

Determination of Public Land (Rangeland) Health for 65011 SALT LAKE

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these standards.

Field assessment worksheets and other available data that evaluate the local indicators were completed for this allotment. Based on these assessments, it is my determination that public land within Salt Lake, allotment #65011, meets the Upland Sites standard and (2) Biotic Communities, including Native, Threatened, Endangered, and Special Status Species standard. There are no public land Riparian areas on this allotment, therefore this standard was not addressed.

/s/Karen Kelleher
Field Manager

5/25/07
Date

Standards of Public Land Health Evaluation of 65011 SALT LAKE Allotment [10/15/2006]

The Roswell Field Office conducted Rangeland Health Assessments at two study sites within Salt Lake, allotment #65011. These assessments evaluated Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data was incorporated into and in support of these field assessments. A summary of each assessment is attached and shown in the following table.

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
65011-BM162-C018	X			X			N/A		
65011-HW166-C016	X			X			N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for public land on Salt Lake, allotment #65011. Ten (10) of these assessed soil site stability, 11 hydrologic function and 13 biotic integrity. These qualitative assessments in conjunction with previous data collected on two study areas located on this allotment were utilized to make rangeland health determinations. This allotment is a "C" custodial category due to small amounts of public land present.

This allotment has been impacted by recent dry conditions which have occurred over the last several years. Thirty cattle are permitted on this Section 15 allotment to graze yearlong for a total of 360 AUM's active. HW Pasture, the northern most pasture adjacent to the highway and railroad is a CP-2 Deep Sand ecological site on (RPD) Roswell-Jalmar fine sand, hilly occurring on high terraces in eastern parts of area surveyed. This site evaluated is 930 acres/376 hectares in size. Slope is 0 to 5 percent with elevation between 3,900ft/1,182m and 4,100 ft/1,242 m. Roswell and Jalmar soil is on hummocky sand dunes and in depressional/interdunal areas respectively. Roswell and Jalmar soil formed in eolian and eolian/alluvial deposits respectively. Both are deep and excessively drained with an effective rooting depth of 60 in/152 cm. No livestock were utilizing this pasture at present. Indicators assessed mainly rated at Moderate departure for soil, hydrologic and biotic attributes. Slight active pedestaling was occurring on threeawn (*Aristida* spp.) and yucca (*Yucca* spp.) in flow paths and interspaces. No terracettes were present however. Bare ground was estimated at 40 percent moderately exceeding expected parameters. Interspace soil ped samples melted readily and rated Moderate for this indicator. Due to reduced amounts of bluestem grass and decadence, functional/structural groups also rated Moderate. Replacement by increasers like threeawn indicates this site has been in a downward trend for vegetative diversity. Those remaining decreasers have managed to at least allow potential for LPC nesting. Lek potential is high here though, but no recorded activity has yet to be documented for this allotment. This pasture was treated for shinnery oak (*Quercus havardii*) in 1986 by tebuthiron. This pasture along with the adjoining allotment northeast were treated.

This may account for scattered amounts of this shrub, but the time frame may be too long to evaluate this effectiveness. Decadence on little bluestem (*Schizachyrium scoparium*) and sand bluestem (*Andropogon hallii*) is observed. These plants appear dead and brittle in the middle with 5-6" stubble heights. This rank appearance of these grass clumps suggests dry conditions coupled with sporadic utilization patterns, in which proper conservative use was initiated but not sustained through periods of reduced precipitation. Annual production is Moderate with an estimate of 800 lbs/ac or kg/ha. This is approximately half of potential taking into account all vegetation, ie, shrubs and forbs; both annual and perennial. Reproductive capability is somewhat limited and results in Moderate departure. Only some of these grass species however have headed out and produced some reproductive tillers.

The other pasture evaluated is located almost middle of this allotment. This area is a CP-2 Loamy ecological site with shallower soil than that previously assessed. Located on flatter country, the acreage is 564 or 228 hectares with a Ratliff-Redona (RCA) soil association, loam surface, gently undulating on 0 to 2 percent slope. Elevation is 3,800 to 4,300 ft/1,151 to 1,303 m. Ratliff soil is found on alluvial side slopes and low ridges and formed in calcareous alluvium. Redona soil is found in depressional areas and also formed in calcareous alluvium. Both soil types are deep and well-drained. All indicators assessed rated None to Slight falling well within normal range of variability. Considering this area is just adjacent to a dirt tank with a number of dairy heifers and calves, it is in very good condition with more than adequate ground cover of vegetation. Historically blue grama (*Bouteloua gracilis*) and tobosa (*Pleuraphis mutica*) have been the principal grass species found. Very conservative use is observed presently. An estimated 1000 to 1,500 lbs/ac or kg/ha is the production. Biological and physical crusting also fill in those interspaces where vegetation is void. Almost no brush concerns exist here. This site is not LPC habitat but is more suited to pronghorn (*Antilocapra americana*), and quail (*Callipepla* spp.).

Wildlife - Evaluation of the integrity of biotic community considered several indicators as attribute indices for the area of interest. Biotic indicators are interrelated with several other indicators, including soil/site stability, hydrologic function and vegetation. Several indicators are singularly biotic and address the vegetative aspect of the ecological site description, such as functional/structural groups and plant mortality & decadence.

In addition to the standard worksheet biotic factors, four specific wildlife indicators and descriptors are included in this evaluation. A unique assemblage of terrestrial species and avifauna can be expected to use this ecosystem. Of significance are the sand dune lizard (*Scleropus arenicola*) and lesser prairie chicken (*Tympanuchus pallidicinctus*) known only to occur within the vicinity of this ecosystem. The vegetative community of interest is the shinnery oak-tall grass type only found in portions of this Field Office area. Key habitat components include sand bluestem, shinnery oak, sand dune lizard habitat features (dune blowouts) and lesser prairie chicken habitat features (booming grounds & nesting areas). The amount, condition and juxtaposition of these habitat features are used as habitat indicators for this assessment. This assessment begins by determining if the site is within "Core Areas" for lesser prairie chicken. Other important wildlife species and their habitats, such as desert mule deer (*Odocoileus hemionus*), pronghorn and a variety of game and non-game species are also considered in this assessment. This area of interest does fall within the Core Area. There are no known sightings of LPC on this allotment, although potential does exist. Some areas do appear to provide suitable

habitat for sand dune lizard. The northern and middle sites are better suited for mule deer and pronghorn respectively.

In the professional opinion of Assessment Team, public land within Salt Lake, allotment #65011 meets Upland and Biotic standards. There are no Riparian issues present, therefore this standard was not addressed. See site notes and recommendations for further information regarding evaluations on this allotment.

Recommendations: Since potential for LPC does exist on those scattered public land tracts, it is recommended that spring lek surveys be initiated in 2007.

No brush concerns exist at present. The current management should continue for this allotment. Collaborative efforts between the BLM and the allottee would only help to improve the current healthy conditions on this ranch.





DATE 27-07
FO RFO
ALLOT 16501
PASTURE 01
VEGID 192

3. 1. 2000

RFOs Upland and Biotic Standard Assessment Summary Worksheet

SITE 65011-BM162-C018

Legal Land Desc	SWSE 7 0070S 0300E Meridian 23	Acreage	564
Ecosite	070BY052NM LOAMY CP-2	Photo Taken	Y
Watershed	13060003210 RAILROAD MOUNTAIN		
Observers	NAVARRO/MOE	Observation Date	02/07/2007
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	RBA	Soil Taxon Name	RATLIFF
Texture Class	NM644 FSL	Soil Phase	RATLIFF- REDONA
Texture Modifier	NM644 FINE SANDY LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	19.55	NOAA Growing Season Precipitation	15.86
NOAA Avg Annual Precipitation	15.73	NOAA Avg Growing Season Precipitation	13.34
Disturbances and Animal Use:	Livestock in the form of dairy heifers and calves were observed around the dirt tank area just adjacent to this site.		

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns					X
Comments:						
S H	Pedestals and/or Terracettes					X
Comments:						
S H	Bare Ground					X
Comments:	almost 100% vegetative ground cover					
S H	Gullies					X
Comments:						

S	Wind-scoured, Blowouts, and/or Deposition Areas					X
Comments:						
H	Litter Movement					X
Comments:						
S H B	Soil Surface Resistance to Erosion				X	
Comments:						
S H B	Soil Surface Loss or Degradation					X
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff					X
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups					X
Comments:						
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount				X	
Comments:	10-15% is the estimated amount					
B	Annual Production					X
Comments:	1000 lbs/ac or kg/ha is the current estimate					
B	Invasive Plants				X	
Comments:	esquite less than scattered					
B	Reproductive Capability of Perennial Plants					X
Comments:						
S	Physical/Chemical/Biological Crusts					X
Comments:	physical and biological crusting evident					
B	Wildlife Habitat				X	
Comments:	Good pronghorn and quail habitat - fair for deer.					
B	Wildlife Populations				X	
Comments:	Good pronghorn and quail pops - fair deer.					
B	Special Status Species Habitat					X
Comments:	not LPC habitat					
B	Special Status Species Populations					X

Comments:

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	0	1	9
H	Hydrologic	0	0	0	2	9
B	Biotic	0	0	0	5	8

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	0	10
Hydrologic		0	0	11
Biotic		0	0	13

Site Notes: This site is almost a solid stand of blue grama and tobosa. Some forbs present with almost no brush concerns. Some mesquite was observed with more at the dirt tank where dairy heifers and calves were seen utilizing this site. Some influences from the two-track were observed but very minimal.

RFOs Upland and Biotic Standard Assessment Summary Worksheet

SITE 65011-HW166-C016

Legal Land Desc	SWSW 30 0060S 0300E Meridian 23	Acreage	930
Ecosite	070BY063NM DEEP SAND CP-2	Photo Taken	Y
Watershed	13060003210 RAILROAD MOUNTAIN		
Observers	NAVARRO/MOE	Observation Date	02/07/2007
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	RPD	Soil Taxon Name	ROSWELL
Texture Class	NM644 FS	Soil Phase	ROSWELL- JALMAR
Texture Modifier	NM644 FINE SANDS,HILLY		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	19.55	NOAA Growing Season Precipitation	15.86
NOAA Avg Annual Precipitation	15.73	NOAA Avg Growing Season Precipitation	13.34
Disturbances and Animal Use:	Past livestock use is evident from the previous year.		

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						
S H	Pedestals and/or Terracettes			X		
Comments:						
S H	Bare Ground			X		
Comments:	current estimate is 40-50%					
S H	Gullies					X

Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:						
H	Litter Movement				X	
Comments:						
S H B	Soil Surface Resistance to Erosion			X		
Comments:	Interspace soil ped samples melted readily.					
S H B	Soil Surface Loss or Degradation				X	
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups			X		
Comments:	Plants in structural groups are not in the best of shape as far as perennial rooting capability to hold soil in place for adequate infiltration.					
B	Plant Mortality/Decadence				X	
Comments:	There is marked mortality of the bluestem species which is suffering from the effects of recent dry conditions. Little bluestem is decadent in some area.					
H B	Litter Amount				X	
Comments:	current estimate is 40%					
B	Annual Production			X		
Comments:	800 lbs/ac or kg/ha is the current estimate					
B	Invasive Plants				X	
Comments:	some mesquite was observed					
B	Reproductive Capability of Perennial Plants			X		
Comments:	Not all grasses were in the stages of heading out from last year.					
S	Physical/Chemical/Biological Crusts				X	
Comments:	Weak physical crusts were observed throughout with obvious breaks in continuity.					
B	Wildlife Habitat					X
Comments:	Excellent deer and quail and good pronghorn.					
B	Wildlife Populations					X
Comments:	Excellent deer and quail - good pronghorn pops.					

B	Special Status Species Habitat				X	
Comments:	Generally good nesting cover, though sand bluestem not at adequate height.					
B	Special Status Species Populations				X	
Comments:	LPC populations high in vicinity, but no known leks on this allotment.					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	3	4	3
H	Hydrologic	0	0	3	5	3
B	Biotic	0	0	4	6	3

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil	Upland determination is marginal but remains stable for some of the indicators.	0	3	7
Hydrologic		0	3	8
Biotic		0	4	9

Site Notes: Abundant plants observed, but show some decadence. Good brood habitat and potential lek sites. Bluestem and dropseed are abundant. Threeawn is also abundant which suggests some degradation. This site is adjacent to railroad and highway.

Decadence on bluestem is of some concern. It appears this site was impacted by past livestock use with combination of dry conditions from previous years. Shinnery oak leaves on the ground appear to be decomposing and provide site protection by forming a mulch layer holding soil in place until conditions improve.