

## **Determination of Public Land (Rangeland) Health for 65026 RUNYAN**

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 the assessments, it is my determination that the public land within the Runyan allotment #65026 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/ T. R. KREAGER  
Assistant Field Manager

07/22/2004  
Date

## Standards of Public Land Health Evaluation of 65026 RUNYAN Allotment [ 01/05/2004 ]

The Roswell Field Office conducted rangeland health assessments at two (2) study sites within the Runyan Allotment #65026. 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
65026- NORTH-C029	X			X			N/A		
65026- SOUTH-C028	X	*		X	*		N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for public land on the Runyan #65026 allotment. Ten of these assessed soil site stability, 11 assessed hydrologic function and 13 assessed biotic integrity. These qualitative assessments along with quantitative information from two areas on the allotment were utilized to assess the rangeland health of the public land within the allotment. This allotment is a "C" category (custodial) because of the small amount of public land within the allotment.

The Runyan allotment is approximately 25 miles east of Roswell along U. S. Highway 70. The Haystack Mountain Off Highway Vehicle area is located just west of the allotment and the Santa Fe railroad forms the southern boundary. The largest track of public land is in the southern portion of the allotment along the Santa Fe railroad. A smaller amount of public land is located in the northern portion of the allotment along the slopes and top edge of the escarpment.

The soil on the northern site is a TORRIORTHENTS-PHILDER-ROC association that supports a Gravelly SD-3 ecological site with inclusions of Shallow Sand SD-3. On the top edge of the escarpment, creosote is the dominate shrub with a black grama grass understory; a sparse mixed shrub component is present on the slopes of the escarpment.

The majority of the indicators rated as none to slight and slight categories: gullies were rated as moderate. The gullies primarily as associated with the steep sopes on the sides of the escarpment and are expected. No new head cutting along the top of the escarpment was observed.

The southern site was rated as moderate for many indicators. The droughty conditions in SE New Mexico has affected this area. The vegetative composition is good; bush muhly is growing in much of the inter-spaces between the dunes (normally this is not the case). The bluestem species group expected (from the ecological site guide) is largely absent and appears to be replaced with dropseed species. Transitional zone influences between the Southern Desert and Canadian Plains Major Land Resource Area are occurring and the assessment reflects this. Mesquite is the dominant shrub, however fourwing saltbush is prevalent throughout the area.

The soils in the southern site are a mix of PAJARITO supporting Loamy Sand SD-3 ecological site, a TORRIORTHENTS-PHILDER-ROC association that supporting a Gravelly SD-3 ecological site and a Blakeney-Ratliff association supporting Shallow Sand CP-2 and Sandy Loam CP-2 ecological sites. Mesquite is the dominant shrub on the Loamy Sand SD-3 and the Shallow Sand/Sandy Loam CP-2 sites.

The evaluation was made in the loamy sand area. Although the area is hummocky mesquite, bush muhly, dropseed species extensively occupy the interspaces between the hummocks. The placement of a culvert on the railroad just outside the allotment boundary fence has over time contributed to the formation of a deep and extensive gully that extends into the neighboring allotment (Cooper 65036) and then to Bob Crosby Draw.

Hydrology - Pasture North - The gullies indicator rated moderate with active erosion and gully formation taking place. The increase in gullies has occurred because vegetation is very sparse and intermittent on slopes. The lack of vegetation has decreased infiltration and increased runoff. All other indicators rated as none to slight or slight to moderate. Sand and gravel deposits of Quaternary pediment deposits and sandstone deposits of the Santa Rosa Formation outcrop in the area.

Pasture South - The water flow patterns indicator rated as moderate. Erosion is occurring with some instability and deposition. The pedestal indicator rated as moderate. The recent dry conditions in combination with wind and water erosion has possibly increased the amount of pedestaling of plants and rocks. The bareground indicator rated as moderate. The amount of bareground has possibly increased due to recent dry conditions and also wind and water erosion processes. The gullies indicator rated as moderate with active erosion and gully formation taking place. The wind scoured, blowouts, and or deposition area indicator rated out as moderate. The decrease in the strength of the physical soil crusts and or the absence of soil crusts, wind velocity, surface dryness, surface roughness, and has possibly increased the amount of wind-scoured, blowouts and deposition areas in the area. The soil surface loss or degradation has rated out as moderate. The recent dry conditions, decrease in the strength of physical crusts and or absence of soil crusts, wind velocity, surface dryness, and the decreased amount of surface plant cover has possibly increased soil surface loss to degradation. All other indicators rated as none to slight or slight to moderate. Sand and gravel deposits of Quaternary pediment deposits outcrop in the area. All other indicators rated as none to slight or slight to moderate. Sand and gravel deposits of Quaternary pediment deposits and sandstone deposits of the Santa Rosa Formation outcrop in the area.

Wildlife - Evaluation of the integrity of the 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.

South Pasture - Specifically, three rangeland health indicators fell within the Moderate rating; functional/structural groups, annual production, and invasive plants. Considering present climate regimes, the annual production indicator can be expected to fall within the normal range of variability. In addition to the standard worksheet biotic factors, four specific wildlife indicators and descriptors are included in this evaluation. The Wildlife Habitat indicator rated Moderate due to the shift in vegetative community and impacts associated with the Burlington Northern Santa Fe Railroad and new oil and gas developments in the area of interest.

The composition of vegetation reflects current climatic conditions, e.g., drought for the past several years. Range site production and cover of a variety of preferred plant species for wildlife, such as forbs and woody browse species, and the availability of seed for food and regeneration, is moderated by climate and land use. Wildlife species and populations would reflect the change in vegetative composition and present habitat condition, from that of a grassland swale to a hummocky mesquite-invaded site. With respect to Special Status Species, none are known to occur in the area of interest at this time and the Habitat and Population indicators are, therefore, rated None to Slight.

North Pasture - No biotic indicators were rated above slight to moderate. A unique assemblage of terrestrial non-game species (herps) and avifauna can be expected to use the area due to the varied and diverse habitat type of the area which includes a portion of the escarpment and mixed shrub habitat component. With respect to Special Status Species, none are known to occur in the area of interest at this time and the Habitat and Population indicators are, therefore, rated None to Slight.

In the professional opinion of the Assessment Team, the public land within the allotment meet the Upland and Biotic Standards. The Riparian Standard does not apply to this area.

**Recommendations:** Approximately 500 acres of the southern site is dominated with mesquite. Although this allotment is classified as a "C" category allotment consideration should be given to treating the mesquite infested areas. This would promote improvement in conditions.

There is no quantitative data available and the rating is subjective (based on sites with similar soils). This area warrants additional monitoring evaluation to validate the rating.

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

**SITE 65026-NORTH-C029**

Legal Land Desc	NESW 30 0070S 0270E Meridian 23	Acreage	244
Ecosite	042CY001NM GRAVELLY SD-3	Photo Taken	Y
Watershed	13060003220 FILLMORE		
Observers	BAGGAO/SPAIN	Observation Date	01/13/2004
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	TPD	Soil Taxon Name	TORRIORTHENTS
Texture Class	NM644 GR-FSL	Soil Phase	TORRIORTHENTS- PHILDER-ROC
Texture Modifier	NM644 FINE SANDY LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	11.25	NOAA Growing Season Precipitation	7.64
NOAA Avg Annual Precipitation	13.55	NOAA Avg Growing Season Precipitation	11.18
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						
:						
S H	Gullies			X		
Comments	On breaks- geologic					
:						
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 :						
B	Annual Production				X	
Comments :						
B	Invasive Plants				X	
Comments :						
B	Reproductive Capability of Perennial Plants				X	
Comments :						
S	Physical/Chemical/Biological Crusts				X	
Comments :						
B	Wildlife Habitat				X	
Comments :	A mixed desert shrub habitat type on the top and edge of the Haystack Mountain escarpment overlooking the Pecos valley. Only disturbance is the access route.					
B	Wildlife Populations				X	
Comments :	No specific wildlife population information at this time. A unique assemblage of terrestrial non-game species (herps) and avifauna can be expected to use the area due to the varied and diverse habitat type of the area which includes a portion of the escarpment and mixed shrub habitat component.					
B	Special Status Species Habitat					X
Comments :	None known to occur.					
B	Special Status Species Populations					X
Comments :	None known to occur.					
<b>Part 3. Summary</b>						
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	8	1
H	Hydrologic	0	0	1	9	1
B	Biotic	0	0	0	10	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	1	9
Hydrologic		0	1	10
Biotic		0	0	13

Site Notes: The Public Land in this area lies on the edge of the escarpment. Gravelly on top and sandstone rock/ridges below.

## RFOs Upland and Biotic Standard Assessment Summary Worksheet

### SITE 65026-SOUTH-C028

Legal Land Desc	NENE 26 0080S 0260E Meridian 23	Acreage	721
Ecosite	042CY003NM LOAMY SAND SD-3	Photo Taken	Y
Watershed	13060003220 FILLMORE		
Observers	BAGGAO/SPAIN	Observation Date	01/13/2004
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	PaA	Soil Taxon Name	PAJARITO
Texture Class	NM644 LFS	Soil Phase	PAJARITO
Texture Modifier	NM644 LOAMY FINE SAND		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	11.25	NOAA Growing Season Precipitation	7.64
NOAA Avg Annual Precipitation	13.55	NOAA Avg Growing Season Precipitation	11.18
Disturbances and Animal Use:			

### Part 2. Attributes and Indicators

Attribute	Indicators	Departure from Ecological Site Description/Ecological Reference Areas				
		Extrem e	Moderat e to Extreme	Moderat e	Slight to Moderat e	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 :						
S H	Gullies			X		
Comments :	Effect of railroad culvert concentrating flows					
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 :	Mesquite hummocks and pedestalled grasses					
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 :						
B	Annual Production			X		
Comments :						
B	Invasive Plants			X		
Comments :	Mesquite					
B	Reproductive Capability of Perennial Plants				X	
Comments :						
S	Physical/Chemical/Biological Crusts				X	
Comments :						
B	Wildlife Habitat			X		
Comments :	Rolling, hummocky mesquite grassland situated between gravelly hills. The Burlington and Northern Santa Fe Railroad forms the southern boundary, a few new oil and gas well developments in the area. Habitat disturbance from developments and mesquite invasion has contributed to a decline in habitat quality.					
B	Wildlife Populations				X	
Comments :	No specific wildlife population information available at this time. A shift from wildlife species preferring a more open grassland habitat type to those preferring a more brushy aspect has probably occurred.					
B	Special Status Species Habitat					X
Comments :	None known to occur at the location although a small prairie dog colony on private land was observed to the west on the Carl Cooper allotment.					
B	Special Status Species Populations					X
Comments :	None known to occur.					
<b>Part 3. Summary</b>						
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	6	2	2
H	Hydrologic	0	0	5	4	2
B	Biotic	0	0	5	5	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	There is no quantitative data available and the rating is subjective (based on sites with similar soils). This area warrants additional monitoring evaluation to validate the rating.	0	6	4
Hydrologic	There is no quantitative data available and the rating is subjective (based on sites with similar soils). This area warrants additional monitoring evaluation to validate the rating.	0	5	6
Biotic	There is no quantitative data available and the rating is subjective (based on sites with similar soils and vegetation). This area warrants additional monitoring evaluation to validate the rating.	0	5	8

Site Notes: MUPO2 growing in open areas Sand sage,yuccas, croton (leather-leaf) and various dropseeds present.

Runyan Allotment 65026 Northern Area



Runyan Allotment 65026 Northern Area Escarpment



Runyan Allotment 65026 Southern Area



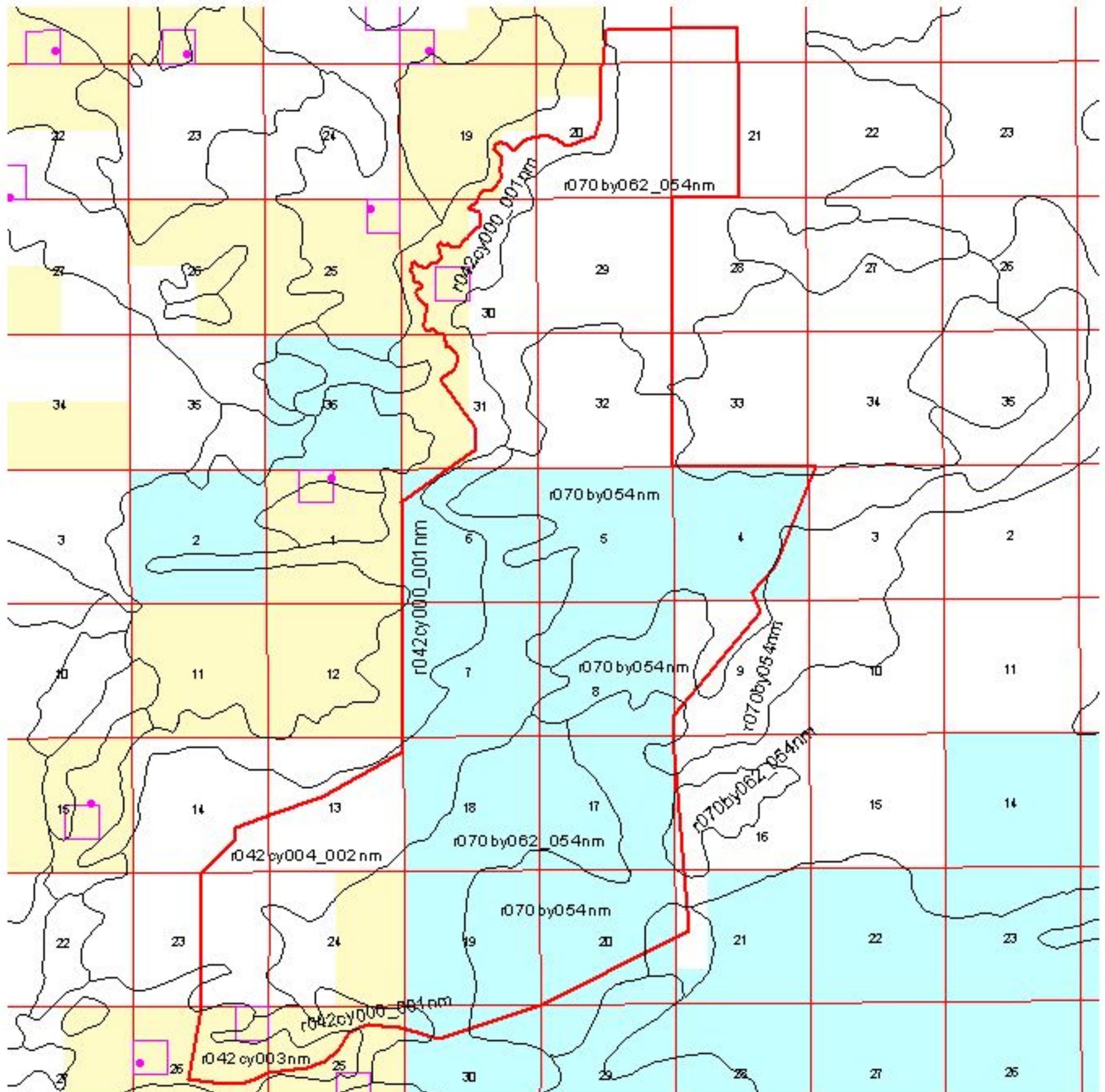


# Rangeland Health Assessment Ecological Sites



Allotment 65026

T7S.R26E



T8S.R27E

0.8 0 0.8 Miles



Public



Study Plots



State



Private



Study Locations



Ecological Site Boundary



Allotment Boundary

Produced by the Roswell Field Office  
GIS Intern on July 8, 2003.

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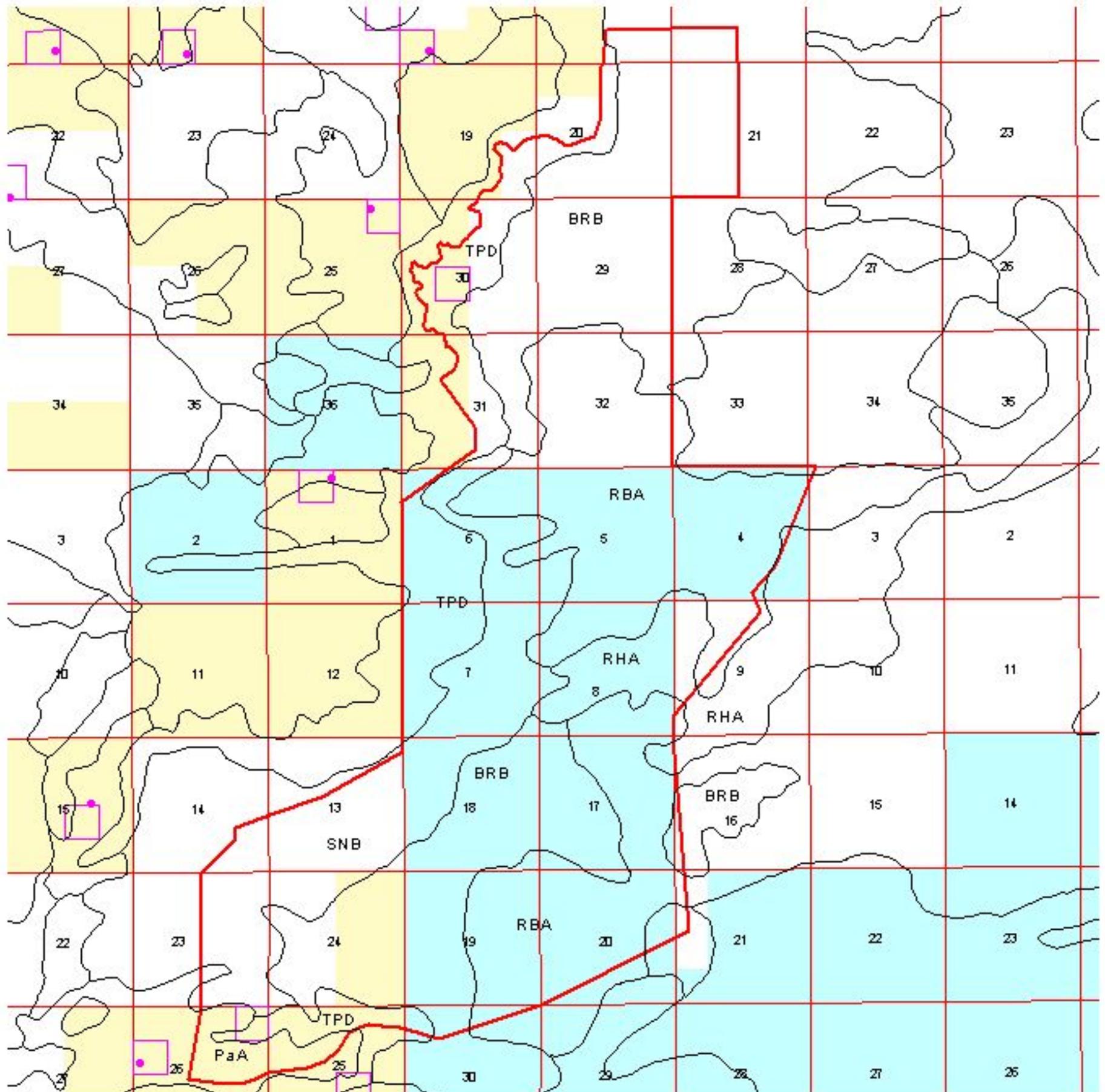


# Rangeland Health Assessment Soil Mapping Units



Allotment 65026

T7S.R26E



0.8 0 0.8 Miles



Public



Study Plots



State



Private



Study Locations



Soil Mapping Boundary



Allotment Boundary

Produced by the Roswell Field Office  
GIS Intern on July 8, 2003.

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