

Standards of Public Land Health Evaluation of 64004 BUCK SPRINGS Allotment [03/18/2008]

The Roswell Field Office conducted Rangeland Health Assessments at 2 study sites within allotment #64004, Buck Springs. These assessments evaluated Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data and Ecological Site Descriptions were incorporated into and in support of this field assessment. 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
64004-BUCK SPRINGS-F164 (*)	X			X			N/A		
64004-NORTH-F163	X			X			N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for public land on Buck Springs, allotment #64004. Ten of these assessed soil site stability, 11 hydrologic function and 13 biotic integrity. These qualitative assessments in conjunction with quantitative information gathered from previous data collected on 2 trend plot locations within this allotment were utilized to make rangeland health determinations. Quantitative evaluations are performed by the Roswell Field Office, which include some or all of the following: ground and vegetative cover and composition, production, frequency and ecological condition. These collections which were initiated in the late 1970's/early 1980's, are scheduled and conducted approximately every 5 years.

Both study areas, corresponding to Buck Springs and North Pastures are CP-2 Loamy with deep to moderately deep soil on Hollomex, moist-Milner Reeves (HRB) moist loams and Deama-Darvey-Rock (DDC) associations, moderately undulating and rolling respectively. This allotment is just west of the Mesa rest stop in the upper half of the Salt Creek 100K. The (HRB) map unit is on high terraces in the northern parts of survey area west of the Pecos River on 0-8% slopes. Hollomex soil is on knolls and ridges, Milner in depressional areas and alluvial side slopes and Reeves in depressional areas. This soil association formed in calcareous, gypsiferous alluvium and residuum, deep and well-drained.

Deama-Darvey-Rock outcrop is on ridges, knolls and alluvial side slopes on plateaus in the northwestern part of survey area on 1-15% slopes. Deama soil is on knolls and ridges, Darvey on alluvial side slopes and Rock outcrop intermingled with areas of Deama soil. This soil

association formed in residuum and calcareous alluvium derived dominantly from limestone and exposed unweathered limestone.

Buck Springs Pasture encompasses 3,012 acres/1,219 hectares on 3,900 ft/1,181 m to 4,500 ft/1,363 m elevation. This study is adjacent to a newly constructed allotment boundary fence which may have impacts due to road activity, livestock and traffic. Although no livestock were present at evaluation, impacts from these other activities are apparent. A number of indicators are indicating Moderate departure: bare areas account for a mosaic pattern of vegetation and soil throughout; water flow patterns are longer than expected and account for Moderate departure; some roots are exposed along these flow paths and bare ground is estimated at 50%; functional/structural groups and plant community show some reduction in plant groups and some overland water flow indicating reduced infiltration; annual production is 50-60% of potential with a current estimate of 700 lbs/ac or kg/ha. Cholla (*Opuntia imbricata*) is common throughout rating invasives Moderate to Extreme. All other indicators exhibit normal range of variability from established long-term and ESD parameters.

North Pasture encompasses 3,011 acres/1,219 hectares between 4,400 ft/1,333 m and 5,000 ft/1,515 m elevation. Nearly all indicators fell well within normal range of variability. This site is an excellent burn candidate to remove some standing dead and decadent vegetation and release valuable nutrients. This would rejuvenate the range and remove some scatterings of cholla. Herds of pronghorn (*Antilocapra americana*) are plentiful here and are obviously utilizing the forb component and livestock water sources. Oil and gas activity is minimal but present with access roads and pads dotting the landscape. A well-represented diverse grass community is in place and could use a burn. No livestock are present although range improvements are up and operational.

It is the professional opinion of the Assessment Team, public land within allotment #64004, Buck Springs meets Upland and Biotic Standards. There are no Riparian issues present therefore this standard was not addressed. See site notes, comments and recommendations for further information regarding this assessment.

The (*) indicates that the assessment had one or more indicator(s) rated moderate/extreme or extreme. These indicators are:

- Invasive Plants

These indicators by themselves are not enough to rate the site as not meeting a standard but may warrant future monitoring.

Recommendations: Current livestock management is adequate for site protection. Water is strategically placed to benefit both livestock and wildlife, as evidenced by numerous herds of pronghorn. Recommend cholla removal by either spot treatment or mechanical methods in Buck Springs Pasture. North Pasture should be planned for a future Rx burn to remove thick stands of grass and remove those scattered cholla plants.

Any future reclamation could be scheduled to remove excess oil and gas access roads for defragmentation and range restoration.

RFOs Upland and Biotic Standard Assessment Summary Worksheet						
SITE 64004-BUCK SPRINGS-F164						
Legal Land Desc	SESW 4 0050S 0220E Meridian 23	Acreage	3012			
Ecosite	070BY052NM LOAMY CP-2	Photo Taken	Y			
Watershed	13060003200 FIVE MILE					
Observers	NAVARRO/ARNOLD	Observation Date	03/25/2008			
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad				
Soil Map Unit	HRB	Soil Taxon Name	HOLLOMEX			
Texture Class	NM644 L	Soil Phase	HOLLOMEX- MILNER-REEVES			
Texture Modifier	NM644 MOIST LOAMS					
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation				
NOAA Annual Precipitation	9.15	NOAA Growing Season Precipitation	7.66			
NOAA Avg Annual Precipitation	9.18	NOAA Avg Growing Season Precipitation	7.58			
Disturbances and Animal Use:	Livestock use from the recent past and new fence construction adjacent are impacting this area. Roads along this fenceline are also affecting 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:	longer than expected					
S H	Pedestals and/or Terracettes			X		

Comments:	some roots exposed					
S H	Bare Ground			X		
Comments:	50% is the current estimate					
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:	Some bare areas are present compromising some of this community.					
S H B	Compaction Layer				X	
Comments:						
B	Functional/Structural Groups			X		
Comments:	There is a amoderate reduction in some plant groups, particularly the grama grass component.					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount				X	
Comments:	20% is the current estimate.					
B	Annual Production			X		
Comments:	600-700 lbs/ac or kg/ha is the current estimate.					
B	Invasive Plants		X			
Comments:	Cholla is common throughout this pasture.					
B	Reproductive Capability of Perennial Plants				X	
Comments:						
S	Physical/Chemical/Biological Crusts				X	

Comments:	A good physical crust exists.					
B	Wildlife Habitat				X	
Comments:	Excellent for pronghorn; fair for deer.					
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat					X
Comments:						
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	3	4	3
H	Hydrologic	0	0	4	5	2
B	Biotic	0	1	2	7	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		0	3	7
Hydrologic		0	4	7
Biotic		1	2	10

Site Notes: Many spots of bare ground on this site lead to some overland flow. Gyp inclusions are higher than normal which may account for variation in the soil. Cholla is common and is a candidate for future treatment; however the fuel load may not be high enough to carry a fire.

Impacts by livestock and adjacent fence construction are impacting this site.

RFOs Upland and Biotic Standard Assessment Summary Worksheet

SITE 64004-NORTH-F163

Legal Land Desc	SESE 29 0040S 0220E Meridian 23	Acreage	3011
Ecosite	070BY052NM LOAMY CP-2	Photo Taken	Y
Watershed	13060003200 FIVE MILE		
Observers	NAVARRO/ARNOLD	Observation Date	03/25/2008
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	DDC	Soil Taxon Name	DEAMA
Texture Class	NM644 L	Soil Phase	DEAMA-DARVEY-ROC
Texture Modifier	NM644 GRAVELLY LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	9.15	NOAA Growing Season Precipitation	7.66
NOAA Avg Annual Precipitation	9.18	NOAA Avg Growing Season Precipitation	7.58
Disturbances and Animal Use:	Oil and gas activity in the area along with access roads associated, are impacting this area. Some livestock use is minorly impacting.		

Part 2. Attributes and Indicators

Attribute	Indicators	Departure from Ecological Site Description/Ecological Reference Areas				
		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:	20% is the current estimate.					
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:	50-60% is the current estimate.					
B	Annual Production				X	
Comments:	800 lbs/ac or kg/ha is the current estimate.					
B	Invasive Plants			X		
Comments:	cholla is scattered					
B	Reproductive Capability of Perennial Plants				X	
Comments:						
S	Physical/Chemical/Biological Crusts				X	
Comments:	Physical and biological crust is broken but present throughout.					
B	Wildlife Habitat				X	
Comments:	Excellent for pronghorn; fair for deer and upland birds.					
B	Wildlife Populations				X	

Comments:						
B	Special Status Species Habitat					X
Comments:						
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	4	6
H	Hydrologic	0	0	0	5	6
B	Biotic	0	0	1	7	5

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	1	12

Site Notes: This pasture is an excellent Rx burn candidate to remove the dense stands of tobosa and encourage the grama and dropseed component. This loamy area potentially can support a more diverse variety of vegetation with a carefully planned burn.

Herds of pronghorn are abundant throughout this allotment despite the amount of oil and gas operations present.

Determination of Public Land (Rangeland) Health for 64004 BUCK SPRINGS

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 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 Buck Springs allotment #64004, meets the (1) 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/ BRAD PENDLEY
Assistant Field Manager

08/08/2008
Date