

Determination of Public Land (Rangeland) Health for 65003 BOJAX RANCH

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 Bojax Ranch, allotment #65003, 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

5/25/2007
Date

Standards of Public Land Health Evaluation of 65003 BOJAX RANCH Allotment [10/15/2006]

The Roswell Field Office conducted rangeland health assessments at two study sites within Bojax Ranch allotment #65003. The assessments looked at the 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 the field assessment. The 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
65003-DF35-C011	X			X			N/A		
65003-JT162-C010	X			X			N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for public land on Bojax Ranch, allotment #65003. Ten (10) assessed soil site stability, 11 hydrologic function and 13 biotic integrity. These qualitative assessments in conjunction with previous data collected on two locations within this allotment were utilized to make rangeland health determinations. This allotment is a "C" (custodial) management category due to small amounts of public land present.

The northernmost site is CP-2 sandy loam with some livestock in the pasture. Conservative use was also observed in the southern pasture with evidence of past chemical treatment for mesquite (*Prosopis glandulosa*). Forage and herbaceous cover for livestock and wildlife respectively has shown consistency with production levels approaching and/or meeting desired levels.

Both locations adding up to a total of 240 acres/97 hectares are soil phase Faskin (FaA) fine sandy loam with Ratliff-Redona (RBA) associations intermingled on high terraces in eastern parts of areas surveyed. Slopes are 0 to 2 percent on 3,800 ft/1,151 m to 4,200 ft/1,272 m. Faskin soil is deep and well-drained formed in alluvial and eolian deposits. Ratliff-Redona soil is also deep and well-drained, gently undulating and formed in calcareous alluvium. Soil, hydrologic and biotic attributes for those appropriate indicators fell mainly within normal range of variability for the northern pasture. Livestock waters are located within this area and cattle appear to be well dispersed throughout leading to adequate distribution patterns. This site has fairly good diversity of grass, forb and shrub components. These mosaic patterns lend themselves well to quail (*Callipepla* spp.) cover and mule deer (*Odocoileus hemionus*) browse. Catclaw (*Acacia* spp.), mesquite and yucca (*Yucca* spp.) are scattered but leave enough open areas with forb growth for pronghorn (*Antilocapra americana*).

The southern pasture lies between dune areas and more loamy flatter country. This site also falls well within normal range of variability from those established parameters and long-term data

trends. Ecological site coverages and on the ground verification both indicate an ecotone (transition zone) at this immediate vicinity. Mesquite and shinnery (*Quercus havardii*) are both scattered with some wind-scouring and blowouts occasionally present on the wind-ward side of the dunes. Annual production is estimated at 1000 lbs/ac or kg/ha. Decreasers like blue grama (*Bouteloua gracilis*) and dropseed (*Sporobolus* spp.) dominate some areas and increase westward. Little bluestem (*Schizachyrium scoparium*) is found in isolated patches eastward, but it is dropseed that may provide large enough clumps for lesser prairie chicken (*Tympanuchus pallidicinctus*) nesting. No known leks are known in this area, but habitat appears suitable.

Wildlife - Evaluation of the integrity of biotic community considered several indicators as attribute indices for this 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 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 (*Andropogon hallii*), 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, pronghorn and a variety of game and non-game species are also considered in the assessment.

This area of interest does fall within the Core Area. There are no known sightings of LPC on these sites although potential does exist for the southern pasture and may appear to provide suitable habitat for sand dune lizard as well. Pronghorn, jackrabbit (*Lepus californicus*) and desert mule deer inhabit this allotment and vicinity as visible sign was recorded.

In the professional opinion of Assessment Team, public land within Bojax Ranch, allotment #65003 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: Spring lek surveys should be conducted especially in the southern pasture to verify whether or not LPC do inhabit this area. Other areas are also accessible by ranch two-tracks but may not encompass public land tracts, as these are well-scattered.

Currently the conservative use by livestock is more than adequate with water distributed at vital points throughout. Current management is adequate at present and future consultations with the allottee to schedule further monitoring should continue, in the event brush problems do arise, but currently none exist.



RFOs Upland and Biotic Standard Assessment Summary Worksheet

SITE 65003-DF35-C011

Legal Land Desc	NWNW 5 0050S 0280E Meridian 23	Acreage	200
Ecosite	070BY054NM SANDY LOAM CP-2	Photo Taken	Y
Watershed	13060003180 HERNANDEZ		
Observers	NAVARRO/MOE	Observation Date	02/28/2007
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:	Light livestock use with some roads to watering points.		

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:	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:	some displacement					
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:	good diversity					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount					X
Comments:	60% is the current estimate					
B	Annual Production				X	
Comments:	1000-1200 lbs/ac or kg/ha is the current estimate					
B	Invasive Plants			X		
Comments:	yucca, mesquite and acacia scattered					
B	Reproductive Capability of Perennial Plants					X
Comments:						
S	Physical/Chemical/Biological Crusts				X	
Comments:						
B	Wildlife Habitat					X
Comments:	Good habitat for deer, quail and pronghorn.					
B	Wildlife Populations					X
Comments:	Good populations for quail, deer and pronghorn					
B	Special Status Species Habitat					X
Comments:	not suitable soil types-LPC or lizard					

B	Special Status Species Populations					X
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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	1	6	3
H	Hydrologic	0	0	1	6	4
B	Biotic	0	0	2	3	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	1	9
Hydrologic		0	1	10
Biotic		0	2	11

Site Notes: Conservative use by livestock is evident here. Watering points are adequate for proper distribution. Public land in this section should continue with present management as the rest of this ranch. There are no fences here to separate public from private. Access is via Olive County Rd. south.

Good diversity of grass species exists here. Scattering of mesquite, acacia and yucca adds to the brush component. No locked gates or restricted access problems prevented the evaluation.

RFOs Upland and Biotic Standard Assessment Summary Worksheet

SITE 65003-JT162-C010

Legal Land Desc	SENW 7 0050S 0280E Meridian 23	Acreage	40
Ecosite	070BY061NM SAND HILLS CP-2	Photo Taken	Y
Watershed	13060003180 HERNANDEZ		
Observers	NAVARRO/MOE	Observation Date	02/28/2007
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	FaA	Soil Taxon Name	FASKIN
Texture Class	NM644 LFS	Soil Phase	FASKIN
Texture Modifier	NM644 FINE SAND		
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:	Some livestock are in this pasture at very conservative levels.		

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%					
S H	Gullies					X
Comments:						
S	Wind-scoured, Blowouts, and/or			X		

	Deposition Areas					
Comments:	occasionally present					
H	Litter Movement				X	
Comments:						
S H B	Soil Surface Resistance to Erosion			X		
Comments:	rapid melting of interspace soil ped samples					
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:	good diversity					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount				X	
Comments:	40% is the current estimate					
B	Annual Production					X
Comments:	1000-1500 lbs/ac or kg/ha is the current estimate					
B	Invasive Plants			X		
Comments:	mesquite and shinnery scattered					
B	Reproductive Capability of Perennial Plants					X
Comments:						
S	Physical/Chemical/Biological Crusts				X	
Comments:						
B	Wildlife Habitat					X
Comments:	Good deer and quail-fair for pronghorn					
B	Wildlife Populations					X
Comments:	Good deer and quail-fair for pronghorn					
B	Special Status Species Habitat				X	
Comments:	Clumps of dropseed large enough for nesting					
B	Special Status Species Populations				X	
Comments:	No known leks in area, but habitat appears suitable.					

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	2	5	3
H	Hydrologic	0	0	1	7	3
B	Biotic	0	0	2	5	6

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	2	8
Hydrologic		0	1	10
Biotic		0	2	11

Site Notes: This site lies between dune areas and loamy flats; ecotone. The dropseed component is suitable for potential LPC habitat. Little bluestem was found with some grazed to 3-4" stubble while others were left untouched. Shinnery oak is found in pockets. Sand bluestem is very limited. Conservative use by livestock is again obvious here. Deer and jackrabbit scat was observed.

Evidence of past chemical treatment for mesquite is quite obvious as the neighboring ranch on the other side of the fence is mesquite infested with limited diversity. The evaluated side is intermittant with grass, shrubs and forbs comprising of deeper sand and loamier shallower vegetation respectively.