

Determination of Public Land (Rangeland) Health for 65538 NORTH 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 the assessments, it is my determination that the Public Lands within the North Ranch Allotment #65538 meet 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 will not be addressed.

/s/ T. R. KREAGER

Assistant Field Manager

09/29/2003

Date

Standards of Public Land Health Evaluation of 65538 NORTH RANCH Allotment [09/02/2003]

The Roswell Field Office conducted rangeland health assessments at three study sites within the NORTH RANCH Allotment #65538. 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
65538-BIG-D253 (*)	X			X			N/A		
65538-EAST-D251	X			X			N/A		
65538-MILL-D250 (*)	X			X	*		N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for the North Ranch allotment 65538; 10 of these assessed met Ranch; 10 of these assessed soil/site stability, 11 assessed hydrologic functions and 13 assessed biotic integrity. These qualitative assessments along with quantitative information from long-term monitoring studies on 3 study areas, were utilized to assess the rangeland health of the public land within the allotment. These quantitative evaluations were performed by the Roswell Field office staff starting in the early 1980's. These included ground and vegetative cover and composition, production, frequency, and ecological condition as calculated from these collections which have been scheduled approximately every 5 years.

Drought has had an impact on this allotment over the last few years. Three study/trend plot locations were assessed for this evaluation. Each site corresponds to a different pasture within the allotment. All 3 pastures; Big , Mill and East are classified as CP-2 Sandy Plains ecological sites. East Pasture, with an acreage of 4,173 or approximately 1900 hectares lies on the Western fringe of the CP-2 MLRA. The indicators evaluated rated None to Slight to Slight to Moderate except for annual production and invasive plants, both rating at Moderate The plant cover changes have only a minor effect on infiltration at present, and currently the erosion potential is low for this Faskin soil phase, predominantly made up of fine sand. There is a slight reduction in soil surface stability throughout the site in plant interspace and canopy soil samples. Soil surface resistance to erosion rated Slight to Moderate as the results from the soil site stability test. There are

slight modifications to the Ecological Site Description however, as the functional/structural species groups such as sand bluestem (*Andropogon hallii*) and little bluestem (*Schizachyrium scoparium*) grass species' dominance has been reduced. The increase of threeawn (*Aristida* spp.) onsite has contributed to the F/S indicator rating of Slight to Moderate. Shinnery oak (*Quercus havardii*) and sand sage (*Artemisia filifolia*), have persisted though, and match what the ESD describes for the potential plant community for shrubs. Annual production, rating Moderate, currently is estimated at 300-350 lbs/ac or kg/ha is 1/4 of the ESD for normal years and approximately 1/2 of the long-term average for this site which is 610 lbs/ac or kg/ha. Invasive plants also rated Moderate as mesquite (*Prosopis glandulosa*) and yucca (*Yucca* spp.) are scattered throughout. The physical crusts observed are largely intact and the degree of departure from the ESD is very minor.

Big Pasture with an acreage of 2,071 or approximately 941 hectares rated soil surface resistance to erosion as Moderate. Resistance to erosion has been reduced throughout the site, as evidenced by the interspace and under plant canopy soil ped samples ease of melting, using the soil site stability test. Litter movement also rated Moderate as litter is being displaced and lies in scattered concentrations against plants and low depressional areas. This hydrological attribute is more water flow influenced than wind. The majority of litter however is shinnery oak leaves, which in most instances fall and lie directly underneath the shrubs themselves. Other types of litter make up a lesser component of the total actually being displaced and transported. Annual production is estimated at 300-400 lbs/ac or kg/ha. This figure is approximately only 1/2 of the long-term average and falls well below the ESD normal year average. This indicator rated Moderate as a result. Invasive plants rated Moderate to Extreme, as mesquite is common throughout the site. This pasture contains deeper sand influences, therefore the potential for blowouts is greater than other areas. The hummocky dune structures are mainly a function of mesquite encroachment, collecting wind blown materials underneath the canopy. The current vegetative cover however is stabilizing these areas at the moment. As observed from the soil horizon, there has been some degree of degradation or soil loss, but the moisture at present in this sandy area has helped this indicator remain in the Slight to Moderate category. All other indicators rated None to Slight to Slight to Moderate. Some livestock are currently in the pasture, and are utilizing the area at a conservative level. Also using this pasture are insects, most notably grasshoppers, muledeer (*Odocoileus hemionus*), pronghorn (*Antilocapra americana*), black-tailed jackrabbit (*Lepus californicus*) and other wildlife species.

Mill Pasture, also with a Faskin soil phase, has deeper sand inclusions, but still classifies as a CP-2 sandy plains ecological site. Total acres for this ecological site is 1,280 or 580 hectares. Bareground is estimated at approximately 50% and exceeds the ESD of 30%. However the long-term average from the datum is 40%, and a range of 24-50%. This indicator rated at Moderate. The potential for wind-scoured blowouts and deposition areas is high here but only at the outer fringes of the study area, where coppice dune mesquite areas are more evident. This indicator rates as Slight to Moderate with few and infrequent areas with this potential. Litter movement rates at Moderate also as the litter displacement and location are similar to Big Pasture. Soil surface resistance to erosion

rated at Moderate also as resistance has been reduced throughout the site. Functional/structural groups have been modified as more dropseed (*Sporobolus* spp.) and threeawn grass is observed compared to the ESD and long-term datum. Little bluestem and sand bluestem are not in the amounts that the ESD describes, but the shinnery oak, sand sage and mesquite are in abundance. A Moderate rating was assigned to this indicator as the number of dominant groups have been modified and/or reduced. There is a larger percentage of dead and decadent plants, most notably the bluestem and dropseed species which have been left in a state of decay and are showing limited current year's growth. Very few grass plants are experiencing new growth at the present time and their capability to reproduce is somewhat limited. Therefore, Moderate ratings were given to plant mortality and/or decadence and to the reproductive capability of perennial plants. Prevailing dry conditions have augmented this situation. There is currently livestock use in this pasture, but it's primarily in the Spring before and after the shinnery oak budding stage that these animals will hedge the shrubs along with wildlife. Annual production is rating Moderate as approximately 1/2 to 3/4 of the long-term average can be estimated, which is 300-400 lbs/ac or kg/ha. This also is significantly less than what a normal reading is indicated by the ESD. With the height of the mesquite, the pronghorn will utilize this area, but will not remain in the vicinity due to the lack of open space. However, this site supplies ample cover for all other wildlife, and establishes a mosaic pattern of vegetation. Invasive plants is primarily mesquite, which rates as Moderate to Extreme. With continued proper management, and adequate precipitation, this ecological site should improve.

The Big pasture has experienced drought and water and wind erosion conditions that has possibly had a negative affect on the amount of litter present and litter movement. Litter is in scattered concentrations around obstructions and in low depressions. There has been a reduction in soil surface resistance to erosion that has resulted from drought conditions, wind erosion, and water erosion and other factors that have reduced the stabilizing agents such as aggregated organic matter at the surface and decreased the adhesion of organic matter to surface soils. Sand and gravel, clay, and silt that occur in the area are from Quaternary pediment deposits.

The Mill pasture has experienced drought, wind erosion, and water erosion conditions that has possibly decreased the amount of plant cover and possibly decreased infiltration into the soil which may have increased the occurrence of pedestalling on plants and rocks and the occurrence of terracettes. Water and wind has eroded the soils that has the effect of elevating the plants and rocks to form pedestalls and terracettes. The pasture has rated moderate for bareground. The drought, water erosion, and wind erosion conditions that has possibly increased the amount of bare ground. The drought and the affects of water and wind erosion has possibly had a negative affect on the amount of litter present and litter movement. Litter is loosely concentrated near and around obstructions and litter has been displaced. There has been a reduction in soil surface resistance to erosion that has resulted from drought conditions, wind erosion, and water erosion and other factors that have reduced the stabilizing agents such as aggregated organic matter at the surface and decreased the adhesion of organic matter to surface soils. Sand and gravel, clay, and silt that occur in the area are from Quaternary pediment deposits.

It is the professional opinion of the Assessment Team, that the public land within the North Ranch allotment meets the Upland and Biotic Standards. See specific site notes for any recommendations for this allotment.

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: Brush control treatments are a possibility especially with those sites that have brush encroachment concerns. However with the nature of the soils which may excessively blow with reduced vegetative cover, although temporary, the type of treatments and timing with precipitation events as well as deferment would be extra critical. Further evaluation of these areas must be ongoing to determine the best plan of action for these particular ecological sites.

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 65538-BIG-D253			
Legal Land Desc	NWNE 25 0080S 0270E Meridian 23	Acreage	2071
Ecosite	070BY055NM SANDY PLAINS CP-2	Photo Taken	Y
Watershed	13060003220 FILLMORE		
Observers	SPAIN/NAVARRO	Observation Date	09/23/2003
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	11.8	NOAA Growing Season Precipitation	7.46
NOAA Avg Annual Precipitation	11.89	NOAA Avg Growing Season Precipitation	9.54
Disturbances and Animal Use:			

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:		Falls within the expected range.				
S H	Gullies					X
Comments:						

S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:	Potential for blowouts in absence of vegetation. Deep sand influences with hummocky dune areas.					
H	Litter Movement			X		
Comments:	In scattered concentrations. Mostly shinnery oak (<i>Quercus havardii</i>) leaves displaced and directly under shrubs.					
S H B	Soil Surface Resistance to Erosion			X		
Comments:	Resistance reduced throughout the site.					
S H B	Soil Surface Loss or Degradation				X	
Comments:	Some degradation.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:						
S H B	Compaction Layer					X
Comments:	Not expected.					
B	Functional/Structural Groups				X	
Comments:	Slight modification from F/S groups for ESD and long-term datum.					
B	Plant Mortality/Decadence				X	
Comments:	20-30% mortality. Drought influenced.					
H B	Litter Amount				X	
Comments:	40% at present falls within the expected range.					
B	Annual Production			X		
Comments:	Production only 1/2 of long-term average.					
B	Invasive Plants		X			
Comments:	Mesquite (<i>Prosopis glandulosa</i>) common.					
B	Reproductive Capability of Perennial Plants				X	
Comments:	Capability only slightly limited. More drought influenced than herbivory.					
S	Physical/Chemical/Biological Crusts				X	
Comments:	Physical crusts seen.					
B	Wildlife Habitat				X	

Comments:						
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat					X
Comments:	None known to occur.					
B	Special Status Species Populations					X
Comments:	None known to occur.					

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	2	6	3
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	Vegetation is currently stabilizing the soils. Wind-scoured blowouts, and/or deposition areas is potentially a concern if vegetative cover is reduced.	0	1	9
Hydrologic		0	2	9

Biotic	Mesquite (<i>Prosopis glandulosa</i>) common throughout. With adequate precipitation, at whatever time of year, this site should recover, regardless of the shrub encroachment. Vegetation is stabilizing the soil.	1	2	10
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Site Notes: This site is on state land and represents CP-2 sandy plains, though the site has some extensive deeper sand inclusions. Some livestock observed on site. Pronghorn (*Antilocapra americana*), also observed. Plenty of insects, most notably grasshoppers on site. Mesquite is common throughout, but not to the extent of hindering this site's potential.

RFOs Upland and Biotic Standard Assessment Summary Worksheet

SITE 65538-EAST-D251

Legal Land Desc	SESE 2 0090S 0270E Meridian 23	Acreage	4173
Ecosite	070BY055NM SANDY PLAINS CP-2	Photo Taken	Y
Watershed	13060007010 GOPHER		
Observers	SPAIN/NAVARRO	Observation Date	09/23/2003
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	11.8	NOAA Growing Season Precipitation	7.46
NOAA Avg Annual Precipitation	11.89	NOAA Avg Growing Season Precipitation	9.54
Disturbances and Animal Use:	There is limited livestock use in this pasture. The grasshopper population is flourishing however. The population is utilizing the vegetation currently.		

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:	Not expected.					
S H	Water Flow Patterns				X	
Comments:						
S H	Pedestals and/or Terracettes				X	
Comments:						

S H	Bare Ground				X	
Comments:	Falls within the expected range.					
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:	There is some instability in both canopy and interspace.					
S H B	Soil Surface Loss or Degradation				X	
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:	Changes have only a minor effect.					
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups				X	
Comments:	Threawn (<i>Aristida</i> spp.) and shinny oak (<i>Quercus havardii</i>) very abundant. Mesquite (<i>Prosopis glandulosa</i>) is scattered throughout along with <i>Yucca</i> (<i>Yucca</i> spp.)					
B	Plant Mortality/Decadence					X
Comments:	Less than 20%.					
H B	Litter Amount				X	
Comments:	Percentage falls within the expected range.					
B	Annual Production			X		
Comments:	Only 1/3 of long-term average.					
B	Invasive Plants			X		
Comments:	Mesquite (<i>Prosopis glandulosa</i>) scattered throughout along with <i>Yucca</i> (<i>Yucca</i> spp.)					
B	Reproductive Capability of Perennial Plants				X	

Comments:	Capability is only slightly limited.					
S	Physical/Chemical/Biological Crusts					X
Comments:	Physical crusts evident-continuity is not broken.					
B	Wildlife Habitat				X	
Comments:						
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat					X
Comments:	None known to occur.					
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	5	5
H	Hydrologic	0	0	0	7	4
B	Biotic	0	0	2	7	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	Meets

			Info	
Soil		0	0	10
Hydrologic		0	0	11
Biotic	Annual production is down at this time. The present dry conditions have attributed to the low productivity of the the site. This site has the capability to produce much more forage. There are no real major shifts in the vegetative community. The invasive plants indicator rates moderate for mesquite (<i>Prosopis glandulosa</i>) and other shrubs. The site remains with a good mixture of shrubs and grasses.	0	2	11
Site Notes: This site is at the Western fringe of the CP-2 shinnery oak (<i>Quercus havardii</i>), SD-3 sandy plains ecological delineated survey. Grasshoppers are very abundany and are utilizing the forage as well as other herbivores.				

RFOs Upland and Biotic Standard Assessment Summary Worksheet

SITE 65538-MILL-D250

Legal Land Desc	NWNW 23 0090S 0270E Meridian 23	Acreage	1280
Ecosite	070BY055NM SANDY PLAINS CP-2	Photo Taken	Y
Watershed	13060007010 GOPHER		
Observers	SPAIN/NAVARRO	Observation Date	09/25/2003
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	11.8	NOAA Growing Season Precipitation	7.46
NOAA Avg Annual Precipitation	11.89	NOAA Avg Growing Season Precipitation	9.54
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:	Not expected.					
S H	Water Flow Patterns				X	
Comments:	Stable and short.					
S H	Pedestals and/or Terracettes			X		
Comments:	Occasional terracettes present.					
S H	Bare Ground			X		
Comments:	50% now estimated.					
S H	Gullies					X

Comments:	Not expected.					
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:	Deeper sand, with moisture.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:	Minor effect with mesquite (<i>Prosopis glandulosa</i>) holding soil moisture.					
S H B	Compaction Layer				X	
Comments:						
B	Functional/Structural Groups			X		
Comments:						
B	Plant Mortality/Decadence			X		
Comments:	30-40% of vegetation present is dead/decadent.					
H B	Litter Amount				X	
Comments:	Falls within the expected range.					
B	Annual Production			X		
Comments:	Currently only 1/2 of long-term average.					
B	Invasive Plants		X			
Comments:	Mesquite (<i>Prosopis glandulosa</i>) is common throughout.					
B	Reproductive Capability of Perennial Plants			X		
Comments:	Capability is limited.					
S	Physical/Chemical/Biological Crusts				X	
Comments:						
B	Wildlife Habitat			X		
Comments:	Pronghorn (<i>Antilocapra americana</i>) using the area but do not persist, due to					

	the height of the shrubs.					
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat					X
Comments: None known to occur.						
B	Special Status Species Populations					X
Comments: None known to occur.						

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	5	2
H	Hydrologic	0	0	4	5	2
B	Biotic	0	1	6	4	2

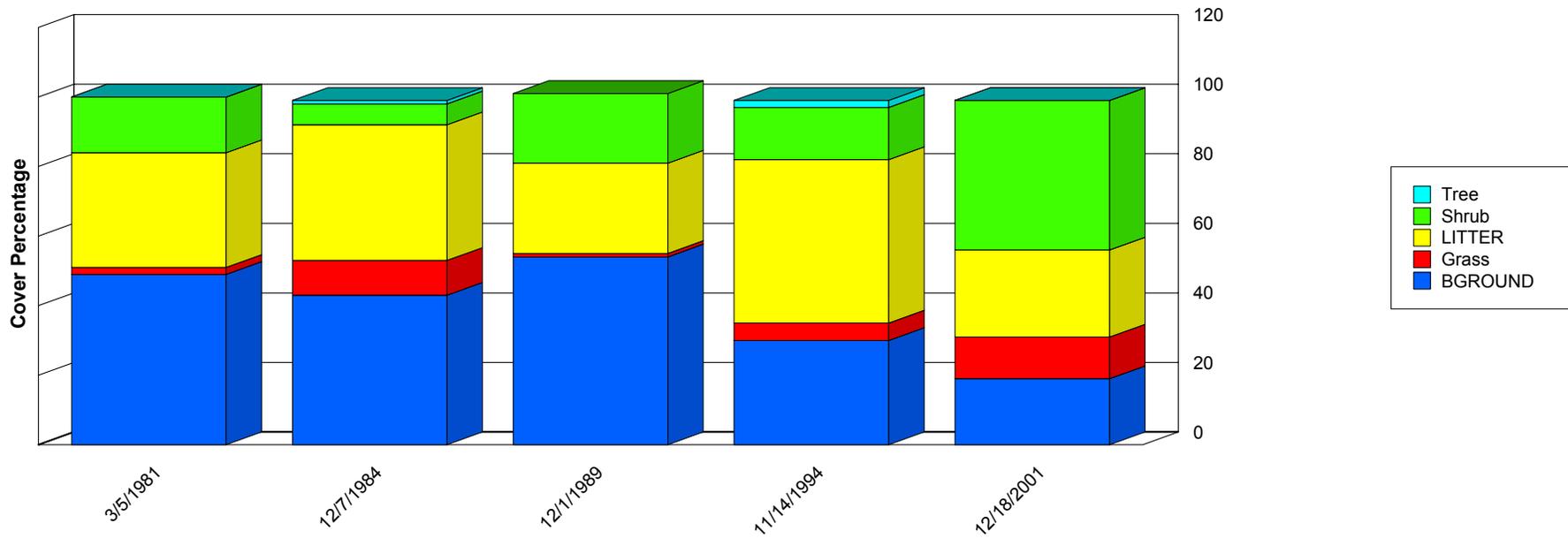
B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. 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	Mesquite (<i>Prosopis glandulosa</i>) is common throughout. The bigger issue is the amount of	1	6	6

	<p>decadent vegetation which may potentially cause reduced resiliency and productivity. The shrub encroachment has very little impact to this site's sustainability. With adequate precipitation and proper utilization levels, this site could improve. The seed source should still remain from previous reproductive cycles, and contribute to the site's future productivity. The diversity of the vegetation and wildlife can also remain a constant.</p>			
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Site Notes: Deep sand inclusions exist on this site. This site should recover with adequate precipitation and continued rotation schemes. Livestock are currently utilizing this pasture. Wildlife are also hedging the shrub component as well. This pasture possesses all the different types of shrubs, ie, mesquite (*Prosopis glandulosa*), shinnery oak (*Quercus havardii*), yucca (*Yucca spp.*) sand sage (*Artemisia filifolia*) and others. Grasshoppers also are utilizing the vegetation. This site could benefit from the appropriate time of year use to reduce the amount of decadent, standing dead biomass currently present, and return the vegetation to a more vigorous, robust state, which should improve it's nutritional value. The inner space areas of some of the grass species are devoid of vegetation, causing a more decadent appearance.

Ground Cover Trends



	3/5/1981	12/7/1984	12/1/1989	11/14/1994	12/18/2001
BGROUND	49.00	43.00	54.00	30.00	19.00
Grass	2.00	10.00	1.00	5.00	12.00
LITTER	33.00	39.00	26.00	47.00	25.00
Shrub	16.00	6.00	20.00	15.00	43.00
Tree	0.00	1.00	0.00	2.00	0.00
Total	100.00	99.00	101.00	99.00	99.00

Report Parameters

SITE NAME LIKE 65538-BIG-D253
 ON/AFTER 10/01/1979
 ON/BEFORE 09/30/2002

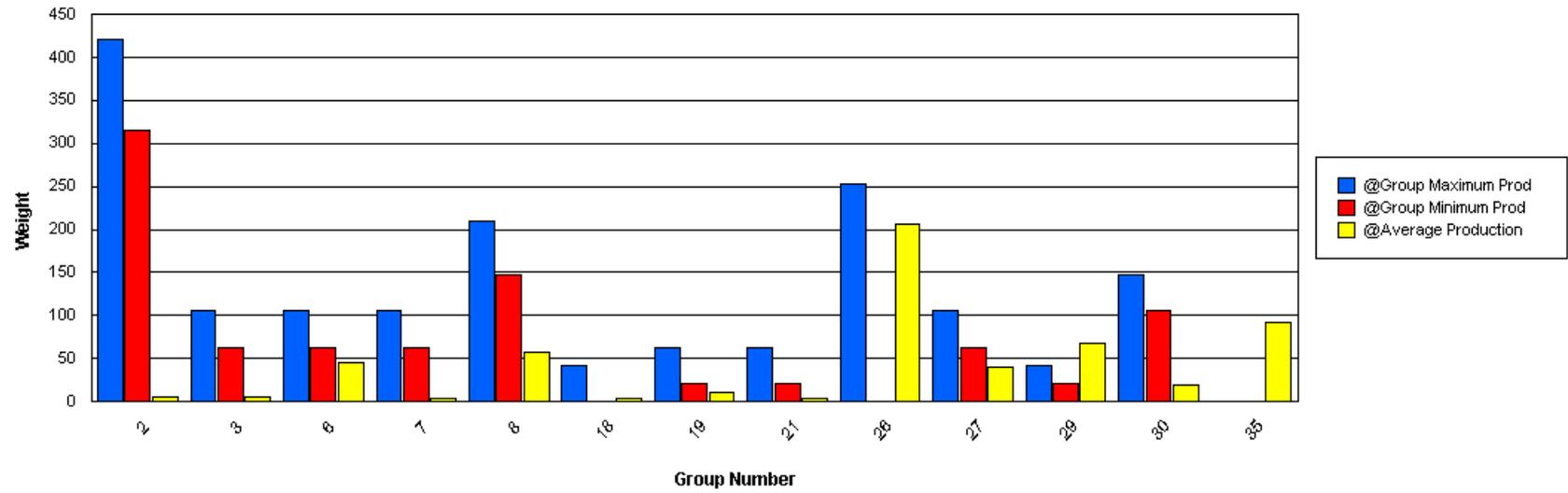
Functional / Structural Groups

Report Parameters

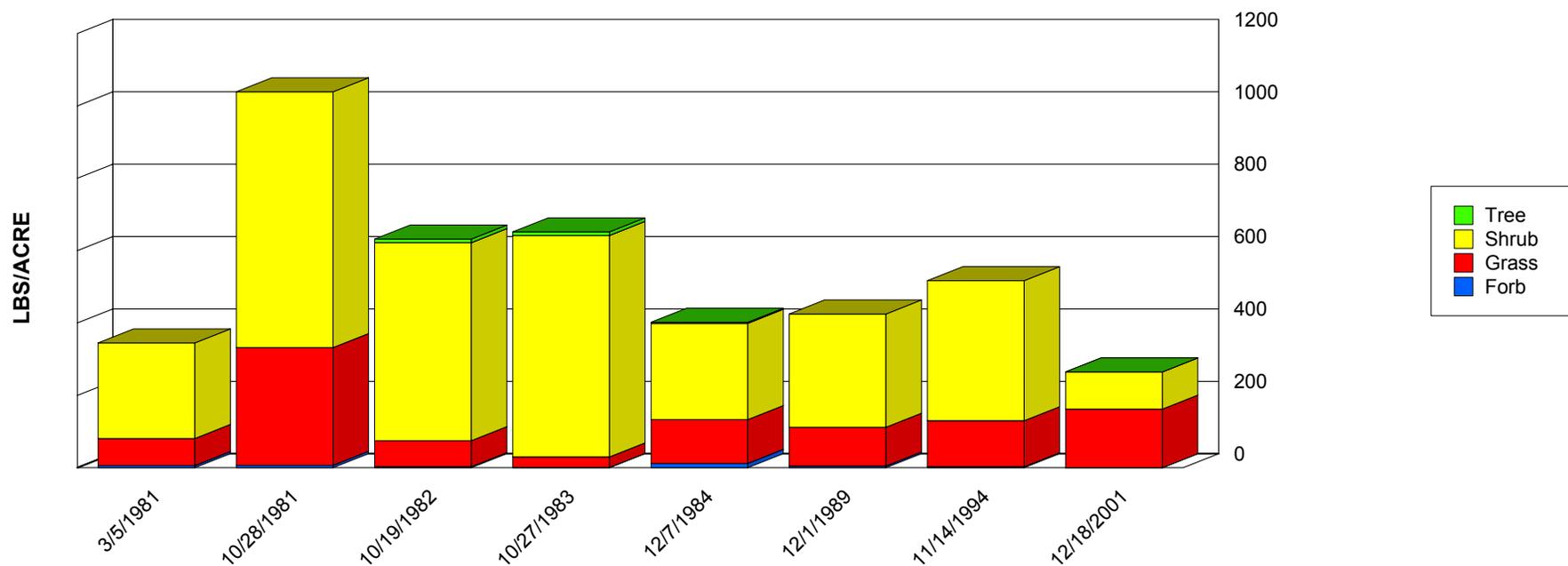
SITE NAME LIKE 65538-BIG-D253
 ON/AFTER 10/01/1980
 ON/BEFORE 09/30/2002
 MIN LBS TO GRAPH 3
 SELECTED ECOSITE 070BY055NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
2	Grass	ANSC2	315	420	0.00	12.00	6.00	6.00
3	Grass	EROX	63	105	0.00	6.00	3.13	2.09
3	Grass	PAST6	63	105	0.00	11.00	2.50	3.74
4	Grass	SEMA5	63	105	0.00	6.00	1.00	2.24
5	Grass	BOHI2	63	105	0.00	1.00	0.50	0.50
6	Grass	ARIST	63	105	14.00	99.00	46.13	25.17
7	Grass	LECO	63	105	0.00	11.00	3.63	4.09
8	Grass	SPCR	147	210	11.00	204.00	58.00	60.68
12	Grass	SPCO4	63	105	0.00	2.00	0.33	0.75
18	Grass	MUPO2	0	42	0.00	15.00	4.63	5.48
19	Grass	PAOB	21	63	0.00	22.00	5.50	8.40
19	Grass	SPFL2	21	63	0.00	26.00	4.33	9.69
19	Grass	SPGI	21	63	0.00	2.00	0.33	0.75
21	Forb	ERIOG	21	63	0.00	9.00	4.50	4.50
23	Forb	AAFF	42	84	0.00	5.00	1.75	1.85
24	Forb	HOFFM	42	84	0.00	2.00	0.50	0.87
24	Forb	PPFF	42	84	0.00	7.00	1.33	2.56
24	Forb	SOEL	42	84	0.00	2.00	0.57	0.73
26	Shrub	QUHA3	0	252	18.00	464.00	206.88	137.25
27	Shrub	YUCCA	63	105	17.00	53.00	35.00	18.00
27	Tree	YUEL	63	105	0.00	10.00	5.75	4.38
29	Shrub	GUSA2	21	42	12.00	185.00	68.00	53.60
30	Shrub	ARFI2	105	147	0.00	86.00	19.86	27.86
35	Shrub	PRGL2	0	0	0.00	412.00	92.00	125.77

Group Plant Type Species Low Wt Allowed High Wt Allowed Minimum Maximum Average STDEV



Production Lbs/Acre Trends

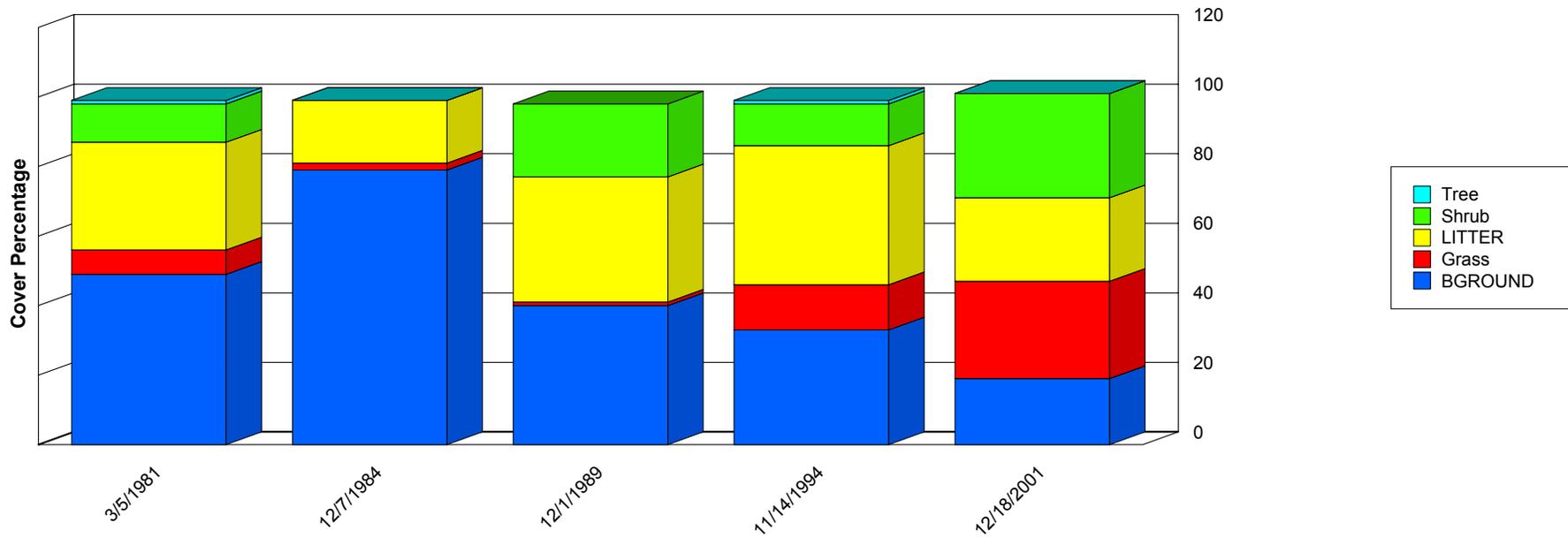


	3/5/1981	10/28/1981	10/19/1982	10/27/1983	12/7/1984	12/1/1989	11/14/1994	12/18/2001
Forb	6.00	7.00	3.00	1.00	12.00	5.00	3.00	0.00
Grass	75.00	325.00	72.00	29.00	121.00	107.00	127.00	162.00
Shrub	264.00	707.00	547.00	612.00	266.00	313.00	387.00	103.00
Tree	0.00	0.00	10.00	10.00	3.00	0.00	0.00	0.00
Total	345.00	1,039.00	632.00	652.00	402.00	425.00	517.00	265.00

Report Parameters

SITE NAME LIKE 65538-BIG-D253
 ON/AFTER 10/01/1979
 ON/BEFORE 09/30/2002

Ground Cover Trends



	3/5/1981	12/7/1984	12/1/1989	11/14/1994	12/18/2001
BGROUND	49.00	79.00	40.00	33.00	19.00
Grass	7.00	2.00	1.00	13.00	28.00
LITTER	31.00	18.00	36.00	40.00	24.00
Shrub	11.00	0.00	21.00	12.00	30.00
Tree	1.00	0.00	0.00	1.00	0.00
Total	99.00	99.00	98.00	99.00	101.00

Report Parameters

SITE NAME LIKE 65538-EAST-D251
 ON/AFTER 10/01/1979
 ON/BEFORE 09/30/2002

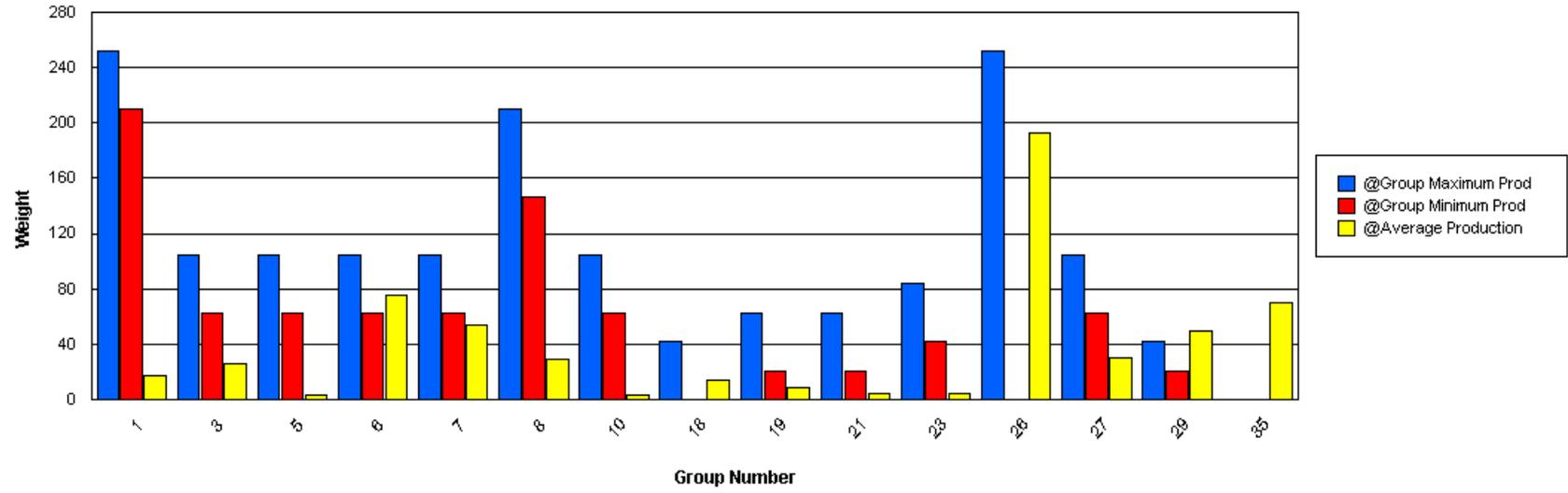
Functional / Structural Groups

Report Parameters

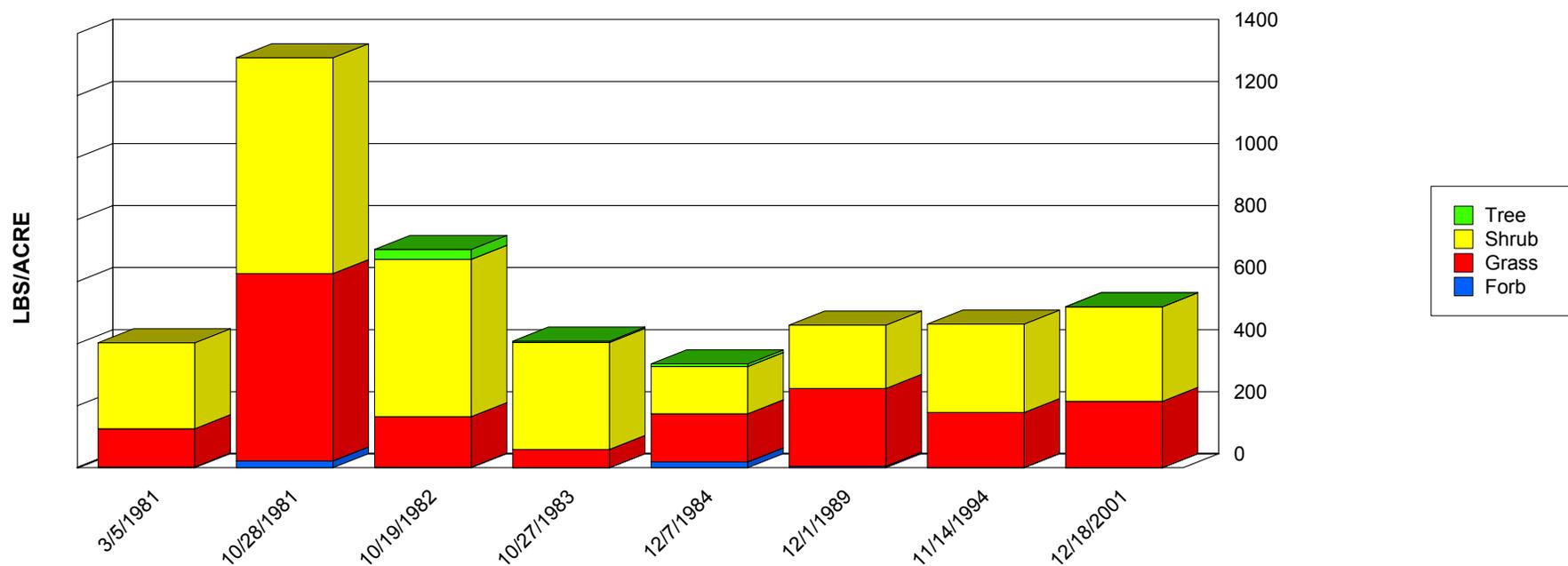
SITE NAME LIKE 65538-EAST-D251
 ON/AFTER 10/01/1980
 ON/BEFORE 09/30/2002
 MIN LBS TO GRAPH 3
 SELECTED ECOSITE 070BY055NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	ANHA	210	252	0.00	101.00	17.50	37.37
3	Grass	EROX	63	105	0.00	83.00	22.00	25.03
3	Grass	PAST6	63	105	0.00	12.00	4.00	4.69
5	Grass	BOHI2	63	105	0.00	22.00	3.00	7.19
6	Grass	ARIST	63	105	27.00	138.00	75.75	37.56
7	Grass	LECO	63	105	0.00	178.00	53.63	63.86
8	Grass	SPCR	147	210	3.00	72.00	29.14	20.32
10	Grass	BOER4	63	105	2.00	4.00	3.00	1.00
15	Grass	CEPA7	0	21	0.00	9.00	1.71	3.01
16	Grass	CAREX	0	21	0.00	6.00	1.20	2.40
18	Grass	MUPO2	0	42	10.00	18.00	14.33	3.30
19	Grass	ERSE2	21	63	0.00	5.00	1.17	1.86
19	Grass	SCPA	21	63	0.00	26.00	5.20	10.40
19	Grass	SPFL2	21	63	0.00	17.00	2.83	6.34
21	Forb	ERAN3	21	63	0.00	22.00	4.60	8.71
23	Forb	AAFF	42	84	0.00	19.00	5.00	8.09
24	Forb	ASTRA	42	84	0.00	0.00	0.00	0.00
24	Forb	PPFF	42	84	0.00	5.00	1.13	1.76
24	Forb	SOEL	42	84	0.00	0.00	0.00	0.00
26	Shrub	QUHA3	0	252	48.00	562.00	192.75	150.70
27	Shrub	YUCCA	63	105	13.00	25.00	19.00	6.00
27	Tree	YUEL	63	105	0.00	32.00	11.25	12.40
29	Shrub	GUSA2	21	42	3.00	134.00	49.38	38.05
30	Shrub	ARFI2	105	147	0.00	8.00	2.43	3.25
34	Shrub	SENEC2	21	63	0.00	3.00	1.50	1.50
35	Shrub	PRGL2	0	0	0.00	218.00	69.75	64.64

Group Plant Type Species Low Wt Allowed High Wt Allowed Minimum Maximum Average STDEV



Production Lbs/Acre Trends

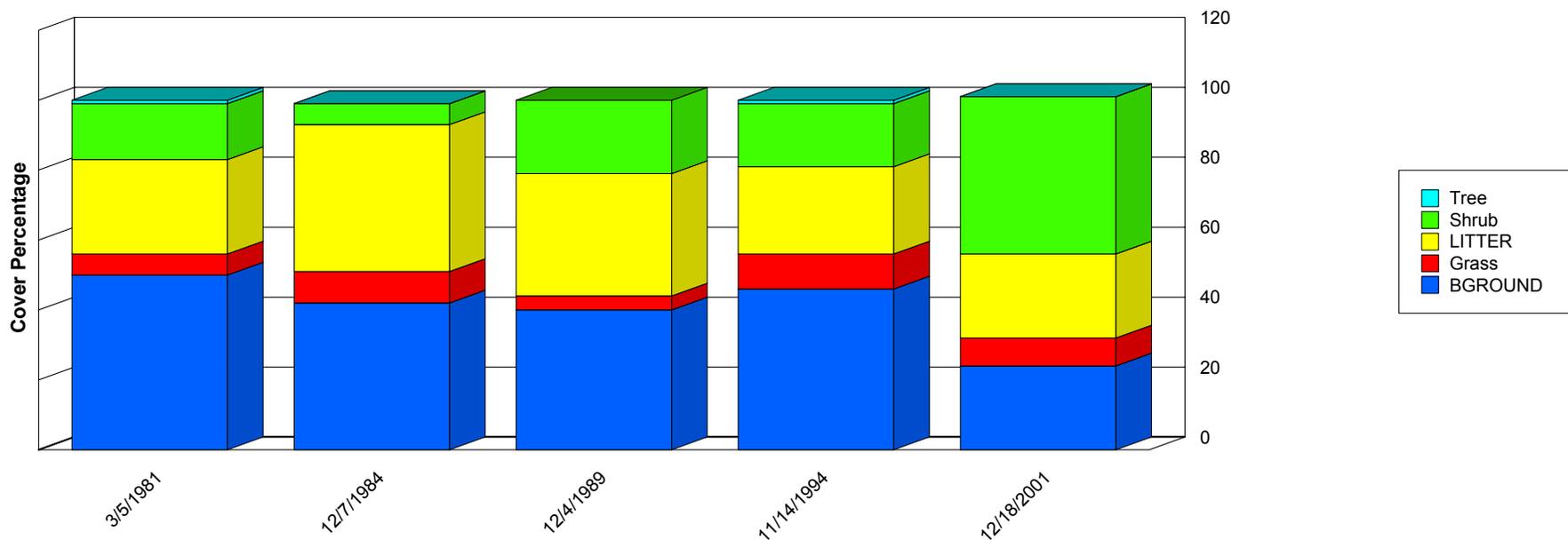


	3/5/1981	10/28/1981	10/19/1982	10/27/1983	12/7/1984	12/1/1989	11/14/1994	12/18/2001
Forb	3.00	22.00	2.00	0.00	19.00	5.00	1.00	0.00
Grass	123.00	604.00	163.00	59.00	155.00	251.00	177.00	214.00
Shrub	277.00	696.00	507.00	345.00	152.00	204.00	285.00	305.00
Tree	0.00	0.00	32.00	4.00	9.00	0.00	0.00	0.00
Total	403.00	1,322.00	704.00	408.00	335.00	460.00	463.00	519.00

Report Parameters

SITE NAME LIKE 65538-EAST-D251
 ON/AFTER 10/01/1979
 ON/BEFORE 09/30/2002

Ground Cover Trends



	3/5/1981	12/7/1984	12/4/1989	11/14/1994	12/18/2001
BGROUND	50.00	42.00	40.00	46.00	24.00
Grass	6.00	9.00	4.00	10.00	8.00
LITTER	27.00	42.00	35.00	25.00	24.00
Shrub	16.00	6.00	21.00	18.00	45.00
Tree	1.00	0.00	0.00	1.00	0.00
Total	100.00	99.00	100.00	100.00	101.00

Report Parameters

SITE NAME LIKE 65538-MILL-D250
 ON/AFTER 10/01/1979
 ON/BEFORE 09/30/2002

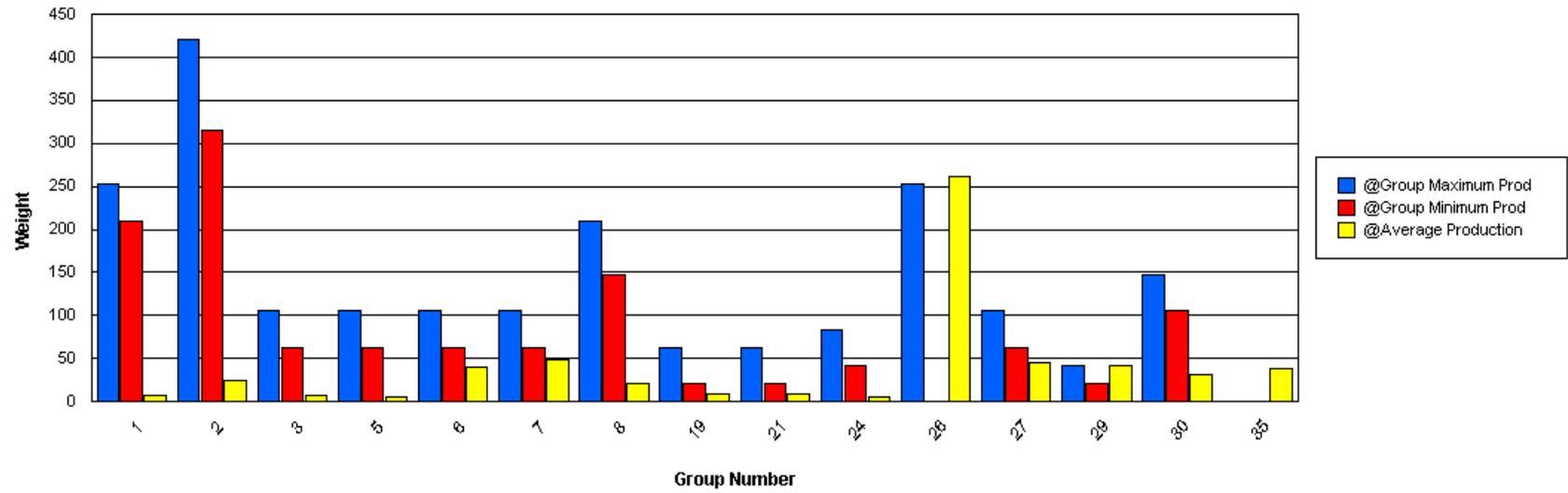
Functional / Structural Groups

Report Parameters

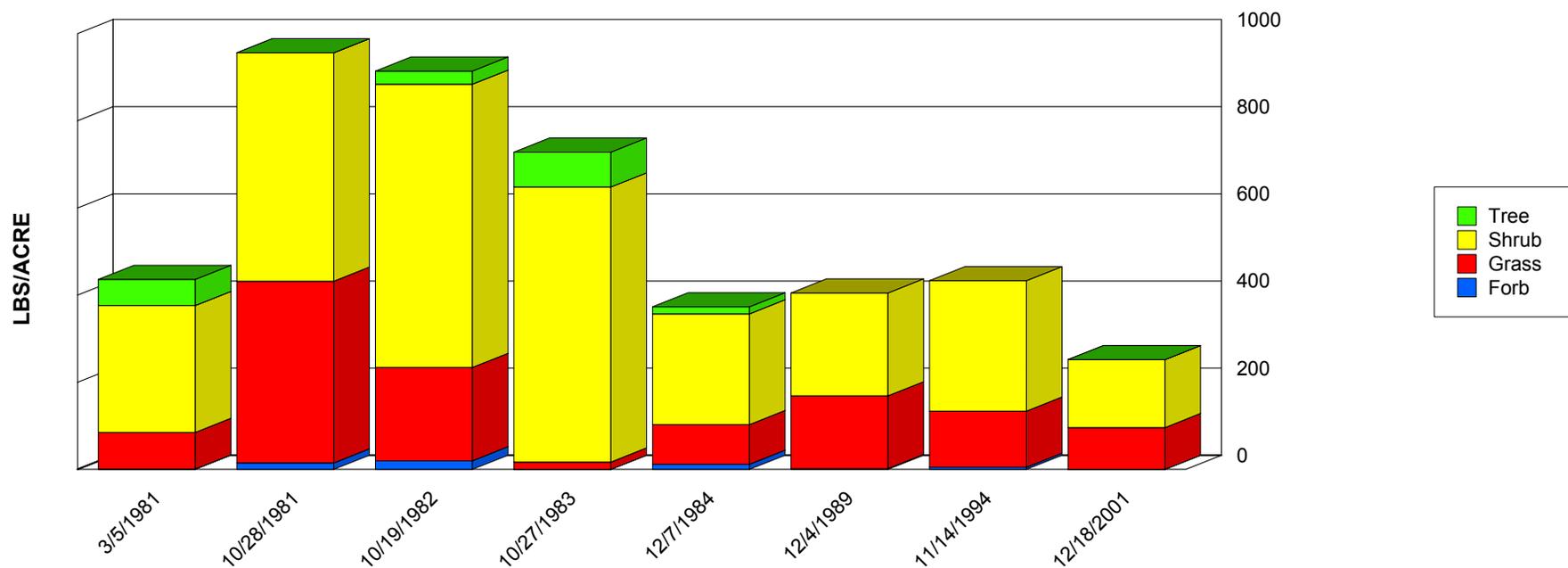
SITE NAME LIKE 65538-MILL-D250
 ON/AFTER 10/01/1980
 ON/BEFORE 09/30/2002
 MIN LBS TO GRAPH 3
 SELECTED ECOSITE 070BY055NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	ANHA	210	252	0.00	14.00	7.00	7.00
2	Grass	ANSC2	315	420	0.00	64.00	25.14	24.05
3	Grass	EROX	63	105	0.00	24.00	6.33	8.98
3	Grass	PAST6	63	105	0.00	1.00	0.43	0.49
5	Grass	BOHI2	63	105	3.00	9.00	6.00	3.00
6	Grass	ARIST	63	105	8.00	114.00	40.25	31.34
7	Grass	LECO	63	105	0.00	149.00	49.00	50.52
8	Grass	SPCR	147	210	0.00	90.00	21.25	27.66
12	Grass	SPCO4	63	105	0.00	5.00	0.83	1.86
14	Grass	MUSQ	0	42	0.00	1.00	0.50	0.50
15	Grass	CEPA7	0	21	0.00	1.00	0.50	0.50
18	Grass	MUPO2	0	42	0.00	5.00	1.00	1.77
19	Grass	SPFL2	21	63	0.00	45.00	8.50	16.47
21	Forb	ERAN3	21	63	0.00	15.00	3.00	6.00
21	Forb	ERIOG	21	63	0.00	12.00	6.00	6.00
23	Forb	AAFF	42	84	0.00	4.00	0.88	1.36
24	Forb	HOFFM	42	84	0.00	20.00	5.00	8.66
24	Forb	SOEL	42	84	0.00	0.00	0.00	0.00
26	Shrub	QUHA3	0	252	92.00	512.00	262.13	153.32
27	Shrub	YUCCA	63	105	10.00	19.00	14.50	4.50
27	Tree	YUEL	63	105	0.00	80.00	31.00	29.97
29	Shrub	GUSA2	21	42	6.00	165.00	41.50	49.43
30	Shrub	ARFI2	105	147	3.00	117.00	31.88	33.45
35	Shrub	PRGL2	0	0	0.00	125.00	37.88	45.82

Group Plant Type Species Low Wt Allowed High Wt Allowed Minimum Maximum Average STDEV



Production Lbs/Acre Trends



	3/5/1981	10/28/1981	10/19/1982	10/27/1983	12/7/1984	12/4/1989	11/14/1994	12/18/2001
Forb	1.00	15.00	20.00	0.00	12.00	2.00	5.00	0.00
Grass	84.00	417.00	214.00	17.00	91.00	167.00	129.00	96.00
Shrub	291.00	524.00	650.00	631.00	254.00	236.00	299.00	156.00
Tree	60.00	0.00	30.00	80.00	16.00	0.00	0.00	0.00
Total	436.00	956.00	914.00	728.00	373.00	405.00	433.00	252.00

Report Parameters

SITE NAME LIKE 65538-MILL-D250
 ON/AFTER 10/01/1979
 ON/BEFORE 09/30/2002

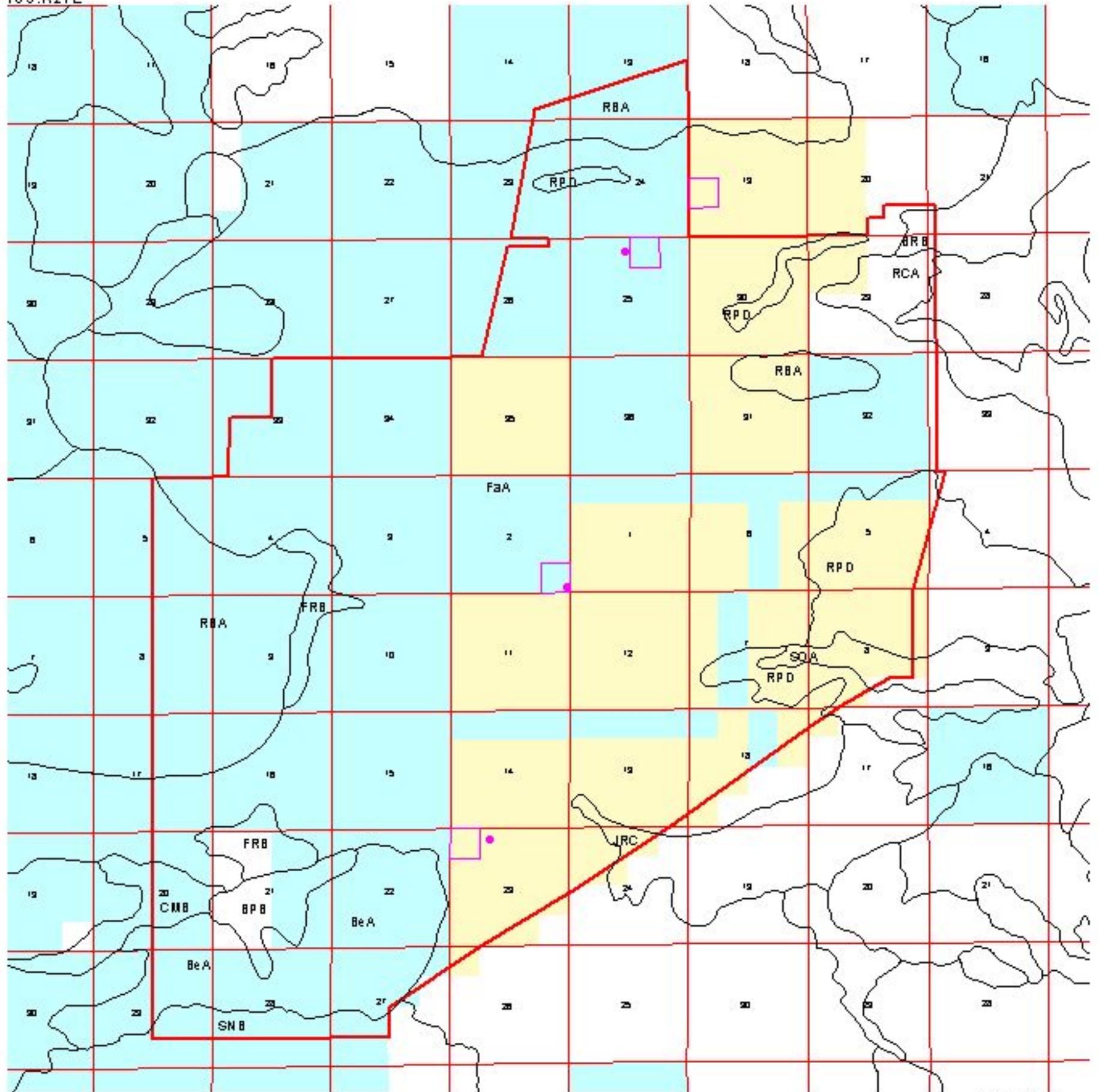


Rangeland Health Assessment Soil Mapping Units



Allotment 65538

T8S.R27E



T9S.R28E



Public



Study Locations



State



Private



Study Plots



Pasture Boundary



Soil Mapping Units



Allotment Boundary

Produced by the Roswell Field Office
GIS Intern on July 3, 2003.

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