

## **Determination of Public Land (Rangeland) Health for 63164 BORDER HILLS**

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 Border Hills allotment #63164 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/

Assistant Field Manager

Date

## Standards of Public Land Health Evaluation of 63164 BORDER HILLS Allotment [ 02/04/2004 ]

The Roswell Field Office conducted rangeland health assessments at four (4) study sites within the Border Hills allotment #63164. 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
63164-HILL #1-F153	X			X			N/A		
63164-HILL #2-F154	X			X			N/A		
63164- NORTH-F020	X			X			N/A		
63164- SOUTH-F021	X			X			N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for the Border Hills Allotment 63164; 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 three 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.

The Border Hills Allotment is located in an area of very shallow soils interspersed with alluvial drainages. This is a grassland dominated area with scattered motts of shrubs and succulents. Drought conditions have occurred here for the last 5 to 6 years, and the vegetation reflects that.

The North pasture is located in a transition zone between the SD-3 MLRA and the CP-4 MLRA area. The soils are very shallow over limestone. The surface soils, partially in response to the soils make up and the vegetation type is highly resistant to wind erosion. The plant community composition and distribution relative to infiltration and runoff

varies slight from what might be expected as per the Range Site Description. The Functional/Structural Group very closely matches what might be expected for the site. The litter amount definitely falls within the parameters, while annual production was lower. The Reproductive capability of the vegetation in response to the drought conditions was still within the acceptable range, although on the lower end. Seed heads and stolon/rhizomes were present at the time of the review. The vegetation composition was highly diverse, with only scattered cholla cactus considered to be invasive.

The South pasture showed less reproductive vigor than the North pasture, however grass seed heads were still evident along with stolon and rhizome development. The amount of litter present was commensurate with the amount of production. The litter did not appear to be moving far from its initial location. The Functional/Structural Groups contained more of the shrub component in this pasture, but it was still in line with the Range site description. Plant mortality and decadence factors rated higher (Slight to Moderate) but the plants appeared to be dormant, again in response to low levels of precipitation and low levels of winter moisture. Invasive species were low in number and in distribution across the pasture.

The Hill 2 (Childress) Pasture is also described as a Very Shallow CP-4 Range Site. Annual Production was low this year, in response to the low levels of precipitation. Seed heads and stolon/rhizome development was apparent, but also at low levels. Litter amounts were appropriate for the amount of production, and it was noted that litter was not moving. There is a high level of species diversity present, with some scattered cholla plants and nolina present. Some plants which were dormant were noted, but not many could be considered as decadent. No wind scoured areas were evident, and the soil surface resistance to erosion was rated as none to slight. Due to the drought, plants which appeared to be most actively growing were those in areas where water collected or was more available.

The Hill 1 Pasture Indicators overall rated as none to slight movement away from what should be expected for the site, a Very Shallow CP-4. As with the rest of the allotment, due to low amounts of precipitation, reproduction capability was restricted although seed heads were still present. The annual production was low for the site, but vegetative cover was within what could be expected here. The Functional/Structural Groups were balanced and well represented here with a few invasive species, such as cholla and nolina. The level of invasive species does not seem to have increased significantly over the last 20 years.

Wildlife/Biotic - 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 vegetation aspect of the ecological site description, such as Functional/Structural Groups and Plant Mortality & Decadence, as discussed above. In addition to the standard worksheet biotic factors, four specific wildlife indicators are included in the biotic evaluation.

The area is within the limestone rolling hills and drainages approximately 18 miles west of Roswell. Access is limited in most of the allotment but foot access off of hwy 380 is available to a portion of the allotment.

Specifically one site with one biotic indicator fell within the Moderate/Extreme rating; annual production. Most other sites had a moderate rating in regards to annual production. Considering the climatic conditions this indicator is expected to fall within this range. Other indicators that are influenced by climatic and fell within the moderate rating include the Plant Mortality/ Decadence, Litter amount, and wildlife populations as species are effected by drought and the change in habitat conditions. These indicators will rebound over time during normal climatic conditions.

Hydrology - Pasture Hill #1 - The plant community composition and distribution relative to infiltration and runoff rated as moderate. The recent dry conditions or drought conditions have possibly reduced production which may have reduced infiltration and increased runoff. The litter amount rated in the moderate category. The decrease in litter amount suggests that the dry conditions have had a negative affect on the growing conditions which decreases the amount of litter that is produced. Limestone deposits of the San Andres Formation outcrop in the area.

Pasture Hill # 2 - The bare ground indicator rated as moderate. The amount of bare ground has possibly increased due to recent dry conditions and also wind and water erosion processes. The litter amount rated in the moderate category. The decrease in litter amount suggests that the dry conditions have had a negative affect on the growing conditions which decreases the amount of litter that is produced. Limestone deposits of the San Andres Formation outcrop in the area.

Pasture North - The rills, water flow patterns, pedestals and/or terracettes, bare ground, gullies, wind scoured, blowouts, and or deposition areas, litter movement, soil surface resistance to erosion, soil surface loss or degradation, plant community composition and distribution relative to infiltration and runoff, compaction layer, litter amount, and physical/chemical/biological crusts indicators have rated as none to slight or slight to moderate. Limestone deposits of the San Andres Formation outcrop in the area.

Pasture South - The litter amount rated in the moderate category. The decrease in litter amount suggests that the dry conditions have had a negative affect on the growing conditions which decreases the amount of litter that is produced. Limestone deposits of the San Andres Formation outcrop in the area.

It is the professional opinion of the Assessment Team that the public land within allotment 63164 meets the upland, Biotic Standards. Due to the overall range conditions and the lack of forage production, the allottee reduced grazing pressure by taking significant amounts of non-use for the current grazing year.

### **Recommendations:**

<b>RFOs Upland and Biotic Standard Assessment Summary Worksheet</b>			
<b>SITE 63164-HILL #1-F153</b>			
Legal Land Desc	NESE 28 0110S 0200E Meridian 23	Acreage	42
Ecosite	070DY158NM VERY SHALLOW CP-4	Photo Taken	Y
Watershed	13060008090 HONDO		
Observers	FRENCH & MILLER	Observation Date	02/05/2004
County Soil Survey	NM632 LINCOLN	Soil Var/Taxad	
Soil Map Unit	018	Soil Taxon Name	ECTOR
Texture Class	NM632 CB-L	Soil Phase	ECTOR- ROC
Texture Modifier	NM632 VERY COBBLY LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	9.51	NOAA Growing Season Precipitation	7.12
NOAA Avg Annual Precipitation	15.5	NOAA Avg Growing Season Precipitation	12.84
Disturbances and Animal Use:			

<b>Part 2. Attributes and Indicators</b>						
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 :						
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 :	Reduce amounts of litter is due to low amount of production which is due to low amounts of precipitation.					

B	Annual Production			X		
Comments :	Low annual production due to low amount of precipitation; seed heads are present , by no stolons or rhizomes.					
B	Invasive Plants				X	
Comments :	some cholla & nolina present, but within the limits of the site description.					
B	Reproductive Capability of Perennial Plants				X	
Comments :	Production capability is not be limited by grazing, but is due to low amounts of precipitation, necessary for growth.					
S	Physical/Chemical/Biological Crusts					X
Comments :						
B	Wildlife Habitat			X		
Comments :						
B	Wildlife Populations			X		
Comments :						
B	Special Status Species Habitat					X
Comments :						
B	Special Status Species Populations					X
Comments :						

### Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	0	0	10
H	Hydrologic	0	0	2	0	9

B	Biotic	0	0	5	2	6
<p>B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the <i>Does not Meet</i> column, Moderate becomes <i>May Need More Info</i>, and Slight to Moderate and None to Slight merge to form the <i>Meets</i> 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.</p>						
Attribute	Rationale	Does Not Meet	May Need More Info	Meets		
Soil		0	0	10		
Hydrologic		0	2	9		
Biotic	Biotic features here are restricted in growth and reproduction by the low amounts of precipitation received in the last few years. Utilization here is very low to non existent.	0	5	8		
Site Notes:						

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

**SITE 63164-HILL #2-F154**

Legal Land Desc	NWNE 4 0110S 0200E Meridian 23	Acreage	800
Ecosite	070DY158NM VERY SHALLOW CP-4	Photo Taken	Y
Watershed	13060008120 PICACHO		
Observers	FRENCH & MILLER	Observation Date	02/05/2004
County Soil Survey	NM632 LINCOLN	Soil Var/Taxad	
Soil Map Unit	016	Soil Taxon Name	ECTOR
Texture Class	NM632 CB-L	Soil Phase	ECTOR- KIMBROUGH
Texture Modifier	NM632 VERY COBBLY LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	9.51	NOAA Growing Season Precipitation	7.12
NOAA Avg Annual Precipitation	15.5	NOAA Avg Growing Season Precipitation	12.84
Disturbances and Animal Use:			

**Part 2. Attributes and Indicators**

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	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 :						
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 :	Diversity exists with the structural and functional groups.					
B	Plant Mortality/Decadence			X		
Comments :	Plants are definitely dormant, due to drought.					

H B	Litter Amount			X		
Comments :	Low amount of litter due to low amounts of production, due to drought.					
B	Annual Production			X		
Comments :	There are few seed heads, due to low amount of precipitation. Production is not limited here by grazing.					
B	Invasive Plants				X	
Comments :	Some scattered cholla and nollina.					
B	Reproductive Capability of Perennial Plants				X	
Comments :	Reproduction is not limited by grazing.					
S	Physical/Chemical/Biological Crusts					X
Comments :	Matches what is expected for the site.					
B	Wildlife Habitat				X	
Comments :	Precipitation driven					
B	Wildlife Populations			X		
Comments :	Mule deer					
B	Special Status Species Habitat					X
Comments :						
B	Special Status Species Populations					X
Comments :						
<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	Moderate	Slight to Moderate	None to

			Extreme		e	Slight
S	Soil	0	0	1	3	6
H	Hydrologic	0	0	2	4	5
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		0	1	9
Hydrologic		0	2	9
Biotic		0	4	9
Site Notes:				

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

**SITE 63164-NORTH-F020**

Legal Land Desc	NENW 24 0100S 0190E Meridian 23	Acreage	1557
Ecosite	070CY107NM LIMESTONE HILLS CP	Photo Taken	Y
Watershed	13060008120 PICACHO		
Observers	FRENCH & MILLER	Observation Date	02/05/2004
County Soil Survey	NM632 LINCOLN	Soil Var/Taxad	
Soil Map Unit	014	Soil Taxon Name	DEAMA
Texture Class	NM632	Soil Phase	DEAMA- ROC
Texture Modifier	NM632 VERY COBBLY LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	9.51	NOAA Growing Season Precipitation	7.12
NOAA Avg Annual Precipitation	15.5	NOAA Avg Growing Season Precipitation	12.84
Disturbances and Animal Use:			

**Part 2. Attributes and Indicators**

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	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						
:						
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	Closely matches site description.					
:						
B	Plant Mortality/Decadence					X
Comments						
:						
H B	Litter Amount				X	
Comments	Falls within parameters of the site.					

:						
B	Annual Production			X		
Comments :	Low production due to drought.					
B	Invasive Plants					X
Comments :	Highly diverse species, no invasive species other than cholla					
B	Reproductive Capability of Perennial Plants					X
Comments :	Seehead are present in this site.					
S	Physical/Chemical/Biological Crusts					X
Comments :						
B	Wildlife Habitat					X
Comments :						
B	Wildlife Populations				X	
Comments :	Mule deer present, but not at potential level.					
B	Special Status Species Habitat					X
Comments :						
B	Special Status Species Populations					X
Comments :						
<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	0	1	9

H	Hydrologic	0	0	0	3	8
B	Biotic	0	0	1	2	10

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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.

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Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	0	10
Hydrologic		0	0	11
Biotic		0	1	12

Site Notes:

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

**SITE 63164-SOUTH-F021**

Legal Land Desc	SENW 29 0100S 0200E Meridian 23	Acreage	1261
Ecosite	070DY158NM VERY SHALLOW CP-4	Photo Taken	Y
Watershed	13060008120 PICACHO		
Observers	FRENCH & MILLER	Observation Date	02/05/2004
County Soil Survey	NM632 LINCOLN	Soil Var/Taxad	
Soil Map Unit	017	Soil Taxon Name	ECTOR
Texture Class	NM632 CB-L	Soil Phase	ECTOR- ROC
Texture Modifier	NM632 VERY COBBLY LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	9.51	NOAA Growing Season Precipitation	7.12
NOAA Avg Annual Precipitation	15.5	NOAA Avg Growing Season Precipitation	12.84
Disturbances and Animal Use:			

**Part 2. Attributes and Indicators**

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	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						
:						
S	Wind-scoured, Blowouts, and/or Deposition Areas					X
Comments						
:						
H	Litter Movement					X
Comments	Uniform placement on hills, no evidence of 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	Grass species component could increase.					
:						
B	Plant Mortality/Decadence			X		
Comments	More decadent & dormant plants here than at other sites within this portion of the ranch.					
:						
H B	Litter Amount			X		
Comments	appropriate amount of litter for the amount of production					

:						
B	Annual Production			X		
Comments :	Low amounts of production due to drought, much less than North#1.					
B	Invasive Plants				X	
Comments :						
B	Reproductive Capability of Perennial Plants				X	
Comments :	some seed heads, but not limited by grazing.					
S	Physical/Chemical/Biological Crusts					X
Comments :						
B	Wildlife Habitat				X	
Comments :	due to drought.					
B	Wildlife Populations			X		
Comments :	Static - not increasing.					
B	Special Status Species Habitat					X
Comments :						
B	Special Status Species Populations					X
Comments :						
<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	0	3	7

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

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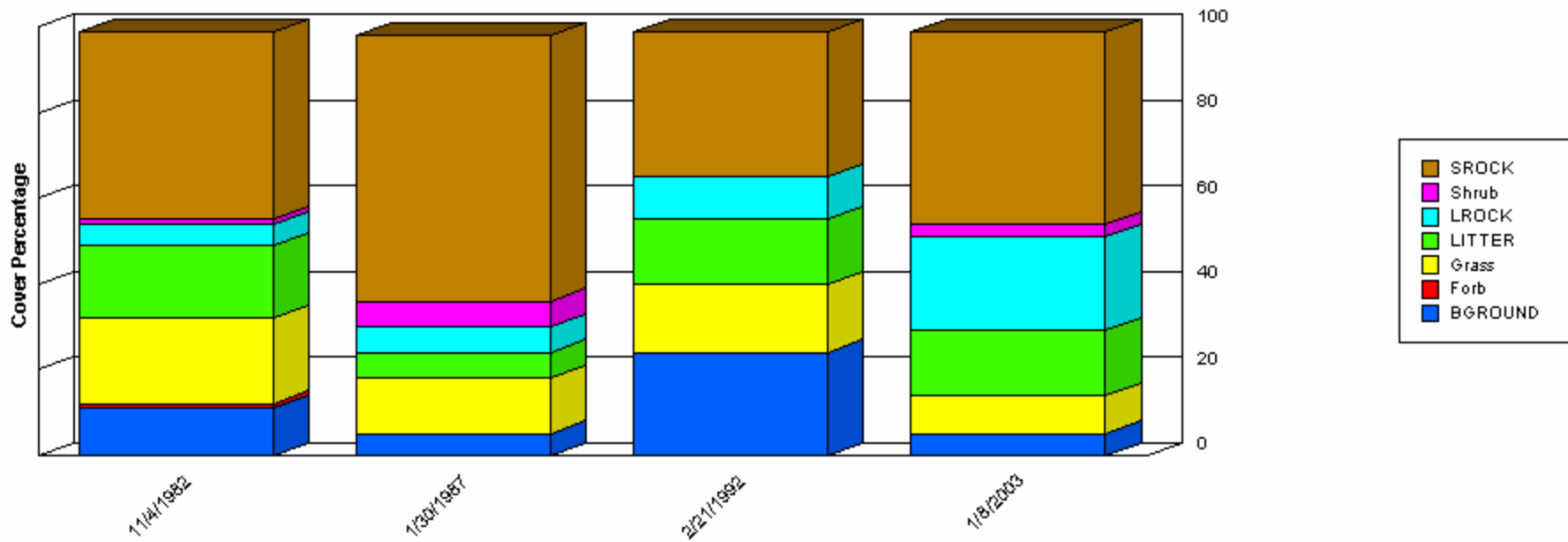
B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. 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.

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Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	0	10
Hydrologic		0	1	10
Biotic		0	4	9

Site Notes:
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# Ground Cover Trends



	11/4/1982	1/30/1987	2/21/1992	1/8/2003
BGROUND	11.00	5.00	24.00	5.00
Forb	1.00	0.00	0.00	0.00
Grass	20.00	13.00	16.00	9.00
LITTER	17.00	6.00	15.00	15.00
LROCK	5.00	6.00	10.00	22.00
Shrub	1.00	6.00	0.00	3.00
SROCK	44.00	62.00	34.00	45.00

	11/4/1982	1/30/1987	2/21/1992	1/8/2003
Total	99.00	98.00	99.00	99.00

**Report Parameters**

SITE NAME LIKE           63164-HILL #1-F153  
ON/AFTER                 10/01/1982  
ON/BEFORE                09/30/2003

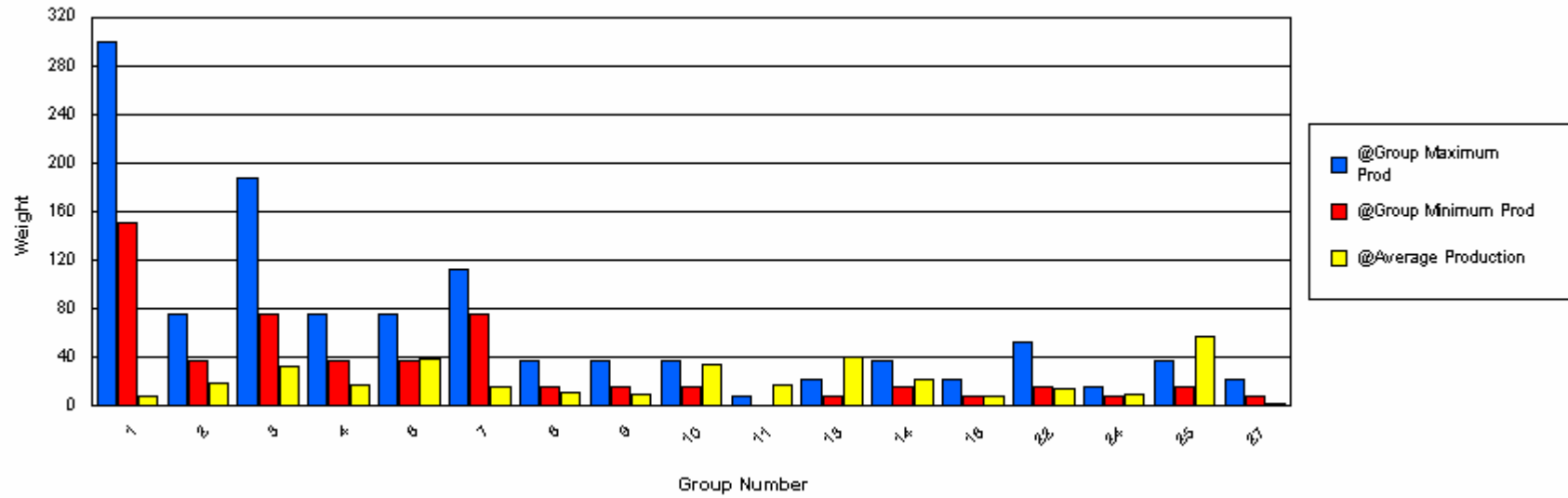
# Functional / Structural Groups

## Report Parameters

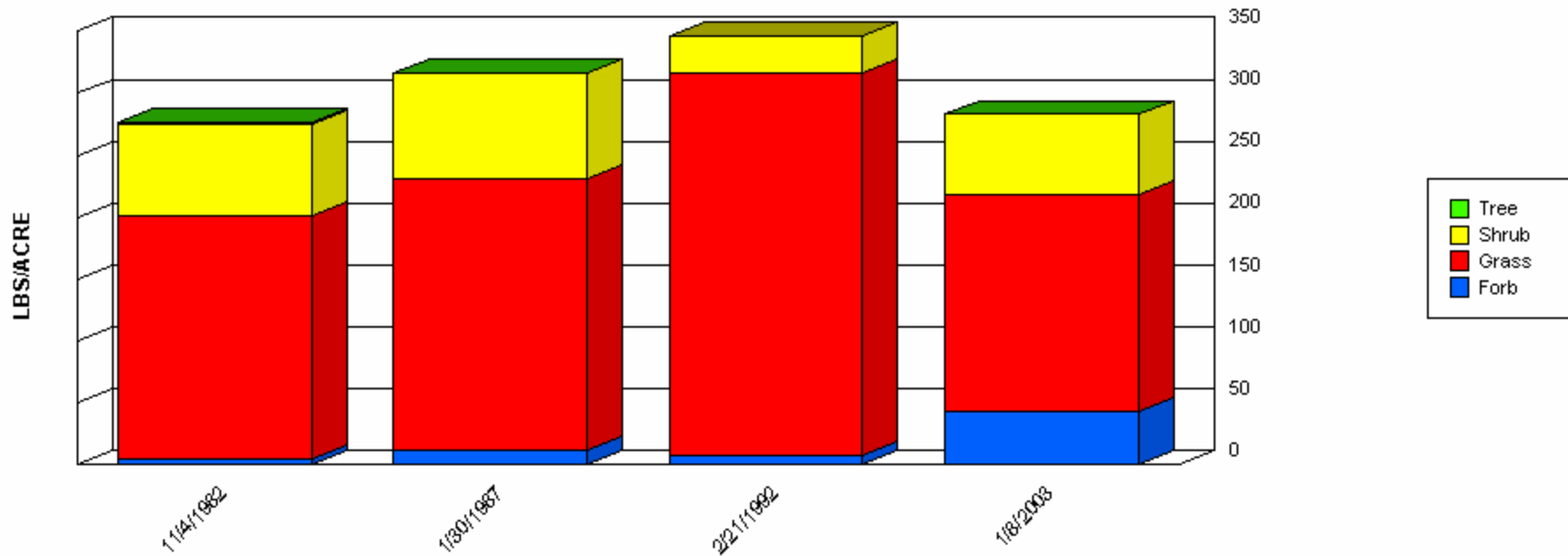
SITE NAME LIKE 63164-HILL #1-F153  
 ON/AFTER 10/01/1982  
 ON/BEFORE 09/30/2003  
 MIN LBS TO GRAPH 1  
 SELECTED ECOSITE 070DY158NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	BOER4	150	300	3.00	15.00	7.87	4.66
2	Grass	BOCU	37	75	1.88	42.00	18.49	15.11
3	Grass	TRMU	75	187	1.76	49.28	14.51	20.12
3	Grass	TRPI2	75	187	0.00	42.67	17.56	18.22
4	Grass	BOGR2	37	75	1.36	22.67	11.49	7.85
4	Grass	SPCR	37	75	1.21	11.00	6.11	4.89
6	Grass	ARIST	37	75	0.00	70.00	38.04	25.01
7	Grass	MUSE	75	112	0.00	39.50	15.32	17.30
8	Grass	LYPH	15	37	4.96	19.88	11.01	5.55
9	Grass	PAHA	15	37	2.37	20.00	8.93	6.65
10	Grass	BOHI2	15	37	1.30	26.00	10.08	9.65
10	Grass	ERPU8	15	37	0.67	6.00	2.82	2.10
10	Grass	HIMU2	15	37	2.37	36.00	17.25	12.06
10	Grass	LEDU	15	37	0.00	1.24	0.41	0.58
10	Grass	SIHY	15	37	0.00	7.84	3.92	3.92
11	Grass	AAGG	0	7	0.00	33.33	11.78	15.26
11	Grass	MUSQ	0	7	0.00	8.00	4.00	4.00
11	Grass	TRAGU	0	7	0.00	2.16	1.08	1.08
13	Grass	MUAR2	7	22	2.51	4.00	3.29	0.61
13	Grass	MUME	7	22	36.00	38.27	37.13	1.13
14	Forb	CROTO	15	37	3.27	37.41	20.34	17.07
14	Forb	ERIOG	15	37	0.00	2.03	0.80	0.88
18	Forb	AAFF	7	22	0.00	9.18	5.73	4.08
18	Forb	DYPE	7	22	0.00	4.77	1.59	2.25
22	Shrub	NOLIN	15	52	0.00	30.00	12.61	11.79
22	Shrub	NOTE	15	52	0.00	1.67	0.83	0.83

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
23	Tree	YUEL	15	37	0.00	0.88	0.29	0.41
24	Shrub	OPUNT	7	15	0.00	27.50	9.32	12.86
25	Shrub	GUSA2	15	37	42.78	80.08	57.01	16.46
27	Shrub	SENEC2	7	22	0.00	3.30	1.65	1.65



# Production Lbs/Acre Trends

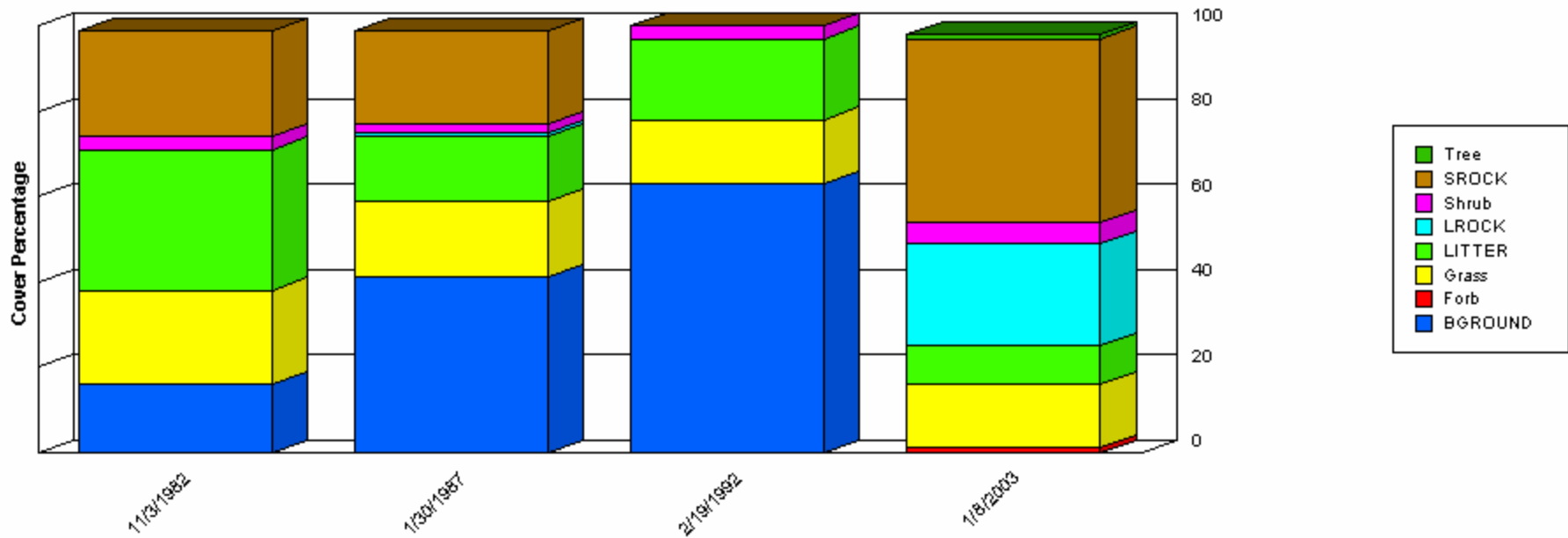


	11/4/1982	1/30/1987	2/21/1992	1/8/2003
Forb	5.13	12.45	8.00	43.24
Grass	196.53	217.91	308.00	174.81
Shrub	74.06	85.51	30.00	64.84
Tree	0.88	0.00	0.00	0.00
Total	276.60	315.87	346.00	282.89

## Report Parameters

SITE NAME LIKE 63164-HILL #1-F153  
 ON/AFTER 10/01/1982  
 ON/BEFORE 09/30/2003

# Ground Cover Trends



	11/3/1982	1/30/1987	2/19/1992	1/8/2003
BGROUND	16.00	41.00	63.00	0.00
Forb	0.00	0.00	0.00	1.00
Grass	22.00	18.00	15.00	15.00
LITTER	33.00	15.00	19.00	9.00
LROCK	0.00	1.00	0.00	24.00
Shrub	3.00	2.00	3.00	5.00
SROCK	25.00	22.00	0.00	43.00

	11/3/1982	1/30/1987	2/19/1992	1/8/2003
Tree	0.00	0.00	0.00	1.00
Total	99.00	99.00	100.00	98.00

### Report Parameters

SITE NAME LIKE           63164-HILL #2-F154  
ON/AFTER                 10/01/1982  
ON/BEFORE                09/30/2003

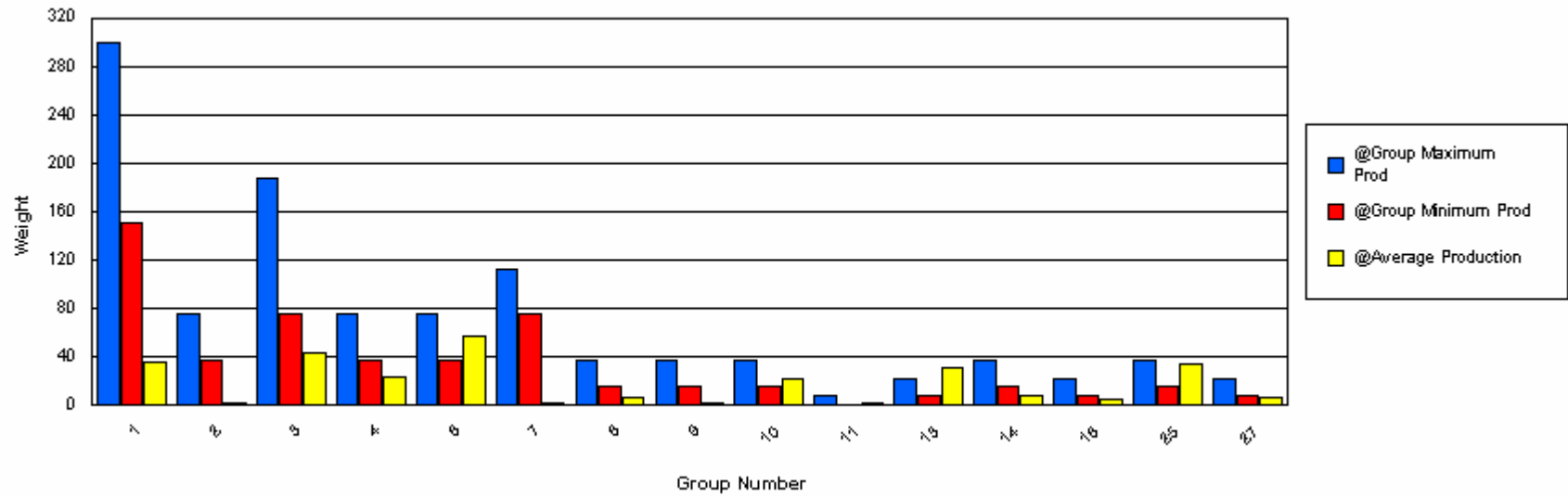
# Functional / Structural Groups

## Report Parameters

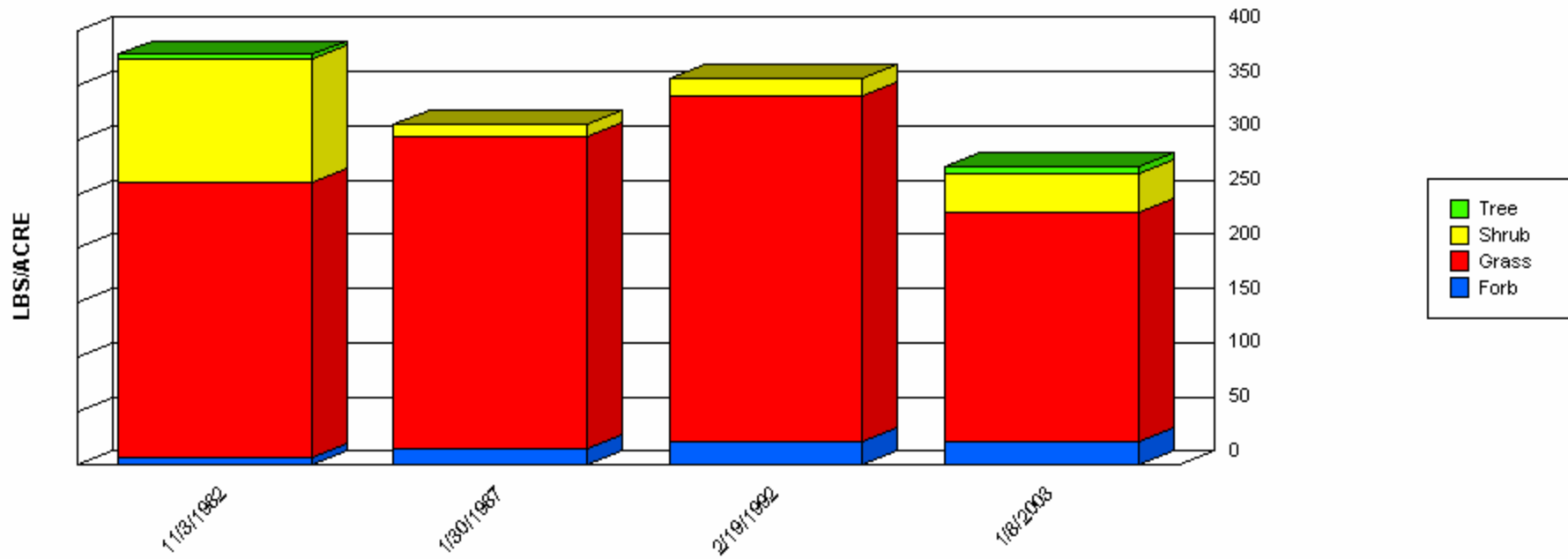
SITE NAME LIKE 63164-HILL #2-F154  
 ON/AFTER 10/01/1982  
 ON/BEFORE 09/30/2003  
 MIN LBS TO GRAPH 1  
 SELECTED ECOSITE 070DY158NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	BOER4	150	300	4.53	46.00	34.72	17.47
2	Grass	BOCU	37	75	0.42	2.00	1.55	0.65
3	Grass	TRMU	75	187	0.00	115.57	34.06	47.46
3	Grass	TRPI2	75	187	0.00	27.00	8.92	11.02
4	Grass	BOGR2	37	75	0.91	34.00	20.20	14.34
4	Grass	SPCR	37	75	0.00	5.82	2.46	2.54
6	Grass	ARIST	37	75	0.00	112.00	57.48	40.06
7	Grass	MUSE	75	112	0.00	3.88	1.29	1.83
8	Grass	LYPH	15	37	1.76	9.00	5.51	2.56
9	Grass	PAHA	15	37	0.00	3.33	1.33	1.41
10	Grass	BOHI2	15	37	0.87	35.00	16.65	14.05
10	Grass	ERPU8	15	37	0.00	4.00	1.61	1.70
10	Grass	HIMU2	15	37	0.00	9.00	3.00	4.24
11	Grass	MUSQ	0	7	0.00	3.27	1.09	1.54
11	Grass	TRAGU	0	7	0.00	2.16	0.72	1.02
13	Grass	ENDE	7	22	0.00	2.00	0.83	0.87
13	Grass	MUAR2	7	22	0.00	79.54	29.64	32.92
13	Grass	PAOB	7	22	0.00	2.00	0.83	0.85
14	Forb	CROTO	15	37	2.45	18.00	7.69	7.29
17	Forb	SPHAE	7	22	0.00	1.08	0.60	0.45
18	Forb	AAFF	7	22	0.91	13.50	5.15	4.94
21	Shrub	MIBI3	15	37	0.00	2.16	0.72	1.02
22	Shrub	NOTE	15	52	0.00	0.67	0.22	0.31
24	Shrub	OPUNT	7	15	0.00	0.47	0.16	0.22
25	Shrub	GUSA2	15	37	0.57	113.16	33.85	46.08
26	Shrub	EPTR	15	37	0.00	1.08	0.36	0.51

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
27	Tree	ACGR	7	22	4.80	6.67	5.73	0.93



# Production Lbs/Acre Trends

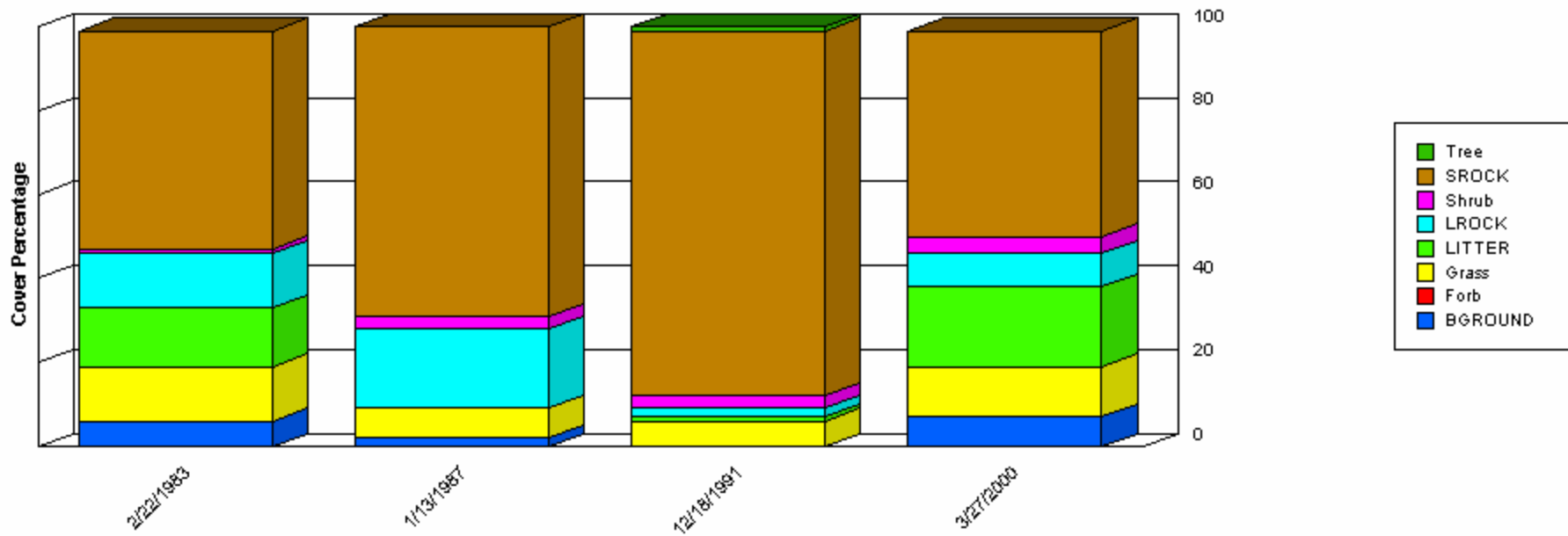


	11/3/1982	1/30/1987	2/19/1992	1/8/2003
Forb	7.38	14.58	22.00	21.79
Grass	253.29	288.35	319.00	211.43
Shrub	113.16	11.05	15.00	34.89
Tree	4.80	0.00	0.00	6.67
Total	378.63	313.97	356.00	274.77

## Report Parameters

SITE NAME LIKE            63164-HILL #2-F154  
 ON/AFTER                    10/01/1982  
 ON/BEFORE                 09/30/2003

# Ground Cover Trends



	2/22/1983	1/13/1987	12/18/1991	3/27/2000
BGROUND	6.00	2.00	0.00	7.00
Forb	0.00	0.00	0.00	0.00
Grass	13.00	7.00	6.00	12.00
LITTER	14.00	0.00	1.00	19.00
LROCK	13.00	19.00	2.00	8.00
Shrub	1.00	3.00	3.00	4.00
SROCK	52.00	69.00	87.00	49.00

	2/22/1983	1/13/1987	12/18/1991	3/27/2000
Tree	0.00	0.00	1.00	0.00
Total	99.00	100.00	100.00	99.00

### Report Parameters

SITE NAME LIKE           63164-NORTH-F020  
ON/AFTER                 10/01/1982  
ON/BEFORE                09/30/2003

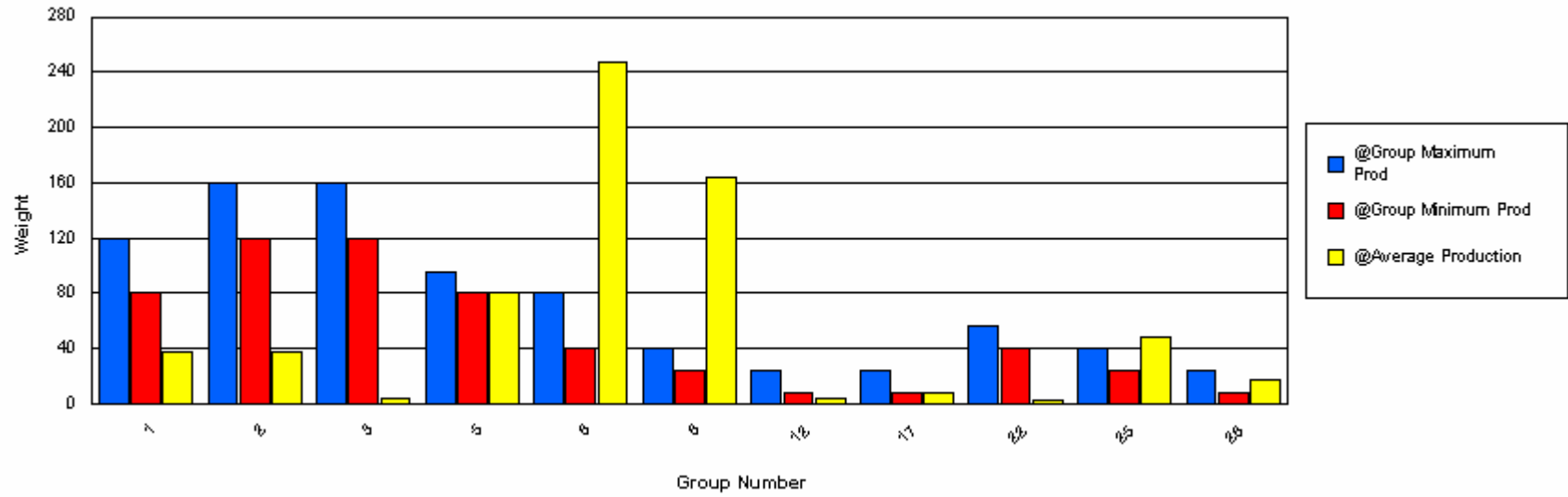
# Functional / Structural Groups

## Report Parameters

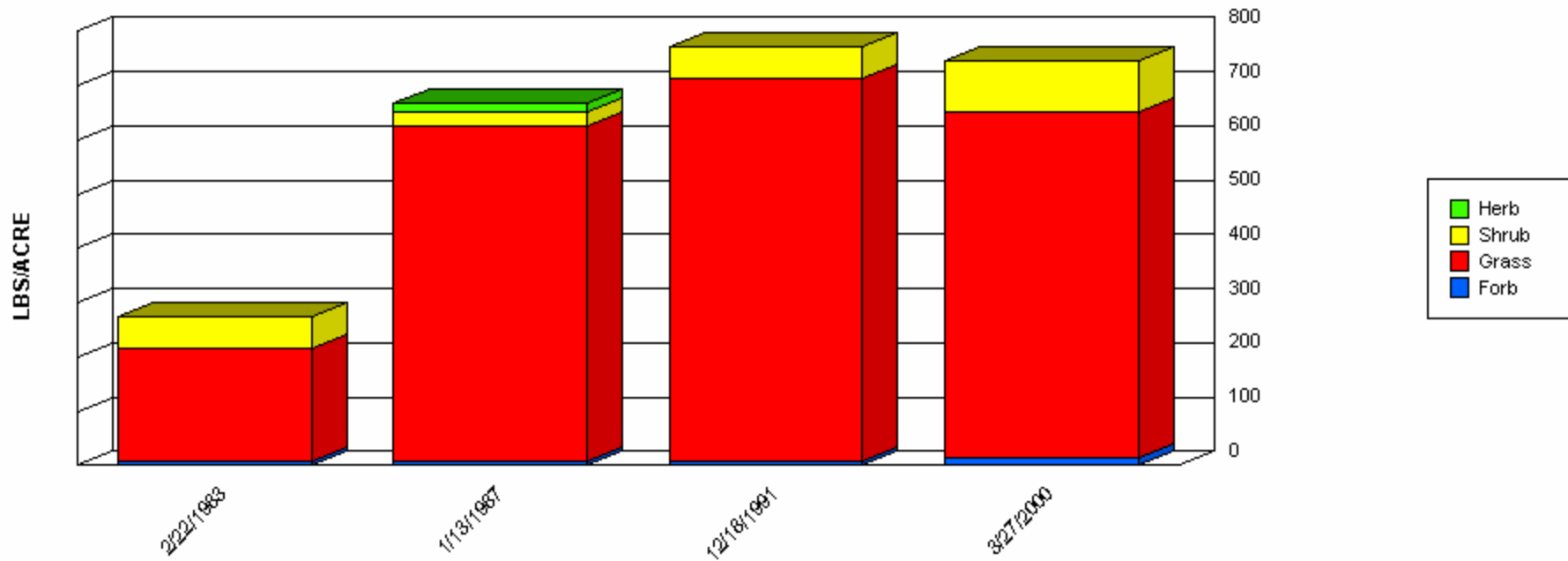
SITE NAME LIKE 63164-NORTH-F020  
 ON/AFTER 10/01/1982  
 ON/BEFORE 09/30/2003  
 MIN LBS TO GRAPH 1  
 SELECTED ECOSITE 070CY107NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	BOER4	80	120	7.28	73.10	37.49	23.84
2	Grass	BOCU	120	160	3.20	72.00	38.09	31.62
3	Grass	MUME	120	160	0.00	12.00	4.00	5.66
5	Grass	BOHI2	80	96	12.32	47.33	28.93	15.02
5	Grass	LYPH	80	96	44.59	55.20	51.06	4.12
6	Grass	MUMO2	40	80	185.59	308.45	247.02	61.43
8	Grass	ARIST	24	40	52.57	162.31	93.27	44.64
8	Grass	PAHA	24	40	6.31	13.00	8.83	2.55
8	Grass	SPCR	24	40	0.00	4.11	2.44	1.76
8	Grass	TRMU	24	40	0.00	112.00	38.00	52.33
8	Grass	TRPI2	24	40	6.00	38.15	21.96	13.33
11	Grass	ERPU8	0	0	0.00	0.67	0.22	0.31
12	Grass	LECO	8	24	3.78	4.00	3.89	0.11
16	Forb	SPHAE	8	24	0.00	2.49	0.83	1.18
17	Forb	AAFF	8	24	6.61	9.07	7.56	1.08
17	Forb	DYSSO	8	24	0.00	3.33	1.11	1.57
18	Forb	ALLIU	8	24	0.00	0.91	0.30	0.43
18	Forb	SOLAN	8	24	0.00	0.67	0.22	0.31
22	Shrub	RHAR4	40	56	0.00	8.00	2.25	3.34
25	Shrub	GUSA2	24	40	0.00	50.40	16.35	20.15
25	Shrub	NOLIN	24	40	4.50	34.72	18.74	12.40
25	Shrub	OPUNT	24	40	0.64	43.33	13.70	17.26
26	Shrub	BRICK	8	24	0.33	24.00	11.42	9.72
26	Shrub	DAFO	8	24	3.47	4.39	3.93	0.46
26	Shrub	FAPA	8	24	0.00	5.50	1.83	2.59

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



# Production Lbs/Acre Trends

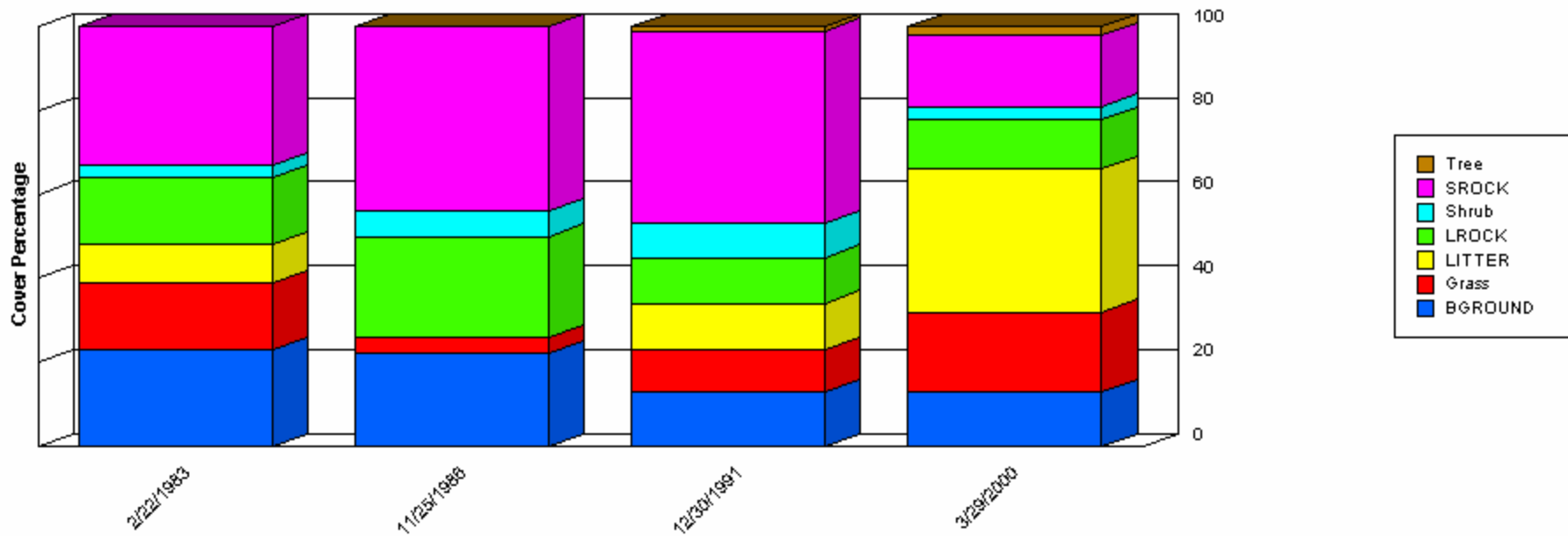


	2/22/1983	1/13/1987	12/18/1991	3/27/2000
Forb	7.40	9.07	9.00	13.39
Grass	209.95	617.59	704.00	637.41
Herb	0.00	16.72	0.00	0.00
Shrub	57.54	25.46	59.00	95.69
Total	274.89	668.84	772.00	746.49

## Report Parameters

SITE NAME LIKE           63164-NORTH-F020  
 ON/AFTER                 10/01/1982  
 ON/BEFORE               09/30/2003

# Ground Cover Trends



	2/22/1983	11/25/1986	12/30/1991	3/29/2000
BGROUND	23.00	22.00	13.00	13.00
Grass	16.00	4.00	10.00	19.00
LITTER	9.00	0.00	11.00	34.00
LROCK	16.00	24.00	11.00	12.00
Shrub	3.00	6.00	8.00	3.00
SROCK	33.00	44.00	46.00	17.00
Tree	0.00	0.00	1.00	2.00

	2/22/1983	11/25/1986	12/30/1991	3/29/2000
Total	100.00	100.00	100.00	100.00

**Report Parameters**

SITE NAME LIKE           63164-SOUTH-F021  
ON/AFTER                 10/01/1982  
ON/BEFORE                09/30/2003

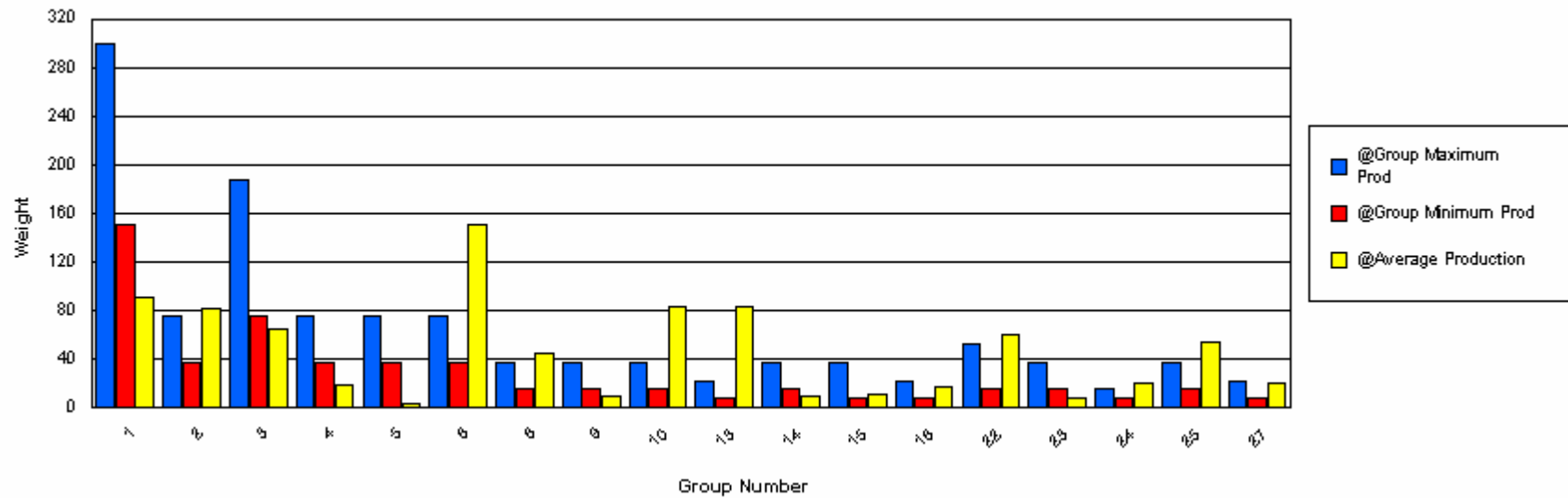
# Functional / Structural Groups

## Report Parameters

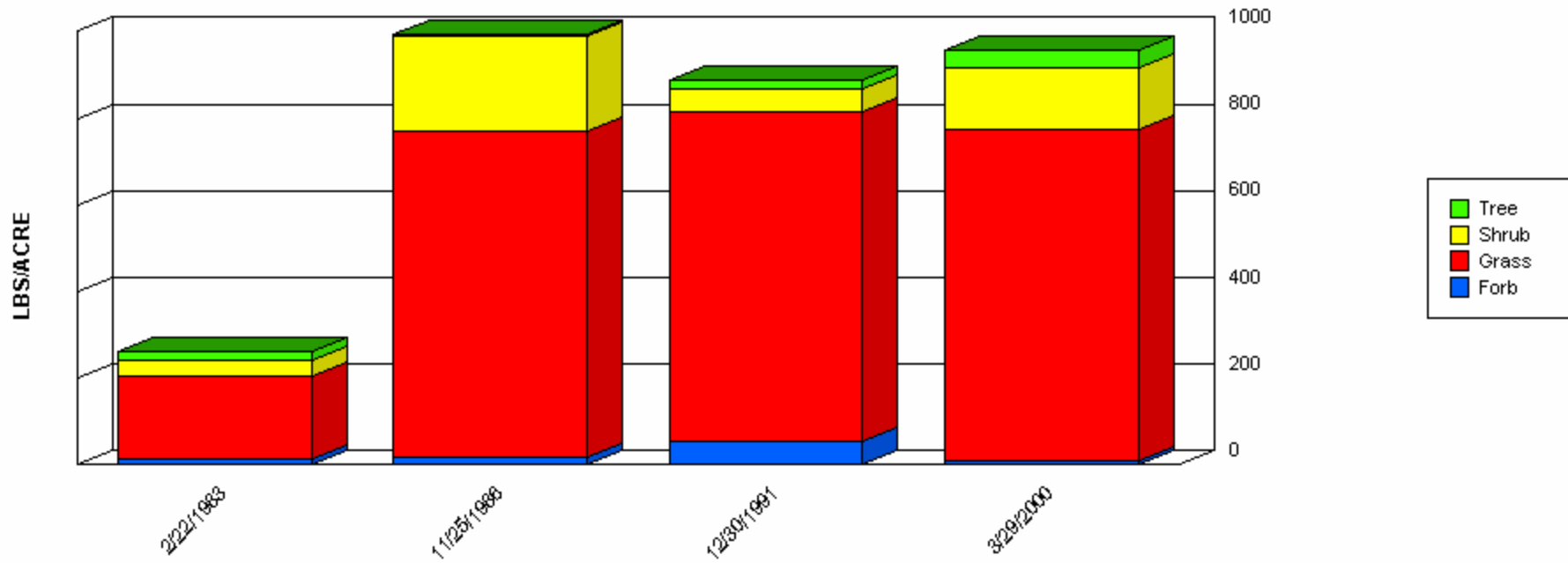
SITE NAME LIKE 63164-SOUTH-F021  
 ON/AFTER 10/01/1982  
 ON/BEFORE 09/30/2003  
 MIN LBS TO GRAPH 1  
 SELECTED ECOSITE 070DY158NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	BOER4	150	300	43.68	120.00	91.25	29.95
2	Grass	BOCU	37	75	11.52	197.49	80.97	70.10
3	Grass	TRMU	75	187	0.00	74.00	29.75	28.34
3	Grass	TRPI2	75	187	14.08	64.00	34.12	19.59
4	Grass	BOGR2	37	75	0.00	35.33	16.38	15.12
4	Grass	SPCR	37	75	0.00	5.76	2.44	2.08
5	Grass	SCBR2	37	75	0.00	5.53	2.77	2.77
6	Grass	ARIST	37	75	35.47	195.29	150.33	66.61
8	Grass	LYPH	15	37	7.45	70.00	44.61	23.34
9	Grass	PAHA	15	37	4.00	24.00	9.74	8.27
10	Grass	BOHI2	15	37	6.31	95.63	60.82	35.12
10	Grass	BOSA	15	37	7.00	15.33	11.17	4.17
10	Grass	ERPU8	15	37	0.00	4.85	2.43	2.43
10	Grass	HIJA	15	37	0.00	1.82	0.61	0.86
10	Grass	MURE	15	37	0.00	7.00	1.92	2.95
10	Grass	SIHY	15	37	0.00	7.84	3.92	3.92
10	Grass	STNE2	15	37	0.00	5.46	1.82	2.57
13	Grass	LECO	7	22	0.00	3.00	1.68	1.25
13	Grass	MUAR2	7	22	4.67	16.05	9.34	4.56
13	Grass	MUME	7	22	0.00	16.00	5.33	7.54
13	Grass	MUMO2	7	22	64.00	68.23	66.11	2.11
13	Grass	STCO4	7	22	0.00	2.48	1.24	1.24
14	Forb	CROTO	15	37	1.08	16.00	8.54	7.46
15	Forb	SELO	7	37	1.12	18.13	7.42	7.62
15	Forb	SENEC	7	37	0.00	10.00	3.33	4.71
17	Forb	DYSSO	7	22	0.00	1.33	0.44	0.63

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
17	Forb	SPHAE	7	22	0.00	0.91	0.30	0.43
18	Forb	AAFF	7	22	5.37	29.00	17.19	11.81
18	Forb	PARON	7	22	0.00	1.33	0.44	0.63
19	Forb	MELE2	7	22	0.00	0.71	0.35	0.35
22	Shrub	NOLIN	15	52	33.62	89.60	54.41	25.02
22	Shrub	NOMI	15	52	0.00	18.48	6.16	8.71
23	Shrub	YUCCA	15	37	6.67	8.00	7.33	0.67
24	Shrub	OPIM	7	15	0.00	0.33	0.11	0.16
24	Shrub	OPUNT	7	15	0.33	40.00	20.17	19.83
25	Shrub	GUSA2	15	37	1.05	188.40	53.84	77.92
27	Tree	ACGR	7	22	2.07	41.33	20.60	14.04



# Production Lbs/Acre Trends



	2/22/1983	11/25/1986	12/30/1991	3/29/2000
Forb	13.57	18.84	54.00	8.16
Grass	190.95	749.39	759.00	766.92
Shrub	36.73	222.35	56.00	140.45
Tree	22.00	2.07	17.00	41.33
<b>Total</b>	<b>263.26</b>	<b>992.65</b>	<b>886.00</b>	<b>956.87</b>

## Report Parameters

SITE NAME LIKE 63164-SOUTH-F021  
 ON/AFTER 10/01/1982  
 ON/BEFORE 09/30/2003