

## Standards of Public Land Health Evaluation of #64011 Four Mile allotment [ 01/11/2008 ]

The Roswell Field Office conducted Rangeland Health Assessments at 4 study sites within allotment #64011, Four Mile. 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
64011-FAR WEST-E135	X			X			N/A		
64011-RUBY NORTH-F089	X			X			N/A		
64011-RUBY SOUTH-F090	X			X			N/A		
64011-SOUTHEAST-E136	X			X			N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for public land on Four Mile, allotment #64011. Of these 10 assessed soil site stability, 11 hydrologic function and 13 biotic integrity. These qualitative assessments in conjunction with quantitative information and ecological site descriptions gathered from previous data collected on 4 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.

This allotment is located in the Fifteen Mile watershed of Salt Creek 100K, adjacent to Four Mile Draw. Permitted use is for cattle and horses yearlong under a Section 3 permit for 303 (AU's) animal units for a total 1,927 (AUM's) animal unit months at 53% public land. Ruby South, Ruby North, Far West and Southeast Pastures all are either CP-3 shallow or gravelly sites with intermittent bottomland and draw areas. Upland ecological sites support a mix of shallow-rooted vegetation. Cattle use is light to conservative and lends itself to fair to good rangeland health.

Indicators assessed fell well within normal range of variability with very slight deviations from expected parameters for all four sites. A small amount of oil and gas activity is on-going but very little impacts are associated with these actions. Cholla (*Opuntia spinosa*) and catclaw (*Acacia greggia*) have encroached into some areas but less than Moderate levels. Other than an occasional outcrop of sacahuista (*Nolina microcarpa*), no other brush concerns exist.

It is the professional opinion of Assessment Team, public land within allotment #64011, Four Mile 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.

Wildlife in the form of pronghorn (*Antilocapra americana*), mule deer (*Odocoileus hemionus*), upland birds and porcupine (*Erethizon dorsatum*) are inhabiting these areas as there is plenty of cover and open space. Porcupine have gnawed mesquite bark in places and burrowing activity by other rodents is evident throughout. Lagomorphs have populated this allotment although most soil complexes are gravelly and shallow with some loamy texture modifiers.

**Recommendations:** Recommend use of fire to clean up draws where cholla has manifested itself. Fuel loads are adequate and a Cooperative Agreement between BLM and the allottee would only enhance the already good condition of this allotment.

Also recommend flash grazing and continued proper livestock rotation in some areas where biomass levels are above those desired. This can be accomplished with a rangeland agreement as part of stipulations for improving the range.

All watering points are functioning properly for proper distribution of livestock. The current monitoring schedule should continue to ensure this allotment is evaluated on a regular cycle.

## RFOs Upland and Biotic Standard Assessment Summary Worksheet

### SITE 64011-FAR WEST-E135

Legal Land Desc	SWNW 27 0060S 0210E Meridian 23	Acreage	2250
Ecosite	070CY109NM LOAMY CP-3	Photo Taken	Y
Watershed	13060005040 FIFTEEN MILE		
Observers	NAVARRO/POST	Observation Date	04/22/2008
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	PDB	Soil Taxon Name	PASTURA
Texture Class	NM644 L	Soil Phase	PASTURA- DARVEY
Texture Modifier	NM644 LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	5.97	NOAA Growing Season Precipitation	4.08
NOAA Avg Annual Precipitation	5.84	NOAA Avg Growing Season Precipitation	4.32
Disturbances and Animal Use:			

### 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:	mostly associated with the two-track closer to the site					
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:	20% is the current estimate					
B	Annual Production				X	
Comments:	700 lbs/ac or kg/ha is the current estimate					
B	Invasive Plants				X	
Comments:	Cholla is less than scattered.					
B	Reproductive Capability of Perennial Plants				X	
Comments:	Only slight departure exists here.					
S	Physical/Chemical/Biological Crusts				X	
Comments:	physical crust is evident but not continuous					
B	Wildlife Habitat				X	

Comments:	Good for pronghorn and deer; fair for quail ( <i>Callipepla</i> spp.) and other birds.					
B	Wildlife Populations			X		
Comments:	Mule deer and pronghorn populations could use some improvement.					
B	Special Status Species Habitat					X
Comments:	N/A					
B	Special Status Species Populations					X
Comments:	N/A					

### 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	6	4
H	Hydrologic	0	0	0	8	3
B	Biotic	0	0	1	8	4

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: Very light use by livestock here, due to distance from water. Deer and pronghorn sign is scattered. The mulch layer is adequate due to grass cover above expected parameters. This site could be flashed grazed to remove the standing and decadent material.

This upland site represents bottomland, upland shallow and loamy ecosites, ie, vegetation and soil.

## RFOs Upland and Biotic Standard Assessment Summary Worksheet

### SITE 64011-RUBY NORTH-F089

Legal Land Desc	NWNW 15 0060S 0220E Meridian 23	Acreage	1035
Ecosite	070CY119NM GRAVELLY CP-3	Photo Taken	Y
Watershed	13060005040 FIFTEEN MILE		
Observers	NAVARRO/POST	Observation Date	04/21/2008
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	HGC	Soil Taxon Name	HOGADERO
Texture Class	NM644 GR-L	Soil Phase	HOGADERO- PENA
Texture Modifier	NM644 GRAVELLY LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	5.97	NOAA Growing Season Precipitation	4.08
NOAA Avg Annual Precipitation	5.84	NOAA Avg Growing Season Precipitation	4.32
Disturbances and Animal Use:	Very light use by livestock.		

#### 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:	30% is the current estimate.					
S H	Gullies				X	
Comments:	Associated with the old two-track.					
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:	Moderate deviations exist.					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount					X
Comments:	20% is the current estimate.					
B	Annual Production				X	
Comments:	600 lbs/ac or kg/ha is the current estimate.					
B	Invasive Plants				X	
Comments:	Acacia and cholla less than scattered.					
B	Reproductive Capability of Perennial Plants				X	
Comments:						
S	Physical/Chemical/Biological Crusts				X	
Comments:						
B	Wildlife Habitat				X	

Comments:	Good for pronghorn and fair for deer and upland birds.					
B	Wildlife Populations			X		
Comments:	Populations not at potential but are moving away from static.					
B	Special Status Species Habitat					X
Comments:	N/A					
B	Special Status Species Populations					X
Comments:	N/A					

### 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	8	2
H	Hydrologic	0	0	0	9	2
B	Biotic	0	0	2	6	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	2	11

Site Notes: This site is in good condition considering the dry conditions. Diversity of plant species needs improvement. Evidence of bird nesting was found in acacia (*Acacia* spp.). No brush problems exist at the moment.

**RFOs Upland and Biotic Standard Assessment Summary Worksheet**

**SITE 64011-RUBY SOUTH-F090**

Legal Land Desc	SWSE 28 0060S 0220E Meridian 23	Acreage	730
Ecosite	070DY158NM VERY SHALLOW CP-4	Photo Taken	Y
Watershed	13060005040 FIFTEEN MILE		
Observers	NAVARRO/POST	Observation Date	04/21/2008
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	EaC	Soil Taxon Name	ECTOR
Texture Class	NM644 CBV-L	Soil Phase	ECTOR
Texture Modifier	NM644 VERY COBBLY LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	5.97	NOAA Growing Season Precipitation	4.08
NOAA Avg Annual Precipitation	5.84	NOAA Avg Growing Season Precipitation	4.32
Disturbances and Animal Use:	Conservative use by livestock with some oil and gas activity.		

**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:	Some old rill formation is evident. Exposed areas do indicate past and present frequency.					
S H	Water Flow Patterns				X	
Comments:						
S H	Pedestals and/or Terracettes				X	
Comments:						
S H	Bare Ground				X	
Comments:	10% is the current estimate. Most of ground cover readings are rock and gravel.					

S H	Gullies				X	
Comments:	Uncommon but present along two-tracks.					
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:	Upland shallow area is degrading with some horizon loss.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff			X		
Comments:	Infiltration is reduced throughout.					
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups			X		
Comments:	Plant cover changes are somewhat impacting this site.					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount				X	
Comments:						
B	Annual Production			X		
Comments:	Production is 1/2 on the upland and 2/3 in the bottomland.					
B	Invasive Plants			X		
Comments:	Scattered mesquite ( <i>Prosopis glandulosa</i> ) and cholla. Sacahuista ( <i>Nolina microcarpa</i> ) was observed scattered throughout.					
B	Reproductive Capability of Perennial Plants				X	
Comments:						
S	Physical/Chemical/Biological Crusts				X	
Comments:						
B	Wildlife Habitat				X	
Comments:	Good for deer and fair for pronghorn and upland birds. Burrowing activity by					

	rodents is evident. Lagomorphs were observed throughout.					
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat					X
Comments:	N/A					
B	Special Status Species Populations					X
Comments:	N/A					

### 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	6	2
H	Hydrologic	0	0	3	7	1
B	Biotic	0	0	4	5	4

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	Marginal but still meeting with potential for improvement.	0	2	8
Hydrologic	Marginal but still meeting with potential for improvement.	0	3	8
Biotic	Marginal but still meeting with potential for improvement.	0	4	9

Site Notes: This site represents possibly 3 types of ecological sites with bottomland, upland shallow with intermediate soil and vegetation. Overall this site could use some improvement. This summer the rain should help this site recover. Oil and gas activity is impacting the two-track.

Livestock are moderately grazing the bottomland with burrograss (*Scleropogon brevifolius*), tobosa (*Pleuraphis mutica*) and some grammas (*Bouteloua* spp.). Porcupine use is quite evident here on the mesquite bark.

A fire to remove some decadent vegetation and possibly herbicide control is a possibility.

<b>RFOs Upland and Biotic Standard Assessment Summary Worksheet</b>			
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<b>SITE 64011-SOUTHEAST-E136</b>			
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Legal Land Desc	NWSE 30 0060S 0220E	Acreage	2519
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	Meridian 23		
Ecosite	070CY113NM SHALLOW CP-3	Photo Taken	Y
Watershed	13060005040 FIFTEEN MILE		
Observers	NAVARRO/POST	Observation Date	04/22/2008
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	DDC	Soil Taxon Name	DEAMA
Texture Class	NM644 GR-L	Soil Phase	DEAMA- DARVEY-ROC
Texture Modifier	NM644 GRAVELLY LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	5.97	NOAA Growing Season Precipitation	4.08
NOAA Avg Annual Precipitation	5.84	NOAA Avg Growing Season Precipitation	4.32
Disturbances and Animal Use:	Conservative use by cattle.		

## 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:	Reduction in F/S groups was observed.					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount					X
Comments:	20% is the current estimate.					
B	Annual Production				X	
Comments:	600 lbs/ac or kg/ha is the current estimate.					
B	Invasive Plants				X	
Comments:						
B	Reproductive Capability of Perennial Plants				X	
Comments:						
S	Physical/Chemical/Biological Crusts				X	
Comments:	physical crust is evident					
B	Wildlife Habitat				X	
Comments:	Good for deer and pronghorn. Upland birds and lagomorph activity was also seen.					
B	Wildlife Populations			X		
Comments:	Populations not quite at potential.					

B	Special Status Species Habitat					X
Comments:	N/A					
B	Special Status Species Populations					X
Comments:	N/A					

**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	5	5
H	Hydrologic	0	0	0	6	5
B	Biotic	0	0	2	6	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	2	11

Site Notes: This site is in good condition, but could use some improvement. Vegetation is adequate for ground cover protection. No real problems exist except for lack of precipitation.

## Determination of Public Land (Rangeland) Health for #64011 Four Mile

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 Four Mile, allotment #64011, 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/ J. Howard Parman  
Assistant Field Manager

April 30, 2009  
Date