%	9/11/2019		
		Rio Cebolla/ Oat	10.23		7.93	9/30/2019		
	Del Norte	N. Cochiti Mesa	24	24	>5%	7/31/2019	Y	See K below
	Peralta	0280 North End	18.7	18.7	2.50%	8/22/2019	Y	See L below
	San Diego	126 Key Area	6.75	6.75	15%	10/20/2019	Y	See M below
		Lake Fork Mesa	Not Mon.		Not Mon.	Not Mon.		
	Vallecitos	Juice Springs	11.4	11.4	6.70%	8/21/2019	Y	See N below
	V-Double Slash	Los Griegos	8.78	8.78	3.47%	8/21/2019	Y	See O below
Average for All Allotments:				**8.69**				

Allotment Notes:		
A	Coyote	2019 AOI - Total number of head on allotment is 335, authorization dates 5/16 through 10/31. **Mitigation measures will be put in place to reduce utilization and maintain a 4" minimum stubble height.** ***Suggested mitigation: Adjust pasture rotation or use and we can do pre-, mid-, and post grazing monitoring.
B	Mesa del Medio	2019 AOI - Total number of head on allotment is 148, authorization dates 5/16 through 10/31.
C	Youngsville	2019 AOI - Total number of head on allotment is 769, authorization dates 5/16 through 10/31. **Mitigation measures will be put in place to reduce utilization and maintain a 4" minimum stubble height.** ***Suggested mitigation: Adjust pasture rotation or use and we can do pre-, mid-, and post grazing monitoring.
D	Chicoma	2019 AOI - Total number of head on allotment is 152, authorization dates 5/16 through 10/31.
E	Polvadera	2019 AOI - Total number of head on allotment is 186, authorization dates 6/1 through 9/14 on Mountain. **Mitigation measures will be put in place to reduce utilization and maintain a 4" minimum stubble height.** ***Suggested mitigation: Adjust pasture rotation or use and we can do pre-, mid-, and post grazing monitoring.
F	Ojito Frio	2019 AOI - Total number of head on allotment is 181, authorization dates 6/1 through 10/15 rotating every two weeks. Utilization was estimated. Stubble ht was from 3 different Key Grasses. Poa Avg - 5.18, Feth avg. - 11.6 and DAPA avg - 12.33. An Average was given for all grasses on all hits. Of 8.51" All individual spp were in compliance.
G	Penas Negras	2019 AOI - Total number of head on allotment is 303, authorization dates 6/1 through 10/31. The Calaveras Pasture was monitored twice, one on 8/7 and another on 8/20
H	South Ojitos	2019 AOI - Total number of head on allotment is 76, authorization dates 8/1 through 10/1 on Middle Fork. Need a correction on the Key area - this is Key Area #5 that is in the Redmann Pasture. Stubble ht was measured for POA and FEAR, Also utilization was measures for each. POA was 3.91" and 34% utilization and FEAR was 7.93" and 18% utilization.
I	Alamo	2019 AOI - Total number of head on allotment is 66, authorization dates 6/1 through 7/17 on Graduation Flats and 7/17 through 9/20 on Sawyer Mesa. Graduation Flats - Cattle were not utilizing hillsides with abundant forage (Bunch Grasses) made not that Stubble Height was 18-24". Average for both key area was 7.27" stubble height.
J	Cebolla-San Antonio	2019 AOI - Total number of head on allotment is 347. Pony Canyon - only stubble height was measured no utilization, estimated utilization was less than 10%, Road Canyon Monitoring was only a 25pt transect. Location of Key area needs to be verified. Cebolla Riparian - Pictures taken at Red Cone 1 and 2 and at white cone - only one transect was ran at Red Cone #1. Really no difference at Red Cone #2 and White Cone for Stubble Height and Utilization
K	Del Norte	2019 AOI - Total number of head on allotment is 67. An ocular monitoring was done - All grasses were 18-24", really no need to do a paced transect.
L	Peralta	2019 AOI - Total number of head on allotment is 70. Will need to verify location of monitoring in Key Area with USFWS.
N	Vallecitos	2019 AOI - Total number of head on allotment is 107. Will need to verify location of monitoring in Key Area with USFWS.
M	San Diego	2019 AOI - Total number of head on allotment is 250. Lake Fork mesa was not monitored. 126 Key area was an ocular monitoring of 25 pt., utilization was estimated.
O	V Double Slash	Allotment was not stocked in 2019

Appendix A. - Monitoring Framework

The following monitoring framework is to provide technical guidance for how the Forest Service is to addresses Term and Condition 1.1., as detailed above.

- Stubble height monitoring
    - Monitoring will occur within each allotment at designated key areas (as detailed in the table below)
    - Stubble height of key grass species (as listed in the AOI for each allotment and detailed in the table below) will be measured at each key area
    - Stubble height across all key grass species across all key areas within an allotment will be averaged to determine an average stubble height for the allotment
    - Average stubble height for each allotment will be used to determine an average stubble height for all relevant allotments on the Santa Fe National Forest
    - Appendix A provides examples for calculation of average stubble height within an allotment and across all allotments
    - Appendix B provides an example Table found in many AOIs.

Reporting Guidelines

The following reporting guidelines address Terms and Conditions 1.2, 1.3., and 1.4., as detailed above

- Average stubble height for each allotment and the average for all relevant allotments on the Santa Fe National Forest should be reported to determine compliance with BA (using suggested format below)
- Compliance with issuance of take criteria #1 will be determined by maintaining an average 4 inch stubble height as averaged across all relevant allotments on the Santa Fe National Forest for any given year
- Compliance with issuance of take criteria #2 will be determined by maintaining an average of 4 inch stubble height as averaged within any given allotment for any two consecutive years; if the 4 inch stubble height is exceeded during one year, notes on actions taken to move allotment towards compliance should be reported
- Appendix A provides examples for reporting monitoring data
- The monitoring report is due within 90 days of the end of the grazing season.
- No less than 30 days prior to the beginning of the grazing season, the Forest and the Service should meet to discuss the effectiveness of the monitoring protocol for the previous year's grazing season to determine any adjustments that should be made prior to the current year's grazing season
    - Example: End of grazing season is November 30, 2019; monitoring report is due by February 28, 2020; meeting between Forest and the Service should take place by April 1, 2020; grazing season begins May 1, 2020

District	Allotment	Key Area Location	Key Grass Species	Minimum Stubble Height* Requirement Per Species	Average Minimum Stubble Height Requirement for Allotment
Coyote	Coyote	Key Area #3 Cerro Pelon	FEAR	4	4”
			POPR	4	
			FETH	6	
			DAIN	6	
	Mesa del Medio	Key Area #1 Princessa	FETH	6	4”
			BRAN	4	
			POPR	4	
			CAREX	4	
	Youngsville	Key Area #6 Cerro del Grant	FETH	6	4”
			DAIN	6	
			FEAR	4	
			CAREX	4	

District	Allotment	Key Area Location	Key Grass Species	Minimum Stubble Height* Requirement Per Species	Average Minimum Stubble Height Requirement for Allotment
Cuba	Ojito Frio	Key Area #6 Telephone Canyon	FEAR	4	4”
			FETH	6	
			DAIN	6	
			MUMO	4	
	Penas Negras	Key Area #2 Vallecito Coyote	FEAR	6	4”
			FETH	6	
			POPR	4	
	South Ojitos	Key Area #6 Middle Fork	FEAR	4	4”
			POA	4	
			PASM	4	
			FETH	6	

District	Allotment	Key Area Location	Key Grass Species	Minimum Stubble Height* Requirement Per Species	Average Minimum Stubble Height Requirement for Allotment
Espanola	Chicoma	Key Area #1 Cienega Redonda	FEAR	4	4”
			DAIN	6	
			POPR	4	
			CAREX	4	
	Polvadera	Key Area #1 Mountain	FEAR	4	4”
			DAIN	6	
			POPR	4	
			CAREX	4	

District	Allotment	Key Area Location	Key Grass Species	Minimum Stubble Height* Requirement Per Species	Average Minimum Stubble Height Requirement for Allotment
Jemez	Alamo	Key Area #2 Graduation Flats	FEAR	6	4”
			POPR	4	
			PASM	4	
			MUMO	6	
		Key Area #3 Sawyer Mesa	FEAR	6	
			POPR	4	
			PASM	4	
			MUMO	6	
	Cebolla-San Antonio	Key Area #5 Pony	FEAR	6	4”
			DAPA	4	
			POPR	4	
			MUMO	6	
		Key Area #4 Road	FEAR	6	
			DAPA	4	
			POPR	4	
			MUMO	6	
		Key Area #14 Sandoval	FEAR	6	
			DAPA	4	
			POPR	4	
			MUMO	6	
		Key Area #3 Rio Cebolla/ Oat	FEAR	6	
			DAPA	4	
			POPR	4	
			MUMO	6	
	Del Norte	Key Area #1 Northern Cochiti Mesa	FEAR	6	4”
			POPR	4	
			PASM	4	
			MUMO	6	

District	Allotment	Key Area Location	Key Grass Species	Minimum Stubble Height* Requirement Per Species	Average Minimum Stubble Height Requirement for Allotment
Jemez	Peralta	Key Area #1 0280 North End	FEAR	4	4”
			BOGR2	2.5	
			PASM	4	
			ELEL5	4	
	San Diego	Key Area #9 126 Key Area	FEAR	6	4”
			POPR	4	
			PASM	4	
			MUMO	6	
		Key Area #3 Lake Fork Mesa	FEAR	6	
			POPR	4	
			PASM	4	
			MUMO	6	
	Vallecitos	Key Area #2 Ojo de los Judios	FEAR	6	4”
			BROME	4	
			CAREX	4	
			KOPY	4	
	V-Double Slash	Key Area #7 Los Griegos	FEAR	6	4”
			POPR	4	
			BROME	4	
			CAREX	4	

* On excessively dry years (D1-D4 on U.S, Drought Monitor) stubble height may not be attainable and reconsultation may be required.

District	Allotment	Key Area Location	Average Stubble Height for Key Area	Average Stubble Height for Allotment	In Compliance (Y/N)	Notes on Compliance
Coyote	Coyote	Mesa del Ojo				
	Mesa del Medio	Princessa				
	Youngsville	Cerro del Grant				
Cuba	Ojito Frio	Telephone Canyon				
	Penas Negras	Vallecito Coyote				
	South Ojitos	Middle Fork				
Espanola	Chicoma	Cienega Redonda				
	Polvadera	Mountain				
Jemez	Alamo	Graduation Flats				
		Sawyer Mesa				
	Cebolla-San Antonio	Pony				
		Road				
		Sandoval				
		Rio Cebolla/ Oat				
	Del Norte	Northern Cochiti Mesa				
	Peralta	0280 North End				
	San Diego	126 Key Area				
		Lake Fork Mesa				
	Vallecitos	Juice Springs				
	V-Double Slash	Los Griegos				
Average for All Allotments						

Example of Information Used to Determine Stubble Height Requirements

District	Allotment	Key Area Location	Key Grass Species	Minimum Stubble Height Requirement Per Species	Average Minimum Stubble Height Requirement for Allotment
Jemez	Peralta	0280 North End	Arizona Fescue	6”	4”
			Carex	4”	
			Blue Grama	2.5”	
			Squirrel Tail	4”	
	San Diego	126 Key Area	Crested Wheatgrass	4”	4”
			Blue Grama	2.5”	
			Smooth Brome	4”	
			Bluegrass	4”	
		Lake Fork Mesa	Western Wheatgrass	4”	4”
			Smooth Brome	6”	
			Arizona Fescue	6”	
			Bluegrass	4”	
	Vallecitos	Juice Springs	Squirrel Tail	4”	4”
			Arizona Fescue	6”	
			Carex	4”	
			Crested Wheatgrass	4”	
	V-Double Slash	Los Griegos	Bluegrass	4”	4”
			Smooth Brome	4”	
			Carex	4”	
			Western Wheatgrass	4”	

Example of Calculation of Average Stubble Heights

District	Allotment	Key Area Location	Key Grass Species	Stubble Height Measurement For Species (from survey form)	Average Stubble Height for Key Area	Average Stubble Height for Allotment
Jemez	Peralta	0280 North End	Arizona Fescue	5”	4”	4”
			Carex	4”		
			Blue Grama	3”		
			Squirrel Tail	4”		
	San Diego	126 Key Area	Crested Wheatgrass	4”	3.875	3.938”
			Blue Grama	2.5”		
			Smooth Brome	4”		
			Bluegrass	5”		
		Lake Fork Mesa	Western Wheatgrass	4”	4”	
			Smooth Brome	5”		
			Arizona Fescue	5”		
			Bluegrass	4”		
	Vallecitos	Juice Springs	Squirrel Tail	4”	4.75”	4.75”
			Arizona Fescue	6”		
			Carex	4”		
			Crested Wheatgrass	5”		
	V-Double Slash	Los Griegos	Bluegrass	4”	3.5”	3.5”
			Smooth Brome	3”		
			Carex	4”		
			Western Wheatgrass	3”		

Example of Report

District	Allotment	Key Area Location	Average Stubble Height for Key Area	Average Stubble Height for Allotment	In Compliance (Y/N)	Notes on Compliance
Coyote	Coyote	Mesa del Ojo	4”	4”	Y	
	Mesa del Medio	Princessa	4.2”	4.2”	Y	
	Youngsville	Cerro del Grant	3.8”	3.8”	N	INSERT ACTIONS TAKEN TO MOVE ALLOTMENT INTO COMPLIANCE FOR NEXT YEAR
Cuba	Ojito Frio	Telephone Canyon	4.1”	4.1”	Y	
	Penas Negras	Vallecito Coyote	4.3”	4.3”	Y	
	South Ojitos	Middle Fork	4”	4”	Y	
Espanola	Chicoma	Cienege Redonda	3.9”	3.9”	N	INSERT ACTIONS TAKEN TO MOVE ALLOTMENT INTO COMPLIANCE FOR NEXT YEAR
	Polvadera	Mountain	4.1”	4.1”	Y	

District	Allotment	Key Area Location	Average Stubble Height for Key Area	Average Stubble Height for Allotment	In Compliance (Y/N)	Notes on Compliance
Jemez	Alamo	Graduation Flats	3.8”	4”	Y	
		Sawyer Mesa	4.2”			
	Cebolla-San Antonio	Pony	3”	3.75”	N	INSERT ACTIONS TAKEN TO MOVE ALLOTMENT INTO COMPLIANCE FOR NEXT YEAR
		Road	4”			
		Sandoval	3.5”			
		Rio Cebolla/ Oat	4.5”			
	Del Norte	Northern Cochiti Mesa	4.3”	4.3”	Y	
	Peralta	0280 North End	4”	4”	Y	
	San Diego	126 Key Area	3.875”	3.938”	Y	While the measurement is below 4”, one of the key species was Blue grama which was within its acceptable range; therefore, the allotment should be considered in compliance
		Lake Fork Mesa	4”			
	Vallecitos	Juice Springs	4.75”	4.75”	Y	
	V-Double Slash	Los Griegos	3.5”	3.5”	N	INSERT ACTIONS TAKEN TO MOVE ALLOTMENT INTO COMPLIANCE FOR NEXT YEAR
Average for All Allotments					4”	

Example of grazing requirements typically listed in an AOI.

Table 1. – Descriptive factors for utilization

Qualitative characteristics of grazing intensity categories used to characterize New Mexico Rangelands (Holecheck & 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 of primary forage plants show grazing on key areas.
Moderate	41-50	Most of accessible range shows use; Key areas show patchy appearance with one half to two thirds of primary forage plants (key species) showing use. Grazing is noticeable 1 – 1 ½ 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 over 1 ½ miles from water
Severe	61+	Key areas show clipped or mowed appearance (no stubble height): shrubs are severely hedged: There is evidence of livestock trailing to forage: Areas over 1 ½ miles from water lack stubble height