



# Bennett Freeze – Vegetation Study for Land Management District No. 3

Prepared for  
**Bureau of Indian Affairs**  
**Western Navajo Agency**

June 2014

Prepared by  
**Parametrix**





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*Prepared for*

**Bureau of Indian Affairs, Western Navajo Agency**

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# Table of Contents

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<b>ACRONYMS AND KEY TERMS .....</b>	<b>V</b>
<b>CHAPTER 1 INTRODUCTION .....</b>	<b>1-1</b>
1 What is the purpose of this report? .....	1-1
<b>Stocking Rate .....</b>	<b>1-3</b>
2 How do livestock managers determine how many sheep or cattle to put into a grazing unit? .....	1-3
3 How big is the project area, and how was it delineated? .....	1-3
4 What is a Major Land Resource Area? .....	1-4
5 What are Ecological Site Descriptions? .....	1-4
6 What is the Stocking Rate? .....	1-5
7 What are Animal Unit Months and Animal Units Year Long? .....	1-6
8 How was the carrying capacity calculated for this report? .....	1-8
9 What is the Similarity Index? .....	1-9
<b>CHAPTER 2 METHODS .....</b>	<b>2-1</b>
1 What were the objectives of this range study? .....	2-1
2 How big is the project area, and how was it delineated? .....	2-1
3 What specific GIS protocols were used to establish the ecological sites and stratify the project area? .....	2-1
4 How were ecological sites defined for the project area? .....	2-1
5 What specific attributes were measured in the field? .....	2-1
6 How was vegetation production measured? .....	2-1
7 How was vegetation cover measured? .....	2-1
8 How was data analyzed after field work was completed? .....	2-1
9 How were stocking rate and carrying capacity calculated? .....	2-1
10 The project area has two growing seasons. How was this considered during data collection and analysis? .....	2-1
11 How were rangeland trend, the similarity index, and forage value ratings calculated? .....	2-1
12 How was plant frequency calculated? .....	2-1
13 What effect does the distance to water have on stocking rate? .....	2-1

<b>CHAPTER 3 RESULTS .....</b>	<b>3-1</b>
1 Ecological Site Summary .....	3-1
EcoSite Identification No. F035XG714AZ .....	3-4
EcoSite Identification No. R035XA113AZ .....	3-8
EcoSite Identification No. R035XA119AZ .....	3-10
EcoSite Identification No. R035XB204AZ .....	3-14
EcoSite Identification No. R035XB210AZ .....	3-18
EcoSite Identification No. R035XB211AZ .....	3-22
EcoSite Identification No. R035XB215AZ .....	3-26
EcoSite Identification No. R035XB216AZ .....	3-30
EcoSite Identification No. R035XB217AZ .....	3-32
EcoSite Identification No. R035XB219AZ .....	3-36
EcoSite Identification No. R035XB226AZ .....	3-38
EcoSite Identification No. R035XB231AZ .....	3-42
EcoSite Identification No. R035XB232AZ .....	3-44
EcoSite Identification No. R035XB235AZ .....	3-50
EcoSite Identification No. R035XB236AZ .....	3-54
EcoSite Identification No. R035XB251AZ .....	3-58
EcoSite Identification No. R035XB269AZ .....	3-62
EcoSite Identification No. R035XB283AZ .....	3-64
EcoSite Identification No. R035XC308AZ .....	3-68
EcoSite Identification No. R035XC313AZ .....	3-74
EcoSite Identification No. R035XC315AZ .....	3-78
EcoSite Identification No. R035XC317AZ .....	3-80
EcoSite Identification No. R035XC319AZ .....	3-82
EcoSite Identification No. R035XC371AZ .....	3-86
EcoSite Identification Unavailable .....	3-90
2 Range Unit Compartment Summary .....	3-93
LMD 3 Overview .....	3-94
Allotment 3, Unit 4, Compartment 3 (Alt 3-4-3) .....	3-102
Allotment 3, Unit 4, Compartment 5 (ALT 3-4-5) .....	3-108
Allotment 3, Unit 4, Compartment 6 (ALT 3-4-6) .....	3-114
Land Management District 3, Unit 1 Overview .....	3-121
LMD 3, Unit 1, Compartment 1 (LMD 3-1-1) .....	3-122
LMD 3, Unit 1, Compartment 2 (LMD 3-1-2) .....	3-128
LMD 3, Unit 1, Compartment 3 (LMD 3-1-3) .....	3-134
LMD 3, Unit 1, Compartment 4 (LMD 3-1-4) .....	3-140
LMD 3, Unit 1, Compartment 5 (LMD 3-1-5) .....	3-144
LMD 3, Unit 1, Compartment 6 (LMD 3-1-6) .....	3-148

LMD 3, Unit 1, Compartment 7 (LMD 3-1-7) .....	3-154
LMD 3, Unit 1, Compartment 8 (LMD 3-1-8) .....	3-160
LMD 3, Unit 1, Compartment 9 (LMD 3-1-9) .....	3-166
LMD 3, Unit 1, Compartment 10 (LMD 3-1-10) .....	3-172
LMD 3, Unit 1, Compartment 11 (LMD 3-1-11) .....	3-178
LMD 3, Unit 1, Compartment 12 (LMD 3-1-12) .....	3-182
Land Management District 3, Unit 3 Overview .....	3-187
LMD 3, Unit 3, Compartment 1 (LMD 3-3-1) .....	3-188
LMD 3, Unit 3, Compartment 2 (LMD 3-3-2) .....	3-194
LMD 3, Unit 3, Compartment 3 (LMD 3-3-3) .....	3-200
LMD 3, Unit 3, Compartment 4 (LMD 3-3-4) .....	3-208
LMD 3, Unit 3, Compartment 5 (LMD 3-3-5) .....	3-216
LMD 3, Unit 3, Compartment 6 (LMD 3-3-6) .....	3-224
LMD 3, Unit 3, Compartment 7 (LMD 3-3-7) .....	3-232
LMD 3, Unit 3, Compartment 8 (LMD 3-3-8) .....	3-238
LMD 3, Unit 3, Compartment 9 (LMD 3-3-9) .....	3-242
LMD 3, Unit 3, Compartment 10 (LMD 3-3-10) .....	3-248
Land Management District 3, Unit 4 Overview .....	3-253
LMD 3, Unit 4, Compartment 1 (LMD 3-4-1) .....	3-254
LMD 3, Unit 4, Compartment 2 (LMD 3-4-2) .....	3-260
LMD 3, Unit 4, Compartment 3 (LMD 3-4-3) .....	3-266
LMD 3, Unit 4, Compartment 4 (LMD 3-4-4) .....	3-272
LMD 3, Unit 4, Compartment 5 (LMD 3-4-5) .....	3-278
LMD 3, Unit 4, Compartment 6 (LMD 3-4-6) .....	3-284
LMD 3, Unit 4, Compartment 7 (LMD 3-4-7) .....	3-292
LMD 3, Unit 4, Compartment 8 (LMD 3-4-8) .....	3-298

**LIST OF EXHIBITS**

1-1	Animal-Unit Equivalents Guide.....	1-6
1-2	Adjusted Animal Unit Equivalents for Heavier Cattle.....	1-7
3-1	Ecological Site Descriptions Summary.....	3-1
3-2	Project Area Capacity Overview.....	3-93
3-3	Grazing Compartments Summary.....	3-94
3-4	Grazing Compartment Total Carrying Capacity.....	3-96
3-5	Land Management District 3, Location and Unit Divisions .....	3-98
3-6	Land Management District 3, Units and Compartments (Page 1) .....	3-99
3-7	Land Management District 3, Units and Compartments (Page 2) .....	3-100
3-8	Land Management District 3, Units and Compartments (Page 3) .....	3-101

**APPENDIX**

A	Field Forms
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# Acronyms and Key Terms

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	<b>A</b>
AC	acres
Alt	allotment
AU	animal units
AUMs	animal unit months
AUYL	Animal unit year long
	<b>B</b>
BIA	Bureau of Indian Affairs
	<b>D</b>
DEMs	digital elevation models
District	Land Management District 3
	<b>E</b>
ESDs	Ecological Site Descriptions
	<b>G</b>
GPS	Global Positioning System
	<b>H</b>
HCPC	Historic Climax Plant Community
	<b>L</b>
lb	pounds
LMD	Land Management District
	<b>M</b>
MLRAs	Major Land Resource Areas
	<b>N</b>
NAD	North American Datum
NRCS	National Resources Conservation Service
	<b>P</b>
ppa	pounds per acre
	<b>S</b>
SI	Similarity Index
	<b>U</b>
USGS	U.S. Geological Survey
UTM	Universal Transverse Mercator



# Chapter 1 Introduction

---

## 1 What is the purpose of this report?

Livestock grazing has been an important part of the history, culture, lifestyle, and economy of the Navajo Nation for centuries. During religious and cultural activities, meat, especially locally derived meat, is a component of many traditional foods. Across the Navajo Nation, many thousands of individuals and families are actively engaged in livestock and ranching activities. For this reason, it is important to encourage livestock grazing among tribal members, but it must be done in a way that is balanced, sustainable, scientifically sound, and promotes the protection of other resources such as soils, water, and wildlife.

Parametrix was contracted by the Bureau of Indian Affairs (BIA) Western Navajo Agency to complete a vegetation survey on Land Management District (LMD) 3 (District), formerly known as the Bennett Freeze area. This 1.2 million-acre area in north-central Arizona encompasses a diversity of habitats and eco-sites, from semi-arid grasslands, to mixed-shrub communities, to woodlands, forests, and riparian wetlands.

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Livestock grazing is an important economic force in the community. Currently, about 75 families or individuals actively ranch.

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The primary way to implement sustainable range management is to carefully regulate the number of livestock present on the range in accordance with the amount of palatable forage available. On the surface, this is a straightforward proposition: it is generally known how much a cow or horse eats per day, and it is easy to sample and estimate the amount of forage plants on the ground. When one begins to look at the question more closely, however, it quickly becomes more complex.

First, most places in nature are not uniform. Changes in bedrock material, soils, water availability, elevation, rainfall, aspect, disturbance, and other factors combine to create a unique suite of plants at each location. When quantifying vegetation, it's important to characterize a scientifically representative sample, so eventual estimates of forage are accurate.

Second, many plants are not palatable to livestock and should not be considered when estimating available forage. An understanding of which plants cattle prefer and how palatable they are, is essential to understanding the relationship between livestock use patterns and key vegetation indicators.

Third, rainfall, heat, wind, and other climatic conditions vary from year to year, which favors some plants and leads to annual, seasonal, or short- or long-term reductions in others.

All of these factors (and many others) make the actual amount of forage a moving target. We can, however, obtain a reasonable estimate of available forage by being rigorous in data collection and using accepted techniques during sampling and analysis.

In summary, the purpose of this report is to:

- Determine with reasonable scientific accuracy, the amount of livestock that will be sustainably allowable;
- Document the plant species that encountered, including rare plants and noxious weeds; and
- Estimate ground cover.

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Changes in bedrock material, soils, water availability, elevation, rainfall, aspect, disturbance, and other factors combine to create a unique suite of plants at each location.

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An understanding of which plants cattle prefer and how palatable they are, is essential to understanding the relationship between livestock use patterns and key vegetation indicators.

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## Stocking Rate

### 2 How do livestock managers determine how many sheep or cattle to put into a grazing unit?

In order to determine how much livestock will be allowed onto a given range unit, livestock managers must measure the amount of palatable vegetation available and then use this information to determine the number and type grazing permits that will be issued. Naturally, the quantity of forage varies from year to year, depending on factors such as rainfall amount and timing, relative humidity, and soil moisture. Land managers decide how much forage should be allocated for wildlife, reproduction/regeneration, or other uses.

Because it is not feasible to measure all of the vegetation present over hundreds of thousands of acres, scientists have standardized methods for sampling rangelands—that is, measuring a small portion of the rangelands, assuming that this is representative of the larger area.

Other factors, such as soil type, elevation, slope, grazing history, and aspect play a role in determining what type and how much vegetation grow in a particular area. For example, loamy bottomlands on Navajo rangelands are generally more able to support more grass than rocky hillsides. To account for these differences, land managers have devised a system for classifying lands according to two very important categories: Major Land Resource Areas (MLRAs), and Ecological Site Descriptions (ESDs). These two classifications formed the basis of how Navajo rangelands were sampled.

### 3 How big is the project area, and how was it delineated?

The project area included portions of Land Management District (LMD) 3 in Western Navajo. The LMD 3 project is an approximately 1.2 million-acre LMD near Tuba City, Arizona. The District is subdivided into grazing units for permitting and other purposes, which are further subdivided into grazing compartments (see Exhibits 3-5 through 3-8 in Chapter 3).

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Other factors, such as soil type, elevation, slope, grazing history, and aspect play a role in determining what type and how much vegetation grow in a particular area. For example, in general on Navajo rangelands, loamy bottomlands are able to support more grass than rocky hillsides.

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*Available forage varies from year to year, depending on rainfall and other environmental and human-caused factors.*

In accordance with the sampling approach recommended by the BIA, we designated non-grazeable portions of the project area, including roads, home sites (or other types of residential areas), slopes greater than 40 percent, and non-vegetated arroyo bottoms. These areas were determined by reviewing available information provided by BIA in combination with U.S. Geological Survey (USGS) quad maps and 2009 aerial photography (the most recent available), and digitizing new features. Slope was determined with the Spatial Analyst extension using a mosaic of 10-meter USGS digital elevation models (DEMs). The total non-grazeable area was calculated for each grazing unit and these portions were removed from the sampling area. We sampled fixed plots pre-mapped by the BIA Western Navajo Agency.

#### 4 What is a Major Land Resource Area?

Major Land Resource Areas (MLRAs) are geographically associated land units that are important in resource planning. In general, MLRAs are formed by grouping parts of the landscape with similar geographical features including physiography, geology, climate, water, soils, biological resources, and land use.

#### 5 What are Ecological Site Descriptions?

Ecological Site Descriptions (ESDs) are a way of describing the landscape at a finer scale, and are determined by (1) soil features such as depth, parent material, surface and subsurface texture, drainage, permeability, and mineral cycles; (2) the existing or potential plant community; and (3) the trends in plant communities under different management practices and climatic patterns. There are two general types of ESDs: Forestland and Rangeland, which are distinguished by the *historic climax plant community* (see below). A Forestland occurs in areas where the tree canopy historically exceeded 25 percent. Rangelands occur where trees were historically not a significant component. Other areas, such as rock outcrop soil types, do not have an ESD designated.

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#### Differentiating Ecological Sites

The following criteria are used to differentiate ecological sites:

- 1) Differences in presences of species or groups
  - 2) Differences in the proportion of species of or species groups
  - 3) Soil features
  - 4) Site hydrology and differences in the water cycle, mineral cycles, and energy flow
  - 5) Difference in response to grazing and other land uses
  - 6) Difference in potential livestock stocking capacity per unit area
-

At times, it is obvious that different areas have different vegetation composition; plant species present on one site might be vastly different from a site very close by and therefore could support different levels of grazing. It sometimes makes sense to manage these areas differently. Comparing current vegetation composition with the historic climax plant community reveals important indicators and trends that can be used to describe overall rangeland health, calculate livestock stocking rates, and determine the most sustainable seasons for grazing specific ESDs. Vegetation state and transition models have also been developed for most of the ESDs that occur on the Navajo Nation. The models indicate probable shifts in plant composition following specific disturbances and weather patterns. The most typical transitions in the ESDs on the Navajo Nation are (1) reduction in cool season grasses, (2) loss of herbaceous layers, (3) increased dominance of shrubs and trees. Basic land management recommendations such as seeding and livestock stocking periods are also described to assist land managers with reversing unwanted trends.

## **6 What is the Stocking Rate?**

The Stocking Rate is the area (in acres) of land which the operator has allotted to each animal unit for the entire grazeable period of the year, represented by animal units (AU) per section or acres/AUM. For convenience, this ratio can also be inverted, to calculate the number of animals per area per a given amount of time (usually one month or one year). The stocking rate is calculated by going through a series of calculations based on the amount of forage measured in the field. The calculation process is described more thoroughly in this section.

## 7 What are Animal Unit Months and Animal Units Year Long?

The original theory behind the methodology of Animal Unit Equivalents was to provide a standard approach for everyone to be able to calculate stocking rates on various types of lands. Exhibit 1-1 and Exhibit 1-2 below can be used to aid in the calculation of Animal Unit Equivalents. Cattle have been established as the standard for calculating Animal Unit Equivalents of other grazing animals. The forage amount required for an average sized cow with a calf is used as the standard. This was also done several decades ago when the average size cow was approximately 1,000 pounds. Because cow size has typically increased, the average cow weight may now be much higher. Thus, if the average cow in the herd is larger than 1,000 pounds, the corresponding Animal Unit Equivalent numbers in Exhibit 1-1 and Exhibit 1-2 should be used.



Exhibit 1-1

### Animal-Unit Equivalents Guide

Kinds/Classes of Animals	Animal Unit Equivalent	Forage Consumed (pounds)		
		Day	Month	Year
Cow, dry	0.92	24.0	727	8,730
Cow, with calf	1.00	26.0	790	9,490
Bull, mature	1.35	35.0	1,067	12,811
Cattle, 1 year old	0.60	15.6	474	5,694
Cattle, 2 years old	0.80	20.8	632	7,592
Horse, mature	1.25	32.5	988	11,862
Sheep, mature	0.20	5.2	158	1,898
Lamb, 1 year old	0.15	3.9	118	1,423



## Exhibit 1-1

**Animal-Unit Equivalents Guide**

Kinds/Classes of Animals	Animal Unit Equivalent	Forage Consumed (pounds)		
		Day	Month	Year
Goat, mature	0.15	3.9	118	1,423
Kid, 1 year old	0.10	2.6	79	949
Deer, white-tailed, mature	0.15	3.9	118	1,423
Deer, mule, mature	0.20	5.2	158	1,898
Elk, mature	0.60	15.6	474	5,694
Deer or Pronghorn, mature	0.20	52.0	158	1,898
Bison, mature	1.00	26.0	790	9,490
Bighorn Sheep, mature	0.20	5.2	158	1,898

## Exhibit 1-2

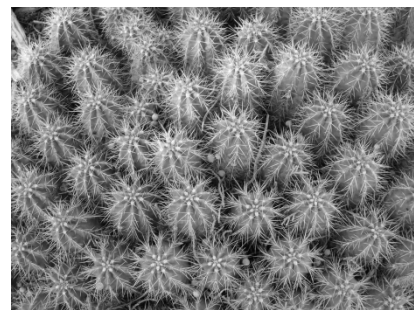
**Adjusted Animal Unit Equivalents for Heavier Cattle**

Class of Animal	Animal Unit Equivalent
Cow, 1,000 pounds, with calf	1.0
Cow, 1,200 pounds, with calf	1.2
Cow, 1,400 pounds, with calf	1.4
Cow, 1,600 pounds, with calf	1.6

## 8 How was the carrying capacity calculated for this report?

Carrying capacity was quantified using the following basic steps:

- 1) Apply statistical corrections to field data for double sampling (observer bias) and dry-weight adjustments.
- 2) Calculate total production by species along each transect.
- 3) Assign a forage value rating to each species and adjust production quantities by forage value. At this point undesirable species are removed from the calculation and medium forage value species are reduced by 50 percent. The entire dry weight production of high forage value species is carried through to the next step.
- 4) Apply a 0.25 harvest efficiency. Thus only 25 percent of the forage production is considered in the next step. This step, in theory, excludes 75 percent of the forage (post-reduction for forage value) for wildlife consumption, regeneration, trampling, etc.
- 5) Divide the total remaining pounds (lb) by forage required for various types of livestock to sustain the animal for a month. Resulting number is the total number of animal unit months (AUMs) per acre. Calculation can also be inverted to produce the total number of acres per AUM.
- 6) Aggregate transect data by ESD, soil type, and range unit. The carrying capacity calculation (AC/AUM) are then imported and joined to the GIS table. The carrying capacity was always assigned to an ESD; sometimes at the range unit level, sometimes at the district level, and sometimes for the project area as a whole – depending on the sampling intensity.



- 7) Apply slope adjustments to various areas within the project. This calculation was applied to specific slope classes at the soil map unit symbol within a range unit level.
- 8) Calculate a total carrying capacity for each range unit.

## 9 What is the Similarity Index?

The **Similarity Index** (SI) is a method of comparing vegetation present on the ground to the Historic Climax Plant Community, which some range managers view as the ideal condition. The SI assists in calculating the stocking rate for an ESD. It compares the production of the plant species present on the ground to what it “should be.” The “should be” is the Historic Climax Plant Community (HCPC) (see below). To determine the SI, vegetation production by species and groups of plants was compared on the site to the HCPC.

In general, the lower the percent similarity to what should be there, the lower the productivity, and thus, the lower the stocking rate will be. In this report, the SI was calculated for each ESD sampled.

The HCPC is the community of vegetation considered to best typify an ESD at the time of European settlement and the changes that came with it, especially livestock grazing. In concept, it describes the plant community best adapted to the site due to the community’s tendency to persist under natural disturbance, such as drought, fire, pests, and grazing by native fauna. Since the HCPC achieved this equilibrium with its environment, the effect of grazing, or other anthropogenic influences on the current plant community, can be isolated using the similarity index.



# Chapter 2 Methods

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## **1 What were the objectives of this range study?**

Parametrix was contracted by the BIA Western Navajo Agency to complete a range inventory study for LMD 3 (referred to as the “project area”) in the western portion of Navajo Nation. The land in LMD 3 is used for livestock grazing (by far the largest use), dry land farming, recreation, residential areas, and chapter administrative areas. Because the livestock carrying capacity of individual areas is a function of available forage, current rangeland health, and ecological trend, the Navajo Nation and BIA are interested in evaluating the current condition of the project area to assist with land management decisions. The specific study objectives were to:

1. Determine the livestock carrying capacity of LMD 3 and its associated grazing communities;
2. Assist and provide education to the rangeland users, Navajo governing entities, and tribal programs; and
3. Create a reference document that summarizes specific information on the vegetation, study methodology, and definitions that is easily accessible for daily use.

## **2 How big is the project area, and how was it delineated?**

The project area included portions of LMD 3 in Western Navajo. The LMD 3 project is an approximately 1.2 million-acre LMD near Tuba City, Arizona. The LMD is subdivided into GRAZING UNITS for permitting and other

purposes, which are also subdivided further into grazing compartments. Exhibit 3-2 in Chapter 3 lists all of the grazing units and compartments within the project area.

### **3 What specific GIS protocols were used to establish the ecological sites and stratify the project area?**

All GIS and Global Positioning System (GPS) data were managed in the Universal Transverse Mercator (UTM), North American Datum (NAD) 1983, Zone 12N, meters geographic projection. Existing data provided by BIA was processed in Esri ArcInfo (9.3.1 or 10) and ET GeoWizards for improving topological integrity; specifically – removing gaps, intersections, dangling nodes, and other topological anomalies. The existing range unit, grazing community, and District 15 data were then integrated to create a clean, congruent coverage. The resulting coverage was used for all spatial analysis, including extractions (clipping) or overlays (intersects and unions).

We downloaded digital soil survey data from the NRCS Soil Data Mart (<http://soildatamart.nrcs.usda.gov/>), and processed the data in ArcGIS with the NRCS Soil Data Viewer extension to develop ESD, ESD ID, Soil Taxonomy, and Soil Map Unit Name coverages. The dominant condition rating option was our preferred method of determining the ESD. Since much of the project area did not have a NRCS Rangeland Site currently described, we used other rating options to develop the ESD coverage, such as NRCS Grazeable Forest, Forestland, or Other. These Soil Data Viewer outputs were unioned into a single coverage compiling all of the relevant NRCS data for the project area.

We calculated slope in the project area from USGS DEM data downloaded from USGS spatial data gateway. DEM data was “mosaicked” to derive a percent slope grid in ArcGIS, using the Spatial Analyst extension.

Following standard slope classes utilized in rangeland science, we reclassified percent slope grids with Spatial Analyst as follows:

- 0–30 percent = all livestock,
- 30–40 percent = sheep and goats,
- 40–60 percent = goats only, and
- Greater than 60 percent = non-grazeable.

Resulting grids were reclassified and converted to a vector format for further processing.

Each of the relevant datasets was geo-processed and “unioned” with range unit and community boundaries to form a coverage to be used for running stocking rate calculations.

#### **4 How were ecological sites defined for the project area?**

Several potential database aggregation options are available for mapping ESDs with a Soil Survey Geographic (SSURGO) database in Soil Data Viewer. Aggregation methods include the dominant soil component, dominant condition, all components, weighted average, most limiting, and least limiting. Three of the aggregation options are commonly used in creating an ESD layer; dominant component, dominant condition, and all components. For this study, we used the dominant condition rating option.

The all components rating produces a list of all the components and their associated rating, or in this case correlated ESD. Projects that determine ecological sites during field assessments use this list in combination with a shallow soil pit and an ecological site key for local identification of ecological sites within map units. This method of defining ecological sites is perhaps the most widely used and it is also sometimes considered more accurate than database-defined ESDs because the ESD designation is based on field observations. However, since several ESD inclusions can occur in a single soil map unit, project funding wasn’t sufficient for sampling each unique soil map unit polygon in the project area, and mapping inclusions

was not a part of this scope. Without inclusion mapping and visiting each soil map unit polygon, we would have been applying Order 1 soil survey information to an Order 2/3 soil map. We would have also been applying field observations from a relatively limited observation area to a much larger area, whether within the same soil map unit polygon or to the same soil map in polygons that weren't sampled. Due to these and other limitations, we used the dominant condition rating option to define ESDs. The dominant condition aggregation assigns a rating that makes up the largest composition by area.

Since the ESD's were delineated using a relatively coarse scale in the project area, we ran stocking rate and carrying capacity calculations for soil map unit symbols rather than by ESD. Note that calculations can be resolved to the ESD level using electronic versions of the data provided with this final report.

## **5 What specific attributes were measured in the field?**

Our scientists and BIA teamed together to develop a comprehensive field sampling protocol intended to capture information that could be used to determine livestock carrying capacity, rangeland trend, vegetation cover, and species frequency and composition. Vegetation measurements were completed at a total of 936 field transects. Specific transect locations were pre-determined by BIA. Field forms for each of the data collection metrics are provided in Appendix A. Biologists navigated to the transect locations with a hand-held Garmin Map 60 or similar GPS unit, and completed assessments as described in the sections below.

## **6 How was vegetation production measured?**

Biologists selected a random transect direction with a blind spin of the compass dial and paced sampling transect towards the random direction. Then 9.6-square-foot plot frames were placed every ten paces, for a total of ten sampling plots. Vegetation production was recorded by species in each plot. Frequency and composition data were determined later, during the data analysis phase.



Biologists documented individual species following the double sampling methodology. Species were identified on the data sheet using a six letter code representing the first three letters of the genus combined with the first three letters of the species (*Bouteloua gracilis* = BOUGRA). Annual production was recorded for shrubs on branches within reach of livestock (up to 4 feet above ground) and other life forms (i.e., grasses and forbs) rooted within the sampling frame. Numbered pin-flags were placed in the corners of each frame for double sampling purposes before the frame was moved to the next sample location. After data recording was completed at each frame, the observer returned to the two most representative frame locations to clip and weigh the samples. “Representative” frames captured the most prominent forage species along the transect. Grasses and forbs estimated to weigh more than 3 grams were clipped 1/2 inch above ground while a sample of shrub clipping was used to estimate biomass (leaves, fruit, and twigs) produced during the previous growing season. Samples were bagged by species with paper bags marked to identify the transect name, frame number, species, and fresh weight. Both the estimated and actual fresh weight were recorded on the data sheet for each species along with the estimated percent of annual growth grazed and estimated percent growth for the growing season. This information was later used to reconstruct the vegetation and adjust for foraging. Samples were air-dried for at least 10 days at room temperature and then reweighed to determine the dry weight of each sample.

In order to more accurately measure shrub production in shrub dominated areas, the sampling area was extended when trees or shrubs were not sufficiently captured along the linear transect and required more representation in the sample. A final determination as to whether or not an extended plot was necessary was made in the field by the biologist using best professional judgment. When necessary, two 20 feet by 20 feet plots (approximately 0.01 acre) were placed along the transect line, right and/or left of the tape, in a proximity that best represented shrub density along the transect. The corners of the extended plot were then pinned for reference. Production in the

sampling area was estimated for the current years' growth by species via methods outlined in the National Range and Pasture Handbook. Only shrubs and tree material up to 4 feet above the ground was estimated. Plants needed to be rooted within the plot to be measured.

## **7 How was vegetation cover measured?**

Vegetation cover was measured in the four corners of the PVC sampling frame. A pin flag was inserted into the ground at each corner and the observer recorded whether the tip of the pin intercepted:

- Litter
- Small Fragments
- Large Fragments
- Bedrock
- Bare soil
- Grass
- Forb
- Shrub
- Tree
- Non-vascular plant
- Biological crust

## **8 How was data analyzed after field work was completed?**

Following field data collection, field forms were entered into an electronic MS Excel database. A thorough quality control review was completed using a combination of pivot tables, “if” statements, and lookup commands to identify numeric data outliers, incorrect species codes, inconsistent transect names, and incomplete data values. Each of these inaccuracies was corrected before summaries and analyses were produced. We corrected the database by reviewing hardcopy transect forms, collected plant samples, GPS logs, and/or field photos – depending on what was most appropriate for the particular situation.

## 9 How were stocking rate and carrying capacity calculated?

Several statistical corrections and adjustments were completed prior to data analysis and summary to reconstruct the plant community and ensure accurate calculations for stocking rate, production, and composition. Specific statistical corrections included:

1. Double sampling adjustment factor (observer bias);
2. Dry weight correction factor;
3. Utilization;
4. Percent annual growth;
5. Climate adjustment factor;
6. Plot size conversion factor; and
- 7 Forage preference.

Production quantities were expressed as air-dry weight in pounds per acre following statistical correction. Since ten 9.6-square-foot quadrats were sampled along each transect, one gram of production captured along the transect equaled 1 pound per acre. The field weight was converted to air-dry weight for each occurrence using a dry weight correction factor:

$$\text{Dry Weight Correction Factor} = \frac{\text{Dry Weight (lab)}}{\text{Green Weight (field)}} = \frac{50 \text{ g}}{72 \text{ g}} = 0.694$$

Corrections were completed at the transect level if the particular species was harvested from the transect. Otherwise, a dry weight correction factor was applied by species as a mean across the sampling period.

A double sampling adjustment factor was used to correct for observer bias. Like the dry weight correction protocol, this adjustment was performed at the transect and species level, if possible, otherwise the correction was applied as a species average computed from data collected through the field sampling period:

$$\text{Double Sampling Adjustment Factor} = \frac{\text{Sum of Measured Weights on Plot 11}}{\text{Sum of Estimated Weights on Plot 11}} = \frac{9 \text{ g}}{10 \text{ g}} = 0.90$$

After the dry weight correction factor and double sampling adjustment factor were calculated and applied for each sample, additional adjustments occurred to reconstruct the plant community (see Reconstruction Factor equation below). Additional adjustments reconstructed samples and accounted for livestock utilization, percent annual growth, and climate adjustments. Local precipitation records were used to determine the appropriate climate adjustment factor.

$$\text{Reconstruction Factor} = \frac{C}{(D)(E)(F)}$$

where:

- C = The percent of air-dry weight.
- D = The percent of plant biomass of each species that has not been removed.
- E = The percent of growth of each species that has occurred for the current growing season.
- F = The percent of growth of each species that has occurred relative to normal growing conditions.

After each step of the corrections and adjustments was applied, current recommended stocking rate and range unit carrying capacity was calculated. This calculation was based on the total forage production by useable species. Sheep forage preferences were used to determine sheep unit capacity while cattle forage preference was considered in calculating cattle unit capacity. Each individual plant species observed during field data collection was assigned an appropriate forage preference class for sheep and a separate class for cattle. A forage preference table provided by the NRCS Utah State office was used as much as possible though several species encountered in LMD 3 were not assigned a preference class in the NRCS table. For

unclassified species, we assigned the most appropriate class according to utilization observations from the field and forage preference information published on the NRCS PLANTS database and the Fire Effects Information System. Appendix D includes our plant species list along with forage preference information.

Forage preference classes were defined as follows:

- Preferred Plants – These plants are abundant and furnish useful forage for a reasonably long grazing period. They are preferred by grazing animals. Preferred plants are generally more sensitive to grazing misuse than other plants, and they decline under continued heavy grazing.
- Desirable Plants – These plants are useful forage plants, although not highly preferred by grazing animals. They either provide forage for a relatively short period, or they are not generally abundant in the stand. Some of these plants increase, at least in percentage, if the more highly preferred plants decline.
- Undesirable Plants – These plants are relatively unpalatable to grazing animals, or they are available for only a very short period. They generally occur in insignificant amounts, but may become abundant if more highly preferred species are removed.
- Nonconsumed Plants – These plants are unpalatable to grazing animals, or they are unavailable for use because of structural or chemical adaptations. They may become abundant if more highly preferred species are removed.
- Toxic Plants – These plants are poisonous to grazing animals. They have various palatability ratings and may or may not be consumed. Toxic plants may become abundant if unpalatable and the more highly preferred species are removed.

Production quantities were adjusted at the species within a transect level to account for forage value. Only forage produced by preferred, desirable, or undesirable plants was

considered in stocking rate (acre/animal unit month [AUM]) calculations. Undesirable plant production was reduced by 50 percent.

A standard stocking rate equation was used to calculate the number of acres required to support an animal unit:

$$2,000 \frac{\text{lb}}{\text{ac}} \times 0.25 \text{ (harvest efficiency)} = 700 \text{ lb forage consumed}$$

$$\frac{700 \text{ lb}}{790 \text{ lb (forage for 1 animal unit for 1 month)}} = 0.89 \frac{\text{AUMs}}{\text{ac}} \text{ or } 1.13 \frac{\text{ac}}{\text{AUM}}$$

Standard Animal Unit Equivalents (per NRCS 2003, also see Chapter 1 of this report) were used to determine the relative stocking rate for cattle. A 25 percent harvest efficiency was applied. Thus, 75 percent of the calculated forage was retained for wildlife use, insect harvest, regeneration, trampling, or other natural reductions.

## **10 The project area has two growing seasons. How was this considered during data collection and analysis?**

The bi-modal pattern of rainfall in the region – rain is heaviest in mid-winter, with a second pulse of rains in July-September – means that there are essentially two growing seasons. Grasses and other plants have adapted to this climate by timing their growth and reproduction to either spring (to take advantage of early or “cool” season moisture) or mid-summer (to take advantage of late or “warm” season rains).

Perennial grasses can be classified as either C3 or C4 plants. These terms refer to the different pathways that plants use to capture carbon dioxide during photosynthesis. All species have the more primitive C3 pathway, but the additional C4 pathway evolved in some species. The first product of carbon fixation in C3 plants involves a 3-carbon molecule, while C4 plants initially produce a 4-carbon molecule that then enters the C3 cycle.

These differences are important because the two pathways are also associated with different growth requirements. C3 plants are adapted to cool season establishment and growth in either

wet or dry environments. On the other hand, C4 plants are more adapted to warm or hot seasonal conditions under moist or dry environments. A feature of C3 grasses is their greater tolerance of frost compared to C4 grasses. C3 species also tend to generate less bulk than C4 species; however, feed quality is often higher than C4 grasses. For these reasons, grazing is often allowed “year round.” This is a significant difference compared to other Intermountain grazing communities.

### **11 How were rangeland trend, the similarity index, and forage value ratings calculated?**

Rangeland trend rates the direction of ecosystem change at a site. Long-term monitoring transects had not been established in the project area prior to this study. Thus, measured trend analysis was not possible. As an alternative, we intended to determine rangeland trend by comparing the existing plant community relative to the historic climax plant community. However, this determination was only possible in rangelands that had published ESD reports describing the historic climax plant community. ESD reports are included in Appendix C of this report. Unfortunately, historic climax plant communities have not been described by the NRCS in many of the ESDs in the project site so this gauge of rangeland trend was not entirely suitable either, though the similarity index was calculated whenever possible.

### **12 How was plant frequency calculated?**

Plant species frequency was also calculated during the data analysis phase. Frequency was represented as the percent of sample frames a species was recorded in along the transect during production data collection. The relative frequency of various plant life forms (grasses, forbs, shrubs, trees) was also calculated. This information in itself can be a useful guide to rate the direction of the grazing community.

### **13 What effect does the distance to water have on stocking rate?**

Forage utilization generally increases with proximity to water, and livestock managers should consider the number and locations of water sources when adjusting stocking rates. In some cases, areas further than 3,200 meters from water might be considered ungrazeable, as livestock rarely stray that far. In some cases, managers might consider allocating forage only in areas within 3,200 m of water (this was not done in this project), and if permittees are hauling water to their stock, this should be considered when determining stocking rates. Also, utilization should always be monitored close to water sources to make sure that these areas are not over-grazed. We recommend integrating distance to water adjustments into future rangeland studies on western Navajo.



# Chapter 3 Results

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As described in more detail in the Methods section of this report, Ecological Site Descriptions (ESDs) were classified according to the dominant condition for the soil map unit via electronic soil survey data. This approach is similar to the method that the NRCS Web Soil Survey utilizes for mapping ESDs (see <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm> for further information). The total acreage of each ESD mapped in the project area (each with a unique EcoSite Identification number) with this method is summarized in Exhibit 3-1 below.

## 1 Ecological Site Summary

Exhibit 3-1

### Ecological Site Descriptions Summary

EcoSite Identification No.	Acres
F035XF619AZ <sup>a</sup>	0.3
F035XG714AZ	9,825.2
R035XA113AZ	3,751.1
R035XA119AZ	24,952.7
R035XB202AZ <sup>a</sup>	508.3
R035XB204AZ	54,470.8
R035XB210AZ	43,538.6
R035XB211AZ	61,348.3
R035XB215AZ	31,024.8
R035XB216AZ	7,684.2
R035XB217AZ	119,186.5
R035XB219AZ	36,339.4
R035XB226AZ	94,758.9
R035XB231AZ	4,459.0
R035XB232AZ	160,224.5
R035XB235AZ	6,719.8
R035XB236AZ	33,270.8

(Continues)

<b>EcoSite Identification No.</b>	<b>Acres</b>
R035XB251AZ	65,704.6
R035XB269AZ	10,095.8
R035XB283AZ	115,274.1
R035XC308AZ	121,282.5
R035XC313AZ	25,409.5
R035XC315AZ	1,313.7
R035XC317AZ	1,763.0
R035XC319AZ	117,411.9
R035XC328AZ <sup>a</sup>	0.6
R035XC333AZ <sup>a</sup>	11.9
R035XC371AZ	9,171.7
R035XG708AZ <sup>a</sup>	355.5
Unavailable	26,140.6
<b>Grand Total:</b>	<b>1,185,998.6</b>

a Due to their relatively small area, vegetation sampling was not conducted for these five sites. These sites are not included in the results of this report.

We utilized field data collected during this project along with summary data distributed by the NRCS to calculate a similarity index, which is a useful guide for determining rangeland trend and the overall ecological integrity in the area. Lower similarity index values represented depleted ecological integrity while larger values represent high ecological integrity. Tables provided in this section summarize the current similarity index as well as the expected production of various plant life forms (grasses, forbs, shrubs, trees) in the ESD (see the HCPC lbs/acre column) versus the quantities we measured during fieldwork (see the current average lbs/acre column). Note that we could not compute the similarity index or include HCPC pounds per acre data if the current National Resources Conservation Service (NRCS) ESD report did not contain this information. There were also five ESDs that we did not sample due to their relatively small area.

In addition, we also summarize the results of our point intercept cover measurements at the transects within the ESD. This information is also a useful gauge of current ecological integrity.



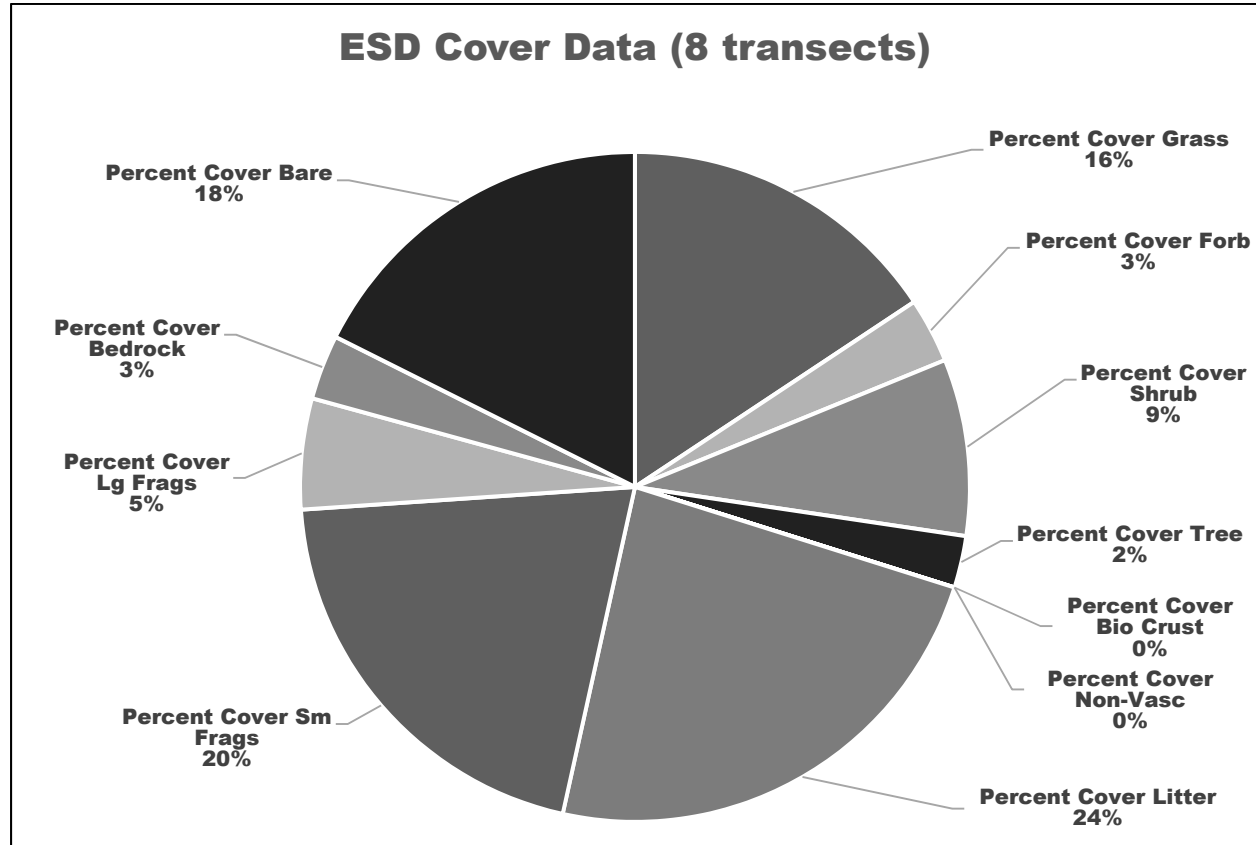
# EcoSite Identification No. F035XG714AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
F035XG714AZ	9	Gladel family-Arabrab complex, 4 to 35 percent slopes	9,825.2
<b>F035XF614AZ Total</b>			<b>9,825.2</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HCPC Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
F035XG714AZ	Pinus edulis-Juniperus osteosperma/ Purshia stansburiana-Yucca baccata/ Bouteloua curtipendula-Bouteloua gracilis	Forb		8	31.1	NA
		Grass/Grasslike			108.5	
		Shrub/Vine			81.3	
		Tree			15.6	
<b>F035XG714AZ Total:</b>					<b>236.6</b>	



## F035XG714AZ – ESD Species Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	AMAPAL	<i>Amaranthus palmeri</i>	carelessweed	3%	0.1
	AMARET	<i>Amaranthus retroflexus</i>	redroot amaranth	3%	0.4
	AMATOR	<i>Amaranthus torreyi</i>	Torrey's amaranthus	<1%	<0.1
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	10%	0.4
	BAHDIS	<i>Bahia dissecta</i>	ragleaf bahia	1%	0.3
	BOERHAVIA	<i>Boerhavia</i>	spiderling	1%	<0.1
	CASTILLEJA	<i>Castilleja</i>	Indian paintbrush	1%	<0.1
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	13%	3.3
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	3%	0.1
	CHEGRA	<i>Chenopodium graveolens</i>	fetid goosefoot	1%	0.3
	CHENOPODIUM	<i>Chenopodium</i>	goosefoot	3%	0.2
	CRYCIN	<i>Cryptantha cinerea</i>	James' cryptantha	4%	1.1
	CRYCON	<i>Cryptantha confertiflora</i>	basin yellow cryptantha	3%	0.1
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	1%	<0.1
	DYSCHORISTE	<i>Dyschoriste</i>	snakeherb	35%	2.8
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	3%	0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	36%	9.2
	LAPOCC	<i>Lappula occidentalis</i>	flatspine stickseed	<1%	<0.1
	MACAST	<i>Machaeranthera asteroides</i>	fall tansyaster	1%	0.2
	MIRABILIS	<i>Mirabilis</i>	four o'clock	1%	0.2
	MIROXY	<i>Mirabilis oxybaphoides</i>	smooth spreading four o'clock	1%	0.2
	NAMDIC	<i>Nama dichotomum</i>	wishbone fiddleleaf	51%	4.7
	PHAIN	<i>Phacelia integrifolia</i>	gypsum phacelia	6%	0.6
	PHLAUS	<i>Phlox austromontana</i>	mountain phlox	1%	0.1
	PLAPAT	<i>Plantago patagonica</i>	woolly plantain	4%	0.2
	POROLE	<i>Portulaca oleracea</i>	little hogweed	13%	0.9
	PSISPA	<i>Psilostrophe sparsiflora</i>	greenstem paperflower	8%	2.0
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	6%	0.4
	SANABE	<i>Sanvitalia abertii</i>	Abert's creeping zinnia	18%	1.2
	SCHPIN	<i>Schkuhria pinnata</i>	pinnate false threadleaf	1%	0.2
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	4%	0.3
	TETACA	<i>Tetraneuris acaulis</i>	stemless four-nerve daisy	6%	0.7
	THELESPERMA	<i>Thelesperma</i>	greenthread	5%	0.2
	UNKANF	–	Unknown annual forb	1%	0.2
VERENC	<i>Verbesina encelioides</i>	golden crownbeard	1%	0.2	

(Table Continues)

## F035XG714AZ – ESD Species Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Grass/Grasslike	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	83%	87.1
	ELYELY	<i>Elymus elymoides</i>	squirreltail	35%	16.9
	ERAMEX	<i>Eragrostis mexicana</i>	Mexican lovegrass	1%	0.1
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	4%	2.0
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	6%	0.8
	MUHDEP	<i>Muhlenbergia depauperata</i>	sixweeks muhly	1%	0.4
	MUHFRA	<i>Muhlenbergia fragilis</i>	delicate muhly	3%	0.3
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	1%	0.2
	POAFEN	<i>Poa fendleriana</i>	muttongrass	1%	0.8
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	1%	0.1
Shrub/Vine	ARTBIG	<i>Artemisia bigelovii</i>	Bigelow sage	6%	5.1
	ARTNOV	<i>Artemisia nova</i>	black sagebrush	4%	2.1
	ARTTRI	<i>Artemisia tridentata</i>	big sagebrush	4%	2.1
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	4%	44.7
	CHAMIL	<i>Chamaebatiaria millefolium</i>	desert sweet	1%	0.2
	CYLWHI	<i>Cylindropuntia whipplei</i>	Whipple cholla	1%	0.1
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	10%	9.2
	ERICON	<i>Eriophyllum confertiflorum</i>	golden-yarrow	1%	0.3
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	5%	1.3
	FALPAR	<i>Fallugia paradoxa</i>	Apache plume	1%	1.5
	MAHHAE	<i>Mahonia haematocarpa</i>	red barberry	1%	0.3
	OPUNTIA	<i>Opuntia</i>	pricklypear	1%	<0.1
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	9%	3.1
	PURSTA	<i>Purshia stansburiana</i>	Stansbury cliffrose	5%	10.1
	YUCBAC	<i>Yucca baccata</i>	banana yucca	5%	1.4
Tree	JUNMON	<i>Juniperus monosperma</i>	oneseed juniper	<1%	9.0
	JUNOST	<i>Juniperus osteosperma</i>	Utah juniper	3%	1.7
	PINEDU	<i>Pinus edulis</i>	twoneedle pinyon	1%	5.0



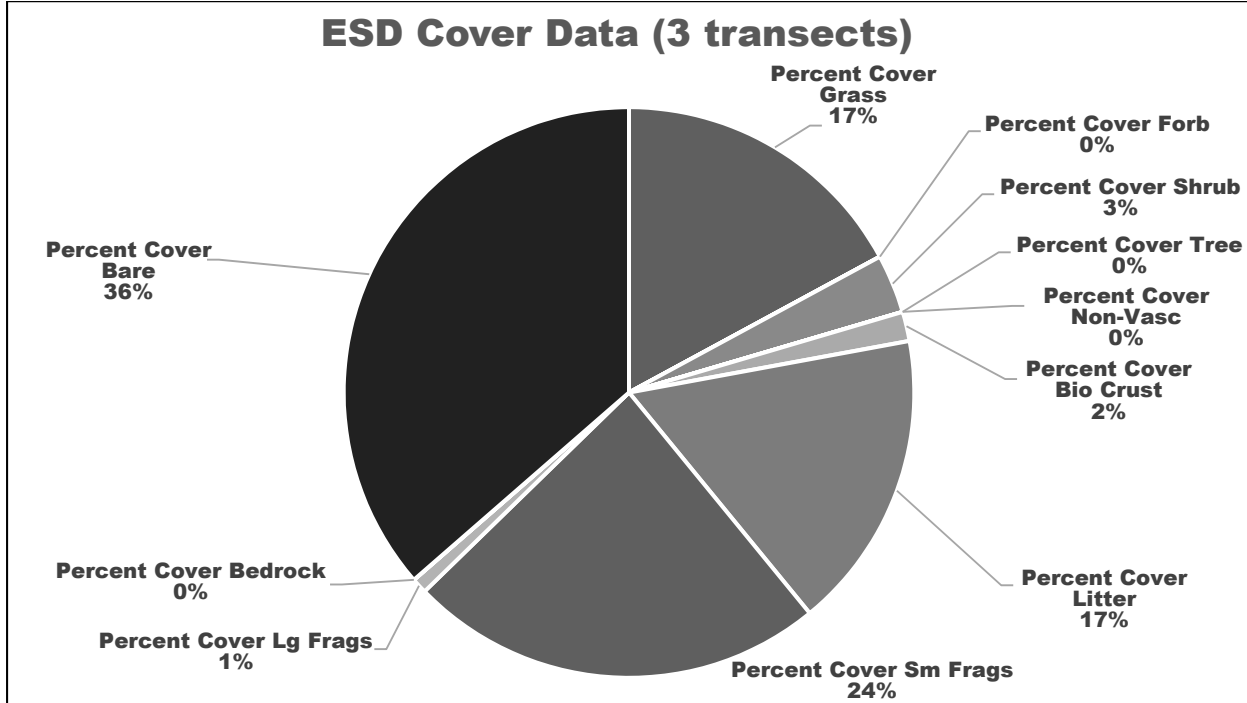
# EcoSite Identification No. R035XA113AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XA113AZ	63	Tuweep very gravelly loam, 0 to 15 percent slopes	3,751.1
<b>R035XA113AZ Total</b>			<b>3,751.1</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HCPC Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XA113AZ	Loamy Upland 10-14	Forb	20.0	3	49.3	22%
		Grass/Grasslike	390.0		106.6	
		Shrub/Vine	180.0		6.4	
		Tree	20.0		0.0	
<b>R035XA113AZ Total:</b>			<b>610.0</b>		<b>162.4</b>	





**R035XA113AZ – ESD Species Production Table**

<b>Life Form</b>	<b>Species Code</b>	<b>Scientific Name</b>	<b>Common Name</b>	<b>Average Percent Frequency</b>	<b>Average Total Production (lbs/acre)</b>
<b>Forb</b>	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	7%	1.3
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	23%	2.4
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	80%	41.9
	SANABE	<i>Sarvitalia abertii</i>	Abert's creeping zinnia	13%	2.0
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	20%	1.8
<b>Grass/Grasslike</b>	BOUERI	<i>Bouteloua eriopoda</i>	black grama	17%	20.5
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	27%	10.9
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	30%	3.8
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	77%	65.3
	SCLBRE	<i>Scleropogon brevifolius</i>	burrograss	10%	2.0
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	13%	4.1
<b>Shrub/Vine</b>	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	7%	1.5
	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	10%	4.9

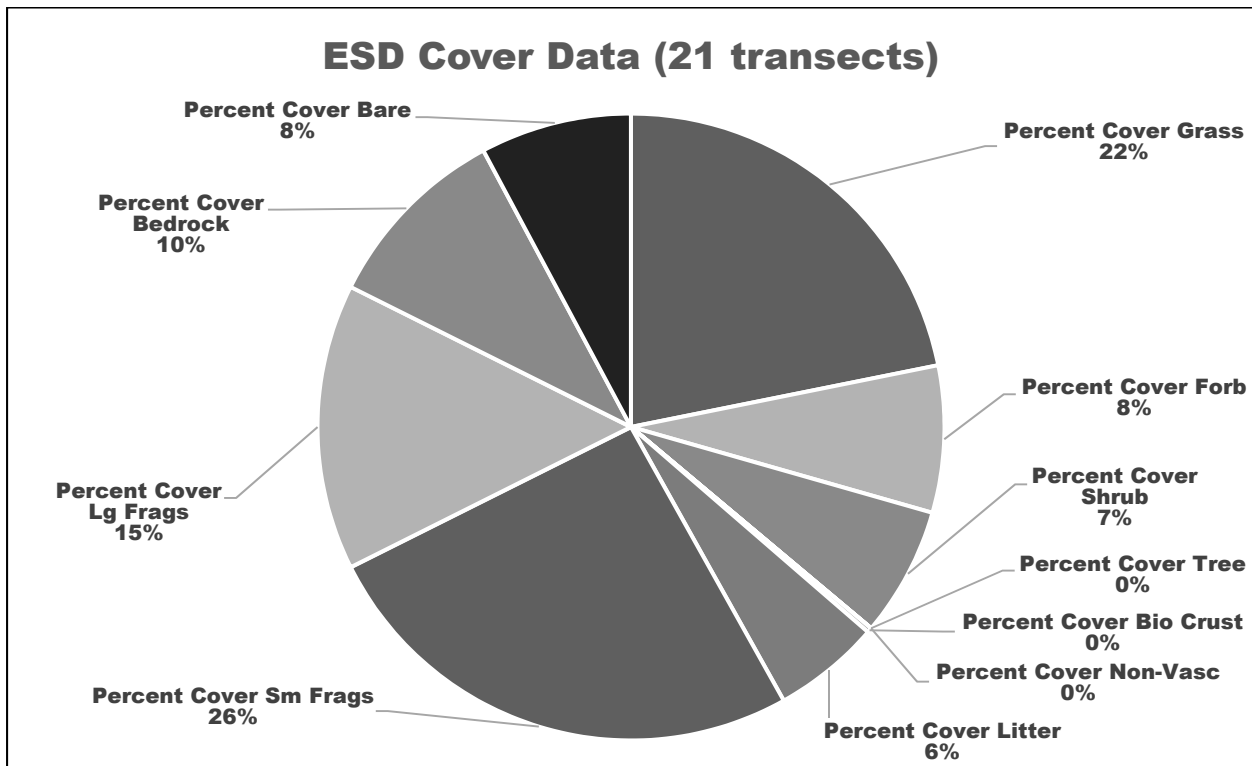
# EcoSite Identification No. R035XA119AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XA119AZ	25	Mellenthin gravelly sandy loam, 0 to 8 percent slopes	1,346.3
	27	Mellenthin-Rock outcrop complex, 15 to 30 percent slopes	9,794.0
	28	Mellenthin-Rock outcrop complex, 30 to 70 percent slopes	13,812.4
<b>R035XA119AZ Total</b>			<b>24,952.7</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HCPC Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XA119AZ	Shallow Loamy 10-14	Forb	50.0	21	33.3	25%
		Grass/Grasslike	475.0		82.8	
		Shrub/Vine	100.0		32.3	
		Tree	25.0		14.3	
<b>R035XA119AZ Total:</b>			<b>650.0</b>			



## R035XA119AZ – ESD Species Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	AGEHER	<i>Ageratina herbacea</i>	fragrant snakeroot	2%	0.1
	AMATOR	<i>Amaranthus torreyi</i>	Torrey's amaranthus	4%	1.8
	ARTDRA	<i>Artemisia dracunculus</i>	tarragon	1%	0.4
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	10%	0.9
	CASTILLEJA	<i>Castilleja</i>	Indian paintbrush	<1%	<0.1
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	2%	0.1
	CHAMAESYCE	<i>Chamaesyce</i>	sandmat	4%	0.2
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	5%	0.3
	CRYCIN	<i>Cryptantha cinerea</i>	James' cryptantha	1%	0.2
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	<1%	<0.1
	DIMWIS	<i>Dimorphocarpa wislizeni</i>	touristplant	<1%	<0.1
	DYSCHORISTE	<i>Dyschoriste</i>	snakeherb	3%	0.3
	DYSPAP	<i>Dyssodia papposa</i>	fetid marigold	3%	0.4
	ERIINF	<i>Eriogonum inflatum</i>	desert trumpet	4%	0.3
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	5%	1.2
	ERIUMB	<i>Eriogonum umbellatum</i>	sulphur-flower buckwheat	<1%	<0.1
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	2%	0.1
	EUPEXS	<i>Euphorbia exstipulata</i>	squareseed spurge	2%	0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	43%	11.9
	HYMFIL	<i>Hymenopappus filifolius</i>	fineleaf hymenopappus	<1%	0.1
	MACPAR	<i>Machaeranthera parviflora</i>	smallflower tansyaster	<1%	0.1
	MIRABILIS	<i>Mirabilis</i>	four o'clock	2%	0.4
	MIROXY	<i>Mirabilis oxybaphoides</i>	smooth spreading four o'clock	4%	0.5
	NAMDIC	<i>Nama dichotomum</i>	wishbone fiddleleaf	10%	0.9
	PARSES	<i>Paronychia sessiliflora</i>	creeping nailwort	<1%	<0.1
	PENSTEMON	<i>Penstemon</i>	beardtongue	1%	0.2
	PHACELIA	<i>Phacelia</i>	phacelia	1%	0.1
	PLAPAT	<i>Plantago patagonica</i>	woolly plantain	<1%	<0.1
	PORTULACA	<i>Portulaca</i>	purslane	<1%	<0.1
	PSISPA	<i>Psilostrophe sparsiflora</i>	greenstem paperflower	6%	0.9
	SALREF	<i>Salvia reflexa</i>	lanceleaf sage	2%	0.2
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	15%	3.3
	SANABE	<i>Sanvitalia abertii</i>	Abert's creeping zinnia	29%	3.6
	SCHMUL	<i>Schkuhria multiflora</i>	manyflower false threadleaf	<1%	<0.1
	SCHPIN	<i>Schkuhria pinnata</i>	pinnate false threadleaf	2%	0.2

(Table Continues)

## R035XA119AZ – ESD Species Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	SENFLA	<i>Senecio flaccidus</i>	threadleaf ragwort	1%	0.3
(Continued)	SPHAMB	<i>Sphaeralcea ambigua</i>	desert globemallow	1%	0.2
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	<1%	<0.1
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	9%	1.4
	STREPTANTHUS	<i>Streptanthus</i>	twistflower	1%	0.1
	TETACA	<i>Tetaneuris acaulis</i>	stemless four-nerve daisy	2%	0.3
	THELESPERMA	<i>Thelesperma</i>	greenthread	<1%	0.1
	THYPEN	<i>Thymophylla pentachaeta</i>	fiveneedle pricklyleaf	4%	1.1
	UNKANF		Unknown annual forb	11%	0.8
	ZINGRA	<i>Zinnia grandiflora</i>	Rocky Mountain zinnia	2%	0.2
Grass/Grasslike	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	3%	0.3
	ARIADS	<i>Aristida adscensionis</i>	sixweeks threeawn	1%	0.1
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	5%	1.4
	ARISTIDA	<i>Aristida</i>	threeawn	3%	0.7
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	<1%	0.1
	BOUCUR	<i>Bouteloua curtipendula</i>	sideoats grama	1%	0.6
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	6%	3.0
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	70%	52.1
	BROTEC	<i>Bromus tectorum</i>	cheatgrass	2%	0.3
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	2%	0.4
	ELYELY	<i>Elymus elymoides</i>	squirreltail	3%	0.4
	ENNDDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	10%	2.3
	ERIPIL	<i>Erioneuron pilosum</i>	hairy woollygrass	<1%	<0.1
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	9%	5.1
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	6%	0.5
	MUHDEP	<i>Muhlenbergia depauperata</i>	sixweeks muhly	7%	0.7
	MUHPOR	<i>Muhlenbergia porteri</i>	bush muhly	1%	2.0
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	5%	4.3
	POA	<i>Poa</i>	bluegrass	<1%	0.1
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	10%	2.9
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	12%	5.4
	TRIMUT	<i>Tridens muticus</i>	slim tridens	1%	0.2
	VULUCT	<i>Vulpia octoflora</i>	sixweeks fescue	<1%	<0.1

(Table Continues)

**R035XA119AZ – ESD Species Production Table (Continued)**

<b>Life Form</b>	<b>Species Code</b>	<b>Scientific Name</b>	<b>Common Name</b>	<b>Average Percent Frequency</b>	<b>Average Total Production (lbs/acre)</b>
<b>Shrub/Vine</b>	AGAUTA	<i>Agave utahensis</i>	Utah agave	<1%	0.1
	ARTBIG	<i>Artemisia bigelovii</i>	Bigelow sage	8%	2.9
	ARTNOV	<i>Artemisia nova</i>	black sagebrush	3%	0.4
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	21%	12.4
	BRICKELLIA	<i>Brickellia</i>	brickellbush	<1%	0.5
	CHRGRE	<i>Chrysothamnus Greenei</i>	Greene's rabbitbrush	3%	2.5
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	3%	1.3
	CYLWHI	<i>Cylindropuntia whipplei</i>	Whipple cholla	1%	0.1
	ECHINOCACTUS	<i>Echinocactus</i>	echinocactus	<1%	<0.1
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	1%	0.2
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	1%	0.8
	ERICON	<i>Eriophyllum confertiflorum</i>	golden-yarrow	13%	2.9
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	2%	1.3
	FALPAR	<i>Fallugia paradoxa</i>	Apache plume	1%	0.3
	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	21%	5.7
	LYCPAL	<i>Lycium pallidum</i>	pale desert-thorn	3%	0.4
	MAHFRE	<i>Mahonia fremontii</i>	Fremont's mahonia	<1%	0.1
	OPUNTIA	<i>Opuntia</i>	pricklypear	<1%	<0.1
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	2%	0.1
	PARINC	<i>Parthenium incanum</i>	mariola	1%	0.4
YUCANG	<i>Yucca angustissima</i>	narrowleaf yucca	<1%	<0.1	
<b>Tree</b>	JUNOST	<i>Juniperus osteosperma</i>	Utah juniper	<1%	14.3

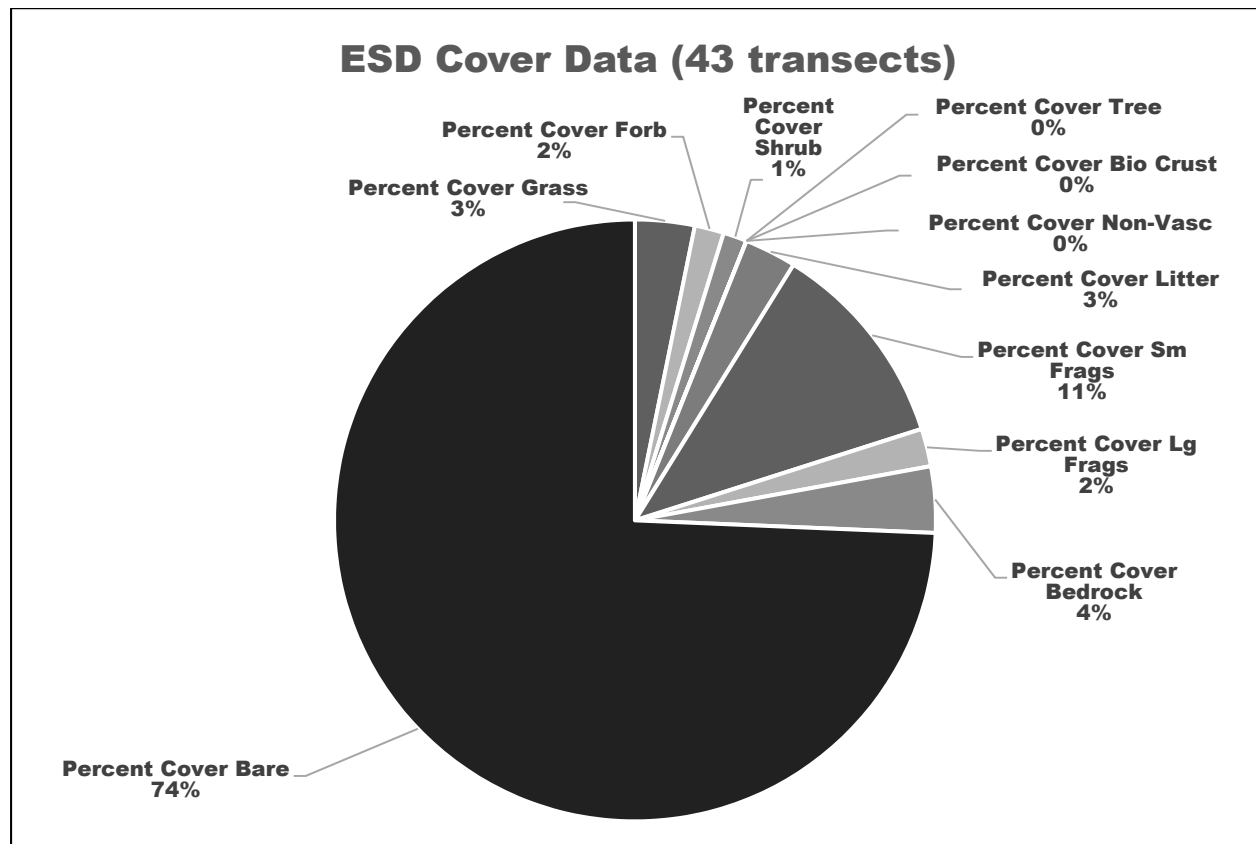
# EcoSite Identification No. R035XB204AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XB204AZ	57	Shorthair-Rock outcrop-Sheppard complex, 2 to 15 percent slopes	54,470.8
<b>R035XB204AZ Total</b>			<b>54,470.8</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HCPC Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XB204AZ	Sandstone Upland 6-10	Forb	10.0	43	32.0	51%
		Grass/Grasslike	95.0		56.8	
		Shrub/Vine	45.0		9.6	
<b>R035XB204AZ Total:</b>			<b>150.0</b>		<b>98.4</b>	



## R035XB204AZ – ESD Species Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ALLIUM	<i>Allium</i>	onion	1%	<0.1
	ALLMAC	<i>Allium macropetalum</i>	largeflower onion	<1%	<0.1
	ASTCAN	<i>Astragalus canadensis</i>	Canadian milkvetch	<1%	<0.1
	ASTFUC	<i>Astragalus fucatus</i>	Hopi milkvetch	1%	<0.1
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	<1%	<0.1
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	<1%	<0.1
	CHACOR	<i>Chamaesaracha coronopus</i>	greenleaf five eyes	<1%	<0.1
	CHAMIC	<i>Chamaesyce micromera</i>	Sonoran sandmat	1%	0.2
	CHAPAR	<i>Chamaesyce parryi</i>	Parry's sandmat	3%	0.3
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	11%	0.7
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	1%	<0.1
	CYCATR	<i>Cycloloma atriplicifolium</i>	winged pigweed	<1%	0.3
	DICCAN	<i>Dicoria canescens</i>	desert twinbugs	2%	2.2
	ERICER	<i>Eriogonum cernuum</i>	nodding buckwheat	1%	0.1
	ERIDIV	<i>Erigeron divergens</i>	spreading fleabane	<1%	0.2
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	<1%	<0.1
	EUPHORBIA	<i>Euphorbia</i>	spurge	<1%	0.1
	GILIA	<i>Gilia</i>	gilia	1%	0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	<1%	0.2
	HELCON	<i>Heliotropium convolvulaceum</i>	phlox heliotrope	<1%	<0.1
	HOFDRE	<i>Hoffmannseggia drepanocarpa</i>	sicklepod holdback	<1%	<0.1
	ISOCOMA	<i>Isocoma</i>	goldenbush	<1%	<0.1
	ISOPLU	<i>Isocoma pluriflora</i>	southern goldenbush	3%	2.7
	LINARI	<i>Linum aristatum</i>	bristle flax	<1%	0.1
	LUPINUS	<i>Lupinus</i>	lupine	<1%	<0.1
	MENMUL	<i>Mentzelia multiflora</i>	Adonis blazingstar	<1%	<0.1
	NAMRET	<i>Nama retrorsum</i>	betatakin fiddleleaf	<1%	<0.1
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	<1%	0.1
	PHACELIA	<i>Phacelia</i>	phacelia	<1%	<0.1
	REVARE	<i>Reverchonnia arenaria</i>	sand reverchonnia	3%	1.7
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	17%	18.1
	SCHMUL	<i>Schkuhria multiflora</i>	manyflower false threadleaf	<1%	<0.1
	SPHCOC	<i>Sphaeralcea coccinea</i>	scarlet globemallow	1%	0.7
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	9%	3.4

(Table Continues)

## R035XB204AZ – ESD Species Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	SPHHAS	<i>Sphaeralcea hastulata</i>	spear globemallow	1%	0.2
(Continued)	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	1%	0.3
	THYPEN	<i>Thymophylla pentachaeta</i>	fiveneedle pricklyleaf	<1%	<0.1
	UNKANF		Unknown annual forb	1%	<0.1
Grass/Grasslike	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	9%	2.2
	ARIDIV	<i>Aristida divaricata</i>	poverty threeawn	<1%	<0.1
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	6%	0.3
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	<1%	<0.1
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	1%	<0.1
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	2%	0.2
	MUHPUN	<i>Muhlenbergia pungens</i>	sandhill muhly	1%	1.3
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	10%	7.2
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	17%	28.2
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	9%	2.7
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	<1%	<0.1
	SPOFLE	<i>Sporobolus flexuosus</i>	mesa dropseed	<1%	<0.1
	SPOGIG	<i>Sporobolus giganteus</i>	giant dropseed	12%	14.4
	SPOROBOLUS	<i>Sporobolus</i>	dropseed	<1%	0.1
Shrub/Vine	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	4%	5.2
	ATRCON	<i>Atriplex confertifolia</i>	shadscale saltbush	<1%	0.1
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	2%	1.1
	BRICAL	<i>Brickellia californica</i>	California brickellbush	1%	0.1
	CONARV	<i>Convolvulus arvensis</i>	field bindweed	<1%	<0.1
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	<1%	0.1
	PARFIL	<i>Parryella filifolia</i>	common dunebroom	2%	0.3
	POLINC	<i>Poliomintha incana</i>	frosted mint	3%	2.2
	YUCBAC	<i>Yucca baccata</i>	banana yucca	<1%	<0.1
	YUCBAI	<i>Yucca baileyi</i>	Navajo yucca	<1%	0.1
	ZUCBRA	<i>Zuckia brandegeei</i>	siltbush	<1%	0.4





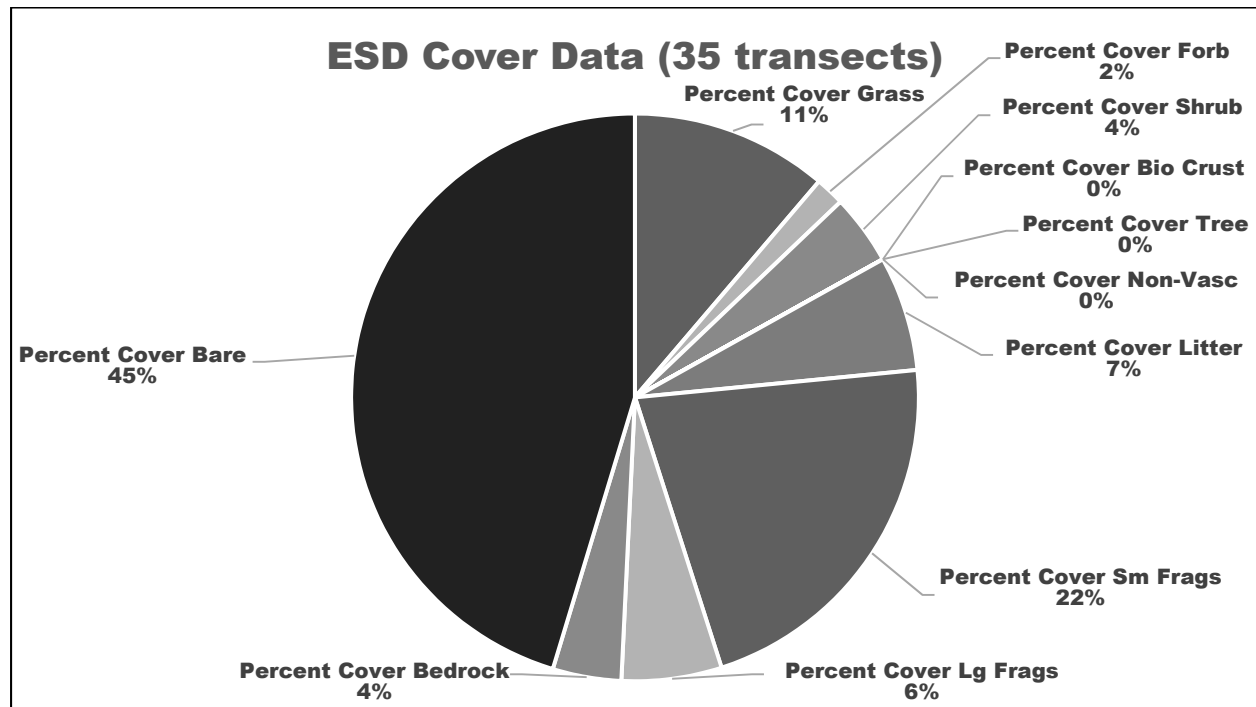
# EcoSite Identification No. R035XB210AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XB210AZ	10	Grieta extremely gravelly fine sandy loam, 0 to 3 percent slopes	16,493.0
	14	Hatknoil-Lithic Haplargids complex, 2 to 8 percent slopes	27,041.6
	20	Jocity sandy clay loam, 0 to 2 percent slopes	3.9
<b>R035XB210AZ Total</b>			<b>43,538.6</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HCPC Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XB210AZ	Loamy Upland 6-10	Forb	20.0	35	26.8	27%
		Grass/Grasslike	415.0		93.2	
		Shrub/Vine	115.0		33.2	
<b>R035XB210AZ Total:</b>			<b>550.0</b>		<b>153.2</b>	



## R035XB210AZ – ESD Species Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	AGEHER	<i>Ageratina herbacea</i>	fragrant snakeroot	2%	0.1
	ARGEMONE	<i>Argemone</i>	pricklypoppy	<1%	<0.1
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	<1%	<0.1
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	2%	0.1
	CHACOR	<i>Chamaesaracha coronopus</i>	greenleaf five eyes	1%	<0.1
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	9%	2.3
	CHAETOPAPPA	<i>Chaetopappa</i>	leastdaisy	1%	0.1
	CHAMAESYCE	<i>Chamaesyce</i>	sandmat	4%	0.4
	CHAPAR	<i>Chamaesyce parryi</i>	Parry's sandmat	1%	0.2
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	21%	1.6
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	1%	0.3
	DESPIN	<i>Descurainia pinnata</i>	western tansymustard	1%	<0.1
	ERICER	<i>Eriogonum cernuum</i>	nodding buckwheat	<1%	<0.1
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	<1%	<0.1
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	1%	<0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	12%	3.7
	HOFDRE	<i>Hoffmannseggia drepanocarpa</i>	sicklepod holdback	1%	0.1
	MIRABILIS	<i>Mirabilis</i>	four o'clock	1%	0.1
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	1%	0.8
	PHACELIA	<i>Phacelia</i>	phacelia	3%	0.2
	PLAPAT	<i>Plantago patagonica</i>	woolly plantain	1%	<0.1
	POROLE	<i>Portulaca oleracea</i>	little hogweed	1%	0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	14%	5.5
	SCHPIN	<i>Schkuhria pinnata</i>	pinnate false threadleaf	3%	0.3
	SPHAMB	<i>Sphaeralcea ambigua</i>	desert globemallow	5%	1.8
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	2%	0.6
	SPHLEP	<i>Sphaeralcea leptophylla</i>	scaly globemallow	1%	0.1
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	41%	8.3
	TRITER	<i>Tribulus terrestris</i>	puncturevine	1%	0.1
	ZINGRA	<i>Zinnia grandiflora</i>	Rocky Mountain zinnia	<1%	<0.1

(Table Continues)

## R035XB210AZ – ESD Species Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Grass/Grasslike	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	12%	5.9
	ARIADS	<i>Aristida adscensionis</i>	sixweeks threeawn	1%	<0.1
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	6%	3.4
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	15%	4.9
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	7%	4.5
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	15%	5.9
	ELYELY	<i>Elymus elymoides</i>	squirreltail	<1%	0.1
	ENNDDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	<1%	0.1
	ERIPIL	<i>Erioneuron pilosum</i>	hairy woollygrass	<1%	0.1
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	<1%	0.4
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	4%	1.0
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	50%	53.0
	SCHPAN	<i>Schedonnardus paniculatus</i>	tumblegrass	3%	2.2
	SCLBRE	<i>Scleropogon brevifolius</i>	burrograss	3%	1.6
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	7%	7.7
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	1%	0.1
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	7%	2.0
Shrub/Vine	ARTBIG	<i>Artemisia bigelovii</i>	Bigelow sage	1%	0.3
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	9%	3.2
	CHRGRE	<i>Chrysothamnus greenei</i>	Greene's rabbitbrush	2%	1.1
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	5%	7.0
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	5%	2.5
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	1%	1.6
	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	1%	0.7
	OPUFRA	<i>Opuntia fragilis</i>	brittle pricklypear	<1%	<0.1
	QUETUR	<i>Quercus turbinella</i>	Sonoran scrub oak	1%	16.5
	RHUTRI	<i>Rhus trilobata</i>	skunkbush sumac	<1%	0.1
	SARVER	<i>Sarcobatus vermiculatus</i>	greasewood	1%	0.2



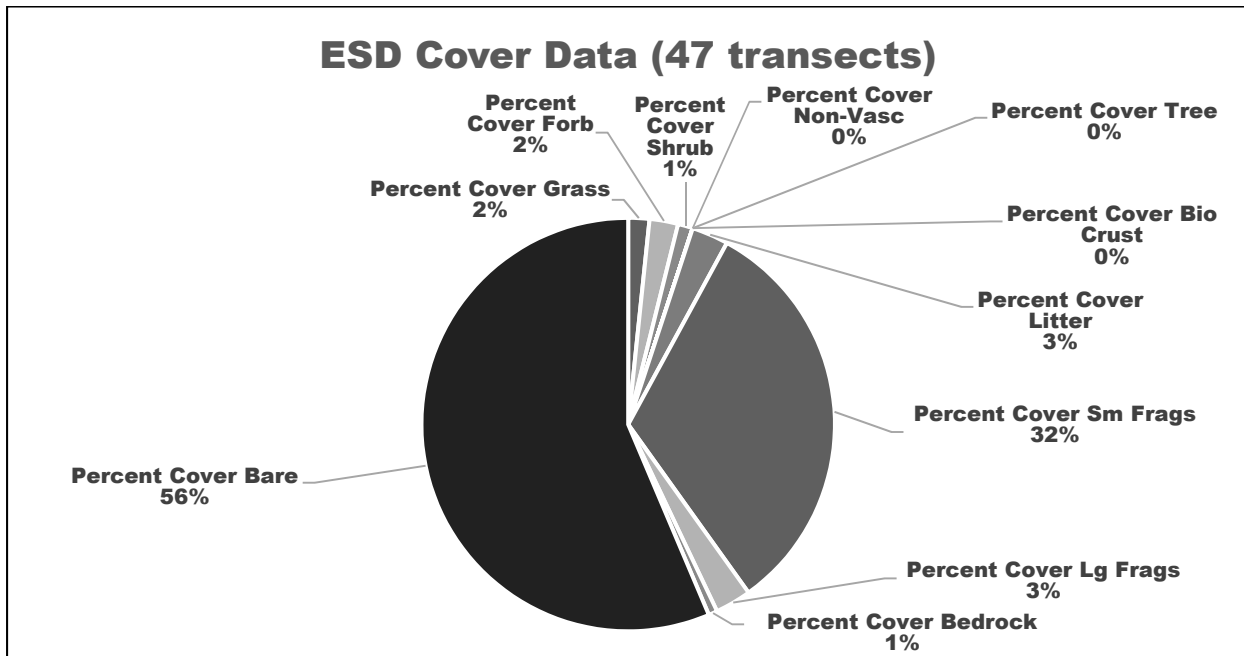
# EcoSite Identification No. R035XB211AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XB211AZ	56	Shorthair-Moenkopie complex, 2 to 15 percent slopes	61,348.3
<b>R035XB211AZ Total</b>			<b>61,348.3</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HPCP Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XB211AZ	Loamy Wash 6-10	Forb	15.0	48	31.3	5%
		Grass/Grasslike	750.0		18.6	
		Shrub/Vine	175.0		8.7	
<b>R035XB211AZ Total:</b>			<b>940.0</b>		<b>58.7</b>	



## R035XB211AZ – ESD Species Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ALLIUM	<i>Allium</i>	onion	1%	<0.1
	ASTCAL	<i>Astragalus calycosus</i>	Torrey's milkvetch	<1%	<0.1
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	<1%	<0.1
	CHACON	<i>Chamaesaracha coniodes</i>	gray five eyes	1%	0.1
	CHACOR	<i>Chamaesaracha coronopus</i>	greenleaf five eyes	<1%	<0.1
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	<1%	<0.1
	CHAMIC	<i>Chamaesyce micromera</i>	Sonoran sandmat	6%	0.9
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	9%	0.8
	DESPIN	<i>Descurainia pinnata</i>	western tansymustard	<1%	<0.1
	ERICER	<i>Eriogonum cernuum</i>	nodding buckwheat	2%	0.4
	ERIDIV	<i>Erigeron divergens</i>	spreading fleabane	6%	1.0
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	<1%	<0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	<1%	0.2
	HALGLO	<i>Halogeton glomeratus</i>	saltlover	4%	4.2
	ISORUS	<i>Isocoma rusbyi</i>	Rusby's goldenbush	<1%	0.6
	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	<1%	<0.1
	LEPMON	<i>Lepidium montanum</i>	mountain pepperweed	<1%	0.1
	MENMUL	<i>Mentzelia multiflora</i>	Adonis blazingstar	<1%	<0.1
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	<1%	<0.1
	PECANG	<i>Pectis angustifolia</i>	lemonscent	6%	0.4
	PHACELIA	<i>Phacelia</i>	phacelia	5%	0.6
	PHAINT	<i>Phacelia integrifolia</i>	gypsum phacelia	<1%	<0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	25%	19.5
	SPHCOC	<i>Sphaeralcea coccinea</i>	scarlet globemallow	<1%	0.2
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	<1%	<0.1
	SPHHAS	<i>Sphaeralcea hastulata</i>	spear globemallow	3%	0.7
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	3%	0.8
	TOWANN	<i>Townsendia annua</i>	annual Townsend daisy	1%	0.1
	UNKANF	–	Unknown annual forb	1%	0.5
	WISREF	<i>Wislizenia refracta</i>	spectacle fruit	<1%	<0.1

(Table Continues)

## R035XB211AZ – ESD Species Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Grass/Grasslike	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	1%	0.3
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	21%	2.1
	BOUSIM	<i>Bouteloua simplex</i>	matted grama	<1%	<0.1
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	2%	0.1
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	5%	0.6
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	8%	8.3
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	6%	7.2
Shrub/Vine	ARTFIL	<i>Artemisia filifolia</i>	sand sagebrush	<1%	0.1
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	1%	0.3
	ATRCON	<i>Atriplex confertifolia</i>	shadscale saltbush	3%	2.4
	ATRIPLEX	<i>Atriplex</i>	saltbush	1%	0.2
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	9%	4.9
	BRICAL	<i>Brickellia californica</i>	California brickellbush	<1%	0.4
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	1%	0.5





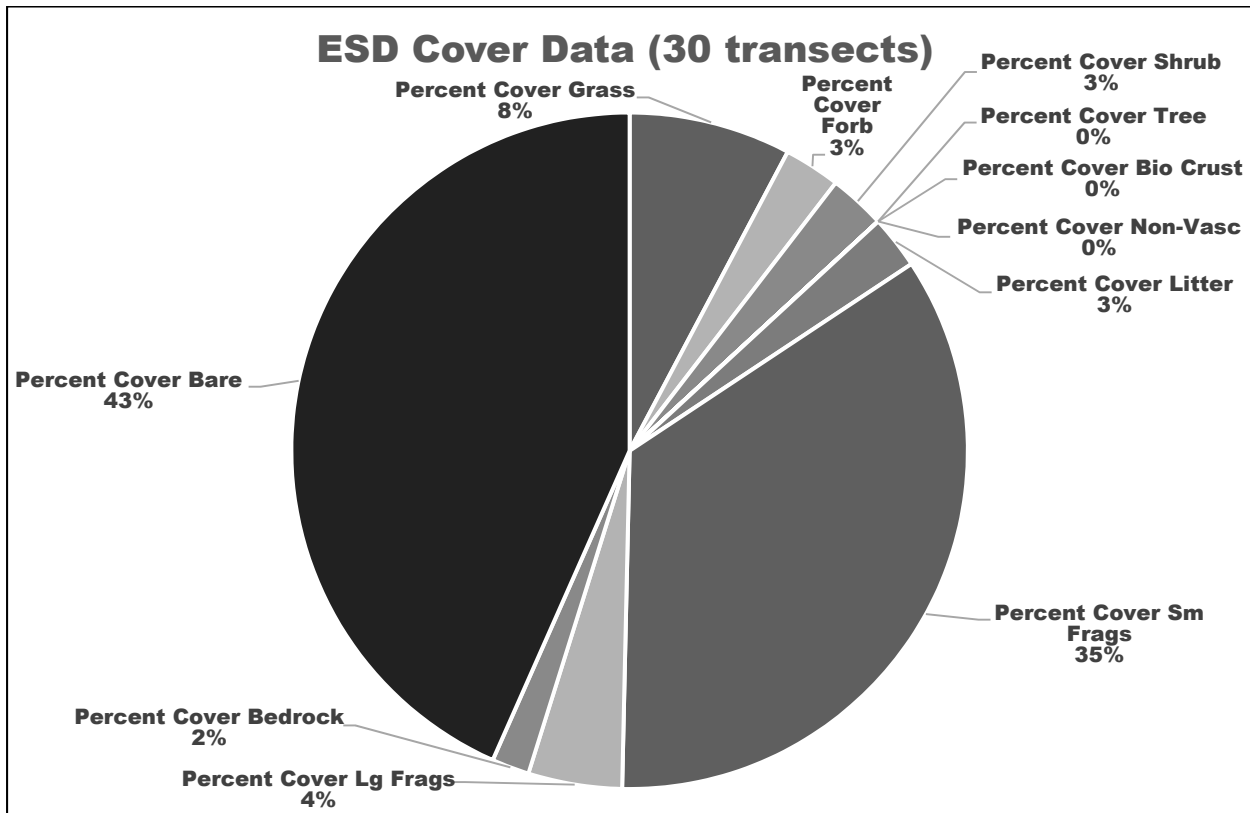
# EcoSite Identification No. R035XB215AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XB215AZ	8	Epikom-Leupp complex, 2 to 15 percent slopes	31,024.8
<b>R035XB215AZ Total</b>			<b>31,024.8</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HPCP Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XB215AZ	Sandstone/Shale Upland 6-10	Forb	25.0	30	14.0	23%
		Grass/Grasslike	265.0		54.5	
		Shrub/Vine	60.0		10.6	
<b>R035XB215AZ Total:</b>			<b>350.0</b>		<b>79.1</b>	



## R035XB215AZ – ESD Species Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	AGEHER	<i>Ageratina herbacea</i>	fragrant snakeroot	2%	0.1
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	1%	0.1
	BOERHAVIA	<i>Boerhavia</i>	spiderling	<1%	0.1
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	1%	0.1
	CHAMAESYCE	<i>Chamaesyce</i>	sandmat	9%	0.4
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	12%	1.0
	CHRYSOTHAMNUS	<i>Chrysothamnus</i>	rabbitbrush	1%	0.2
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	4%	0.1
	EUPHORBIA	<i>Euphorbia</i>	spurge	5%	0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	5%	1.5
	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	1%	0.1
	MIRABILIS	<i>Mirabilis</i>	four o'clock	2%	0.2
	MIROXY	<i>Mirabilis oxybaphoides</i>	smooth spreading four o'clock	1%	0.3
	NAMDIC	<i>Nama dichotomum</i>	wishbone fiddleleaf	<1%	<0.1
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	1%	<0.1
	PECANG	<i>Pectis angustifolia</i>	lemonscent	<1%	<0.1
	PHACRE	<i>Phacelia crenulata</i>	cleftleaf wildheliotrope	<1%	<0.1
	POROLE	<i>Portulaca oleracea</i>	little hogweed	1%	<0.1
	PORTULACA	<i>Portulaca</i>	purslane	<1%	<0.1
	PSISPA	<i>Psilostrophe sparsiflora</i>	greenstem paperflower	<1%	0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	19%	6.6
	SCHPIN	<i>Schkuhria pinnata</i>	pinnate false threadleaf	7%	1.0
	SPHAMB	<i>Sphaeralcea ambigua</i>	desert globemallow	3%	0.7
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	1%	0.3
	SPHHAS	<i>Sphaeralcea hastulata</i>	spear globemallow	1%	0.4
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	3%	0.2
	UNKANF	–	Unknown annual forb	3%	0.2
	UNKPEF	–	Unknown perennial forb	3%	0.1
	ZINGRA	<i>Zinnia grandiflora</i>	Rocky Mountain zinnia	<1%	<0.1

(Table Continues)

## R035XB215AZ – ESD Species Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Grass/Grasslike	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	2%	0.2
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	1%	0.1
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	19%	2.9
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	6%	1.5
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	10%	1.5
	ENNDDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	2%	0.4
	ERIPIL	<i>Erioneuron pilosum</i>	hairy woollygrass	2%	0.1
	MUHPOR	<i>Muhlenbergia porteri</i>	bush muhly	<1%	0.1
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	26%	24.3
	SCHPAN	<i>Schedonnardus paniculatus</i>	tumblegrass	<1%	<0.1
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	14%	20.3
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	1%	0.3
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	5%	1.2
	SPOGIG	<i>Sporobolus giganteus</i>	giant dropseed	3%	1.4
	VULUCT	<i>Vulpia octoflora</i>	sixweeks fescue	<1%	<0.1
Shrub/Vine	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	6%	1.9
	ATRCAN	<i>Atriplex confertifolia</i>	shadscale saltbush	9%	1.1
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	4%	0.7
	BRICAL	<i>Brickellia californica</i>	California brickellbush	<1%	0.5
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	3%	0.8
	ENCFRU	<i>Encelia frutescens</i>	button brittlebush	1%	0.1
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	<1%	<0.1
	EPHTRI	<i>Ephedra trifurca</i>	longleaf jointfir	1%	0.1
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	2%	1.8
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	1%	3.5
	OPUFRA	<i>Opuntia fragilis</i>	brittle pricklypear	<1%	<0.1
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	<1%	<0.1



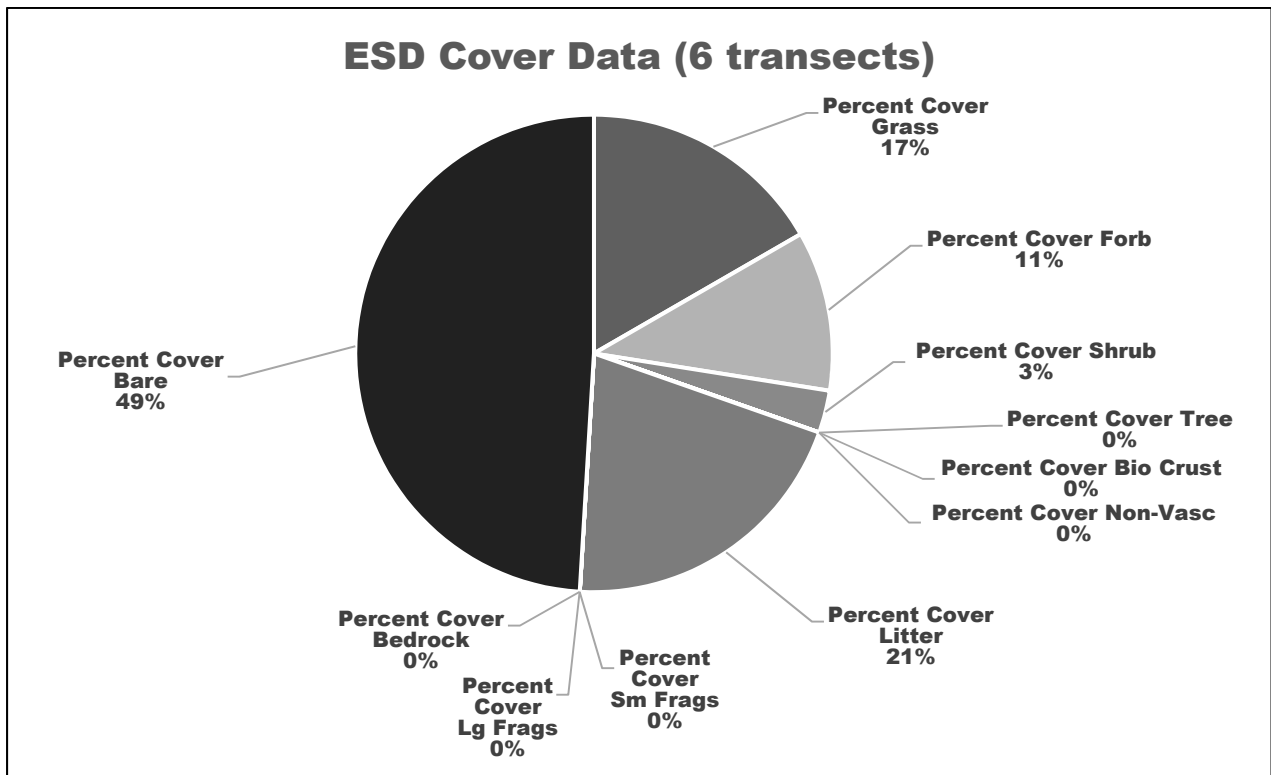
# EcoSite Identification No. R035XB216AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XB216AZ	21	Jocity-Joraibi-Navajo-Riverwash complex , 0 to 2 percent slopes	7,684.2
<b>R035XB216AZ Total</b>			<b>7,684.2</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HCPC Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XB216AZ	Sandy Wash 6-10	Forb	70.0	6	24.5	16%
		Grass/Grasslike	675.0		25.3	
		Shrub/Vine	135.0		90.4	
		Tree	0.0		448.0	
<b>R035XB216AZ Total:</b>			<b>880.0</b>		<b>588.2</b>	



## R035XB216AZ – ESD Species Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	AMARANTHUS	<i>Amaranthus</i>	pigweed	5%	0.4
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	8%	0.3
	CHAMAESYCE	<i>Chamaesyce</i>	sandmat	17%	0.7
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	20%	1.2
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	2%	1.1
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	3%	0.2
	PORTULACA	<i>Portulaca</i>	purslane	12%	0.7
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	28%	18.2
	SANABE	<i>Sanvitalia abertii</i>	Abert's creeping zinnia	2%	0.2
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	2%	0.1
	SUAMOQ	<i>Suaeda moquinii</i>	Mojave seablite	5%	1.1
	THEMEG	<i>Thelesperma megapotamicum</i>	Hopi tea greenthread	2%	0.2
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	2%	0.6
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	8%	0.7
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	15%	5.0
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	8%	1.0
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	17%	14.3
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	17%	3.5
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	2%	0.3
<b>Shrub/Vine</b>	ALHMAU	<i>Alhagi maurorum</i>	camelthorn	48%	72.9
	ATRCON	<i>Atriplex confertifolia</i>	shadscale saltbush	2%	1.0
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	8%	1.0
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	7%	15.5
<b>Tree</b>	TAMRAM	<i>Tamarix ramosissima</i>	saltcedar	12%	448.0

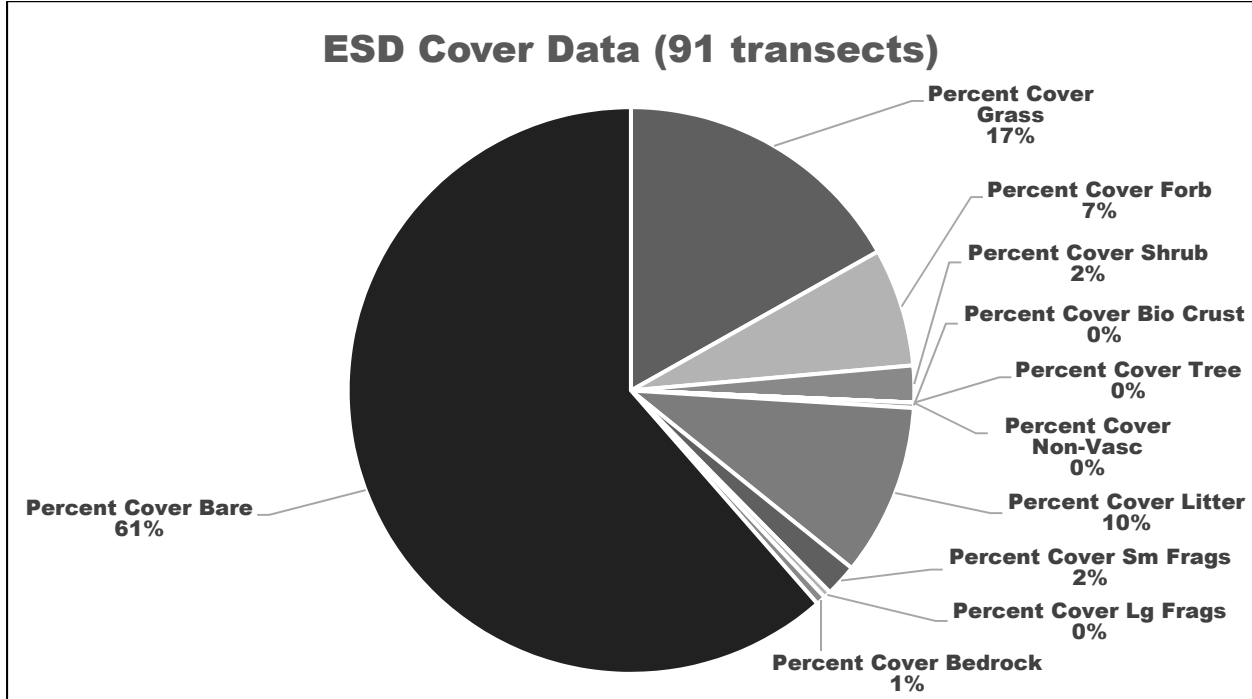
# EcoSite Identification No. R035XB217AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XB217AZ	50	Sheppard-Moenkopie-Needle complex, 2 to 35 percent slopes	34,937.2
	51	Sheppard-Monue complex, 1 to 8 percent slopes	84,249.3
<b>R035XB217AZTotal</b>			<b>119,186.5</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HCPC Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XB217AZ	Sandy Upland 6-10	Forb	25.0	91	59.2	39%
		Grass/Grasslike	385.0		146.2	
		Shrub/Vine	80.0		18.8	
<b>R035XB217AZTotal:</b>			<b>490.0</b>		<b>224.3</b>	





## R035XB217AZ – ESD Species Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ABRFRA	<i>Abronia fragrans</i>	snowball sand verbena	<1%	<0.1
	ALLIUM	<i>Allium</i>	onion	<1%	<0.1
	AMAPAL	<i>Amaranthus palmeri</i>	carelessweed	<1%	<0.1
	AMBACA	<i>Ambrosia acanthicarpa</i>	flatspine bur ragweed	2%	0.6
	AREEAS	<i>Arenaria eastwoodiae</i>	Eastwood's sandwort	<1%	<0.1
	ASCMAC	<i>Asclepias macrotis</i>	longhood milkweed	<1%	0.1
	ASTFUC	<i>Astragalus fucatus</i>	Hopi milkvetch	2%	0.4
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	1%	0.1
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	2%	0.2
	BASSCO	<i>Bassia scoparia</i>	burningbush	<1%	<0.1
	BOEWRI	<i>Boerhavia wrightii</i>	largebract spiderling	1%	0.1
	CASTILLEJA	<i>Castilleja</i>	Indian paintbrush	<1%	<0.1
	CHACOR	<i>Chamaesaracha coronopus</i>	greenleaf five eyes	<1%	<0.1
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	9%	2.5
	CHAFEN	<i>Chamaesyce fendleri</i>	Fendler's sandmat	<1%	<0.1
	CHAPAR	<i>Chamaesyce parryi</i>	Parry's sandmat	<1%	<0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	53%	7.7
	CHEINC	<i>Chenopodium incanum</i>	mealy goosefoot	<1%	0.1
	CHENOPODIUM	<i>Chenopodium</i>	goosefoot	<1%	<0.1
	COMUMB	<i>Comandra umbellata</i>	bastard toadflax	<1%	<0.1
	CORWRI	<i>Cordylanthus wrightii</i>	Wright's bird's beak	<1%	0.2
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	1%	0.1
	DICCAN	<i>Dicoria canescens</i>	desert twinbugs	<1%	<0.1
	DIMWIS	<i>Dimorphocarpa wislizeni</i>	touristplant	1%	0.1
	ERICER	<i>Eriogonum cernuum</i>	nodding buckwheat	2%	0.3
	ERIDIV	<i>Erigeron divergens</i>	spreading fleabane	<1%	<0.1
	FRAPAN	<i>Frasera paniculata</i>	tufted frasera	<1%	<0.1
	GILIA	<i>Gilia</i>	gilia	<1%	<0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	11%	3.4
	HALGLO	<i>Halogeton glomeratus</i>	saltlover	<1%	0.1
	HELPEP	<i>Helianthus petiolaris</i>	prairie sunflower	<1%	0.2
	HYMFIL	<i>Hymenopappus filifolius</i>	fineleaf hymenopappus	2%	0.3
	HYMFLA	<i>Hymenopappus flavescens</i>	collegeflower	<1%	<0.1
	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	<1%	<0.1
	LINARI	<i>Linum aristatum</i>	bristle flax	7%	2.1

(Table Continues)

## R035XB217AZ – ESD Species Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	LINARIA	<i>Linaria</i>	toadflax	<1%	<0.1
(Continued)	MENMUL	<i>Mentzelia multiflora</i>	Adonis blazingstar	1%	0.2
	MENTZELIA	<i>Mentzelia</i>	blazingstar	<1%	0.1
	NAMRET	<i>Nama retrorsum</i>	betatakin fiddleleaf	<1%	<0.1
	OENCOR	<i>Oenothera coronopifolia</i>	crownleaf evening primrose	<1%	<0.1
	OENOTHERA	<i>Oenothera</i>	evening primrose	<1%	<0.1
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	3%	0.6
	PECANG	<i>Pectis angustifolia</i>	lemonscent	1%	0.1
	PENAMB	<i>Penstemon ambiguus</i>	gilia beardtongue	1%	0.1
	PHACELIA	<i>Phacelia</i>	phacelia	<1%	<0.1
	PHAINT	<i>Phacelia integrifolia</i>	gypsum phacelia	<1%	<0.1
	PHYSARIA	<i>Physaria</i>	twinpod	<1%	<0.1
	PLAPAT	<i>Plantago patagonica</i>	woolly plantain	<1%	<0.1
	POROLE	<i>Portulaca oleracea</i>	little hogweed	<1%	<0.1
	PORPIL	<i>Portulaca pilosa</i>	kiss me quick	<1%	<0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	42%	35.4
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	9%	2.4
	SPHHAS	<i>Sphaeralcea hastulata</i>	spear globemallow	1%	0.1
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	5%	0.9
	STEXXI	<i>Stephanomeria exigua</i>	small wirelettuce	<1%	0.1
	THEMEG	<i>Thelesperma megapotamicum</i>	Hopi tea greenthread	<1%	<0.1
	THYACE	<i>Thymophylla acerosa</i>	pricklyleaf dogweed	<1%	0.3
	TIQLAT	<i>Tiquilia latior</i>	matted crinklemat	<1%	<0.1
	UNKANF	–	Unknown annual forb	2%	0.1
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	54%	31.4
	ANDGER	<i>Andropogon gerardii</i>	big bluestem	<1%	<0.1
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	5%	1.7
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	21%	2.8
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	1%	1.6
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	4%	2.5
	BROTEC	<i>Bromus tectorum</i>	cheatgrass	<1%	<0.1
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	2%	1.0
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	44%	7.4
	MUHPUN	<i>Muhlenbergia pungens</i>	sandhill muhly	11%	8.6
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	60%	53.0

(Table Continues)

## R035XB217AZ – ESD Species Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Grass/Grasslike	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	6%	9.8
(Continued)	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	22%	13.6
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	29%	11.3
	SPOFLE	<i>Sporobolus flexuosus</i>	mesa dropseed	4%	1.3
	SPOGIG	<i>Sporobolus giganteus</i>	giant dropseed	<1%	0.2
Shrub/Vine	ARTBIG	<i>Artemisia bigelovii</i>	Bigelow sage	1%	0.3
	ARTFIL	<i>Artemisia filifolia</i>	sand sagebrush	1%	1.0
	ARTTRI	<i>Artemisia tridentata</i>	big sagebrush	<1%	0.1
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	<1%	0.3
	ATRCAN	<i>Atriplex confertifolia</i>	shadscale saltbush	1%	0.3
	ATRGAR	<i>Atriplex garrettii</i>	Garrett's saltbush	<1%	0.7
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	1%	0.6
	BRICAL	<i>Brickellia californica</i>	California brickellbush	<1%	<0.1
	CHRDEP	<i>Chrysothamnus depressus</i>	longflower rabbitbrush	<1%	0.1
	CHRGRE	<i>Chrysothamnus greenei</i>	Greene's rabbitbrush	1%	1.9
	EPHCUT	<i>Ephedra cutleri</i>	Cutler's jointfir	15%	9.0
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	<1%	0.1
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	2%	0.7
	ERICON	<i>Eriophyllum confertiflorum</i>	golden-yarrow	<1%	<0.1
	ERILEP	<i>Eriogonum leptophyllum</i>	slenderleaf buckwheat	3%	0.8
	ERIMIC	<i>Eriogonum microthecum</i>	slender buckwheat	<1%	<0.1
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	1%	0.4
	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	1%	0.9
	LYCPAL	<i>Lycium pallidum</i>	pale desert-thorn	<1%	0.1
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	<1%	0.1
	POLINC	<i>Poliomintha incana</i>	frosted mint	<1%	0.1
	SARVER	<i>Sarcobatus vermiculatus</i>	greasewood	<1%	0.2
	TETCAN	<i>Tetradymia canescens</i>	spineless horsebrush	<1%	0.1
	YUCBAI	<i>Yucca baileyi</i>	Navajo yucca	2%	1.0

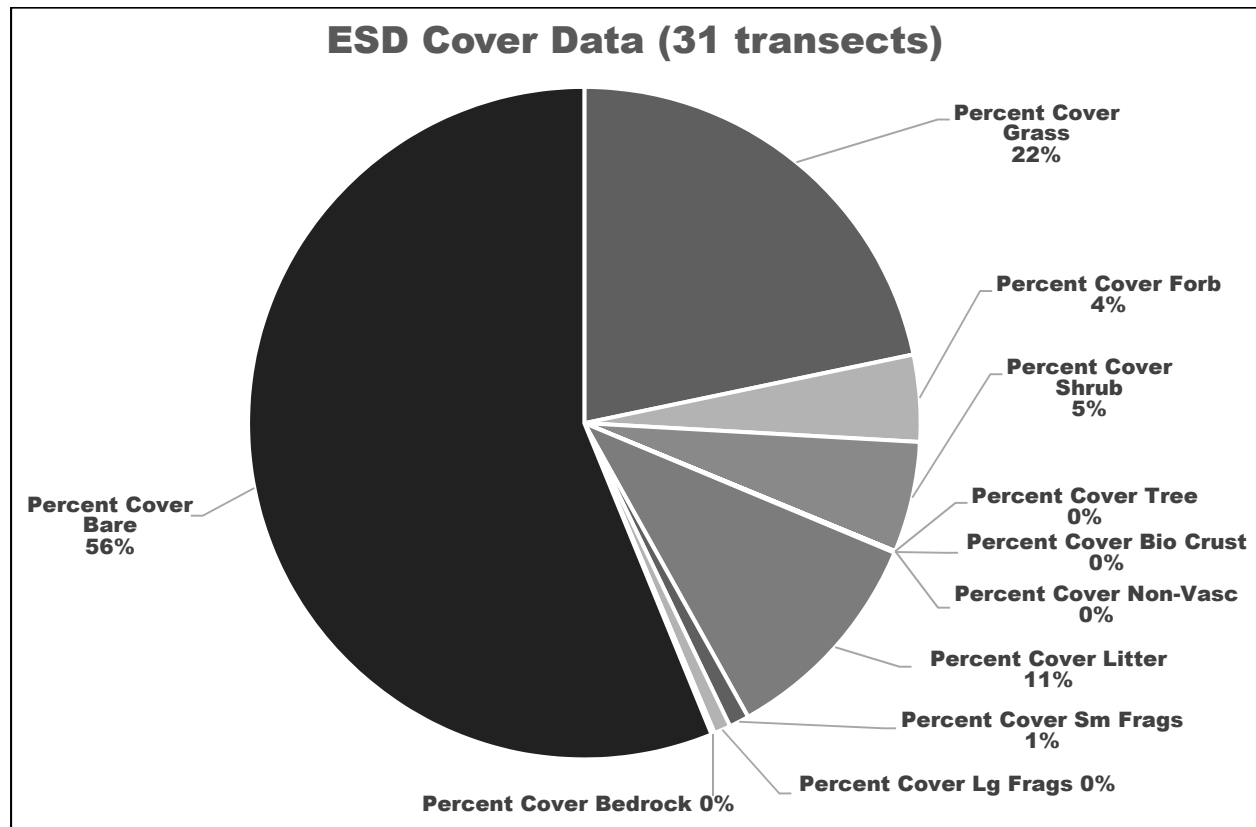
# EcoSite Identification No. R035XB219AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XB219AZ	22	Jocity-Tuba, complex, 1 to 3 percent slopes	962.5
	33	Moffat-Monue complex, 1 to 6 percent slopes	35,376.9
<b>R035XB219AZ Total</b>			<b>36,339.4</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HCPC Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XB219AZ	Sandy Loam Upland 6-10	Forb	30.0	31	30.6	31%
		Grass/Grasslike	535.0		159.2	
		Shrub/Vine	98.0		17.5	
<b>R035XB219AZ Total:</b>			<b>663.0</b>		<b>207.3</b>	



## R035XB219AZ – ESD Species Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	27%	5.5
	CHAPAR	<i>Chamaesyce parryi</i>	Parry's sandmat	1%	<0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	37%	4.2
	CHEINC	<i>Chenopodium incanum</i>	mealy goosefoot	1%	0.1
	CHENOPODIUM	<i>Chenopodium</i>	goosefoot	3%	1.4
	ERICER	<i>Eriogonum cernuum</i>	nodding buckwheat	2%	0.4
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	25%	7.5
	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	1%	0.1
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	<1%	<0.1
	PHAINT	<i>Phacelia integrifolia</i>	gypsum phacelia	1%	0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	19%	10.1
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	8%	1.0
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	3%	0.3
	Grass/Grasslike	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	68%
ARIPUR		<i>Aristida purpurea</i>	purple threeawn	5%	2.6
BOUBAR		<i>Bouteloua barbata</i>	sixweeks grama	9%	1.0
BOUGRA		<i>Bouteloua gracilis</i>	blue grama	12%	8.3
MONSQU		<i>Monroa squarrosa</i>	false buffalograss	29%	11.4
PLEJAM		<i>Pleuraphis jamesii</i>	James' galleta	85%	68.4
SPOAIR		<i>Sporobolus airoides</i>	alkali sacaton	2%	3.0
SPOCON		<i>Sporobolus contractus</i>	spike dropseed	7%	5.5
SPOCRY		<i>Sporobolus cryptandrus</i>	sand dropseed	44%	15.6
Shrub/Vine	CHRGRE	<i>Chrysothamnus Greenei</i>	Greene's rabbitbrush	4%	1.1
	EPHCUT	<i>Ephedra cutleri</i>	Cutler's jointfir	24%	7.7
	EPHEDRA	<i>Ephedra</i>	jointfir	3%	3.3
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	<1%	0.1
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	4%	2.4
	ERIMIC	<i>Eriogonum microthecum</i>	slender buckwheat	<1%	<0.1
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	1%	1.1
	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	2%	1.4
	SARVER	<i>Sarcobatus vermiculatus</i>	greasewood	1%	0.4

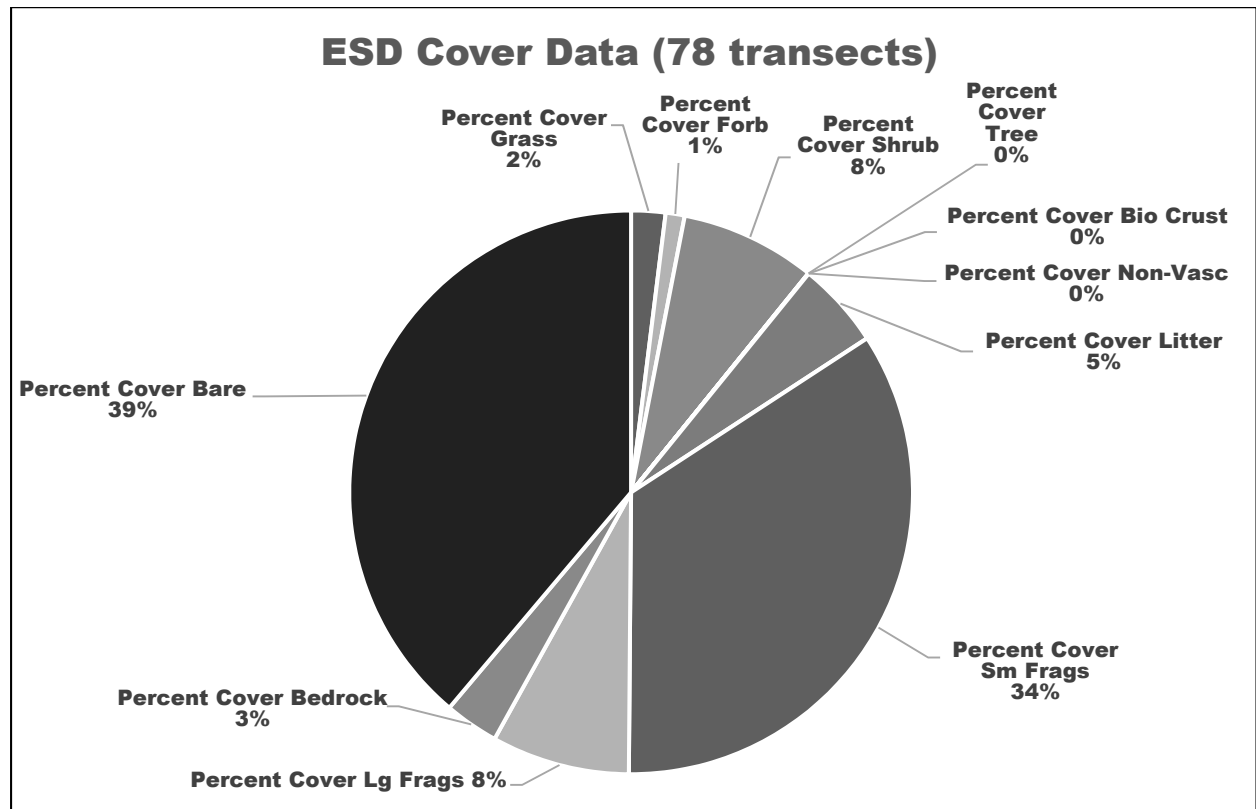
# EcoSite Identification No. R035XB226AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XB226AZ	15	Hoskinnini-Moenkopie complex, 2 to 8 percent slopes	21,151.4
	24	Leupp-Hoskinnini complex, 2 to 15 percent slopes	73,607.5
<b>R035XB226AZ Total</b>			<b>94,758.9</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HPCP Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XB226AZ	Shallow Loamy 6-10	Forb	15.0	78	11.6	44%
		Grass/Grasslike	35.0		32.0	
		Shrub/Vine	160.0		49.8	
<b>R035XB226AZ Total:</b>			<b>210.0</b>		<b>93.4</b>	



## R035XB226AZ – ESD Species Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ABRFRA	<i>Abronia fragrans</i>	snowball sand verbena	<1%	<0.1
	ALLINC	<i>Allionia incarnata</i>	trailing windmills	<1%	<0.1
	AMBACA	<i>Ambrosia acanthicarpa</i>	flatspine bur ragweed	<1%	0.1
	AMSJON	<i>Amsonia jonesii</i>	Jones' bluestar	<1%	<0.1
	ARTDRA	<i>Artemisia dracunculus</i>	tarragon	<1%	0.1
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	<1%	<0.1
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	1%	<0.1
	BOERHAVIA	<i>Boerhavia</i>	spiderling	<1%	<0.1
	CHACON	<i>Chamaesaracha coniodes</i>	gray five eyes	1%	0.2
	CHACOR	<i>Chamaesaracha coronopus</i>	greenleaf five eyes	<1%	<0.1
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	4%	0.8
	CHAFEN	<i>Chamaesyce fendleri</i>	Fendler's sandmat	<1%	<0.1
	CHAMAESYCE	<i>Chamaesyce</i>	sandmat	2%	0.1
	CHAMIC	<i>Chamaesyce micromera</i>	Sonoran sandmat	1%	<0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	18%	1.8
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	1%	<0.1
	ERICER	<i>Eriogonum cernuum</i>	nodding buckwheat	<1%	<0.1
	ERIINF	<i>Eriogonum inflatum</i>	desert trumpet	1%	0.1
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	1%	0.1
	ERIPAR	<i>Eriogonum parishii</i>	mountainmist	<1%	<0.1
	ERIPUM	<i>Erigeron pumilus</i>	shaggy fleabane	<1%	<0.1
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	1%	<0.1
	EUPHORBIA	<i>Euphorbia</i>	spurge	<1%	<0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	6%	2.5
	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	1%	<0.1
	LEPIDIUM	<i>Lepidium</i>	pepperweed	<1%	<0.1
	MENTZELIA	<i>Mentzelia</i>	blazingstar	1%	<0.1
	MIRABILIS	<i>Mirabilis</i>	four o'clock	<1%	<0.1
	MOLCER	<i>Mollugo cerviana</i>	threadstem carpetweed	<1%	<0.1
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	1%	0.3
	PECANG	<i>Pectis angustifolia</i>	lemonscent	1%	0.1
	PHACELIA	<i>Phacelia</i>	phacelia	<1%	<0.1
	PLAPAT	<i>Plantago patagonica</i>	woolly plantain	<1%	<0.1
	POROLE	<i>Portulaca oleracea</i>	little hogweed	1%	<0.1

(Table Continues)

## R035XB226AZ – ESD Species Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	PORTULACA	<i>Portulaca</i>	purslane	1%	0.1
(Continued)	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	4%	1.0
	SANABE	<i>Sanvitalia abertii</i>	Abert's creeping zinnia	1%	0.3
	SCHPIN	<i>Schkuhria pinnata</i>	pinnate false threadleaf	<1%	<0.1
	SENFLA	<i>Senecio flaccidus</i>	threadleaf ragwort	<1%	0.4
	SPHAERALCEA	<i>Sphaeralcea</i>	globemallow	<1%	0.1
	SPHCOC	<i>Sphaeralcea coccinea</i>	scarlet globemallow	1%	0.1
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	3%	0.7
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	8%	2.3
	TETCOU	<i>Tetradlea coulteri</i>	Coulter's wrinklefruit	<1%	0.1
	TIQLAT	<i>Tiquilia latior</i>	matted crinklemat	<1%	<0.1
	UNKANF	–	Unknown annual forb	<1%	0.1
	UNKPEF	–	Unknown perennial forb	<1%	<0.1
	ZINGRA	<i>Zinnia grandiflora</i>	Rocky Mountain zinnia	1%	0.1
Grass/Grasslike	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	2%	0.7
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	<1%	0.2
	ARISTIDA	<i>Aristida</i>	threeawn	<1%	<0.1
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	2%	0.5
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	1%	1.0
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	1%	4.2
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	2%	0.2
	ELYELY	<i>Elymus elymoides</i>	squirreltail	<1%	0.1
	ENNDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	1%	0.1
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	<1%	0.3
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	3%	0.8
	MUHPOR	<i>Muhlenbergia porteri</i>	bush muhly	<1%	<0.1
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	15%	21.0
	SCLBRE	<i>Scleropogon brevifolius</i>	burrograss	1%	1.5
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	<1%	0.7
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	<1%	0.4
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	1%	0.3

(Table Continues)



**R035XB226AZ – ESD Species Production Table (Continued)**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Shrub/Vine	ARTBIG	<i>Artemisia bigelovii</i>	Bigelow sage	2%	1.3
	ARTFIL	<i>Artemisia filifolia</i>	sand sagebrush	<1%	0.1
	ARTTRI	<i>Artemisia tridentata</i>	big sagebrush	<1%	<0.1
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	6%	5.4
	ATRCAN	<i>Atriplex confertifolia</i>	shadscale saltbush	1%	0.6
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	2%	0.6
	BRICAL	<i>Brickellia californica</i>	California brickellbush	<1%	<0.1
	BRIOBL	<i>Brickellia oblongifolia</i>	Mojave brickellbush	1%	0.4
	CHRGRE	<i>Chrysothamnus Greenei</i>	Greene's rabbitbrush	1%	0.3
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	26%	26.7
	ENCFRU	<i>Encelia frutescens</i>	button brittlebush	<1%	0.1
	EPHCUT	<i>Ephedra cutleri</i>	Cutler's jointfir	2%	1.0
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	8%	5.0
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	4%	3.0
	ERICOR	<i>Eriogonum corymbosum</i>	crispleaf buckwheat	1%	0.4
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	1%	1.7
	FALPAR	<i>Fallugia paradoxa</i>	Apache plume	1%	0.2
	GLOSPI	<i>Glossopetalon spinescens</i>	spiny greasebush	<1%	0.1
	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	<1%	0.1
	LYCAND	<i>Lycium andersonii</i>	water jacket	1%	0.9
	LYCPAL	<i>Lycium pallidum</i>	pale desert-thorn	<1%	0.3
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	<1%	<0.1
	RHUTRI	<i>Rhus trilobata</i>	skunkbush sumac	<1%	0.3
	SALDOR	<i>Salvia dorrii</i>	purple sage	<1%	0.8
	SARVER	<i>Sarcobatus vermiculatus</i>	greasewood	1%	0.6

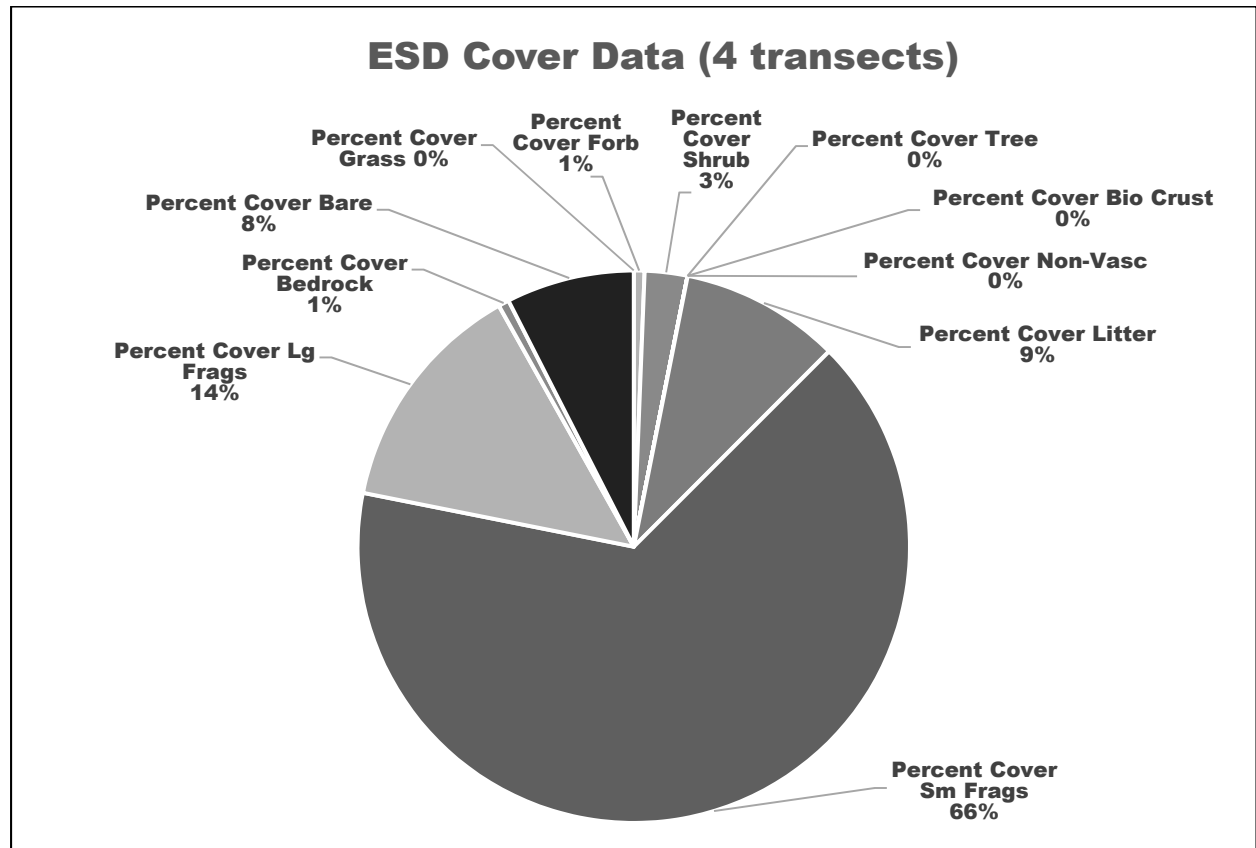
# EcoSite Identification No. R035XB231AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XB231AZ	4	Berto-Nepalto family-Lava flows complex, 4 to 35 percent slopes	4,459.0
<b>R035XB231AZ Total</b>			<b>4,459.0</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HCPC Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XB231AZ	Basalt Upland 6-10	Forb	60.0	4	15.5	28%
		Grass/Grasslike	30.0		5.4	
		Shrub/Vine	140.0		43.9	
<b>R035XB231AZ Total:</b>			<b>230.0</b>		<b>64.8</b>	



**R035XB231AZ – ESD Species Production Table**

<b>Life Form</b>	<b>Species Code</b>	<b>Scientific Name</b>	<b>Common Name</b>	<b>Average Percent Frequency</b>	<b>Average Total Production (lbs/acre)</b>
<b>Forb</b>	CHACON	<i>Chamaesaracha coniodes</i>	gray five eyes	3%	0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	68%	5.4
	ERIINF	<i>Eriogonum inflatum</i>	desert trumpet	5%	0.5
	NAMDIC	<i>Nama dichotomum</i>	wishbone fiddleleaf	5%	1.3
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	15%	8.2
<b>Grass/Grasslike</b>	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	3%	0.1
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	3%	0.1
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	5%	1.0
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	8%	4.3
<b>Shrub/Vine</b>	ATRCON	<i>Atriplex confertifolia</i>	shadscale saltbush	15%	33.4
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	3%	4.6
	LYCAND	<i>Lycium andersonii</i>	water jacket	3%	0.6
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	5%	0.6
	OPUPOL	<i>Opuntia polyacantha</i>	plains pricklypear	8%	4.7

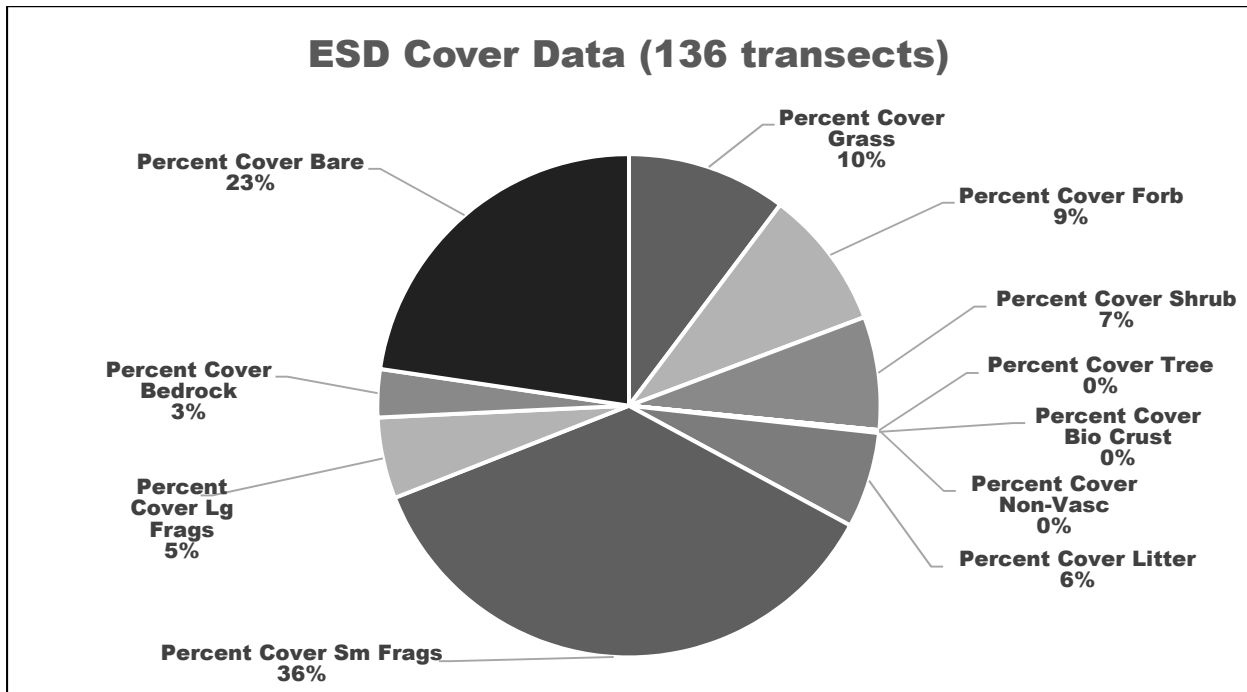
# EcoSite Identification No. R035XB232AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XB232AZ	11	Hajisho-Cataract family-Shinume complex, 4 to 15 percent slopes	62,084.5
	12	Hajisho-Seeg complex, 2 to 15 percent slopes	30,332.9
	13	Hajisho-Seeg complex, 15 to 35 percent slopes	62,734.8
	5	Cataract-Tsaya-Typic Calciargids complex, 4 to 15 percent slopes	5,072.4
<b>R035XB232AZ Total</b>			<b>160,224.5</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HCPC Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XB232AZ	Kaibab Formation Limestone/Sandstone Upland 6-10	Forb	20.0	136	112.8	44%
		Grass/Grasslike	250.0		103.9	
		Shrub/Vine	130.0		50.3	
<b>R035XB232AZ Total:</b>			<b>400.0</b>		<b>267.1</b>	



## R035XB232AZ – ESD Species Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ABRONIA	<i>Abronia</i>	sand verbena	<1%	<0.1
	AGEHER	<i>Ageratina herbacea</i>	fragrant snakeroot	1%	<0.1
	ALLINC	<i>Allionia incarnata</i>	trailing windmills	7%	3.5
	AMABIG	<i>Amaranthus bigelovii</i>	Bigelow's amaranth	<1%	<0.1
	AMAPAL	<i>Amaranthus palmeri</i>	carelessweed	6%	3.1
	AMAPOL	<i>Amaranthus polygonoides</i>	tropical amaranth	<1%	0.1
	AMARANTHUS	<i>Amaranthus</i>	pigweed	<1%	0.1
	AMATOR	<i>Amaranthus torreyi</i>	Torrey's amaranth	<1%	<0.1
	AMBACA	<i>Ambrosia acanthicarpa</i>	flatspine bur ragweed	<1%	<0.1
	ARTDRA	<i>Artemisia dracunculus</i>	tarragon	1%	0.2
	ARTLUD	<i>Artemisia ludoviciana</i>	white sagebrush	<1%	0.1
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	23%	2.1
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	1%	0.7
	BOEWRI	<i>Boerhavia wrightii</i>	largebract spiderling	<1%	<0.1
	CHACHA	<i>Chamaesyce chaetocalyx</i>	bristlecup sandmat	1%	0.5
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	6%	2.7
	CHAMAESYCE	<i>Chamaesyce</i>	sandmat	<1%	<0.1
	CHAPAR	<i>Chamaesyce parryi</i>	Parry's sandmat	1%	<0.1
	CHAREV	<i>Chamaesyce revoluta</i>	threadstem sandmat	2%	0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	42%	6.9
	CHEINC	<i>Chenopodium incanum</i>	mealy goosefoot	<1%	0.1
	CHENOPODIUM	<i>Chenopodium</i>	goosefoot	1%	0.1
	CORVIL	<i>Corispermum villosum</i>	hairy bugseed	<1%	0.1
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	1%	0.1
	DATURA	<i>Datura</i>	jimsonweed	<1%	<0.1
	DESPIN	<i>Descurainia pinnata</i>	western tansymustard	<1%	<0.1
	ERIINF	<i>Eriogonum inflatum</i>	desert trumpet	2%	0.2
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	2%	0.5
	ERIOVA	<i>Eriogonum ovalifolium</i>	cushion buckwheat	<1%	<0.1
	ERIUUMB	<i>Eriogonum umbellatum</i>	sulphur-flower buckwheat	1%	0.8
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	17%	0.5
	EUPEXS	<i>Euphorbia exstipulata</i>	squareseed spurge	3%	0.2
	EUPHORBIA	<i>Euphorbia</i>	spurge	1%	<0.1
	GLABIP	<i>Glandularia bipinnatifida</i>	Dakota mock vervain	1%	0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	32%	26.4
	HOFDRE	<i>Hoffmannseggia drepanocarpa</i>	sicklepod holdback	<1%	<0.1

(Table Continues)

## R035XB232AZ – ESD Species Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	HYMFIL	<i>Hymenopappus filifolius</i>	fineleaf hymenopappus	<1%	<0.1
(Continued)	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	16%	10.3
	LAPOCC	<i>Lappula occidentalis</i>	flatspine stickseed	1%	<0.1
	LEPMON	<i>Lepidium montanum</i>	mountain pepperweed	<1%	0.1
	MENTZELIA	<i>Mentzelia</i>	blazingstar	<1%	<0.1
	MIRABILIS	<i>Mirabilis</i>	four o'clock	3%	0.7
	MIRLIN	<i>Mirabilis linearis</i>	narrowleaf four o'clock	1%	1.2
	MIRMUL	<i>Mirabilis multiflora</i>	Colorado four o'clock	<1%	0.2
	MIROXY	<i>Mirabilis oxybaphoides</i>	smooth spreading four o'clock	1%	0.1
	MOLCER	<i>Mollugo cerviana</i>	threadstem carpetweed	<1%	<0.1
	NAMDIC	<i>Nama dichotomum</i>	wishbone fiddleleaf	5%	1.4
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	<1%	<0.1
	PECANG	<i>Pectis angustifolia</i>	lemonscent	<1%	<0.1
	PHACELIA	<i>Phacelia</i>	phacelia	4%	0.5
	PHAINT	<i>Phacelia integrifolia</i>	gypsum phacelia	<1%	<0.1
	PHLAUS	<i>Phlox austromontana</i>	mountain phlox	<1%	<0.1
	PLAPAT	<i>Plantago patagonica</i>	woolly plantain	1%	<0.1
	POROLE	<i>Portulaca oleracea</i>	little hogweed	1%	1.2
	PORPIL	<i>Portulaca pilosa</i>	kiss me quick	4%	3.8
	PSISPA	<i>Psilostrophe sparsiflora</i>	greenstem paperflower	<1%	<0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	28%	30.3
	SANABE	<i>Sanvitalia abertii</i>	Abert's creeping zinnia	7%	1.7
	SCHMUL	<i>Schkuhria multiflora</i>	manyflower false threadleaf	<1%	0.1
	SCHPIN	<i>Schkuhria pinnata</i>	pinnate false threadleaf	1%	0.1
	SPHAERALCEA	<i>Sphaeralcea</i>	globemallow	<1%	0.1
	SPHAMB	<i>Sphaeralcea ambigua</i>	desert globemallow	1%	0.1
	SPHCOC	<i>Sphaeralcea coccinea</i>	scarlet globemallow	<1%	<0.1
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	3%	0.7
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	26%	9.2
	TETACA	<i>Tetaneuris acaulis</i>	stemless four-nerve daisy	1%	0.1
	THESUB	<i>Thelesperma subnudum</i>	Navajo tea	<1%	<0.1
	THYPEN	<i>Thymophylla pentachaeta</i>	fineneedle pricklyleaf	<1%	<0.1
	TIQLAT	<i>Tiquilia latior</i>	matted crinklemat	1%	0.5
	TRITER	<i>Tribulus terrestris</i>	puncturevine	<1%	<0.1
	UNKANF	–	Unknown annual forb	4%	0.2
	UNKPEF	–	Unknown perennial forb	1%	0.5

(Table Continues)

**R035XB232AZ – ESD Species Production Table (Continued)**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Grass/Grasslike	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	5%	4.5
	ACHNEL	<i>Achnatherum nelsonii</i>	Columbia needlegrass	<1%	0.3
	ARIADS	<i>Aristida adscensionis</i>	sixweeks threeawn	<1%	<0.1
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	2%	0.5
	BOUARI	<i>Bouteloua aristidoides</i>	needle grama	<1%	<0.1
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	21%	6.9
	BOUCUR	<i>Bouteloua curtipendula</i>	sideoats grama	1%	0.4
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	22%	18.8
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	10%	11.2
	BROTEC	<i>Bromus tectorum</i>	cheatgrass	1%	0.1
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	13%	4.7
	ELYELY	<i>Elymus elymoides</i>	squirreltail	<1%	0.2
	ENNDDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	28%	9.1
	ERIPIL	<i>Erioneuron pilosum</i>	hairy woollygrass	3%	0.6
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	<1%	<0.1
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	24%	6.0
	MUHDEP	<i>Muhlenbergia depauperata</i>	sixweeks muhly	<1%	<0.1
	MUHLEBERGIA	<i>Muhlenbergia</i>	muhly	<1%	<0.1
	MUHPOR	<i>Muhlenbergia porteri</i>	bush muhly	<1%	<0.1
	MUHPUN	<i>Muhlenbergia pungens</i>	sandhill muhly	<1%	0.1
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	14%	18.3
	SCHPAN	<i>Schedonnardus paniculatus</i>	tumblegrass	<1%	0.1
	SCLBRE	<i>Scleropogon brevifolius</i>	burrograss	3%	3.8
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	1%	1.2
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	8%	4.9
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	25%	12.1
	SPOFLE	<i>Sporobolus flexuosus</i>	mesa dropseed	<1%	<0.1
	SPOGIG	<i>Sporobolus giganteus</i>	giant dropseed	<1%	0.1
	UNKANG	–	Unknown annual grass	<1%	<0.1

(Table Continues)

## R035XB232AZ – ESD Species Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Shrub/Vine	AGAUTA	<i>Agave utahensis</i>	Utah agave	<1%	0.9
	ARTBIG	<i>Artemisia bigelovii</i>	Bigelow sage	1%	0.8
	ARTTRI	<i>Artemisia tridentata</i>	big sagebrush	<1%	<0.1
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	24%	20.8
	ATRCAN	<i>Atriplex confertifolia</i>	shadscale saltbush	5%	4.3
	ATRGAR	<i>Atriplex garrettii</i>	Garrett's saltbush	<1%	0.6
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	3%	2.6
	BRIMIC	<i>Brickellia microphylla</i>	littleleaf brickellbush	<1%	<0.1
	BRIOBL	<i>Brickellia oblongifolia</i>	Mojave brickellbush	<1%	<0.1
	CHRGRE	<i>Chrysothamnus greenei</i>	Greene's rabbitbrush	2%	2.2
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	5%	1.4
	CYLWHI	<i>Cylindropuntia whipplei</i>	Whipple cholla	1%	1.6
	ECHENG	<i>Echinocereus engelmannii</i>	Engelmann's hedgehog cactus	<1%	0.1
	ECHTRI	<i>Echinocereus triglochidiatus</i>	kingcup cactus	<1%	<0.1
	ENCFRU	<i>Encelia frutescens</i>	button brittlebush	<1%	0.2
	EPHCUT	<i>Ephedra cutleri</i>	Cutler's jointfir	2%	0.7
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	3%	1.5
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	3%	4.0
	ERICON	<i>Eriophyllum confertiflorum</i>	golden-yarrow	<1%	<0.1
	ERIMIC	<i>Eriogonum microthecum</i>	slender buckwheat	1%	0.1
	ESCVIV	<i>Escobaria vivipara</i>	spiny star	<1%	<0.1
	FALPAR	<i>Fallugia paradoxa</i>	Apache plume	1%	2.3
	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	5%	3.3
	LYCAND	<i>Lycium andersonii</i>	water jacket	1%	1.4
	LYCPAL	<i>Lycium pallidum</i>	pale desert-thorn	<1%	<0.1
	OPUENG	<i>Opuntia engelmannii</i>	cactus apple	<1%	<0.1
	OPUFRA	<i>Opuntia fragilis</i>	brittle pricklypear	<1%	<0.1
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	2%	1.0
	OPUPOL	<i>Opuntia polyacantha</i>	plains pricklypear	<1%	<0.1
	PEDBRA	<i>Pediocactus bradyi</i>	Brady's pincushion cactus	<1%	<0.1
	PEDPEE	<i>Pediocactus peeblesianus</i>	Navajo pincushion cactus	<1%	<0.1
	SARVER	<i>Sarcobatus vermiculatus</i>	greasewood	1%	0.3
	UNKCAC	–	Unknown cactus	<1%	<0.1
	YUCANG	<i>Yucca angustissima</i>	narrowleaf yucca	<1%	<0.1





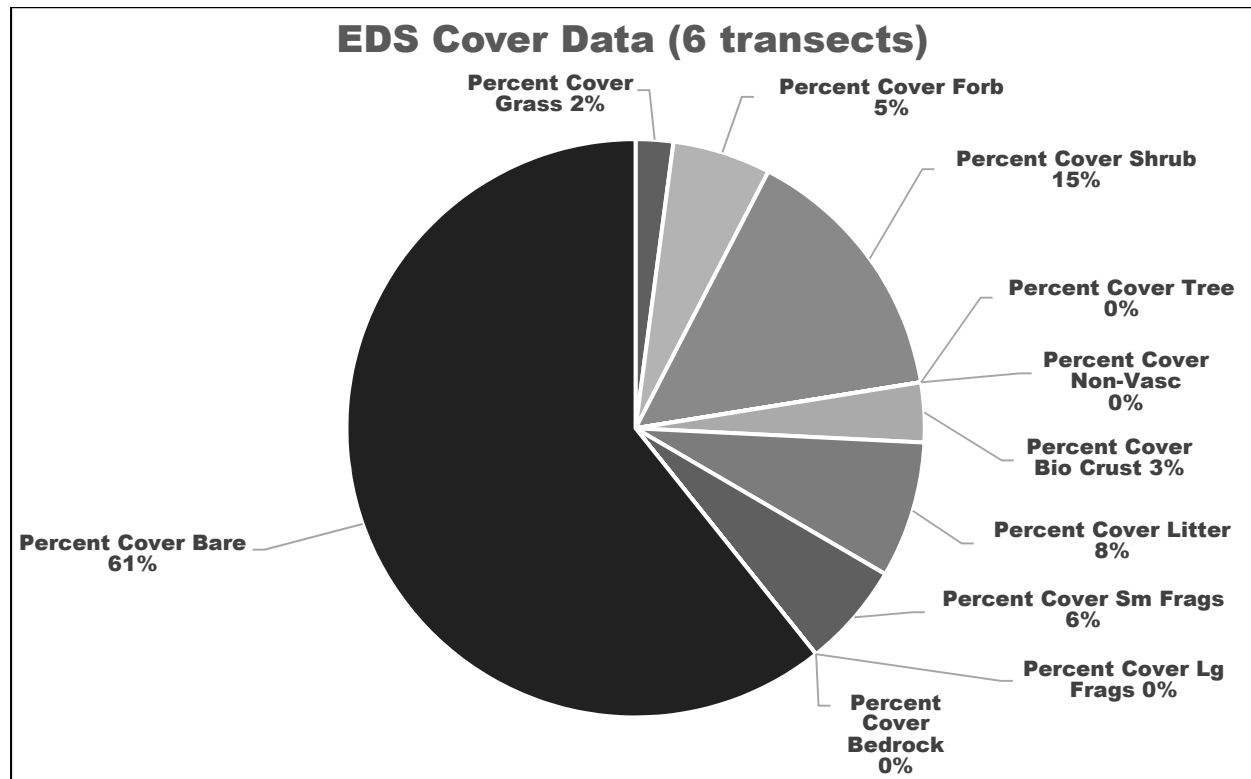
# EcoSite Identification No. R035XB235AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XB235AZ	34	Moffat-Sheppard complex, 1 to 6 percent slopes	6,719.8
<b>R035XB235AZ Total</b>			<b>6,719.8</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HCPC Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XB235AZ	Sandy Loam Upland 6-10	Forb	10.0	6	128.7	120%
		Grass/Grasslike	240.0		52.7	
		Shrub/Vine	150.0		17.2	
<b>R035XB235AZ Total:</b>			<b>400.0</b>		<b>198.5</b>	



## R035XB235AZ – ESD Species Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ABRFRA	<i>Abronia fragrans</i>	snowball sand verbena	2%	0.3
	ABRONIA	<i>Abronia</i>	sand verbena	<1%	<0.1
	AMAPAL	<i>Amaranthus palmeri</i>	carelessweed	2%	0.1
	AMBACA	<i>Ambrosia acanthicarpa</i>	flatspine bur ragweed	10%	2.3
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	12%	0.5
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	5%	0.6
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	7%	1.5
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	22%	2.7
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	12%	0.2
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	27%	28.1
	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	12%	1.8
	LINARI	<i>Linum aristatum</i>	bristle flax	5%	0.2
	PECANG	<i>Pectis angustifolia</i>	lemonscent	17%	17.0
	PHACELIA	<i>Phacelia</i>	phacelia	5%	0.3
	POROLE	<i>Portulaca oleracea</i>	little hogweed	2%	<0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	52%	71.8
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	2%	0.3
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	5%	0.2
	THESUB	<i>Thelesperma subnudum</i>	Navajo tea	2%	0.2
	TIQLAT	<i>Tiquilia latior</i>	matted crinklemat	2%	0.4
UNKANF	–	Unknown annual forb	8%	0.2	
Grass/Grasslike	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	15%	2.6
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	2%	0.2
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	17%	0.8
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	25%	21.1
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	2%	1.4
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	2%	0.1
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	32%	4.9
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	30%	19.0
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	2%	<0.1
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	5%	1.4
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	5%	0.6
	SPOFLE	<i>Sporobolus flexuosus</i>	mesa dropseed	3%	0.6

(Table Continues)

**R035XB235AZ – ESD Species Production Table (Continued)**

<b>Life Form</b>	<b>Species Code</b>	<b>Scientific Name</b>	<b>Common Name</b>	<b>Average Percent Frequency</b>	<b>Average Total Production (lbs/acre)</b>
<b>Shrub/Vine</b>	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	2%	0.4
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	2%	0.6
	CHRGRE	<i>Chrysothamnus Greenei</i>	Greene's rabbitbrush	3%	1.7
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	28%	10.8
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	5%	1.0
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	3%	1.3
	YUCBAC	<i>Yucca baccata</i>	banana yucca	2%	1.3



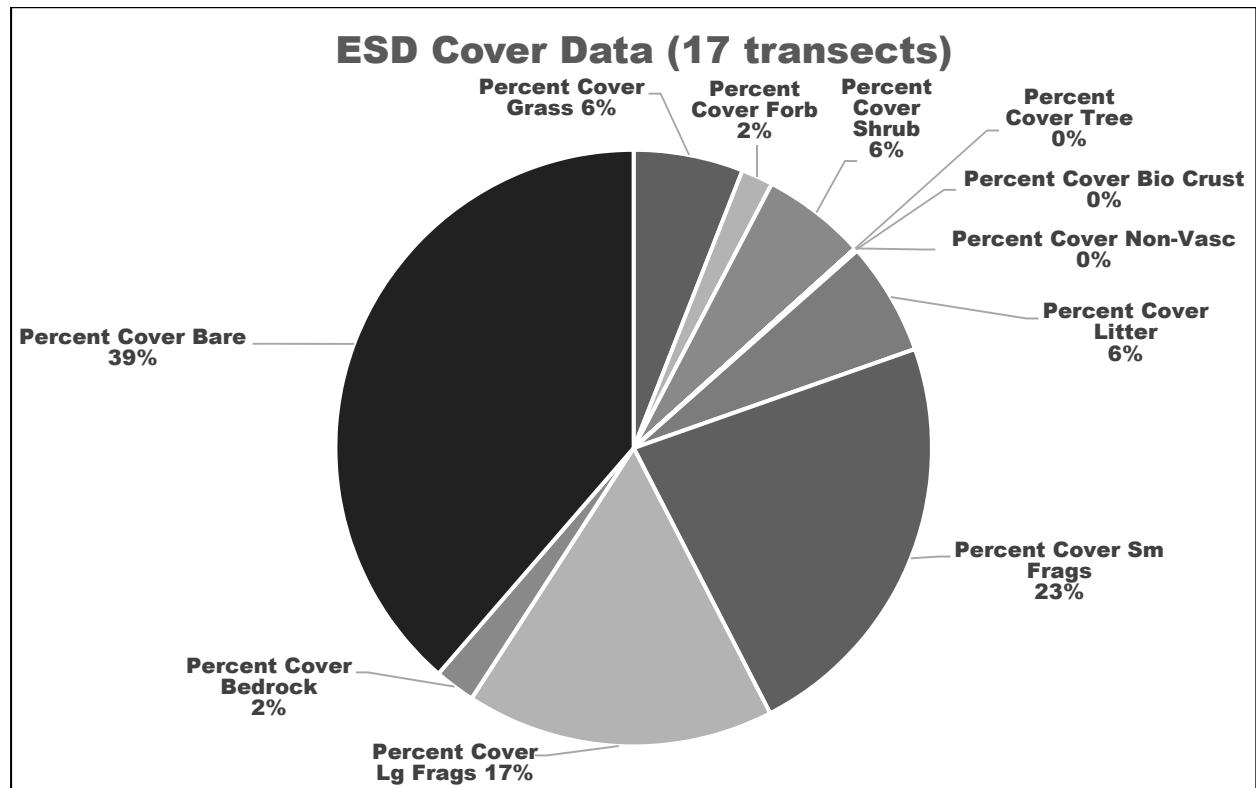
# EcoSite Identification No. R035XB236AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XB236AZ	37	Nepalto family-Tsaya-Rock outcrop complex, 35 to 70 percent slopes	33,270.8
<b>R035XB236AZ Total</b>			<b>33,270.8</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HCPC Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XB236AZ	Stony Slopes 6-10	Forb	10.0	17	20.5	38%
		Grass/Grasslike	80.0		56.7	
		Shrub/Vine	225.0		54.0	
		Tree	0.0		0.1	
<b>R035XB236AZ Total:</b>			<b>315.0</b>		<b>131.3</b>	



## R035XB236AZ – ESD Species Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	AMATOR	<i>Amaranthus torreyi</i>	Torrey's amaranthus	5%	0.8
	AREEAS	<i>Arenaria eastwoodiae</i>	Eastwood's sandwort	2%	0.7
	ASTFUC	<i>Astragalus fucatus</i>	Hopi milkvetch	1%	<0.1
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	3%	0.2
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	2%	0.7
	CHAFEN	<i>Chamaesyce fendleri</i>	Fendler's sandmat	1%	0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	24%	2.9
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	1%	<0.1
	DATURA	<i>Datura</i>	jimsonweed	1%	0.1
	ERIUMB	<i>Eriogonum umbellatum</i>	sulphur-flower buckwheat	2%	0.4
	ERIWET	<i>Eriogonum wetherillii</i>	Wetherill's buckwheat	1%	<0.1
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	1%	<0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	9%	4.0
	LINARI	<i>Linum aristatum</i>	bristle flax	2%	0.1
	OENOTHERA	<i>Oenothera</i>	evening primrose	1%	<0.1
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	1%	<0.1
	PECANG	<i>Pectis angustifolia</i>	lemonscent	4%	1.4
	PLAPAT	<i>Plantago patagonica</i>	woolly plantain	1%	0.1
	POROLE	<i>Portulaca oleracea</i>	little hogweed	1%	<0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	7%	4.6
	SCHPIN	<i>Schkuhria pinnata</i>	pinnate false threadleaf	1%	0.1
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	3%	1.1
	SPHLEP	<i>Sphaeralcea leptophylla</i>	scaly globemallow	1%	0.1
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	2%	0.3
	THEMEG	<i>Thelesperma megapotamicum</i>	Hopi tea greenthread	2%	0.3
	TIQLAT	<i>Tiquilia latior</i>	matted crinklemat	2%	1.1
	TOWNSENDIA	<i>Townsendia</i>	Townsend daisy	4%	0.5
	UNKANF	–	Unknown annual forb	12%	0.5
	UNKPEF	–	Unknown perennial forb	2%	0.2

(Table Continues)

## R035XB236AZ – ESD Species Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Grass/Grasslike	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	8%	2.3
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	2%	0.4
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	5%	2.3
	BOUCUR	<i>Bouteloua curtipendula</i>	sideoats grama	1%	0.1
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	10%	7.4
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	9%	8.2
	BROTEC	<i>Bromus tectorum</i>	cheatgrass	2%	0.1
	ENNDDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	6%	1.0
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	1%	0.7
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	13%	1.8
	MUHPOR	<i>Muhlenbergia porteri</i>	bush muhly	1%	0.5
	MUHPUN	<i>Muhlenbergia pungens</i>	sandhill muhly	1%	1.1
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	28%	20.7
	POAFEN	<i>Poa fendleriana</i>	muttongrass	1%	0.1
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	4%	2.6
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	9%	3.7
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	4%	0.6
	SPOFLE	<i>Sporobolus flexuosus</i>	mesa dropseed	1%	1.8
	UNKPEG	–	Unknown perennial grass	1%	1.2
	Shrub/Vine	ARTBIG	<i>Artemisia bigelovii</i>	Bigelow sage	1%
ARTTRI		<i>Artemisia tridentata</i>	big sagebrush	1%	1.4
ATRCAN		<i>Atriplex canescens</i>	fourwing saltbush	5%	4.2
ATRCAN		<i>Atriplex confertifolia</i>	shadscale saltbush	3%	2.8
ATROBO		<i>Atriplex obovata</i>	mound saltbush	4%	3.8
CHRGRE		<i>Chrysothamnus Greenei</i>	Greene's rabbitbrush	1%	<0.1
COLRAM		<i>Coleogyne ramosissima</i>	blackbrush	16%	8.6
CYLWHI		<i>Cylindropuntia whipplei</i>	Whipple cholla	1%	0.4
ECHINOCEREUS		<i>Echinocereus</i>	hedgehog cactus	1%	1.2
EPHCUT		<i>Ephedra cutleri</i>	Cutler's jointfir	5%	0.9
EPHTOR		<i>Ephedra torreyana</i>	Torrey's jointfir	2%	0.7
EPHVIR		<i>Ephedra viridis</i>	mormon tea	7%	21.9
ERICOR		<i>Eriogonum corymbosum</i>	crispleaf buckwheat	1%	0.6
ERILEP		<i>Eriogonum leptophyllum</i>	slenderleaf buckwheat	1%	1.0
FALPAR		<i>Fallugia paradoxa</i>	Apache plume	1%	0.1

(Table Continues)



**R035XB236AZ – ESD Species Production Table (Continued)**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Shrub/Vine</b>	FEROACTUS	<i>Ferocactus</i>	barrel cactus	<1%	0.1
<b>(Continued)</b>	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	1%	0.7
	LYCAND	<i>Lycium andersonii</i>	water jacket	1%	0.3
	OPUNTIA	<i>Opuntia</i>	pricklypear	<1%	0.1
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	1%	<0.1
	OPUPOL	<i>Opuntia polyacantha</i>	plains pricklypear	2%	1.0
	PARFIL	<i>Parryella filifolia</i>	common dunebroom	3%	2.2
	POLINC	<i>Poliomintha incana</i>	frosted mint	1%	0.3
	PURTRI	<i>Purshia tridentata</i>	antelope bitterbrush	1%	0.3
<b>Tree</b>	JUNOST	<i>Juniperus osteosperma</i>	Utah juniper	1%	0.1

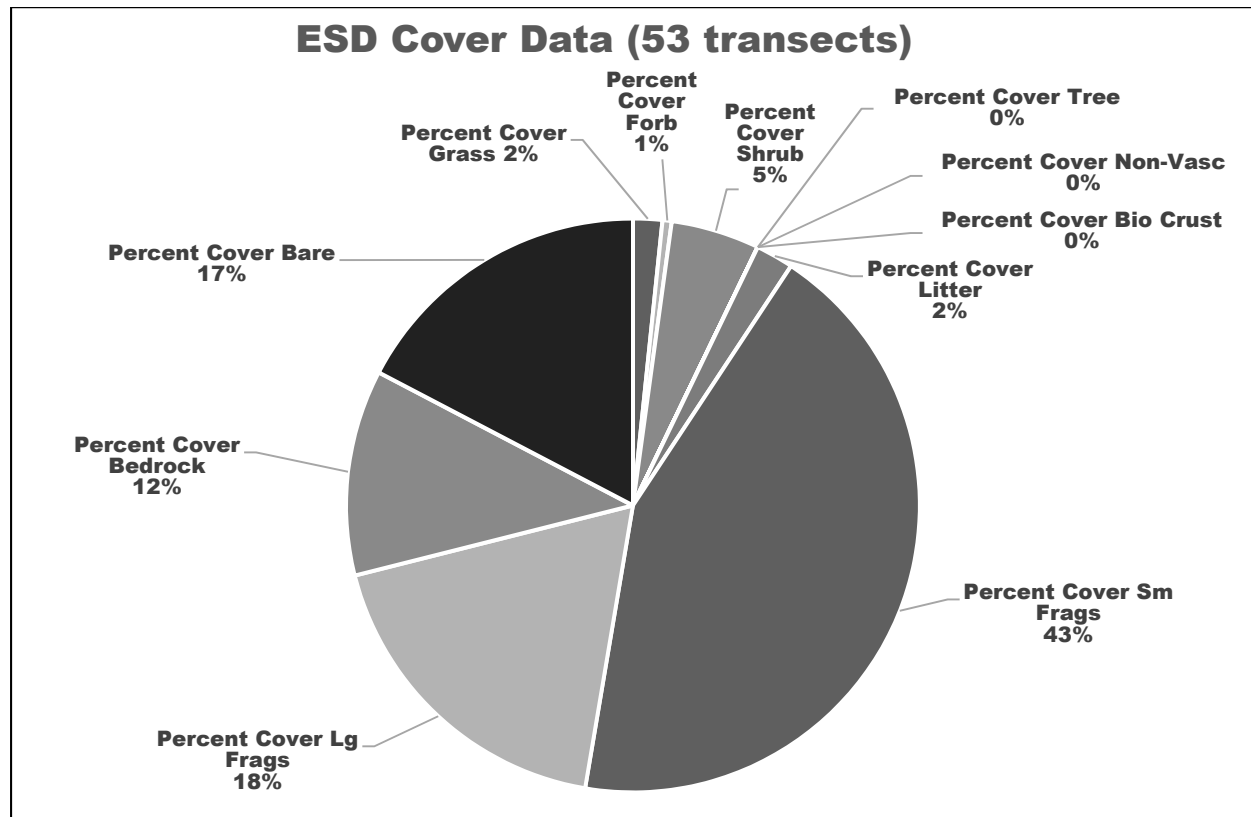
# EcoSite Identification No. R035XB251AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XB251AZ	54	Shinume-Leupp-Rock outcrop complex, 4 to 35 percent slopes	65,704.6
<b>R035XB251AZ Total</b>			<b>65,704.6</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HCPC Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XB251AZ	Mudstone/Sandstone Hills 6-10	Forb	10.0	53	10.5	39%
		Grass/Grasslike	5.0		17.3	
		Shrub/Vine	135.0		43.4	
		Tree	0.0		0.0	
<b>R035XB251AZ Total:</b>			<b>150.0</b>		<b>71.2</b>	



## R035XB251AZ – ESD Species Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	AMAPAL	<i>Amaranthus palmeri</i>	carelessweed	1%	0.2
	AMARANTHUS	<i>Amaranthus</i>	pigweed	<1%	0.1
	ARENARIA	<i>Arenaria</i>	sandwort	<1%	<0.1
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	1%	<0.1
	BOERHAVIA	<i>Boerhavia</i>	spiderling	1%	0.3
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	2%	0.2
	CHAETOPAPPA	<i>Chaetopappa</i>	leastdaisy	1%	0.1
	CHAFEN	<i>Chamaesyce fendleri</i>	Fendler's sandmat	<1%	<0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	11%	0.9
	CRYCON	<i>Cryptantha confertiflora</i>	basin yellow cryptantha	1%	0.1
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	<1%	<0.1
	ERICER	<i>Eriogonum cernuum</i>	nodding buckwheat	1%	0.1
	ERIINF	<i>Eriogonum inflatum</i>	desert trumpet	2%	0.2
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	1%	0.1
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	1%	<0.1
	EUPHORBIA	<i>Euphorbia</i>	spurge	<1%	<0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	5%	2.1
	HYMFIL	<i>Hymenopappus filifolius</i>	fineleaf hymenopappus	<1%	<0.1
	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	<1%	0.6
	MENSPI	<i>Mentha spicata</i>	spearmint	1%	1.1
	MENTZELIA	<i>Mentzelia</i>	blazingstar	<1%	<0.1
	MIRABILIS	<i>Mirabilis</i>	four o'clock	<1%	<0.1
	MIRLIN	<i>Mirabilis linearis</i>	narrowleaf four o'clock	<1%	1.4
	MIROXY	<i>Mirabilis oxybaphoides</i>	smooth spreading four o'clock	<1%	0.1
	MOLCER	<i>Mollugo cerviana</i>	threadstem carpetweed	<1%	<0.1
	NAMDIC	<i>Nama dichotomum</i>	wishbone fiddleleaf	<1%	<0.1
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	2%	0.3
	PHAINT	<i>Phacelia integrifolia</i>	gypsum phacelia	1%	<0.1
	PHYSARIA	<i>Physaria</i>	twinpod	<1%	<0.1
	PLAPAT	<i>Plantago patagonica</i>	woolly plantain	<1%	<0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	1%	0.3
	SOLELA	<i>Solanum elaeagnifolium</i>	silverleaf nightshade	<1%	<0.1
	SOPNUT	<i>Sophora nuttalliana</i>	silky sophora	<1%	<0.1
	SPHAERALCEA	<i>Sphaeralcea</i>	globemallow	<1%	0.1
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	2%	0.3

(Table Continues)

## R035XB251AZ – ESD Species Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b> (Continued)	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	3%	0.6
	STAPIN	<i>Stanleya pinnata</i>	desert princesplume	1%	0.2
	TETCOU	<i>Tetradlea coulteri</i>	Coulter's wrinklefruit	<1%	0.1
	THYACE	<i>Thymophylla acerosa</i>	pricklyleaf dogweed	2%	0.4
	THYPEN	<i>Thymophylla pentachaeta</i>	fiveneedle pricklyleaf	<1%	<0.1
	UNKANF	–	Unknown annual forb	1%	0.1
	ZINGRA	<i>Zinnia grandiflora</i>	Rocky Mountain zinnia	1%	0.4
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	2%	0.8
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	1%	0.3
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	1%	0.2
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	3%	1.4
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	<1%	<0.1
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	2%	0.8
	ENNDDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	<1%	<0.1
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	<1%	0.5
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	1%	0.1
	MUHPOR	<i>Muhlenbergia porteri</i>	bush muhly	<1%	0.1
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	13%	12.2
	SCHPAN	<i>Schedonnardus paniculatus</i>	tumblegrass	<1%	0.1
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	<1%	0.2
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	<1%	0.4
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	1%	0.1
	SPOFLE	<i>Sporobolus flexuosus</i>	mesa dropseed	<1%	<0.1
<b>Shrub/Vine</b>	ALHMAU	<i>Alhagi maurorum</i>	camelthorn	<1%	<0.1
	ARTBIG	<i>Artemisia bigelovii</i>	Bigelow sage	3%	3.5
	ARTTRI	<i>Artemisia tridentata</i>	big sagebrush	1%	1.9
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	3%	1.7
	ATRCON	<i>Atriplex confertifolia</i>	shadscale saltbush	2%	0.3
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	<1%	0.2
	BACWRI	<i>Baccharis wrightii</i>	Wright's baccharis	<1%	0.1
	BRICKELLIA	<i>Brickellia</i>	brickellbush	<1%	<0.1
	BRIOBL	<i>Brickellia oblongifolia</i>	Mojave brickellbush	<1%	<0.1
	CHRGRE	<i>Chrysothamnus greenei</i>	Greene's rabbitbrush	<1%	0.1
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	18%	19.2
	ECHTRI	<i>Echinocereus triglochidiatus</i>	kingcup cactus	<1%	0.2

(Table Continues)

**R035XB251AZ – ESD Species Production Table (Continued)**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Shrub/Vine	ENCFRU	<i>Encelia frutescens</i>	button brittlebush	1%	1.1
(Continued)	EPHCUT	<i>Ephedra cutleri</i>	Cutler's jointfir	1%	0.9
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	5%	4.1
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	3%	4.0
	ERICOR	<i>Eriogonum corymbosum</i>	crispleaf buckwheat	<1%	<0.1
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	<1%	1.7
	FALPAR	<i>Fallugia paradoxa</i>	Apache plume	<1%	0.1
	FEROCACTUS	<i>Ferocactus</i>	barrel cactus	<1%	<0.1
	LYCAND	<i>Lycium andersonii</i>	water jacket	<1%	0.3
	LYCPAL	<i>Lycium pallidum</i>	pale desert-thorn	1%	0.2
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	<1%	0.2
	PURTRI	<i>Purshia tridentata</i>	antelope bitterbrush	1%	1.5
	RHUS	<i>Rhus</i>	sumac	<1%	<0.1
	RHUTRI	<i>Rhus trilobata</i>	skunkbush sumac	2%	1.1
	SARVER	<i>Sarcobatus vermiculatus</i>	greasewood	2%	0.8
	YUCBAC	<i>Yucca baccata</i>	banana yucca	<1%	<0.1

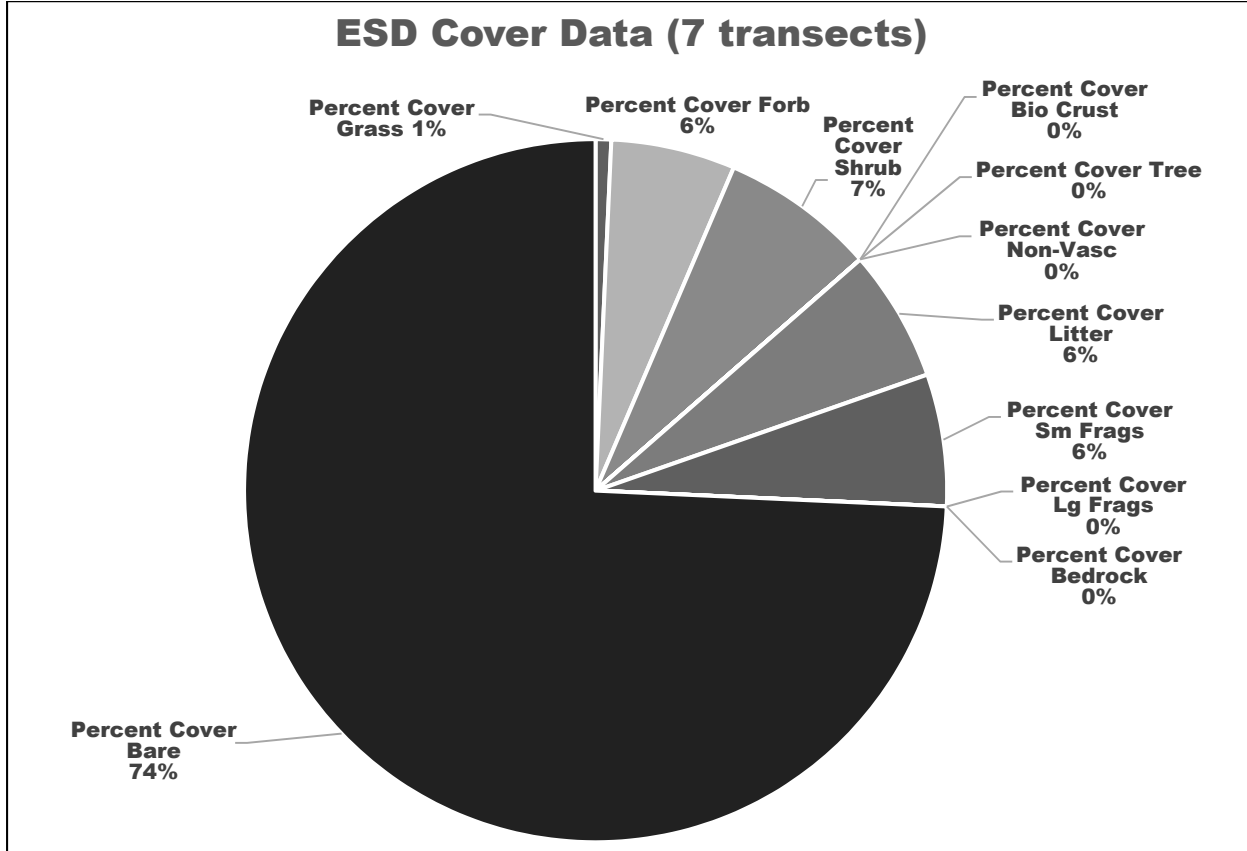
# EcoSite Identification No. R035XB269AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XB269AZ	18	Ives-Riverwash association, 0 to 2 percent slopes	10,095.8
<b>R035XB269AZ Total</b>			<b>10,095.8</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HCPC Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XB269AZ	Loamy Bottom 6-10	Forb	45.0	7	28.8	11%
		Grass/Grasslike	675.0		17.7	
		Shrub/Vine	675.0		44.2	
		Tree	113.0		68.8	
<b>R035XB269AZ Total:</b>			<b>1,508.0</b>		<b>159.6</b>	



## R035XB269AZ – ESD Species Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	AMAPAL	<i>Amaranthus palmeri</i>	carelessweed	6%	0.5
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	1%	0.1
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	4%	0.3
	CHAPAR	<i>Chamaesyce parryi</i>	Parry's sandmat	3%	0.3
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	29%	1.6
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	1%	0.1
	ERIDIV	<i>Erigeron divergens</i>	spreading fleabane	1%	0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	3%	1.0
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	3%	0.2
	POROLE	<i>Portulaca oleracea</i>	little hogweed	3%	0.2
	PORPIL	<i>Portulaca pilosa</i>	kiss me quick	1%	0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	33%	23.9
	SCHPIN	<i>Schkuhria pinnata</i>	pinnate false threadleaf	3%	0.1
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	7%	0.6
	UNKANF	–	Unknown annual forb	1%	<0.1
Grass/Grasslike	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	3%	0.8
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	24%	10.7
	ENNDDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	1%	0.1
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	1%	0.2
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	4%	2.5
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	4%	0.5
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	1%	0.4
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	7%	2.2
	SPOGIG	<i>Sporobolus giganteus</i>	giant dropseed	3%	0.2
Shrub/Vine	ALHMAU	<i>Alhagi maurorum</i>	camelthorn	10%	13.4
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	3%	2.9
	ATRCON	<i>Atriplex confertifolia</i>	shadscale saltbush	3%	0.3
	BRICAL	<i>Brickellia californica</i>	California brickellbush	3%	0.6
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	6%	12.2
	POLINC	<i>Poliomintha incana</i>	frosted mint	1%	1.5
	SARVER	<i>Sarcobatus vermiculatus</i>	greasewood	10%	13.2
Tree	TAMCHI	<i>Tamarix chinensis</i>	five-stamen tamarisk	1%	0.3
	TAMRAM	<i>Tamarix ramosissima</i>	saltcedar	1%	68.6

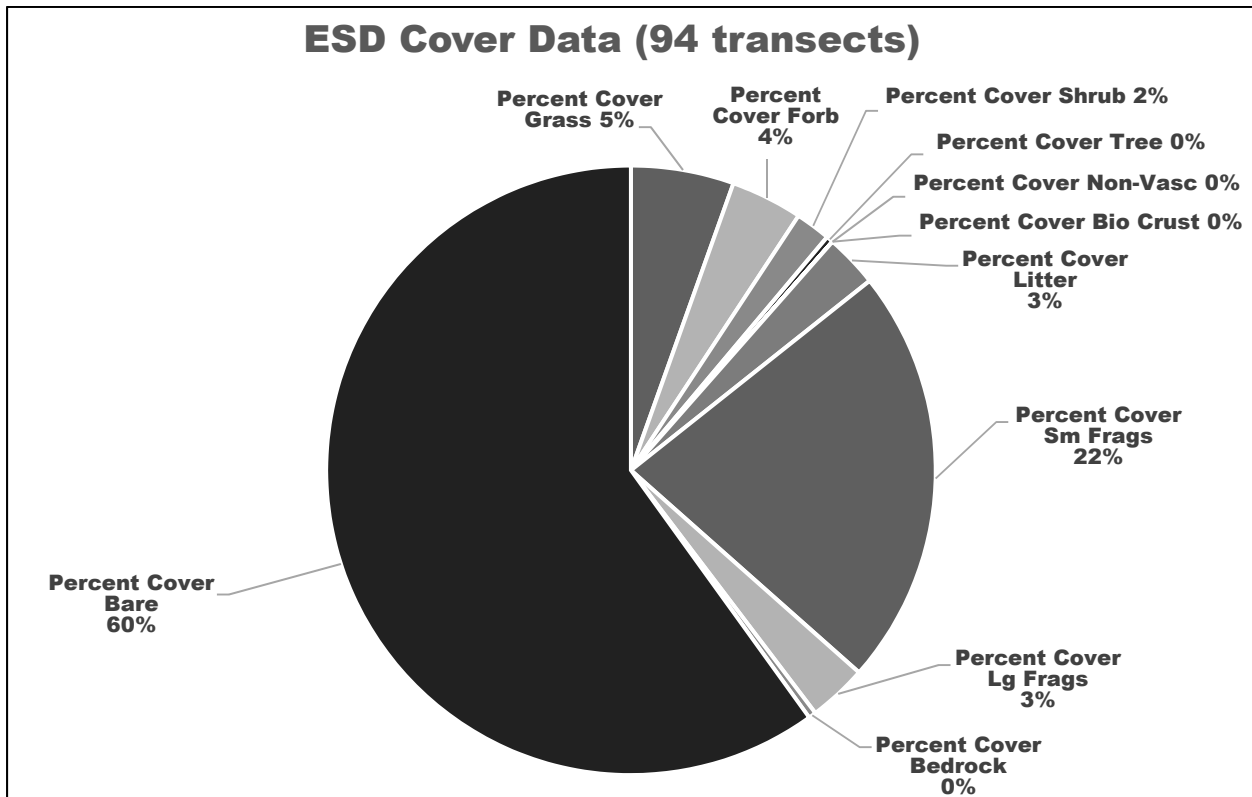
# EcoSite Identification No. R035XB283AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XB283AZ	38	Persayo-Hanksville complex, 4 to 60 percent slopes	36,883.0
	6	Claysprings-Huerfano-Tuba complex, 2 to 15 percent slopes	78,391.0
<b>R035XB283AZ Total</b>			<b>115,274.1</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HPCP Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XB283AZ	Mudstone Slopes 6-10	Forb	5.0	94	26.2	89%
		Grass/Grasslike	10.0		37.2	
		Shrub/Vine	15.0		11.6	
		Tree	0.0		23.5	
<b>R035XB283AZ Total:</b>			<b>30.0</b>		<b>98.4</b>	





## R035XB283AZ – ESD Species Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ALLIUM	<i>Allium</i>	onion	<1%	<0.1
	ALLMAC	<i>Allium macropetalum</i>	largeflower onion	<1%	<0.1
	AMBACA	<i>Ambrosia acanthicarpa</i>	flatspine bur ragweed	<1%	0.2
	ASCLEPIAS	<i>Asclepias</i>	milkweed	<1%	0.1
	ASTCAL	<i>Astragalus calycosus</i>	Torrey's milkvetch	1%	<0.1
	ASTFUC	<i>Astragalus fucatus</i>	Hopi milkvetch	<1%	0.1
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	1%	0.1
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	1%	<0.1
	ATRSAC	<i>Atriplex saccaria</i>	sack saltbush	<1%	<0.1
	CHACOR	<i>Chamaesaracha coronopus</i>	greenleaf five eyes	<1%	<0.1
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	<1%	<0.1
	CHAMAESYCE	<i>Chamaesyce</i>	sandmat	4%	0.1
	CHAMIC	<i>Chamaesyce micromera</i>	Sonoran sandmat	1%	0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	15%	2.4
	CRYCIN	<i>Cryptantha cinerea</i>	James' cryptantha	<1%	<0.1
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	<1%	<0.1
	DATURA	<i>Datura</i>	jimsonweed	<1%	<0.1
	ERICER	<i>Eriogonum cernuum</i>	nodding buckwheat	1%	<0.1
	ERIDIV	<i>Erigeron divergens</i>	spreading fleabane	1%	0.2
	ERIGERON	<i>Erigeron</i>	fleabane	<1%	<0.1
	ERIINF	<i>Eriogonum inflatum</i>	desert trumpet	<1%	<0.1
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	1%	0.1
	ERIVIR	<i>Eriogonum viridulum</i>	clay hill buckwheat	<1%	<0.1
	EUPHORBIA	<i>Euphorbia</i>	spurge	1%	<0.1
	EVOSEER	<i>Evolvulus sericeus</i>	silver dwarf morning-glory	<1%	<0.1
	GILIA	<i>Gilia</i>	gilia	<1%	<0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	1%	0.2
	HOFDRE	<i>Hoffmannseggia drepanocarpa</i>	sicklepod holdback	<1%	<0.1
	MENALB	<i>Mentzelia albicaulis</i>	whitestem blazingstar	1%	0.4
	MENMUL	<i>Mentzelia multiflora</i>	Adonis blazingstar	<1%	0.2
	NAMDIC	<i>Nama dichotomum</i>	wishbone fiddleleaf	<1%	<0.1
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	1%	0.2
	PECANG	<i>Pectis angustifolia</i>	lemonscent	8%	0.6
	PENANG	<i>Penstemon angustifolius</i>	broadbeard beardtongue	<1%	<0.1
	PHACELIA	<i>Phacelia</i>	phacelia	1%	<0.1

(Table Continues)

## R035XB283AZ – ESD Species Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	PHACRE	<i>Phacelia crenulata</i>	cleftleaf wildheliotrope	<1%	<0.1
<b>(Continued)</b>	PHAINT	<i>Phacelia integrifolia</i>	gypsum phacelia	1%	<0.1
	PHYSARIA	<i>Physaria</i>	twinpod	<1%	<0.1
	POROLE	<i>Portulaca oleracea</i>	little hogweed	1%	0.1
	PORTULACA	<i>Portulaca</i>	purslane	<1%	<0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	25%	18.9
	SCHPIN	<i>Schkuhria pinnata</i>	pinnate false threadleaf	<1%	<0.1
	SOPNUT	<i>Sophora nuttalliana</i>	silky sophora	<1%	<0.1
	SPHAERALCEA	<i>Sphaeralcea</i>	globemallow	<1%	<0.1
	SPHCOC	<i>Sphaeralcea coccinea</i>	scarlet globemallow	<1%	0.1
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	1%	0.1
	SPHHAS	<i>Sphaeralcea hastulata</i>	spear globemallow	3%	0.5
	SPHLEP	<i>Sphaeralcea leptophylla</i>	scaly globemallow	<1%	<0.1
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	2%	0.3
	SUAMOQ	<i>Suaeda moquinii</i>	Mojave seablite	<1%	<0.1
	TIQLAT	<i>Tiquilia latior</i>	matted crinklemat	2%	0.5
	UNKANF	–	Unknown annual forb	3%	0.3
	UNKPEF	–	Unknown perennial forb	1%	0.1
	ZINGRA	<i>Zinnia grandiflora</i>	Rocky Mountain zinnia	<1%	<0.1
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	4%	1.1
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	19%	2.4
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	1%	0.3
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	2%	0.9
	ENNDDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	<1%	<0.1
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	3%	0.5
	MUHPUN	<i>Muhlenbergia pungens</i>	sandhill muhly	<1%	<0.1
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	15%	11.3
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	11%	15.5
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	5%	2.1
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	2%	0.2
	SPOFLE	<i>Sporobolus flexuosus</i>	mesa dropseed	<1%	<0.1
	SPOGIG	<i>Sporobolus giganteus</i>	giant dropseed	2%	2.8
	UNKPEG	–	Unknown perennial grass	<1%	<0.1

(Table Continues)

**R035XB283AZ – ESD Species Production Table (Continued)**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Shrub/Vine	ALHMAU	<i>Alhagi maurorum</i>	camelthorn	4%	1.5
	ARTFIL	<i>Artemisia filifolia</i>	sand sagebrush	<1%	0.1
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	1%	2.1
	ATRCAN	<i>Atriplex confertifolia</i>	shadscale saltbush	2%	0.5
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	5%	1.6
	BRICAL	<i>Brickellia californica</i>	California brickellbush	<1%	0.1
	BRICKELLIA	<i>Brickellia</i>	brickellbush	<1%	0.1
	CHRGRE	<i>Chrysothamnus Greenei</i>	Greene's rabbitbrush	<1%	<0.1
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	<1%	<0.1
	ENCFRU	<i>Encelia frutescens</i>	button brittlebush	<1%	0.2
	EPHCUT	<i>Ephedra cutleri</i>	Cutler's jointfir	<1%	<0.1
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	2%	1.5
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	<1%	<0.1
	ERICOR	<i>Eriogonum corymbosum</i>	crispleaf buckwheat	<1%	0.1
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	2%	3.4
	FALPAR	<i>Fallugia paradoxa</i>	Apache plume	<1%	<0.1
	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	<1%	<0.1
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	<1%	0.1
	POLINC	<i>Poliomintha incana</i>	frosted mint	<1%	0.1
	UNKSHR	–	Unknown shrub	<1%	0.1
YUCANG	<i>Yucca angustissima</i>	narrowleaf yucca	<1%	<0.1	
YUCBAI	<i>Yucca baileyi</i>	Navajo yucca	<1%	<0.1	
<b>Tree</b>	TAMRAM	<i>Tamarix ramosissima</i>	saltcedar	1%	23.5

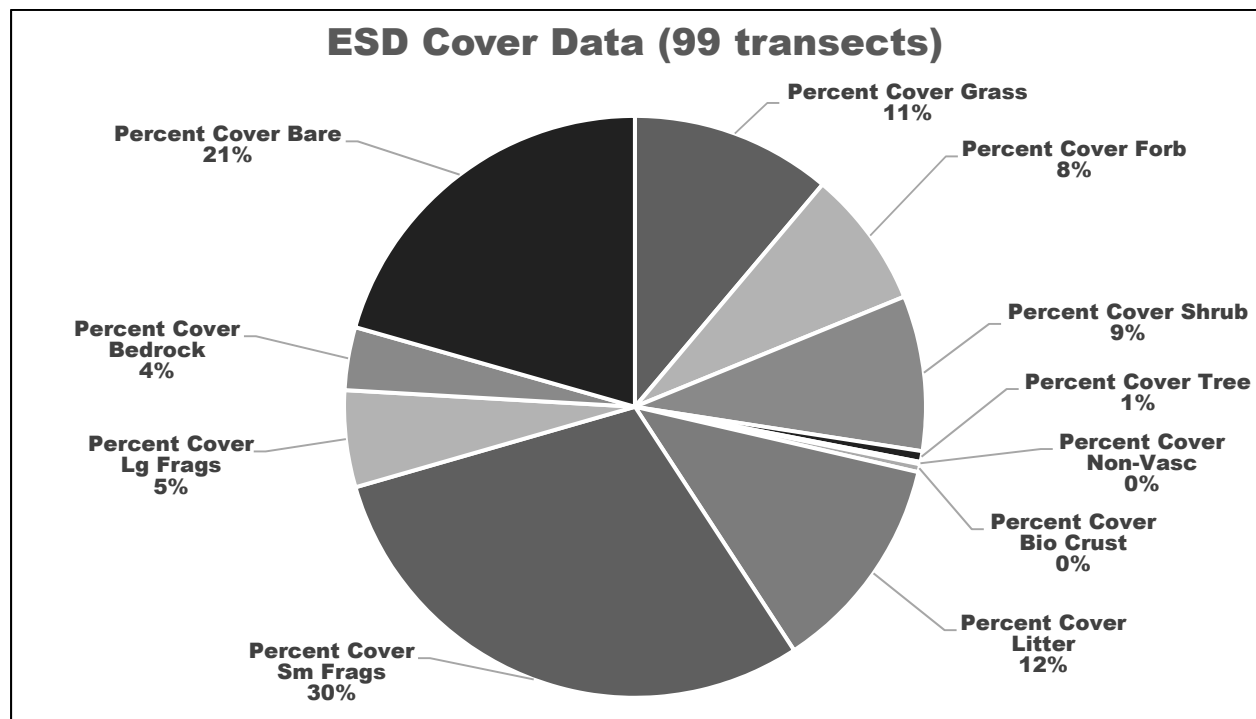
# EcoSite Identification No. R035XC308AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XC308AZ	29	Meriwhitica-Wayneco-Tassi family, complex, 5 to 30 percent slopes	109,527.4
	40	Puertecito very cobbly loam, 15 to 35 percent slopes	4,019.6
	43	Reef-Rock outcrop complex, 4 to 35 percent slopes	7,720.5
	60	Tassi gravelly loamy very fine sand, 0 to 3 percent slopes	0.0
	81	Meriwhitica-Tassi complex, 0 to 33 percent slopes	1.3
	98	Puertecito family, 15 to 35 percent slopes	13.8
<b>R035XC308AZ Total</b>			<b>121,282.5</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HCPC Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XC308AZ	Limestone/Sandstone Hills 10-14	Forb	15.0	99	67.9	29%
		Grass/Grasslike	400.0		86.5	
		Shrub/Vine	200.0		75.6	
		Tree	0.0		6.0	
<b>R035XC308AZ Total:</b>			<b>615.0</b>		<b>236.0</b>	



## R035XC308AZ – ESD Species Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	AGEHER	<i>Ageratina herbacea</i>	fragrant snakeroot	<1%	<0.1
	AMAPAL	<i>Amaranthus palmeri</i>	carelessweed	5%	3.0
	AMARET	<i>Amaranthus retroflexus</i>	redroot amaranth	<1%	<0.1
	AMATOR	<i>Amaranthus torreyi</i>	Torrey's amaranthus	4%	0.5
	AMBACA	<i>Ambrosia acanthicarpa</i>	flatspine bur ragweed	<1%	<0.1
	AREEAS	<i>Arenaria eastwoodiae</i>	Eastwood's sandwort	<1%	<0.1
	ARTDRA	<i>Artemisia dracunculus</i>	tarragon	<1%	<0.1
	ARTLUD	<i>Artemisia ludoviciana</i>	white sagebrush	<1%	0.1
	ASTCAL	<i>Astragalus calycosus</i>	Torrey's milkvetch	6%	1.1
	ASTLEN	<i>Astragalus lentiginosus</i>	freckled milkvetch	<1%	0.1
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	15%	1.5
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	2%	0.2
	BERBERIS	<i>Berberis</i>	barberry	<1%	<0.1
	CASTILLEJA	<i>Castilleja</i>	Indian paintbrush	<1%	<0.1
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	10%	3.8
	CHAFEN	<i>Chamaesyce fendleri</i>	Fendler's sandmat	<1%	<0.1
	CHAREV	<i>Chamaesyce revoluta</i>	threadstem sandmat	1%	0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	27%	3.5
	CHEINC	<i>Chenopodium incanum</i>	mealy goosefoot	<1%	<0.1
	CHENOPODIUM	<i>Chenopodium</i>	goosefoot	1%	<0.1
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	1%	0.1
	DESCURAINIA	<i>Descurainia</i>	tansymustard	<1%	<0.1
	DESPIN	<i>Descurainia pinnata</i>	western tansymustard	2%	0.2
	DRABA	<i>Draba</i>	draba	<1%	<0.1
	DYSCHORISTE	<i>Dyschoriste</i>	snakeherb	2%	0.1
	DYSPAP	<i>Dyssodia papposa</i>	fetid marigold	1%	0.1
	ERICER	<i>Eriogonum cernuum</i>	nodding buckwheat	1%	0.3
	ERIINF	<i>Eriogonum inflatum</i>	desert trumpet	<1%	<0.1
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	<1%	0.1
	ERIPUM	<i>Erigeron pumilus</i>	shaggy fleabane	1%	0.1
	ERISIM	<i>Erigeron simplex</i>	onestem fleabane	1%	0.1
	ERIUMB	<i>Eriogonum umbellatum</i>	sulphur-flower buckwheat	<1%	<0.1
	ERIWRI	<i>Eriogonum wrightii</i>	bastardsage	<1%	0.3
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	19%	1.1
	EUPEXS	<i>Euphorbia exstipulata</i>	squareseed spurge	1%	0.1

(Table Continues)

## R035XC308AZ – ESD Species Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	53%	29.3
(Continued)	HETVIL	<i>Heterotheca villosa</i>	hairy false goldenaster	<1%	<0.1
	HOFDRE	<i>Hoffmannseggia drepanocarpa</i>	sicklepod holdback	<1%	<0.1
	HYMFIL	<i>Hymenopappus filifolius</i>	fineleaf hymenopappus	1%	<0.1
	HYMFLA	<i>Hymenopappus flavescens</i>	collegeflower	1%	0.2
	IPOMUL	<i>Ipomopsis multiflora</i>	manyflowered ipomopsis	<1%	<0.1
	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	2%	0.2
	LAPOCC	<i>Lappula occidentalis</i>	flatspine stickseed	1%	<0.1
	LEPIDIUM	<i>Lepidium</i>	pepperweed	<1%	<0.1
	LUPINUS	<i>Lupinus</i>	lupine	<1%	<0.1
	MACCAN	<i>Machaeranthera canescens</i>	hoary tansyaster	<1%	0.1
	MIRLIN	<i>Mirabilis linearis</i>	narrowleaf four o'clock	<1%	<0.1
	NAMDIC	<i>Nama dichotomum</i>	wishbone fiddleleaf	5%	0.5
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	<1%	<0.1
	PECANG	<i>Pectis angustifolia</i>	lemonscent	<1%	0.1
	PENCAE	<i>Penstemon caespitosus</i>	mat penstemon	<1%	<0.1
	PENSTEMON	<i>Penstemon</i>	beardtongue	<1%	<0.1
	PETCAE	<i>Petrophytum caespitosum</i>	mat rockspirea	<1%	0.4
	PHACELIA	<i>Phacelia</i>	phacelia	3%	0.4
	PHAINT	<i>Phacelia integrifolia</i>	gypsum phacelia	2%	0.1
	PHLAUS	<i>Phlox austromontana</i>	mountain phlox	<1%	<0.1
	PHLLON	<i>Phlox longifolia</i>	longleaf phlox	<1%	0.1
	PHYKIN	<i>Physaria kingii</i>	King twinpod	1%	0.2
	PHYSARIA	<i>Physaria</i>	twinpod	<1%	<0.1
	PLAPAT	<i>Plantago patagonica</i>	woolly plantain	3%	0.1
	PORHAL	<i>Portulaca halimoides</i>	silkcotton purslane	<1%	<0.1
	POROLE	<i>Portulaca oleracea</i>	little hogweed	4%	2.5
	PORPIL	<i>Portulaca pilosa</i>	kiss me quick	1%	0.1
	PORTULACA	<i>Portulaca</i>	purslane	<1%	<0.1
	PSISPA	<i>Psilostrophe sparsiflora</i>	greenstem paperflower	1%	0.2
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	22%	6.7
	SANABE	<i>Sanvitalia abertii</i>	Abert's creeping zinnia	24%	3.9
	SCHMUL	<i>Schkuhria multiflora</i>	manyflower false threadleaf	<1%	<0.1
	SCHPIN	<i>Schkuhria pinnata</i>	pinnate false threadleaf	1%	0.2
	SPHAMB	<i>Sphaeralcea ambigua</i>	desert globemallow	2%	0.5

(Table Continues)

## R035XC308AZ – ESD Species Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	1%	0.2
(Continued)	SPHHAS	<i>Sphaeralcea hastulata</i>	spear globemallow	1%	0.1
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	16%	4.1
	TETACA	<i>Tetraneuris acaulis</i>	stemless four-nerve daisy	3%	0.4
	THESUB	<i>Thelesperma subnudum</i>	Navajo tea	<1%	<0.1
	TIQLAT	<i>Tiquilia latior</i>	matted crinklemat	<1%	<0.1
	UNKANF	–	Unknown annual forb	2%	0.2
	UNKPEF	–	Unknown perennial forb	<1%	<0.1
	VERENC	<i>Verbesina encelioides</i>	golden crownbeard	<1%	<0.1
	ZINGRA	<i>Zinnia grandiflora</i>	Rocky Mountain zinnia	1%	0.1
Grass/Grasslike	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	5%	2.3
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	<1%	0.2
	ARISTIDA	<i>Aristida</i>	threeawn	<1%	0.1
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	6%	0.9
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	3%	2.4
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	49%	48.0
	BROTEC	<i>Bromus tectorum</i>	cheatgrass	3%	0.4
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	1%	0.2
	ELYELY	<i>Elymus elymoides</i>	squirreltail	4%	1.5
	ENNDDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	10%	2.2
	ERAMEX	<i>Eragrostis mexicana</i>	Mexican lovegrass	<1%	<0.1
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	6%	2.2
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	17%	3.5
	MUHDEP	<i>Muhlenbergia depauperata</i>	sixweeks muhly	1%	0.1
	MUHPOR	<i>Muhlenbergia porteri</i>	bush muhly	<1%	0.2
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	10%	8.0
	PLEMUT	<i>Pleuraphis mutica</i>	tobosagrass	<1%	0.1
	POAFEN	<i>Poa fendleriana</i>	muttongrass	1%	0.4
	POASEC	<i>Poa secunda</i>	Sandberg bluegrass	<1%	0.1
	SCLBRE	<i>Scleropogon brevifolius</i>	burrograss	1%	0.3
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	7%	5.0
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	21%	8.4
	SPOFLE	<i>Sporobolus flexuosus</i>	mesa dropseed	<1%	0.1
	VULOCT	<i>Vulpia octoflora</i>	sixweeks fescue	<1%	<0.1

(Table Continues)

## R035XC308AZ – ESD Species Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Shrub/Vine	AGAUTA	<i>Agave utahensis</i>	Utah agave	<1%	0.5
	ARTBIG	<i>Artemisia bigelovii</i>	Bigelow sage	2%	1.7
	ARTNOV	<i>Artemisia nova</i>	black sagebrush	<1%	0.1
	ARTTRI	<i>Artemisia tridentata</i>	big sagebrush	13%	22.1
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	25%	19.7
	BRICAL	<i>Brickellia californica</i>	California brickellbush	<1%	<0.1
	BRIFEN	<i>Brickelliastrum fendleri</i>	Fendler's brickellbush	<1%	<0.1
	BRIOBL	<i>Brickellia oblongifolia</i>	Mojave brickellbush	<1%	0.1
	CHAMIL	<i>Chamaebatiaria millefolium</i>	desert sweet	<1%	<0.1
	CHRDEP	<i>Chrysothamnus depressus</i>	longflower rabbitbrush	<1%	0.3
	CHRGRE	<i>Chrysothamnus greenei</i>	Greene's rabbitbrush	4%	6.8
	CHRVIS	<i>Chrysothamnus viscidiflorus</i>	yellow rabbitbrush	1%	1.7
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	2%	1.7
	CYLWHI	<i>Cylindropuntia whipplei</i>	Whipple cholla	1%	1.3
	EPHCUT	<i>Ephedra cutleri</i>	Cutler's jointfir	<1%	0.3
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	<1%	0.1
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	2%	2.2
	ERICON	<i>Eriophyllum confertiflorum</i>	golden-yarrow	2%	0.2
	ERIMIC	<i>Eriogonum microthecum</i>	slender buckwheat	1%	0.2
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	<1%	0.4
	ESCVIV	<i>Escobaria vivipara</i>	spinystar	<1%	<0.1
	FALPAR	<i>Fallugia paradoxa</i>	Apache plume	<1%	0.5
	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	18%	10.4
	LYCAND	<i>Lycium andersonii</i>	water jacket	<1%	0.4
	LYCPAL	<i>Lycium pallidum</i>	pale desert-thorn	<1%	0.2
	MAHHAE	<i>Mahonia haematocarpa</i>	red barberry	<1%	0.2
	OPUENG	<i>Opuntia engelmannii</i>	cactus apple	<1%	0.1
	OPUNTIA	<i>Opuntia</i>	pricklypear	<1%	<0.1
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	1%	0.4
	OPUPOL	<i>Opuntia polyacantha</i>	plains pricklypear	<1%	<0.1
	PURSTA	<i>Purshia stansburiana</i>	Stansbury cliffrose	1%	2.7
	YUCANG	<i>Yucca angustissima</i>	narrowleaf yucca	<1%	0.1
	YUCBAC	<i>Yucca baccata</i>	banana yucca	1%	1.1
Tree	JUNMON	<i>Juniperus monosperma</i>	oneseed juniper	<1%	3.0
	JUNOST	<i>Juniperus osteosperma</i>	Utah juniper	<1%	0.5
	PINEDU	<i>Pinus edulis</i>	twoneedle pinyon	1%	2.5





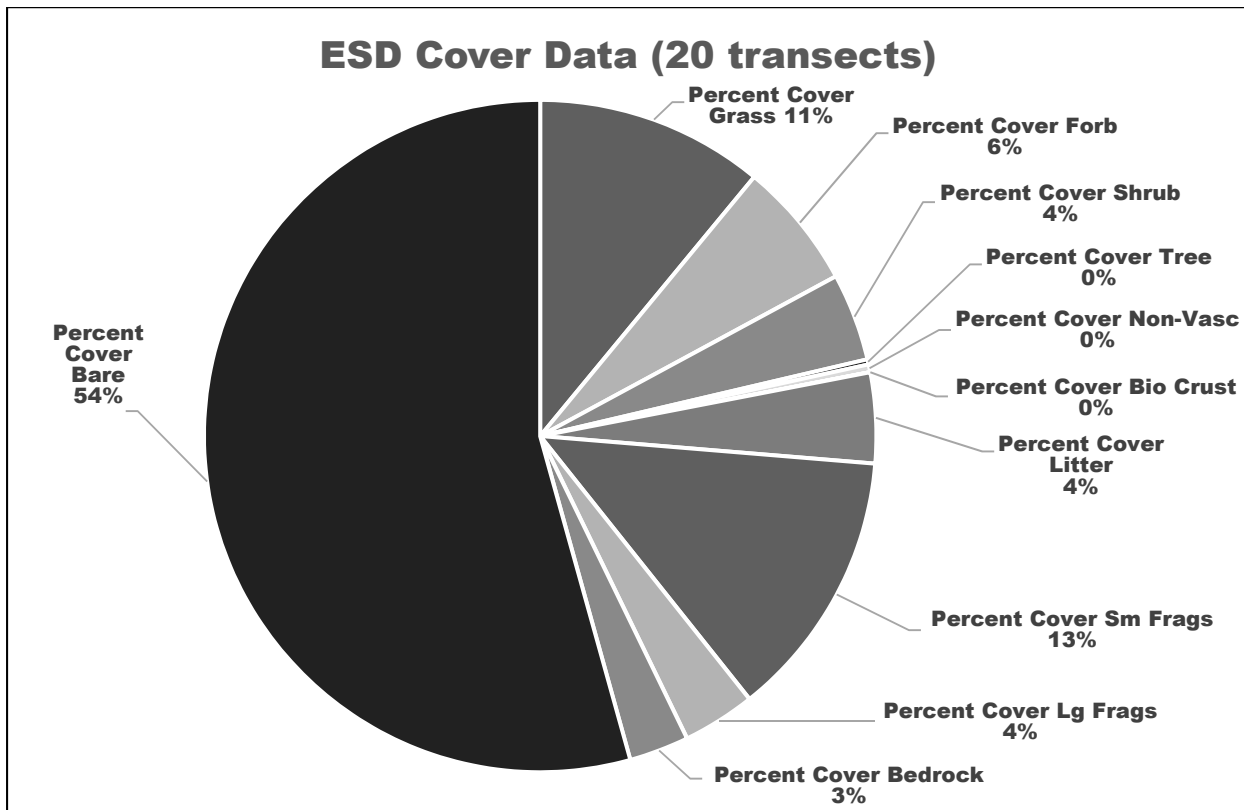
# EcoSite Identification No. R035XC313AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XC313AZ	39	Progresso-Skos complex, 2 to 15 percent slopes	25,409.5
<b>R035XC313AZ Total</b>			<b>25,409.5</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HCPC Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XC313AZ	Loamy Upland 10-14	Forb	50.0	20	39.8	39%
		Grass/Grasslike	525.0		166.5	
		Shrub/Vine	100.0		53.1	
		Tree	25.0		16.8	
<b>R035XC313AZ Total:</b>			<b>700.0</b>		<b>276.2</b>	



## R035XC313AZ – ESD Species Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ASTBRA	<i>Astragalus brandegeei</i>	Brandegee's milkvetch	1%	0.1
	ASTCAL	<i>Astragalus calycosus</i>	Torrey's milkvetch	2%	<0.1
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	9%	0.4
	CHACON	<i>Chamaesaracha coniodes</i>	gray five eyes	8%	1.4
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	25%	5.3
	CHAFEN	<i>Chamaesyce fendleri</i>	Fendler's sandmat	1%	<0.1
	CHAPAR	<i>Chamaesyce parryi</i>	Parry's sandmat	6%	0.2
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	13%	1.2
	CIRSIUM	<i>Cirsium</i>	thistle	1%	0.2
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	1%	<0.1
	DESPIN	<i>Descurainia pinnata</i>	western tansymustard	1%	<0.1
	ERICER	<i>Eriogonum cernuum</i>	nodding buckwheat	1%	<0.1
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	5%	0.3
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	24%	13.8
	LUPINUS	<i>Lupinus</i>	lupine	3%	0.7
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	10%	1.6
	PHACELIA	<i>Phacelia</i>	phacelia	3%	0.2
	PHYKIN	<i>Physaria kingii</i>	King twinpod	3%	0.2
	PHYSARIA	<i>Physaria</i>	twinpod	1%	0.1
	PLPAT	<i>Plantago patagonica</i>	woolly plantain	1%	<0.1
	POROLE	<i>Portulaca oleracea</i>	little hogweed	1%	<0.1
	PSITAG	<i>Psilostrophe tagetina</i>	woolly paperflower	1%	0.2
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	20%	7.3
	SANABE	<i>Sanvitalia abertii</i>	Abert's creeping zinnia	1%	0.1
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	11%	1.0
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	7%	3.3
	STAPIN	<i>Stanleya pinnata</i>	desert princesplume	1%	0.5
	THESUB	<i>Thelesperma subnudum</i>	Navajo tea	1%	0.1
	UNKANF	–	Unknown annual forb	4%	1.5
	ZINGRA	<i>Zinnia grandiflora</i>	Rocky Mountain zinnia	1%	0.1

(Table Continues)

## R035XC313AZ – ESD Species Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Grass/Grasslike	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	20%	6.6
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	6%	0.7
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	3%	1.8
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	19%	69.0
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	1%	0.1
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	29%	13.6
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	39%	57.6
	SCLBRE	<i>Scleropogon brevifolius</i>	burrograss	1%	0.2
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	9%	10.8
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	17%	6.0
	SPOGIG	<i>Sporobolus giganteus</i>	giant dropseed	1%	0.1
Shrub/Vine	ARTTRI	<i>Artemisia tridentata</i>	big sagebrush	2%	0.6
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	12%	4.6
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	3%	5.8
	CHRDEP	<i>Chrysothamnus depressus</i>	longflower rabbitbrush	6%	7.8
	CHRGRE	<i>Chrysothamnus greenei</i>	Greene's rabbitbrush	24%	21.2
	CHRVIS	<i>Chrysothamnus viscidiflorus</i>	yellow rabbitbrush	1%	1.4
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	1%	0.1
	CYLWHI	<i>Cylindropuntia whipplei</i>	Whipple cholla	1%	<0.1
	EPHCUT	<i>Ephedra cutleri</i>	Cutler's jointfir	2%	0.2
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	2%	1.1
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	3%	0.5
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	1%	1.5
	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	2%	1.1
	LYCPAL	<i>Lycium pallidum</i>	pale desert-thorn	3%	0.4
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	2%	2.0
	PURSTA	<i>Purshia stansburiana</i>	Stansbury cliffrose	1%	3.7
	RHUTRI	<i>Rhus trilobata</i>	skunkbush sumac	1%	0.1
	SARVER	<i>Sarcobatus vermiculatus</i>	greasewood	1%	<0.1
	YUCBAC	<i>Yucca baccata</i>	banana yucca	1%	1.0
Tree	JUNOST	<i>Juniperus osteosperma</i>	Utah juniper	2%	16.8



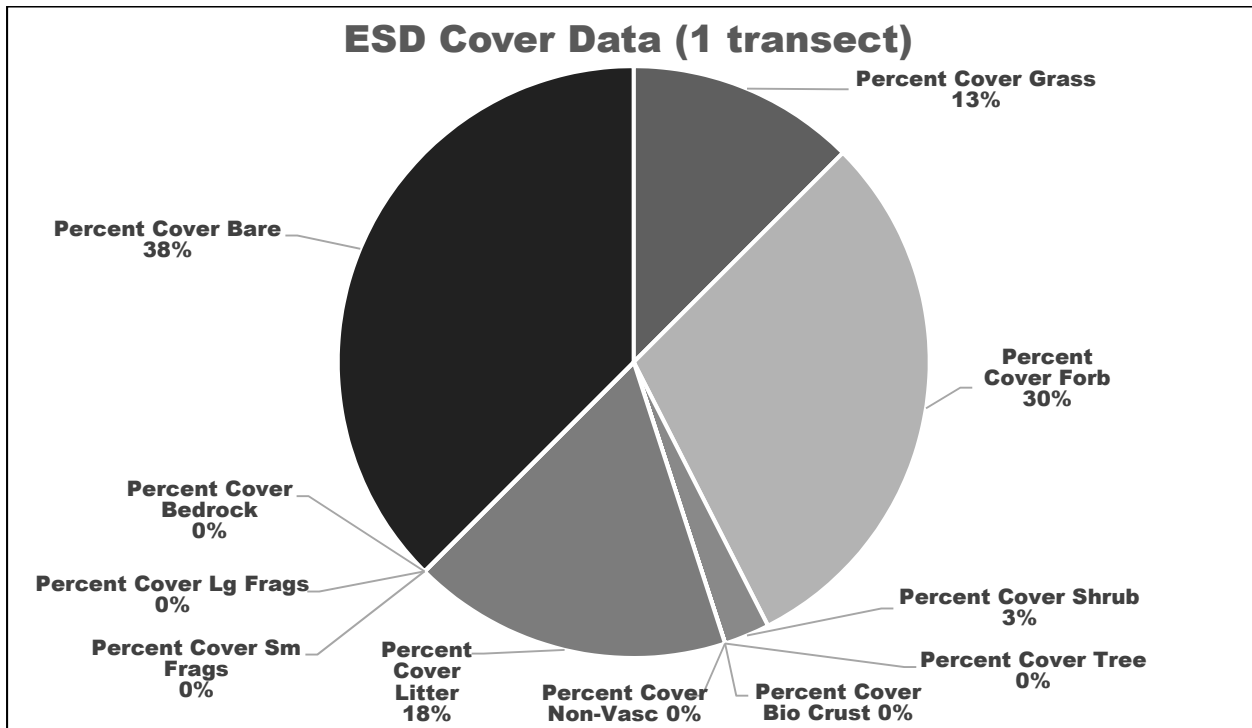
# EcoSite Identification No. R035XC315AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XC315AZ	41	Radnik-Escavada-Riverwash complex, 0 to 3 percent slopes	1,313.7
<b>R035XC315AZ Total</b>			<b>1,313.7</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HCPC Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XC315AZ	Sandy Upland 10-14	Forb	-	1	-	NA
		Grass/Grasslike	-		-	
		Shrub/Vine	-		-	
<b>R035XC315AZ Total:</b>			-		-	



**R035XC315AZ – ESD Species Production Table**

<b>Life Form</b>	<b>Species Code</b>	<b>Scientific Name</b>	<b>Common Name</b>	<b>Average Percent Frequency</b>	<b>Average Total Production (lbs/acre)</b>
<b>Forb</b>	AMABLI	<i>Amaranthus blitoides</i>	mat amaranth	20%	3.7
	AMAPAL	<i>Amaranthus palmeri</i>	carelessweed	10%	1.9
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	20%	1.7
	MENMUL	<i>Mentzelia multiflora</i>	Adonis blazingstar	20%	1.1
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	20%	1.5
	PLAPAT	<i>Plantago patagonica</i>	woolly plantain	40%	3.7
	POROLE	<i>Portulaca oleracea</i>	little hogweed	10%	25.9
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	90%	20.0
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	30%	16.0
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	20%	10.5
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	30%	19.5
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	80%	16.8
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	70%	12.8
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	20%	14.7
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	10%	3.6
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	50%	13.1
<b>Shrub/Vine</b>	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	30%	12.1

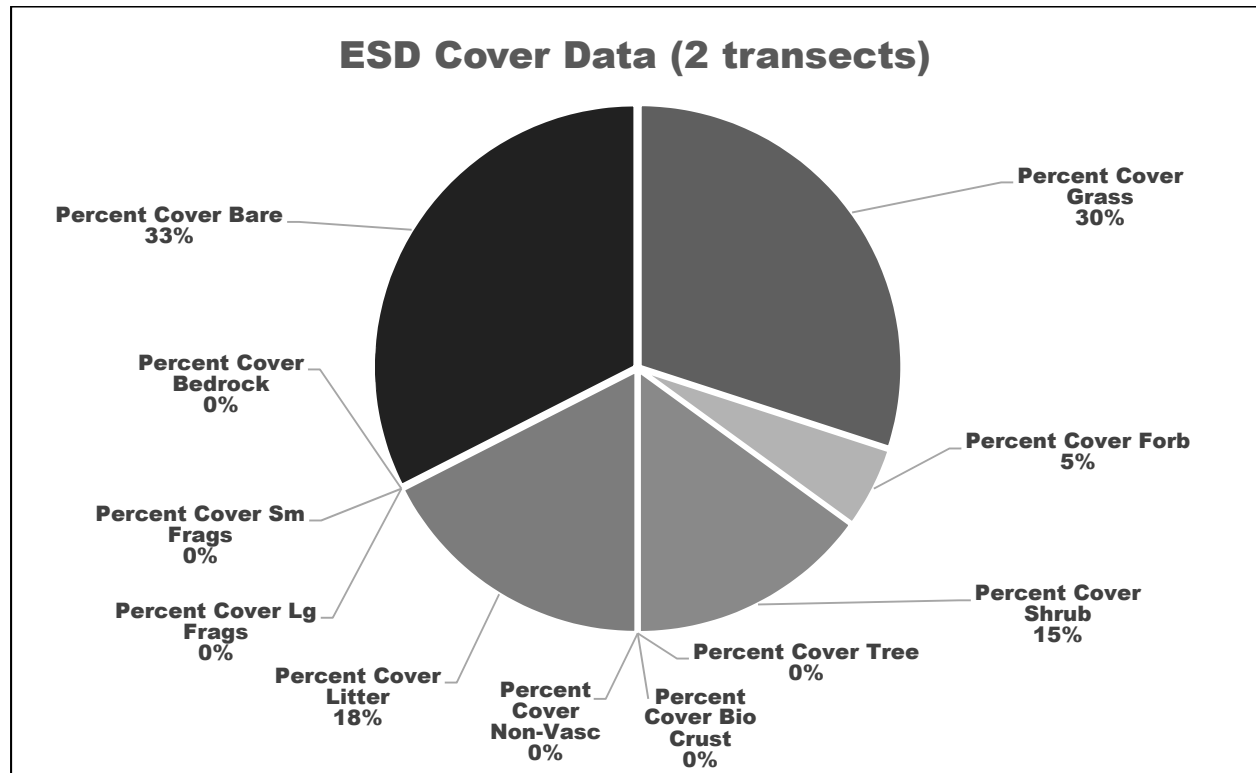
# EcoSite Identification No. R035XC317AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XC317AZ	3	Begay-Mido-Milok complex, 1 to 5 percent slopes	1,763.0
<b>R035XC317AZ Total</b>			<b>1,763.0</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HPCP Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XC317AZ	Sandy Loam Upland 10-14	Forb	-	2	-	NA
		Grass/Grasslike	-		-	
		Shrub/Vine	-		-	
<b>R035XC317AZ Total:</b>			-		-	





## R035XC317AZ – ESD Species Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	AMABLI	<i>Amaranthus blitoides</i>	mat amaranth	15%	10.5
	ERIDIV	<i>Erigeron divergens</i>	spreading fleabane	20%	1.3
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	10%	1.7
	HYMFLA	<i>Hymenopappus flavescens</i>	collegeflower	10%	1.3
	MENMUL	<i>Mentzelia multiflora</i>	Adonis blazingstar	5%	0.6
	PLAPAT	<i>Plantago patagonica</i>	woolly plantain	15%	0.6
	POROLE	<i>Portulaca oleracea</i>	little hogweed	10%	0.7
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	5%	0.4
	SCHMUL	<i>Schkuhria multiflora</i>	manyflower false threadleaf	15%	0.9
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	30%	5.3
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	5%	5.6
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	25%	2.8
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	35%	23.5
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	60%	14.4
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	45%	79.6
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	10%	8.9
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	30%	22.4
<b>Shrub/Vine</b>	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	35%	63.6
	CHRDEP	<i>Chrysothamnus depressus</i>	longflower rabbitbrush	15%	71.4
	CHRGRE	<i>Chrysothamnus greenei</i>	Greene's rabbitbrush	10%	8.4
	EPHCUT	<i>Ephedra cutleri</i>	Cutler's jointfir	5%	3.6
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	5%	0.5

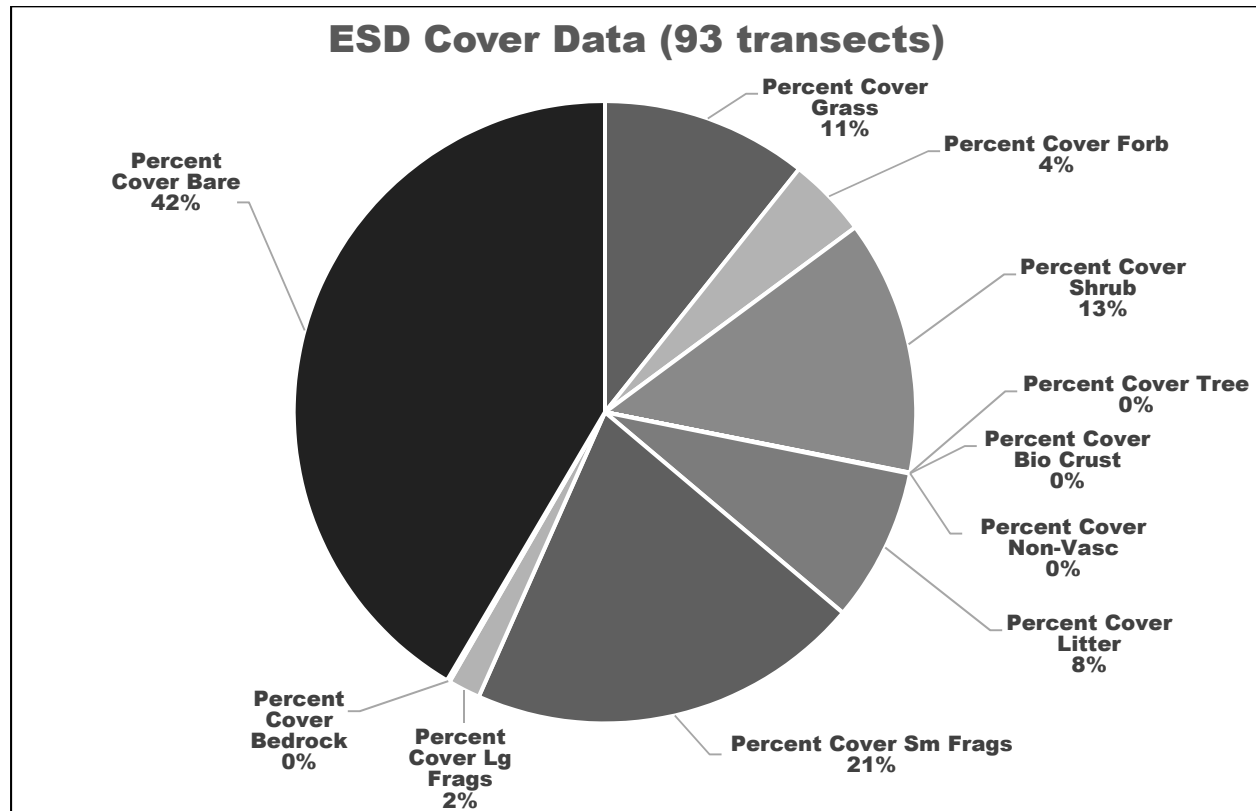
# EcoSite Identification No. R035XC319AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XC319AZ	121	Tassi gravelly loamy very fine sand, 0 to 3 percent slopes	10.1
	26	Mellenthin-Placitas-Mellenthin, extremely stony, complex, 4 to 35 percent slopes	56,392.1
	60	Tassi gravelly loamy very fine sand, 0 to 3 percent slopes	61,009.6
<b>R035XC319AZ Total</b>			<b>117,411.9</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HCPC Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XC319AZ	Shallow Loamy 10-14	Forb	255.0	93	74.5	36%
		Grass/Grasslike	285.0		109.7	
		Shrub/Vine	200.0		91.1	
		Tree	30.0		0.2	
<b>R035XC319AZ Total:</b>			<b>770.0</b>		<b>275.5</b>	



## R035XC319AZ – ESD Species Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ABRFRA	<i>Abronia fragrans</i>	snowball sand verbena	<1%	<0.1
	AMAPAL	<i>Amaranthus palmeri</i>	carelessweed	1%	1.0
	AMBACA	<i>Ambrosia acanthicarpa</i>	flatspine bur ragweed	1%	0.2
	ASTCAL	<i>Astragalus calycosus</i>	Torrey's milkvetch	6%	2.1
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	7%	0.2
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	1%	<0.1
	CASINT	<i>Castilleja integra</i>	wholeleaf Indian paintbrush	<1%	0.2
	CASTILLEJA	<i>Castilleja</i>	Indian paintbrush	1%	0.1
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	8%	1.7
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	18%	1.9
	CHEINC	<i>Chenopodium incanum</i>	mealy goosefoot	<1%	<0.1
	CHENOPODIUM	<i>Chenopodium</i>	goosefoot	<1%	<0.1
	CRYCRA	<i>Cryptantha crassisejala</i>	thicksepal cryptantha	1%	<0.1
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	3%	0.2
	DESPIN	<i>Descurainia pinnata</i>	western tansymustard	13%	0.6
	DRABA	<i>Draba</i>	draba	<1%	<0.1
	ERICER	<i>Eriogonum cernuum</i>	nodding buckwheat	<1%	<0.1
	ERIPUM	<i>Erigeron pumilus</i>	shaggy fleabane	5%	2.0
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	15%	0.7
	GLABIP	<i>Glandularia bipinnatifida</i>	Dakota mock vervain	<1%	<0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	54%	38.7
	HYMFLA	<i>Hymenopappus flavescens</i>	collegeflower	3%	0.8
	IPOMOPSIS	<i>Ipomopsis</i>	ipomopsis	<1%	<0.1
	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	1%	0.1
	LAPOCC	<i>Lappula occidentalis</i>	flatspine stickseed	2%	0.2
	LEPMON	<i>Lepidium montanum</i>	mountain pepperweed	<1%	<0.1
	LUPINUS	<i>Lupinus</i>	lupine	<1%	<0.1
	MIRLIN	<i>Mirabilis linearis</i>	narrowleaf four o'clock	1%	0.1
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	2%	0.3
	PHACELIA	<i>Phacelia</i>	phacelia	5%	1.1
	PHAINT	<i>Phacelia integrifolia</i>	gypsum phacelia	<1%	<0.1
	PHLLON	<i>Phlox longifolia</i>	longleaf phlox	2%	0.2
	PHYKIN	<i>Physaria kingii</i>	King twinpod	6%	1.5
	PHYSARIA	<i>Physaria</i>	twinpod	6%	0.8
	PLAPAT	<i>Plantago patagonica</i>	woolly plantain	5%	0.2

(Table Continues)

## R035XC319AZ – ESD Species Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	POROLE	<i>Portulaca oleracea</i>	little hogweed	2%	0.7
<b>(Continued)</b>	PORPIL	<i>Portulaca pilosa</i>	kiss me quick	<1%	<0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	10%	5.7
	SANABE	<i>Sanvitalia abertii</i>	Abert's creeping zinnia	3%	0.2
	SCHMUL	<i>Schkuhria multiflora</i>	manyflower false threadleaf	1%	0.2
	SENFLA	<i>Senecio flaccidus</i>	threadleaf ragwort	<1%	<0.1
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	8%	0.7
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	26%	11.6
	THEMEG	<i>Thelesperma megapotamicum</i>	Hopi tea greenthread	<1%	<0.1
	UNKANF	–	Unknown annual forb	1%	0.2
	UNKPEF	–	Unknown perennial forb	<1%	<0.1
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	19%	6.7
	ACHNEL	<i>Achnatherum nelsonii</i>	Columbia needlegrass	<1%	<0.1
	AGRCRI	<i>Agropyron cristatum</i>	crested wheatgrass	<1%	<0.1
	ARIADS	<i>Aristida adscensionis</i>	sixweeks threeawn	<1%	<0.1
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	<1%	0.1
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	4%	0.9
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	7%	4.5
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	38%	63.6
	BROTEC	<i>Bromus tectorum</i>	cheatgrass	2%	0.2
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	<1%	<0.1
	ELYELY	<i>Elymus elymoides</i>	squirreltail	3%	0.5
	ENNDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	2%	0.5
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	5%	2.1
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	34%	9.1
	MUHDEP	<i>Muhlenbergia depauperata</i>	sixweeks muhly	<1%	<0.1
	MUHPOR	<i>Muhlenbergia porteri</i>	bush muhly	<1%	<0.1
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	9%	9.1
	SCLBRE	<i>Scleropogon brevifolius</i>	burrograss	<1%	0.5
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	1%	1.1
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	28%	10.7

(Table Continues)

**R035XC319AZ – ESD Species Production Table (Continued)**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Shrub/Vine	ARTBIG	<i>Artemisia bigelovii</i>	Bigelow sage	<1%	0.2
	ARTTRI	<i>Artemisia tridentata</i>	big sagebrush	28%	57.9
	ATRACA	<i>Atriplex canthocarpa</i>	tuberclad saltbush	<1%	0.1
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	11%	7.4
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	1%	0.2
	BRIOBL	<i>Brickellia oblongifolia</i>	Mojave brickellbush	1%	<0.1
	CHRDEP	<i>Chrysothamnus depressus</i>	longflower rabbitbrush	7%	3.8
	CHRGRE	<i>Chrysothamnus Greenei</i>	Greene's rabbitbrush	12%	11.5
	CYLWHI	<i>Cylindropuntia whipplei</i>	Whipple cholla	1%	0.4
	ECHENG	<i>Echinocereus engelmannii</i>	Engelmann's hedgehog cactus	<1%	0.3
	EPHCUT	<i>Ephedra cutleri</i>	Cutler's jointfir	1%	0.1
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	<1%	0.4
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	<1%	0.1
	ERIMIC	<i>Eriogonum microthecum</i>	slender buckwheat	<1%	<0.1
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	<1%	0.3
	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	11%	6.3
	LYCPAL	<i>Lycium pallidum</i>	pale desert-thorn	<1%	<0.1
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	<1%	0.1
	OPUPOL	<i>Opuntia polyacantha</i>	plains pricklypear	<1%	1.2
	SARVER	<i>Sarcobatus vermiculatus</i>	greasewood	<1%	<0.1
YUCBAC	<i>Yucca baccata</i>	banana yucca	1%	0.8	
<b>Tree</b>	JUNOST	<i>Juniperus osteosperma</i>	Utah juniper	<1%	0.2

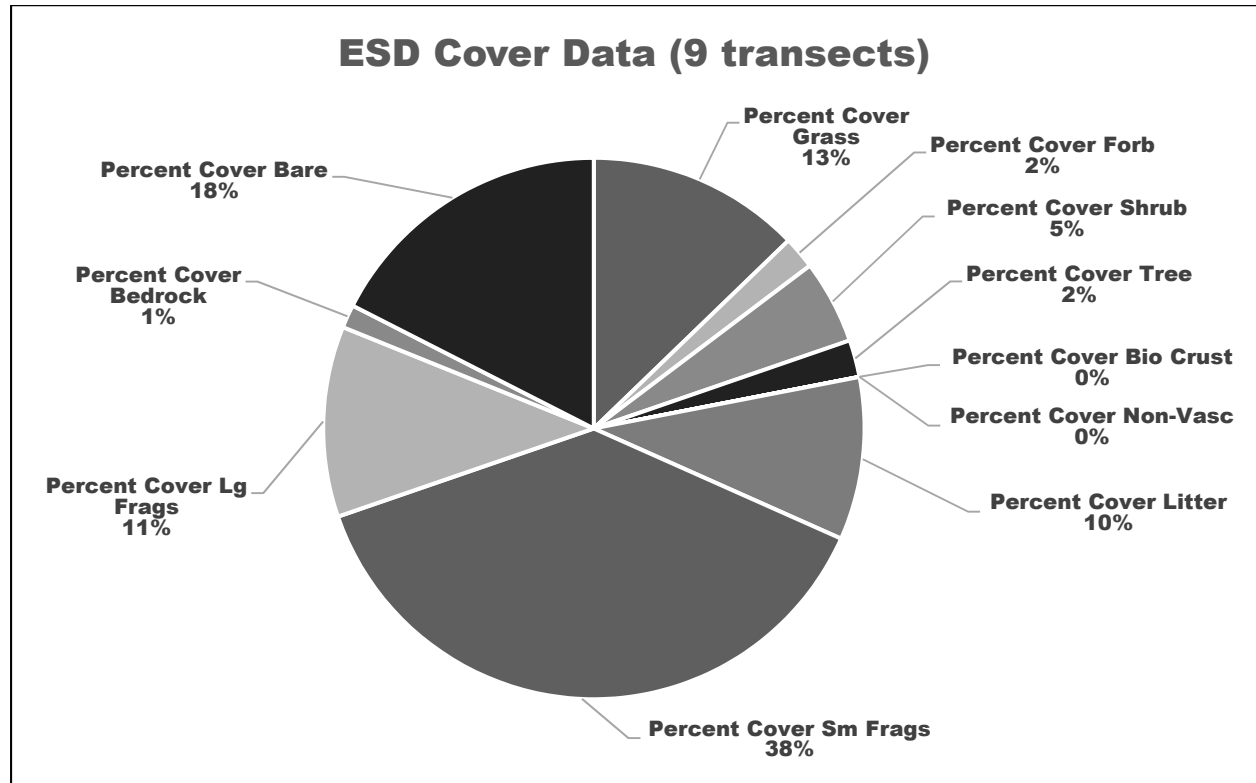
# EcoSite Identification No. R035XC371AZ

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
R035XC371AZ	42	Reef-Progresso family complex, 8 to 35 percent slopes	9,171.7
<b>R035XC371AZ Total</b>			<b>9,171.7</b>

## ESD Similarity Index Table

EcoSite ID	EcoSiteName	Plant Type	HCPC Lbs/Acre	No. Plots	Current Average Lbs/Acre	Similarity Index
R035XC371AZ	Sandy Slopes 10-14	Forb	-	9	-	NA
		Grass/Grasslike	-		-	
		Shrub/Vine	-		-	
		Tree	-		-	
<b>R035XC371AZ Total:</b>			-		-	



## R035XC371AZ – ESD Species Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ABRFRA	<i>Abronia fragrans</i>	snowball sand verben	1%	1.4
	ARTLUD	<i>Artemisia ludoviciana</i>	white sagebrush	1%	1.1
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	3%	0.1
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	12%	0.7
	BOUCHEA	<i>Bouchea</i>	bouchea	3%	0.3
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	13%	4.4
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	17%	3.2
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	1%	0.1
	DESPIN	<i>Descurainia pinnata</i>	western tansymustard	4%	0.2
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	2%	<0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	29%	32.1
	MIRLIN	<i>Mirabilis linearis</i>	narrowleaf four o'clock	2%	0.3
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	1%	0.2
	PHAINT	<i>Phacelia integrifolia</i>	gypsum phacelia	1%	0.1
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	1%	0.1
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	1%	1.2
	THESUB	<i>Thelesperma subnudum</i>	Navajo tea	7%	1.5
	UNKANF	–	Unknown annual forb	2%	0.1
Grass/Grasslike	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	13%	8.8
	ACHNEL	<i>Achnatherum nelsonii</i>	Columbia needlegrass	4%	7.1
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	12%	19.2
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	36%	68.6
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	4%	1.2
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	1%	0.1
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	47%	61.3
	SCLBRE	<i>Scleropogon brevifolius</i>	burrograss	7%	13.2
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	2%	0.7

(Table Continues)

## R035XC371AZ – ESD Species Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Shrub/Vine	AMEUTA	<i>Amelanchier utahensis</i>	Utah serviceberry	1%	9.6
	ARTBIG	<i>Artemisia bigelovii</i>	Bigelow sage	6%	4.2
	ARTTRI	<i>Artemisia tridentata</i>	big sagebrush	11%	30.1
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	3%	6.4
	BRIOBL	<i>Brickellia oblongifolia</i>	Mojave brickellbush	1%	0.2
	CHRGRE	<i>Chrysothamnus greenei</i>	Greene's rabbitbrush	2%	1.4
	CYLWHI	<i>Cylindropuntia whipplei</i>	Whipple cholla	1%	1.1
	ECHENG	<i>Echinocereus engelmannii</i>	Engelmann's hedgehog cactus	2%	0.1
	ECHPOL	<i>Echinocereus polyacanthus</i>	Mojave mound cactus	1%	0.6
	EPHCUT	<i>Ephedra cutleri</i>	Cutler's jointfir	2%	1.6
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	3%	5.3
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	7%	10.8
	ERICOR	<i>Eriogonum corymbosum</i>	crispleaf buckwheat	4%	1.4
	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	1%	1.0
	LYCAND	<i>Lycium andersonii</i>	water jacket	2%	0.5
	LYCPAL	<i>Lycium pallidum</i>	pale desert-thorn	1%	0.2
	OPUPOL	<i>Opuntia polyacantha</i>	plains pricklypear	1%	11.1
	PHIMIC	<i>Philadelphus microphyllus</i>	littleleaf mock orange	1%	1.2
	PURSTA	<i>Purshia stansburiana</i>	Stansbury cliffrose	1%	3.2
	SALDOR	<i>Salvia dorrii</i>	purple sage	1%	0.4
YUCBAC	<i>Yucca baccata</i>	banana yucca	2%	1.0	
<b>Tree</b>	JUNOST	<i>Juniperus osteosperma</i>	Utah juniper	7%	18.5

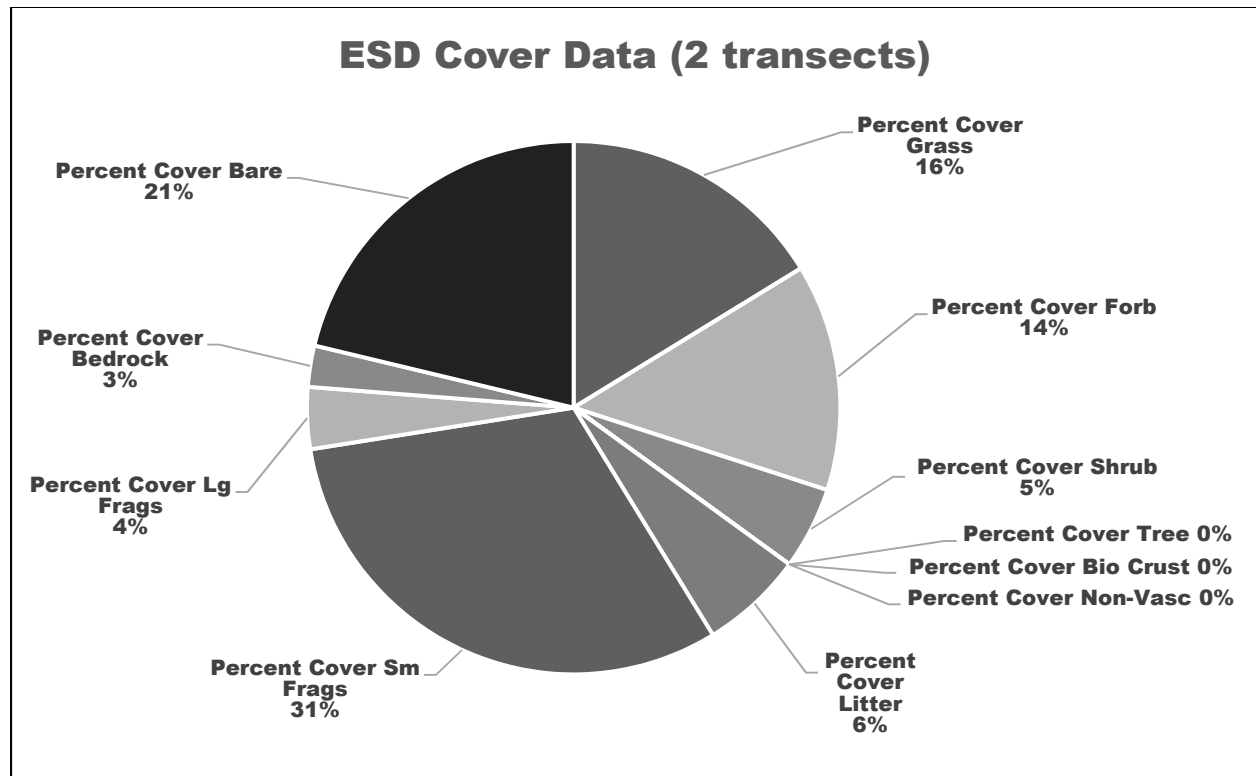




# EcoSite Identification Unavailable

## ESD Acreage Summary

EcoSite ID	Soil Map Unit Symbol	Soil Map Unit Name	Acres
Unavailable	106	Rock outcrop-Lithic Torriorthents complex, kaibab, toroweap, and coconino formations, 15 to 60 percent slopes	6.2
	109	Rock outcrop-Lithic Torriorthents complex, supai group, 15 to 60 percent slopes	0.6
	116	Rock outcrop-Typic Torriorthents complex, hermit formation, 15 to 60 percent slopes	10.0
	117	Rock outcrop-Typic Torriorthents complex, tonto group and redwall formation, 30 to 60 percent slopes	11.6
	162	Water	0.9
	23	Lava Flows	110.4
	44	Rock outcrop-Lithic Torriorthents complex, kaibab, toroweap, and coconino formations, 15 to 60 percent slopes	15,005.2
	45	Rock outcrop-Lithic Torriorthents complex, supai group, 15 to 60 percent slopes	9,390.0
	47	Rock outcrop-Typic Torriorthents complex, hermit formation, 15 to 60 percent slopes	115.0
	48	Rock outcrop-Typic Torriorthents complex, Tonto Group and Redwall Formation, 15 to 60 percent slopes	1,374.0
	64	Water	116.7
<b>EcoSite Unavailable Total</b>			<b>26,140.6</b>



**EcoSite Unavailable – ESD Species Production Table**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	ALLINC	<i>Allionia incarnata</i>	trailing windmills	5%	0.4
	ARTLUD	<i>Artemisia ludoviciana</i>	white sagebrush	5%	0.2
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	5%	0.8
	CHAPAR	<i>Chamaesyce parryi</i>	Parry's sandmat	5%	1.1
	CHAREV	<i>Chamaesyce revoluta</i>	threadstem sandmat	15%	0.6
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	10%	0.4
	ERIINF	<i>Eriogonum inflatum</i>	desert trumpet	5%	0.6
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	10%	0.8
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	5%	0.6
	PHACELIA	<i>Phacelia</i>	phacelia	10%	2.6
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	15%	125.8
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	10%	3.8
<b>Grass/Grasslike</b>	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	15%	4.3
	BOUCUR	<i>Bouteloua curtipendula</i>	sideoats grama	5%	8.3
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	55%	13.8
	ENNDDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	45%	21.4
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	5%	2.5
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	10%	2.7
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	25%	4.9
<b>Shrub/Vine</b>	AGAUTA	<i>Agave utahensis</i>	Utah agave	5%	6.0
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	25%	26.4
	ECHENG	<i>Echinocereus engelmannii</i>	Engelmann's hedgehog cactus	5%	2.5
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	10%	7.9
	OPUPOL	<i>Opuntia polyacantha</i>	plains pricklypear	10%	1.9



## 2 Range Unit Compartment Summary

Exhibit 3-2

### Project Area Capacity Overview

Area	Compartment	Identification No.	Cattle Carrying Capacity (YL)	Sheep Carrying Capacity (YL)	Goats Carrying Capacity (YL)
<b>Allotment 3, Unit 4</b>	Compartment 3	ALT 3-4-3	3.2	12.8	22.0
	Compartment 5	ALT 3-4-5	8.4	32.9	56.3
	Compartment 6	ALT 3-4-6	<u>2.3</u>	<u>10.7</u>	<u>16.2</u>
	<b>Area Subtotal:</b>		<b>13.9</b>	<b>56.4</b>	<b>94.5</b>
<b>LMD 3, Unit 1</b>	Compartment 1	LMD 3-1-1	118.4	415.7	725.7
	Compartment 2	LMD 3-1-2	231.1	770.9	1,307.4
	Compartment 3	LMD 3-1-3	130.5	448.3	756.4
	Compartment 4	LMD 3-1-4	199.7	686.3	1,161.5
	Compartment 5	LMD 3-1-5	19.5	76.4	131.1
	Compartment 6	LMD 3-1-6	100.6	413.8	716.3
	Compartment 7	LMD 3-1-7	61.8	252.6	412.6
	Compartment 8	LMD 3-1-8	61.0	229.5	409.8
	Compartment 9	LMD 3-1-9	90.1	327.6	621.7
	Compartment 10	LMD 3-1-10	70.4	255.0	475.8
	Compartment 11	LMD 3-1-11	4.7	18.0	31.7
	Compartment 12	LMD 3-1-12	<u>4.1</u>	<u>15.7</u>	<u>27.7</u>
<b>Area Subtotal:</b>		<b>1,091.9</b>	<b>3,909.9</b>	<b>6,777.7</b>	
<b>LMD 3, Unit 3</b>	Compartment 1	LMD 3-3-1	111.0	540.0	871.4
	Compartment 2	LMD 3-3-2	708.1	3,542.8	5,368.5
	Compartment 3	LMD 3-3-3	3,468.6	17,412.4	25,527.2
	Compartment 4	LMD 3-3-4	853.2	4,588.6	6,745.4
	Compartment 5	LMD 3-3-5	867.7	3,989.5	6,145.4
	Compartment 6	LMD 3-3-6	1,789.9	8,319.7	12,775.6
	Compartment 7	LMD 3-3-7	15.4	105.0	249.0
	Compartment 8	LMD 3-3-8	3.0	14.2	25.2
	Compartment 9	LMD 3-3-9	10.2	42.6	75.9
	Compartment 10	LMD 3-3-10	<u>35.2</u>	<u>161.0</u>	<u>257.2</u>
<b>Area Subtotal:</b>		<b>7,862.4</b>	<b>38,715.9</b>	<b>58,040.8</b>	
<b>LMD 3, Unit 4</b>	Compartment 1	LMD 3-4-1	85.5	497.7	753.5
	Compartment 2	LMD 3-4-2	54.7	259.8	398.2
	Compartment 3	LMD 3-4-3	73.8	309.2	531.3
	Compartment 4	LMD 3-4-4	34.3	152.9	275.9
	Compartment 5	LMD 3-4-5	214.4	862.0	1,482.7
	Compartment 6	LMD 3-4-6	142.9	721.7	1,053.2
	Compartment 7	LMD 3-4-7	308.4	1,240.9	2,110.3
	Compartment 8	LMD 3-4-8	<u>64.2</u>	<u>223.8</u>	<u>416.6</u>
<b>Area Subtotal:</b>		<b>978.2</b>	<b>4,267.9</b>	<b>7,021.7</b>	
<b>GRAND TOTAL:</b>			<b>9,946.3</b>	<b>46,950.1</b>	<b>71,934.7</b>

YL = Year Long

### LMD 3 Overview

This section describes the results of our rangeland study for LMD 3 on western Navajo. The entire project area has a total area of nearly 1.2 million acres, which is most broadly divided into grazing allotment (Alt) 3 and LMD 3. These areas are further divided into grazing units. Allotment 3 is composed of one grazing unit while the portions of LMD 3 included in our project area are divided into units 1, 3, and 4. These grazing units are further divided into compartments. The total acreage of each of these discrete land areas is summarized in the Exhibit 3-3 below.

Exhibit 3-3

### Grazing Compartments Summary

Grazing Unit	Compartment Number	Acres
Grazing Allotment 3, Unit 4	3	487.6
	5	1,252.8
	6	<u>747.2</u>
	<b>Alt 3-4 Total:</b>	<b>2,487.7</b>
LMD 3, Unit 1	1	31,543.8
	2	43,484.3
	3	26,404.6
	4	37,207.2
	5	11,769.0
	6	75,498.6
	7	50,728.5
	8	24,240.9
	9	55,539.6
	10	39,819.6
	11	3,966.3
	12	<u>3,462.1</u>
<b>LMD 3-1 Total:</b>	<b>403,664.6</b>	

(Continues)

Grazing Unit	Compartment Number	Acres
LMD 3, Unit 3	1	14,730.8
	2	15,450.8
	3	137,272.3
	4	128,474.8
	5	91,691.0
	6	130,293.8
	7	25,584.1
	8	2,314.4
	9	4,494.6
	10	<u>9,460.7</u>
<b>LMD 3-3 Total:</b>		<b>559,767.2</b>
LMD 3, Unit 4	1	34,734.6
	2	4,841.6
	3	11,959.3
	4	7,056.9
	5	32,978.8
	6	53,868.5
	7	49,386.8
	8	<u>25,252.7</u>
<b>LMD 3-4 Total:</b>		<b>220,079.1</b>
<b>GRAND TOTAL:</b>		<b>1,185,998.6</b>

Stocking rate and carrying capacity were calculated at the grazing compartment level. Thus, this section is presented as an individual subsection for each grazing compartment. The total carrying capacity in terms of yearlong animal units for cattle, shee, and goats is summarized in the table below. More detailed results for each soil map unit are described in tables developed for each individual compartment in the compartment subsection.

## Exhibit 3-4

**Grazing Compartment Total Carrying Capacity**

	<b>Cattle Carrying Capacity (YL)</b>	<b>Sheep Carrying Capacity (YL)</b>	<b>Goats Carrying Capacity (YL)</b>
<b>Alt 3-4</b>	<b>13.9</b>	<b>56.4</b>	<b>94.5</b>
Compartment 3	3.2	12.8	22.0
Compartment 5	8.4	32.9	56.3
Compartment 6	2.3	10.7	16.2
<b>LMD 3-1</b>	<b>1,091.9</b>	<b>3,909.9</b>	<b>6,777.7</b>
Compartment 1	118.4	415.7	725.7
Compartment 10	70.4	255.0	475.8
Compartment 11	4.7	18.0	31.7
Compartment 12	4.1	15.7	27.7
Compartment 2	231.1	770.9	1,307.4
Compartment 3	130.5	448.3	756.4
Compartment 4	199.7	686.3	1,161.5
Compartment 5	19.5	76.4	131.1
Compartment 6	100.6	413.8	716.3
Compartment 7	61.8	252.6	412.6
Compartment 8	61.0	229.5	409.8
Compartment 9	90.1	327.6	621.7
Compartment 10	70.4	255.0	475.8
Compartment 11	4.7	18.0	31.7
Compartment 12	4.1	15.7	27.7
<b>LMD 3-3</b>	<b>7,862.4</b>	<b>38,715.9</b>	<b>58,040.8</b>
Compartment 1	111.0	540.0	871.4
Compartment 2	708.1	3,542.8	5,368.5
Compartment 3	3,468.6	17,412.4	25,527.2
Compartment 4	853.2	4,588.6	6,745.4
Compartment 5	867.7	3,989.5	6,145.4
Compartment 6	1,789.9	8,319.7	12,775.6
Compartment 7	15.4	105.0	249.0
Compartment 8	3.0	14.2	25.2
Compartment 9	10.2	42.6	75.9
Compartment 10	35.2	161.0	257.2

(Continues)

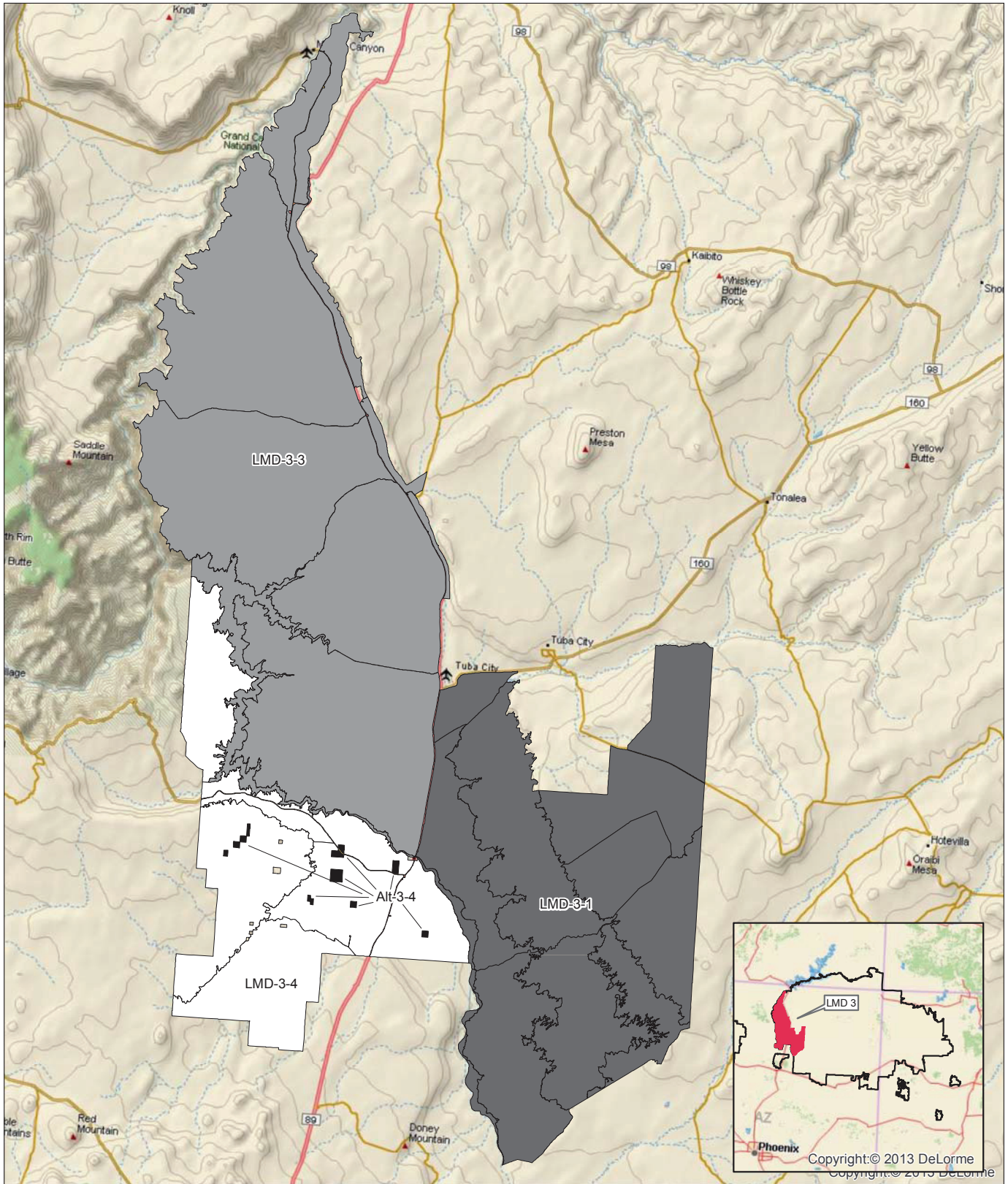


	<b>Cattle Carrying Capacity (YL)</b>	<b>Sheep Carrying Capacity (YL)</b>	<b>Goats Carrying Capacity (YL)</b>
<b>LMD 3-4</b>	<b>978.2</b>	<b>4,267.9</b>	<b>7,021.7</b>
Compartment 1	85.5	497.7	753.5
Compartment 2	54.7	259.8	398.2
Compartment 3	73.8	309.2	531.3
Compartment 4	34.3	152.9	275.9
Compartment 5	214.4	862.0	1,482.7
Compartment 6	142.9	721.7	1,053.2
Compartment 7	308.4	1,240.9	2,110.3
Compartment 8	64.2	223.8	416.6
<b>GRAND TOTAL:</b>	<b>9,946.3</b>	<b>46,950.1</b>	<b>71,934.7</b>

In addition to livestock carrying capacity information, we summarized average production by species within the compartment in air dry pounds per acre as well as the percent frequency that individual species were encountered at sampling frames within the compartment. Cover measurements are also provided in pie charts for the compartment. All of this information combined provides a detailed description of current conditions within each grazing compartment.

The following maps show the location and unit divisions of LMD 3, and an overview of the grazing units and grazing compartments within LMD 3.

**Exhibit 3-5**  
**West Navajo Vegetation Study - Land Management District 3 Location and Unit Divisions**



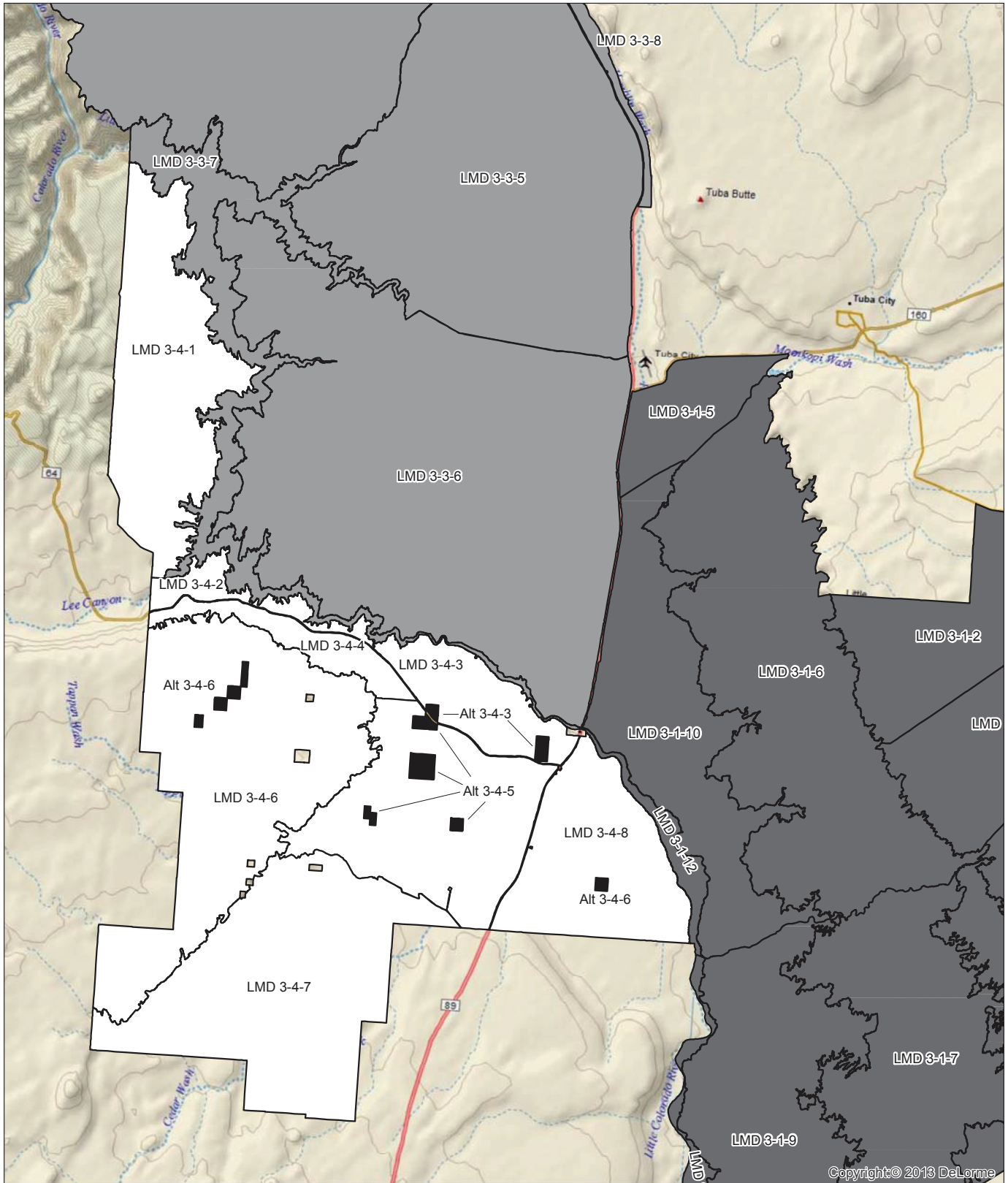
- Land Management District 3 - Unit 1
- Land Management District 3 - Unit 2
- Land Management District 3 - Unit 3
- Land Management District 3 - Unit 4
- Grazing Allotment 3 - Unit 4



 **Parametrix**  
 **GSA GeoSystems Analysis, Inc.**  
Innovations in Technology

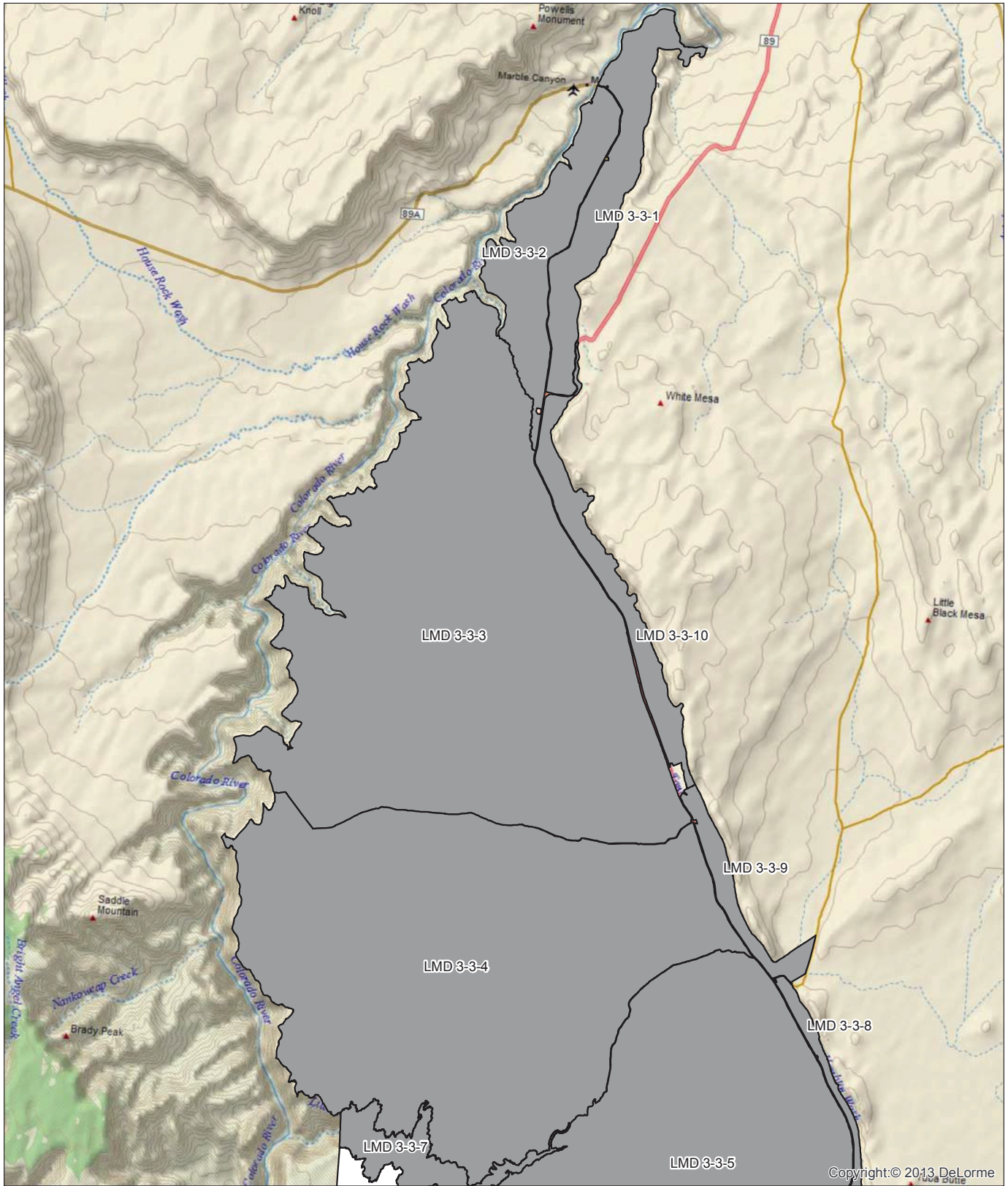


**Exhibit 3-6**  
**West Navajo Vegetation Study - Land Management District 3, Units and Compartments**



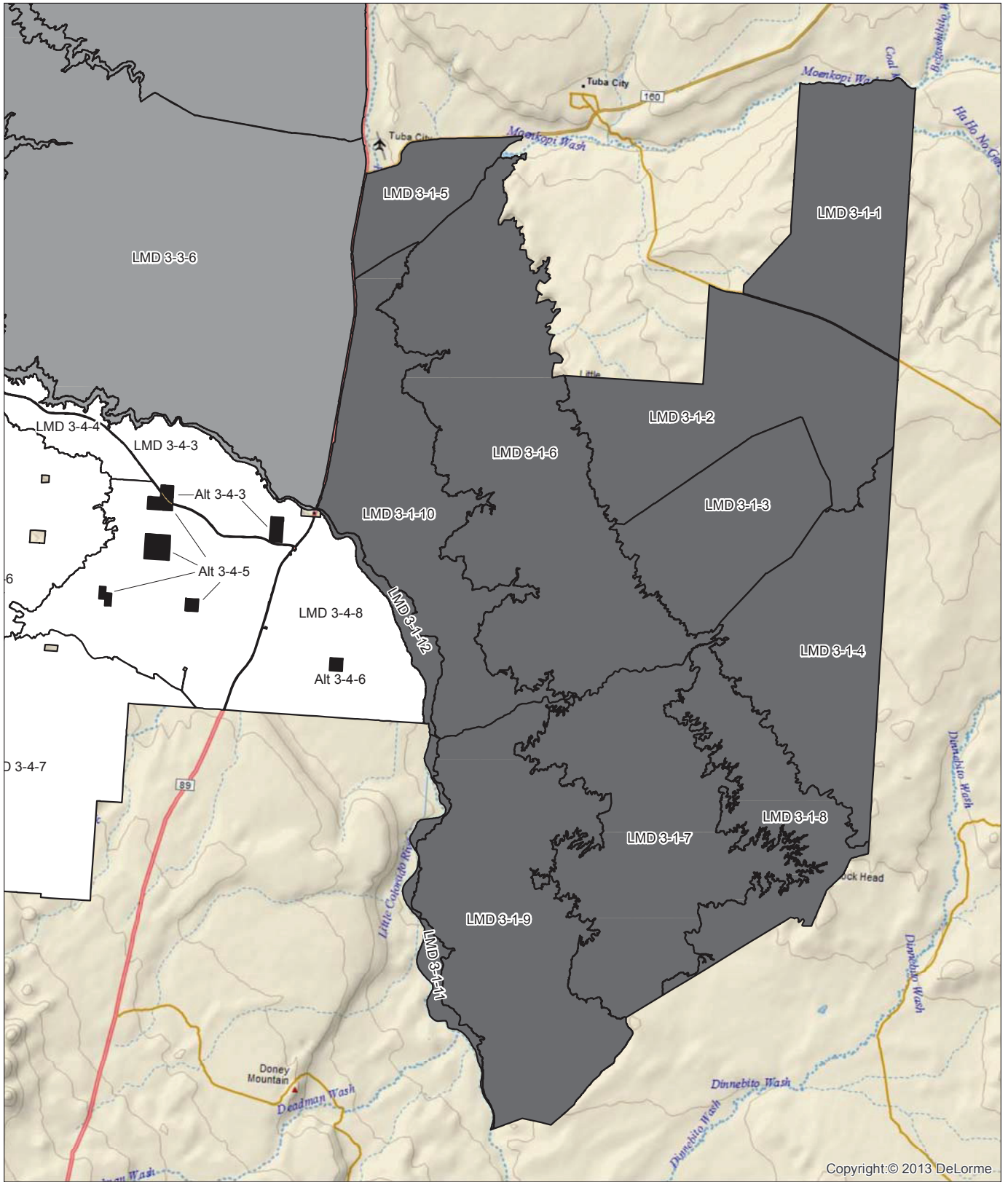
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**Exhibit 3-7**  
**West Navajo Vegetation Study - Land Management District 3, Units and Compartments**



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**Exhibit 3-8**  
**West Navajo Vegetation Study - Land Management District 3, Units and Compartments**



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## Allotment 3, Unit 4, Compartment 3 (Alt 3-4-3)

Compartment 3-4-3 consists of approximately 488 acres, approximately 92% of which is of relatively low slope and available to all livestock. Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and small rock fragments. Dominant grasses include James' galleta [8.6 pounds per acre (ppa)] and sand dropseed (1.7 ppa); dominant forbs include Russian thistle (4.6 ppa) and globemallow (2.5 ppa); and dominant shrubs include Torrey's jointfir (6.2 ppa) and blackbrush (2.6 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
12	157.4	156.1	59.9	2.6	31.3	157.0	14.7	10.7	128.3	157.4	8.9	17.7	212.3
15	263.7	252.9	470.7	0.5	6.4	257.0	136.9	1.9	22.5	260.6	67.2	3.9	46.5
54	58.7	30.9	1,050.1	0.0	0.4	38.6	236.5	0.2	2.0	48.5	136.3	0.4	4.3
8	7.8	7.7	590.4	0.0	0.2	7.8	201.5	0.0	0.5	7.8	96.7	0.1	1.0
<b>Total:</b>	<b>487.6</b>	<b>447.8</b>		<b>3.2</b>	<b>38.3</b>	<b>460.4</b>		<b>12.8</b>	<b>153.2</b>	<b>474.3</b>		<b>22.0</b>	<b>264.1</b>

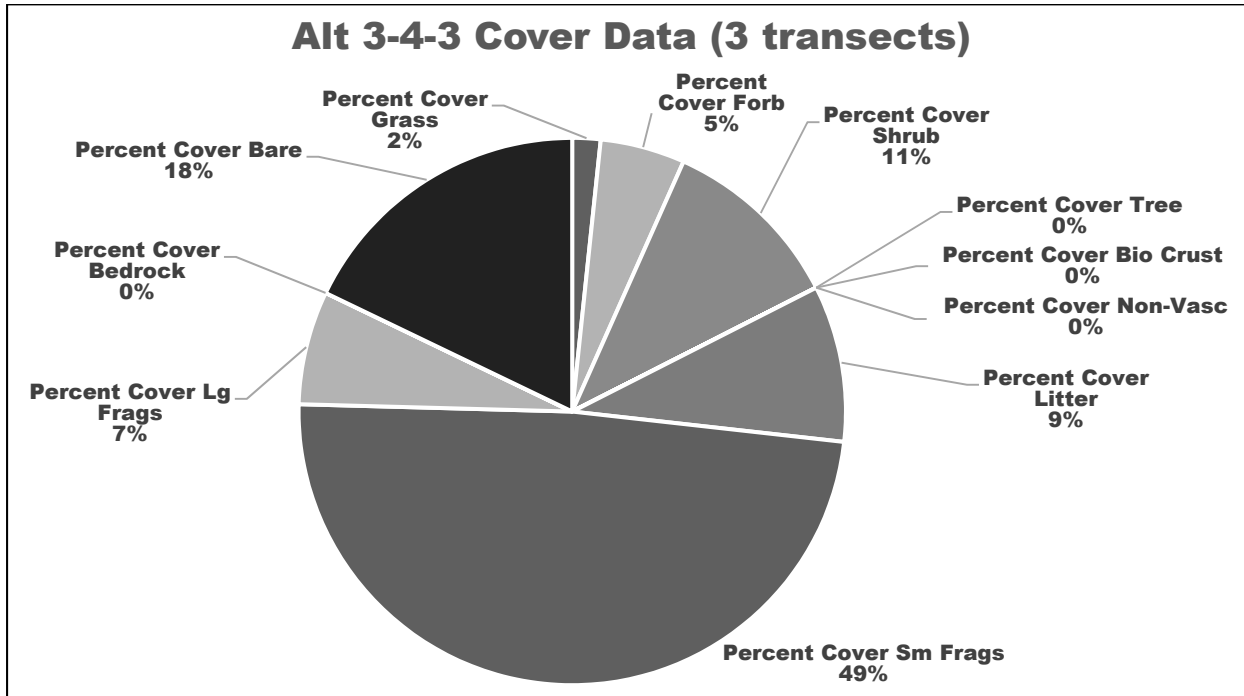
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0-30% All Livestock	31-40% Sheep and Goats	41-60% Goats Only	>60% Non-Grazeable	Total Acres
447.8	12.7	13.9	13.3	487.6



**Alt 3-4-3 Production Table**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	ASTRAGALUS	<i>Astragalus</i>	milkvetch	7%	0.6
	CHACHA	<i>Chamaesyce chaetocalyx</i>	bristlecup sandmat	30%	2.4
	CHAMAESYCE	<i>Chamaesyce</i>	sandmat	7%	0.1
	CHENOPODIUM	<i>Chenopodium</i>	goosefoot	3%	0.1
	ERIINF	<i>Eriogonum inflatum</i>	desert trumpet	7%	0.1
	EUPHORBIA	<i>Euphorbia</i>	spurge	7%	0.4
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	23%	4.6
	SCHPIN	<i>Schkuhria pinnata</i>	pinnate false threadleaf	3%	0.6
	SPHCOC	<i>Sphaeralcea coccinea</i>	scarlet globemallow	10%	0.6
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	7%	1.1
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	13%	2.5
	<b>Grass/Grasslike</b>	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	3%
DASPUL		<i>Dasyochloa pulchella</i>	low woollygrass	7%	0.6
ENNDES		<i>Enneapogon desvauxii</i>	nineawn pappusgrass	3%	0.1
PLEJAM		<i>Pleuraphis jamesii</i>	James' galleta	23%	8.6
SPOCRY		<i>Sporobolus cryptandrus</i>	sand dropseed	7%	1.7

(Table Continues)

Alt 3-4-3 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Shrub/Vine	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	7%	2.1
	ATRCAN	<i>Atriplex confertifolia</i>	shadscale saltbush	13%	1.5
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	23%	2.6
	ENCFRU	<i>Encelia frutescens</i>	button brittlebush	3%	0.5
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	23%	6.2

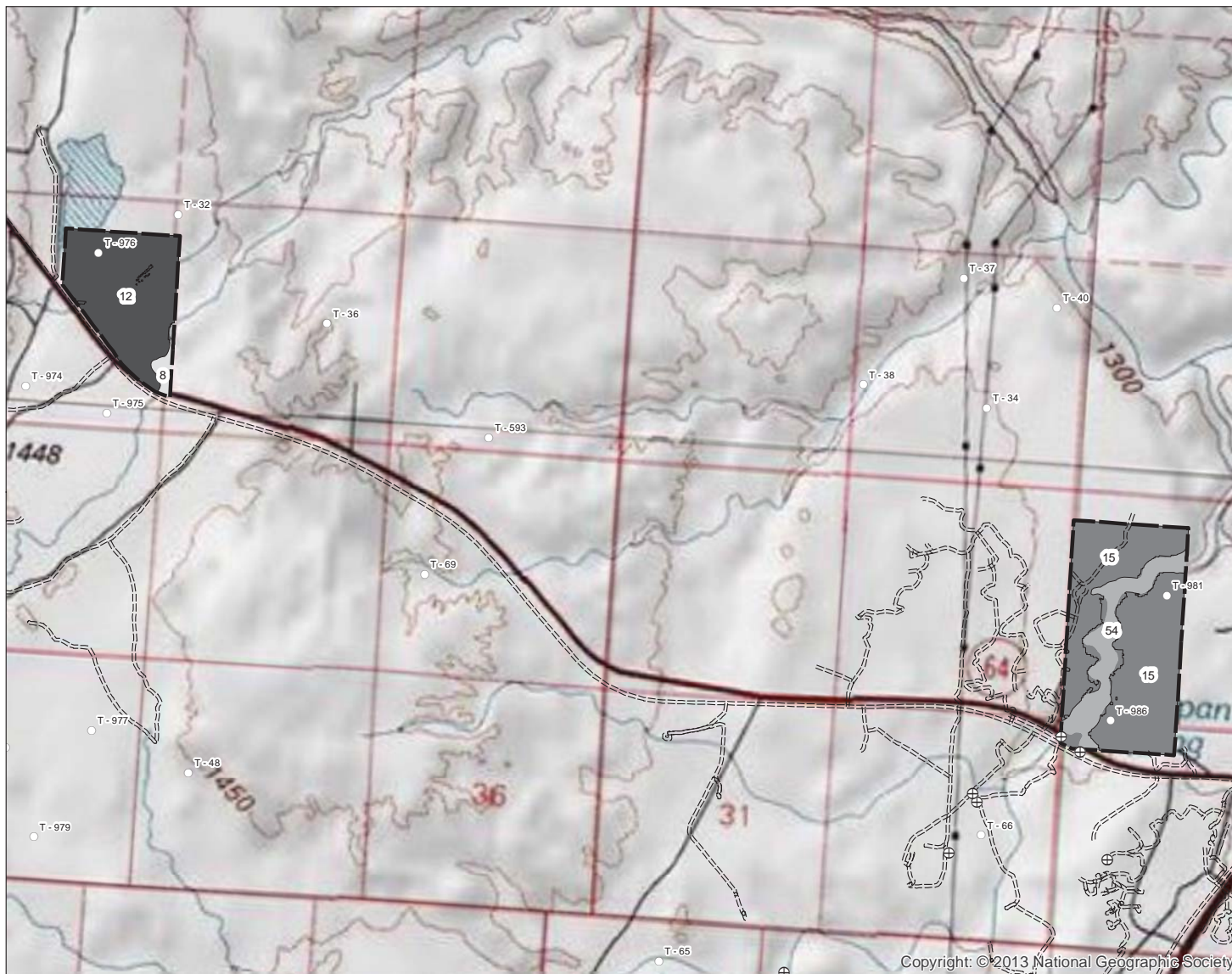


# Soil Map Unit

Land Management District 3  
Grazing Allotment 3, Unit 4, Compartment 3

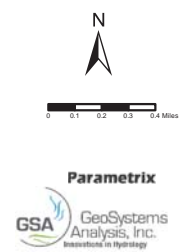
# West Navajo Livestock Capacity Study

Total Acres: 487.6  
Grazeable Sheep Acres: 460.4



- Compartment Boundary
- Transect Location
- Road
- Soil Map Unit**
- 12 - Hajisho-Seeg complex
- 15 - Heskinnini-Moenkopie complex
- 54 - Shimume-Leupp-Rock outcrop complex
- 8 - Epikom-Leupp complex

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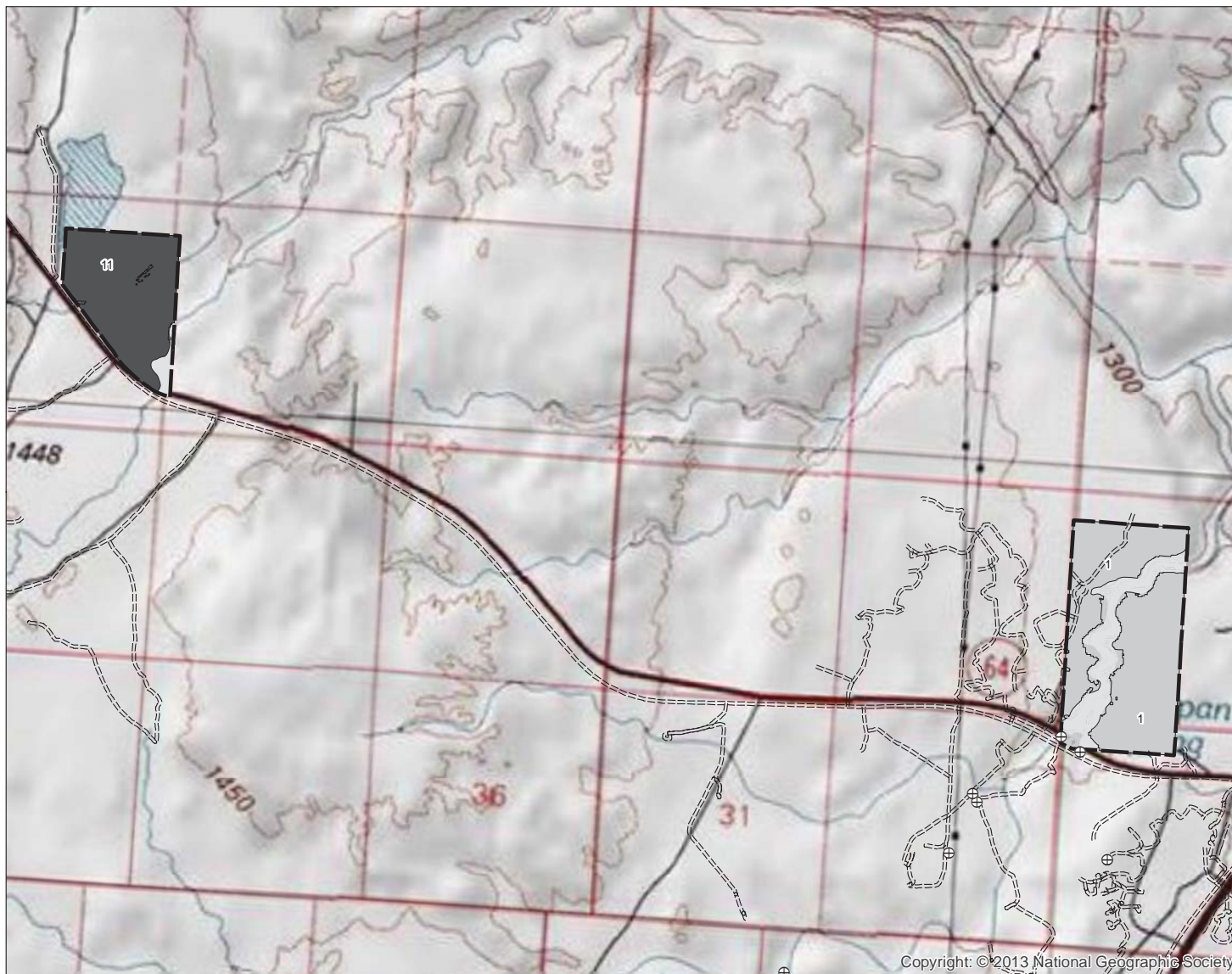


# Stocking Rate

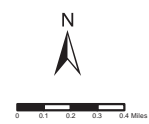
Land Management District 3  
Grazing Allotment 3, Unit 4, Compartment 3

## West Navajo Livestock Capacity Study

Total Acres: 487.6  
Grazeable Sheep Acres: 460.4  
Sheep Units Year Long: 12.8



- Compartment Boundary
- Livestock Watering Facility
- ==: Road
- Sheep Ac/AUYL
  - 1 - 25
  - 25 - 50
  - 50 - 75
  - 75 - 100
  - 100 - 200
  - >200
  - >40% slope



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## Allotment 3, Unit 4, Compartment 5 (ALT 3-4-5)

Compartment 3-4-5 consists of approximately 1,253 acres,

approximately 99% of which is available to all livestock.

Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and small rock fragments. Dominant grasses include James' galleta (65.3 ppa) and six weeks grama (6.4 ppa); dominant forbs include Russian thistle (12.1 ppa) and globemallow (2.9 ppa); and dominant shrubs include four-wing saltbush (7.7 ppa) and blackbrush (2.5 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
12	424.4	421.7	59.9	7.0	84.5	423.8	14.7	28.8	346.2	424.4	8.9	47.7	572.4
54	0.6	0.2	1,050.1	0.0	0.0	0.3	236.5	0.0	0.0	0.6	136.3	0.0	0.1
8	827.9	819.9	590.4	1.4	16.7	825.1	201.5	4.1	49.1	827.2	96.7	8.6	102.6
<b>Total:</b>	<b>1,252.8</b>	<b>1,241.8</b>		<b>8.4</b>	<b>101.2</b>	<b>1,249.2</b>		<b>32.9</b>	<b>395.3</b>	<b>1,252.2</b>		<b>56.3</b>	<b>675.1</b>

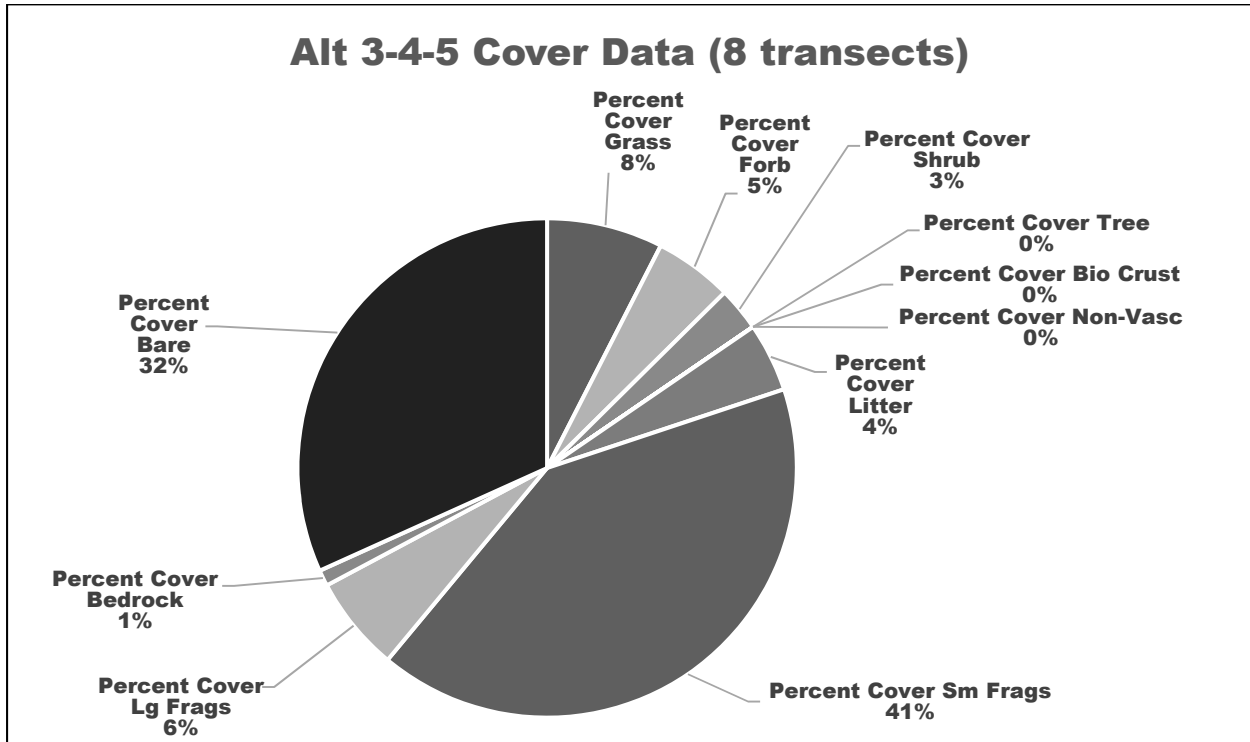
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0–30% All Livestock	31–40% Sheep and Goats	41–60% Goats Only	>60% Non-Grazeable	Total Acres
1,241.8	7.4	3.0	0.7	1,252.8



**ALT 3-4-5 Production Table**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	1%	0.2
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	1%	<0.1
	CHACHA	<i>Chamaesyce chaetocalyx</i>	bristlecup sandmat	3%	0.9
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	3%	0.3
	CHAMAESYCE	<i>Chamaesyce</i>	sandmat	3%	0.2
	CHAPAR	<i>Chamaesyce parryi</i>	Parry's sandmat	9%	0.5
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	23%	2.7
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	5%	0.6
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	1%	<0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	3%	0.3
	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	3%	0.6
	MIRABILIS	<i>Mirabilis</i>	four o'clock	5%	2.4
	NAMDIC	<i>Nama dichotomum</i>	wishbone fiddleleaf	1%	0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	31%	12.1
	SCHPIN	<i>Schkuhria pinnata</i>	pinnate false threadleaf	15%	2.1

(Table Continues)

ALT 3-4-5 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	SPHAMB	<i>Sphaeralcea ambigua</i>	desert globemallow	4%	0.9
<b>(Continued)</b>	SPHCOC	<i>Sphaeralcea coccinea</i>	scarlet globemallow	3%	0.3
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	4%	2.9
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	6%	0.6
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	1%	0.2
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	18%	6.4
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	4%	0.9
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	15%	3.3
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	1%	0.2
	MUHPOR	<i>Muhlenbergia porteri</i>	bush muhly	1%	0.3
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	46%	65.3
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	1%	1.7
<b>Shrub/Vine</b>	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	21%	7.7
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	8%	2.5
	EPHTRI	<i>Ephedra trifurca</i>	longleaf jointfir	4%	0.5
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	5%	4.6
	OPUFRA	<i>Opuntia fragilis</i>	brittle pricklypear	1%	<0.1

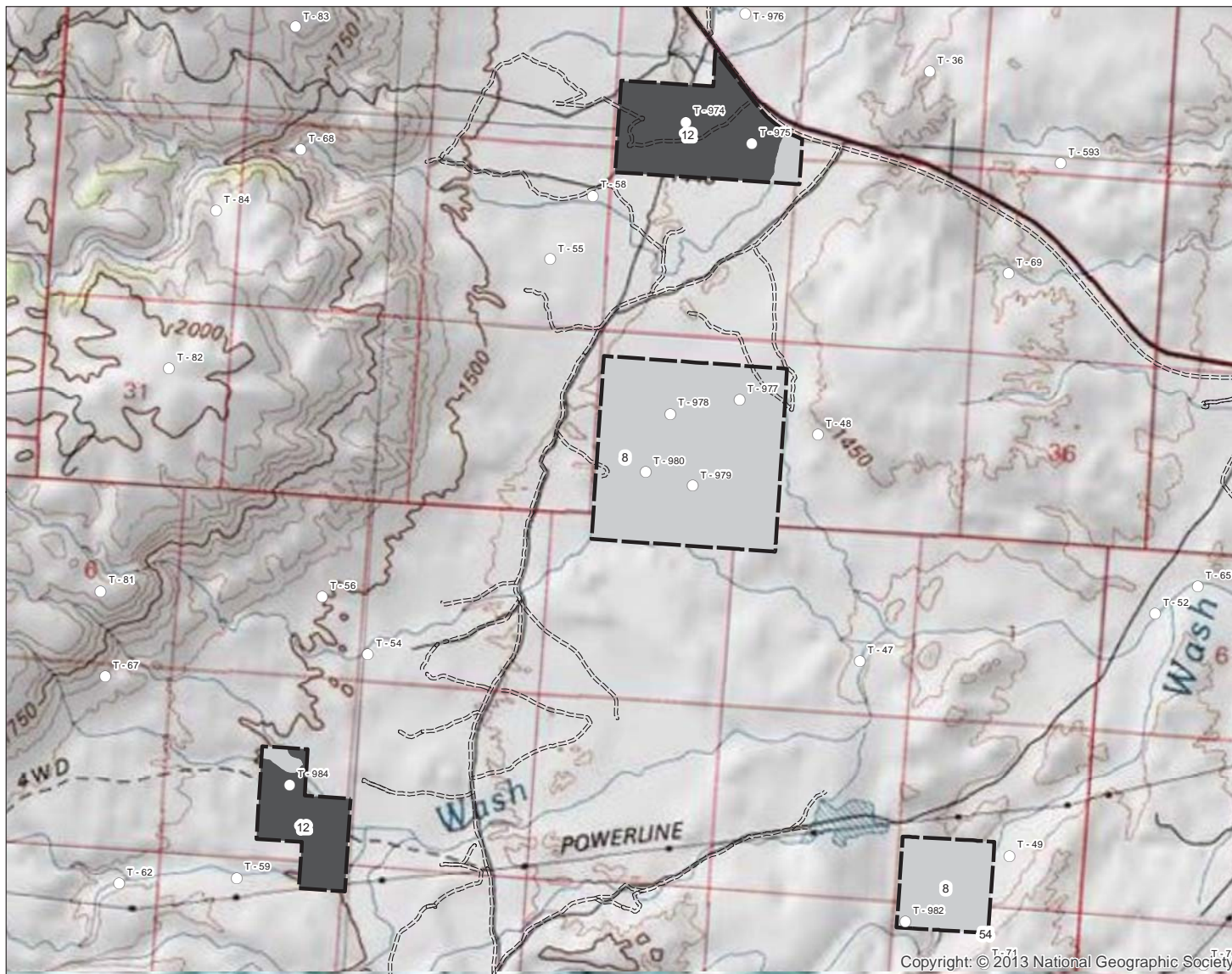
# Soil Map Unit

Land Management District 3

Grazing Allotment 3, Unit 4, Compartment 5

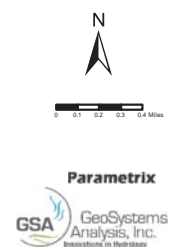
## West Navajo Livestock Capacity Study

Total Acres: 1,252.8  
Grazeable Sheep Acres: 1,249.2  
Sheep Units Year Long: 32.9



- Compartment Boundary
- Transect Location
- Road
- >40% slope
- Soil Map Unit**
  - 12 - Hajsho-Seeg complex
  - 54 - Shinume-Leupp-Rock outcrop complex
  - 8 - Epikom-Leupp complex

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# Stocking Rate

Land Management District 3  
Grazing Allotment 3, Unit 4, Compartment 5

# West Navajo Livestock Capacity Study

Total Acres: 1,252.8  
Grazeable Sheep Acres: 1,249.2  
Sheep Units Year Long: 32.9







## Allotment 3, Unit 4, Compartment 6 (ALT 3-4-6)

Compartment 3-4-6 consists of approximately 747 acres, approximately 96% of which is available to all livestock.

Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and small rock fragments. Dominant grasses include blue grama (63.8 ppa) and alkali sacaton (4.6 ppa); dominant forbs include broom snakeweed (20.4 ppa) and creeping zinnia (7.0 ppa); and dominant shrubs include four-wing saltbush (11.5 ppa) and golden yarrow (1.4 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
28	37.6	37.4	355.2	0.1	1.3	37.6	91.9	0.4	4.9	37.6	60.1	0.6	7.5
29	512.2	490.0	334.0	1.5	17.6	505.3	64.9	7.8	93.5	511.8	45.6	11.2	134.7
38	158.8	151.0	281.5	0.5	6.4	155.5	83.7	1.9	22.3	158.4	44.6	3.5	42.6
8	1.9	1.9	590.4	0.0	0.0	1.9	201.5	0.0	0.1	1.9	96.7	0.0	0.2
9	36.6	35.5	250.2	0.1	1.7	36.5	58.3	0.6	7.5	36.6	44.3	0.8	9.9
<b>Total:</b>	<b>747.2</b>	<b>715.8</b>		<b>2.3</b>	<b>27.0</b>	<b>736.8</b>		<b>10.7</b>	<b>128.3</b>	<b>746.3</b>		<b>16.2</b>	<b>194.9</b>

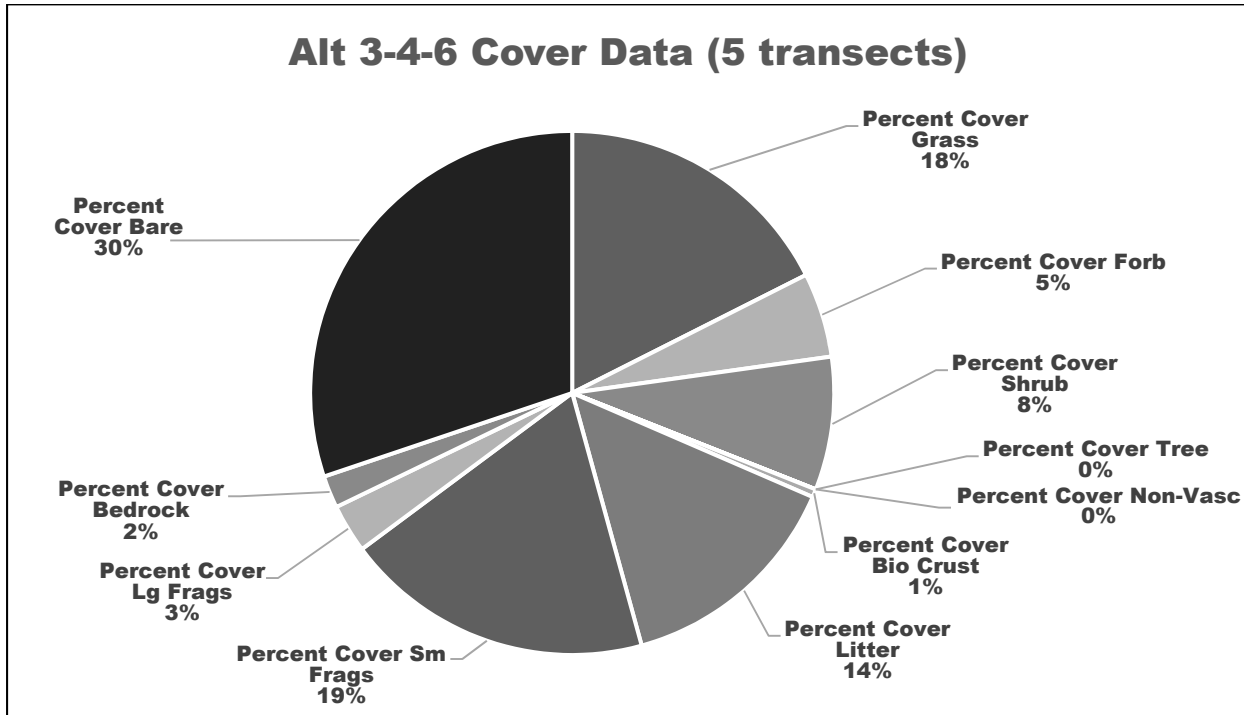
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0-30% All Livestock	31-40% Sheep and Goats	41-60% Goats Only	>60% Non-Grazeable	Total Acres
715.8	21.0	9.5	0.9	747.2



**ALT 3-4-6 Production Table**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ASTRAGALUS	<i>Astragalus</i>	milkvetch	2%	0.7
	BERBERIS	<i>Berberis</i>	barberry	2%	0.3
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	6%	2.1
	CHAMAESYCE	<i>Chamaesyce</i>	sandmat	2%	<0.1
	DYSCHORISTE	<i>Dyschoriste</i>	snakeherb	12%	0.9
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	50%	20.4
	HYMFIL	<i>Hymenopappus filifolius</i>	fineleaf hymenopappus	2%	0.1
	NAMDIC	<i>Nama dichotomum</i>	wishbone fiddleleaf	22%	3.5
	POROLE	<i>Portulaca oleracea</i>	little hogweed	2%	0.4
	PSISPA	<i>Psilostrophe sparsiflora</i>	greenstem paperflower	8%	3.6
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	22%	4.9
	SANABE	<i>Sanvitalia abertii</i>	Abert's creeping zinnia	40%	7.0
	SCHMUL	<i>Schkuhria multiflora</i>	manyflower false threadleaf	2%	<0.1
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	2%	0.8
	SUAMOQ	<i>Suaeda moquinii</i>	Mojave seablite	2%	<0.1
	TETACA	<i>Tetaneuris acaulis</i>	stemless four-nerve daisy	2%	0.4

(Table Continues)

ALT 3-4-6 Production Table (Continued)

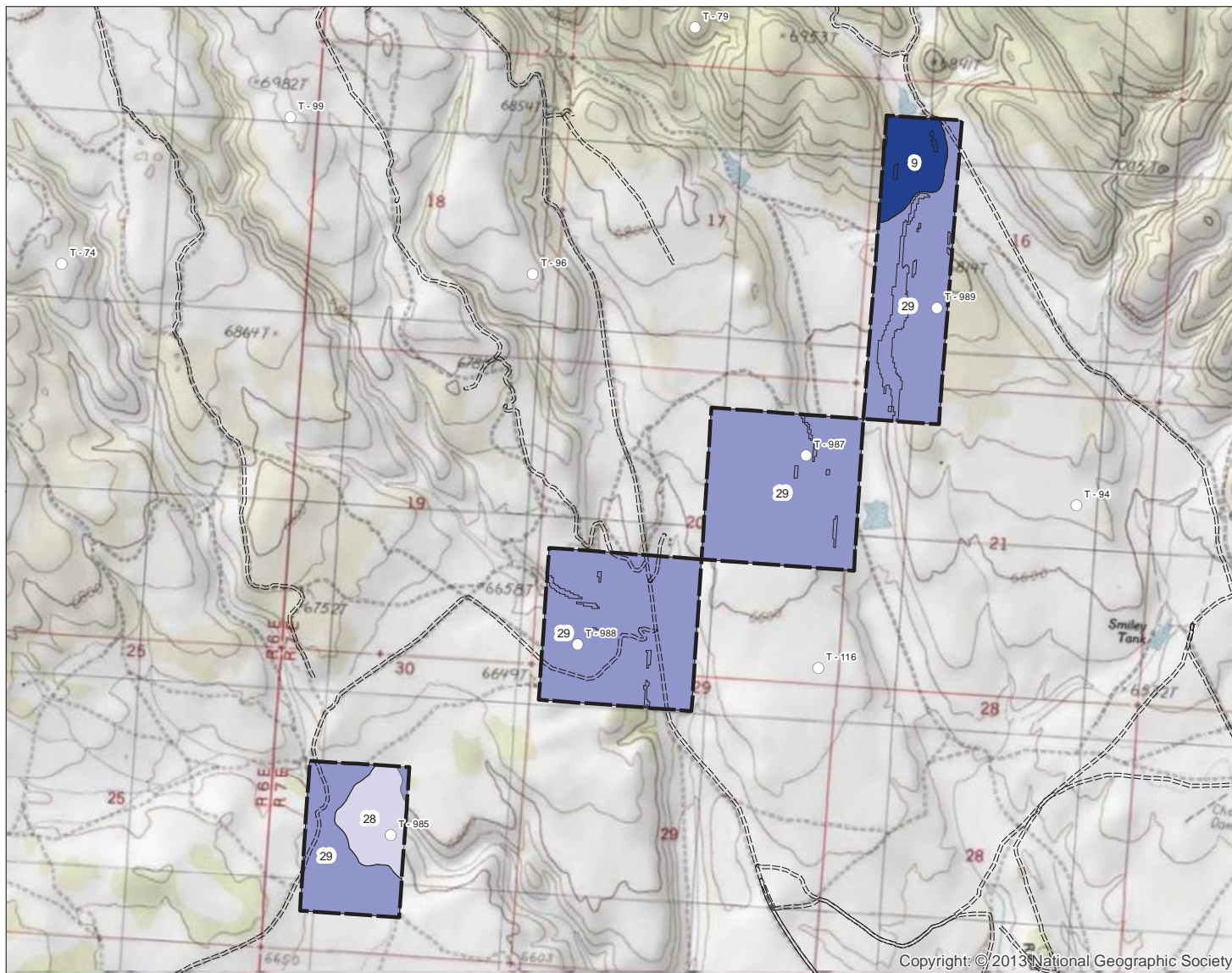
Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Grass/Grasslike</b>	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	72%	63.8
	ELYELY	<i>Elymus elymoides</i>	squirreltail	8%	1.6
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	24%	2.0
	MUHDEP	<i>Muhlenbergia depauperata</i>	sixweeks muhly	4%	1.5
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	8%	4.6
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	8%	2.7
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	10%	2.2
<b>Shrub/Vine</b>	ALHMAU	<i>Alhagi maurorum</i>	camelthorn	10%	0.9
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	16%	11.5
	ATRCAN	<i>Atriplex confertifolia</i>	shadscale saltbush	2%	0.1
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	4%	1.2
	ERICON	<i>Eriophyllum confertiflorum</i>	golden-yarrow	8%	1.4
	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	4%	0.7
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	6%	0.9
<b>Tree</b>	JUNOST	<i>Juniperus osteosperma</i>	Utah juniper	2%	60.0
	PINEDU	<i>Pinus edulis</i>	twoneedle pinyon	2%	0.6

# Soil Map Unit

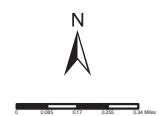
Land Management District 3  
Grazing Allotment 3, Unit 4, Compartment 6

## West Navajo Livestock Capacity Study

Total Acres: 747.2  
Grazeable Sheep Acres: 736.8



- Compartment Boundary
- Transect Location
- Road
- Soil Map Unit**
- 28 - Mellenthin-Rock outcrop complex
- 29 - Meriwitica-Wayneco-Tassi family, complex
- 38 - Persayo-Harksville complex
- 8 - Epikom-Leupp complex
- 9 - Gladel family-Arabrab complex



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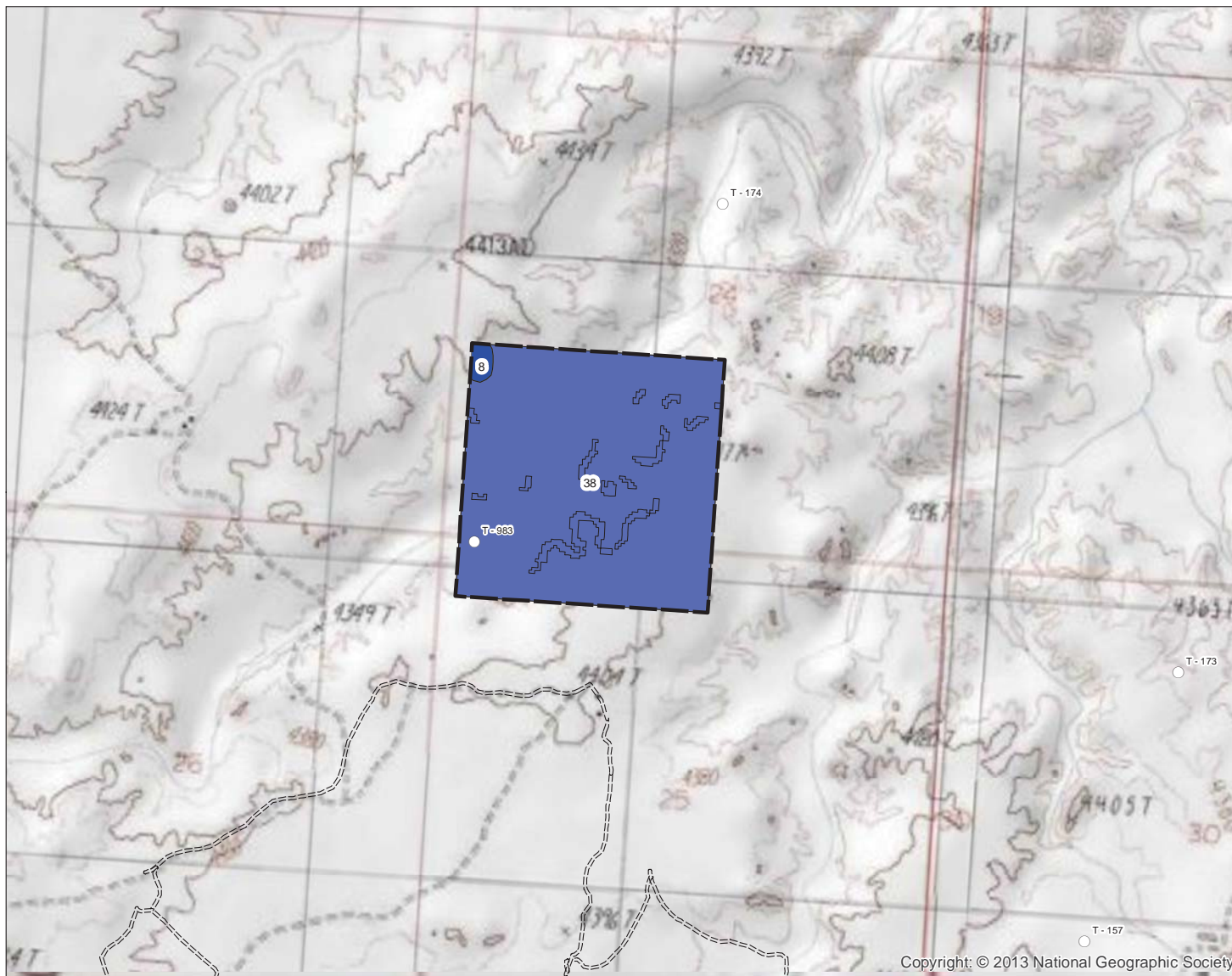


# Soil Map Unit

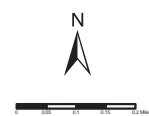
Land Management District 3  
Grazing Allotment 3, Unit 4, Compartment 6

# West Navajo Livestock Capacity Study

Total Acres: 747.2  
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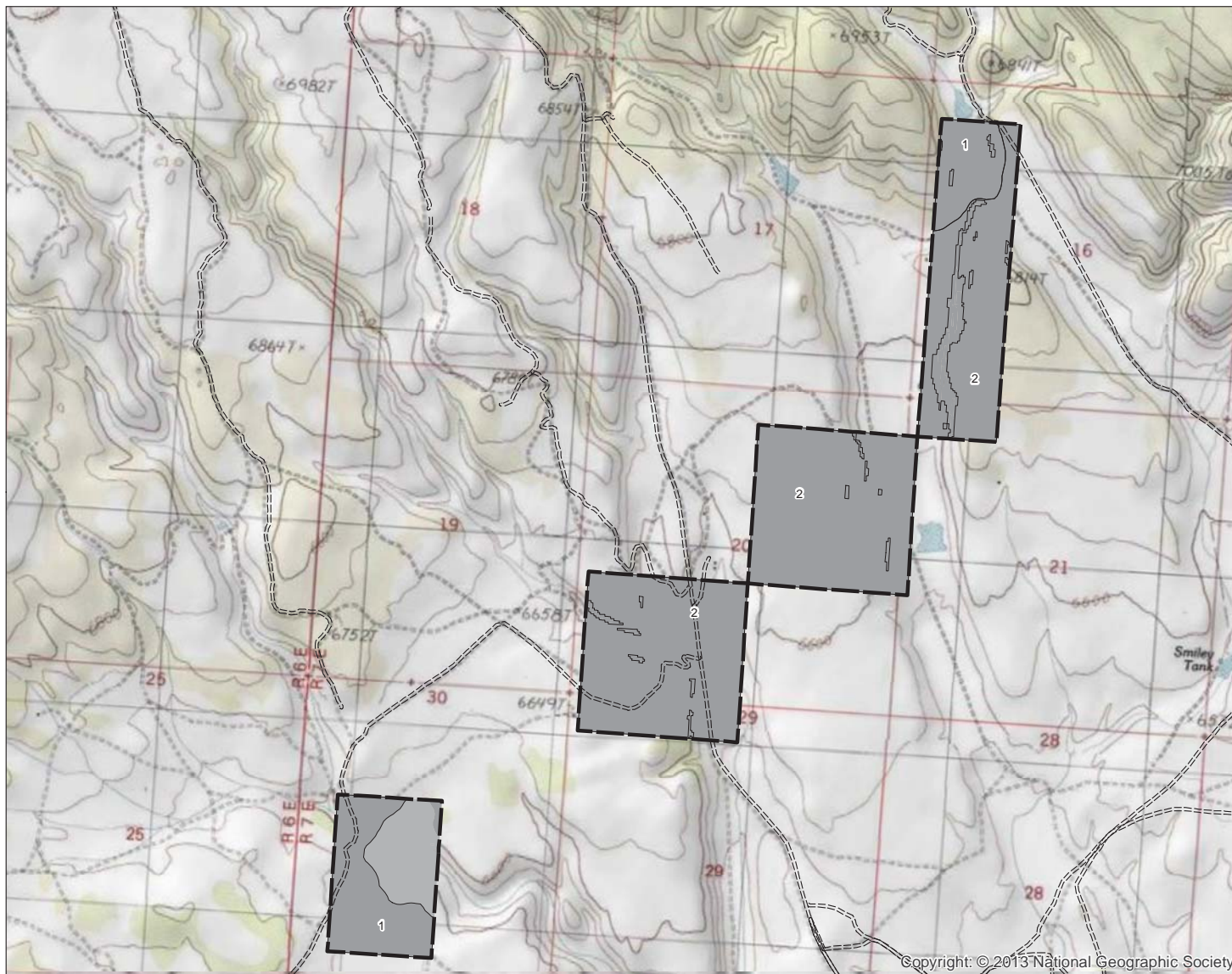


# Stocking Rate

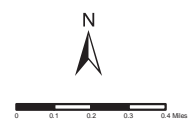
Land Management District 3  
Grazing Allotment 3, Unit 4, Compartment 6

## West Navajo Livestock Capacity Study

Total Acres: 747.2  
Grazeable Sheep Acres: 736.8  
Sheep Units Year Long: 10.7



- Compartment Boundary
- Livestock Watering Facility
- Road
- Sheep Ac/AUYL
  - 1 - 25
  - 25 - 50
  - 50 - 75
  - 75 - 100
  - 100 - 200
  - >200
  - >40% slope



Parametrix  
GSA GeoSystems Analysis, Inc.  
Innovations in Hydrology

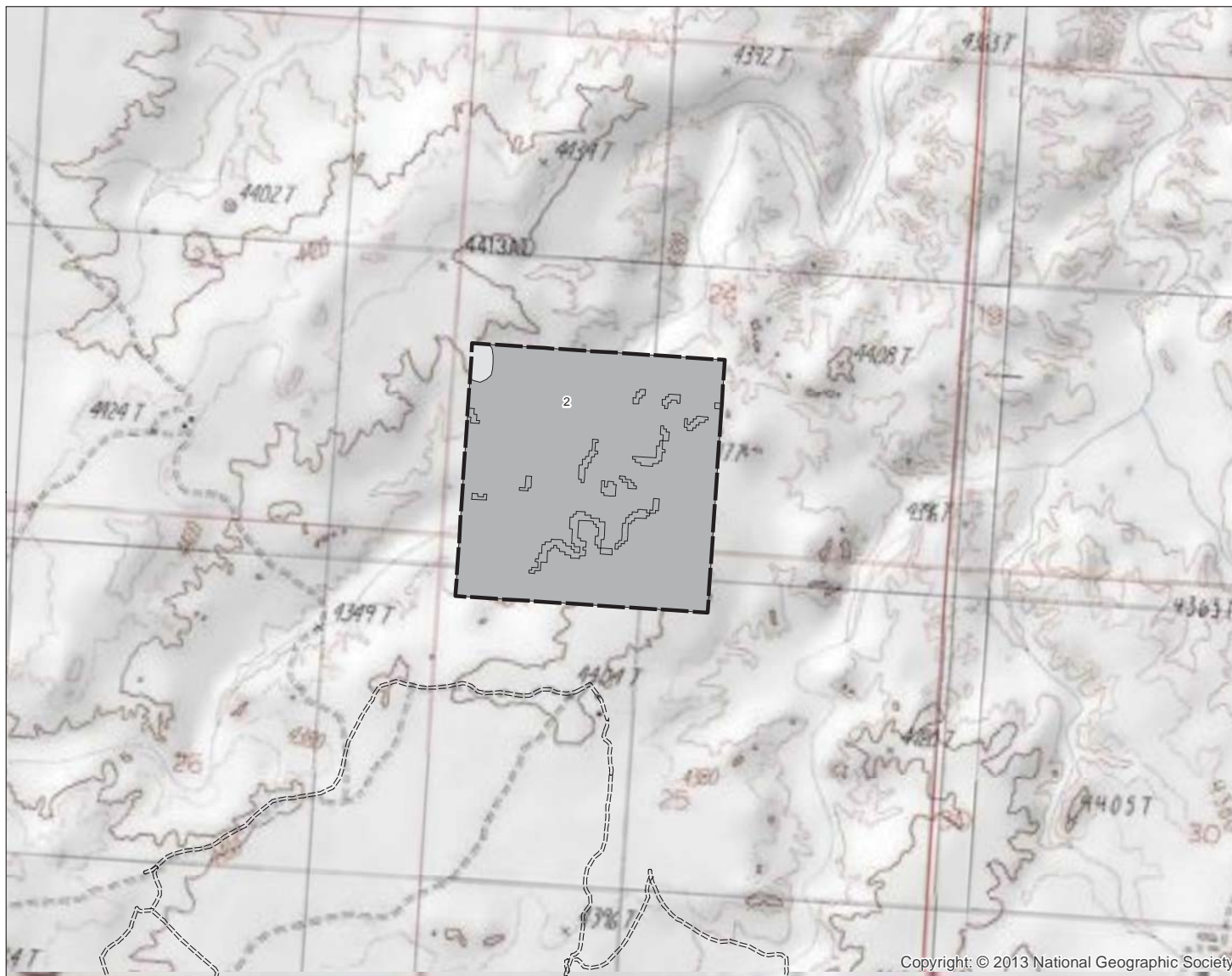
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# Stocking Rate

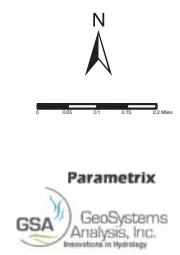
Land Management District 3  
Grazing Allotment 3, Unit 4, Compartment 6

## West Navajo Livestock Capacity Study

Total Acres: 747.2  
Grazeable Sheep Acres: 736.8  
Sheep Units Year Long: 10.7

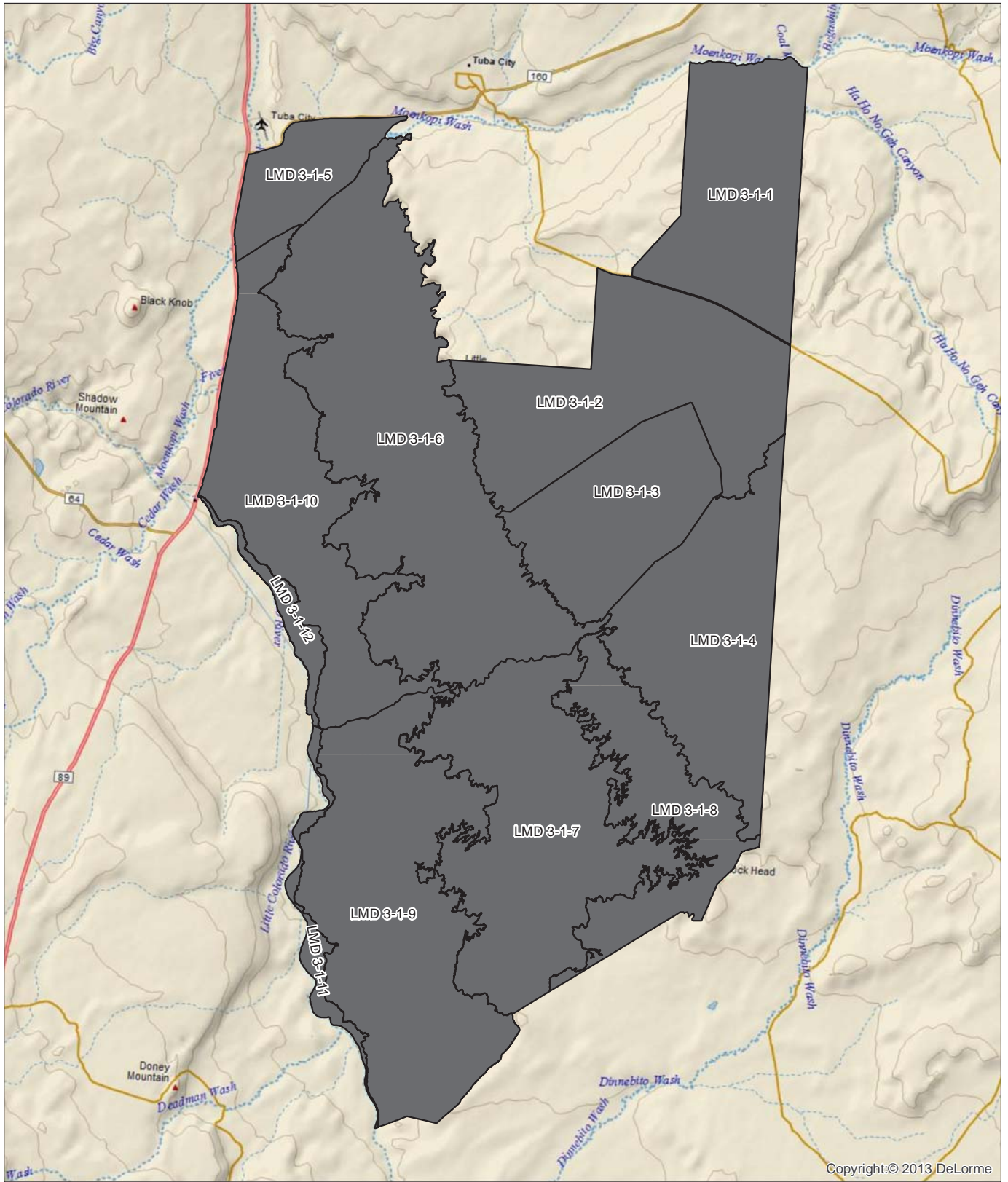


- Compartment Boundary
- Livestock Watering Facility
- Road
- Sheep Ac/AUYL
  - 1 - 25
  - 25 - 50
  - 50 - 75
  - 75 - 100
  - 100 - 200
  - >200





West Navajo Vegetation Study - Land Management District 3, Unit 1 Overview



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## LMD 3, Unit 1, Compartment 1 (LMD 3-1-1)

Compartment 3-1-1 consists of approximately 31,544 acres, approximately 83% of which is available to all livestock. This compartment is steeper than many in the District, though it also has a higher plant diversity. Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and grasses.

Dominant grasses include James' galleta (37.3 ppa) and alkali sacaton (19.2 ppa); dominant forbs include Russian thistle (16.9 ppa) and rose heath (2.6 ppa); and dominant shrubs include jointfir (4.1 ppa) and greasewood (2.1 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
18	648.3	420.9	967.1	0.4	5.2	475.1	214.7	2.2	26.5	549.2	143.0	3.8	46.1
33	8,999.3	8,854.4	185.1	47.8	574.1	8,900.6	57.0	156.1	1,872.9	8,938.2	33.5	267.1	3,205.0
38	2,040.6	653.7	281.5	2.3	27.9	867.8	83.7	10.4	124.5	1,302.0	44.6	29.2	350.1
50	12,229.3	9,083.1	323.2	28.1	337.2	10,012.5	92.8	107.9	1,294.8	11,101.3	59.8	185.6	2,227.8
51	7,626.3	7,249.9	182.4	39.7	476.9	7,412.6	53.3	139.2	1,670.1	7,550.7	31.5	240.0	2,879.6
<b>Total:</b>	<b>31,543.8</b>	<b>26,262.1</b>		<b>118.4</b>	<b>1,421.3</b>	<b>27,668.6</b>		<b>415.7</b>	<b>4,988.8</b>	<b>29,441.4</b>		<b>725.7</b>	<b>8,708.6</b>

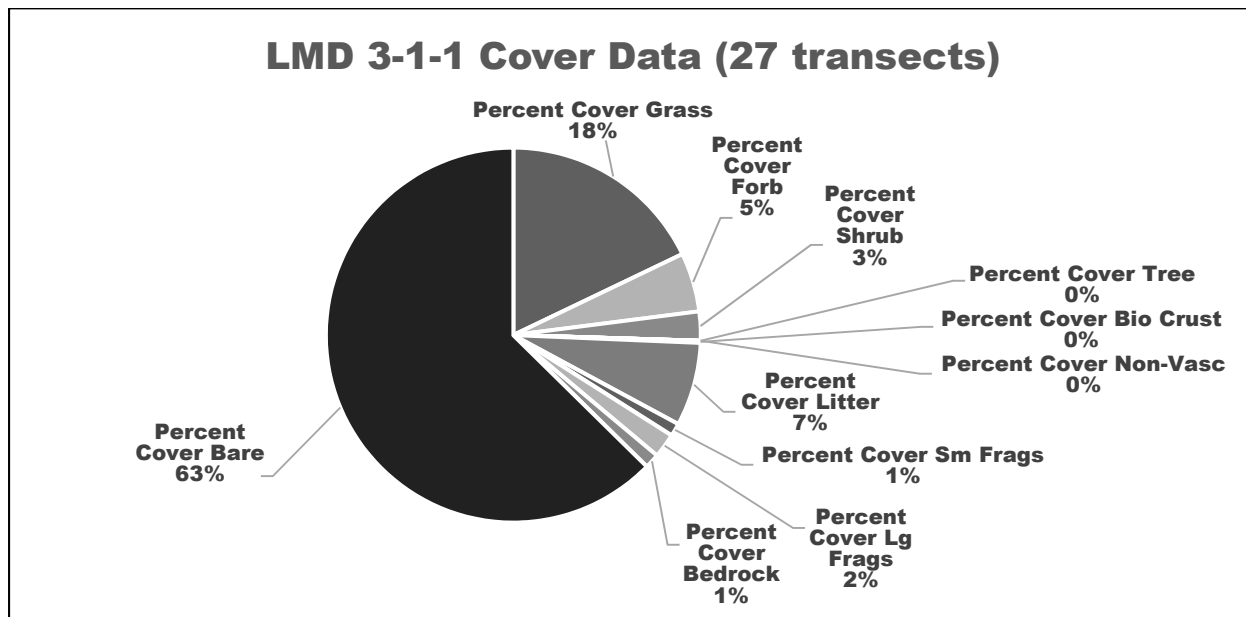
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0–30% All Livestock	31–40% Sheep and Goats	41–60% Goats Only	>60% Non-Grazeable	Total Acres
26,262.1	1,406.6	1,772.7	2,102.4	<b>31,543.8</b>



LMD 3-1-1 Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	AMAPAL	<i>Amaranthus palmeri</i>	carelessweed	1%	0.1
	AMBACA	<i>Ambrosia acanthicarpa</i>	flatspine bur ragweed	4%	1.0
	ASCMAC	<i>Asclepias macrotis</i>	longhood milkweed	<1%	0.1
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	1%	0.1
	BASSCO	<i>Bassia scoparia</i>	burningbush	<1%	<0.1
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	13%	2.6
	CHAPAR	<i>Chamaesyce parryi</i>	Parry's sandmat	<1%	<0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	32%	1.9
	COMUMB	<i>Comandra umbellata</i>	bastard toadflax	<1%	<0.1
	CORWRI	<i>Cordylanthus wrightii</i>	Wright's bird's beak	<1%	0.1
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	2%	0.1
	DICCAN	<i>Dicoria canescens</i>	desert twinbugs	<1%	<0.1
	DIMWIS	<i>Dimorphocarpa wislizeni</i>	touristplant	<1%	<0.1
	ERIDIV	<i>Erigeron divergens</i>	spreading fleabane	1%	0.1
	ERIGERON	<i>Erigeron</i>	fleabane	1%	0.1
	FRAPAN	<i>Frasera paniculata</i>	tufted frasera	<1%	<0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	14%	5.3
	HYMFIL	<i>Hymenopappus filifolius</i>	fineleaf hymenopappus	4%	0.8

(Table Continues)

## LMD 3-1-1 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	HYMFLA	<i>Hymenopappus flavescens</i>	collegeflower	<1%	<0.1
<b>(Continued)</b>	LINARI	<i>Linum aristatum</i>	bristle flax	5%	1.1
	LINARIA	<i>Linaria</i>	toadflax	<1%	<0.1
	MENMUL	<i>Mentzelia multiflora</i>	Adonis blazingstar	1%	0.2
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	3%	0.5
	PECANG	<i>Pectis angustifolia</i>	lemonscent	2%	0.2
	PHACELIA	<i>Phacelia</i>	phacelia	1%	<0.1
	PHYSARIA	<i>Physaria</i>	twinpod	<1%	<0.1
	PLAPAT	<i>Plantago patagonica</i>	woolly plantain	1%	<0.1
	POROLE	<i>Portulaca oleracea</i>	little hogweed	1%	0.1
	PORPIL	<i>Portulaca pilosa</i>	kiss me quick	1%	0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	25%	16.9
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	2%	0.4
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	3%	0.4
	THYACE	<i>Thymophylla acerosa</i>	pricklyleaf dogweed	1%	0.9
	UNKANF	–	Unknown annual forb	1%	0.1
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	34%	12.7
	ANDGER	<i>Andropogon gerardii</i>	big bluestem	<1%	0.1
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	6%	2.4
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	10%	1.9
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	1%	2.9
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	13%	8.1
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	<1%	0.2
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	19%	1.6
	MUHPUN	<i>Muhlenbergia pungens</i>	sandhill muhly	6%	3.2
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	58%	37.3
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	10%	19.2
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	19%	12.2
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	34%	12.8
	SPOFLE	<i>Sporobolus flexuosus</i>	mesa dropseed	3%	0.6

(Table Continues)

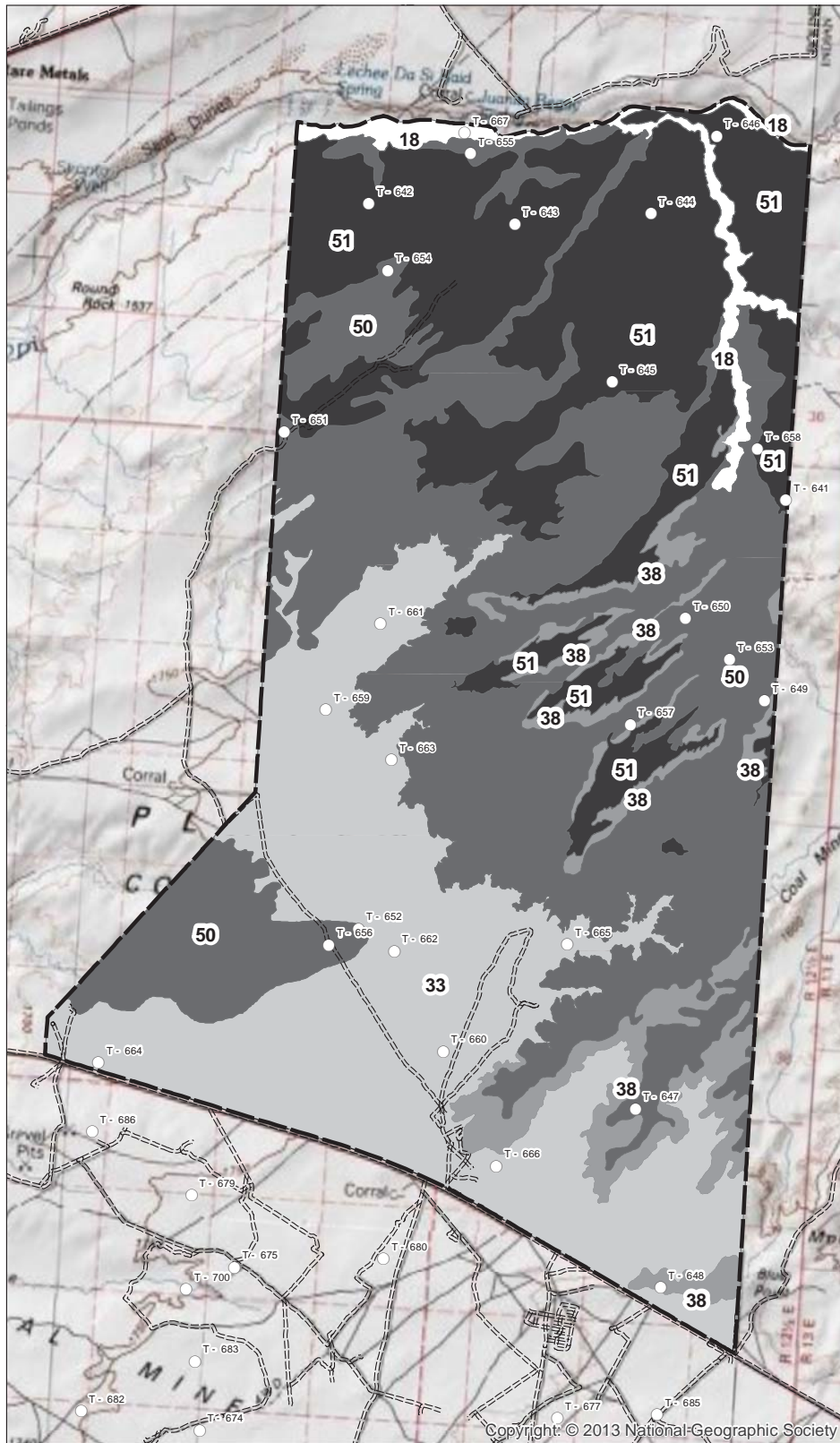
**LMD 3-1-1 Production Table (Continued)**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Shrub/Vine	ARTBIG	<i>Artemisia bigelovii</i>	Bigelow sage	1%	0.2
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	<1%	0.5
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	1%	0.8
	CHRGRE	<i>Chrysothamnus greenei</i>	Greene's rabbitbrush	3%	1.7
	EPHCUT	<i>Ephedra cutleri</i>	Cutler's jointfir	7%	4.1
	EPHEDRA	<i>Ephedra</i>	jointfir	1%	2.0
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	<1%	0.2
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	1%	0.6
	ERILEP	<i>Eriogonum leptophyllum</i>	slenderleaf buckwheat	3%	0.6
	ERIMIC	<i>Eriogonum microthecum</i>	slender buckwheat	<1%	<0.1
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	3%	1.0
	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	1%	0.2
	POLINC	<i>Poliomintha incana</i>	frosted mint	<1%	0.2
	SARVER	<i>Sarcobatus vermiculatus</i>	greasewood	2%	2.1
	YUCBAI	<i>Yucca baileyi</i>	Navajo yucca	1%	1.0

**Transect and Soil Map Unit**  
 Land Management District 3  
 Unit 1, Compartment 1

**West Navajo Livestock Capacity Study**

Total Acres: 31,543.8  
 Grazable Acres: 27,668.6  
 Total Sheep Year Long: 415.7



- Compartment Boundary
- Transect Location
- Road
- Soil Map Unit
  - 18 - Ives-Riverwash association
  - 33 - Moffat-Monue complex
  - 38 - Persayo-Hanksville complex
  - 50 - Sheppard-Moenkopie-Needle complex
  - 51 - Sheppard-Monue complex

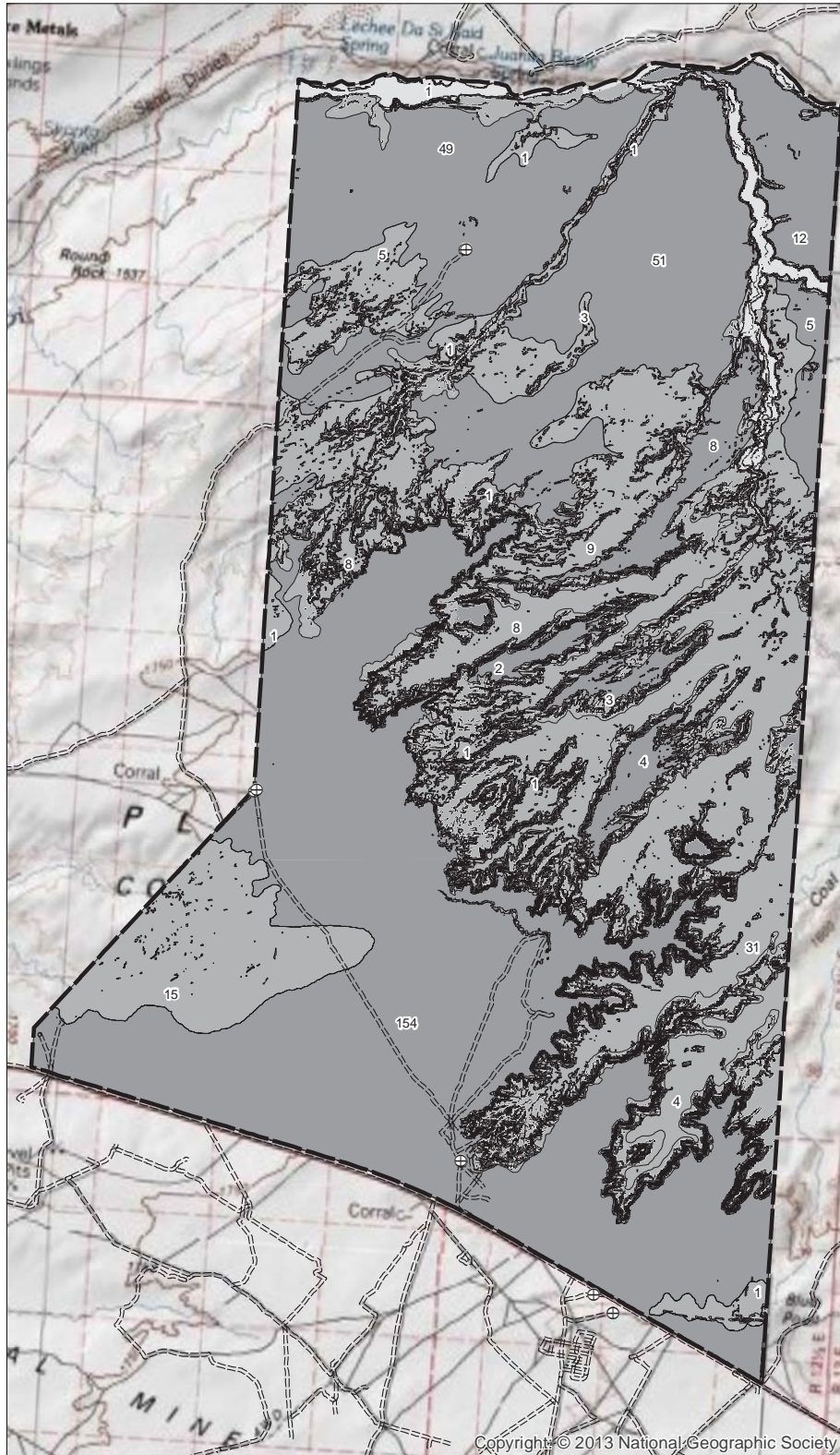


# West Navajo Livestock Capacity Study

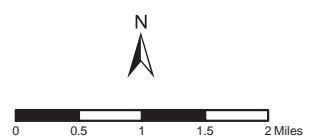
## Stocking Rate

Land Management District 3  
Unit 1, Compartment 1

Total Acres: 31,543.8  
Grazeable Sheep Acres: 27,668.6  
Total Sheep Year Long: 415.7



- Compartment Boundary
- Livestock Watering Facility
- Road
- Sheep Ac/AUYL
  - 50 - 75
  - 75 - 100
  - 100 - 200
  - > 200
  - >40% slope



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## LMD 3, Unit 1, Compartment 2 (LMD 3-1-2)

Compartment 3-1-2 consists of approximately 43,484 acres, approximately 99% of which is available to all livestock.

Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and small rock fragments. Dominant grasses include James' galleta (46.7 ppa) and Indian ricegrass (44.4 ppa); dominant forbs include Russian thistle (32.6 ppa) and sawtooth sandmat (9.4 ppa); and dominant shrubs include jointfir (8.3 ppa) and rabbitbrush (4.6 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
33	22,903.6	22,902.0	185.1	123.7	1,484.9	22,903.5	57.0	401.6	4,819.4	22,903.6	33.5	684.4	8,212.7
37	1.0	0.3	414.7	0.0	0.0	0.4	96.1	0.0	0.0	0.5	59.6	0.0	0.1
50	1,996.5	1,922.1	323.2	5.9	71.4	1,980.3	92.8	21.3	256.1	1,995.3	59.8	33.4	400.4
51	18,583.2	18,493.7	182.4	101.4	1,216.5	18,532.4	53.3	348.0	4,175.5	18,554.5	31.5	589.7	7,076.2
<b>Total:</b>	<b>43,484.3</b>	<b>43,318.2</b>		<b>231.1</b>	<b>2,772.8</b>	<b>43,416.5</b>		<b>770.9</b>	<b>9,251.0</b>	<b>43,453.8</b>		<b>1,307.4</b>	<b>15,689.4</b>

Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

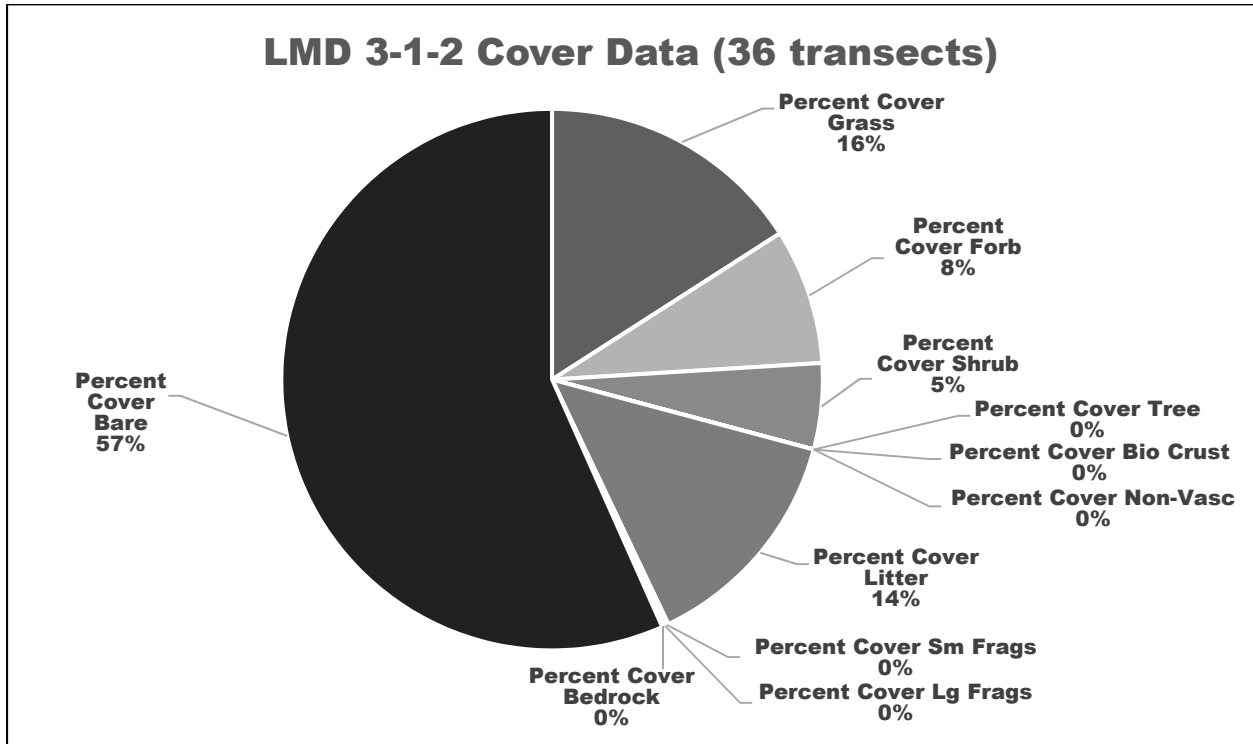
Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0–30% All Livestock	31–40% Sheep and Goats	41–60% Goats Only	>60% Non-Grazeable	Total Acres
43,318.2	98.4	37.3	30.5	43,484.3





**LMD 3-1-2 Production Table**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	ALLIUM	<i>Allium</i>	onion	<1%	<0.1
	AMBACA	<i>Ambrosia acanthicarpa</i>	flatspine bur ragweed	1%	0.3
	ASTFUC	<i>Astragalus fucatus</i>	Hopi milkvetch	2%	0.6
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	2%	0.1
	CASTILLEJA	<i>Castilleja</i>	Indian paintbrush	<1%	<0.1
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	19%	4.4
	CHAFEN	<i>Chamaesyce fendleri</i>	Fendler's sandmat	<1%	<0.1
	CHAPAR	<i>Chamaesyce parryi</i>	Parry's sandmat	1%	0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	60%	9.4
	CHEINC	<i>Chenopodium incanum</i>	mealy goosefoot	1%	0.3
	CHENOPODIUM	<i>Chenopodium</i>	goosefoot	3%	1.3
	CORWRI	<i>Cordylanthus wrightii</i>	Wright's bird's beak	<1%	0.3
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	1%	0.1
	DIMWIS	<i>Dimorphocarpa wislizeni</i>	touristplant	1%	0.2
	ERICER	<i>Eriogonum cernuum</i>	nodding buckwheat	3%	0.7
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	21%	5.1

(Table Continues)

## LMD 3-1-2 Production Table (Continued)

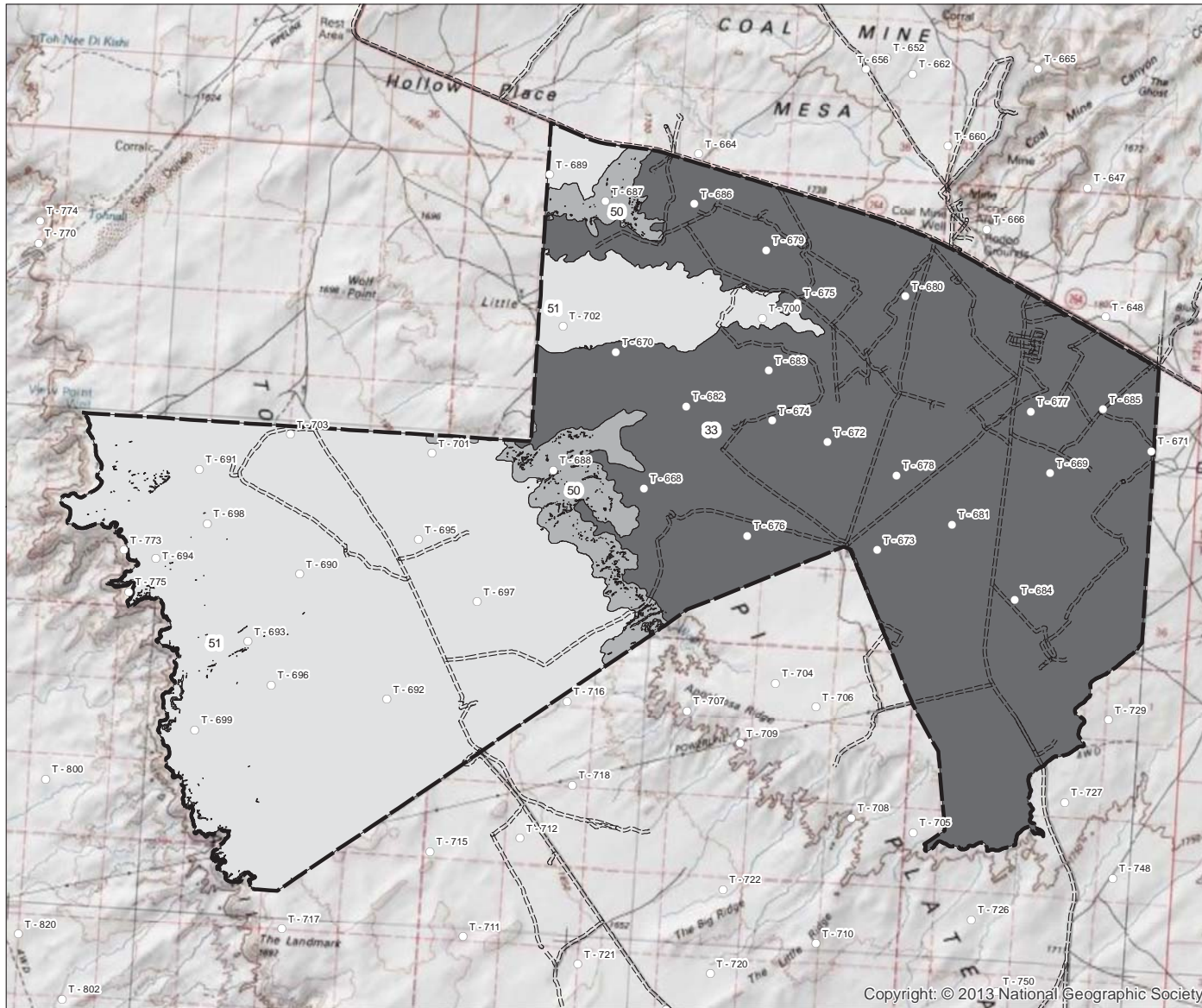
Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	HELPET	<i>Helianthus petiolaris</i>	prairie sunflower	1%	0.5
<b>(Continued)</b>	HYMFLA	<i>Hymenopappus flavescens</i>	collegethrow	<1%	<0.1
	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	1%	0.1
	LINARI	<i>Linum aristatum</i>	bristle flax	6%	2.7
	MENTZELIA	<i>Mentzelia</i>	blazingstar	1%	0.2
	OENCOR	<i>Oenothera coronopifolia</i>	crownleaf evening primrose	1%	0.1
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	4%	0.7
	PENAMB	<i>Penstemon ambiguus</i>	gilia beardtongue	1%	0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	32%	32.6
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	16%	2.7
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	<1%	<0.1
	STEEEXI	<i>Stephanomeria exigua</i>	small wirelettuce	1%	0.2
	UNKANF	–	Unknown annual forb	<1%	<0.1
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	81%	44.4
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	8%	3.4
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	19%	1.9
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	7%	5.5
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	39%	13.6
	MUHPUN	<i>Muhlenbergia pungens</i>	sandhill muhly	3%	2.0
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	74%	46.7
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	<1%	0.2
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	16%	5.3
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	41%	14.4
	SPOFLE	<i>Sporobolus flexuosus</i>	mesa dropseed	4%	1.5
	SPOGIG	<i>Sporobolus giganteus</i>	giant dropseed	<1%	0.4
<b>Shrub/Vine</b>	ARTBIG	<i>Artemisia bigelovii</i>	Bigelow sage	<1%	0.1
	CHRGRE	<i>Chrysothamnus Greenei</i>	Greene's rabbitbrush	4%	4.6
	EPHCUT	<i>Ephedra cutleri</i>	Cutler's jointfir	28%	8.3
	EPHEDRA	<i>Ephedra</i>	jointfir	2%	1.3
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	<1%	0.1
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	2%	1.0
	ERILEP	<i>Eriogonum leptophyllum</i>	slenderleaf buckwheat	3%	1.3
	ERIMIC	<i>Eriogonum microthecum</i>	slender buckwheat	<1%	0.1
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	1%	0.9
	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	1%	0.7
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	<1%	<0.1
	YUCBAI	<i>Yucca baileyi</i>	Navajo yucca	1%	0.3

# Soil Map Unit

Land Management District 3  
Unit 1, Compartment 2

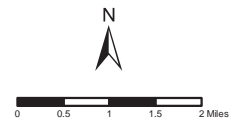
## West Navajo Livestock Capacity Study

Total Acres: 43,484.3  
Grazeable Sheep Acres: 43,416.5



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- Compartment Boundary
- Road
- Soil Map Unit**
- 33 - Moffat-Monue complex
- 37 - Nepalto family-Tsaya-Rock outcrop complex
- 50 - Sheppard-Moenkopie-Needle complex
- 51 - Sheppard-Monue complex

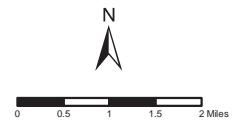
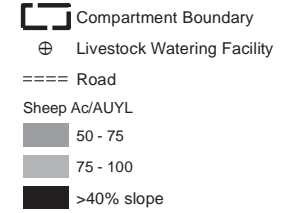
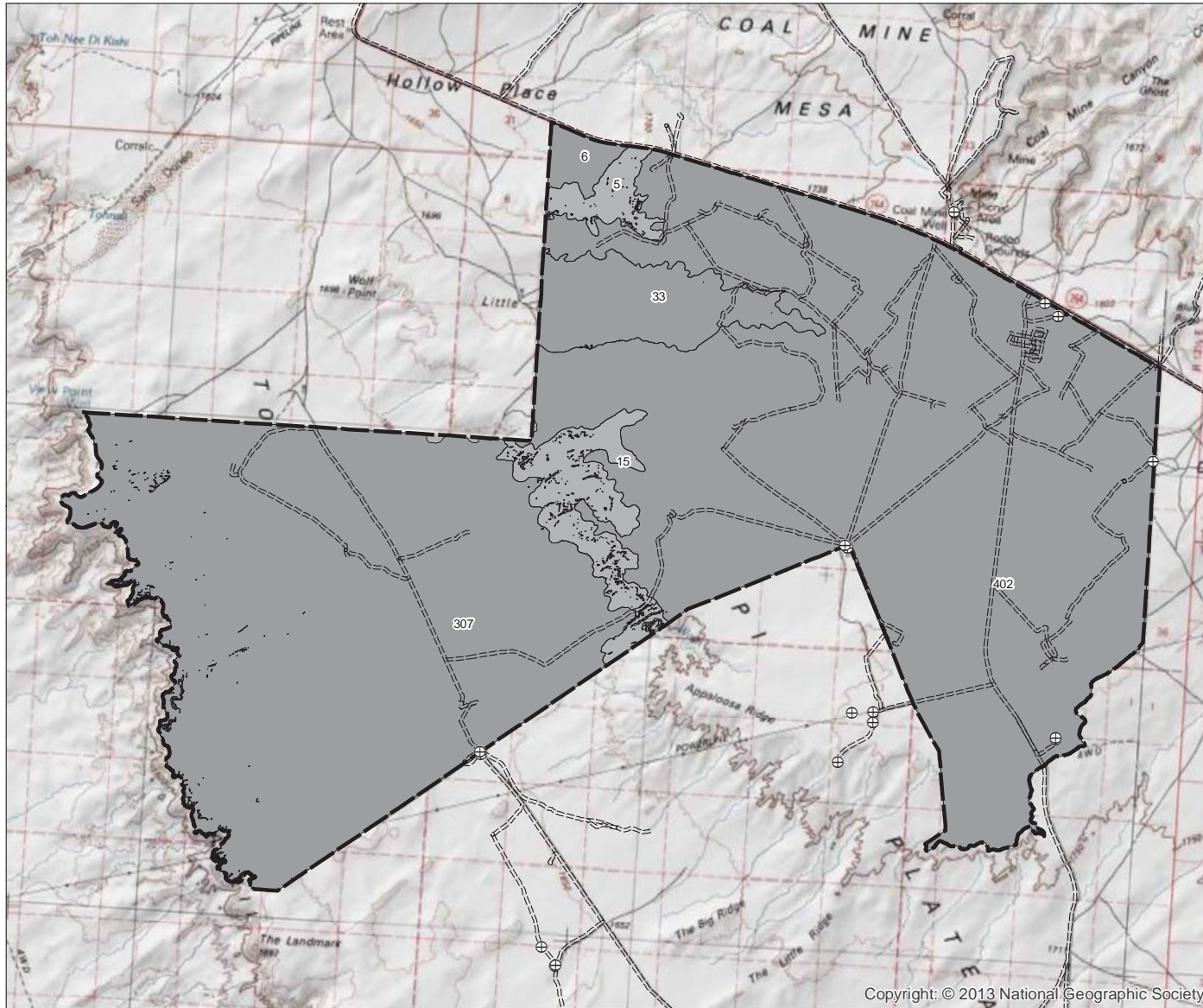


# Stocking Rate

Land Management District 3  
Unit 1, Compartment 2

# West Navajo Livestock Capacity Study

Total Acres: 43,484.3  
Grazeable Sheep Acres: 43,416.5  
Total Sheep Year Long: 770.9



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## LMD 3, Unit 1, Compartment 3 (LMD 3-1-3)

Compartment 3-1-3 consists of approximately 26,405 acres, approximately 98% of which is available to all livestock.

Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and grasses. Dominant grasses include James' galleta (73.4 ppa) and Indian ricegrass (27.8 ppa); dominant forbs include Russian thistle (30.7 ppa) and snakeweed (6.6 ppa); and dominant shrubs include jointfir (4.7 ppa) and winterfat (4.1 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
33	3,473.9	3,473.0	185.1	18.8	225.2	3,473.7	57.0	60.9	730.9	3,473.9	33.5	103.8	1,245.7
37	348.4	167.7	414.7	0.4	4.9	227.5	96.1	2.4	28.4	296.7	59.6	5.0	59.7
50	4,596.0	4,347.5	323.2	13.5	161.4	4,514.1	92.8	48.6	583.8	4,587.3	59.8	76.7	920.6
51	17,986.3	17,854.8	182.4	97.9	1,174.5	17,917.1	53.3	336.4	4,036.8	17,964.9	31.5	570.9	6,851.3
<b>Total:</b>	<b>26,404.6</b>	<b>25,843.0</b>		<b>130.5</b>	<b>1,565.9</b>	<b>26,132.5</b>		<b>448.3</b>	<b>5,380.0</b>	<b>26,322.8</b>		<b>756.4</b>	<b>9,077.3</b>

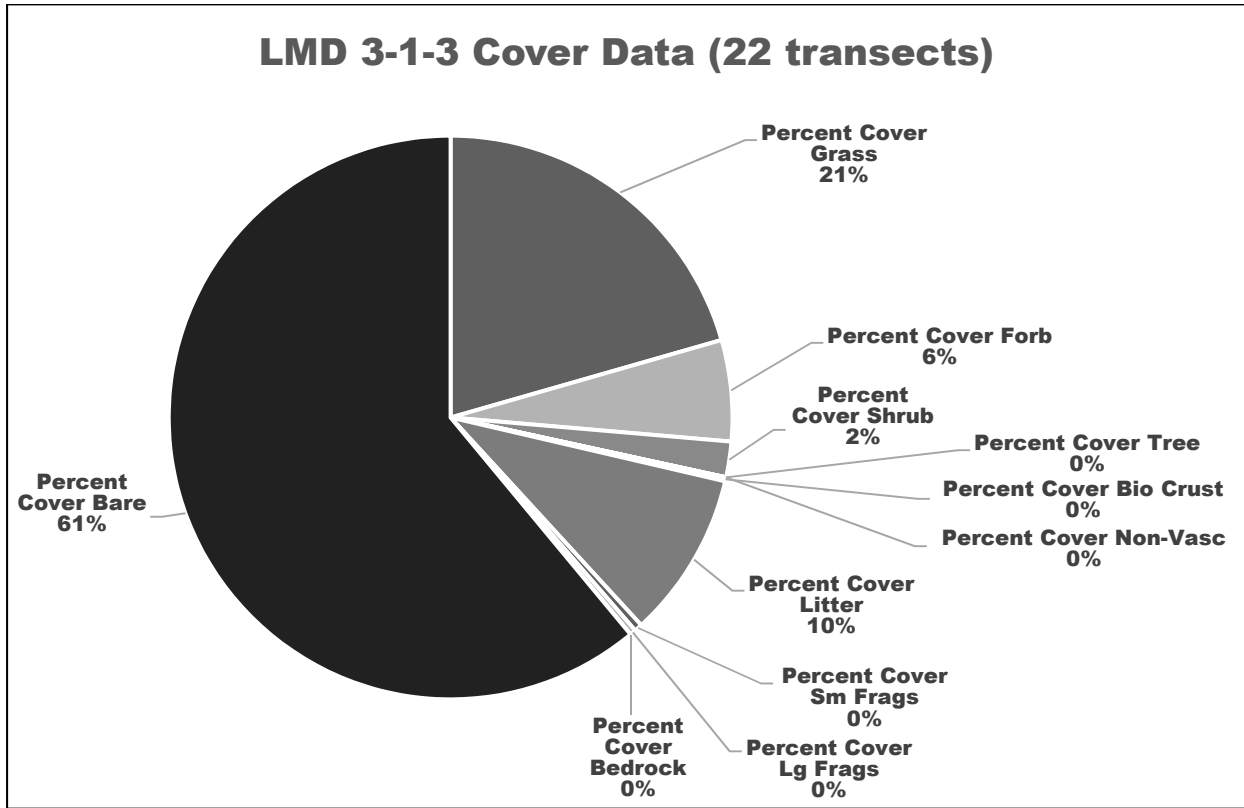
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0–30% All Livestock	31–40% Sheep and Goats	41–60% Goats Only	>60% Non-Grazeable	Total Acres
25,843.0	289.5	190.4	81.7	<b>26,404.6</b>



**LMD 3-1-3 Production Table**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	AMBACA	<i>Ambrosia acanthicarpa</i>	flatspine bur ragweed	1%	0.4
	AREEAS	<i>Arenaria eastwoodiae</i>	Eastwood's sandwort	<1%	<0.1
	ASCMAC	<i>Asclepias macrotis</i>	longhood milkweed	<1%	0.1
	ASTFUC	<i>Astragalus fucatus</i>	Hopi milkvetch	1%	0.2
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	2%	0.1
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	9%	1.3
	CHAPAR	<i>Chamaesyce parryi</i>	Parry's sandmat	<1%	<0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	50%	4.5
	CORWRI	<i>Cordylanthus wrightii</i>	Wright's bird's beak	<1%	0.3
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	1%	0.2
	DIMWIS	<i>Dimorphocarpa wislizeni</i>	touristplant	1%	<0.1
	ERICER	<i>Eriogonum cernuum</i>	nodding buckwheat	<1%	<0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	18%	6.6

(Table Continues)

## LMD 3-1-3 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b> <b>(Continued)</b>	HYMFIL	<i>Hymenopappus filifolius</i>	fineleaf hymenopappus	2%	0.2
	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	1%	<0.1
	LINARI	<i>Linum aristatum</i>	bristle flax	10%	2.4
	MENMUL	<i>Mentzelia multiflora</i>	Adonis blazingstar	1%	0.5
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	4%	0.7
	PENAMB	<i>Penstemon ambiguus</i>	gilia beardtongue	2%	0.4
	PHAINT	<i>Phacelia integrifolia</i>	gypsum phacelia	1%	0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	40%	30.7
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	16%	5.3
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	4%	0.5
	THEMEG	<i>Thelesperma megapotamicum</i>	Hopi tea greenthread	1%	0.1
	<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	50%
ARIPUR		<i>Aristida purpurea</i>	purple threeawn	2%	0.9
BOUBAR		<i>Bouteloua barbata</i>	sixweeks grama	15%	2.0
BOUERI		<i>Bouteloua eriopoda</i>	black grama	1%	1.2
BOUGRA		<i>Bouteloua gracilis</i>	blue grama	1%	0.3
HESCOM		<i>Hesperostipa comata</i>	needle and thread	5%	3.5
MONSQU		<i>Monroa squarrosa</i>	false buffalograss	45%	6.2
MUHPUN		<i>Muhlenbergia pungens</i>	sandhill muhly	15%	13.6
PLEJAM		<i>Pleuraphis jamesii</i>	James' galleta	69%	73.4
SPOAIR		<i>Sporobolus airoides</i>	alkali sacaton	<1%	1.1
SPOCON		<i>Sporobolus contractus</i>	spike dropseed	21%	13.8
SPOCRY		<i>Sporobolus cryptandrus</i>	sand dropseed	39%	16.4
SPOFLE		<i>Sporobolus flexuosus</i>	mesa dropseed	1%	0.1
SPOGIG		<i>Sporobolus giganteus</i>	giant dropseed	1%	0.1
<b>Shrub/Vine</b>		ARTBIG	<i>Artemisia bigelovii</i>	Bigelow sage	1%
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	1%	0.5
	EPHCUT	<i>Ephedra cutleri</i>	Cutler's jointfir	12%	4.7
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	5%	2.5
	ERICON	<i>Eriophyllum confertiflorum</i>	golden-yarrow	<1%	0.1
	ERILEP	<i>Eriogonum leptophyllum</i>	slenderleaf buckwheat	<1%	<0.1
	ERIMIC	<i>Eriogonum microthecum</i>	slender buckwheat	<1%	0.1
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	<1%	0.1
	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	4%	4.1
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	<1%	<0.1
	YUCBAI	<i>Yucca baileyi</i>	Navajo yucca	1%	<0.1

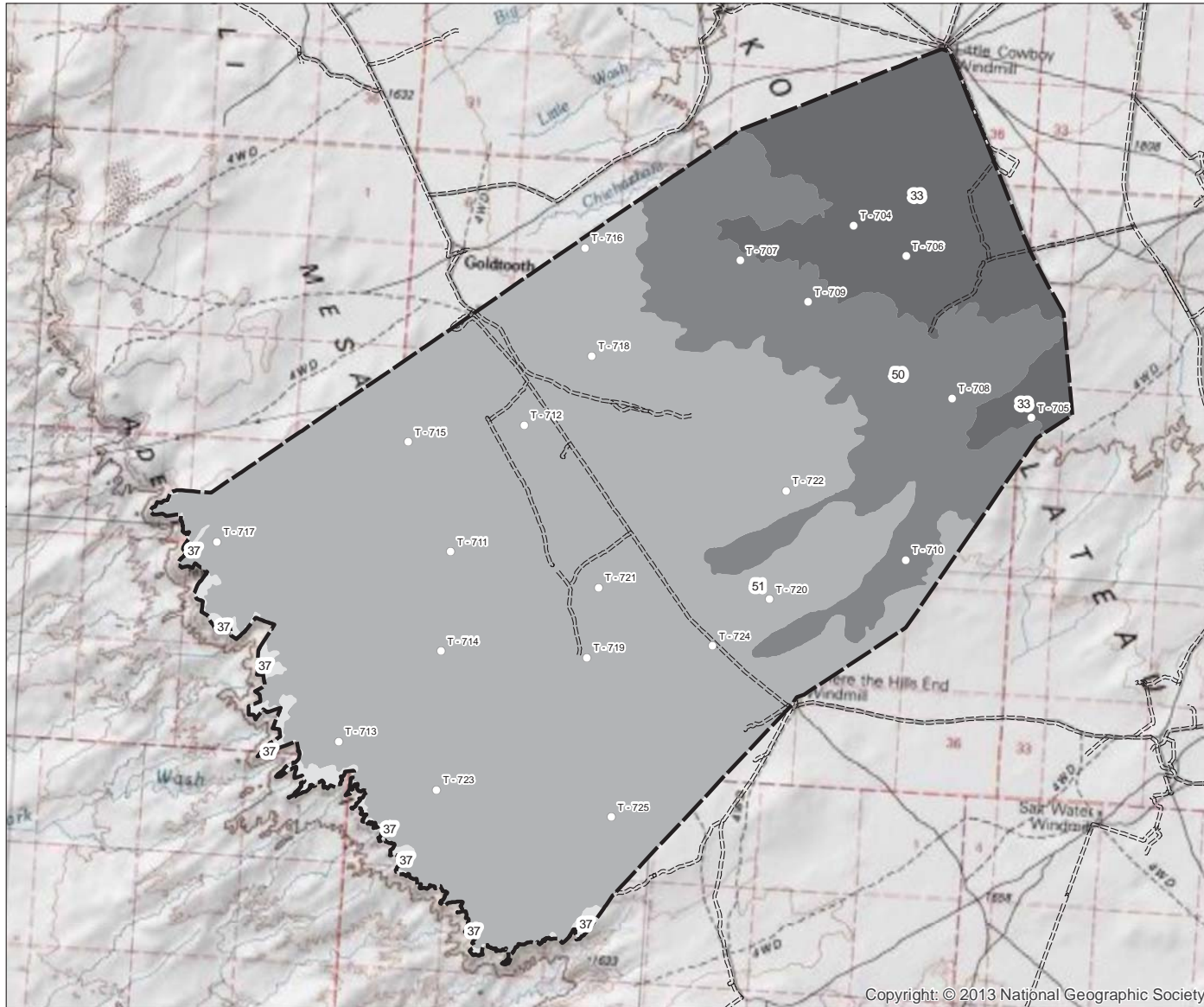


# Stocking Rate

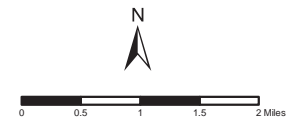
Land Management District 3  
Unit 1, Compartment 3

# West Navajo Livestock Capacity Study

Total Acres: 26,404.6  
Grazeable Sheep Acres: 26,132.5



- Compartment Boundary
- Transect Location
- Road
- Soil Map Unit**
  - 33 - Moffat-Monue complex
  - 50 - Sheppard-Moenkopie-Needle complex
  - 51 - Sheppard-Monue complex
  - 37 - Nepalto family-Tsaya-Rock outcrop complex



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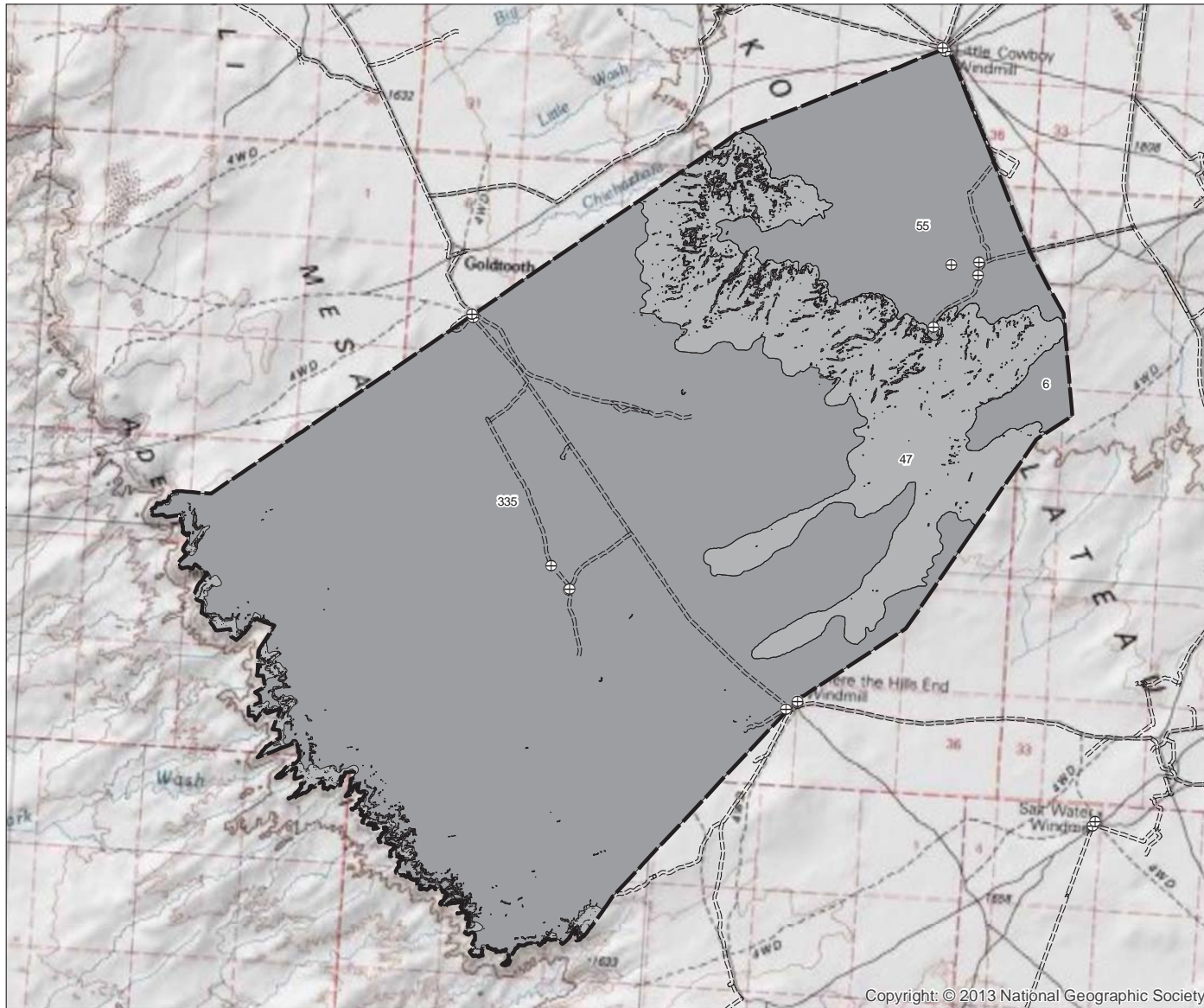


# Stocking Rate

Land Management District 3  
Unit 1, Compartment 3

# West Navajo Livestock Capacity Study

Total Acres: 26,404.6  
Grazeable Sheep Acres: 26,132.5  
Total Sheep Year Long: 448.3



- Compartment Boundary
- Livestock Watering Facility
- Road
- Sheep Ac/AUYL
  - 50 - 75
  - 75 - 100
  - >40% slope

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## LMD 3, Unit 1, Compartment 4 (LMD 3-1-4)

Compartment 3-1-4 consists of approximately 37,207 acres, approximately 99% of which is available to all livestock.

Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and grasses. Dominant grasses include James' galleta (33.8 ppa) and Indian ricegrass (117.9 ppa); dominant forbs include ragweed (20.0 ppa) and snakeweed (8.0 ppa); and dominant shrubs include jointfir (9.6 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
33	0.1	0.1	185.1	0.0	0.0	0.1	57.0	0.0	0.0	0.1	33.5	0.0	0.0
37	1.8	1.2	414.7	0.0	0.0	1.4	96.1	0.0	0.2	1.6	59.6	0.0	0.3
38	1.1	1.0	281.5	0.0	0.0	1.0	83.7	0.0	0.2	1.1	44.6	0.0	0.3
50	1,349.6	1,347.2	323.2	4.2	50.0	1,349.6	92.8	14.5	174.5	1,349.6	59.8	22.6	270.8
51	35,854.6	35,662.0	182.4	195.5	2,345.8	35,779.5	53.3	671.8	8,061.3	35,835.0	31.5	1,138.9	13,666.5
<b>Total:</b>	<b>37,207.2</b>	<b>37,011.5</b>		<b>199.7</b>	<b>2,395.9</b>	<b>37,131.6</b>		<b>686.3</b>	<b>8,236.2</b>	<b>37,187.5</b>		<b>1,161.5</b>	<b>13,938.0</b>

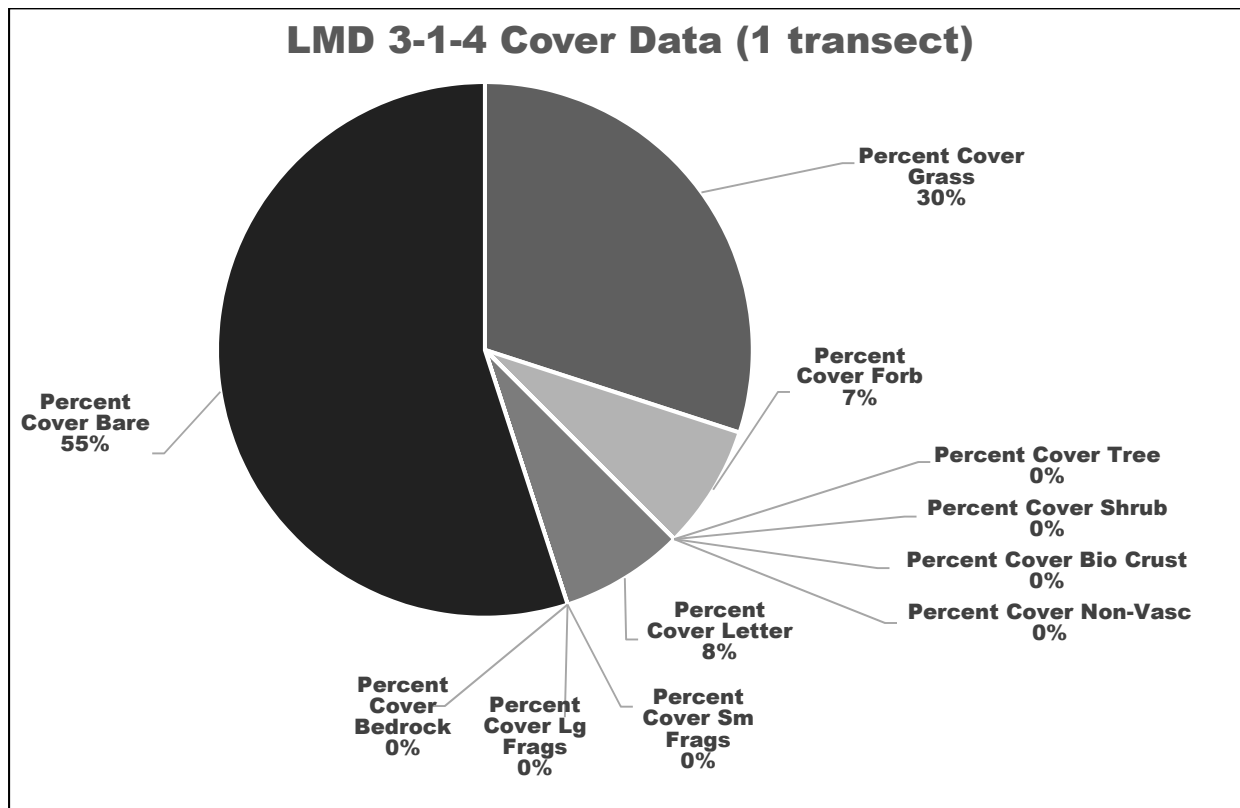
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0–30% All Livestock	31–40% Sheep and Goats	41–60% Goats Only	>60% Non-Grazeable	Total Acres
37,011.5	120.1	55.8	19.7	<b>37,207.2</b>



**LMD 3-1-4 Production Table**

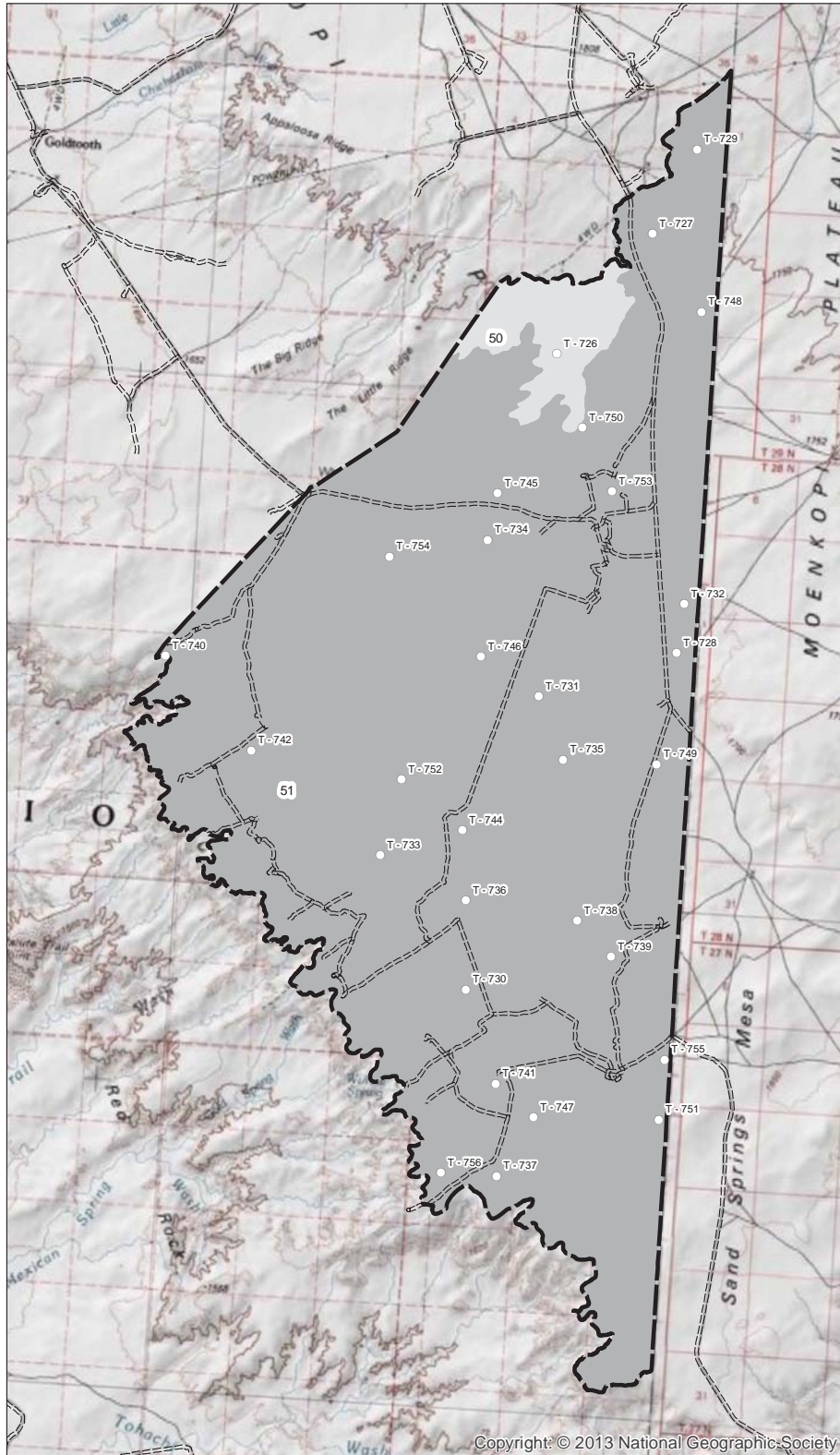
Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	AMBACA	<i>Ambrosia acanthicarpa</i>	flatspine bur ragweed	30%	20.0
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	20%	0.7
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	50%	8.0
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	40%	7.8
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	90%	117.9
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	40%	6.0
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	30%	19.1
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	20%	9.3
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	80%	10.2
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	90%	33.8
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	20%	2.7
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	70%	21.8
<b>Shrub/Vine</b>	EPHCUT	<i>Ephedra cutleri</i>	Cutler's jointfir	40%	9.6

# West Navajo Livestock Capacity Study

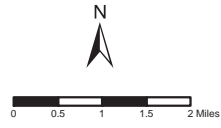
## Soil Map Unit

Land Management District 3  
Unit 1, Compartment 4

Total Acres: 37,207.2  
Grazeable Sheep Acres: 37,131.6



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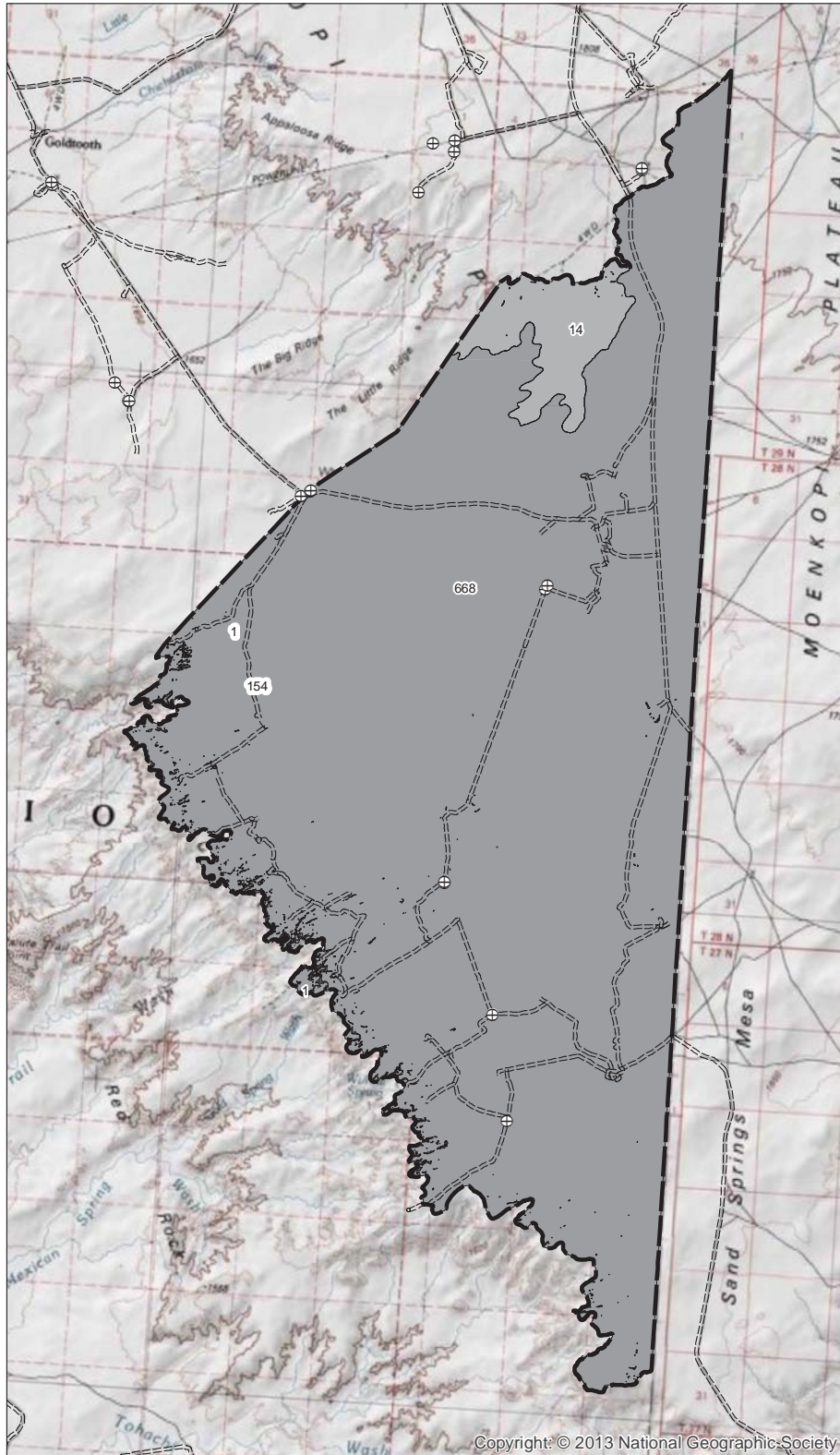










# West Navajo Livestock Capacity Study

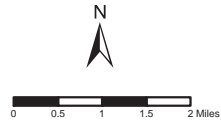
## Stocking Rate

Land Management District 3  
Unit 1, Compartment 4

Total Acres: 37,207.2  
Grazeable Sheep Acres: 37,131.6  
Total Sheep Year Long: 686.3



-  Compartment Boundary
-  Livestock Watering Facility
-  Road
- Sheep Ac/AUYL
  -  50 - 75
  -  75 - 100
  -  100 - 200
  -  > 200
  -  >40% slope



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## LMD 3, Unit 1, Compartment 5 (LMD 3-1-5)

Compartment 3-1-5 consists of approximately 11,769 acres, approximately 98% of which is available to all livestock.

Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and small rock fragments. Dominant grasses include James' galleta (0.8 ppa) and alkali sacaton (0.5 ppa); dominant forbs include Russian thistle (11.8 ppa); and dominant shrubs include siltbush (1.7 ppa) and mound saltbush (1.4 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
18	1,259.3	1,213.0	967.1	1.3	15.1	1,234.8	214.7	5.8	69.0	1,252.1	143.0	8.8	105.1
20	3.9	3.9	325.5	0.0	0.1	3.9	99.7	0.0	0.5	3.9	49.8	0.1	0.9
22	962.5	962.0	3,077.9	0.3	3.8	962.3	742.1	1.3	15.6	962.5	459.7	2.1	25.1
34	1,165.0	1,163.6	324.4	3.6	43.0	1,164.6	70.4	16.6	198.6	1,165.0	46.8	24.9	298.8
37	2.4	1.3	414.7	0.0	0.0	1.8	96.1	0.0	0.2	2.3	59.6	0.0	0.5
38	1,592.3	1,409.4	281.5	5.0	60.1	1,487.1	83.7	17.8	213.3	1,567.7	44.6	35.1	421.5
56	1,563.9	1,454.4	919.2	1.6	19.0	1,500.3	205.4	7.3	87.7	1,549.2	133.4	11.6	139.4
57	2,780.5	2,698.8	654.9	4.1	49.5	2,743.9	189.2	14.5	174.1	2,770.7	108.3	25.6	307.1
6	2,439.2	2,429.6	663.8	3.7	43.9	2,436.9	185.8	13.1	157.3	2,439.1	106.7	22.9	274.3
<b>Total:</b>	<b>11,769.0</b>	<b>11,335.9</b>		<b>19.5</b>	<b>234.5</b>	<b>11,535.6</b>		<b>76.4</b>	<b>916.3</b>	<b>11,712.5</b>		<b>131.1</b>	<b>1,572.7</b>

Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

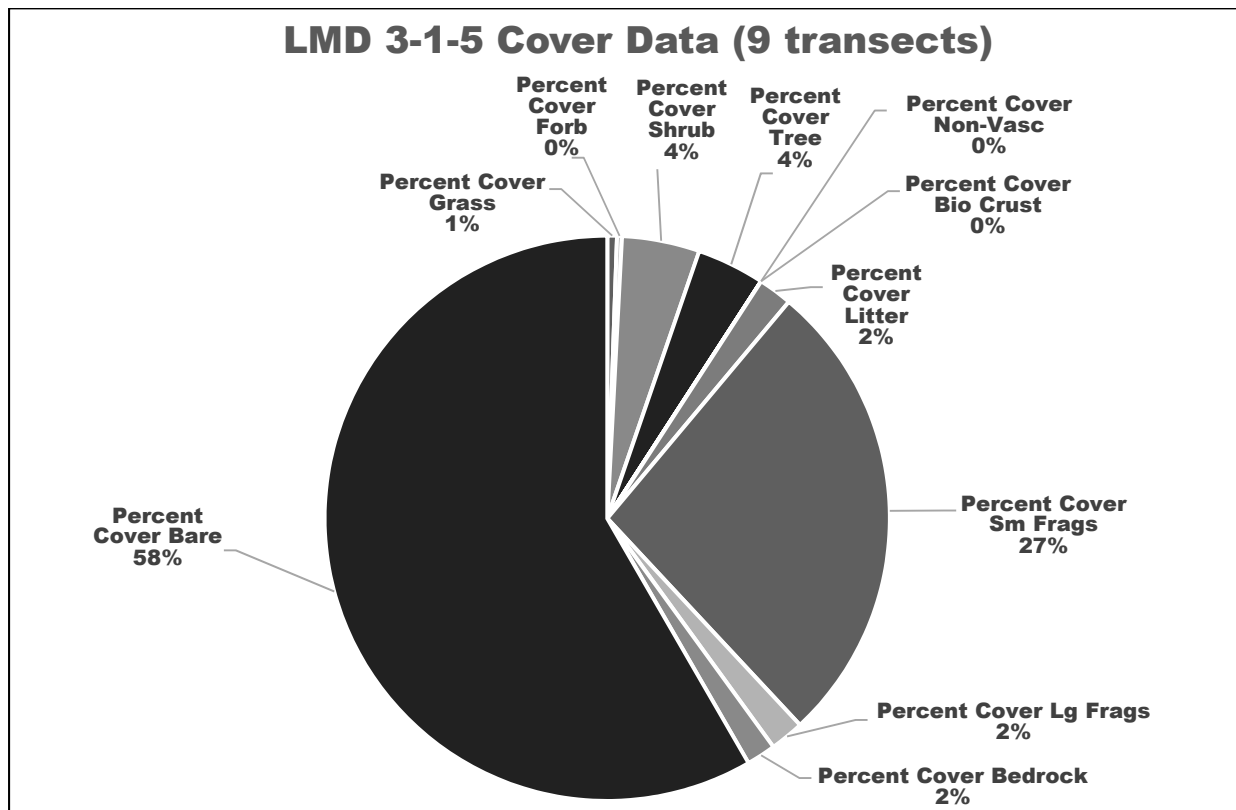
Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0-30% All Livestock	31-40% Sheep and Goats	41-60% Goats Only	>60% Non-Grazeable	Total Acres
11,335.9	199.7	176.9	56.5	11,769.0





**LMD 3-1-5 Production Table**

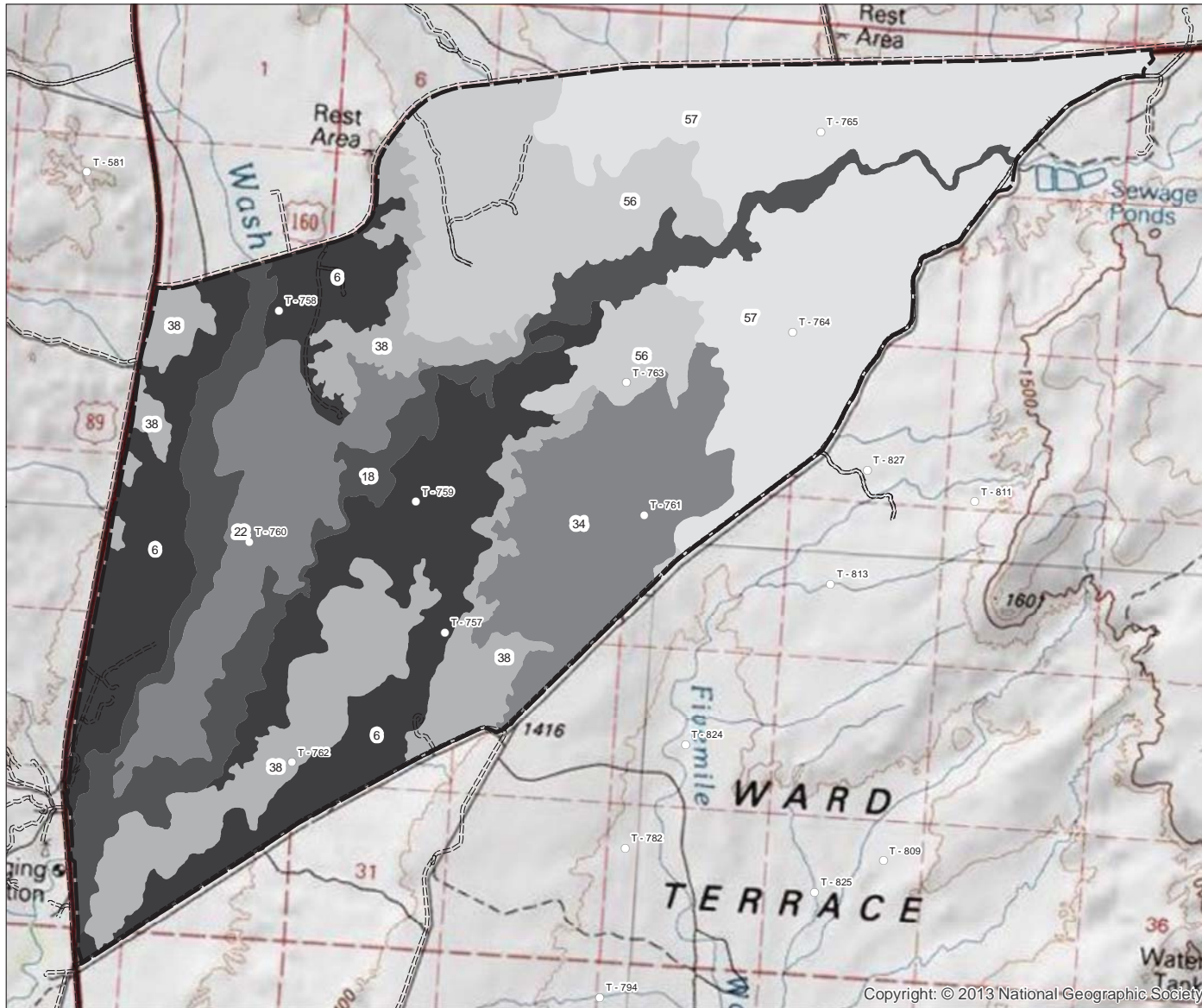
Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	CHAMIC	<i>Chamaesyce micromera</i>	Sonoran sandmat	1%	<0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	2%	0.1
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	1%	0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	27%	11.8
<b>Grass/Grasslike</b>	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	6%	0.5
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	8%	0.8
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	2%	0.5
	UNKPEG	-	Unknown perennial grass	1%	0.1
<b>Shrub/Vine</b>	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	3%	0.5
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	3%	1.4
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	9%	1.2
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	2%	0.2
	SARVER	<i>Sarcobatus vermiculatus</i>	greasewood	2%	1.3
	ZUCBRA	<i>Zuckia brandegeei</i>	siltbush	2%	1.7
<b>Tree</b>	TAMRAM	<i>Tamarix ramosissima</i>	saltcedar	8%	245.3

# Soil Map Unit

Land Management District 3  
Unit 1, Compartment 5

## West Navajo Livestock Capacity Study

Total Acres: 11,769.0  
Grazeable Sheep Acres: 11,535.6



**Legend**

- Compartment Boundary
- Transect Location
- Road

**Soil Map Unit**

- 6 - Claysprings-Huerfano-Tuba complex
- 18 - Ives-Riverwash association
- 20 - Jociety sandy clay loam
- 22 - Jociety-Tuba, complex
- 34 - Moffat-Sheppard complex
- 37 - Nepalto family-Tsaya-Rock outcrop complex
- 38 - Persayo-Hanksville complex
- 56 - Shorthair-Moenkopie complex
- 57 - Shorthair-Rock outcrop-Sheppard complex

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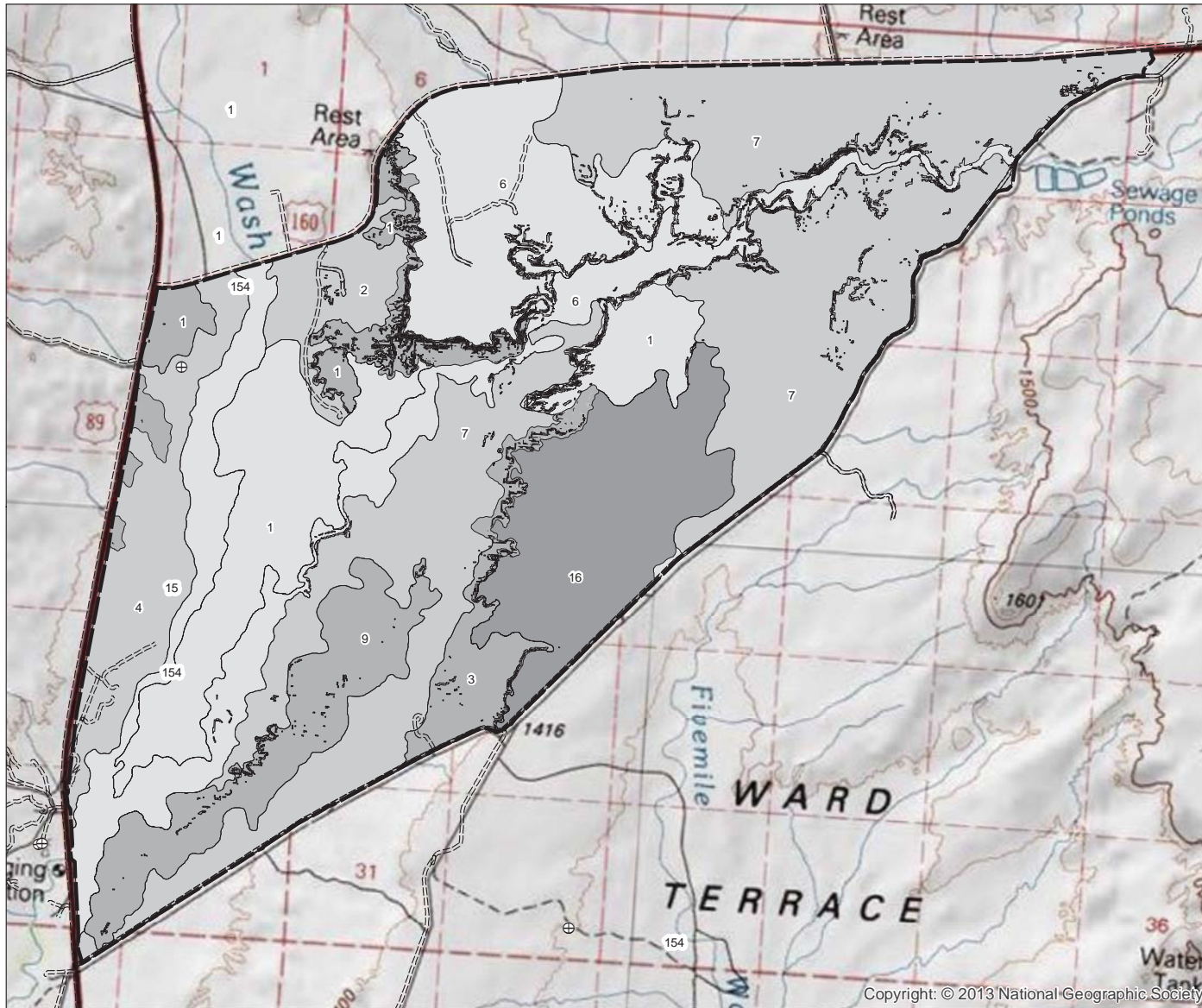


# Stocking Rate

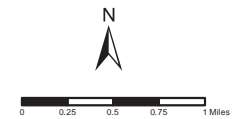
Land Management District 3  
Unit 1, Compartment 5

# West Navajo Livestock Capacity Study

Total Acres: 11,769.0  
Grazeable Sheep Acres: 11,535.6  
Total Sheep Year Long: 76.4



- ⬜ Compartment Boundary
- ⊕ Livestock Watering Facility
- ==== Road
- Sheep Ac/AUYL
  - 50 - 75
  - 75 - 100
  - 100 - 200
  - >200
  - >40% slope



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## LMD 3, Unit 1, Compartment 6 (LMD 3-1-6)

Compartment 3-1-5 consists of approximately 75,498 acres, approximately 92% of which is available to all livestock.

Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and small rock fragments. Dominant grasses include James' galleta (15.4 ppa) and mesa dropseed (2.9 ppa); dominant forbs include phacelia (15.2 ppa) and snakeweed (1.2 ppa); and dominant shrubs include at least two types of saltbush (2.5 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
18	0.5	0.4	967.1	0.0	0.0	0.4	214.7	0.0	0.0	0.5	143.0	0.0	0.0
20	0.0	0.0	325.5	0.0	0.0	0.0	99.7	0.0	0.0	0.0	49.8	0.0	0.0
34	1,632.1	1,629.7	324.4	5.0	60.3	1,631.2	70.4	23.2	278.2	1,632.1	46.8	34.9	418.6
37	11,455.9	5,791.2	414.7	14.0	167.6	7,167.7	96.1	74.6	895.1	9,212.5	59.6	154.6	1,854.9
38	4.1	2.7	281.5	0.0	0.1	3.2	83.7	0.0	0.5	3.9	44.6	0.1	1.0
51	41.6	21.5	182.4	0.1	1.4	25.1	53.3	0.5	5.6	30.8	31.5	1.0	11.7
56	28,277.2	27,999.3	919.2	30.5	365.5	28,143.1	205.4	137.0	1,644.5	28,253.9	133.4	211.8	2,541.5
57	34,085.1	33,416.8	654.9	51.0	612.3	33,753.9	189.2	178.4	2,141.3	33,989.3	108.3	313.9	3,767.0
6	2.0	1.6	663.8	0.0	0.0	1.8	185.8	0.0	0.1	2.0	106.7	0.0	0.2
<b>Total:</b>	<b>75,498.6</b>	<b>68,863.2</b>		<b>100.6</b>	<b>1,207.3</b>	<b>70,726.5</b>		<b>413.8</b>	<b>4,965.4</b>	<b>73,124.9</b>		<b>716.3</b>	<b>8,595.0</b>

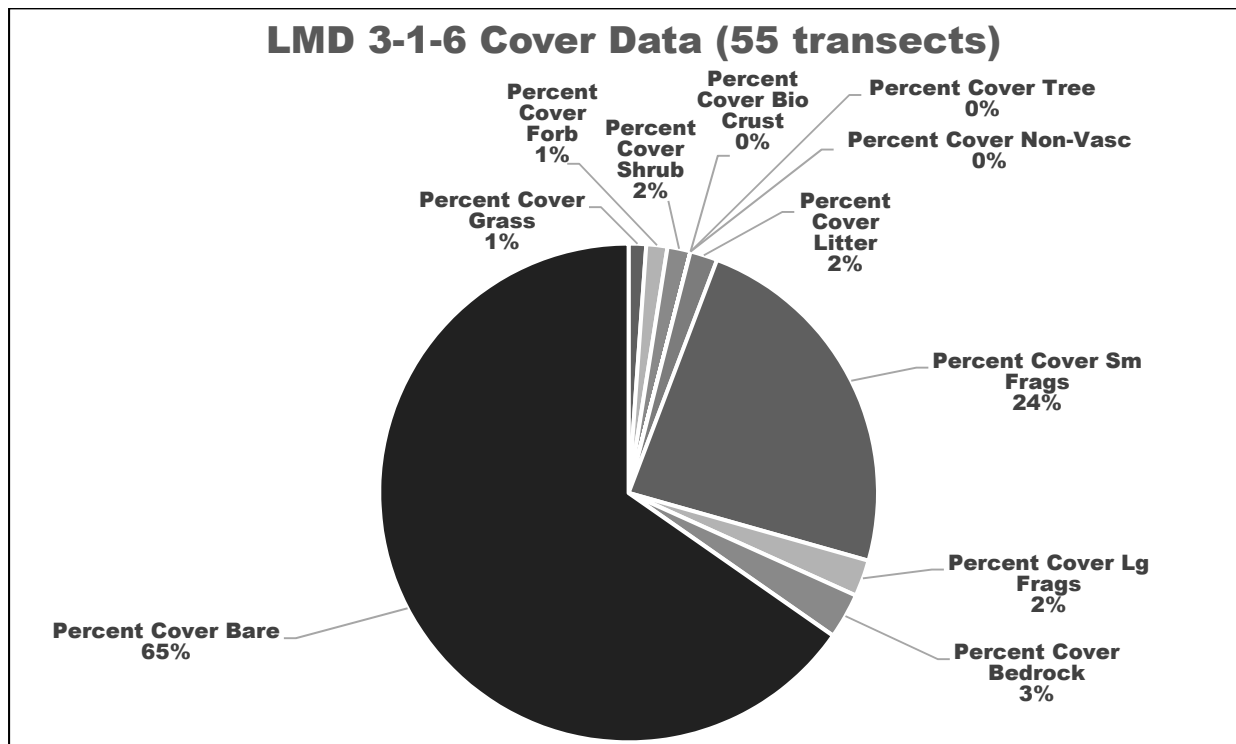
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0-30% All Livestock	31-40% Sheep and Goats	41-60% Goats Only	>60% Non-Grazeable	Total Acres
68,863.2	1,863.3	2,398.4	2,373.8	<b>75,498.6</b>



**LMD 3-1-6 Production Table**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ALLIUM	<i>Allium</i>	onion	<1%	<0.1
	ALLMAC	<i>Allium macropetalum</i>	largeflower onion	<1%	<0.1
	ASTFUC	<i>Astragalus fucatus</i>	Hopi milkvetch	<1%	<0.1
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	1%	<0.1
	CHACOR	<i>Chamaesaracha coronopus</i>	greenleaf five eyes	<1%	<0.1
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	<1%	<0.1
	CHAFEN	<i>Chamaesyce fendleri</i>	Fendler's sandmat	1%	0.1
	CHAMIC	<i>Chamaesyce micromera</i>	Sonoran sandmat	1%	0.1
	CHAPAR	<i>Chamaesyce parryi</i>	Parry's sandmat	5%	0.2
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	1%	<0.1
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	1%	0.2
	DICCAN	<i>Dicoria canescens</i>	desert twinbugs	<1%	0.1
	ERICER	<i>Eriogonum cernuum</i>	nodding buckwheat	5%	0.9
	ERIDIV	<i>Erigeron divergens</i>	spreading fleabane	<1%	<0.1

(Table Continues)

## LMD 3-1-6 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	ERIOGONUM	<i>Eriogonum</i>	buckwheat	<1%	<0.1
<b>(Continued)</b>	ERIWET	<i>Eriogonum wetherillii</i>	Wetherill's buckwheat	<1%	0.1
	EUPHORBIA	<i>Euphorbia</i>	spurge	1%	<0.1
	GILIA	<i>Gilia</i>	gilia	1%	0.6
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	2%	1.2
	HALGLO	<i>Halogeton glomeratus</i>	saltlover	<1%	<0.1
	HOFDRE	<i>Hoffmannseggia drepanocarpa</i>	sicklepod holdback	<1%	<0.1
	ISOCOMA	<i>Isocoma</i>	goldenbush	1%	0.9
	ISOPLU	<i>Isocoma pluriflora</i>	southern goldenbush	<1%	0.6
	ISORUS	<i>Isocoma rusbyi</i>	Rusby's goldenbush	<1%	<0.1
	MENMUL	<i>Mentzelia multiflora</i>	Adonis blazingstar	<1%	<0.1
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	<1%	<0.1
	PHACELIA	<i>Phacelia</i>	phacelia	19%	15.2
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	1%	0.7
	SPHCOC	<i>Sphaeralcea coccinea</i>	scarlet globemallow	3%	1.0
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	<1%	<0.1
	SPHHAS	<i>Sphaeralcea hastulata</i>	spear globemallow	<1%	<0.1
	SPHLEP	<i>Sphaeralcea leptophylla</i>	scaly globemallow	2%	0.3
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	2%	0.5
	UNKANF	–	Unknown annual forb	<1%	<0.1
	WISREF	<i>Wislizenia refracta</i>	spectacle fruit	3%	0.6
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	<1%	<0.1
	ARIDIV	<i>Aristida divaricata</i>	poverty threeawn	7%	0.6
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	<1%	<0.1
	BOUSIM	<i>Bouteloua simplex</i>	matted grama	1%	<0.1
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	8%	4.9
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	10%	15.4
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	3%	0.7
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	<1%	<0.1
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	<1%	<0.1
	SPOFLE	<i>Sporobolus flexuosus</i>	mesa dropseed	2%	2.9
	SPOGIG	<i>Sporobolus giganteus</i>	giant dropseed	<1%	<0.1
	SPOROBOLUS	<i>Sporobolus</i>	dropseed	3%	2.1

(Table Continues)

**LMD 3-1-6 Production Table (Continued)**

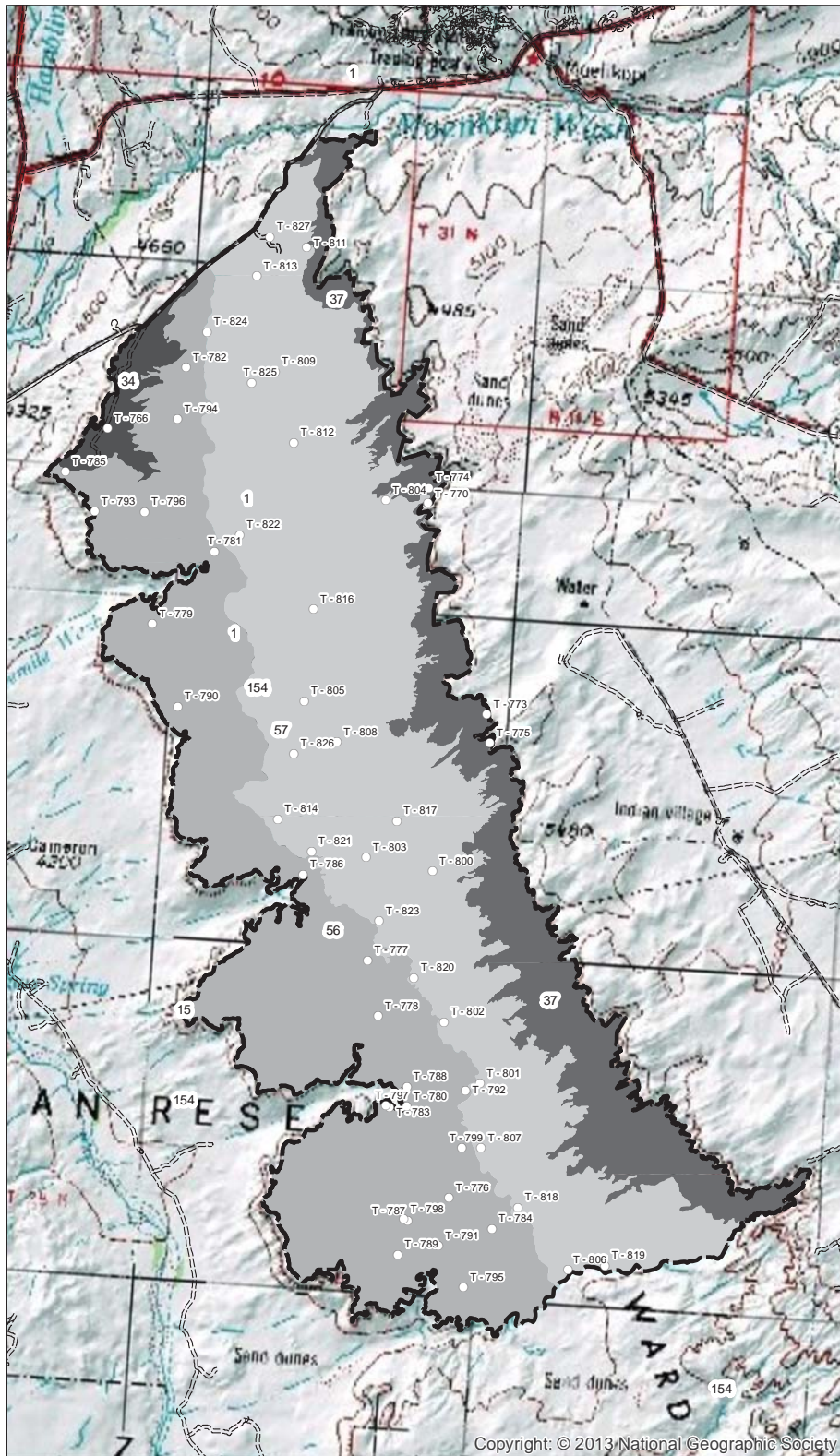
Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Shrub/Vine	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	1%	0.9
	ATRCAN	<i>Atriplex confertifolia</i>	shadscale saltbush	<1%	<0.1
	ATRIPLEX	<i>Atriplex</i>	saltbush	6%	3.6
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	1%	0.3
	BRICAL	<i>Brickellia californica</i>	California brickellbush	2%	1.0
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	1%	0.1
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	<1%	0.2
	ERICOR	<i>Eriogonum corymbosum</i>	crispleaf buckwheat	<1%	0.3
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	<1%	0.2
	PARFIL	<i>Parryella filifolia</i>	common dunebroom	<1%	0.2
	POLINC	<i>Poliomintha incana</i>	frosted mint	<1%	<0.1
	YUCBAC	<i>Yucca baccata</i>	banana yucca	<1%	0.1
	YUCBAI	<i>Yucca baileyi</i>	Navajo yucca	1%	<0.1

# West Navajo Livestock Capacity Study

## Soil Map Unit

Land Management District 3  
Unit 1, Compartment 6

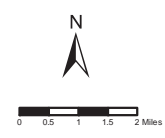
Total Acres: 75,498.6  
Grazeable Sheep Acres: 70,726.5



Compartment Boundary  
 Road  
 Transect Location

**Soil Map Unit**

- 18 - Mes-Riverwash association
- 20 - Jolly sandy clay loam
- 34 - Moffat-Sheppard complex
- 37 - Nepato family-Tsaya-Rock outcrop complex
- 38 - Persayo-Hanksville complex
- 51 - Sheppard-Monue complex
- 56 - Shorthair-Moenkopie complex
- 57 - Shorthair-Rock outcrop-Sheppard complex, 2 to 15 percent slopes
- 6 - Claysprings-Huerfano-Tuba complex



**Parametrix**  
**GeoSystems Analysis, Inc.**  
Innovations in Hydrology

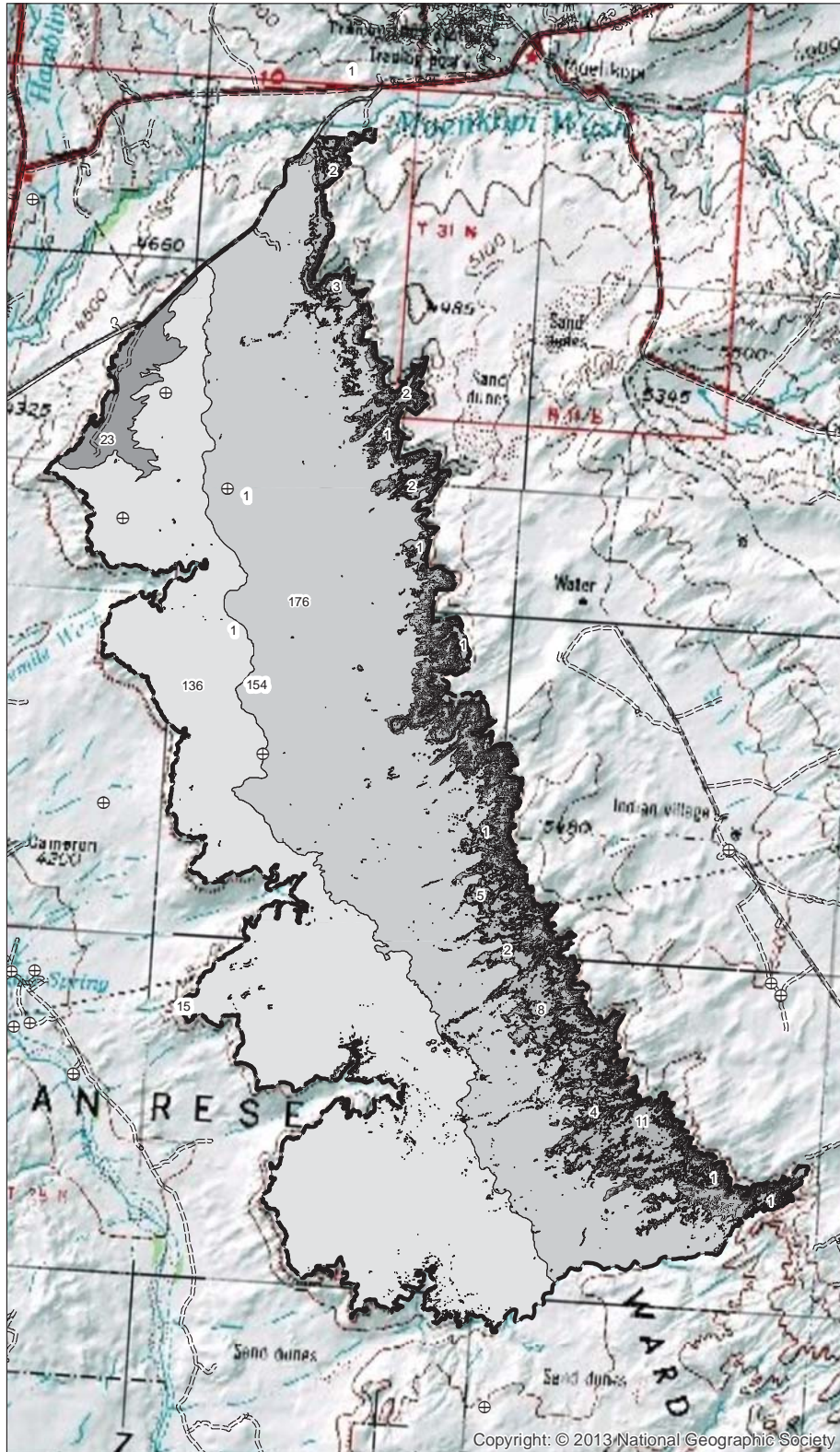










**West Navajo Livestock Capacity Study**

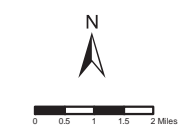
**Stocking Rate**

Land Management District 3  
Unit 1, Compartment 6

Total Acres: 75,498.6  
Grazeable Sheep Acres: 70,726.5  
Total Sheep Year Long: 413.8



-  Compartment Boundary
-  Livestock Watering Facility
-  Road
- Sheep Ac/AUYL
  -  50 - 75
  -  75 - 100
  -  100 - 200
  -  >200
  -  >40% slope



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## LMD 3, Unit 1, Compartment 7 (LMD 3-1-7)

Compartment 3-1-7 consists of approximately 50,728 acres, approximately 97% of which is available to all livestock.

Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and small rock fragments. Dominant grasses include low wooly grass (12.8 ppa) and false buffalo grass (12.9 ppa); dominant forbs include phacelia (23.7 ppa) and spreading fleabane (5.1 ppa); and dominant shrubs include shadscale (3.2 ppa) and sand sagebrush (4.4 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
18	1,786.5	1,764.2	967.1	1.8	21.9	1,774.8	214.7	8.3	99.2	1,782.8	143.0	12.5	149.6
37	0.3	0.2	414.7	0.0	0.0	0.3	96.1	0.0	0.0	0.3	59.6	0.0	0.1
38	346.1	207.0	281.5	0.7	8.8	259.8	83.7	3.1	37.3	327.2	44.6	7.3	88.0
50	15.7	6.4	323.2	0.0	0.2	8.1	92.8	0.1	1.0	10.4	59.8	0.2	2.1
51	1.1	1.1	182.4	0.0	0.1	1.1	53.3	0.0	0.3	1.1	31.5	0.0	0.4
56	30,983.3	30,711.1	919.2	33.4	400.9	30,892.1	205.4	150.4	1,805.2	30,966.3	133.4	232.1	2,785.5
57	17,592.4	16,863.5	654.9	25.7	309.0	17,147.2	189.2	90.7	1,087.8	17,367.4	108.3	160.4	1,924.8
6	3.1	2.8	663.8	0.0	0.1	3.0	185.8	0.0	0.2	3.1	106.7	0.0	0.3
<b>Total:</b>	<b>50,728.5</b>	<b>49,556.3</b>		<b>61.8</b>	<b>741.0</b>	<b>50,086.4</b>		<b>252.6</b>	<b>3,030.9</b>	<b>50,458.6</b>		<b>412.6</b>	<b>4,950.9</b>

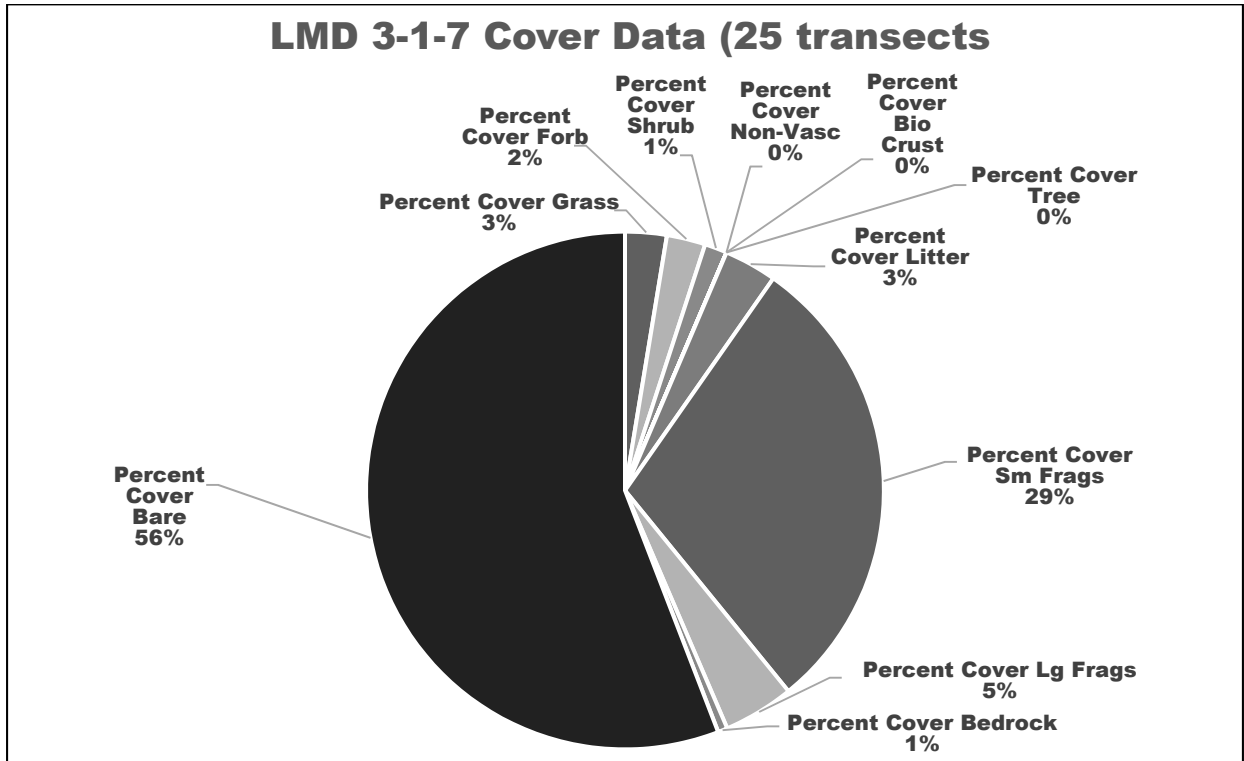
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0–30% All Livestock	31–40% Sheep and Goats	41–60% Goats Only	>60% Non-Grazeable	Total Acres
49,556.3	530.1	372.2	269.9	50,728.5



LMD 3-1-7 Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ALLIUM	<i>Allium</i>	onion	<1%	<0.1
	ASTCAL	<i>Astragalus calycosus</i>	Torrey's milkvetch	2%	0.2
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	10%	1.6
	CHACON	<i>Chamaesaracha coniodes</i>	gray five eyes	17%	1.5
	CHAMIC	<i>Chamaesyce micromera</i>	Sonoran sandmat	1%	<0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	4%	0.6
	DESPIN	<i>Descurainia pinnata</i>	western tansymustard	3%	0.3
	ERICER	<i>Eriogonum cernuum</i>	nodding buckwheat	1%	0.3
	ERIDIV	<i>Erigeron divergens</i>	spreading fleabane	3%	5.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	<1%	0.1
	HALGLO	<i>Halogeton glomeratus</i>	saltlover	<1%	0.2
	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	<1%	<0.1
	LEPMON	<i>Lepidium montanum</i>	mountain pepperweed	1%	0.1
	MENMUL	<i>Mentzelia multiflora</i>	Adonis blazingstar	11%	0.7

(Table Continues)

## LMD 3-1-7 Production Table (Continued)

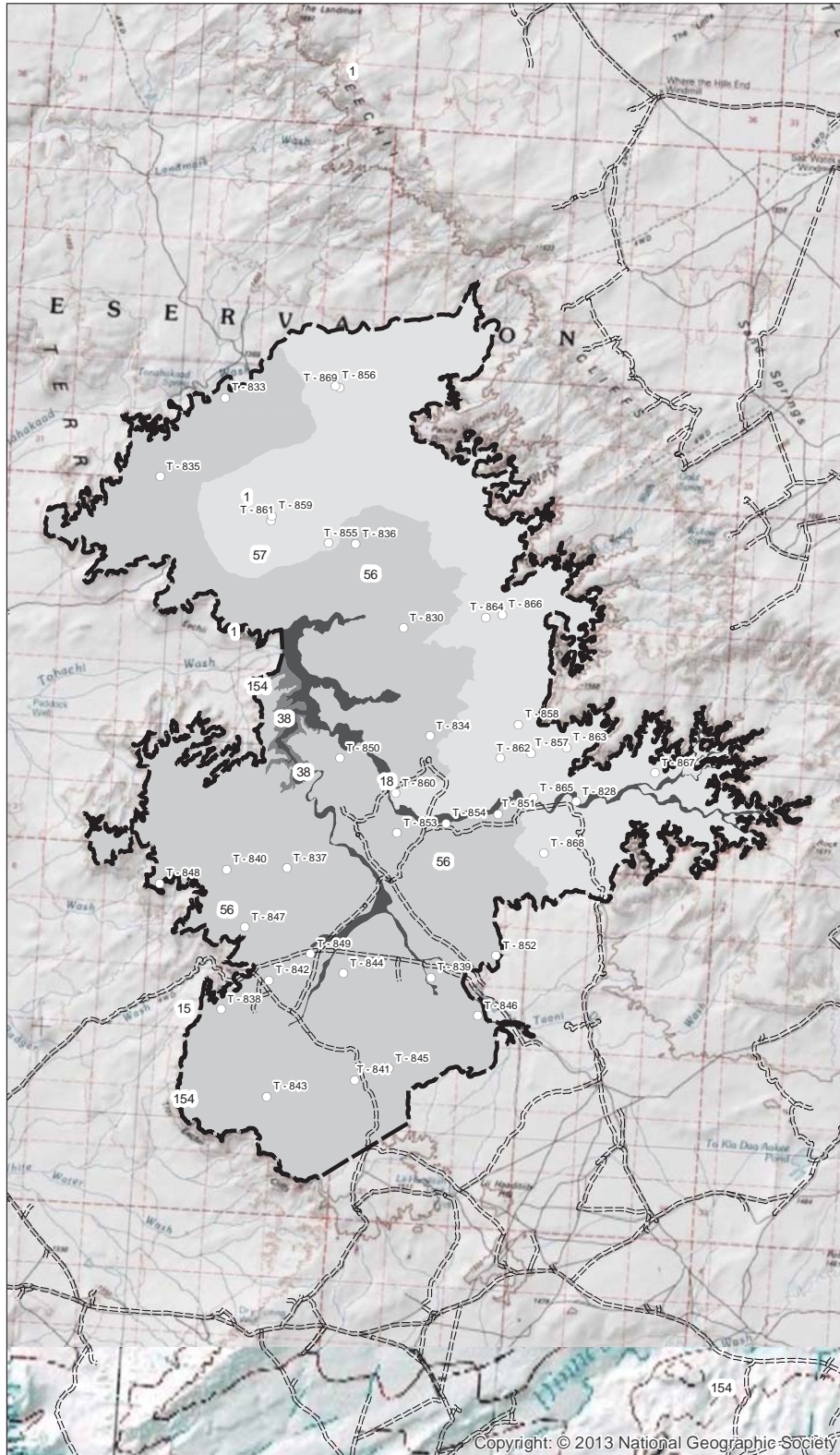
Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	9%	1.2
<b>(Continued)</b>	PECANG	<i>Pectis angustifolia</i>	lemonscent	2%	0.1
	PHACELIA	<i>Phacelia</i>	phacelia	<1%	<0.1
	PHAINT	<i>Phacelia integrifolia</i>	gypsum phacelia	29%	23.7
	POROLE	<i>Portulaca oleracea</i>	little hogweed	<1%	0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	5%	1.3
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	4%	1.4
	SPHHAS	<i>Sphaeralcea hastulata</i>	spear globemallow	<1%	0.1
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	1%	0.2
	THYPEN	<i>Thymophylla pentachaeta</i>	fiveneedle pricklyleaf	<1%	<0.1
	TOWANN	<i>Townsendia annua</i>	annual Townsend daisy	2%	0.6
	UNKANF	–	Unknown annual forb	30%	2.9
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	2%	0.1
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	10%	1.1
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	10%	12.8
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	8%	12.9
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	1%	0.1
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	<1%	0.1
	SPOGIG	<i>Sporobolus giganteus</i>	giant dropseed	<1%	<0.1
<b>Shrub/Vine</b>	ARTFIL	<i>Artemisia filifolia</i>	sand sagebrush	5%	4.4
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	<1%	0.4
	ATRCAN	<i>Atriplex confertifolia</i>	shadscale saltbush	8%	3.3
	ATRIPLEX	<i>Atriplex</i>	saltbush	1%	0.2
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	2%	1.0
	ERICOR	<i>Eriogonum corymbosum</i>	crispleaf buckwheat	1%	0.1
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	2%	0.1

# West Navajo Livestock Capacity Study

## Stocking Rate

Land Management District 3  
Unit 1, Compartment 7

Total Acres: 50,728.5  
Grazeable Sheep Acres: 50,086.4  
Total Sheep Year Long: 252.6



Compartment Boundary  
 Transect Labels  
 Road  
**Soil Map Unit**  
 6 - Claysprings-Huerfano-Tuba complex  
 18 - Ives-Riverwash association  
 37 - Nepalto family-Tsaya-Rock outcrop complex  
 38 - Persayo-Hanksville complex  
 50 - Sheppard-Moenkopie-Needle complex, 2 to 35 percent slopes  
 51 - Sheppard-Monue complex, 1 to 8 percent slopes  
 56 - Shorthair-Moenkopie complex, 2 to 15 percent slopes  
 57 - Shorthair-Rock outcrop-Sheppard complex, 2 to 15 percent slopes



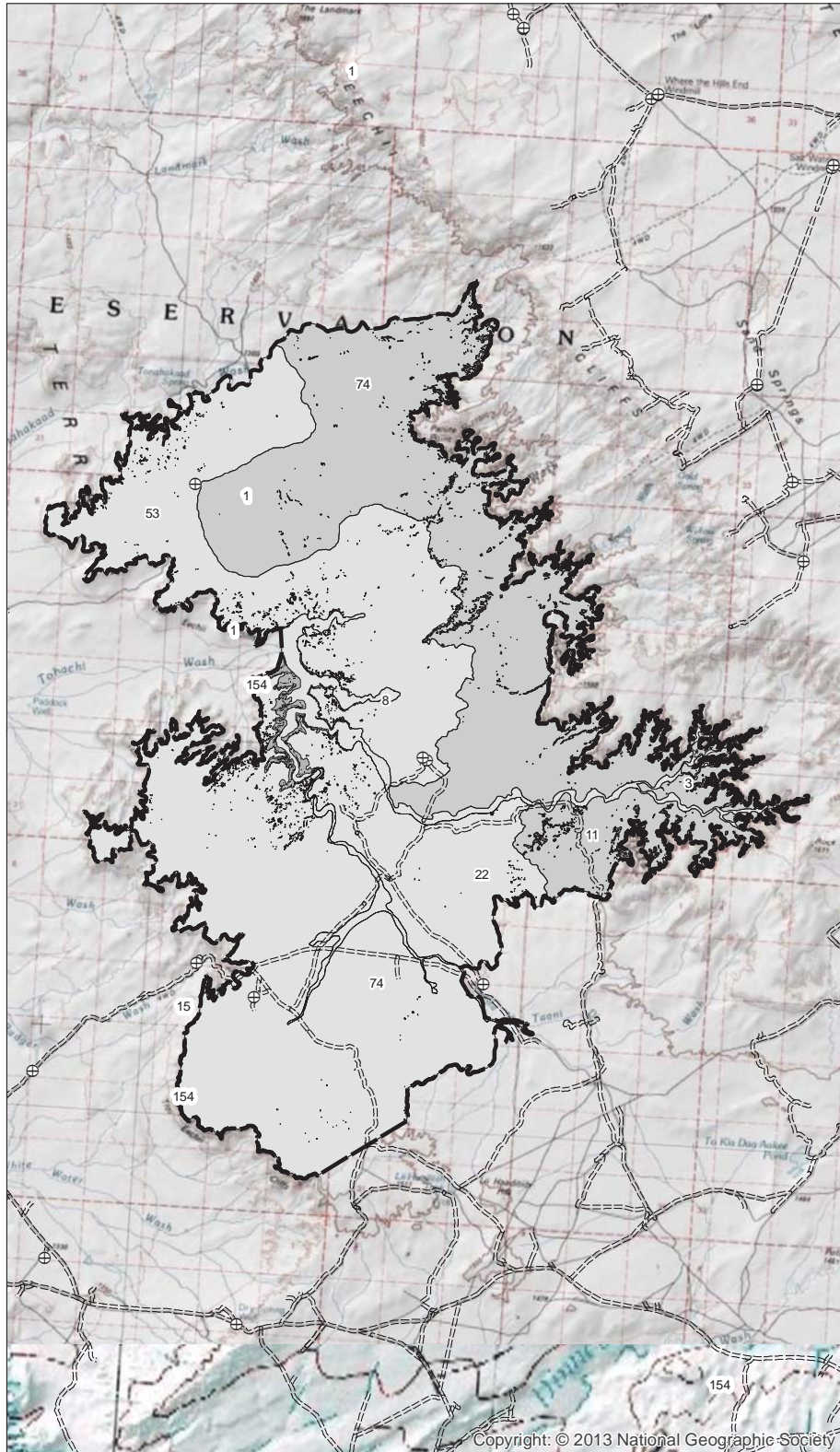
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





# West Navajo Livestock Capacity Study

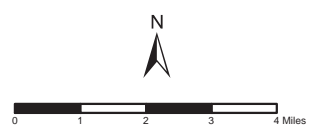
## Stocking Rate

Land Management District 3  
Unit 1, Compartment 7

Total Acres: 50,728.5  
Grazeable Sheep Acres: 50,086.4  
Total Sheep Year Long: 252.6



-  Compartment Boundary
-  Livestock Watering Facility
-  Road
- Sheep Ac/AUYL
  -  50 - 75
  -  75 - 100
  -  100 - 200
  -  >200
  -  >40% slope



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## LMD 3, Unit 1, Compartment 8 (LMD 3-1-8)

Compartment 3-1-8 consists of approximately 24,241 acres, approximately 74% of which is available to all livestock. This unit is steeper than most on the LMD. Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and grasses. Dominant grasses include sand muhly (18.1 ppa) and false buffalo grass (53.6 ppa); dominant forbs include Townsend's daisy (30.1 ppa) and little hogweed (30.3 ppa); and dominant shrubs include Greene's rabbitbrush (10.0 ppa) and prickly pear (1.7 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
18	0.3	0.3	967.1	0.0	0.0	0.3	214.7	0.0	0.0	0.3	143.0	0.0	0.0
37	2,294.4	1,017.0	414.7	2.5	29.4	1,364.2	96.1	14.2	170.4	1,864.7	59.6	31.3	375.5
38	2,855.9	1,418.6	281.5	5.0	60.5	1,758.9	83.7	21.0	252.3	2,310.1	44.6	51.8	621.1
50	14,750.1	11,222.2	323.2	34.7	416.6	12,016.5	92.8	129.5	1,554.0	12,932.9	59.8	216.3	2,595.3
51	3,141.7	3,092.4	182.4	17.0	203.4	3,111.4	53.3	58.4	701.0	3,125.9	31.5	99.3	1,192.1
56	0.2	0.2	919.2	0.0	0.0	0.2	205.4	0.0	0.0	0.2	133.4	0.0	0.0
57	12.7	3.6	654.9	0.0	0.1	4.7	189.2	0.0	0.3	6.6	108.3	0.1	0.7
6	1,185.5	1,185.5	663.8	1.8	21.4	1,185.5	185.8	6.4	76.5	1,185.5	106.7	11.1	133.3
<b>Total:</b>	<b>24,240.9</b>	<b>17,939.9</b>		<b>61.0</b>	<b>731.4</b>	<b>19,441.7</b>		<b>229.5</b>	<b>2,754.5</b>	<b>21,426.3</b>		<b>409.8</b>	<b>4,918.1</b>

Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

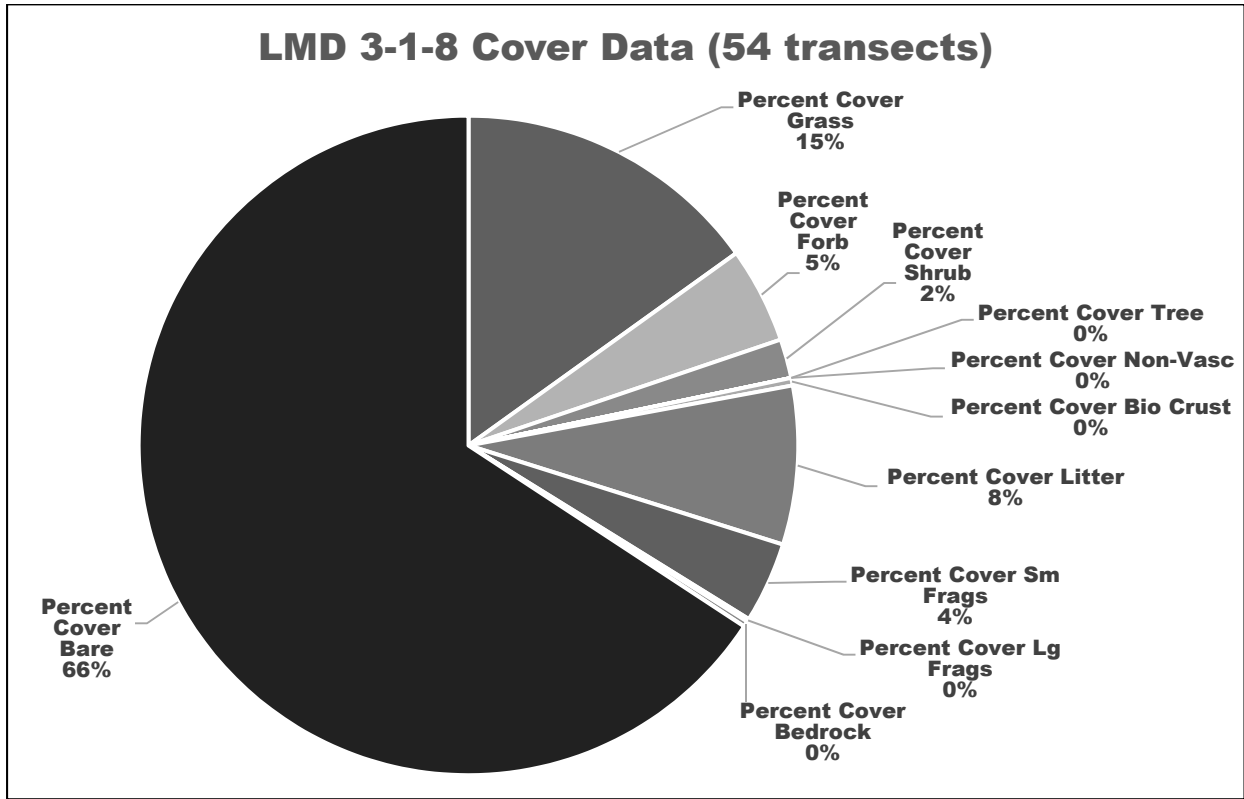
Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0-30% All Livestock	31-40% Sheep and Goats	41-60% Goats Only	>60% Non-Grazeable	Total Acres
17,939.9	1,501.9	1,984.5	2,814.7	<b>24,240.9</b>





**LMD 3-1-8 Production Table**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	ABRFRA	<i>Abronia fragrans</i>	snowball sand verbena	<1%	<0.1
	ALLIUM	<i>Allium</i>	onion	1%	0.2
	AMBACA	<i>Ambrosia acanthicarpa</i>	flatspine bur ragweed	<1%	<0.1
	AREEAS	<i>Arenaria eastwoodiae</i>	Eastwood's sandwort	2%	0.1
	ASTCAN	<i>Astragalus canadensis</i>	Canadian milkvetch	2%	0.1
	ASTFUC	<i>Astragalus fucatus</i>	Hopi milkvetch	1%	0.3
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	1%	0.2
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	9%	2.6
	BOEWRI	<i>Boerhavia wrightii</i>	largebract spiderling	2%	0.1
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	44%	7.3
	CHAPAR	<i>Chamaesyce parryi</i>	Parry's sandmat	<1%	<0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	<1%	0.2
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	1%	1.5
	CYCATR	<i>Cycloloma atriplicifolium</i>	winged pigweed	1%	0.3

(Table Continues)

## LMD 3-1-8 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	DICCAN	<i>Dicoria canescens</i>	desert twinbugs	<1%	<0.1
<b>(Continued)</b>	ERICER	<i>Eriogonum cernuum</i>	nodding buckwheat	1%	0.1
	EVOSER	<i>Evolvulus sericeus</i>	silver dwarf morning-glory	6%	1.6
	GILIA	<i>Gilia</i>	gilia	<1%	0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	<1%	<0.1
	HALGLO	<i>Halogeton glomeratus</i>	saltlover	1%	1.2
	HELCON	<i>Heliotropium convolvulaceum</i>	phlox heliotrope	2%	0.3
	ISOPLU	<i>Isocoma pluriflora</i>	southern goldenbush	<1%	<0.1
	LINARI	<i>Linum aristatum</i>	bristle flax	1%	0.1
	LUPINUS	<i>Lupinus</i>	lupine	1%	<0.1
	MENMUL	<i>Mentzelia multiflora</i>	Adonis blazingstar	<1%	<0.1
	NAMRET	<i>Nama retrorsum</i>	betatakin fiddleleaf	1%	0.1
	OENOTHERA	<i>Oenothera</i>	evening primrose	<1%	0.1
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	<1%	<0.1
	PECANG	<i>Pectis angustifolia</i>	lemonscent	3%	1.3
	POROLE	<i>Portulaca oleracea</i>	little hogweed	39%	30.3
	REVARE	<i>Reverchonia arenaria</i>	sand reverchonia	<1%	<0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	6%	2.5
	SCHMUL	<i>Schkuhria multiflora</i>	manyflower false threadleaf	2%	0.4
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	6%	1.3
	SPHHAS	<i>Sphaeralcea hastulata</i>	spear globemallow	1%	0.1
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	<1%	<0.1
	THEMEG	<i>Thelesperma megapotamicum</i>	Hopi tea greenthread	1%	0.1
	TIQLAT	<i>Tiquilia latior</i>	matted crinklemat	3%	0.1
	TOWNSENDIA	<i>Townsendia</i>	Townsend daisy	43%	30.1
	UNKANF	–	Unknown annual forb	2%	0.6
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	19%	2.4
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	1%	0.8
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	1%	0.7
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	<1%	<0.1
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	<1%	<0.1
	BROTEC	<i>Bromus tectorum</i>	cheatgrass	39%	6.7
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	9%	7.5
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	52%	53.6

(Table Continues)

**LMD 3-1-8 Production Table (Continued)**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Grass/Grasslike</b>	MUHPUN	<i>Muhlenbergia pungens</i>	sandhill muhly	11%	18.1
<b>(Continued)</b>	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	19%	13.0
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	14%	5.0
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	2%	1.0
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	8%	8.5
	SPOFLE	<i>Sporobolus flexuosus</i>	mesa dropseed	1%	1.6
	SPOGIG	<i>Sporobolus giganteus</i>	giant dropseed	2%	3.0
<b>Shrub/Vine</b>	ARTFIL	<i>Artemisia filifolia</i>	sand sagebrush	<1%	0.1
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	<1%	1.2
	ATRCAN	<i>Atriplex confertifolia</i>	shadscale saltbush	2%	1.1
	ATRGAR	<i>Atriplex garrettii</i>	Garrett's saltbush	<1%	0.1
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	<1%	0.2
	BRICAL	<i>Brickellia californica</i>	California brickellbush	<1%	<0.1
	CHRDEP	<i>Chrysothamnus depressus</i>	longflower rabbitbrush	<1%	<0.1
	CHRGRE	<i>Chrysothamnus Greenei</i>	Greene's rabbitbrush	12%	10.0
	CONARV	<i>Convolvulus arvensis</i>	field bindweed	<1%	<0.1
	EPHCUT	<i>Ephedra cutleri</i>	Cutler's jointfir	1%	0.4
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	1%	0.5
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	1%	0.7
	ERILEP	<i>Eriogonum leptophyllum</i>	slenderleaf buckwheat	<1%	0.1
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	<1%	0.2
	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	1%	0.3
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	2%	1.7
	PARFIL	<i>Paryella filifolia</i>	common dunebroom	<1%	0.1
	POLINC	<i>Poliomintha incana</i>	frosted mint	1%	0.9
	TETCAN	<i>Tetradymia canescens</i>	spineless horsebrush	<1%	<0.1
	YUCBAI	<i>Yucca baileyi</i>	Navajo yucca	1%	0.1

# Stocking Rate

# West Navajo Livestock Capacity Study

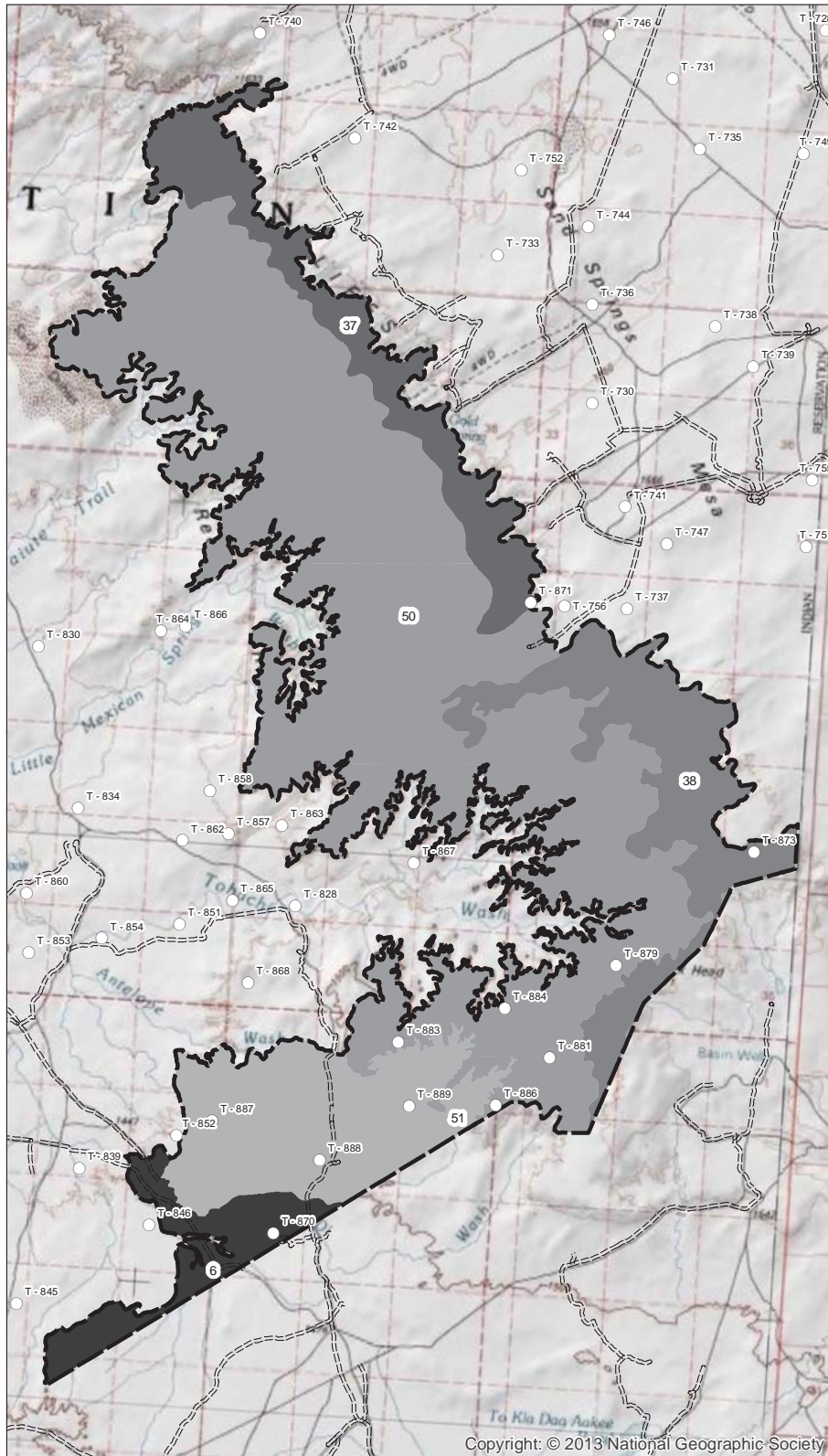
Total Acres: 24,240.9

Land Management District 3

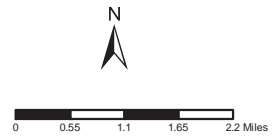
Grazeable Sheep Acres: 19,441.7

Unit 1, Compartment 8

Sheep Units Year Long: 229.5



- Compartment Boundary
  - Transect Location
  - Road
- Soil Map Unit**
- 6 - Claysprings-Huerfano-Tuba complex
  - 18 - Ives-Riverwash association
  - 37 - Nepato family-Tsaya-Rock outcrop complex
  - 38 - Persayo-Hanksville complex
  - 50 - Sheppard-Moenkopie-Needle complex, 2 to 35 percent slopes
  - 51 - Sheppard-Monue complex, 1 to 8 percent slopes
  - 56 - Shorthair-Moenkopie complex, 2 to 15 percent slopes
  - 57 - Shorthair-Rock outcrop-Sheppard complex, 2 to 15 percent slopes



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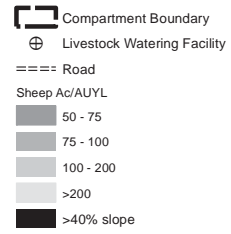
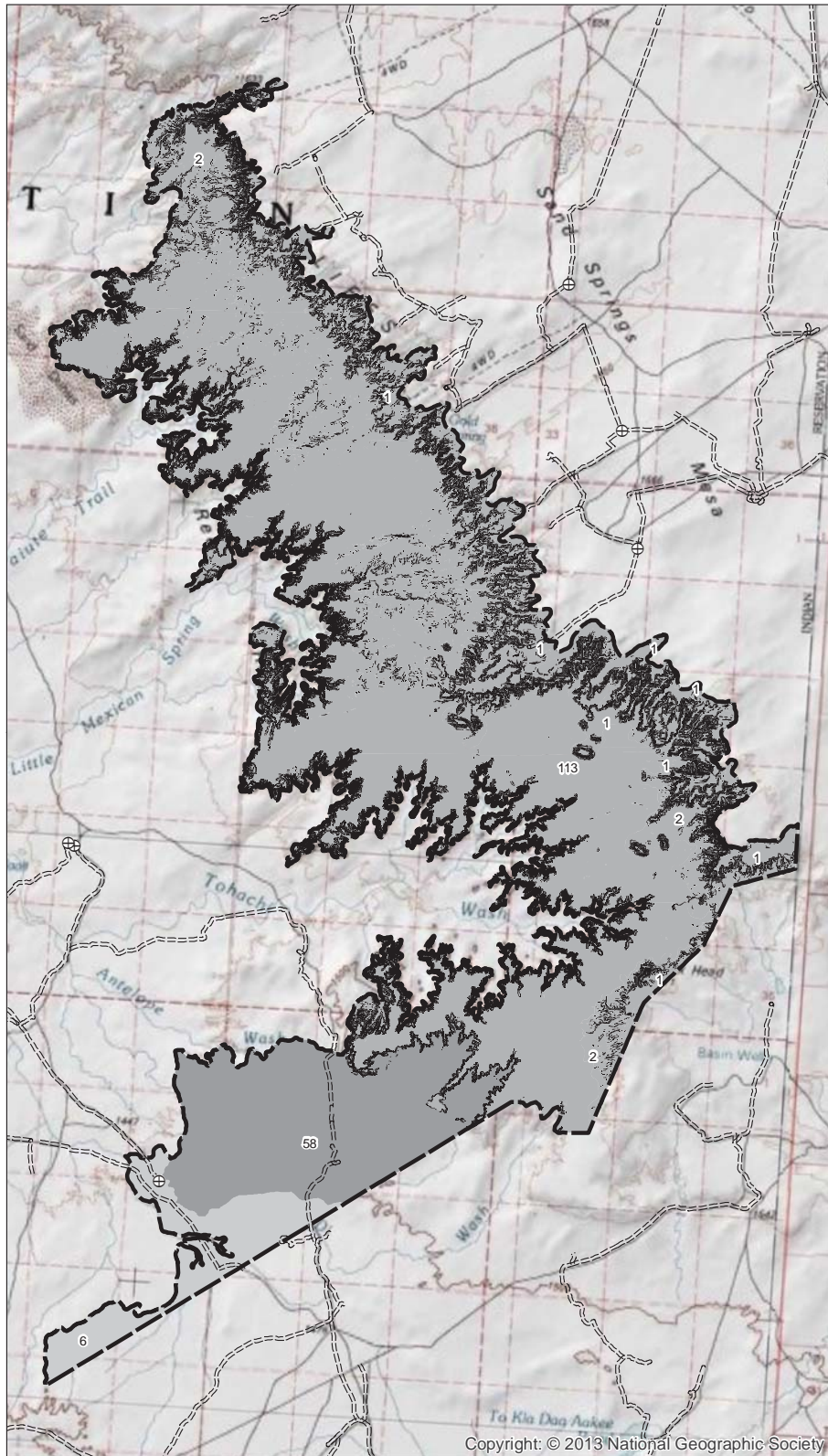


# Stocking Rate

# West Navajo Livestock Capacity Study

Land Management District 3  
Unit 1, Compartment 8

Total Acres: 24,240.9  
Grazeable Sheep Acres: 19,441.7  
Sheep Units Year Long: 229.5



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## LMD 3, Unit 1, Compartment 9 (LMD 3-1-9)

Compartment 3-1-9 consists of approximately 55,540 acres, approximately 93% of which is available to all livestock.

Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and small rock fragments. Dominant grasses include James's galleta (19.9 ppa) and alkali sacaton (17.6 ppa); dominant forbs Russina thistle (38.0 ppa) and sawtooth sandmat (5.4 ppa); and dominant shrubs include camelthorn, a potentially very noxious invasive (1.6 ppa) and fourwing saltbush (2.6 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
18	2,743.9	2,705.1	967.1	2.8	33.6	2,724.9	214.7	12.7	152.3	2,741.1	143.0	19.2	230.1
21	0.5	0.5	842.1	0.0	0.0	0.5	219.9	0.0	0.0	0.5	125.1	0.0	0.1
38	8,863.6	5,875.6	281.5	20.9	250.4	6,946.5	83.7	83.0	996.4	8,262.5	44.6	185.1	2,221.5
56	513.3	507.3	919.2	0.6	6.6	509.8	205.4	2.5	29.8	512.3	133.4	3.8	46.1
6	36,123.7	36,007.0	663.8	54.2	650.9	36,087.0	185.8	194.2	2,330.1	36,120.4	106.7	338.6	4,062.7
8	7,294.5	6,893.3	590.4	11.7	140.1	7,095.9	201.5	35.2	422.6	7,252.3	96.7	75.0	899.9
<b>Total:</b>	<b>55,539.6</b>	<b>51,988.8</b>		<b>90.1</b>	<b>1,081.6</b>	<b>53,364.7</b>		<b>327.6</b>	<b>3,931.2</b>	<b>54,889.1</b>		<b>621.7</b>	<b>7,460.3</b>

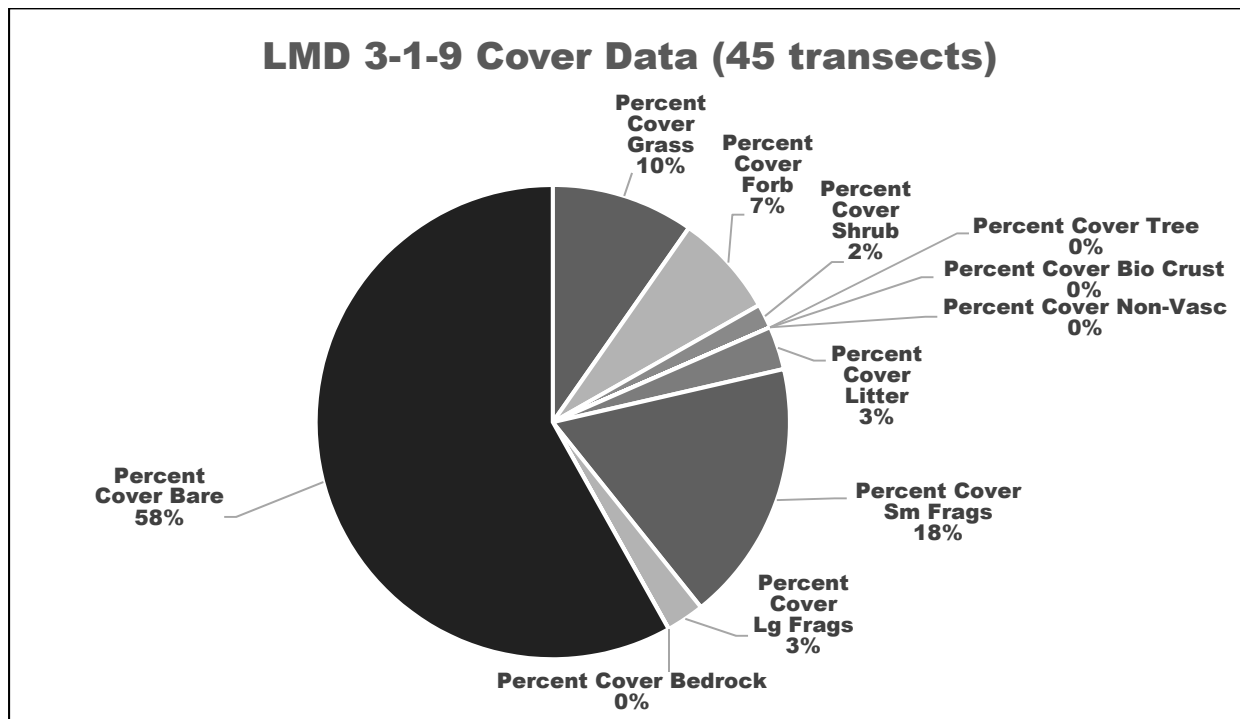
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0–30% All Livestock	31–40% Sheep and Goats	41–60% Goats Only	>60% Non-Grazeable	Total Acres
51,988.8	1,375.9	1,524.3	650.5	<b>55,539.6</b>



**LMD 3-1-9 Production Table**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ALLIUM	<i>Allium</i>	onion	<1%	<0.1
	AMAPAL	<i>Amaranthus palmeri</i>	carelessweed	1%	0.1
	AMBACA	<i>Ambrosia acanthicarpa</i>	flatspine bur ragweed	<1%	<0.1
	ASTCAL	<i>Astragalus calycosus</i>	Torrey's milkvetch	2%	0.1
	ASTFUC	<i>Astragalus fucatus</i>	Hopi milkvetch	1%	0.1
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	3%	0.2
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	2%	0.1
	CHAMAESYCE	<i>Chamaesyce</i>	sandmat	5%	0.1
	CHAMIC	<i>Chamaesyce micromera</i>	Sonoran sandmat	2%	0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	36%	5.4
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	1%	<0.1
	ERICER	<i>Eriogonum cernuum</i>	nodding buckwheat	1%	<0.1
	ERIDIV	<i>Erigeron divergens</i>	spreading fleabane	2%	0.3
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	1%	0.1
	ERIVIR	<i>Eriogonum viridulum</i>	clay hill buckwheat	<1%	<0.1

(Table Continues)

## LMD 3-1-9 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	EUPHORBIA	<i>Euphorbia</i>	spurge	3%	0.1
<b>(Continued)</b>	GILIA	<i>Gilia</i>	gilia	<1%	<0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	1%	0.3
	MENALB	<i>Mentzelia albicaulis</i>	whitestem blazingstar	2%	0.8
	MENMUL	<i>Mentzelia multiflora</i>	Adonis blazingstar	1%	0.3
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	3%	0.3
	PECANG	<i>Pectis angustifolia</i>	lemonscent	17%	1.2
	PENANG	<i>Penstemon angustifolius</i>	broadbeard beardtongue	<1%	<0.1
	PHACELIA	<i>Phacelia</i>	phacelia	2%	0.1
	PHACRE	<i>Phacelia crenulata</i>	cleftleaf wildheliotrope	<1%	<0.1
	PHAINT	<i>Phacelia integrifolia</i>	gypsum phacelia	1%	<0.1
	PHYSARIA	<i>Physaria</i>	twinpod	<1%	<0.1
	POROLE	<i>Portulaca oleracea</i>	little hogweed	3%	0.2
	PORTULACA	<i>Portulaca</i>	purslane	<1%	<0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	46%	38.0
	SANABE	<i>Sanvitalia abertii</i>	Abert's creeping zinnia	<1%	<0.1
	SCHPIN	<i>Schkuhria pinnata</i>	pinnate false threadleaf	1%	<0.1
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	2%	0.3
	SPHHAS	<i>Sphaeralcea hastulata</i>	spear globemallow	7%	1.4
	SPHLEP	<i>Sphaeralcea leptophylla</i>	scaly globemallow	<1%	<0.1
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	2%	0.3
	TIQLAT	<i>Tiquilia latior</i>	matted crinklemat	3%	0.9
	UNKANF	–	Unknown annual forb	<1%	<0.1
	UNKPEF	–	Unknown perennial forb	2%	0.1
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	7%	1.7
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	36%	5.9
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	7%	1.5
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	3%	0.9
	ENNDDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	<1%	<0.1
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	5%	1.0
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	22%	19.9
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	14%	17.6
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	8%	3.6
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	5%	0.7
	SPOGIG	<i>Sporobolus giganteus</i>	giant dropseed	6%	6.2

(Table Continues)



**LMD 3-1-9 Production Table (Continued)**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Shrub/Vine	ALHMAU	<i>Alhagi maurorum</i>	camelthorn	2%	1.6
	ARTFIL	<i>Artemisia filifolia</i>	sand sagebrush	1%	0.1
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	1%	2.6
	ATRCON	<i>Atriplex confertifolia</i>	shadscale saltbush	<1%	<0.1
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	7%	1.1
	BRICAL	<i>Brickellia californica</i>	California brickellbush	<1%	0.3
	BRICKELLIA	<i>Brickellia</i>	brickellbush	<1%	0.1
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	2%	1.6
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	<1%	0.1
	ERICOR	<i>Eriogonum corymbosum</i>	crispleaf buckwheat	<1%	0.1
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	1%	1.5
	POLINC	<i>Poliomintha incana</i>	frosted mint	<1%	0.2
	UNKSHR	–	Unknown shrub	<1%	0.1
	YUCANG	<i>Yucca angustissima</i>	narrowleaf yucca	<1%	<0.1
	YUCBAI	<i>Yucca baileyi</i>	Navajo yucca	<1%	<0.1
Tree	TAMCHI	<i>Tamarix chinensis</i>	five-stamen tamarisk	<1%	<0.1

# Soil Map Unit

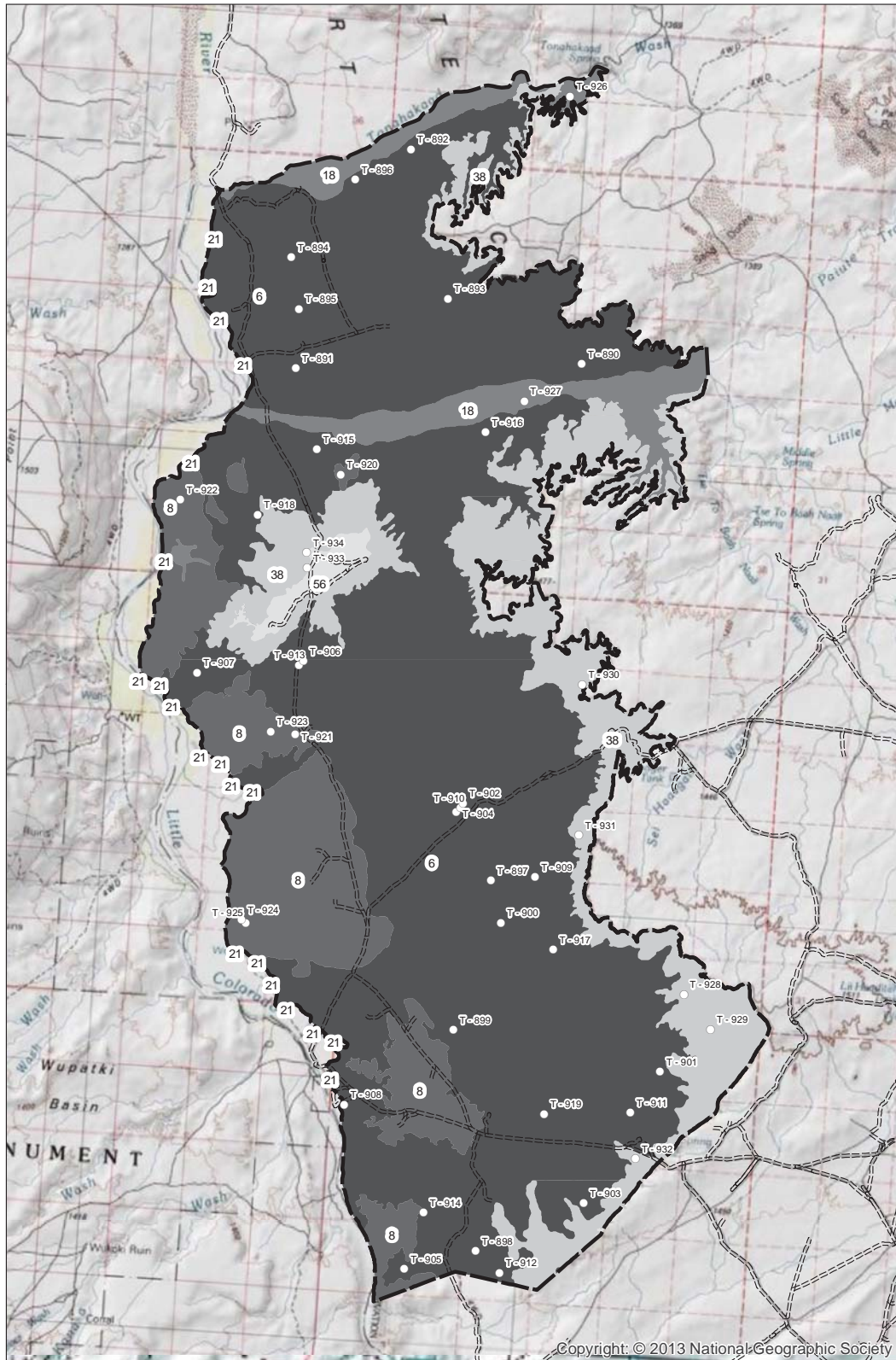
# West Navajo Livestock Capacity Study

Total Acres: 55,539.6

Land Management District 3

Grazeable Sheep Acres: 53,364.7

Unit 1, Compartment 9

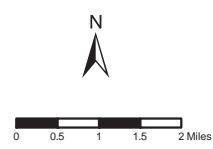


**Legend**

- Compartment Boundary
- Transect Location
- Road

**Soil Map Unit**

- 6 - Claysprings-Huerfano-Tuba complex
- 8 - Epikom-Leupp complex
- 18 - Ives-Riverwash association
- 21 - Jociety-Joraibi-Navajo-Riverwash complex
- 38 - Persayo-Hanksville complex
- 56 - Shorthair-Moenkopie complex



**Parametrix**

**GSA GeoSystems Analysis, Inc.**  
Innovations in Hydrology

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# Stocking Rate

# West Navajo Livestock Capacity Study

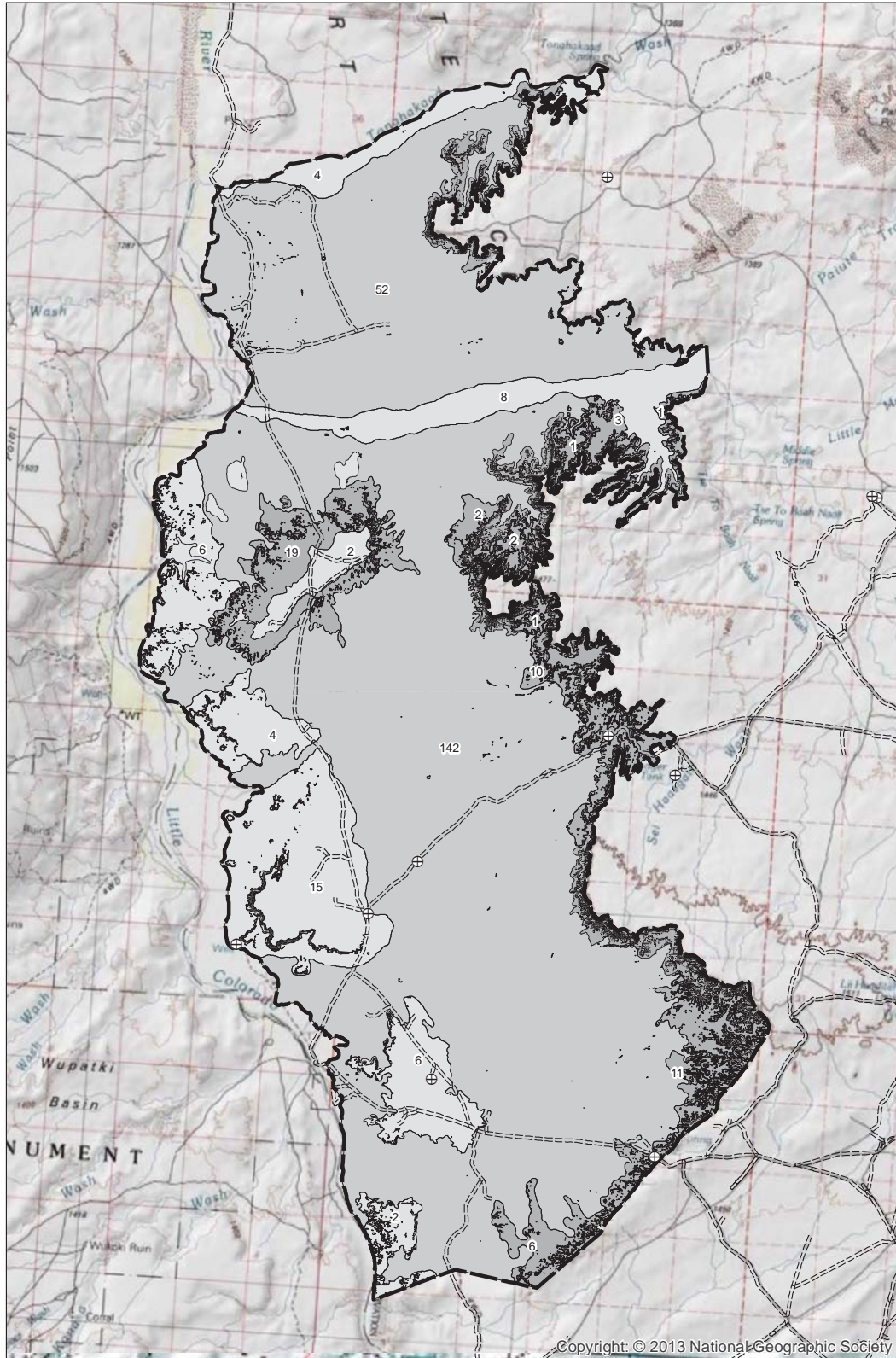
Total Acres: 55,539.6

Land Management District 3

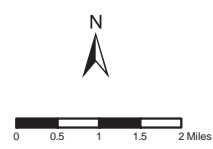
Grazeable Sheep Acres: 53,364.7

Unit 1, Compartment 9

Sheep Units Year Long: 327.6



- Compartment Boundary
- Livestock Watering Facility
- Road
- Sheep Ac/AUYL
  - 53.260944 - 74.427871
  - 74.427872 - 99.695134
  - 99.695135 - 197.890444
  - 197.890445 - 214.738680
  - >40% slope



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## LMD 3, Unit 1, Compartment 10 (LMD 3-1-10)

Compartment 3-1-10 consists of approximately 50,728 acres, approximately 95% of which is available to all livestock.

Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and small rock fragments. Dominant grasses include alkali sacaton (14.6 ppa) and sixweeks grama (1.1 ppa); dominant forbs include Russian thistle (4.4 ppa) and globemallow (0.4 ppa); and dominant shrubs include rubber rabbitbrush (7.9 ppa) and camelthorn, a potentially noxious invasive (1.9 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
18	558.4	543.8	967.1	0.6	6.7	552.0	214.7	2.6	30.8	558.3	143.0	3.9	46.9
21	0.6	0.5	842.1	0.0	0.0	0.5	219.9	0.0	0.0	0.6	125.1	0.0	0.1
24	796.2	776.9	873.5	0.9	10.7	783.7	219.0	3.6	42.9	790.9	124.1	6.4	76.5
34	1.4	1.1	324.4	0.0	0.0	1.3	70.4	0.0	0.2	1.4	46.8	0.0	0.4
38	8,831.6	6,899.1	281.5	24.5	294.1	7,495.3	83.7	89.6	1,075.1	8,385.7	44.6	187.9	2,254.6
56	10.3	6.8	919.2	0.0	0.1	8.0	205.4	0.0	0.5	9.6	133.4	0.1	0.9
6	29,621.1	29,511.8	663.8	44.5	533.5	29,578.4	185.8	159.2	1,909.9	29,614.6	106.7	277.6	3,330.9
<b>Total:</b>	<b>39,819.6</b>	<b>37,740.0</b>		<b>70.4</b>	<b>845.1</b>	<b>38,419.3</b>		<b>255.0</b>	<b>3,059.5</b>	<b>39,361.1</b>		<b>475.8</b>	<b>5,710.1</b>

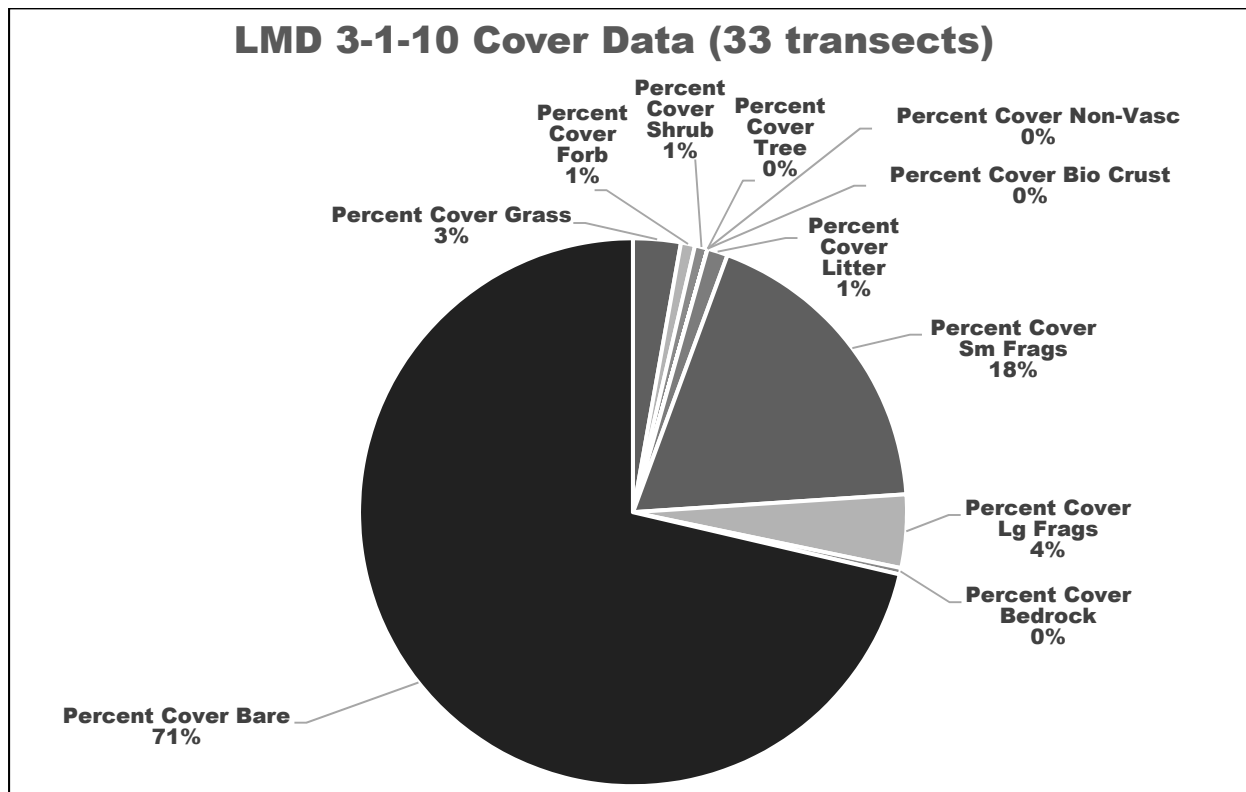
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0–30% All Livestock	31–40% Sheep and Goats	41–60% Goats Only	>60% Non-Grazeable	Total Acres
37,740.0	679.3	941.8	458.5	<b>39,819.6</b>



**LMD 3-1-10 Production Table**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ALLIUM	<i>Allium</i>	onion	<1%	0.1
	ALLMAC	<i>Allium macropetalum</i>	largeflower onion	<1%	<0.1
	ASCLEPIAS	<i>Asclepias</i>	milkweed	<1%	0.3
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	<1%	<0.1
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	<1%	<0.1
	ATRSAC	<i>Atriplex saccaria</i>	sack saltbush	<1%	<0.1
	CHACOR	<i>Chamaesaracha coronopus</i>	greenleaf five eyes	1%	<0.1
	CHAMAESYCE	<i>Chamaesyce</i>	sandmat	1%	<0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	2%	<0.1
	CRYCIN	<i>Cryptantha cinerea</i>	James' cryptantha	<1%	0.1
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	<1%	<0.1
	NAMDIC	<i>Nama dichotomum</i>	wishbone fiddleleaf	<1%	<0.1
	PHACRE	<i>Phacelia crenulata</i>	cleftleaf wildheliotrope	1%	0.1
	POROLE	<i>Portulaca oleracea</i>	little hogweed	<1%	<0.1

(Table Continues)

## LMD 3-1-10 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	8%	4.4
<b>(Continued)</b>	SOPNUT	<i>Sophora nuttalliana</i>	silky sophora	<1%	<0.1
	SPHAERALCEA	<i>Sphaeralcea</i>	globemallow	<1%	<0.1
	SPHCOC	<i>Sphaeralcea coccinea</i>	scarlet globemallow	<1%	0.2
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	1%	0.1
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	2%	0.4
	TIQLAT	<i>Tiquilia latior</i>	matted crinklemat	1%	<0.1
	UNKANF	–	Unknown annual forb	5%	0.4
	UNKPEF	–	Unknown perennial forb	1%	0.3
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	1%	0.3
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	8%	1.1
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	<1%	<0.1
	MUHPUN	<i>Muhlenbergia pungens</i>	sandhill muhly	1%	<0.1
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	3%	2.1
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	12%	14.6
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	2%	0.7
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	<1%	<0.1
<b>Shrub/Vine</b>	ALHMAU	<i>Alhagi maurorum</i>	camelthorn	3%	1.9
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	1%	0.1
	ATRCON	<i>Atriplex confertifolia</i>	shadscale saltbush	1%	0.1
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	5%	1.5
	BRICAL	<i>Brickellia californica</i>	California brickellbush	<1%	0.2
	BRICKELLIA	<i>Brickellia</i>	brickellbush	<1%	0.1
	ENCFRU	<i>Encelia frutescens</i>	button brittlebush	1%	0.7
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	2%	7.9
	POLINC	<i>Poliomintha incana</i>	frosted mint	<1%	0.3

# Soil Map Unit

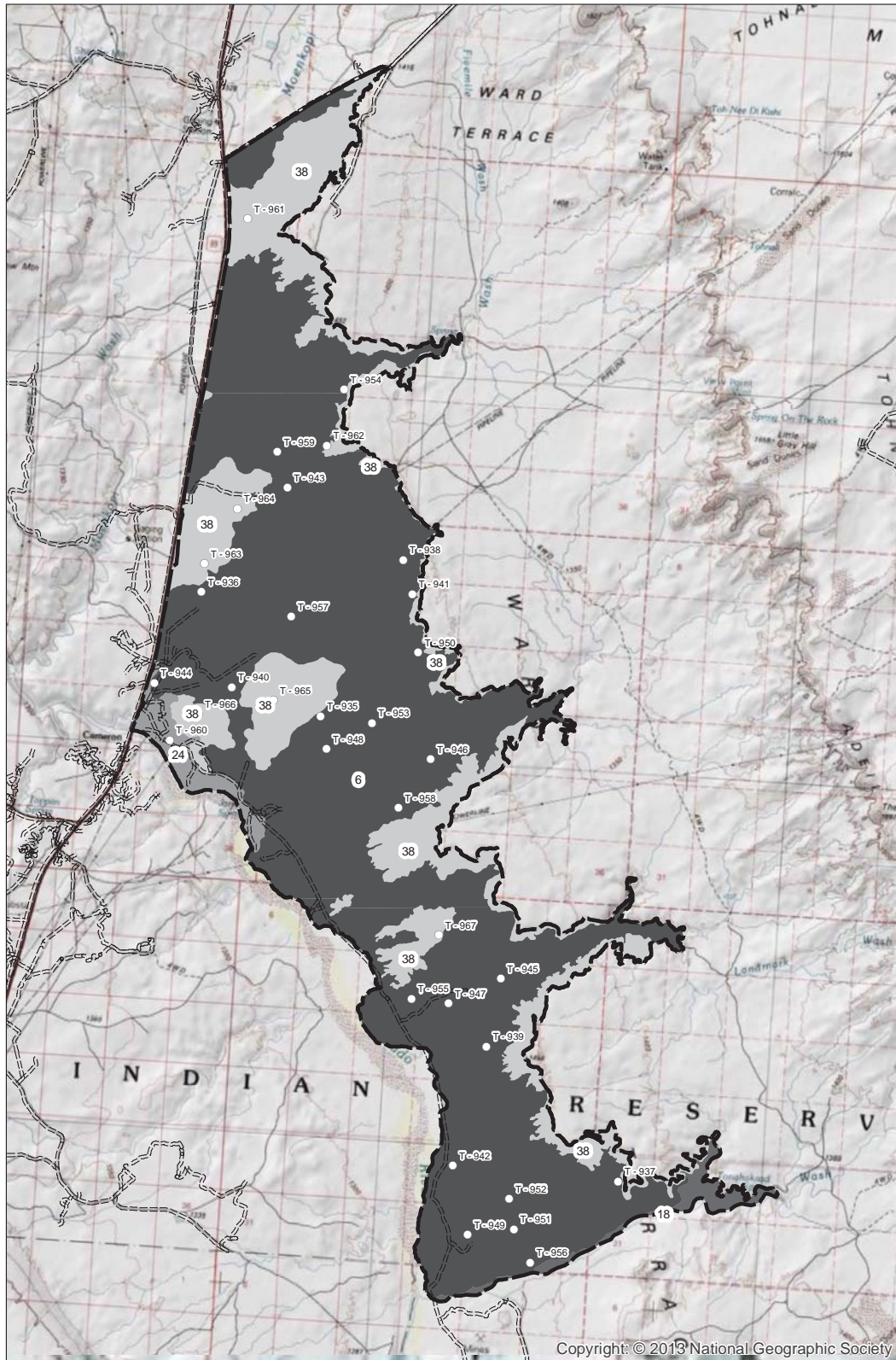
# West Navajo Livestock Capacity Study

Total Acres: 39,819.6

Land Management District 3

Grazeable Sheep Acres: 38,419.3

Unit 1, Compartment 10

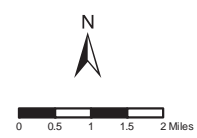


Legend:

- Compartment Boundary
- Transect Location
- Road

**Soil Map Unit**

- 6 - Claysprings-Huerfano-Tuba complex
- 18 - Ives-Riverwash association
- 21 - Jocky-Jorabi-Navajo-Riverwash complex
- 24 - Leupp-Hoskinnini complex
- 34 - Moffat-Sheppard complex
- 38 - Persayo-Hanksville complex
- 56 - Shorthair-Moenkopie complex



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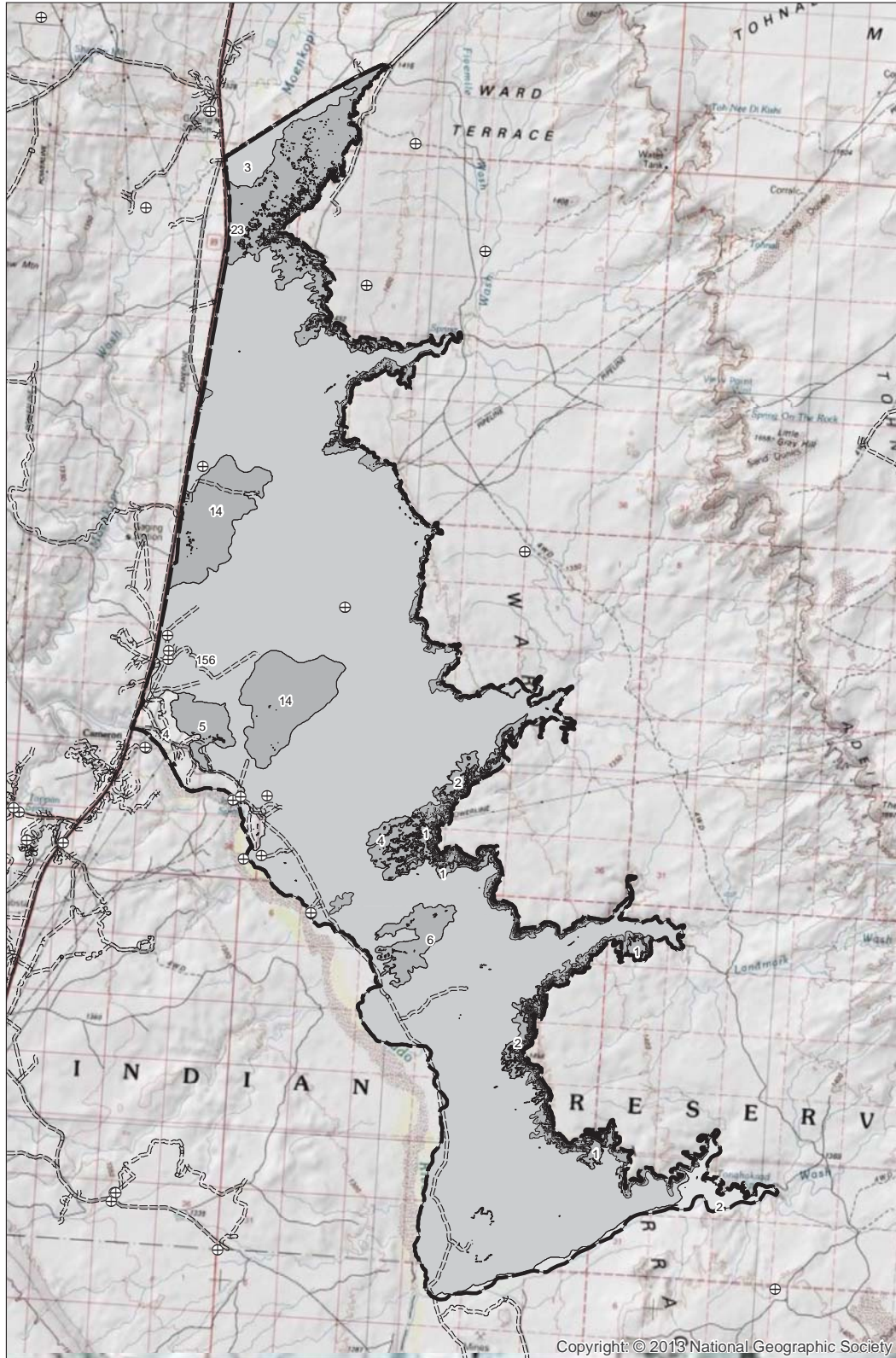
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# Stocking Rate

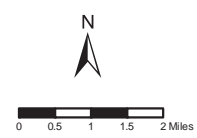
## West Navajo Livestock Capacity Study

Land Management District 3  
Unit 1, Compartment 10

Total Acres: 39,819.6  
Grazeable Sheep Acres: 38,419.3  
Sheep Units Year Long: 255.0



- Compartment Boundary
- Livestock Watering Facility
- Road
- Sheep Ac/AUYL
  - 50 - 75
  - 75 - 100
  - 100 - 200
  - >200
- >40% slope



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## LMD 3, Unit 1, Compartment 11 (LMD 3-1-11)

Compartment 3-1-11 consists of approximately 3,966 acres, approximately 99% of which is available to all livestock. Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and litter. Dominant grasses include include James' galleta (42.8 ppa) and low wooly grass (2.8 ppa); dominant forbs include Russian thistle (20.0 ppa) and milkvetch (0.9 ppa); and dominant shrubs include camelthorn, a potentially noxious invasive (7.2 ppa) and sand rubber rabbitbrush (7.3 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
18	0.1	0.1	967.1	0.0	0.0	0.1	214.7	0.0	0.0	0.1	143.0	0.0	0.0
21	3,960.5	3,953.8	842.1	4.7	56.3	3,955.5	219.9	18.0	215.9	3,959.1	125.1	31.6	379.8
6	2.9	2.9	663.8	0.0	0.1	2.9	185.8	0.0	0.2	2.9	106.7	0.0	0.3
8	2.8	2.4	590.4	0.0	0.0	2.5	201.5	0.0	0.2	2.8	96.7	0.0	0.3
<b>Total:</b>	<b>3,966.3</b>	<b>3,959.3</b>		<b>4.7</b>	<b>56.4</b>	<b>3,961.1</b>		<b>18.0</b>	<b>216.2</b>	<b>3,965.0</b>		<b>31.7</b>	<b>380.5</b>

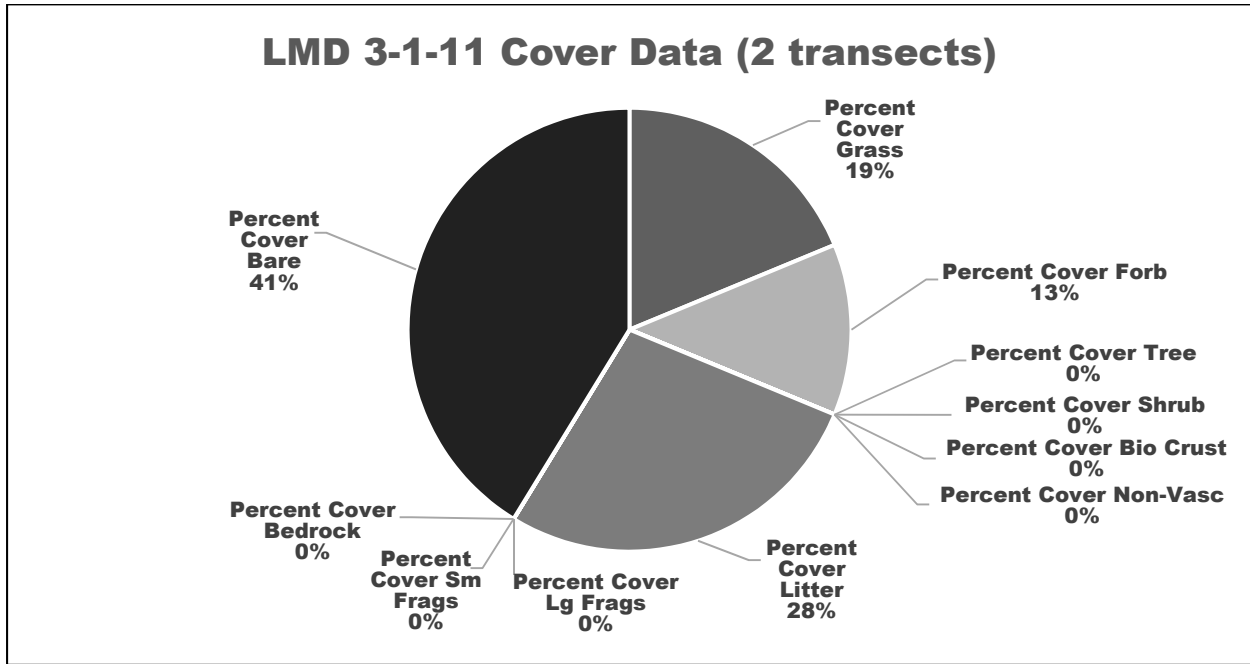
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0–30% All Livestock	31–40% Sheep and Goats	41–60% Goats Only	>60% Non-Grazeable	Total Acres
3,959.3	1.8	3.9	1.4	3,966.3



**LMD 3-1-11 Production Table**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	AMARANTHUS	<i>Amaranthus</i>	pigweed	5%	0.4
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	25%	0.9
	CHAMAESYCE	<i>Chamaesyce</i>	sandmat	15%	0.8
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	40%	2.8
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	35%	20.0
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	5%	0.4
	THEMEG	<i>Thelesperma megapotamicum</i>	Hopi tea greenthread	5%	0.6
	<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	5%
BOUBAR		<i>Bouteloua barbata</i>	sixweeks grama	15%	1.0
DASPUL		<i>Dasyochloa pulchella</i>	low woollygrass	15%	2.8
PLEJAM		<i>Pleuraphis jamesii</i>	James' galleta	50%	42.8
SPOAIR		<i>Sporobolus airoides</i>	alkali sacaton	5%	1.1
SPOCON		<i>Sporobolus contractus</i>	spike dropseed	5%	0.8
<b>Shrub/Vine</b>	ALHMAU	<i>Alhagi maurorum</i>	camelthorn	45%	7.2
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	10%	7.3



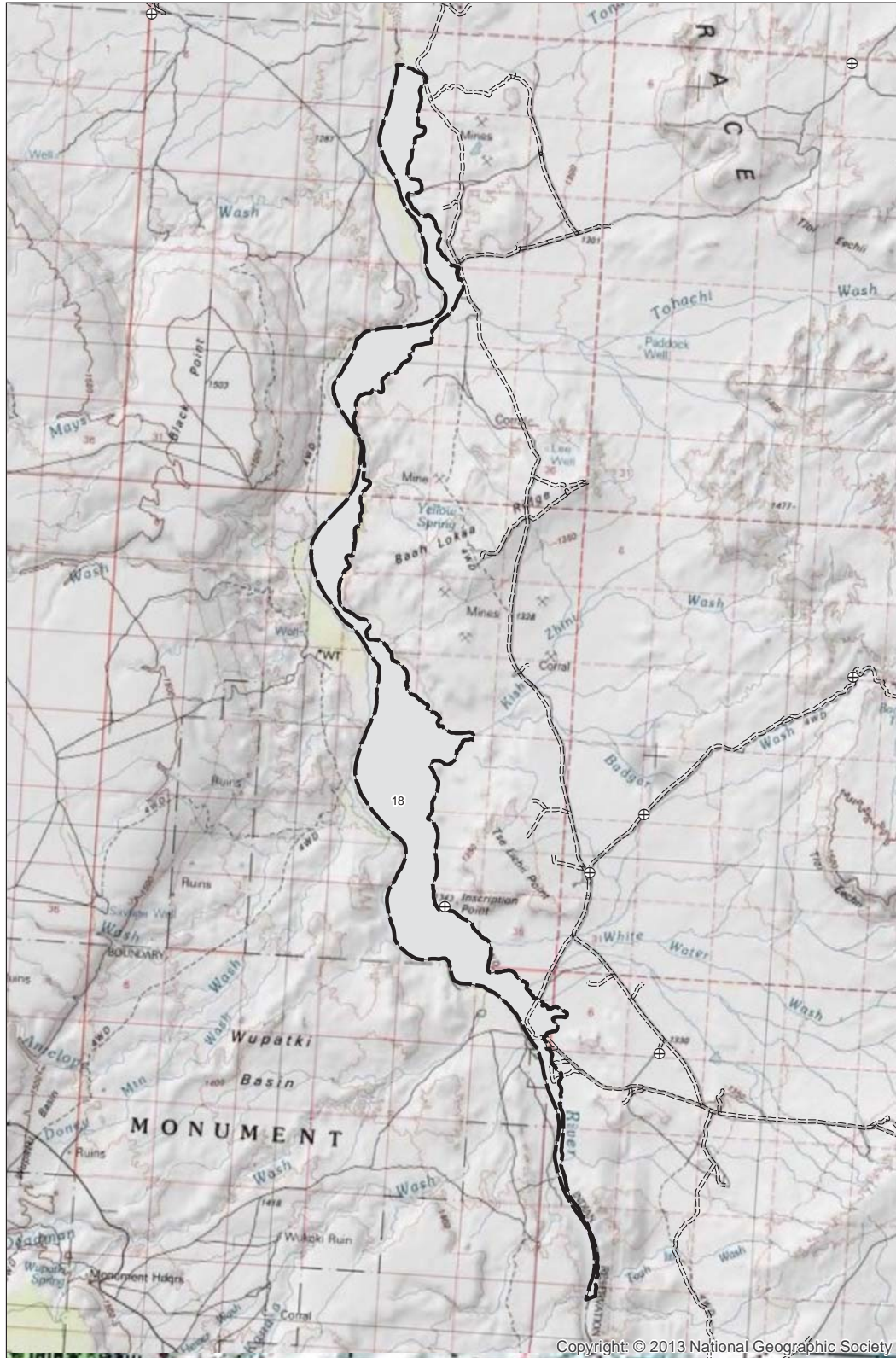
# Stocking Rate

# West Navajo Livestock Capacity Study

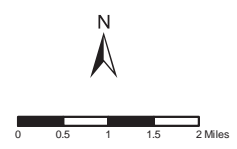
Total Acres: 3,966.3

Land Management District 3  
Unit 1, Compartment 11

Grazeable Sheep Acres: 3,961.1  
Sheep Units Year Long: 18.0



- Compartment Boundary
- Livestock Watering Facility
- Road
- Sheep Ac/AUYL
  - 100 - 200
  - >200
  - >40% slope



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## LMD 3, Unit 1, Compartment 12 (LMD 3-1-12)

Compartment 3-1-12 consists of approximately 3,462 acres, approximately 99% of which is available to all livestock. Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and small rock fragments. Dominant grasses include James' galleta (6.5 ppa) and low wooly grass (5.3 ppa); dominant forbs include Russian thistle (4.9 ppa) and sandmat (0.8 ppa); and dominant shrubs include camelthorn, a potentially noxious invasive (53.5 ppa) and rubber rabbitbrush (9.8 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
18	0.0	0.0	967.1	0.0	0.0	0.0	214.7	0.0	0.0	0.0	143.0	0.0	0.0
21	3,459.1	3,454.7	842.1	4.1	49.2	3,456.3	219.9	15.7	188.7	3,457.8	125.1	27.6	331.7
24	0.4	0.4	873.5	0.0	0.0	0.4	219.0	0.0	0.0	0.4	124.1	0.0	0.0
38	0.0	0.0	281.5	0.0	0.0	0.0	83.7	0.0	0.0	0.0	44.6	0.0	0.0
54	0.2	0.2	1,050.1	0.0	0.0	0.2	236.5	0.0	0.0	0.2	136.3	0.0	0.0
6	2.4	2.4	663.8	0.0	0.0	2.4	185.8	0.0	0.2	2.4	106.7	0.0	0.3
<b>Total:</b>	<b>3,462.1</b>	<b>3,457.7</b>		<b>4.1</b>	<b>49.3</b>	<b>3,459.2</b>		<b>15.7</b>	<b>188.8</b>	<b>3,460.7</b>		<b>27.7</b>	<b>332.0</b>

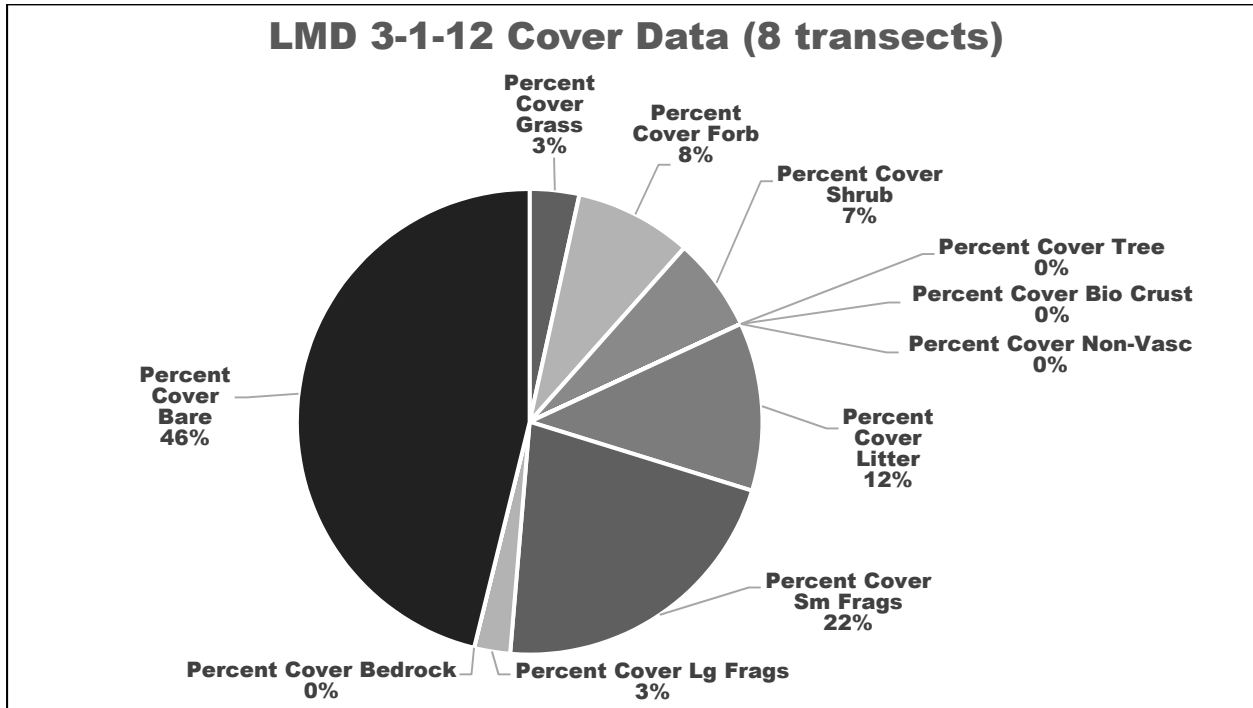
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0–30% All Livestock	31–40% Sheep and Goats	41–60% Goats Only	>60% Non-Grazeable	Total Acres
3,457.7	1.6	1.5	1.4	3,462.1



LMD 3-1-12 Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ALLIUM	<i>Allium</i>	onion	1%	0.2
	AMARANTHUS	<i>Amaranthus</i>	pigweed	3%	0.2
	CHAMAESYCE	<i>Chamaesyce</i>	sandmat	18%	0.8
	DATURA	<i>Datura</i>	jimsonweed	1%	<0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	1%	0.8
	HOFDRE	<i>Hoffmannseggia drepanocarpa</i>	sicklepod holdback	1%	0.1
	PORTULACA	<i>Portulaca</i>	purslane	9%	0.5
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	8%	4.9
	SCHPIN	<i>Schkuhria pinnata</i>	pinnate false threadleaf	1%	0.1
	SUAMOQ	<i>Suaeda moquinii</i>	Mojave seablite	4%	0.8
	TIQLAT	<i>Tiquilia latior</i>	matted crinklemat	3%	0.2
	ZINGRA	<i>Zinnia grandiflora</i>	Rocky Mountain zinnia	1%	0.3

(Table Continues)

## LMD 3-1-12 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Grass/Grasslike</b>	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	5%	0.6
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	1%	0.4
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	14%	5.3
	ENNDDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	1%	0.3
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	10%	6.5
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	5%	5.0
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	1%	0.1
<b>Shrub/Vine</b>	ALHMAU	<i>Alhagi maurorum</i>	camelthorn	36%	53.5
	ARTFIL	<i>Artemisia filifolia</i>	sand sagebrush	1%	1.2
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	1%	<0.1
	ATRCAN	<i>Atriplex confertifolia</i>	shadscale saltbush	11%	3.3
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	4%	0.5
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	6%	0.6
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	3%	9.8
	FALPAR	<i>Fallugia paradoxa</i>	Apache plume	3%	0.4
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	1%	0.7
<b>Tree</b>	TAMRAM	<i>Tamarix ramosissima</i>	saltcedar	9%	336.0



# Soil Map Unit

# West Navajo Livestock Capacity Study

Total Acres: 3,462.1

Land Management District 3  
Unit 1, Compartment 12

Grazeable Sheep Acres: 3,459.2



**Legend**

- Compartment Boundary
- Transect Location
- Road
- POWERLINE
- Soil Map Unit**
- Symbol
- 6 - Claysprings-Huerfano-Tuba complex
- 18 - Ives-Riverwash association
- 21 - Jolly-Jorabi-Navajo-Riverwash complex
- 24 - Leupp-Hoskinini complex
- 36 - Persayo-Hanksville complex
- 54 - Shinume-Leupp-Rock outcrop complex

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North arrow and scale bar (0 to 1 Miles).

**Parametrix**  
GeoSystems Analysis, Inc.  
Innovations in Hydrology

# Stocking Rate

# West Navajo Livestock Capacity Study

Land Management District 3  
Unit 1, Compartment 12

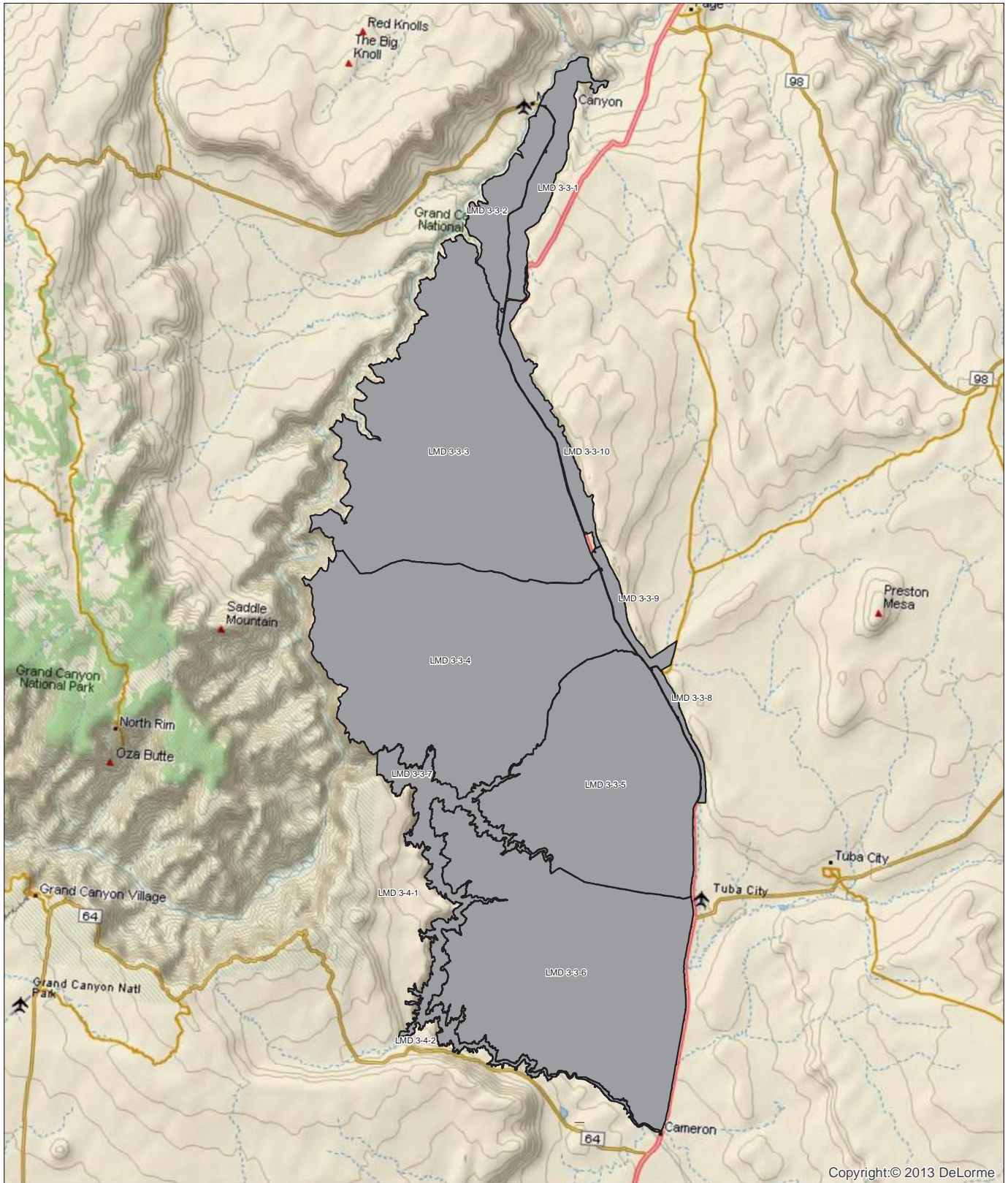
Total Acres: 3,462.1  
Grazeable Sheep Acres: 3,459.2  
Sheep Units Year Long: 15.7



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West Navajo Vegetation Study - Land Management District 3, Unit 3 Overview



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## LMD 3, Unit 3, Compartment 1 (LMD 3-3-1)

Compartment 3-3-1 consists of approximately 14,730 acres, approximately 62% (a relatively low percentage) of which is available to all livestock. Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and small rock fragments. Dominant grasses include Indian ricegrass (21.6 ppa) and cheatgrass (15.9 ppa); dominant forbs include threadstem carpetweed (21.5 ppa) and sawtooth sandmat (10.0 ppa); and dominant shrubs include blackbrush (46.8 ppa) and hedgehog cactus (3.8 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
11	1,190.3	1,085.1	13.8	78.3	940.2	1,125.4	3.0	370.2	4,442.6	1,165.3	2.0	577.7	6,931.9
13	188.0	164.2	21.7	7.6	90.9	172.4	4.2	41.1	493.5	183.6	3.0	61.4	737.3
34	645.5	644.4	324.4	2.0	23.8	645.3	70.4	9.2	110.1	645.5	46.8	13.8	165.5
37	9,255.4	3,808.4	414.7	9.2	110.2	5,133.7	96.1	53.4	641.1	7,054.4	59.6	118.4	1,420.4
5	3,451.6	3,426.3	246.1	13.9	167.0	3,442.0	52.1	66.0	792.1	3,450.3	34.5	100.1	1,201.2
<b>Total:</b>	<b>14,730.8</b>	<b>9,128.4</b>		<b>111.0</b>	<b>1,332.2</b>	<b>10,518.8</b>		<b>540.0</b>	<b>6,479.5</b>	<b>12,499.2</b>		<b>871.4</b>	<b>10,456.2</b>

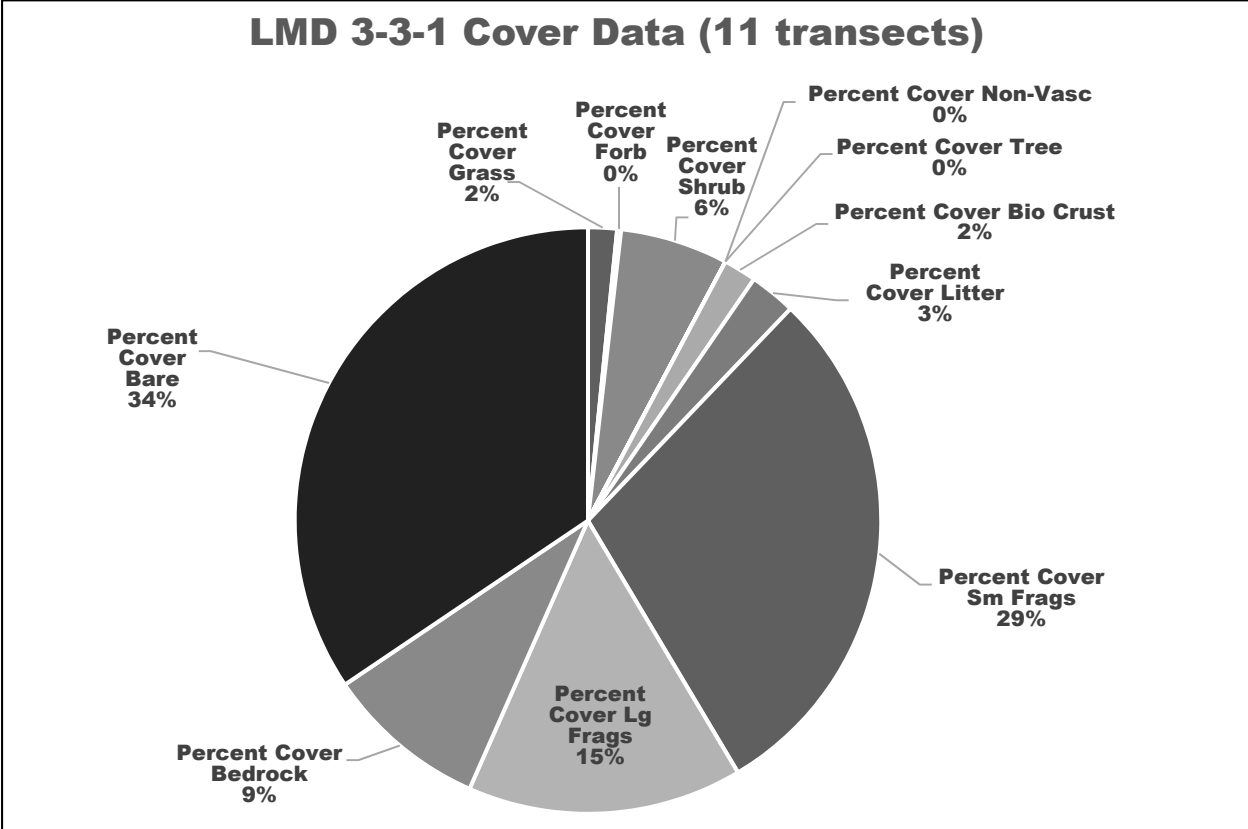
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0–30% All Livestock	31–40% Sheep and Goats	41–60% Goats Only	>60% Non-Grazeable	Total Acres
9,128.4	1,390.4	1,980.4	2,231.6	<b>14,730.8</b>



LMD 3-3-1 Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	ALLINC	<i>Allionia incarnata</i>	trailing windmills	5%	0.3
	BOEWRI	<i>Boerhavia wrightii</i>	largebract spiderling	16%	1.8
	CHAREV	<i>Chamaesyce revoluta</i>	threadstem sandmat	1%	0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	8%	10.0
	CHENOPODIUM	<i>Chenopodium</i>	goosefoot	3%	0.5
	ERIUMB	<i>Eriogonum umbellatum</i>	sulphur-flower buckwheat	1%	2.7
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	2%	0.1
	MIRMUL	<i>Mirabilis multiflora</i>	Colorado four o'clock	1%	<0.1
	MOLCER	<i>Mollugo cerviana</i>	threadstem carpetweed	9%	21.5
	PECANG	<i>Pectis angustifolia</i>	lemonscent	2%	1.5
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	2%	1.7
	SPHAERALCEA	<i>Sphaeralcea</i>	globemallow	11%	5.6
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	15%	0.6
	TIQLAT	<i>Tiquilia latior</i>	matted crinklemat	6%	1.0
	UNKANF	–	Unknown annual forb	1%	0.2
UNKPEF	–	Unknown perennial forb	13%	3.5	
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	25%	21.6
	BOUCUR	<i>Bouteloua curtipendula</i>	sideoats grama	2%	0.1
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	23%	10.3
	BROTEC	<i>Bromus tectorum</i>	cheatgrass	18%	15.9
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	3%	0.8
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	5%	3.8
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	14%	15.0
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	8%	10.0
<b>Shrub/Vine</b>	ATROBO	<i>Atriplex obovata</i>	mound saltbush	1%	1.8
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	17%	46.8
	ECHINOCEREUS	<i>Echinocereus</i>	hedgehog cactus	4%	3.8
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	1%	0.4
	LYCAND	<i>Lycium andersonii</i>	water jacket	5%	2.1
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	2%	2.2
	OPUPOL	<i>Opuntia polyacantha</i>	plains pricklypear	1%	0.2
	PARFIL	<i>Parryella filifolia</i>	common dunebroom	<1%	<0.1

# Soil Map Unit

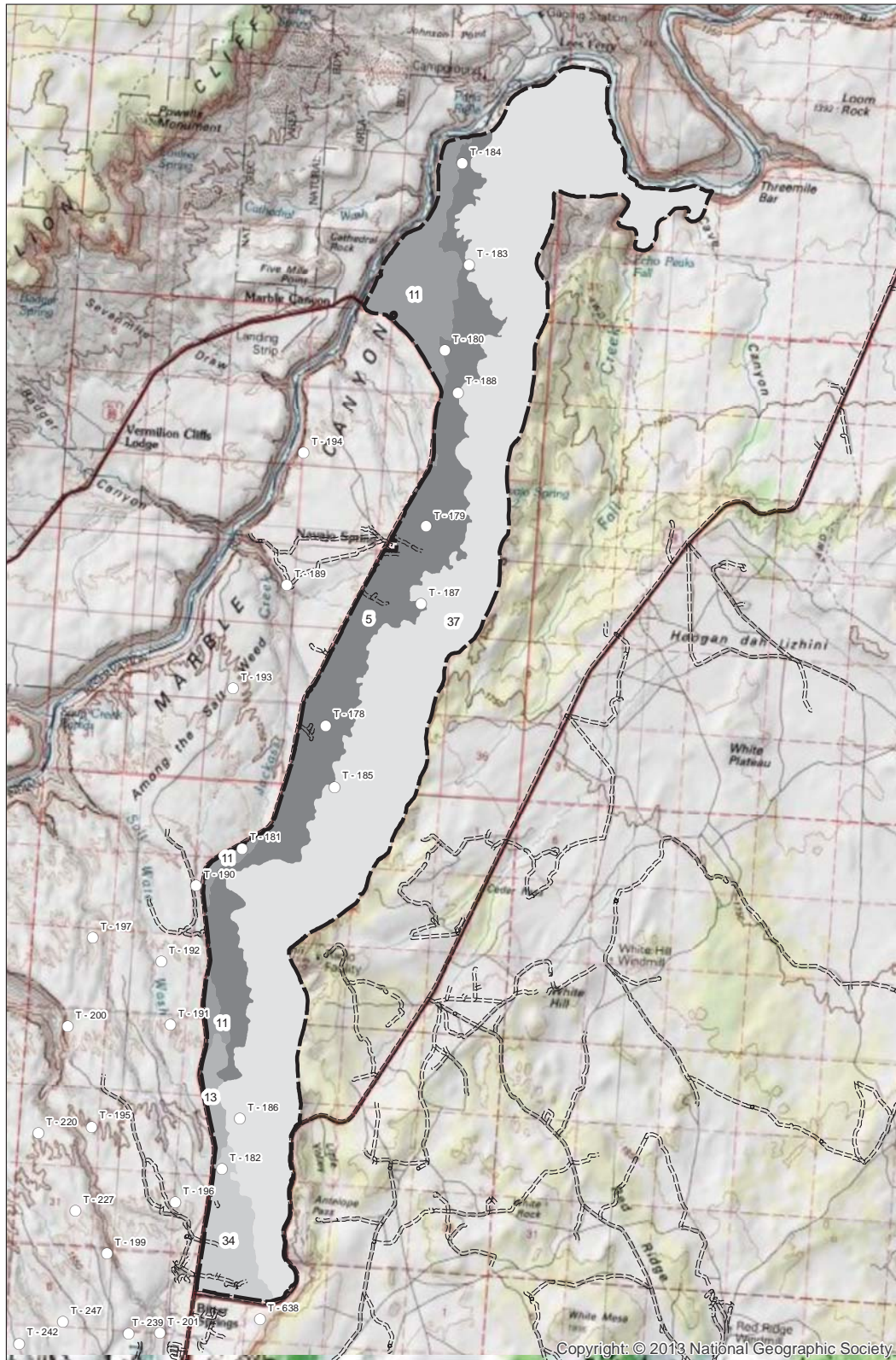
# West Navajo Livestock Capacity Study

Total Acres: 14,730.8

Land Management District 3

Grazeable Sheep Acres: 10,518.8

Unit 3, Compartment 1



Legend:

- Compartment Boundary
- Transect Location
- Road

**Soil Map Unit**

**Symbol**

- 5 - Catact-Tsaya-Typic Calcicgids complex
- 11 - Hajisho-Catactad family-Shirume complex
- 13 - Hajisho-Seeg complex
- 34 - Moffat-Sheppard complex
- 37 - Nepalto family-Tsaya-Rock outcrop complex

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North Arrow

Scale: 0 0.5 1 1.5 2 Miles

**Parametrix**

**GSA** GeoSystems Analysis, Inc.  
Innovations in Hydrology

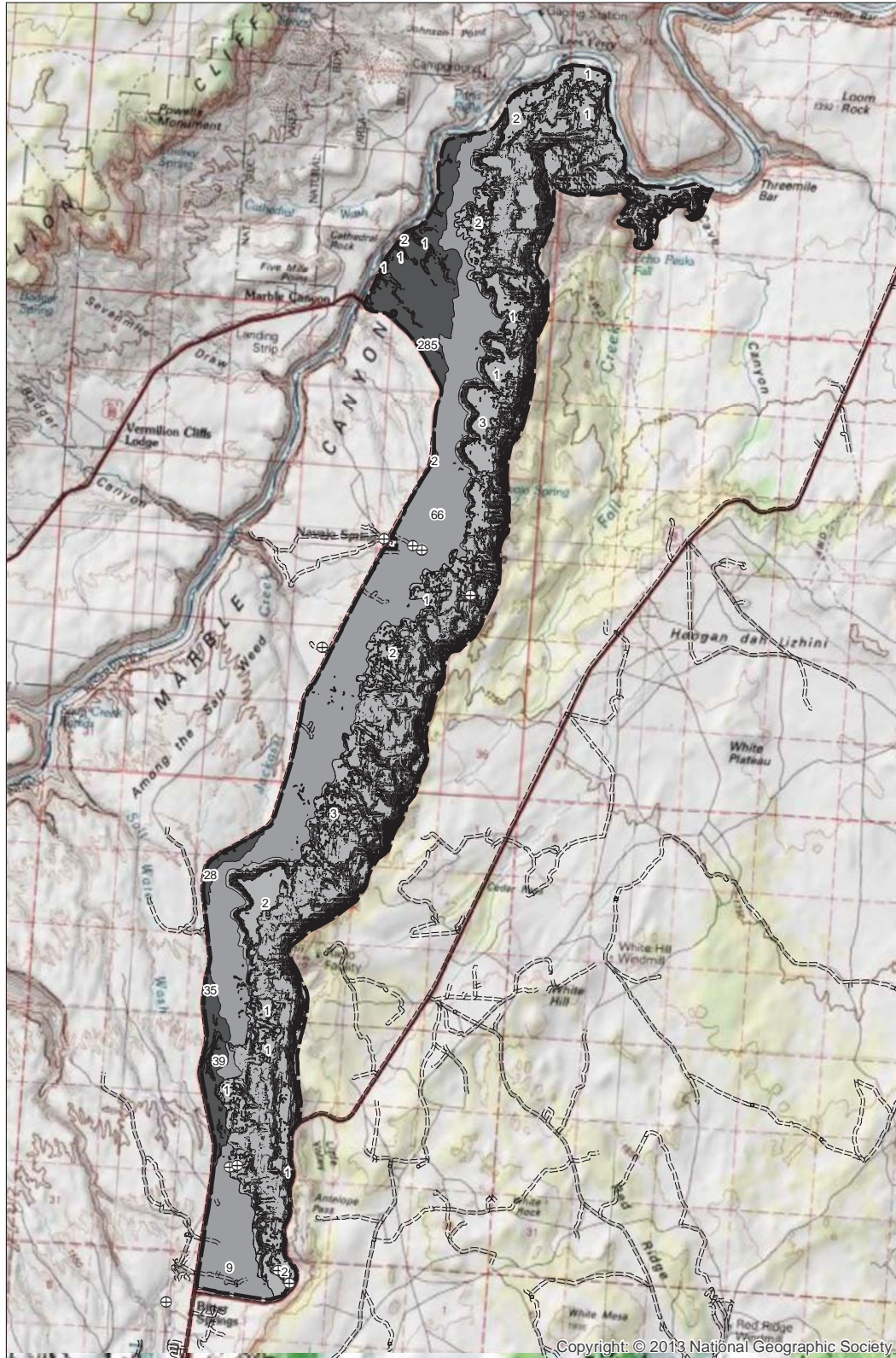
# Stocking Rate

# West Navajo Livestock Capacity Study

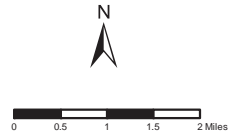
Total Acres: 14,730.8

Land Management District 3  
Unit 3, Compartment 1

Grazeable Sheep Acres: 10,518.8  
Sheep Units Year Long: 540.0



- ⬜ Compartment Boundary
- ⊕ Livestock Watering Facility
- == Road
- Sheep Ac/AUYL
  - 1 - 25
  - 25 - 50
  - 50 - 75
  - 75 - 100
  - >40% slope



Parametrix  
GSA GeoSystems Analysis, Inc.  
Innovations in Hydrology





## LMD 3, Unit 3, Compartment 2 (LMD 3-3-2)

Compartment 3-3-2 consists of approximately 15,451 acres, approximately 91% of which is available to all livestock.

Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and small rock fragments. Dominant grasses include nineawn pappusgrass (23.2 ppa) and sand dropseed (13.8 ppa); dominant forbs include little hogweed (88.0 ppa) and storksbill (11.7 ppa); and dominant shrubs include Utah agave (26.5 ppa) and Brady's pincushion cactus (31.0 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
11	6,243.1	5,867.4	13.8	423.7	5,084.0	6,007.0	3.0	1,976.1	23,713.3	6,151.6	2.0	3,049.4	36,592.2
13	6,944.3	5,979.6	21.7	276.0	3,312.1	6,399.6	4.2	1,526.9	18,322.6	6,750.1	3.0	2,258.7	27,104.1
34	642.6	637.9	324.4	2.0	23.6	639.4	70.4	9.1	109.1	641.6	46.8	13.7	164.5
41	0.0	0.0	410.6	0.0	0.0	0.0	96.8	0.0	0.0	0.0	63.3	0.0	0.0
5	1,620.8	1,598.2	246.1	6.5	77.9	1,603.6	52.1	30.8	369.0	1,611.4	34.5	46.7	561.0
<b>Total:</b>	<b>15,450.8</b>	<b>14,083.1</b>		<b>708.1</b>	<b>8,497.7</b>	<b>14,649.6</b>		<b>3,542.8</b>	<b>42,514.1</b>	<b>15,154.7</b>		<b>5,368.5</b>	<b>64,421.9</b>

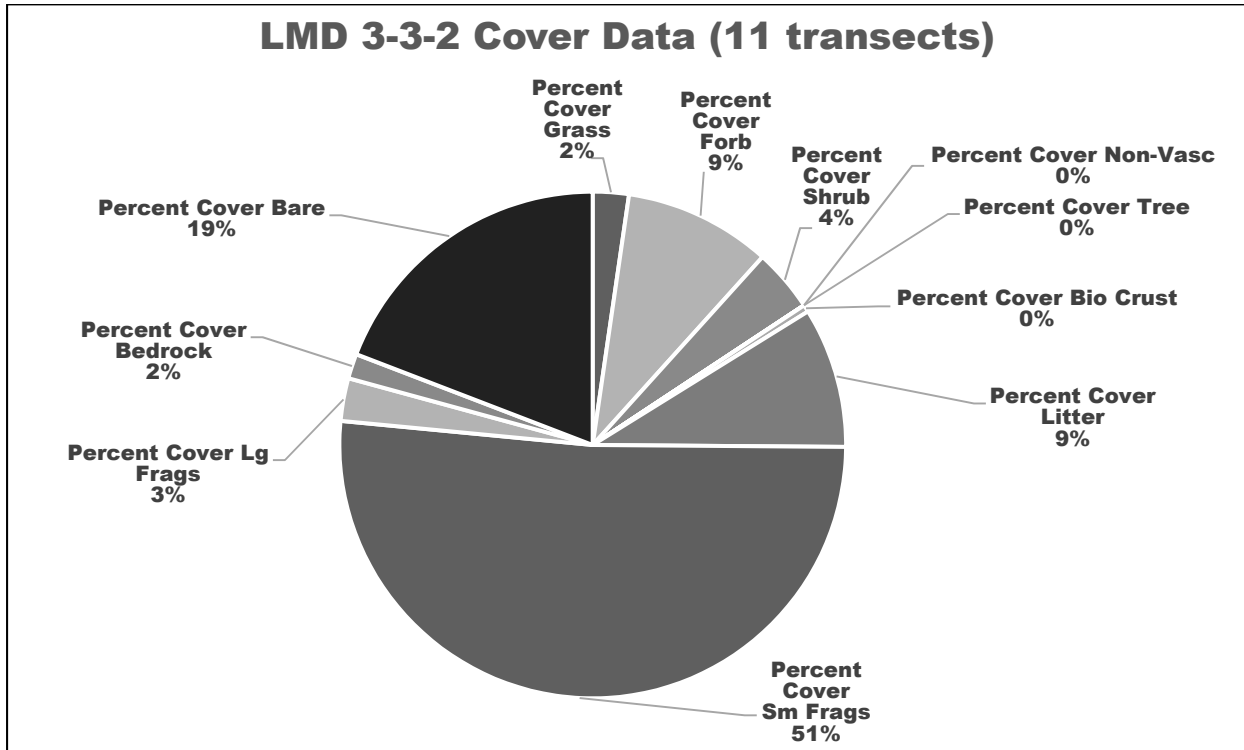
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0-30% All Livestock	31-40% Sheep and Goats	41-60% Goats Only	>60% Non-Grazeable	Total Acres
14,083.1	566.5	505.1	296.0	15,450.8



**LMD 3-3-2 Production Table**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ALLINC	<i>Allionia incarnata</i>	trailing windmills	1%	0.7
	AMAPAL	<i>Amaranthus palmeri</i>	carelessweed	54%	2.6
	ARTLUD	<i>Artemisia ludoviciana</i>	white sagebrush	5%	8.4
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	3%	0.1
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	48%	1.7
	CHAREV	<i>Chamaesyce revoluta</i>	threadstem sandmat	3%	1.8
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	1%	0.1
	CHEINC	<i>Chenopodium incanum</i>	mealy goosefoot	2%	0.3
	ERIINF	<i>Eriogonum inflatum</i>	desert trumpet	25%	0.6
	ERIUMB	<i>Eriogonum umbellatum</i>	sulphur-flower buckwheat	16%	5.7
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	26%	11.7
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	6%	0.8
	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	14%	0.6
	NAMDIC	<i>Nama dichotomum</i>	wishbone fiddleleaf	1%	<0.1
	PHACELIA	<i>Phacelia</i>	phacelia	8%	2.2

(Table Continues)

## LMD 3-3-2 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	POROLE	<i>Portulaca oleracea</i>	little hogweed	45%	88.0
<b>(Continued)</b>	PORPIL	<i>Portulaca pilosa</i>	kiss me quick	3%	1.2
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	30%	2.3
	SANABE	<i>Sanvitalia abertii</i>	Abert's creeping zinnia	5%	0.2
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	3%	4.1
	UNKANF	–	Unknown annual forb	25%	1.8
	UNKPEF	–	Unknown perennial forb	4%	1.3
<b>Grass/Grasslike</b>	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	15%	3.2
	BOUCUR	<i>Bouteloua curtipendula</i>	sideoats grama	1%	0.1
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	1%	2.3
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	44%	8.9
	ELYELY	<i>Elymus elymoides</i>	squirreltail	21%	1.3
	ENNDDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	16%	23.2
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	1%	0.6
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	2%	0.3
	SCLBRE	<i>Scleropogon brevifolius</i>	burrograss	15%	2.5
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	1%	10.9
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	10%	13.8
<b>Shrub/Vine</b>	AGAUTA	<i>Agave utahensis</i>	Utah agave	26%	26.5
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	2%	0.9
	ATRCAN	<i>Atriplex confertifolia</i>	shadscale saltbush	3%	2.9
	CHRGRE	<i>Chrysothamnus Greenei</i>	Greene's rabbitbrush	3%	1.2
	CYLWHI	<i>Cylindropuntia whipplei</i>	Whipple cholla	4%	2.1
	ECHENG	<i>Echinocereus engelmannii</i>	Engelmann's hedgehog cactus	2%	2.3
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	1%	2.0
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	16%	11.4
	LYCAND	<i>Lycium andersonii</i>	water jacket	1%	<0.1
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	1%	0.2
	PEDBRA	<i>Pediocactus bradyi</i>	Brady's pincushion cactus	50%	31.0

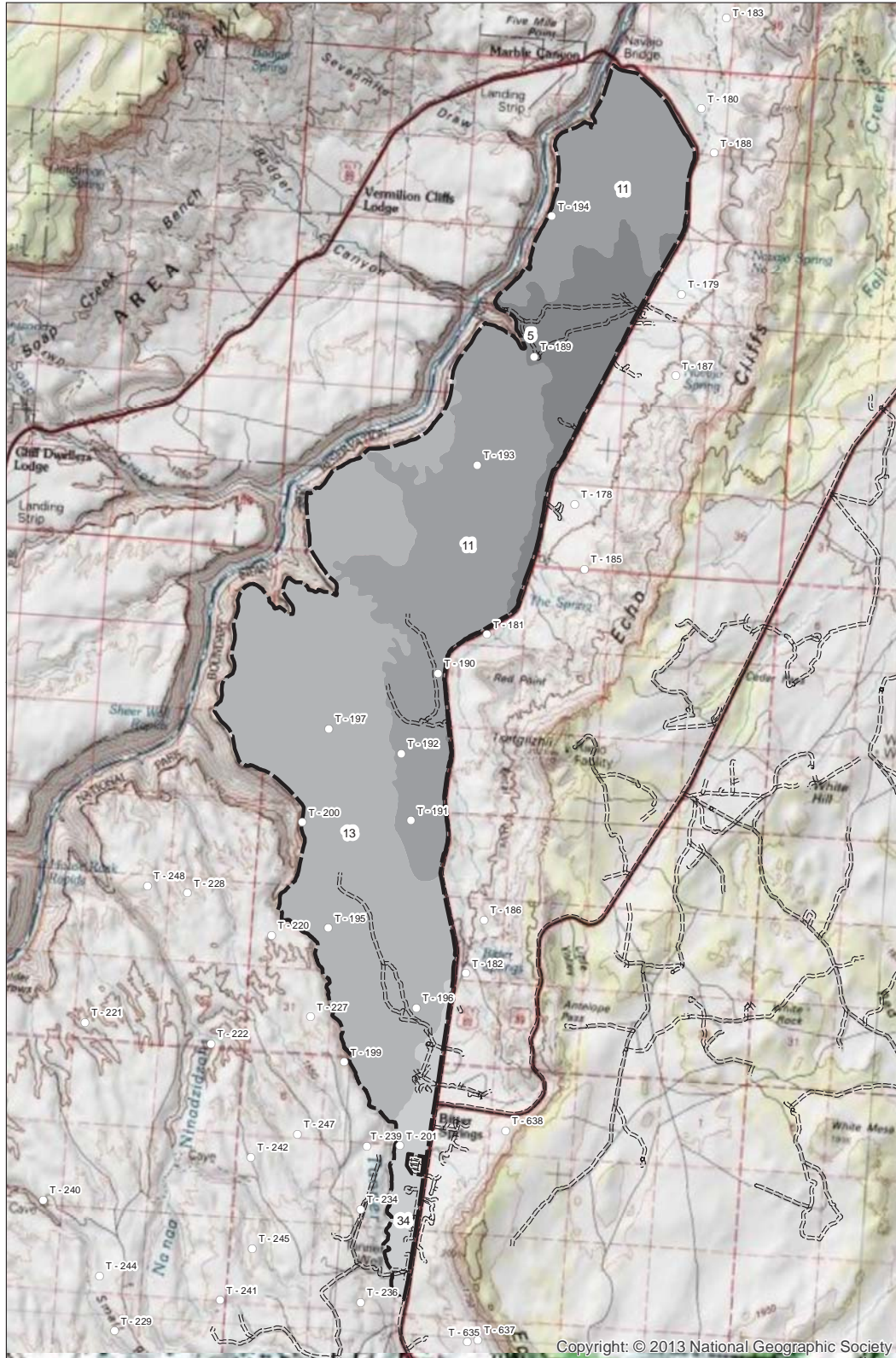
# Soil Map Unit

# West Navajo Livestock Capacity Study

Total Acres: 15,450.8

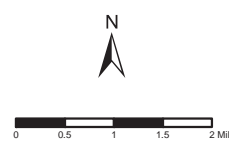
Land Management District 3  
Unit 3, Compartment 2

Grazeable Sheep Acres: 14,649.6



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- Compartment Boundary
- Transect Location
- Road
- Soil Map Unit
  - 5 - Cataract-Tsaya-Typic Calcigrids complex
  - 11 - Hajoisho-Cataract family-Shinume complex
  - 13 - Hajoisho-Seeg complex
  - 34 - Moflas-Sheppard complex
  - 41 - Radnik-Escavada-Riverwash complex



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# Stocking Rate

# West Navajo Livestock Capacity Study

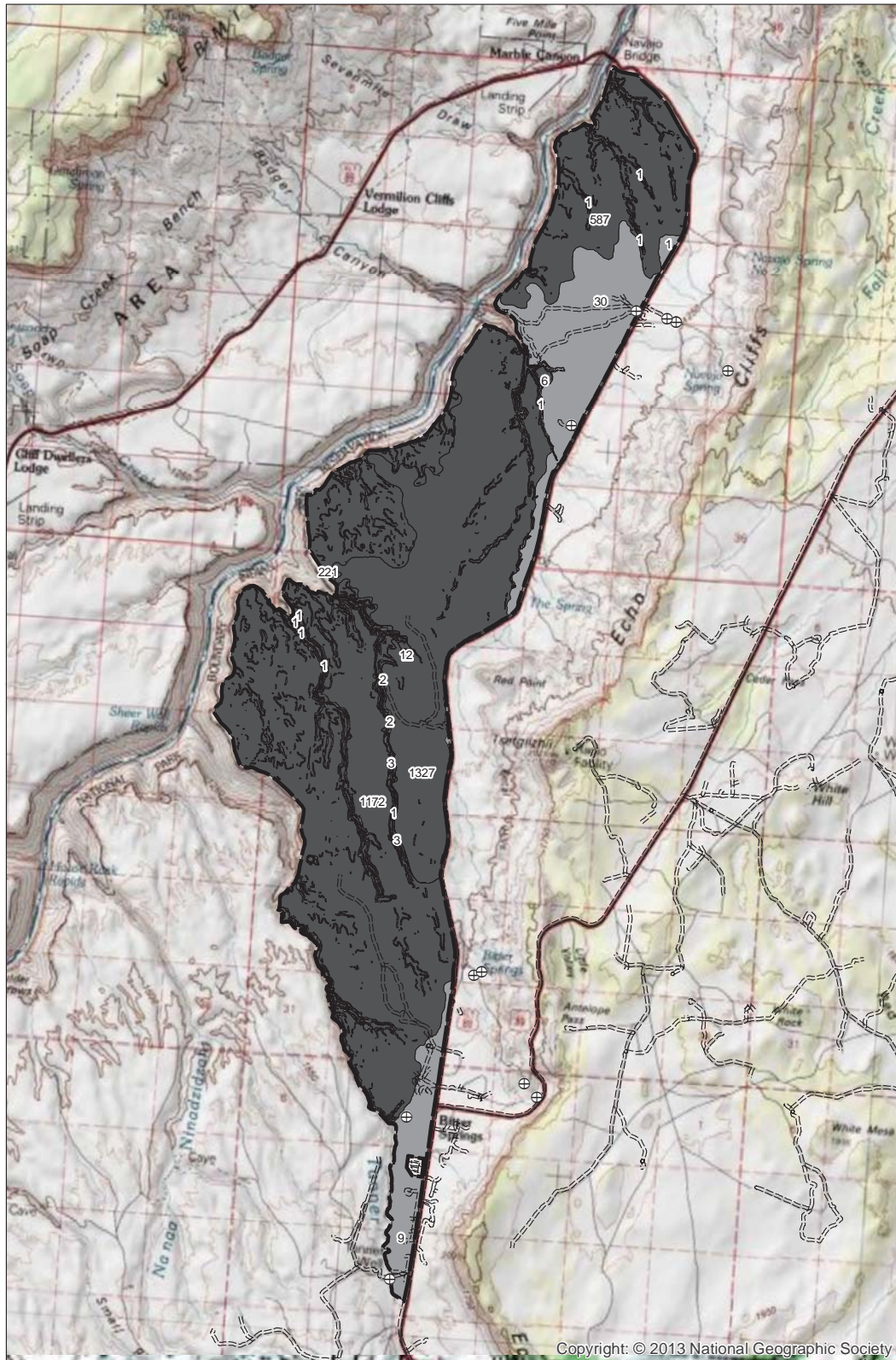
Total Acres: 15,450.8

Land Management District 3

Grazeable Sheep Acres: 14,649.6

Unit 3, Compartment 2

Sheep Units Year Long: 3,542.8



- Compartment Boundary
- Livestock Watering Facility
- Road
- Sheep Ac/AUYL
  - 1 - 25
  - 25 - 50
  - 50 - 75
  - 75 - 100
  - >40% slope

North Arrow

Scale: 0 0.5 1 1.5 2 Miles

Parametrix

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## LMD 3, Unit 3, Compartment 3 (LMD 3-3-3)

Compartment 3-3-3 consists of approximately 137,723 acres, approximately 95% of which is available to all livestock. Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and small rock fragments. Dominant grasses include sixweeks grama (42.0 ppa) and burrograss (15.0 ppa); dominant forbs include little hogweed (23.1 ppa) and storksbill (50.3 ppa); and dominant shrubs include bigelow sage (25.5ppa) and Mojave bricklebush (8.7 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
106	0.0	0.0	206.3	0.0	0.0	0.0	41.8	0.0	0.0	0.0	30.7	0.0	0.0
11	21,599.0	21,186.1	13.8	1,529.8	18,357.4	21,412.5	3.0	7,044.0	84,528.3	21,528.6	2.0	10,671.8	128,061.0
13	40,147.8	37,346.4	21.7	1,723.9	20,686.4	39,014.7	4.2	9,308.5	111,702.3	39,798.4	3.0	13,317.1	159,805.5
26	32,172.5	32,066.3	312.9	102.5	1,229.7	32,136.6	74.8	429.4	5,153.3	32,170.1	52.1	617.1	7,405.7
29	22,284.5	20,299.4	334.0	60.8	729.4	21,281.7	64.9	328.0	3,936.3	21,997.8	45.6	482.3	5,787.9
34	0.8	0.4	324.4	0.0	0.0	0.5	70.4	0.0	0.1	0.7	46.8	0.0	0.2
39	7,119.7	6,762.2	968.3	7.0	83.8	6,966.4	292.9	23.8	285.4	7,095.4	155.2	45.7	548.5
41	32.5	32.4	410.6	0.1	0.9	32.5	96.8	0.3	4.0	32.5	63.3	0.5	6.2
42	1,302.4	769.7	177.0	4.3	52.2	936.0	41.7	22.5	269.6	1,170.8	25.1	46.6	558.9
43	4,161.7	3,950.9	241.0	16.4	196.8	4,084.5	57.2	71.4	856.9	4,152.8	45.0	92.3	1,108.1
60	8,451.4	8,427.9	352.4	23.9	287.0	8,438.6	45.8	184.4	2,212.7	8,441.8	33.3	253.7	3,044.4
<b>Total:</b>	<b>137,272.3</b>	<b>130,841.7</b>		<b>3,468.6</b>	<b>41,623.5</b>	<b>134,303.9</b>		<b>17,412.4</b>	<b>208,949.0</b>	<b>136,388.9</b>		<b>25,527.2</b>	<b>306,326.1</b>

Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

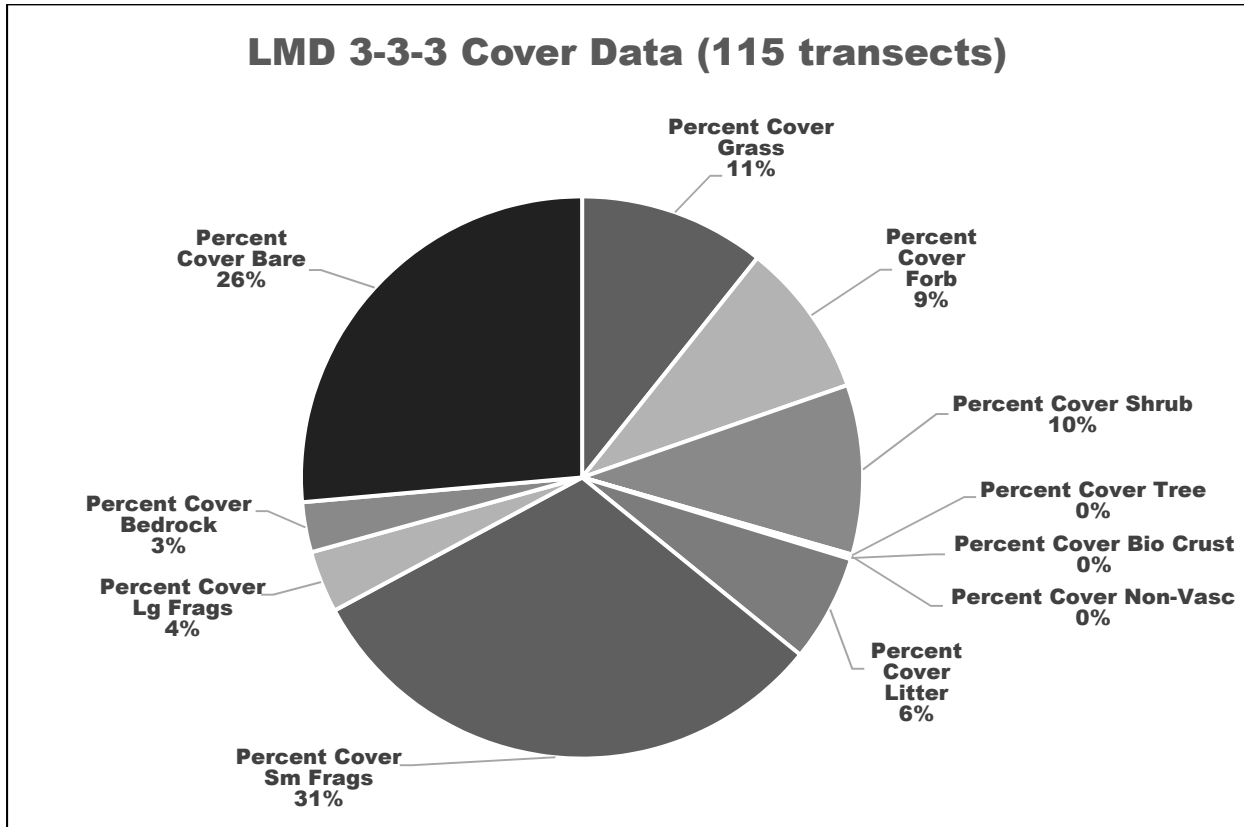
Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0-30% All Livestock	31-40% Sheep and Goats	41-60% Goats Only	>60% Non-Grazeable	Total Acres
130,841.7	3,462.1	2,085.0	883.5	<b>137,272.3</b>





LMD 3-3-3 Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ABRFRA	<i>Abronia fragrans</i>	snowball sand verbena	6%	3.0
	ALLINC	<i>Allionia incarnata</i>	trailing windmills	<1%	0.1
	AMAPAL	<i>Amaranthus palmeri</i>	carelessweed	<1%	<0.1
	AMAPOL	<i>Amaranthus polygonoides</i>	tropical amaranth	<1%	<0.1
	AMARANTHUS	<i>Amaranthus</i>	pigweed	<1%	<0.1
	AMARET	<i>Amaranthus retroflexus</i>	redroot amaranth	<1%	0.2
	AMBACA	<i>Ambrosia acanthicarpa</i>	flatspine bur ragweed	7%	1.3
	ARTDRA	<i>Artemisia dracunculus</i>	tarragon	<1%	<0.1
	ASTCAL	<i>Astragalus calycosus</i>	Torrey's milkvetch	28%	2.7
	ASTLEN	<i>Astragalus lentiginosus</i>	freckled milkvetch	2%	0.1
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	<1%	0.1
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	13%	5.6
	CASINT	<i>Castilleja integra</i>	wholeleaf Indian paintbrush	2%	0.1

(Table Continues)

## LMD 3-3-3 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	45%	8.3
(Continued)	CHAREV	<i>Chamaesyce revoluta</i>	threadstem sandmat	<1%	<0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	<1%	0.1
	CHEINC	<i>Chenopodium incanum</i>	mealy goosefoot	<1%	<0.1
	CHENOPODIUM	<i>Chenopodium</i>	goosefoot	2%	0.1
	CIRSIUM	<i>Cirsium</i>	thistle	2%	0.1
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	<1%	<0.1
	DESPIN	<i>Descurainia pinnata</i>	western tansymustard	1%	<0.1
	ERICER	<i>Eriogonum cernuum</i>	nodding buckwheat	1%	0.2
	ERIINF	<i>Eriogonum inflatum</i>	desert trumpet	28%	1.2
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	3%	0.3
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	56%	50.5
	EUPEXS	<i>Euphorbia exstipulata</i>	squareseed spurge	3%	0.4
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	<1%	<0.1
	HYMFLA	<i>Hymenopappus flavescens</i>	collegeflower	17%	11.2
	IPOMOPSIS	<i>Ipomopsis</i>	ipomopsis	1%	<0.1
	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	1%	0.1
	LAPOCC	<i>Lappula occidentalis</i>	flatspine stickseed	<1%	<0.1
	LEPMON	<i>Lepidium montanum</i>	mountain pepperweed	<1%	0.1
	LUPINUS	<i>Lupinus</i>	lupine	1%	0.3
	MACCAN	<i>Machaeranthera canescens</i>	hoary tansyaster	<1%	<0.1
	MIRLIN	<i>Mirabilis linearis</i>	narrowleaf four o'clock	5%	1.5
	MIRMUL	<i>Mirabilis multiflora</i>	Colorado four o'clock	1%	0.1
	NAMDIC	<i>Nama dichotomum</i>	wishbone fiddleleaf	<1%	0.1
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	6%	0.7
	PECANG	<i>Pectis angustifolia</i>	lemonscent	1%	0.1
	PHACELIA	<i>Phacelia</i>	phacelia	1%	0.1
	PHAINT	<i>Phacelia integrifolia</i>	gypsum phacelia	2%	0.4
	PHYKIN	<i>Physaria kingii</i>	King twinpod	5%	0.2
	PHYSARIA	<i>Physaria</i>	twinpod	3%	1.7
	PLAPAT	<i>Plantago patagonica</i>	woolly plantain	5%	4.4
	POROLE	<i>Portulaca oleracea</i>	little hogweed	22%	23.1
	PORPIL	<i>Portulaca pilosa</i>	kiss me quick	9%	2.6
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	1%	0.2

(Table Continues)

**LMD 3-3-3 Production Table (Continued)**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	SANABE	<i>Sanvitalia abertii</i>	Abert's creeping zinnia	<1%	<0.1
<b>(Continued)</b>	SCHMUL	<i>Schkuhria multiflora</i>	manyflower false threadleaf	3%	0.3
	SENFLA	<i>Senecio flaccidus</i>	threadleaf ragwort	1%	0.1
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	24%	10.1
	SPHHAS	<i>Sphaeralcea hastulata</i>	spear globemallow	<1%	0.1
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	1%	0.1
	STAPIN	<i>Stanleya pinnata</i>	desert princesplume	<1%	<0.1
	TETACA	<i>Tetraneuris acaulis</i>	stemless four-nerve daisy	<1%	<0.1
	THEMEG	<i>Thelesperma megapotamicum</i>	Hopi tea greenthread	<1%	0.1
	THESUB	<i>Thelesperma subnudum</i>	Navajo tea	<1%	<0.1
	TIQLAT	<i>Tiquilia latior</i>	matted crinklemat	3%	0.2
	TRITER	<i>Tribulus terrestris</i>	puncturevine	1%	0.2
	UNKANF	–	Unknown annual forb	<1%	<0.1
	UNKPEF	–	Unknown perennial forb	7%	3.8
	ZINGRA	<i>Zinnia grandiflora</i>	Rocky Mountain zinnia	<1%	0.3
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	<1%	<0.1
	ACHNEL	<i>Achnatherum nelsonii</i>	Columbia needlegrass	<1%	0.1
	ARIADS	<i>Aristida adscensionis</i>	sixweeks threeawn	<1%	<0.1
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	19%	5.6
	BOUARI	<i>Bouteloua aristidoides</i>	needle grama	12%	9.5
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	30%	42.0
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	2%	0.4
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	5%	1.1
	BROTEC	<i>Bromus tectorum</i>	cheatgrass	19%	5.3
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	2%	0.5
	ENNDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	39%	9.5
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	<1%	<0.1
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	<1%	<0.1
	MUHDEP	<i>Muhlenbergia depauperata</i>	sixweeks muhly	5%	8.4
	MUHLENBERGIA	<i>Muhlenbergia</i>	muhly	3%	2.7
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	2%	2.8
	SCLBRE	<i>Scleropogon brevifolius</i>	burrograss	34%	15.0
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	<1%	0.1
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	<1%	<0.1
	SPOFLE	<i>Sporobolus flexuosus</i>	mesa dropseed	2%	1.2
	SPOGIG	<i>Sporobolus giganteus</i>	giant dropseed	6%	4.0

(Table Continues)

## LMD 3-3-3 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Shrub/Vine	ARTBIG	<i>Artemisia bigelovii</i>	Bigelow sage	23%	25.5
	ARTTRI	<i>Artemisia tridentata</i>	big sagebrush	2%	2.6
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	<1%	0.6
	ATRCON	<i>Atriplex confertifolia</i>	shadscale saltbush	<1%	0.1
	ATRGAR	<i>Atriplex garrettii</i>	Garrett's saltbush	<1%	<0.1
	BRIMIC	<i>Brickellia microphylla</i>	littleleaf brickellbush	4%	1.9
	BRIOBL	<i>Brickellia oblongifolia</i>	Mojave brickellbush	9%	8.7
	CHRDEP	<i>Chrysothamnus depressus</i>	longflower rabbitbrush	<1%	1.2
	CHRGRE	<i>Chrysothamnus Greenei</i>	Greene's rabbitbrush	1%	0.5
	CHRVIS	<i>Chrysothamnus viscidiflorus</i>	yellow rabbitbrush	<1%	0.2
	CYLWHI	<i>Cylindropuntia whipplei</i>	Whipple cholla	1%	0.5
	ECHENG	<i>Echinocereus engelmannii</i>	Engelmann's hedgehog cactus	1%	0.4
	EPHCUT	<i>Ephedra cutleri</i>	Cutler's jointfir	3%	2.6
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	1%	0.2
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	<1%	1.3
	ERIMIC	<i>Eriogonum microthecum</i>	slender buckwheat	9%	5.2
	FALPAR	<i>Fallugia paradoxa</i>	Apache plume	<1%	1.1
	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	<1%	<0.1
	LYCAND	<i>Lycium andersonii</i>	water jacket	<1%	<0.1
	LYCPAL	<i>Lycium pallidum</i>	pale desert-thorn	<1%	1.0
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	<1%	1.1
	OPUPOL	<i>Opuntia polyacantha</i>	plains pricklypear	<1%	<0.1
	PURSTA	<i>Purshia stansburiana</i>	Stansbury cliffrose	<1%	<0.1
	RHUTRI	<i>Rhus trilobata</i>	skunkbush sumac	<1%	<0.1
	SARVER	<i>Sarcobatus vermiculatus</i>	greasewood	<1%	<0.1
	UNKCAC	–	Unknown cactus	<1%	2.6
	YUCBAC	<i>Yucca baccata</i>	banana yucca	<1%	1.7
Tree	JUNOST	<i>Juniperus osteosperma</i>	Utah juniper	<1%	0.1
	PINEDU	<i>Pinus edulis</i>	twoneedle pinyon	4%	3.2

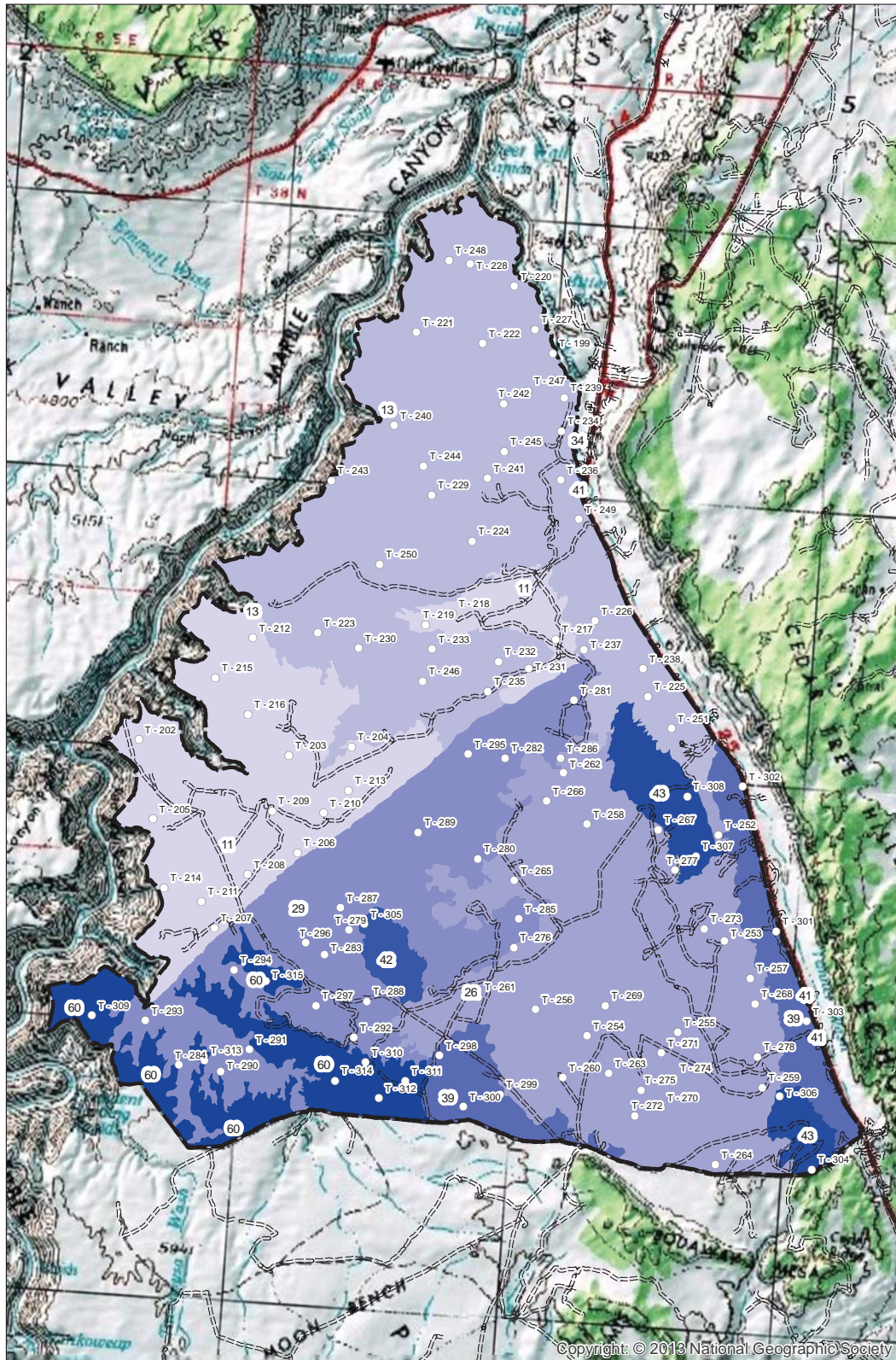
# Soil Map Unit

# West Navajo Livestock Capacity Study

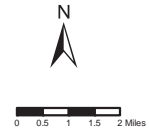
Total Acres: 137,272.3

Land Management District 3  
Unit 3, Compartment 3

Grazeable Sheep Acres: 134,303.9



- Compartment Boundary
- Towed Location
- Road
- Soil Map Unit
- 11 - Haplo-Calciust family-Stinome complex
- 13 - Haplo-Gley complex
- 26 - Mellenko-Placitas-Mellenko, extremely stony complex
- 29 - Marhehka-Wayneco-Tasol family complex
- 34 - Moller-Sheppard complex
- 39 - Progresso-Sisco complex
- 41 - Rock-Escavado-Riverwash complex
- 42 - Reed-Progress family complex
- 43 - Reed-Rock outcrop complex
- 60 - Tasi gravelly stony very fine sand
- 105 - Rock outcrop-Litic-Torrihensis complex



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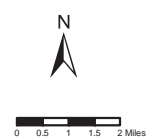
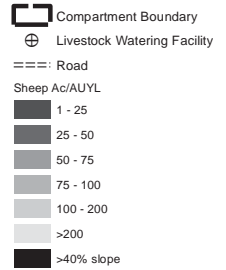
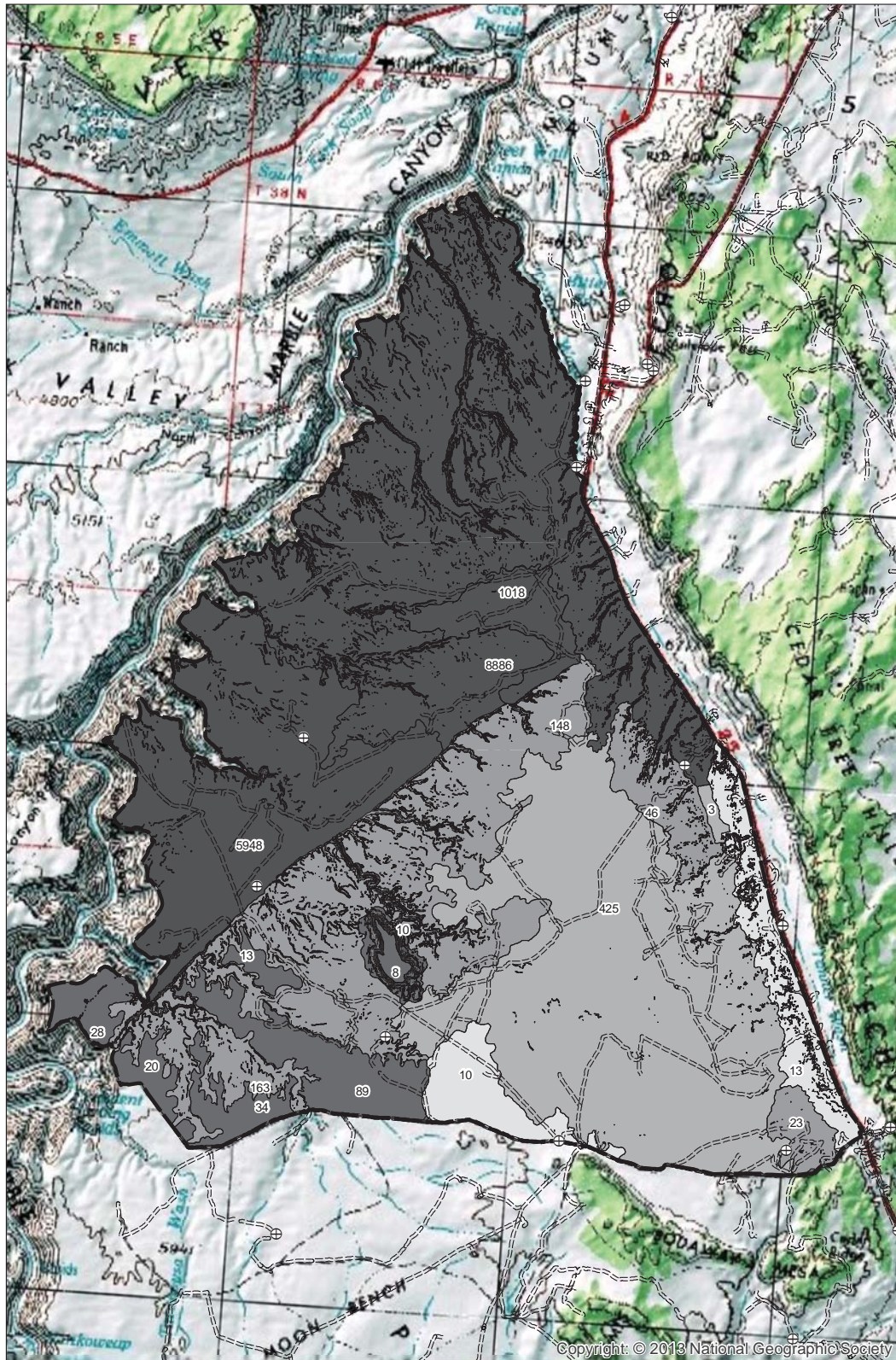
# Stocking Rate

# West Navajo Livestock Capacity Study

Total Acres: 137,272.3

Land Management District 3  
Unit 3, Compartment 3

Grazeable Sheep Acres: 134,303.9  
Sheep Units Year Long: 17,412.4



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## LMD 3, Unit 3, Compartment 4 (LMD 3-3-4)

Compartment 3-3-3 consists of approximately 128,475 acres, approximately 96% of which is available to all livestock. Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and small rock fragments. Dominant grasses include sixweeks grama (54.2 ppa) and sixweeks muhly (22.7 ppa); dominant forbs include squareseed spurge (31.4 ppa) and Abert's creeing zinnia (10.4 ppa); and dominant shrubs include Utah serviceberry (69.7 ppa) and Mojave bricklebrush (12.9 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
106	0.3	0.3	206.3	0.0	0.0	0.3	41.8	0.0	0.1	0.3	30.7	0.0	0.1
11	3,652.5	3,595.2	13.8	259.6	3,115.2	3,632.6	3.0	1,195.0	14,340.3	3,651.3	2.0	1,810.0	21,719.7
13	6,566.2	5,981.4	21.7	276.1	3,313.1	6,256.4	4.2	1,492.7	17,912.6	6,449.3	3.0	2,158.0	25,896.2
15	1,048.4	1,026.8	470.7	2.2	26.2	1,042.3	136.9	7.6	91.3	1,048.1	67.2	15.6	187.2
26	20,838.1	20,189.3	312.9	64.5	774.2	20,507.7	74.8	274.0	3,288.6	20,774.6	52.1	398.5	4,782.4
29	18,452.7	17,211.0	334.0	51.5	618.4	17,959.2	64.9	276.8	3,321.8	18,327.7	45.6	401.9	4,822.2
39	16,870.1	16,791.1	968.3	17.3	208.1	16,839.2	292.9	57.5	690.0	16,864.6	155.2	108.6	1,303.7
42	7,869.3	5,692.2	177.0	32.2	386.0	6,504.7	41.7	156.1	1,873.4	7,535.8	25.1	299.7	3,596.9
43	1,618.7	1,539.9	241.0	6.4	76.7	1,592.6	57.2	27.8	334.1	1,617.0	45.0	36.0	431.5
44	5.2	0.9	206.3	0.0	0.1	1.4	41.8	0.0	0.4	2.2	30.7	0.1	0.9
54	1,392.8	1,187.4	1,050.1	1.1	13.6	1,297.3	236.5	5.5	65.8	1,376.9	136.3	10.1	121.2
60	50,160.5	50,114.4	352.4	142.2	1,706.4	50,129.2	45.8	1,095.4	13,144.7	50,142.9	33.3	1,506.9	18,083.2
<b>Total:</b>	<b>128,474.8</b>	<b>123,329.9</b>		<b>853.2</b>	<b>10,237.9</b>	<b>125,763.0</b>		<b>4,588.6</b>	<b>55,063.1</b>	<b>127,790.8</b>		<b>6,745.4</b>	<b>80,945.1</b>

Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

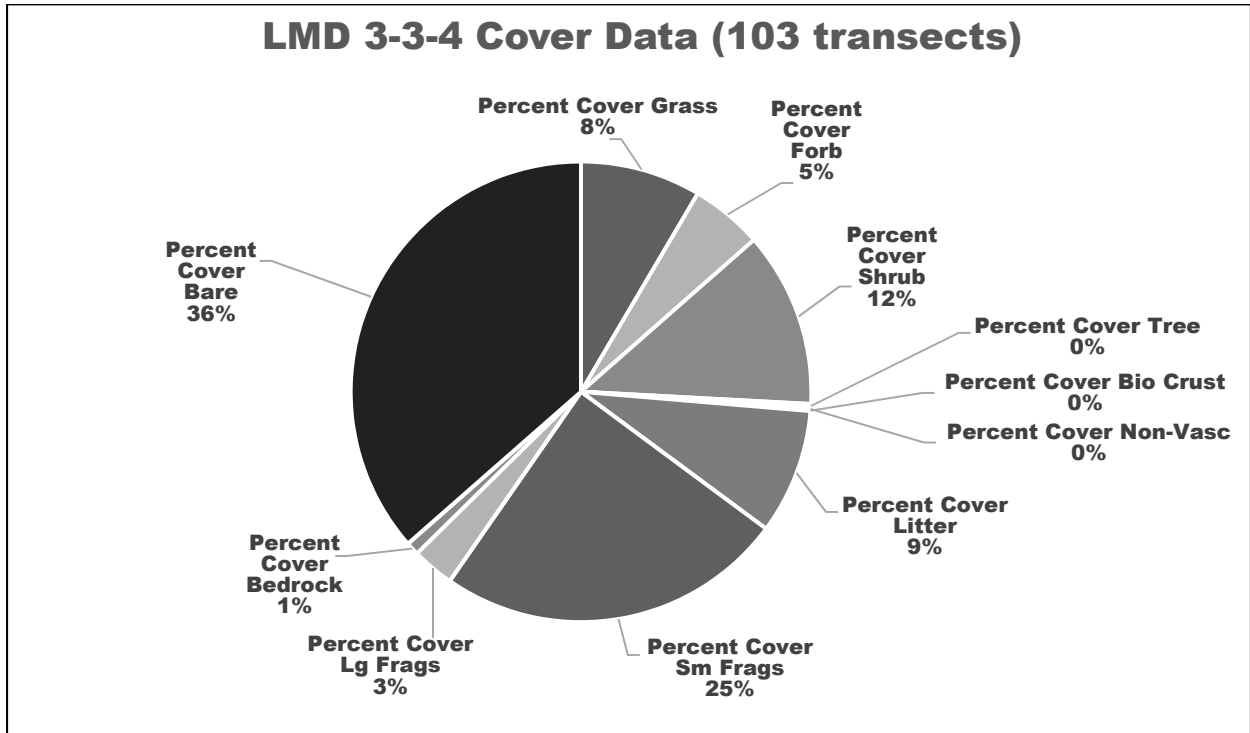
Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0–30% All Livestock	31–40% Sheep and Goats	41–60% Goats Only	>60% Non-Grazeable	Total Acres
123,329.9	2,433.1	2,027.8	684.0	<b>128,474.8</b>





**LMD 3-3-4 Production Table**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ABRFRA	<i>Abronia fragrans</i>	snowball sand verbena	1%	0.2
	AMAPAL	<i>Amaranthus palmeri</i>	carelessweed	<1%	0.1
	AMBACA	<i>Ambrosia acanthicarpa</i>	flatspine bur ragweed	<1%	<0.1
	ARTLUD	<i>Artemisia ludoviciana</i>	white sagebrush	3%	1.4
	ASTBRA	<i>Astragalus brandegeei</i>	Brandegee's milkvetch	11%	1.1
	ASTCAL	<i>Astragalus calycosus</i>	Torrey's milkvetch	1%	<0.1
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	<1%	<0.1
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	1%	0.1
	BOUCHEA	<i>Bouchea</i>	bouchea	2%	0.3
	CASTILLEJA	<i>Castilleja</i>	Indian paintbrush	10%	2.5
	CHACON	<i>Chamaesaracha coniodes</i>	gray five eyes	<1%	<0.1
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	1%	<0.1
	CHAFEN	<i>Chamaesyce fendleri</i>	Fendler's sandmat	<1%	<0.1
	CHAPAR	<i>Chamaesyce parryi</i>	Parry's sandmat	24%	2.8
	CHAREV	<i>Chamaesyce revoluta</i>	threadstem sandmat	<1%	<0.1
	CHENOPODIUM	<i>Chenopodium</i>	goosefoot	1%	<0.1

(Table Continues)

LMD 3-3-4 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	CORVIL	<i>Corispermum villosum</i>	hairy bugseed	3%	0.1
(Continued)	CRYCRA	<i>Cryptantha crassisejala</i>	thicksepal cryptantha	12%	0.7
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	<1%	<0.1
	DESPIN	<i>Descurainia pinnata</i>	western tansymustard	1%	0.3
	DRABA	<i>Draba</i>	draba	5%	1.9
	ERICER	<i>Eriogonum cernuum</i>	nodding buckwheat	<1%	<0.1
	ERIPUM	<i>Erigeron pumilus</i>	shaggy fleabane	15%	0.8
	ERIUMB	<i>Eriogonum umbellatum</i>	sulphur-flower buckwheat	<1%	0.1
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	<1%	<0.1
	EUPEXS	<i>Euphorbia exstipulata</i>	squareseed spurge	39%	31.4
	GLABIP	<i>Glandularia bipinnatifida</i>	Dakota mock vervain	1%	0.4
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	1%	0.2
	HYMFLA	<i>Hymenopappus flavescens</i>	collegethroat	3%	0.2
	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	1%	0.1
	LAPOCC	<i>Lappula occidentalis</i>	flatspine stickseed	1%	0.1
	LUPINUS	<i>Lupinus</i>	lupine	2%	0.4
	MIRLIN	<i>Mirabilis linearis</i>	narrowleaf four o'clock	5%	1.1
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	<1%	<0.1
	PHACELIA	<i>Phacelia</i>	phacelia	2%	0.3
	PHAINT	<i>Phacelia integrifolia</i>	gypsum phacelia	6%	1.4
	PHLLON	<i>Phlox longifolia</i>	longleaf phlox	3%	0.3
	PHYKIN	<i>Physaria kingii</i>	King twinpod	1%	0.1
	PHYSARIA	<i>Physaria</i>	twinpod	3%	2.5
	PLAPAT	<i>Plantago patagonica</i>	woolly plantain	<1%	<0.1
	POROLE	<i>Portulaca oleracea</i>	little hogweed	<1%	<0.1
	PORPIL	<i>Portulaca pilosa</i>	kiss me quick	9%	4.6
	PSITAG	<i>Psilostrophe tagetina</i>	woolly paperflower	2%	0.2
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	8%	0.7
	SANABE	<i>Sanvitalia abertii</i>	Abert's creeping zinnia	20%	10.4
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	1%	0.1
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	1%	0.2
	THESUB	<i>Thelesperma subnudum</i>	Navajo tea	<1%	<0.1
	UNKANF	–	Unknown annual forb	21%	8.1
	ZINGRA	<i>Zinnia grandiflora</i>	Rocky Mountain zinnia	<1%	0.6

(Table Continues)

**LMD 3-3-4 Production Table (Continued)**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Grass/Grasslike	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	<1%	<0.1
	ACHNEL	<i>Achnatherum nelsonii</i>	Columbia needlegrass	1%	0.2
	AGRCRI	<i>Agropyron cristatum</i>	crested wheatgrass	4%	0.6
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	10%	10.9
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	30%	54.2
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	2%	0.1
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	1%	0.1
	BROTEC	<i>Bromus tectorum</i>	cheatgrass	3%	0.6
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	5%	1.0
	ELYELY	<i>Elymus elymoides</i>	squirreltail	6%	2.2
	ENNDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	22%	7.1
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	<1%	<0.1
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	<1%	0.1
	MUHDEP	<i>Muhlenbergia depauperata</i>	sixweeks muhly	17%	22.7
	MUHPOR	<i>Muhlenbergia porteri</i>	bush muhly	<1%	0.1
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	1%	0.9
	POASEC	<i>Poa secunda</i>	Sandberg bluegrass	3%	4.0
	SCLBRE	<i>Scleropogon brevifolius</i>	burrograss	21%	10.1
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	<1%	<0.1
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	<1%	0.8
VULOCT	<i>Vulpia octoflora</i>	sixweeks fescue	1%	0.5	
Shrub/Vine	AMEUTA	<i>Amelanchier utahensis</i>	Utah serviceberry	33%	69.7
	ARTBIG	<i>Artemisia bigelovii</i>	Bigelow sage	<1%	0.1
	ARTTRI	<i>Artemisia tridentata</i>	big sagebrush	16%	9.2
	ATRACA	<i>Atriplex canthocarpa</i>	tubercled saltbush	2%	1.6
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	1%	<0.1
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	4%	3.1
	BRIOBL	<i>Brickellia oblongifolia</i>	Mojave brickellbush	10%	12.9
	CHRDEP	<i>Chrysothamnus depressus</i>	longflower rabbitbrush	1%	0.2
	CHRGRE	<i>Chrysothamnus greenei</i>	Greene's rabbitbrush	1%	0.7
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	<1%	<0.1
	CYLWHI	<i>Cylindropuntia whipplei</i>	Whipple cholla	<1%	<0.1
	ECHENG	<i>Echinocereus engelmannii</i>	Engelmann's hedgehog cactus	2%	0.3
	ECHPOL	<i>Echinocereus polyacanthus</i>	Mojave mound cactus	1%	1.1

(Table Continues)

## LMD 3-3-4 Production Table (Continued)

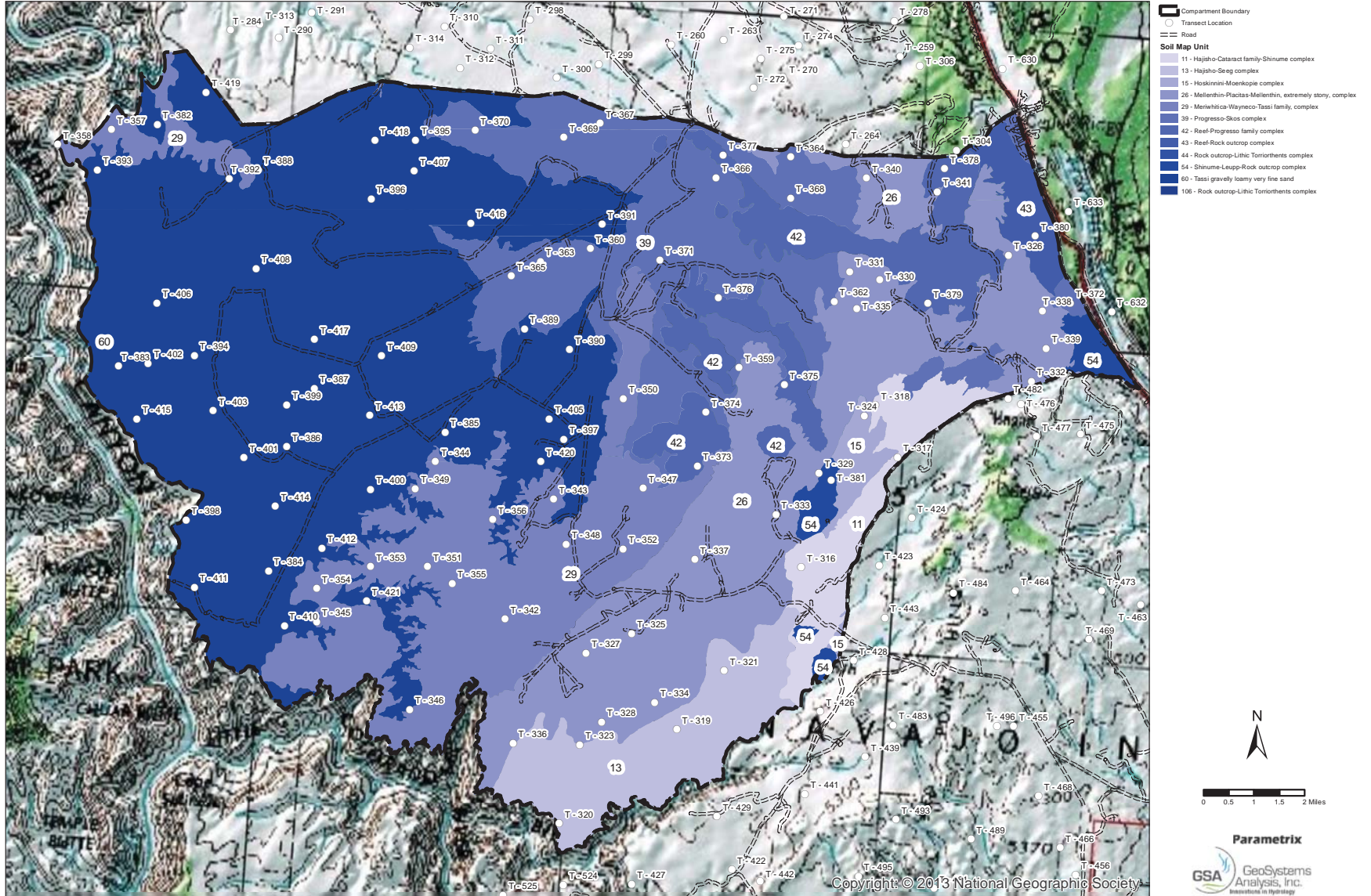
Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Shrub/Vine	EPHCUT	<i>Ephedra cutleri</i>	Cutler's jointfir	1%	1.3
(Continued)	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	<1%	0.1
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	<1%	<0.1
	ERICOR	<i>Eriogonum corymbosum</i>	crispleaf buckwheat	<1%	0.6
	ERIMIC	<i>Eriogonum microthecum</i>	slender buckwheat	<1%	<0.1
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	<1%	0.3
	ESCVIV	<i>Escobaria vivipara</i>	spiny star	4%	3.8
	FALPAR	<i>Fallugia paradoxa</i>	Apache plume	<1%	<0.1
	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	1%	0.1
	LYCAND	<i>Lycium andersonii</i>	water jacket	1%	0.6
	LYCPAL	<i>Lycium pallidum</i>	pale desert-thorn	<1%	1.0
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	<1%	0.1
	OPUPOL	<i>Opuntia polyacantha</i>	plains pricklypear	<1%	0.3
	PHIMIC	<i>Philadelphus microphyllus</i>	littleleaf mock orange	<1%	<0.1
	PURSTA	<i>Purshia stansburiana</i>	Stansbury cliffrose	<1%	<0.1
	SALDOR	<i>Salvia dorrrii</i>	purple sage	1%	1.0
	SARVER	<i>Sarcobatus vermiculatus</i>	greasewood	1%	2.1
	YUCBAC	<i>Yucca baccata</i>	banana yucca	<1%	<0.1
Tree	JUNOST	<i>Juniperus osteosperma</i>	Utah juniper	<1%	<0.1

**Soil Map Unit**

Land Management District 3  
Unit 3, Compartment 4

**West Navajo Livestock Capacity Study**

Total Acres: 128,474.8  
Grazeable Sheep Acres: 125,763.0

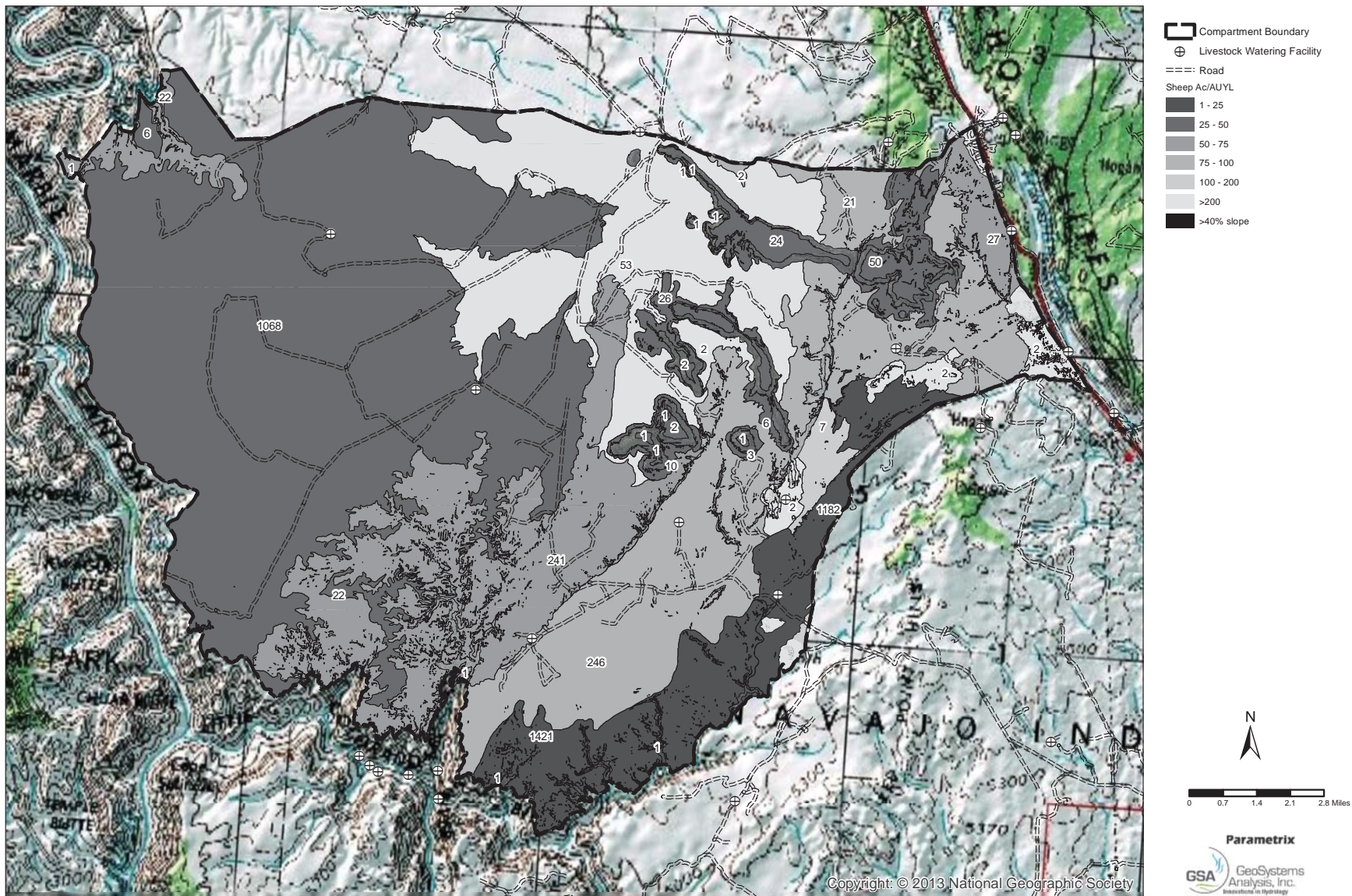


# Stocking Rate

Land Management District 3  
Unit 3, Compartment 4

## West Navajo Livestock Capacity Study

Total Acres: 11,959.3  
Grazeable Sheep Acres: 10,748.5  
Sheep Units Year Long: 309.2





## LMD 3, Unit 3, Compartment 5 (LMD 3-3-5)

Compartment 3-3-5 consists of approximately 91,691 acres, approximately 97% of which is available to all livestock. Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and small rock fragments. Dominant grasses include bush muhly (31.7 ppa) and sixweeks grama (5.7 ppa); dominant forbs include Sonoran sandmat (23.1 ppa) and threadleaf ragwort (4.7 ppa); and dominant shrubs include button bricklebush (6.8 ppa) and Mojave bricklebush (33.3 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
11	9,415.0	9,224.4	13.8	666.1	7,992.8	9,296.0	3.0	3,058.1	36,697.3	9,364.1	2.0	4,641.8	55,701.6
13	2,215.1	2,036.6	21.7	94.0	1,128.1	2,124.2	4.2	506.8	6,081.7	2,188.6	3.0	732.3	8,788.1
14	6,684.5	6,677.3	381.8	17.5	209.9	6,680.9	123.7	54.0	647.9	6,683.9	58.5	114.2	1,370.1
15	6,692.6	6,609.0	470.7	14.0	168.5	6,660.6	136.9	48.6	583.7	6,689.2	67.2	99.5	1,194.5
18	29.9	29.8	967.1	0.0	0.4	29.9	214.7	0.1	1.7	29.9	143.0	0.2	2.5
24	37,796.7	37,398.0	873.5	42.8	513.7	37,596.1	219.0	171.6	2,059.7	37,738.1	124.1	304.1	3,648.6
26	3,380.6	3,353.3	312.9	10.7	128.6	3,373.2	74.8	45.1	540.9	3,380.5	52.1	64.8	778.2
38	127.7	119.4	281.5	0.4	5.1	124.8	83.7	1.5	17.9	127.3	44.6	2.9	34.2
44	2.8	1.1	206.3	0.0	0.1	1.4	41.8	0.0	0.4	1.9	30.7	0.1	0.7
54	25,157.0	22,883.3	1,050.1	21.8	261.5	24,253.8	236.5	102.6	1,230.8	25,046.6	136.3	183.7	2,204.5
6	189.1	189.0	663.8	0.3	3.4	189.1	185.8	1.0	12.2	189.1	106.7	1.8	21.3
<b>Total:</b>	<b>91,691.0</b>	<b>88,521.3</b>		<b>867.7</b>	<b>10,412.0</b>	<b>90,330.0</b>		<b>3,989.5</b>	<b>47,874.2</b>	<b>91,439.2</b>		<b>6,145.4</b>	<b>73,744.3</b>

Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

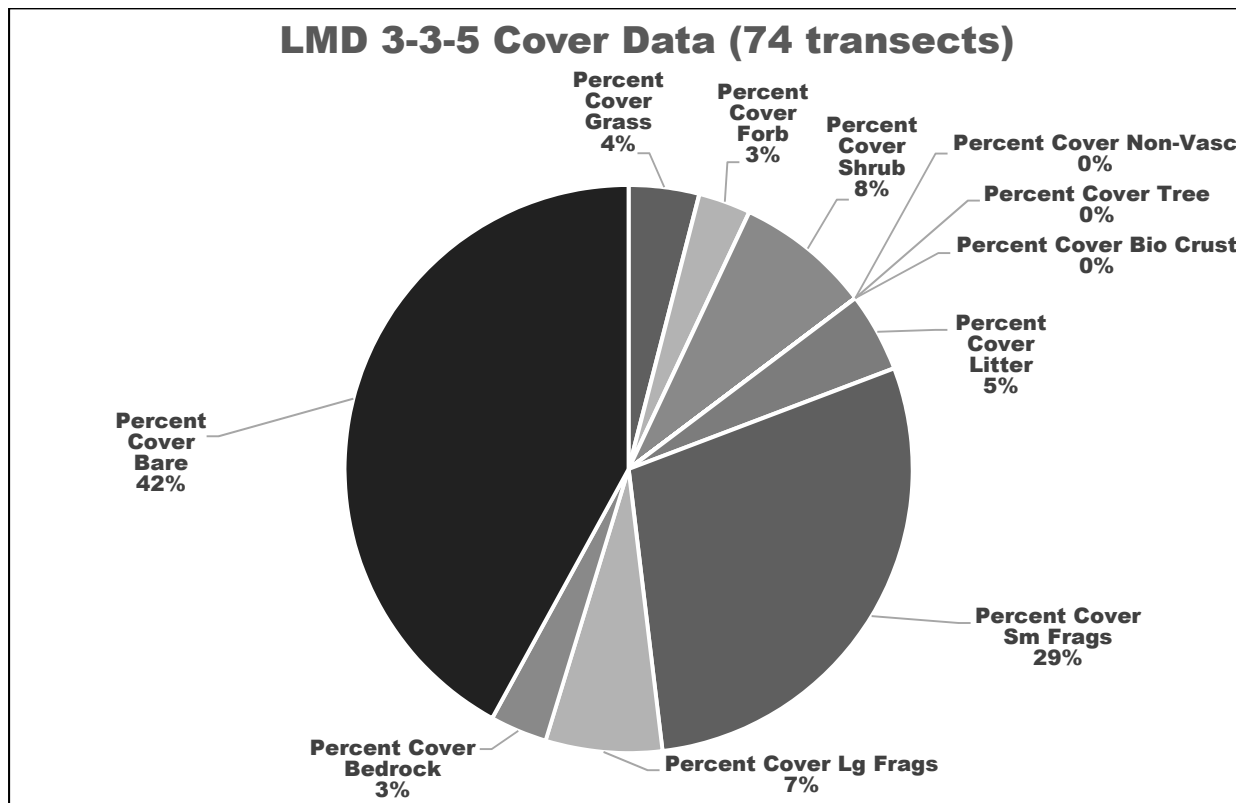
Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0–30% All Livestock	31–40% Sheep and Goats	41–60% Goats Only	>60% Non-Grazeable	Total Acres
88,521.3	1,808.6	1,109.3	251.8	<b>91,691.0</b>





LMD 3-3-5 Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ABRFRA	<i>Abronia fragrans</i>	snowball sand verbena	1%	0.3
	ALLINC	<i>Allionia incarnata</i>	trailing windmills	<1%	0.1
	AMAPAL	<i>Amaranthus palmeri</i>	carelessweed	<1%	<0.1
	AMBACA	<i>Ambrosia acanthicarpa</i>	flatspine bur ragweed	<1%	0.1
	ARGEMONE	<i>Argemone</i>	pricklypoppy	2%	<0.1
	ARTDRA	<i>Artemisia dracunculus</i>	tarragon	1%	<0.1
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	1%	0.2
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	6%	1.2
	CHACON	<i>Chamaesaracha coniodes</i>	gray five eyes	1%	0.1
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	<1%	<0.1
	CHAETOPAPPA	<i>Chaetopappa</i>	leastdaisy	<1%	<0.1
	CHAFEN	<i>Chamaesyce fendleri</i>	Fendler's sandmat	1%	0.1
	CHAMIC	<i>Chamaesyce micromera</i>	Sonoran sandmat	29%	3.7
	CHAPAR	<i>Chamaesyce parryi</i>	Parry's sandmat	1%	0.2

(Table Continues)

LMD 3-3-5 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	1%	0.1
(Continued)	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	<1%	<0.1
	ERICER	<i>Eriogonum cernuum</i>	nodding buckwheat	<1%	<0.1
	ERIINF	<i>Eriogonum inflatum</i>	desert trumpet	<1%	<0.1
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	5%	0.1
	ERIPAR	<i>Eriogonum parishii</i>	mountainmist	<1%	<0.1
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	11%	5.8
	GLABIP	<i>Glandularia bipinnatifida</i>	Dakota mock vervain	<1%	0.4
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	<1%	0.4
	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	2%	2.8
	MENSPI	<i>Mentha spicata</i>	spearmint	4%	1.1
	MIRLIN	<i>Mirabilis linearis</i>	narrowleaf four o'clock	1%	0.1
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	1%	<0.1
	PECANG	<i>Pectis angustifolia</i>	lemonscent	<1%	<0.1
	PHACELIA	<i>Phacelia</i>	phacelia	1%	<0.1
	PHAINT	<i>Phacelia integrifolia</i>	gypsum phacelia	1%	<0.1
	PLAPAT	<i>Plantago patagonica</i>	woolly plantain	7%	2.7
	POROLE	<i>Portulaca oleracea</i>	little hogweed	2%	0.5
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	<1%	0.5
	SANABE	<i>Sanvitalia abertii</i>	Abert's creeping zinnia	3%	0.7
	SENFLA	<i>Senecio flaccidus</i>	threadleaf ragwort	10%	4.7
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	<1%	0.1
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	<1%	<0.1
	THYACE	<i>Thymophylla acerosa</i>	pricklyleaf dogweed	1%	0.2
	THYPEN	<i>Thymophylla pentachaeta</i>	fiveneedle pricklyleaf	1%	0.2
	UNKANF	–	Unknown annual forb	8%	3.0
	ZINGRA	<i>Zinnia grandiflora</i>	Rocky Mountain zinnia	1%	0.9

(Table Continues)

## LMD 3-3-5 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Grass/Grasslike	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	6%	3.3
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	3%	3.1
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	3%	5.7
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	1%	0.2
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	4%	3.5
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	<1%	0.4
	ENNDDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	9%	2.6
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	<1%	<0.1
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	<1%	0.1
	MUHPOR	<i>Muhlenbergia porteri</i>	bush muhly	21%	31.7
	MUHPUN	<i>Muhlenbergia pungens</i>	sandhill muhly	1%	1.8
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	<1%	0.2
	SCLBRE	<i>Scleropogon brevifolius</i>	burrograss	1%	1.0
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	4%	1.2
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	<1%	<0.1
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	2%	1.0
	SPOFLE	<i>Sporobolus flexuosus</i>	mesa dropseed	<1%	0.1
Shrub/Vine	ARTBIG	<i>Artemisia bigelovii</i>	Bigelow sage	1%	1.4
	ARTFIL	<i>Artemisia filifolia</i>	sand sagebrush	6%	5.0
	ARTTRI	<i>Artemisia tridentata</i>	big sagebrush	<1%	0.1
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	3%	2.7
	ATRGAR	<i>Atriplex garrettii</i>	Garrett's saltbush	<1%	0.1
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	<1%	<0.1
	BACWRI	<i>Baccharis wrightii</i>	Wright's baccharis	1%	0.3
	BRICKELLIA	<i>Brickellia</i>	brickellbush	3%	2.0
	BRIOBL	<i>Brickellia oblongifolia</i>	Mojave brickellbush	26%	33.3
	CHRGRE	<i>Chrysothamnus greenei</i>	Greene's rabbitbrush	<1%	<0.1
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	<1%	0.1
	CYLWHI	<i>Cylindropuntia whipplei</i>	Whipple cholla	<1%	0.7
	ECHTRI	<i>Echinocereus triglochidiatus</i>	kingcup cactus	3%	2.4
	ENCFRU	<i>Encelia frutescens</i>	button brittlebush	9%	6.8
	EPHCUT	<i>Ephedra cutleri</i>	Cutler's jointfir	2%	1.8
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	1%	0.4
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	1%	1.8

(Table Continues)

## LMD 3-3-5 Production Table (Continued)

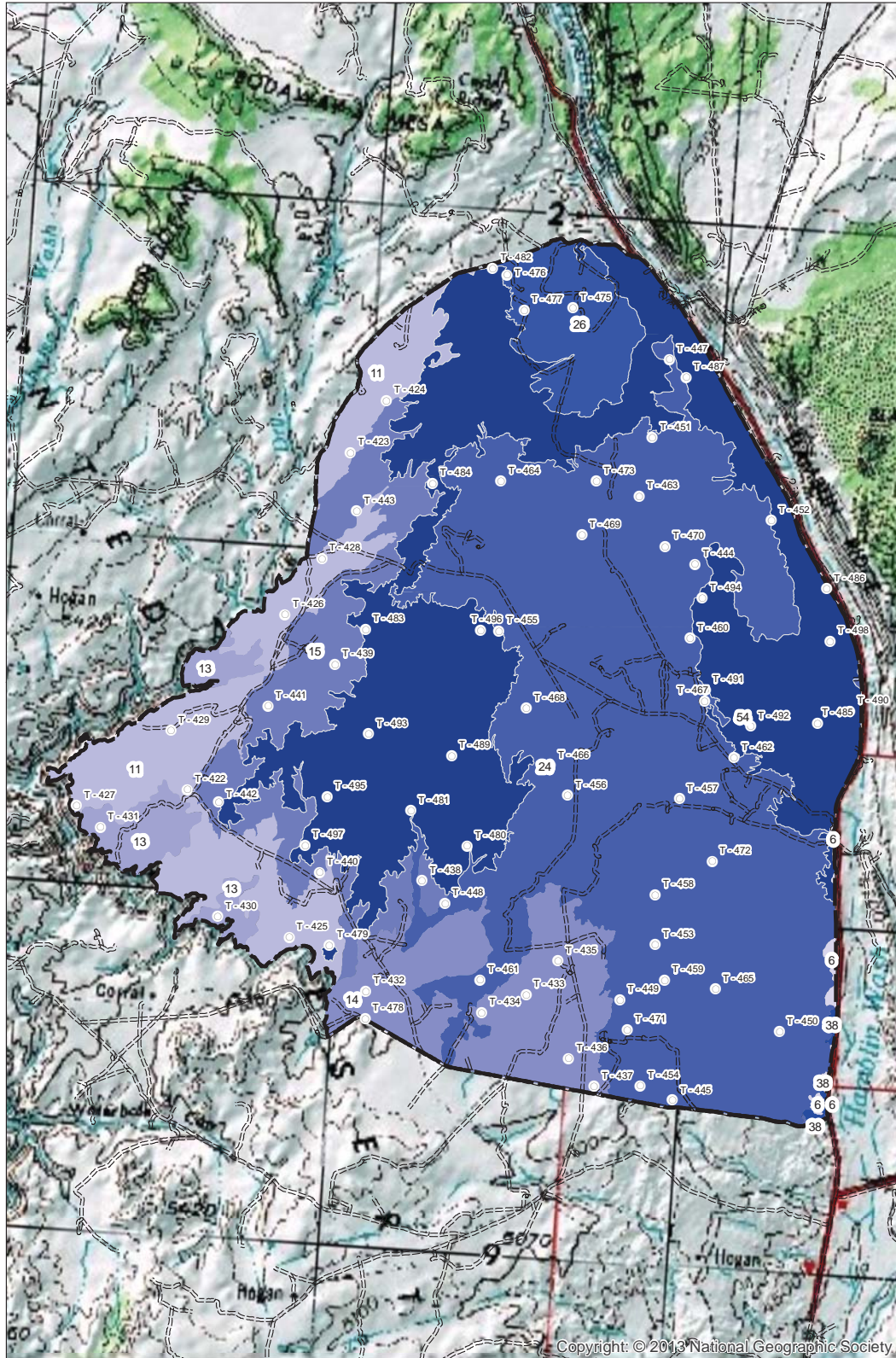
Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Shrub/Vine	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	<1%	<0.1
(Continued)	FALPAR	<i>Fallugia paradoxa</i>	Apache plume	<1%	0.1
	FEROCACTUS	<i>Ferocactus</i>	barrel cactus	1%	0.5
	GLOSPI	<i>Glossopetalon spinescens</i>	spiny greasebush	<1%	0.6
	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	1%	0.2
	LYCAND	<i>Lycium andersonii</i>	water jacket	<1%	<0.1
	LYCPAL	<i>Lycium pallidum</i>	pale desert-thorn	<1%	0.1
	OPUENG	<i>Opuntia engelmannii</i>	cactus apple	<1%	1.0
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	<1%	0.1
	PURTRI	<i>Purshia tridentata</i>	antelope bitterbrush	<1%	0.7
	RHUTRI	<i>Rhus trilobata</i>	skunkbush sumac	2%	0.8
	SALDOR	<i>Salvia dorrii</i>	purple sage	<1%	<0.1
	SARVER	<i>Sarcobatus vermiculatus</i>	greasewood	1%	0.4
	YUCBAC	<i>Yucca baccata</i>	banana yucca	<1%	<0.1

# Soil Map Unit

# West Navajo Livestock Capacity Study

Total Acres: 91,691.0  
Grazeable Sheep Acres: 90,330.0

Land Management District 3  
Unit 3, Compartment 5

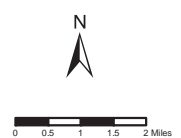


Legend:

- Compartment Boundary
- Transect Location
- Road

**Soil Map Unit**

- 6 - Claysprings-Huerfano-Tuba complex
- 11 - Hajojo-Catacact family-Shinumo complex
- 13 - Hajojo-Steag complex
- 14 - Haskoni-Lima-Haplogelis complex
- 15 - Haskonini-Moenkopie complex
- 18 - Ives-Riverwash association
- 24 - Leupp-Hoskinnin complex
- 26 - Malantshin-Placitas-Malantshin, extremely stony, complex
- 38 - Parayo-Hankoville complex
- 44 - Rock outcrop-Lima-Tanoshens complex
- 54 - Shinumo-Leupp-Rock outcrop complex



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Parametrix  
GSA GeoSystems Analysis, Inc.  
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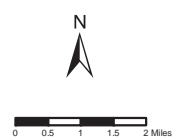
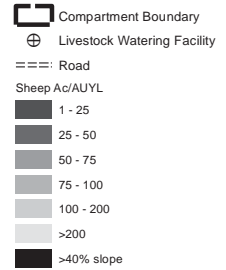
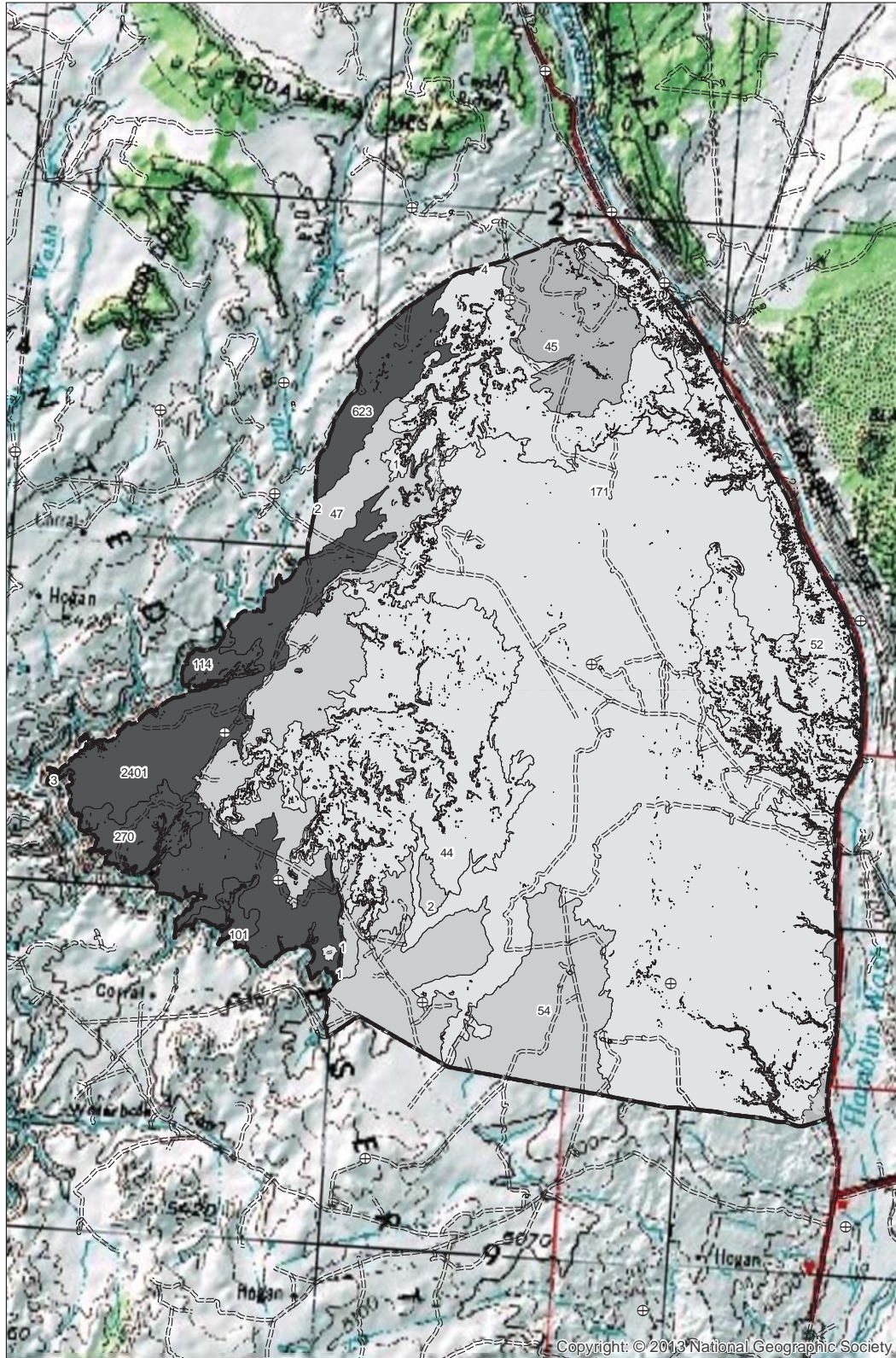
# Stocking Rate

# West Navajo Livestock Capacity Study

Total Acres: 91,691.0

Land Management District 3  
Unit 3, Compartment 5

Grazeable Sheep Acres: 90,330.0  
Sheep Units Year Long: 3,989.5



Parametrix  
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## LMD 3, Unit 3, Compartment 6 (LMD 3-3-6)

Compartment 3-3-6 consists of approximately 130,293 acres, approximately 95% of which is available to all livestock.

Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and small rock fragments. Dominant grasses include false buffalograss (18.7 ppa) and sand dropseed (2.6 ppa); dominant forbs include little globemallow (2.3 ppa) and sandmat (1.2 ppa); and dominant shrubs include plains prickly pear (6.5 ppa) and Mojave bristlebush (10.0 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
11	19,346.9	18,912.1	13.8	1,365.6	16,387.0	19,082.3	3.0	6,277.5	75,329.8	19,220.9	2.0	9,527.8	114,333.8
13	6,426.6	5,713.1	21.7	263.7	3,164.5	6,010.8	4.2	1,434.1	17,209.5	6,268.4	3.0	2,097.5	25,169.9
14	20,357.1	20,340.6	381.8	53.3	639.3	20,353.8	123.7	164.5	1,974.0	20,356.8	58.5	347.7	4,172.7
15	6,106.7	6,059.8	470.7	12.9	154.5	6,087.9	136.9	44.5	533.5	6,103.4	67.2	90.8	1,089.9
18	1,829.9	1,763.0	967.1	1.8	21.9	1,784.0	214.7	8.3	99.7	1,808.7	143.0	12.7	151.8
21	0.3	0.1	842.1	0.0	0.0	0.2	219.9	0.0	0.0	0.2	125.1	0.0	0.0
24	35,014.2	34,345.7	873.5	39.3	471.8	34,731.6	219.0	158.6	1,902.8	34,955.0	124.1	281.6	3,379.6
38	5,126.3	4,799.1	281.5	17.0	204.5	4,991.9	83.7	59.7	716.1	5,110.9	44.6	114.5	1,374.1
4	4,392.7	3,948.5	1,032.0	3.8	45.9	4,191.0	136.9	30.6	367.2	4,373.1	96.6	45.3	543.4
44	11.0	3.7	206.3	0.0	0.2	4.7	41.8	0.1	1.4	6.6	30.7	0.2	2.6
51	1,014.4	1,013.3	182.4	5.6	66.7	1,014.1	53.3	19.0	228.5	1,014.4	31.5	32.2	386.9
54	28,031.6	24,026.9	1,050.1	22.9	274.6	25,703.2	236.5	108.7	1,304.3	27,339.5	136.3	200.5	2,406.3
6	2,636.1	2,632.8	663.8	4.0	47.6	2,634.8	185.8	14.2	170.1	2,636.1	106.7	24.7	296.5
<b>Total:</b>	<b>130,293.8</b>	<b>123,558.7</b>		<b>1,789.9</b>	<b>21,478.5</b>	<b>126,590.3</b>		<b>8,319.7</b>	<b>99,836.9</b>	<b>129,194.0</b>		<b>12,775.6</b>	<b>153,307.4</b>

Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

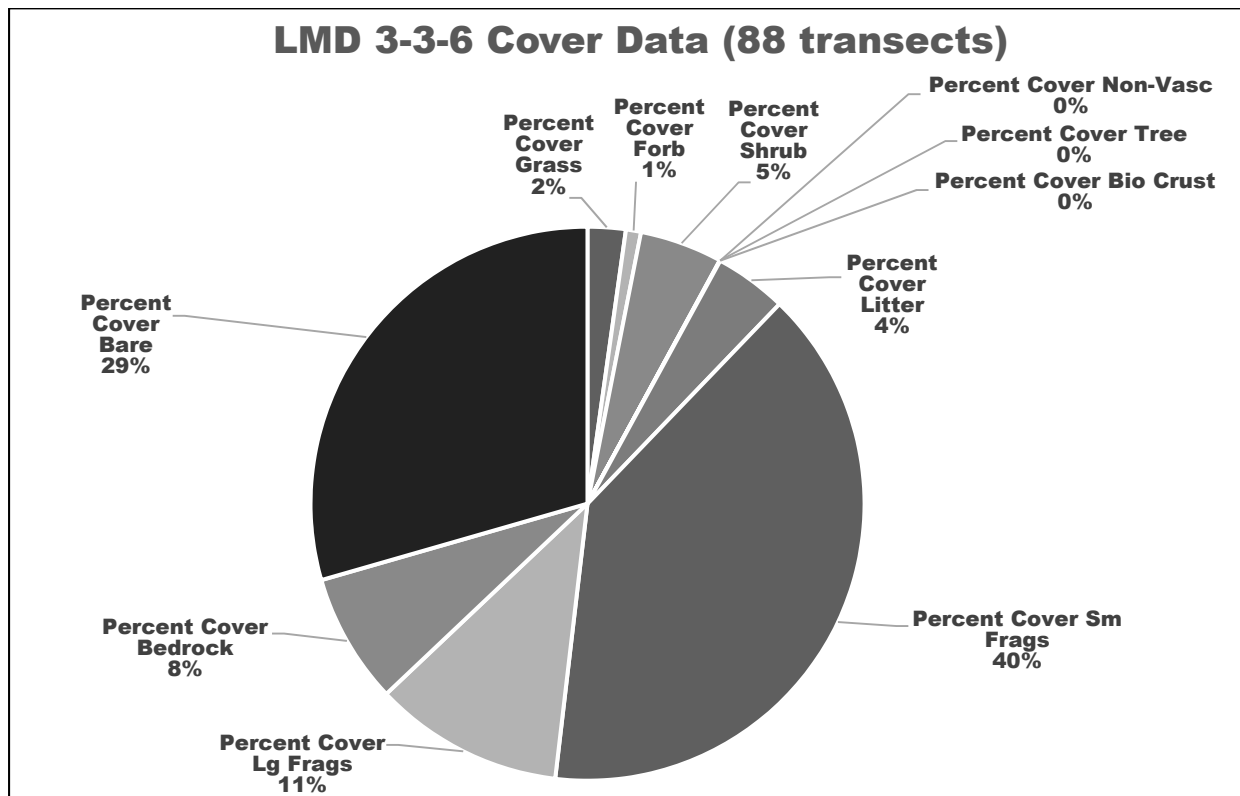
Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0–30% All Livestock	31–40% Sheep and Goats	41–60% Goats Only	>60% Non-Grazeable	Total Acres
123,558.7	3,031.6	2,603.7	1,099.8	<b>130,293.8</b>





**LMD 3-3-6 Production Table**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	AMAPAL	<i>Amaranthus palmeri</i>	carelessweed	<1%	<0.1
	AMSJON	<i>Amsonia jonesii</i>	Jones' bluestar	1%	<0.1
	ARENARIA	<i>Arenaria</i>	sandwort	<1%	<0.1
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	<1%	<0.1
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	<1%	<0.1
	CHACON	<i>Chamaesaracha coniodes</i>	gray five eyes	3%	0.5
	CHACOR	<i>Chamaesaracha coronopus</i>	greenleaf five eyes	<1%	<0.1
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	<1%	<0.1
	CHAFEN	<i>Chamaesyce fendleri</i>	Fendler's sandmat	<1%	<0.1
	CHAMAESYCE	<i>Chamaesyce</i>	sandmat	15%	1.2
	CHAMIC	<i>Chamaesyce micromera</i>	Sonoran sandmat	1%	0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	1%	0.1
	CRYCON	<i>Cryptantha confertiflora</i>	basin yellow cryptantha	1%	<0.1
	ERIINF	<i>Eriogonum inflatum</i>	desert trumpet	<1%	<0.1

(Table Continues)

## LMD 3-3-6 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ERIOGONUM	<i>Eriogonum</i>	buckwheat	1%	<0.1
(Continued)	ERIPUM	<i>Erigeron pumilus</i>	shaggy fleabane	<1%	<0.1
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	<1%	<0.1
	EUPHORBIA	<i>Euphorbia</i>	spurge	6%	1.9
	GLABIP	<i>Glandularia bipinnatifida</i>	Dakota mock vervain	<1%	<0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	<1%	<0.1
	HYMFIL	<i>Hymenopappus filifolius</i>	fineleaf hymenopappus	<1%	<0.1
	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	<1%	0.3
	LEPIDIUM	<i>Lepidium</i>	pepperweed	1%	<0.1
	MENSPI	<i>Mentha spicata</i>	spearmint	<1%	<0.1
	MENTZELIA	<i>Mentzelia</i>	blazingstar	<1%	<0.1
	MIRABILIS	<i>Mirabilis</i>	four o'clock	<1%	<0.1
	MIRLIN	<i>Mirabilis linearis</i>	narrowleaf four o'clock	<1%	0.1
	MOLCER	<i>Mollugo cerviana</i>	threadstem carpetweed	<1%	0.1
	NAMDIC	<i>Nama dichotomum</i>	wishbone fiddleleaf	1%	<0.1
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	<1%	<0.1
	PHACELIA	<i>Phacelia</i>	phacelia	<1%	<0.1
	PHAIN	<i>Phacelia integrifolia</i>	gypsum phacelia	1%	<0.1
	PHYSARIA	<i>Physaria</i>	twinpod	<1%	<0.1
	PLAPAT	<i>Plantago patagonica</i>	woolly plantain	4%	1.0
	PORPIL	<i>Portulaca pilosa</i>	kiss me quick	<1%	<0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	<1%	<0.1
	SANABE	<i>Sanvitalia abertii</i>	Abert's creeping zinnia	<1%	<0.1
	SPHAERALCEA	<i>Sphaeralcea</i>	globemallow	1%	0.2
	SPHCOC	<i>Sphaeralcea coccinea</i>	scarlet globemallow	<1%	<0.1
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	13%	2.3
	SPHLEP	<i>Sphaeralcea leptophylla</i>	scaly globemallow	<1%	0.1
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	<1%	0.1
	STAPIN	<i>Stanleya pinnata</i>	desert princesplume	1%	0.1
	TETCOU	<i>Tetradlea coulteri</i>	Coulter's wrinklefruit	<1%	<0.1
	THYACE	<i>Thymophylla acerosa</i>	pricklyleaf dogweed	<1%	<0.1
	TRITER	<i>Tribulus terrestris</i>	puncturevine	<1%	<0.1
	UNKANF	–	Unknown annual forb	<1%	0.1
	UNKPEF	–	Unknown perennial forb	4%	1.9
	ZINGRA	<i>Zinnia grandiflora</i>	Rocky Mountain zinnia	<1%	0.2

(Table Continues)

**LMD 3-3-6 Production Table (Continued)**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Grass/Grasslike	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	<1%	<0.1
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	2%	0.2
	ARISTIDA	<i>Aristida</i>	threeawn	2%	1.8
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	1%	0.4
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	2%	0.2
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	<1%	0.1
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	2%	0.5
	ELYELY	<i>Elymus elymoides</i>	squirreltail	<1%	0.5
	ENNDDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	2%	0.7
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	<1%	0.1
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	18%	18.7
	MUHPOR	<i>Muhlenbergia porteri</i>	bush muhly	2%	1.8
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	1%	0.2
	SCLBRE	<i>Scleropogon brevifolius</i>	burrograss	<1%	0.2
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	2%	0.4
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	<1%	0.3
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	3%	2.6
	Shrub/Vine	ALHMAU	<i>Alhagi maurorum</i>	camelthorn	<1%
ARTBIG		<i>Artemisia bigelovii</i>	Bigelow sage	4%	3.5
ARTTRI		<i>Artemisia tridentata</i>	big sagebrush	2%	2.4
ATRCAN		<i>Atriplex canescens</i>	fourwing saltbush	1%	0.5
ATRCON		<i>Atriplex confertifolia</i>	shadscale saltbush	<1%	<0.1
ATROBO		<i>Atriplex obovata</i>	mound saltbush	<1%	0.1
BRICAL		<i>Brickellia californica</i>	California brickellbush	<1%	0.2
BRIOBL		<i>Brickellia oblongifolia</i>	Mojave brickellbush	14%	10.0
CHRGRE		<i>Chrysothamnus Greenei</i>	Greene's rabbitbrush	<1%	0.3
COLRAM		<i>Coleogyne ramosissima</i>	blackbrush	<1%	<0.1
CYLWHI		<i>Cylindropuntia whipplei</i>	Whipple cholla	<1%	<0.1
ENCFRU		<i>Encelia frutescens</i>	button brittlebush	4%	3.1
EPHCUT		<i>Ephedra cutleri</i>	Cutler's jointfir	4%	3.4
EPHTOR		<i>Ephedra torreyana</i>	Torrey's jointfir	1%	0.3
EPHVIR		<i>Ephedra viridis</i>	mormon tea	1%	0.6
ERICOR		<i>Eriogonum corymbosum</i>	crispleaf buckwheat	<1%	<0.1
ERINAU		<i>Ericameria nauseosa</i>	rubber rabbitbrush	<1%	0.2

(Table Continues)

## LMD 3-3-6 Production Table (Continued)

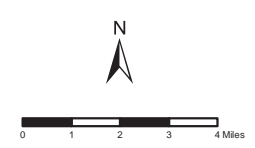
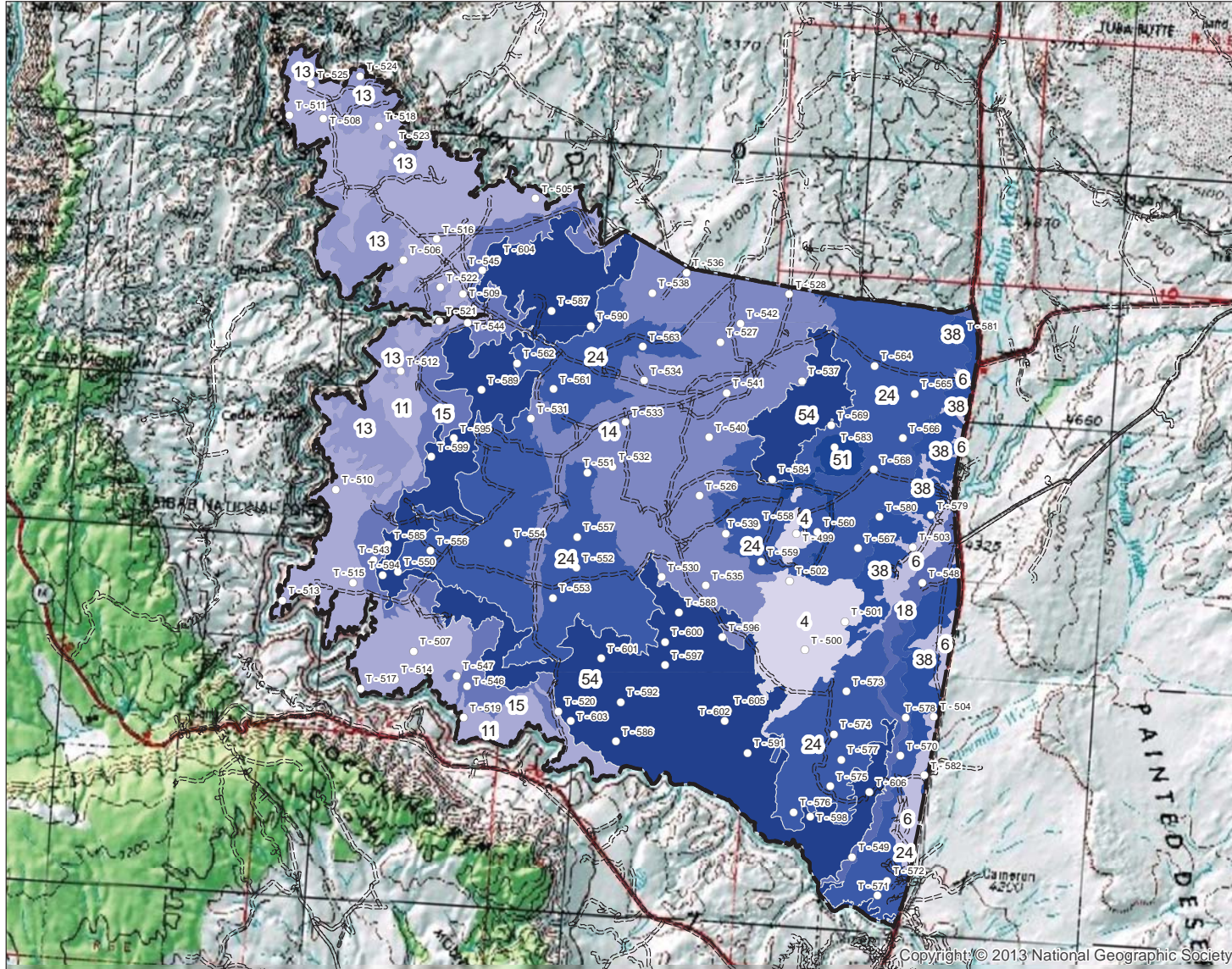
Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Shrub/Vine	FALPAR	<i>Fallugia paradoxa</i>	Apache plume	1%	0.5
(Continued)	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	<1%	0.4
	LYCAND	<i>Lycium andersonii</i>	water jacket	<1%	<0.1
	LYCPAL	<i>Lycium pallidum</i>	pale desert-thorn	<1%	0.2
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	<1%	0.1
	OPUPOL	<i>Opuntia polyacantha</i>	plains pricklypear	<1%	6.5
	PURTRI	<i>Purshia tridentata</i>	antelope bitterbrush	1%	0.9
	QUETUR	<i>Quercus turbinella</i>	Sonoran scrub oak	<1%	0.2
	RHUTRI	<i>Rhus trilobata</i>	skunkbush sumac	2%	1.0
	SALDOR	<i>Salvia dorrii</i>	purple sage	<1%	5.5
	SARVER	<i>Sarcobatus vermiculatus</i>	greasewood	<1%	<0.1
Tree	TAMRAM	<i>Tamarix ramosissima</i>	saltcedar	<1%	<0.1

# Soil Map Unit

Land Management District 3  
Unit 3, Compartment 6

# West Navajo Livestock Capacity Study

Total Acres: 130,293.8  
Grazeable Sheep Acres: 126,590.3



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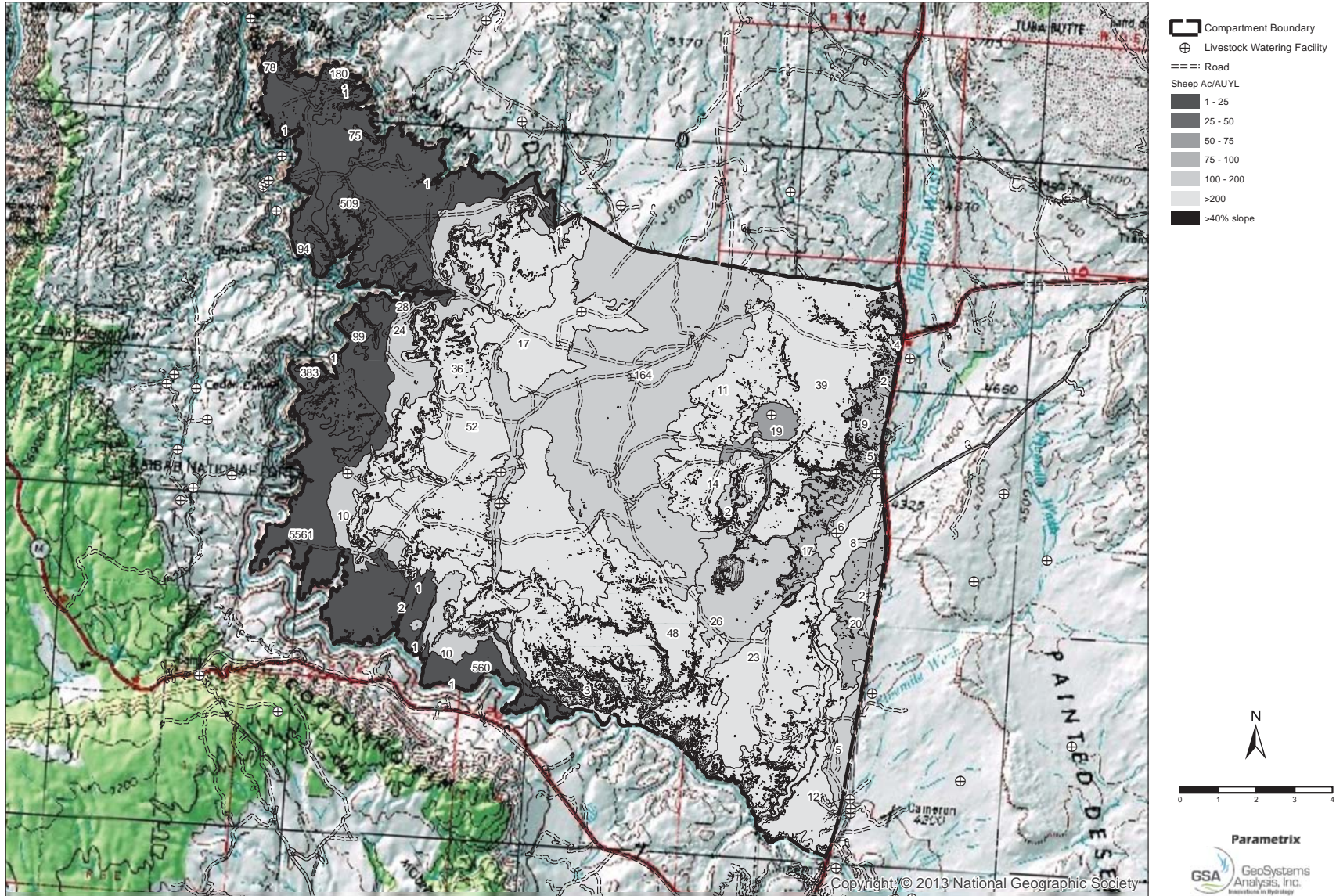


# Stocking Rate

Land Management District 3  
Unit 3, Compartment 6

## West Navajo Livestock Capacity Study

Total Acres: 130,293.8  
Grazeable Sheep Acres: 126,590.3  
Sheep Units Year Long: 8,319.7





## LMD 3, Unit 3, Compartment 7 (LMD 3-3-7)

Compartment 3-3-7 consists of approximately 25,584 acres, only a very small percentage of which (approximately 13%) is available to all livestock. Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and small rock fragments. Dominant grasses include sixweeks grama (15.1 ppa) and needle and thread grass (24.3 ppa); dominant forbs include phacelia (16.3 ppa) and globemallow (11.0 ppa); and dominant shrubs include hedgehog cactus (5.3 ppa) and Mojave bricklebrush (5.8 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
106	5.9	0.8	206.3	0.0	0.0	0.9	41.8	0.0	0.3	1.0	30.7	0.0	0.4
109	0.6	0.0	206.3	0.0	0.0	0.0	41.8	0.0	0.0	0.1	30.7	0.0	0.0
11	16.1	5.4	13.8	0.4	4.6	6.8	3.0	2.3	27.0	9.3	2.0	4.6	55.5
116	10.0	0.1	206.3	0.0	0.0	0.2	41.8	0.0	0.1	0.6	30.7	0.0	0.2
117	11.6	1.4	206.3	0.0	0.1	2.2	41.8	0.1	0.6	5.6	30.7	0.2	2.2
12	1.1	0.1	59.9	0.0	0.0	0.2	14.7	0.0	0.1	0.3	8.9	0.0	0.4
121	0.0	0.0	331.3	0.0	0.0	0.0	56.9	0.0	0.0	0.0	40.7	0.0	0.0
13	5.7	1.6	21.7	0.1	0.9	2.2	4.2	0.5	6.3	3.3	3.0	1.1	13.3
14	0.1	0.1	381.8	0.0	0.0	0.1	123.7	0.0	0.0	0.1	58.5	0.0	0.0
15	0.0	0.0	470.7	0.0	0.0	0.0	136.9	0.0	0.0	0.0	67.2	0.0	0.0
162	0.9	0.9	206.3	0.0	0.0	0.9	41.8	0.0	0.2	0.9	30.7	0.0	0.3
18	0.0	0.0	967.1	0.0	0.0	0.0	214.7	0.0	0.0	0.0	143.0	0.0	0.0
21	210.9	165.8	842.1	0.2	2.4	177.3	219.9	0.8	9.7	190.5	125.1	1.5	18.3
26	1.0	0.4	312.9	0.0	0.0	0.4	74.8	0.0	0.1	0.6	52.1	0.0	0.1
28	0.1	0.0	355.2	0.0	0.0	0.0	91.9	0.0	0.0	0.0	60.1	0.0	0.0
29	9.5	3.3	334.0	0.0	0.1	4.2	64.9	0.1	0.8	5.7	45.6	0.1	1.5
40	0.0	0.0	381.5	0.0	0.0	0.0	73.7	0.0	0.0	0.0	51.5	0.0	0.0
44	14,312.9	1,844.4	206.3	8.9	107.3	2,472.5	41.8	59.2	710.4	3,943.4	30.7	128.5	1,541.5
45	9,390.0	861.2	206.3	4.2	50.1	1,315.4	41.8	31.5	378.0	2,803.8	30.7	91.3	1,096.0
47	115.0	0.5	206.3	0.0	0.0	1.9	41.8	0.0	0.5	9.9	30.7	0.3	3.9

(Table Continues)



**Range Unit Stocking Rate and Carrying Capacity (Continued)**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
48	1,374.0	233.0	206.3	1.1	13.5	327.4	41.8	7.8	94.1	537.5	30.7	17.5	210.1
54	1.7	0.5	1,050.1	0.0	0.0	0.7	236.5	0.0	0.0	1.0	136.3	0.0	0.1
60	0.3	0.1	352.4	0.0	0.0	0.2	45.8	0.0	0.0	0.2	33.3	0.0	0.1
64	116.7	106.3	206.3	0.5	6.2	110.3	41.8	2.6	31.7	113.6	30.7	3.7	44.4
<b>Total:</b>	<b>25,584.1</b>	<b>3,225.6</b>		<b>15.4</b>	<b>185.3</b>	<b>4,423.9</b>		<b>105.0</b>	<b>1,260.0</b>	<b>7,627.6</b>		<b>249.0</b>	<b>2,988.3</b>

Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

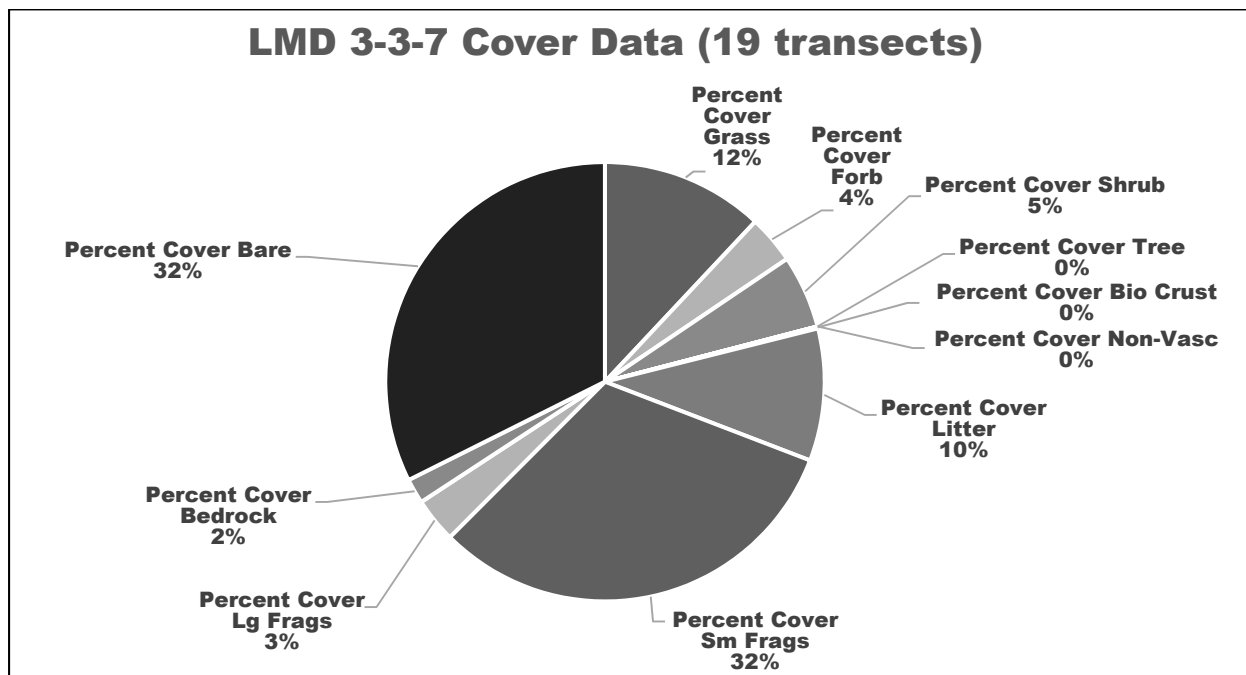
Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0–30% All Livestock	31–40% Sheep and Goats	41–60% Goats Only	>60% Non-Grazeable	Total Acres
3,225.6	1,198.3	3,203.7	17,956.5	25,584.1

**LMD 3-3-7 Cover Data (19 transects)**



LMD 3-3-7 Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ABRONIA	<i>Abronia</i>	sand verbena	1%	<0.1
	ALLINC	<i>Allionia incarnata</i>	trailing windmills	5%	1.2
	AMABIG	<i>Amaranthus bigelovii</i>	Bigelow's amaranth	1%	<0.1
	AMAPAL	<i>Amaranthus palmeri</i>	carelessweed	1%	<0.1
	AMATOR	<i>Amaranthus torreyi</i>	Torrey's amaranthus	6%	0.3
	ARTLUD	<i>Artemisia ludoviciana</i>	white sagebrush	8%	1.2
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	1%	0.1
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	4%	0.2
	CHAPAR	<i>Chamaesyce parryi</i>	Parry's sandmat	21%	2.2
	CHAREV	<i>Chamaesyce revoluta</i>	threadstem sandmat	2%	0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	8%	0.9
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	2%	1.8
	ERIINF	<i>Eriogonum inflatum</i>	desert trumpet	12%	0.3
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	2%	0.1
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	3%	0.5
	EUPEXS	<i>Euphorbia exstipulata</i>	squareseed spurge	29%	8.7
	GLABIP	<i>Glandularia bipinnatifida</i>	Dakota mock vervain	1%	0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	1%	<0.1
	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	2%	0.1
	MENTZELIA	<i>Mentzelia</i>	blazingstar	1%	0.1
	NAMDIC	<i>Nama dichotomum</i>	wishbone fiddleleaf	1%	0.3
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	1%	<0.1
	PHACELIA	<i>Phacelia</i>	phacelia	10%	16.3
	PLAPAT	<i>Plantago patagonica</i>	woolly plantain	2%	0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	1%	0.4
	SANABE	<i>Sanvitalia abertii</i>	Abert's creeping zinnia	2%	0.2
	SCHMUL	<i>Schkuhria multiflora</i>	manyflower false threadleaf	1%	<0.1
	SPHCOC	<i>Sphaeralcea coccinea</i>	scarlet globemallow	21%	3.8
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	6%	11.0
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	1%	0.1

(Table Continues)

**LMD 3-3-7 Production Table (Continued)**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Grass/Grasslike	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	5%	1.8
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	1%	0.9
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	30%	15.1
	BOUCUR	<i>Bouteloua curtispindula</i>	sideoats grama	11%	8.3
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	1%	<0.1
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	29%	9.0
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	2%	0.2
	ENNDDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	1%	0.1
	ERIPIL	<i>Erioneuron pilosum</i>	hairy woollygrass	14%	4.7
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	19%	24.3
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	5%	8.4
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	8%	4.1
	SCLBRE	<i>Scleropogon brevifolius</i>	burrograss	21%	8.6
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	1%	0.6
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	19%	11.8
	Shrub/Vine	AGAUTA	<i>Agave utahensis</i>	Utah agave	2%
ATRCAN		<i>Atriplex canescens</i>	fourwing saltbush	2%	1.4
ATRCAN		<i>Atriplex confertifolia</i>	shadscale saltbush	<1%	<0.1
ATROBO		<i>Atriplex obovata</i>	mound saltbush	6%	3.1
BRIOBL		<i>Brickellia oblongifolia</i>	Mojave brickellbush	1%	5.8
COLRAM		<i>Coleogyne ramosissima</i>	blackbrush	1%	0.3
CYLWHI		<i>Cylindropuntia whipplei</i>	Whipple cholla	7%	0.9
ECHENG		<i>Echinocereus engelmannii</i>	Engelmann's hedgehog cactus	11%	5.3
EPHCUT		<i>Ephedra cutleri</i>	Cutler's jointfir	2%	1.6
EPHTOR		<i>Ephedra torreyana</i>	Torrey's jointfir	1%	0.1
EPHVIR		<i>Ephedra viridis</i>	mormon tea	1%	<0.1
ERICON		<i>Eriophyllum confertiflorum</i>	golden-yarrow	5%	1.7
ESCVIV		<i>Escobaria vivipara</i>	spinystar	1%	<0.1
KRALAN		<i>Krascheninnikovia lanata</i>	winterfat	1%	0.2
OPUPHA		<i>Opuntia phaeacantha</i>	tulip pricklypear	2%	0.1
OPUPOL		<i>Opuntia polyacantha</i>	plains pricklypear	2%	1.5
PEDPEE		<i>Pediocactus peeblesianus</i>	Navajo pincushion cactus	1%	0.1
SARVER		<i>Sarcobatus vermiculatus</i>	greasewood	4%	0.3

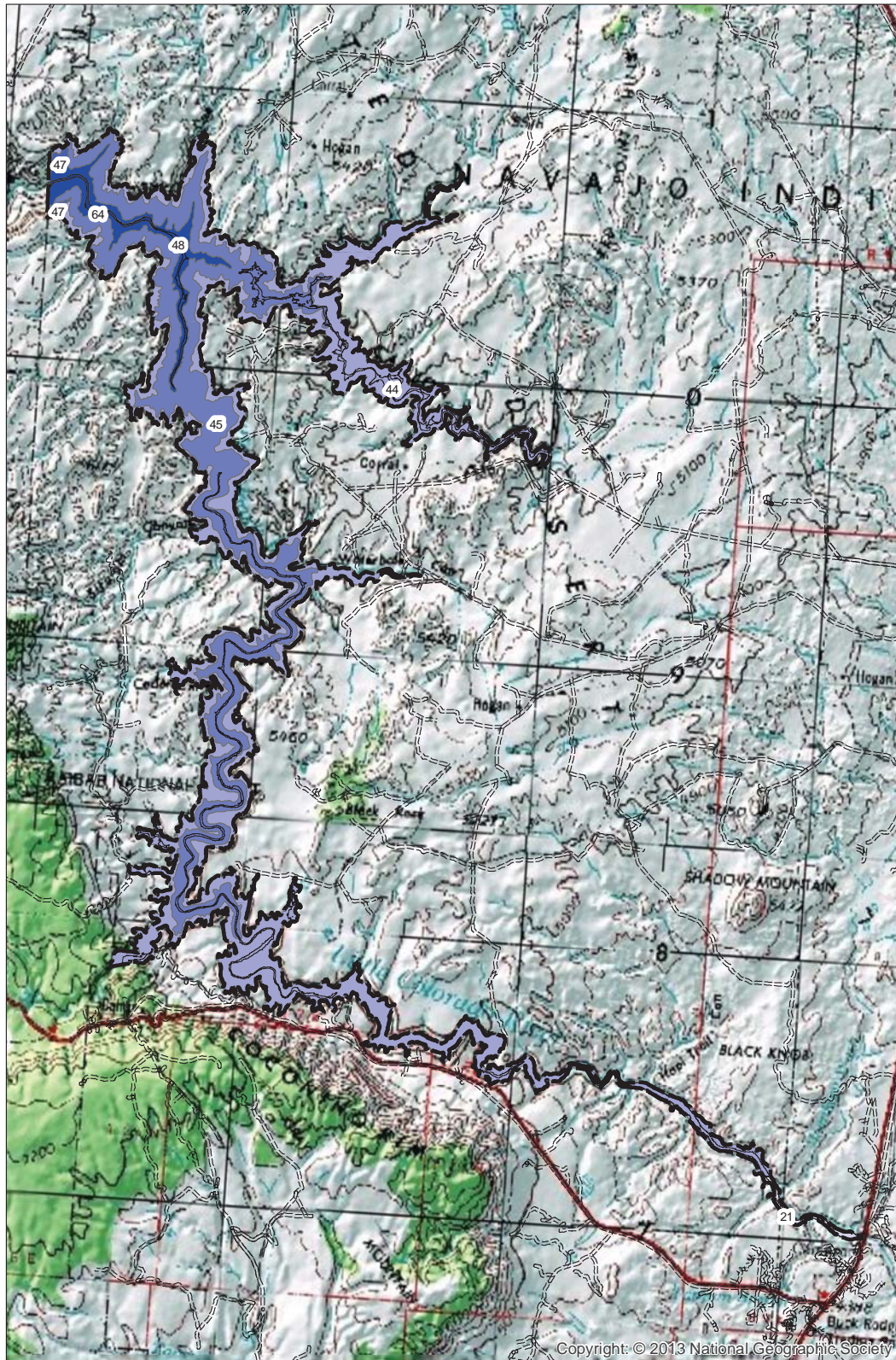
# Soil Map Unit

# West Navajo Livestock Capacity Study

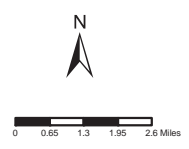
Total Acres: 25,584.1

Land Management District 3  
Unit 3, Compartment 7

Grazeable Sheep Acres: 4,423.9



- Compartment Boundary
- Road
- Soil Map Unit
  - 21 - Jocky-Jorahli-Navajo-Riverview complex
  - 44 - Rock outcrop-Lithic Torionthens complex
  - 45 - Rock outcrop-Lithic Torionthens complex, Supai Group
  - 47 - Rock outcrop-Lithic Torionthens complex, Hermit Formation
  - 48 - Rock outcrop-Lithic Torionthens complex
  - 64 - Water



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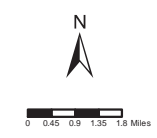
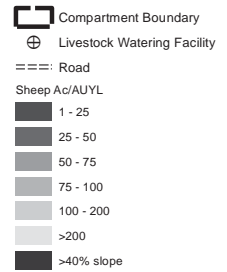
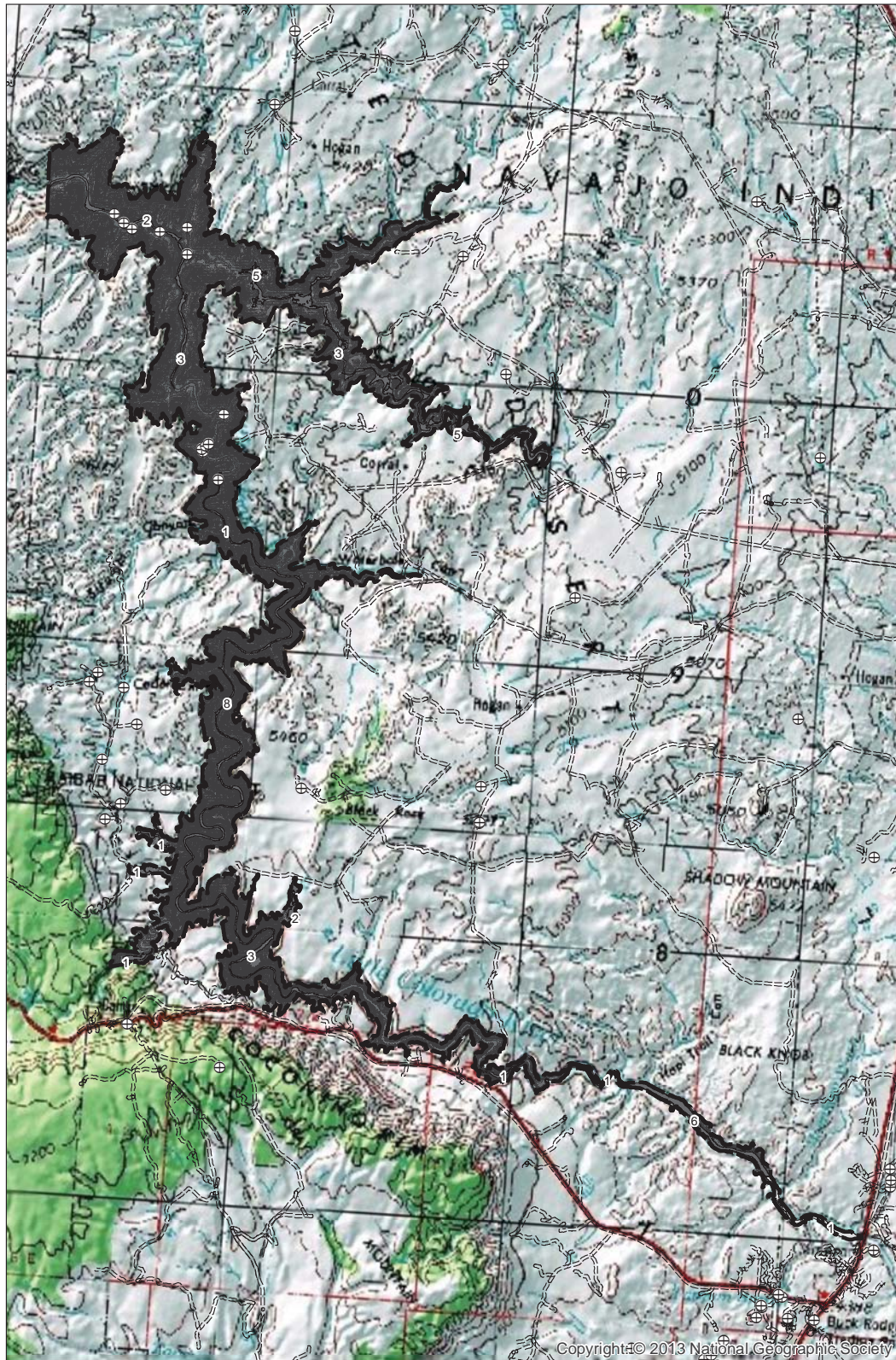
# Stocking Rate

# West Navajo Livestock Capacity Study

Total Acres: 25,584.1

Land Management District 3  
Unit 3, Compartment 7

Grazeable Sheep Acres: 4,423.9  
Sheep Units Year Long: 105.0



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## LMD 3, Unit 3, Compartment 8 (LMD 3-3-8)

Compartment 3-3-8 consists of approximately 2,314 acres, approximately 86% of which is available to all livestock. Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and small and large rock fragments. Dominant grasses include nineawn pappusgras (10.8 ppa) and false buffalograss (6.5 ppa); dominant forbs include Russian thistle (5.1 ppa) and Parry's sandmat (4.4 ppa); and dominant shrubs include blackbrush (10.5 ppa) and fourwing saltbush (3.8 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
18	932.1	913.1	967.1	0.9	11.3	923.8	214.7	4.3	51.6	930.8	143.0	6.5	78.1
37	748.8	523.7	414.7	1.3	15.2	604.8	96.1	6.3	75.5	692.0	59.6	11.6	139.3
38	168.7	110.0	281.5	0.4	4.7	139.7	83.7	1.7	20.0	164.1	44.6	3.7	44.1
54	464.8	452.6	1,050.1	0.4	5.2	462.4	236.5	2.0	23.5	464.7	136.3	3.4	40.9
<b>Total:</b>	<b>2,314.4</b>	<b>1,999.3</b>		<b>3.0</b>	<b>36.3</b>	<b>2,130.7</b>		<b>14.2</b>	<b>170.7</b>	<b>2,251.5</b>		<b>25.2</b>	<b>302.5</b>

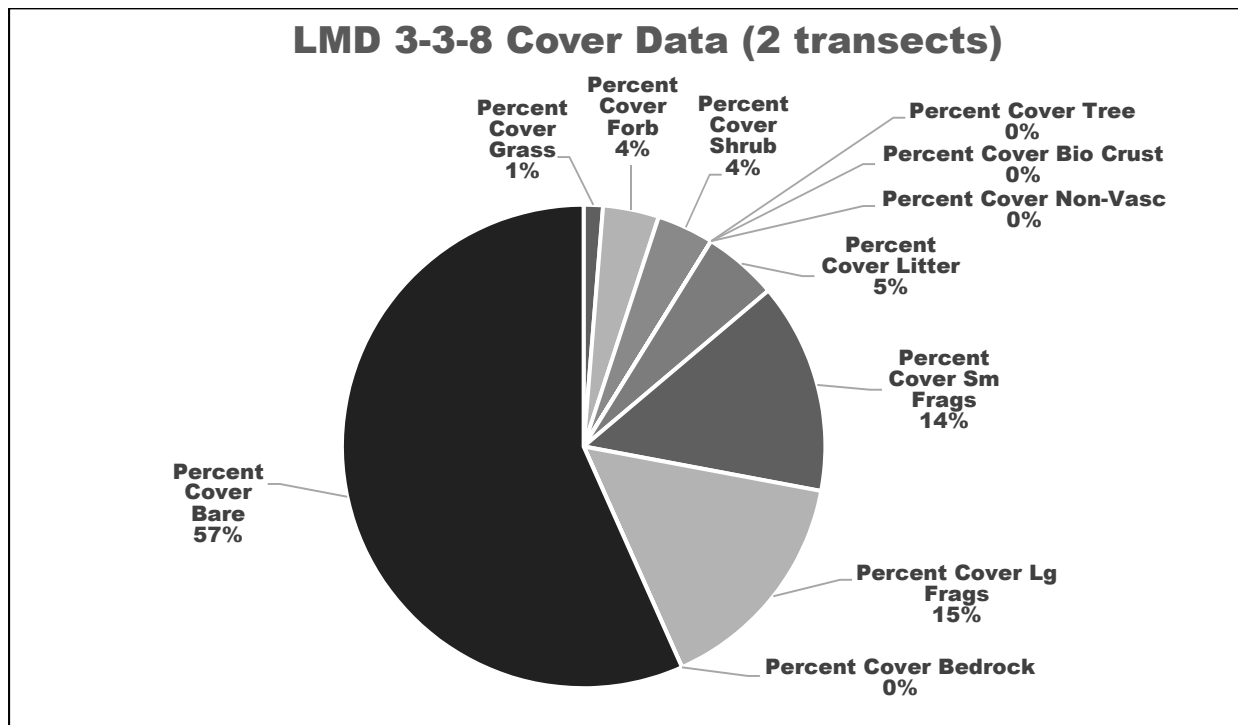
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0–30% All Livestock	31–40% Sheep and Goats	41–60% Goats Only	>60% Non-Grazeable	Total Acres
1,999.3	131.4	120.8	62.9	<b>2,314.4</b>



LMD 3-3-8 Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	CHAPAR	<i>Chamaesyce parryi</i>	Parry's sandmat	10%	4.4
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	10%	0.6
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	5%	0.2
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	10%	0.3
	POROLE	<i>Portulaca oleracea</i>	little hogweed	10%	2.8
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	30%	5.1
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	5%	1.0
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	15%	1.5
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	5%	0.6
	ENNDDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	20%	10.8
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	20%	6.5
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	5%	2.1
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	5%	1.0
<b>Shrub/Vine</b>	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	20%	3.8
	BRICAL	<i>Brickellia californica</i>	California brickellbush	5%	2.9
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	15%	10.5
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	10%	1.7

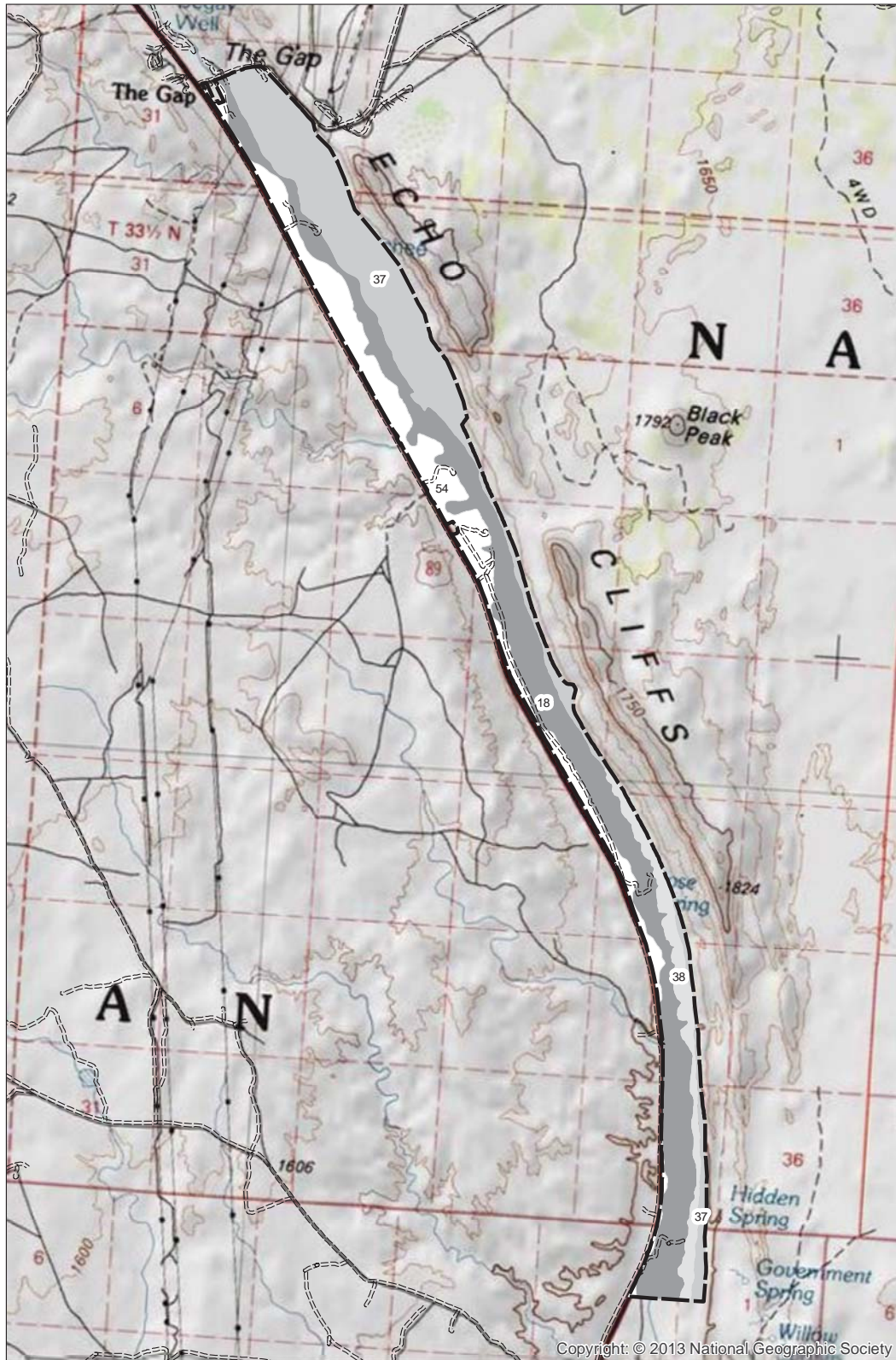
# Soil Map Unit

# West Navajo Livestock Capacity Study

Total Acres: 2,314.4

Land Management District 3  
Unit 3, Compartment 8

Grazeable Sheep Acres: 2,130.7



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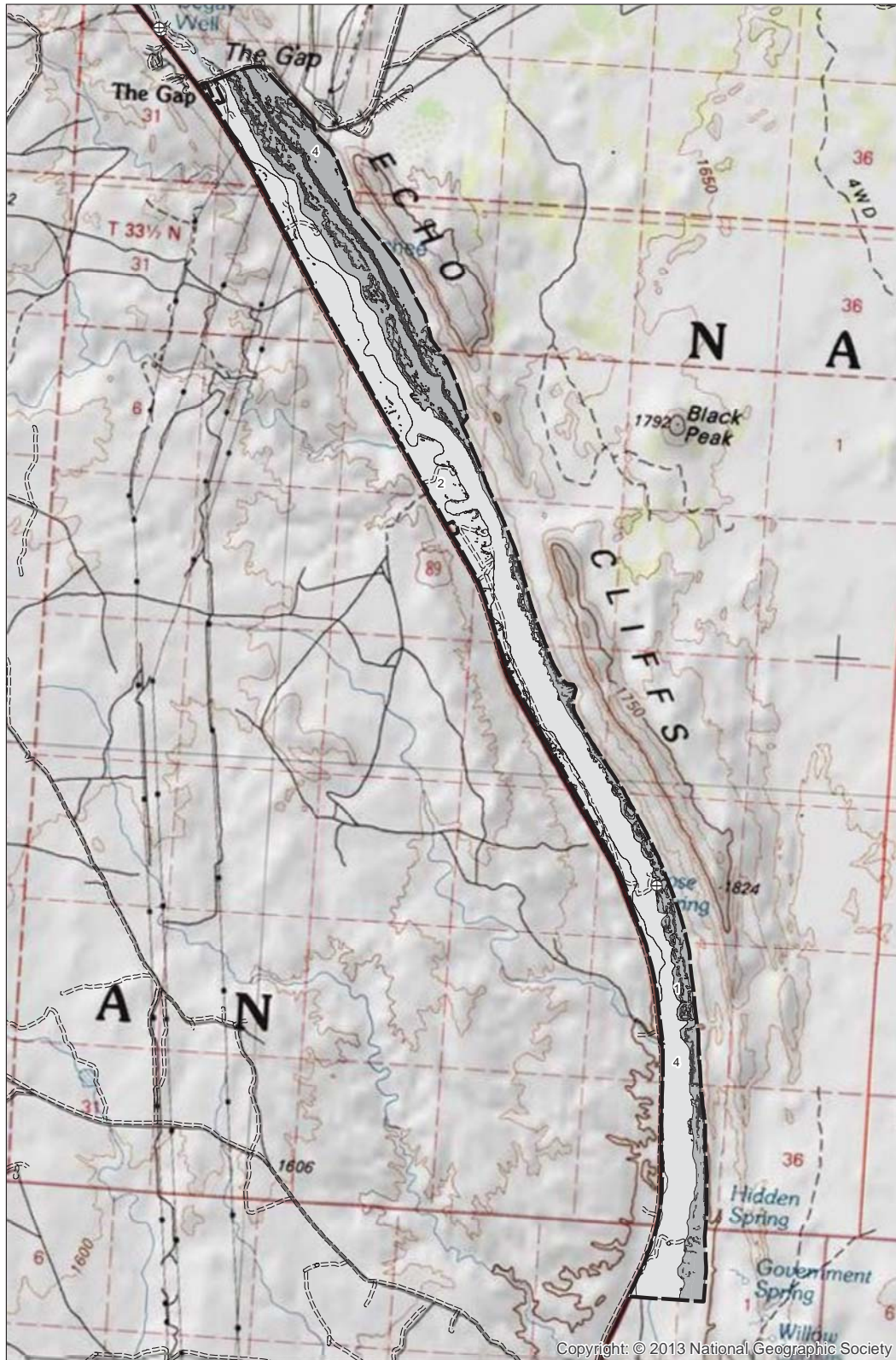
# Stocking Rate

# West Navajo Livestock Capacity Study

Total Acres: 2,314.4

Land Management District 3  
Unit 3, Compartment 8

Grazeable Sheep Acres: 2,130.7  
Sheep Units Year Long: 14.2



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## LMD 3, Unit 3, Compartment 9 (LMD 3-3-9)

Compartment 3-3-9 consists of approximately 4,495 acres, approximately 86% of which is available to all livestock. Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and litter. Dominant grasses include sand dropseed (30.6 ppa), sixweeks grama (27.5 ppa), and blue grama (28.9 ppa); dominant forbs include globemallow (10.4 ppa) and sawtooth sandmat (5.8 ppa); and dominant shrubs include big sage (35.7 ppa) and fourwing saltbush (4.2 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
1	11.9	10.7	334.0	0.0	0.4	11.1	64.9	0.2	2.0		45.6	0.3	3.1
18	306.6	291.1	967.1	0.3	3.6	300.0	214.7	1.4	16.8	306.0	143.0	2.1	25.7
3	610.4	603.8	154.7	3.9	46.8	607.8	43.8	13.9	166.5	610.0	23.0	26.5	318.4
37	2,095.6	1,605.5	414.7	3.9	46.5	1,777.3	96.1	18.5	222.0	1,959.9	59.6	32.9	394.6
39	968.9	882.0	968.3	0.9	10.9	933.9	292.9	3.2	38.3	964.9	155.2	6.2	74.6
41	31.5	31.5	410.6	0.1	0.9	31.5	96.8	0.3	3.9	31.5	63.3	0.5	6.0
43	284.7	235.5	241.0	1.0	11.7	251.4	57.2	4.4	52.7	270.2	45.0	6.0	72.1
54	185.0	184.3	1,050.1	0.2	2.1	185.0	236.5	0.8	9.4	185.0	136.3	1.4	16.3
<b>Total:</b>	<b>4,494.6</b>	<b>3,844.4</b>		<b>10.2</b>	<b>123.0</b>	<b>4,098.0</b>		<b>42.6</b>	<b>511.6</b>	<b>4,339.1</b>		<b>75.9</b>	<b>910.6</b>

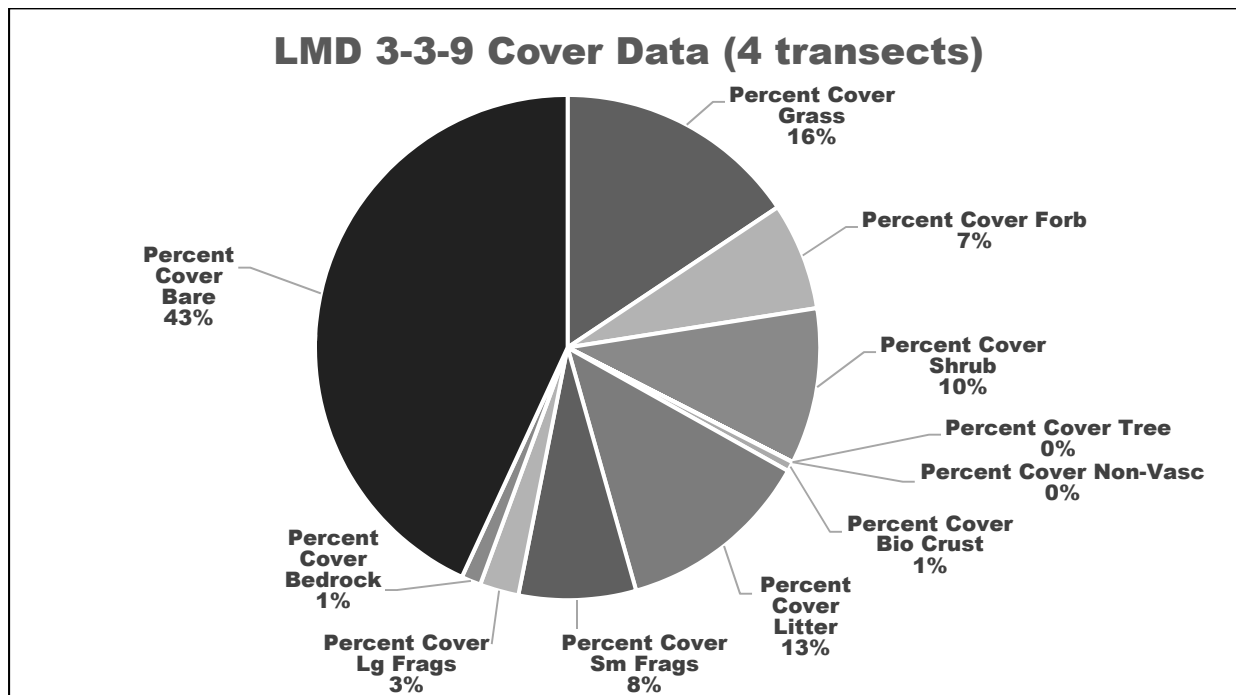
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0-30% All Livestock	31-40% Sheep and Goats	41-60% Goats Only	>60% Non-Grazeable	Total Acres
3,844.4	253.7	241.1	155.5	<b>4,494.6</b>



**LMD 3-3-9 Production Table**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	AMABLI	<i>Amaranthus blitoides</i>	mat amaranth	33%	3.9
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	10%	0.6
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	18%	5.8
	ERIDIV	<i>Erigeron divergens</i>	spreading fleabane	5%	0.6
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	3%	0.3
	HYMFLA	<i>Hymenopappus flavescens</i>	collegeflower	5%	0.7
	MENMUL	<i>Mentzelia multiflora</i>	Adonis blazingstar	3%	0.1
	PECANG	<i>Pectis angustifolia</i>	lemonscent	5%	0.4
	PLAPAT	<i>Plantago patagonica</i>	woolly plantain	8%	0.5
	POROLE	<i>Portulaca oleracea</i>	little hogweed	13%	2.1
	SCHMUL	<i>Schkuhria multiflora</i>	manyflower false threadleaf	13%	3.7
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	20%	10.4
	UNKANF	-	Unknown annual forb	20%	2.1

(Table Continues)

## LMD 3-3-9 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Grass/Grasslike	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	3%	0.3
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	30%	27.5
	BOUCUR	<i>Bouteloua curtipendula</i>	sideoats grama	43%	8.4
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	40%	28.9
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	3%	0.4
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	10%	2.3
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	3%	0.4
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	10%	30.6
Shrub/Vine	ARTTRI	<i>Artemisia tridentata</i>	big sagebrush	8%	35.7
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	5%	4.2
	CHRDEP	<i>Chrysothamnus depressus</i>	longflower rabbitbrush	20%	3.8
	CHRGRE	<i>Chrysothamnus greenei</i>	Greene's rabbitbrush	18%	3.4
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	3%	0.2
	EPHCUT	<i>Ephedra cutleri</i>	Cutler's jointfir	5%	0.7
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	3%	2.5
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	3%	0.1
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	3%	0.3
	RHUTRI	<i>Rhus trilobata</i>	skunkbush sumac	13%	1.5
Tree	JUNOST	<i>Juniperus osteosperma</i>	Utah juniper	88%	8.7

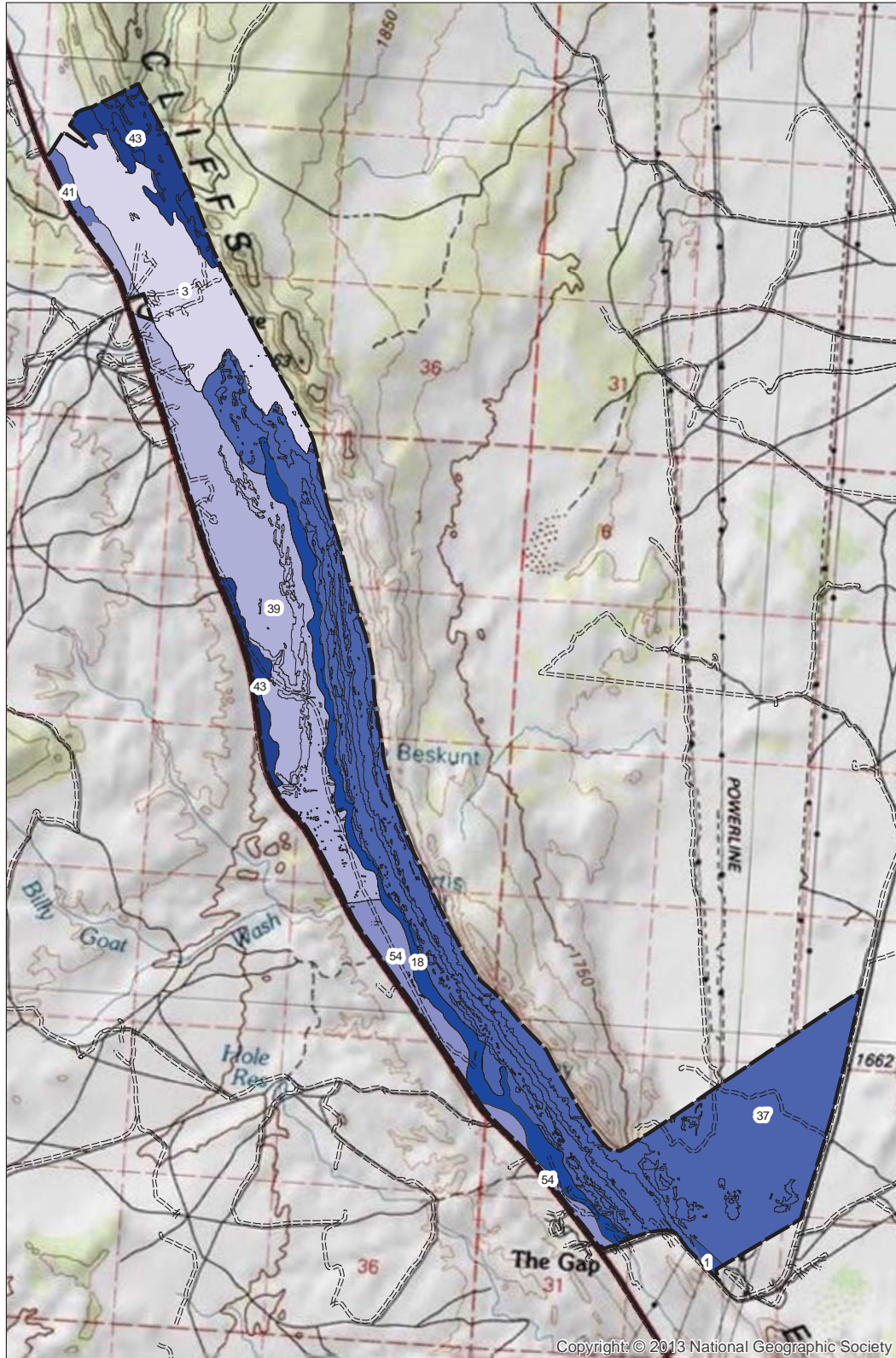
# Soil Map Unit

## West Navajo Livestock Capacity Study

Total Acres: 4,494.6

Land Management District 3  
Unit 3, Compartment 9

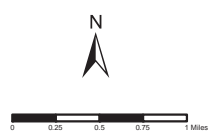
Grazeable Sheep Acres: 4,098.0



Compartment Boundary  
Transect Location  
Road

**Soil Map Unit**

- 18 - Ives-Riverwash association
- 1 - Arches-Rock outcrop-Mido complex
- 37 - Nepatto family-Tsaya-Rock outcrop complex
- 39 - Progreso-Skos complex
- 3 - Begay-Mido-Mikok complex
- 41 - Radnik-Escavada-Riverwash complex
- 43 - Reef-Rock outcrop complex
- 54 - Shinume-Leupp-Rock outcrop complex



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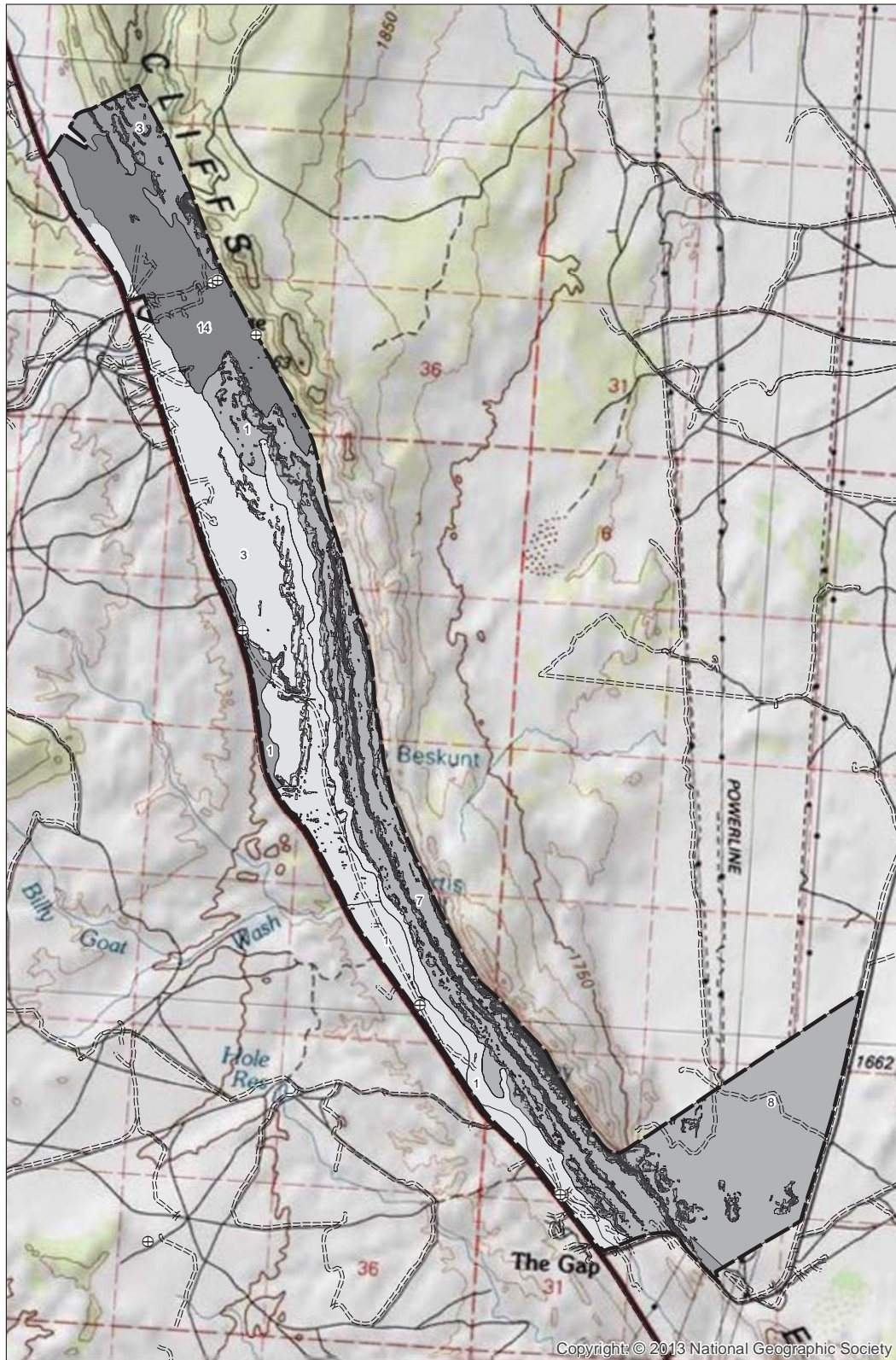


# Stocking Rate

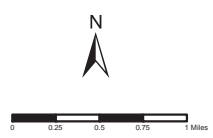
## West Navajo Livestock Capacity Study

Land Management District 3  
Unit 3, Compartment 9

Total Acres: 4,494.6  
Grazeable Sheep Acres: 4,098.0  
Sheep Units Year Long: 42.6



- Compartment Boundary
- Livestock Watering Facility
- Road
- Sheep Ac/AUYL
  - 25 - 50
  - 50 - 75
  - 75 - 100
  - 100 - 200
  - >200
  - >40% slope



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## LMD 3, Unit 3, Compartment 10 (LMD 3-3-10)

Compartment 3-3-10 consists of approximately 9,461 acres, approximately 75% of which is available to all livestock.

Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and small rock fragments. Dominant grasses include needle and thread grass (45.0 ppa) and purple three-awn (31.9 ppa); dominant forbs include woolly plantain (37.3 ppa) and rose heath 23.0 ppa); and dominant shrubs include Mormon tea (17.1 ppa) and jointfir (7.1 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
13	240.9	240.9	21.7	11.1	133.5	240.9	4.2	57.5	689.9	240.9	3.0	80.6	967.5
3	1,152.6	1,149.9	154.7	7.4	89.2	1,151.4	43.8	26.3	315.4	1,152.0	23.0	50.1	601.2
34	2,632.3	2,614.6	324.4	8.1	96.7	2,627.8	70.4	37.3	448.2	2,632.2	46.8	56.3	675.1
37	1,821.0	436.5	414.7	1.1	12.6	633.1	96.1	6.6	79.1	986.9	59.6	16.6	198.7
38	258.0	225.5	281.5	0.8	9.6	240.2	83.7	2.9	34.5	253.8	44.6	5.7	68.2
39	450.7	449.1	968.3	0.5	5.6	450.5	292.9	1.5	18.5	450.7	155.2	2.9	34.8
41	1,249.8	1,248.4	410.6	3.0	36.5	1,249.0	96.8	12.9	154.9	1,249.7	63.3	19.7	236.8
43	1,655.3	768.1	241.0	3.2	38.3	912.9	57.2	16.0	191.5	1,141.0	45.0	25.4	304.4
<b>Total:</b>	<b>9,460.7</b>	<b>7,133.0</b>		<b>35.2</b>	<b>421.9</b>	<b>7,505.8</b>		<b>161.0</b>	<b>1,931.8</b>	<b>8,107.2</b>		<b>257.2</b>	<b>3,086.8</b>

Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

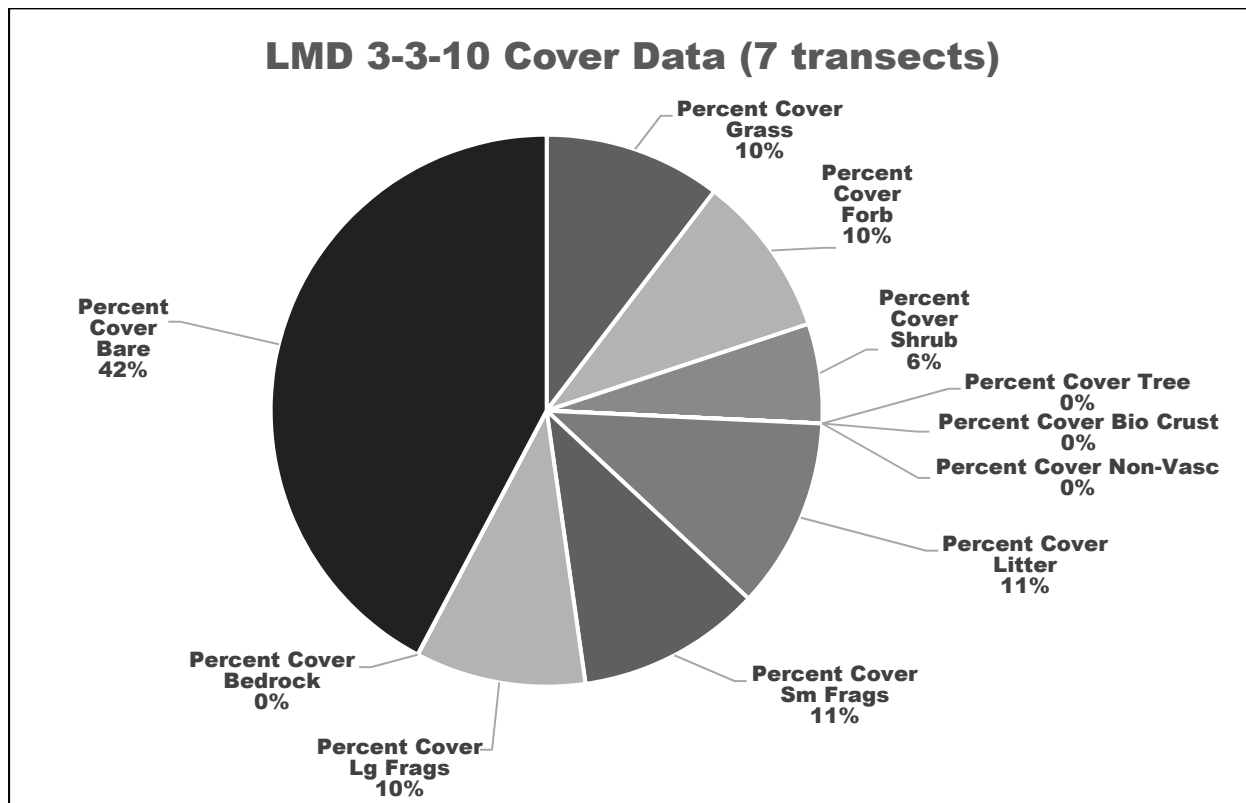
Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0–30% All Livestock	31–40% Sheep and Goats	41–60% Goats Only	>60% Non-Grazeable	Total Acres
7,133.0	372.8	601.4	1,353.4	<b>9,460.7</b>





**LMD 3-3-10 Production Table**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ABRFRA	<i>Abronia fragrans</i>	snowball sand verbena	3%	0.5
	ABRONIA	<i>Abronia</i>	sand verbena	1%	0.3
	AMABLI	<i>Amaranthus blitoides</i>	mat amaranth	9%	2.0
	AMAPAL	<i>Amaranthus palmeri</i>	carelessweed	6%	0.6
	AMBACA	<i>Ambrosia acanthicarpa</i>	flatspine bur ragweed	10%	2.6
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	20%	2.4
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	19%	23.0
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	4%	0.2
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	3%	0.2
	LINARI	<i>Linum aristatum</i>	bristle flax	3%	0.2
	MENMUL	<i>Mentzelia multiflora</i>	Adonis blazingstar	17%	17.2
	OENPAL	<i>Oenothera pallida</i>	pale evening primrose	9%	0.6
	PECANG	<i>Pectis angustifolia</i>	lemonscent	1%	3.7
	PLPAT	<i>Plantago patagonica</i>	woolly plantain	34%	37.3

(Table Continues)

## LMD 3-3-10 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	POROLE	<i>Portulaca oleracea</i>	little hogweed	1%	0.2
<b>(Continued)</b>	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	6%	2.6
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	1%	0.2
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	3%	2.1
	THESUB	<i>Thelesperma subnudum</i>	Navajo tea	16%	0.5
	TIQLAT	<i>Tiquilia latior</i>	matted crinklemat	16%	3.7
	UNKANF	–	Unknown annual forb	6%	2.9
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	23%	3.0
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	31%	31.9
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	10%	7.6
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	3%	0.3
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	29%	5.9
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	44%	45.0
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	6%	3.8
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	14%	8.1
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	4%	4.7
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	1%	3.0
	SPOFLE	<i>Sporobolus flexuosus</i>	mesa dropseed	10%	2.7
	UNKPEG	–	Unknown perennial grass	7%	5.9
<b>Shrub/Vine</b>	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	1%	1.0
	CHRGRE	<i>Chrysothamnus greenei</i>	Greene's rabbitbrush	1%	0.7
	EPHCUT	<i>Ephedra cutleri</i>	Cutler's jointfir	3%	7.1
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	1%	0.7
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	1%	17.1
	LYCAND	<i>Lycium andersonii</i>	water jacket	1%	1.1
	PURSTA	<i>Purshia stansburiana</i>	Stansbury cliffrose	34%	6.5
	YUCBAC	<i>Yucca baccata</i>	banana yucca	6%	4.3

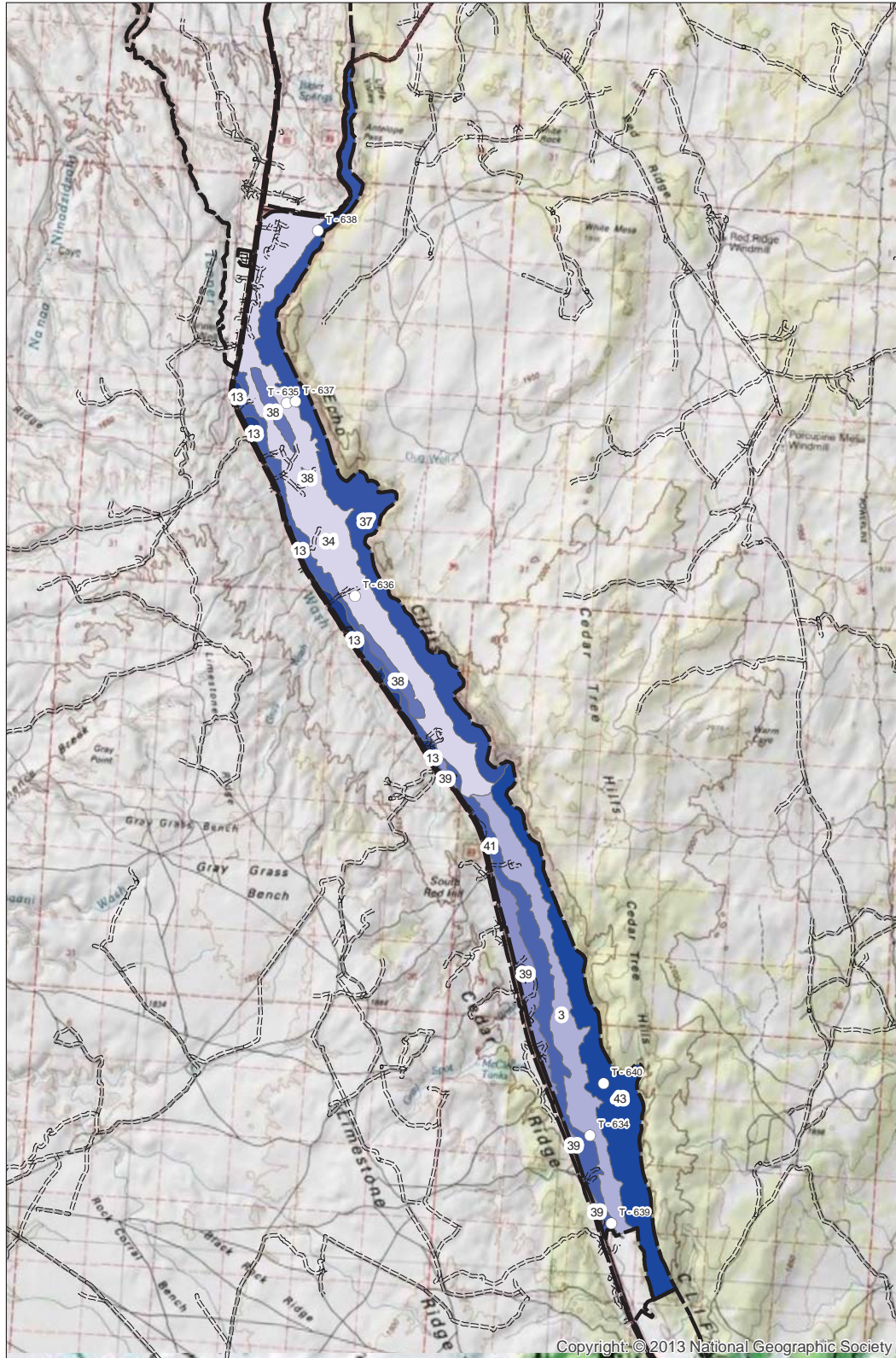
# Soil Map Unit

# West Navajo Livestock Capacity Study

Total Acres: 9,460.7

Land Management District 3  
Unit 3, Compartment 10

Grazeable Sheep Acres: 7,505.8



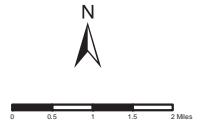
**Legend**

- Compartment Boundary
- Transect Location
- Road

**Soil Map Unit**

**Symbol**

- 13 - Hajsho-Seeg complex
- 34 - Moffat-Sheppard complex
- 37 - Nepalto family-Tsaya-Rock outcrop complex
- 38 - Persayo-Hanksville complex
- 39 - Progreso-Sikos complex
- 3 - Begey-Mido-Milok complex
- 41 - Radnik-Escavada-Riverwash complex
- 43 - Reef-Rock outcrop complex



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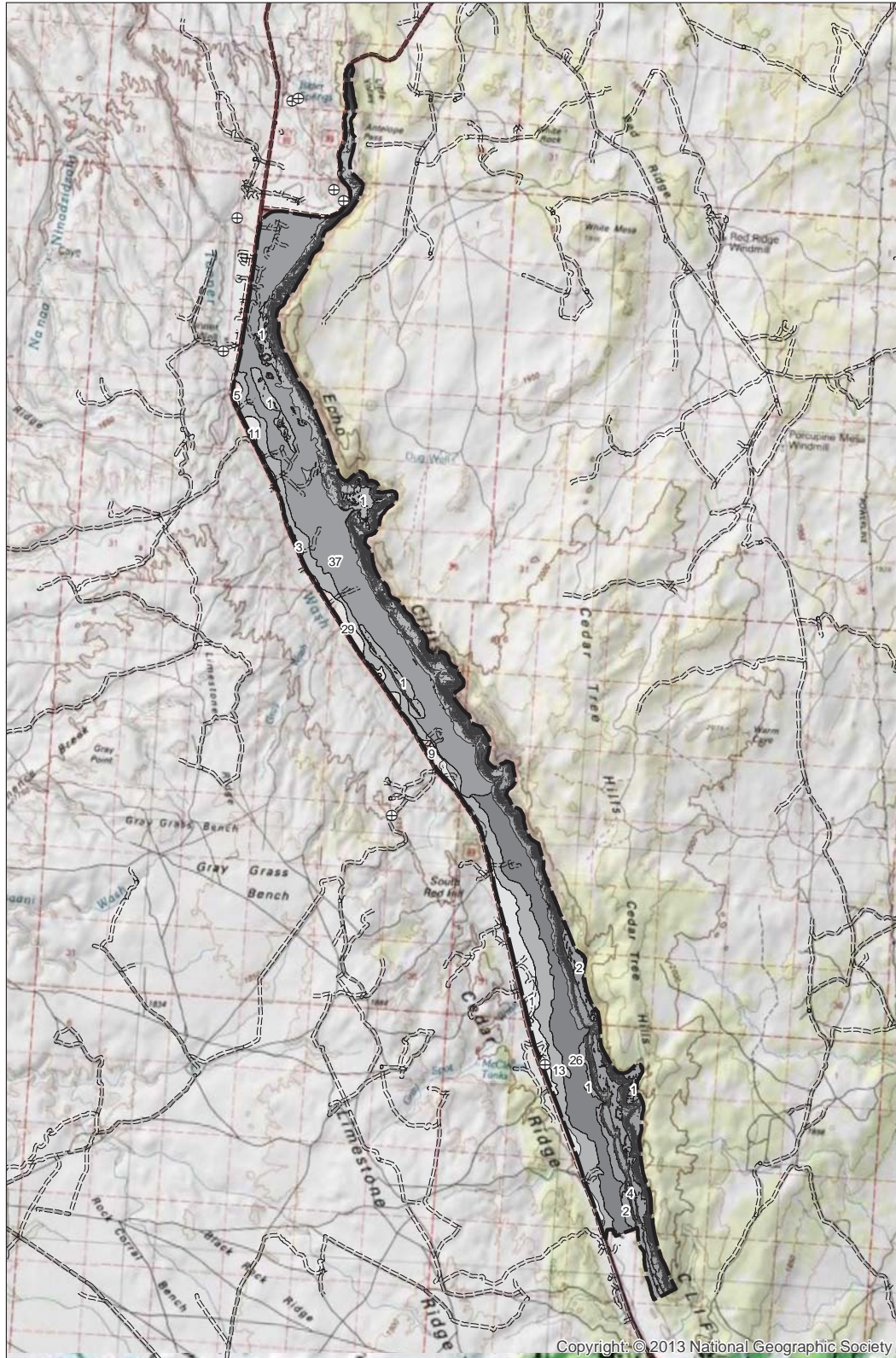
# Stocking Rate

# West Navajo Livestock Capacity Study

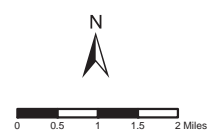
Total Acres: 9,460.7

Land Management District 3  
Unit 3, Compartment 10

Grazeable Sheep Acres: 7,505.8  
Sheep Units Year Long: 161.0



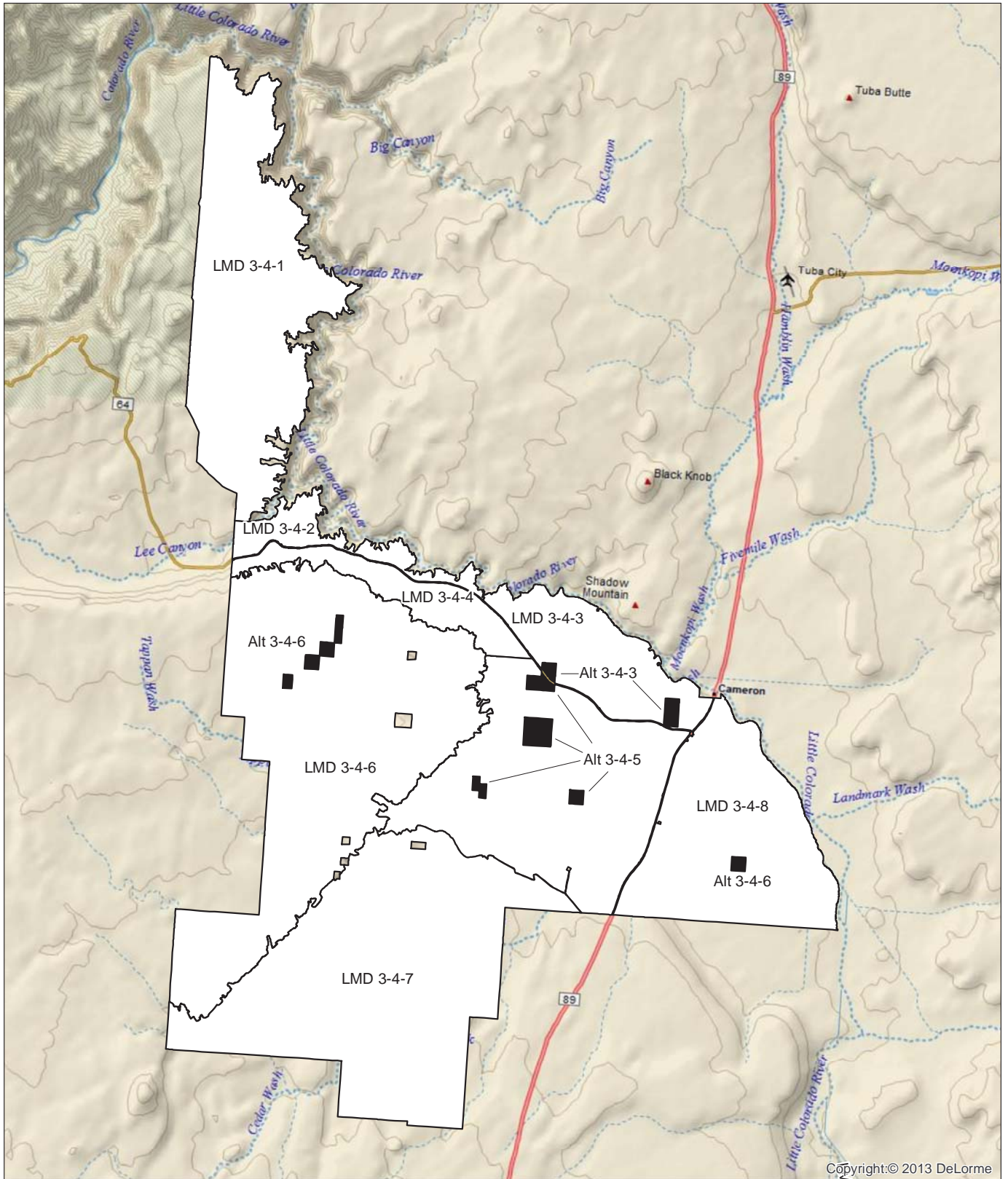
- Compartment Boundary
- Livestock Watering Facility
- Road
- Sheep Ac/AUYL
  - 25 - 50
  - 50 - 75
  - 75 - 100
  - 100 - 200
  - >200
  - >40% slope



Parametrix  
GSA GeoSystems Analysis, Inc.  
Innovations in Hydrology

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West Navajo Vegetation Study - Land Management District 3, Unit 4 Overview



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## LMD 3, Unit 4, Compartment 1 (LMD 3-4-1)

Compartment 3-4-1 consists of approximately 34,735 acres, approximately 83% of which is available to all livestock.

Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil, litter, and small rock fragments. Dominant grasses include sixweeks grama (26.6 ppa) and sixweeks muhly (21.3 ppa); dominant forbs include Navajo tea (2.9 ppa) and storksbill (10.5 ppa); and dominant shrubs include bigelow sage (28.8 ppa) and slender buckwheat (20.7 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
121	10.1	10.1	331.3	0.0	0.4	10.1	56.9	0.2	2.1	10.1	40.7	0.2	3.0
163	0.6	0.5	414.7	0.0	0.0	0.6	96.1	0.0	0.1	0.6	59.6	0.0	0.1
172	0.3	0.3	414.7	0.0	0.0	0.3	96.1	0.0	0.0	0.3	59.6	0.0	0.1
29	28,362.8	24,181.3	334.0	72.4	868.9	26,243.3	64.9	404.5	4,854.0	27,790.4	45.6	609.3	7,312.0
40	3,935.6	2,398.4	381.5	6.3	75.4	2,986.6	73.7	40.5	486.3	3,673.9	51.5	71.3	856.2
44	12.6	3.9	206.3	0.0	0.2	5.3	41.8	0.1	1.5	7.6	30.7	0.2	3.0
60	2,397.4	2,382.0	352.4	6.8	81.1	2,391.2	45.8	52.3	627.0	2,395.7	33.3	72.0	864.0
81	1.3	0.9	328.8	0.0	0.0	1.3	64.7	0.0	0.2	1.3	45.7	0.0	0.3
98	13.8	4.9	328.8	0.0	0.2	7.3	64.7	0.1	1.4	12.0	45.7	0.3	3.2
<b>Total:</b>	<b>34,734.6</b>	<b>28,982.4</b>		<b>85.5</b>	<b>1,026.3</b>	<b>31,645.9</b>		<b>497.7</b>	<b>5,972.7</b>	<b>33,892.0</b>		<b>753.5</b>	<b>9,041.7</b>

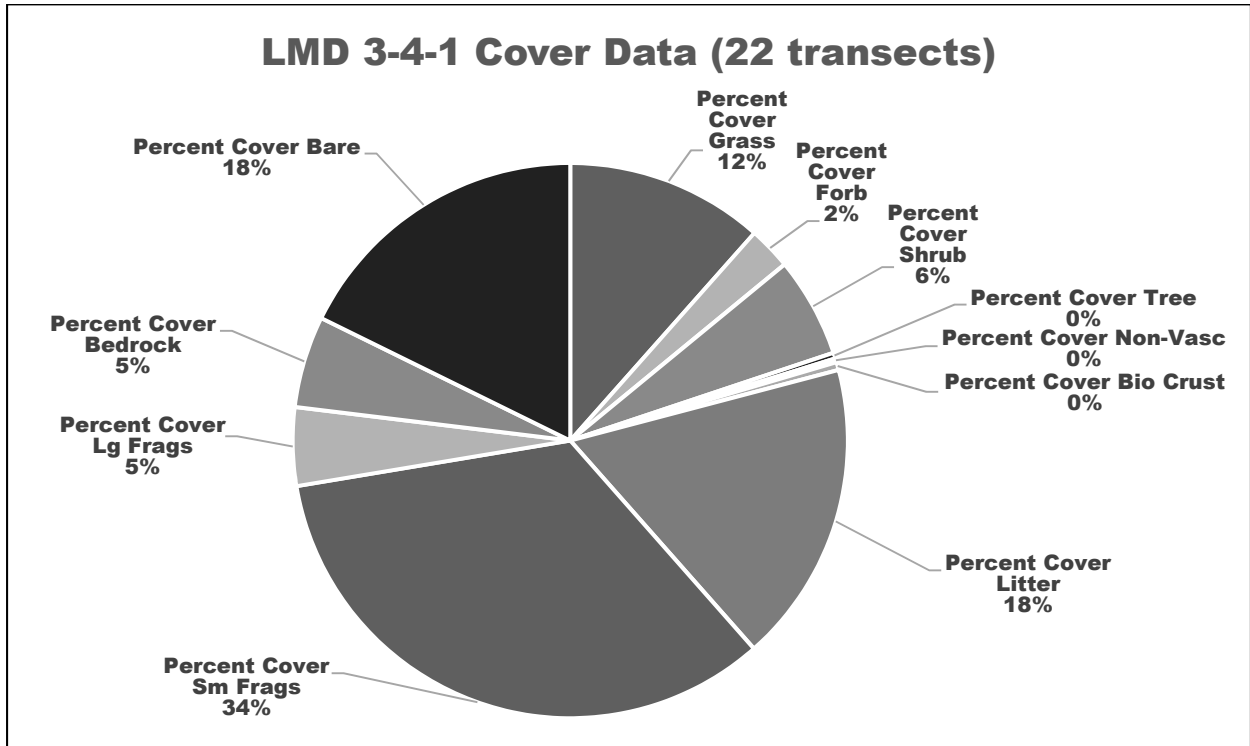
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0–30% All Livestock	31–40% Sheep and Goats	41–60% Goats Only	>60% Non-Grazeable	Total Acres
28,982.4	2,663.5	2,246.1	842.6	<b>34,734.6</b>



**LMD 3-4-1 Production Table**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	AMAPAL	<i>Amaranthus palmeri</i>	carelessweed	<1%	0.1
	AMATOR	<i>Amaranthus torreyi</i>	Torrey's amaranthus	2%	0.4
	AREEAS	<i>Arenaria eastwoodiae</i>	Eastwood's sandwort	1%	0.1
	ARTLUD	<i>Artemisia ludoviciana</i>	white sagebrush	13%	0.6
	ASTCAL	<i>Astragalus calycosus</i>	Torrey's milkvetch	1%	0.1
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	2%	0.2
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	1%	<0.1
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	2%	0.1
	CHAFEN	<i>Chamaesyce fendleri</i>	Fendler's sandmat	24%	1.3
	CHAREV	<i>Chamaesyce revoluta</i>	threadstem sandmat	<1%	0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	2%	0.1
	CHEINC	<i>Chenopodium incanum</i>	mealy goosefoot	1%	0.2
	CHENOPODIUM	<i>Chenopodium</i>	goosefoot	<1%	0.3
	ERIINF	<i>Eriogonum inflatum</i>	desert trumpet	2%	0.2
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	1%	1.2

(Table Continues)

## LMD 3-4-1 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	ERISIM	<i>Erigeron simplex</i>	onestem fleabane	11%	0.7
(Continued)	ERIWRI	<i>Eriogonum wrightii</i>	bastardsage	2%	0.1
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	36%	10.5
	EUPEXS	<i>Euphorbia exstipulata</i>	squareseed spurge	<1%	0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	2%	0.1
	HETVIL	<i>Heterotheca villosa</i>	hairy false goldenaster	1%	0.1
	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	1%	0.2
	LEPIDIUM	<i>Lepidium</i>	pepperweed	3%	0.1
	MIRLIN	<i>Mirabilis linearis</i>	narrowleaf four o'clock	<1%	0.1
	NAMDIC	<i>Nama dichotomum</i>	wishbone fiddleleaf	1%	2.0
	PENSTEMON	<i>Penstemon</i>	beardtongue	1%	0.1
	PETCAE	<i>Petrophytum caespitosum</i>	mat rockspirea	<1%	<0.1
	PHAINT	<i>Phacelia integrifolia</i>	gypsum phacelia	1%	0.1
	PLAPAT	<i>Plantago patagonica</i>	woolly plantain	3%	0.9
	PORHAL	<i>Portulaca halimoides</i>	silkcotton purslane	1%	0.1
	POROLE	<i>Portulaca oleracea</i>	little hogweed	6%	1.2
	PSISPA	<i>Psilostrophe sparsiflora</i>	greenstem paperflower	14%	0.9
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	<1%	<0.1
	SANABE	<i>Sanvitalia abertii</i>	Abert's creeping zinnia	17%	3.9
	SCHMUL	<i>Schkuhria multiflora</i>	manyflower false threadleaf	1%	0.2
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	1%	0.1
	TETACA	<i>Tetraeneuris acaulis</i>	stemless four-nerve daisy	1%	0.1
	THESUB	<i>Thelesperma subnudum</i>	Navajo tea	3%	2.9
	ZINGRA	<i>Zinnia grandiflora</i>	Rocky Mountain zinnia	<1%	0.1
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	7%	0.6
	ARISTIDA	<i>Aristida</i>	threeawn	9%	6.5
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	35%	26.6
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	6%	0.3
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	2%	0.8
	BROTEC	<i>Bromus tectorum</i>	cheatgrass	19%	2.5
	ELYELY	<i>Elymus elymoides</i>	squirreltail	2%	2.4
	ENNDDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	6%	0.6
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	<1%	<0.1
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	1%	1.1

(Table Continues)



## LMD 3-4-1 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Grass/Grasslike</b>	MUHDEP	<i>Muhlenbergia depauperata</i>	sixweeks muhly	25%	21.3
<b>(Continued)</b>	MUHPOR	<i>Muhlenbergia porteri</i>	bush muhly	3%	1.8
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	2%	0.5
	POAFEN	<i>Poa fendleriana</i>	muttongrass	15%	16.3
	SCLBRE	<i>Scleropogon brevifolius</i>	burrograss	27%	12.6
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	1%	2.1
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	2%	1.9
<b>Shrub/Vine</b>	AGAUTA	<i>Agave utahensis</i>	Utah agave	2%	7.9
	ARTBIG	<i>Artemisia bigelovii</i>	Bigelow sage	32%	28.8
	ARTTRI	<i>Artemisia tridentata</i>	big sagebrush	<1%	<0.1
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	<1%	0.5
	BRICAL	<i>Brickellia californica</i>	California brickellbush	<1%	<0.1
	BRIOBL	<i>Brickellia oblongifolia</i>	Mojave brickellbush	4%	2.7
	CHAMIL	<i>Chamaebatiaria millefolium</i>	desert sweet	<1%	1.4
	CHRVIS	<i>Chrysothamnus viscidiflorus</i>	yellow rabbitbrush	2%	4.0
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	<1%	0.3
	CYLWHI	<i>Cylindropuntia whipplei</i>	Whipple cholla	4%	2.3
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	3%	0.4
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	1%	0.8
	ERIMIC	<i>Eriogonum microthecum</i>	slender buckwheat	15%	20.7
	FALPAR	<i>Fallugia paradoxa</i>	Apache plume	<1%	1.7
	KRALAN	<i>Krascheninnikovia lanata</i>	winterfat	<1%	0.9
	LYCAND	<i>Lycium andersonii</i>	water jacket	1%	0.5
	MAHHAE	<i>Mahonia haematocarpa</i>	red barberry	<1%	0.1
	OPUENG	<i>Opuntia engelmannii</i>	cactus apple	1%	0.3
	OPUNTIA	<i>Opuntia</i>	pricklypear	<1%	0.1
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	1%	3.9
	OPUPOL	<i>Opuntia polyacantha</i>	plains pricklypear	<1%	0.2
	PURSTA	<i>Purshia stansburiana</i>	Stansbury cliffrose	<1%	0.4
	YUCBAC	<i>Yucca baccata</i>	banana yucca	<1%	1.4
<b>Tree</b>	JUNOST	<i>Juniperus osteosperma</i>	Utah juniper	<1%	0.1
	PINEDU	<i>Pinus edulis</i>	twoneedle pinyon	7%	2.4

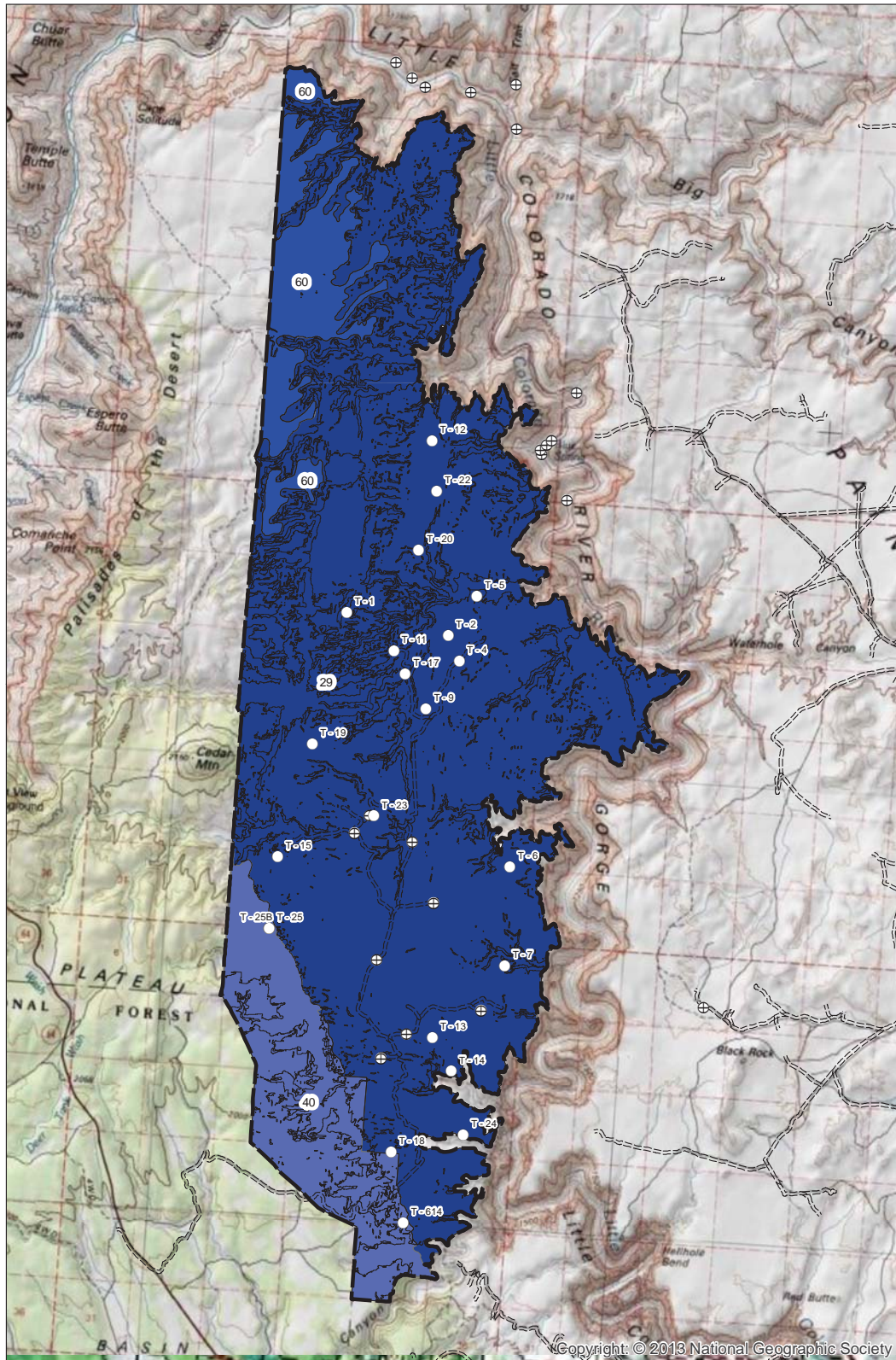
# Soil Map Unit

# West Navajo Livestock Capacity Study

Total Acres: 34,734.6

Land Management District 3  
Unit 4, Compartment 1

Grazeable Sheep Acres: 31,645.9

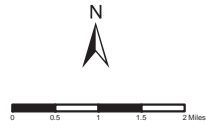


Legend:

- Compartment Boundary
- Transect Locations
- Road
- Soil Map Unit

Symbol

- 121 - Tassi gravelly loamy very fine sand
- 163 - Wauquie-Houserock families complex
- 172 - Yumtheska-Rock outcrop complex
- 29 - Merihwhica-Wayne-Tassi family, complex
- 40 - Puertecito very cobbly loam
- 44 - Rock outcrop-Lithic Torriorthents complex
- 60 - Tassi gravelly loamy very fine sand
- 81 - Merihwhica-Tassi complex
- 98a - Puertecito family, 15 to 35 percent slopes



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# Stocking Rate

# West Navajo Livestock Capacity Study

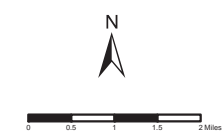
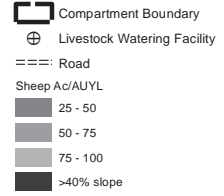
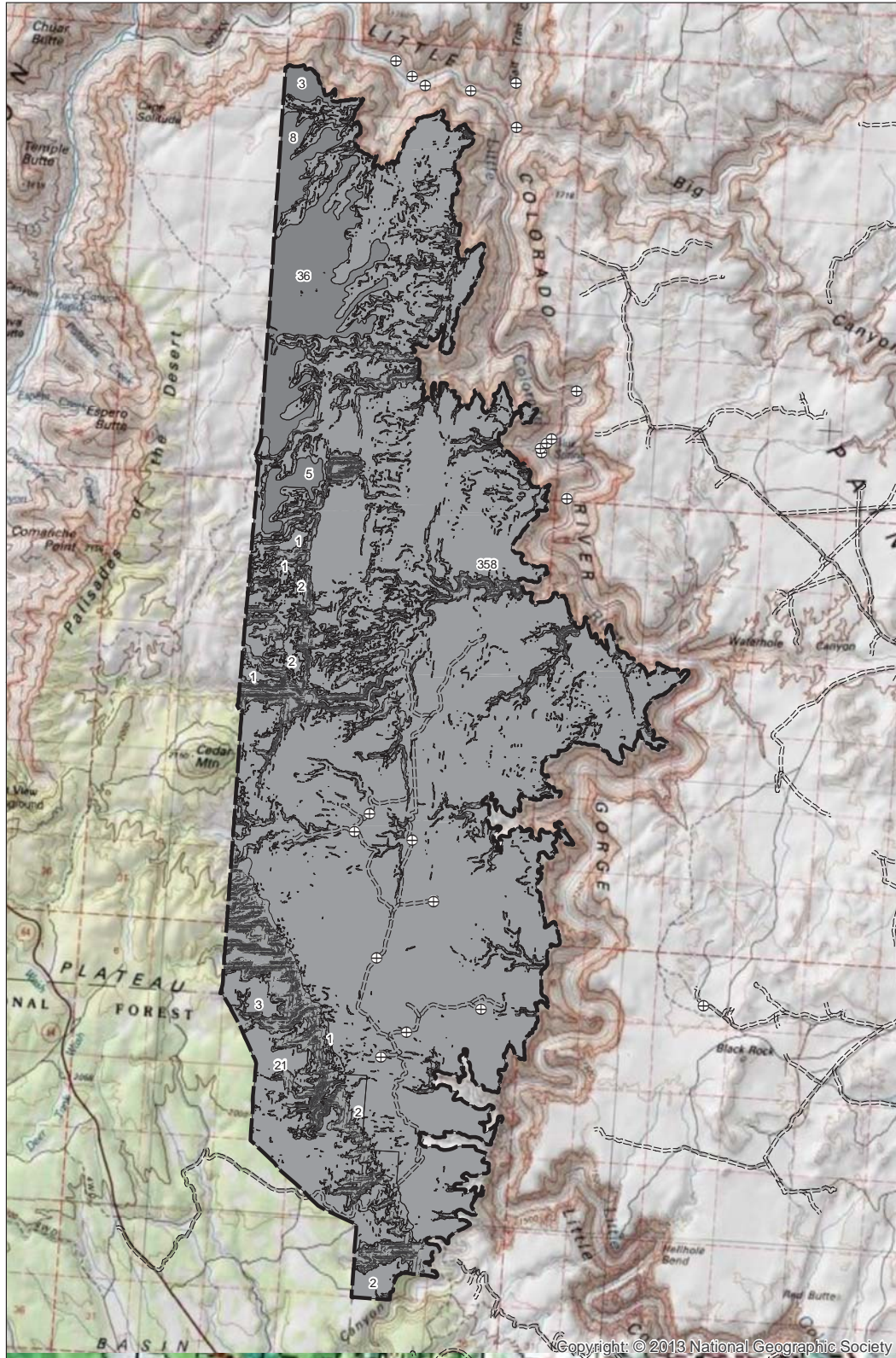
Total Acres: 34,734.6

Land Management District 3

Grazeable Sheep Acres: 31,645.9

Unit 4, Compartment 1

Sheep Units Year Long: 497.7



## LMD 3, Unit 4, Compartment 2 (LMD 3-4-2)

Compartment 3-4-2 consists of approximately 4,842 acres, approximately 83% of which is available to all livestock.

Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and small rock fragments. Dominant grasses include sand dropseed (4.5 ppa) and James' galleta (1.0 ppa); dominant forbs include sicklepod holdback (0.9 ppa) and wishbone fiddleleaf (0.6 ppa); and dominant shrubs include prickly pear (2.3 ppa) and cactus apple (0.6 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
11	608.9	582.4	13.8	42.1	504.7	594.5	3.0	195.6	2,346.8	602.6	2.0	298.7	3,584.7
12	138.5	138.5	59.9	2.3	27.8	138.5	14.7	9.4	113.1	138.5	8.9	15.6	186.8
28	280.7	100.8	355.2	0.3	3.4	166.0	91.9	1.8	21.7	249.8	60.1	4.2	49.9
29	2,898.0	2,619.0	334.0	7.8	94.1	2,730.0	64.9	42.1	505.0	2,828.7	45.6	62.0	744.3
37	4.6	4.1	414.7	0.0	0.1	4.6	96.1	0.0	0.6	4.6	59.6	0.1	0.9
40	83.9	82.2	381.5	0.2	2.6	83.3	73.7	1.1	13.6	83.9	51.5	1.6	19.5
44	410.0	81.4	206.3	0.4	4.7	112.9	41.8	2.7	32.4	202.2	30.7	6.6	79.0
9	416.9	401.9	250.2	1.6	19.3	409.6	58.3	7.0	84.3	415.7	44.3	9.4	112.7
<b>Total:</b>	<b>4,841.6</b>	<b>4,010.2</b>		<b>54.7</b>	<b>656.6</b>	<b>4,239.4</b>		<b>259.8</b>	<b>3,117.4</b>	<b>4,526.0</b>		<b>398.2</b>	<b>4,777.8</b>

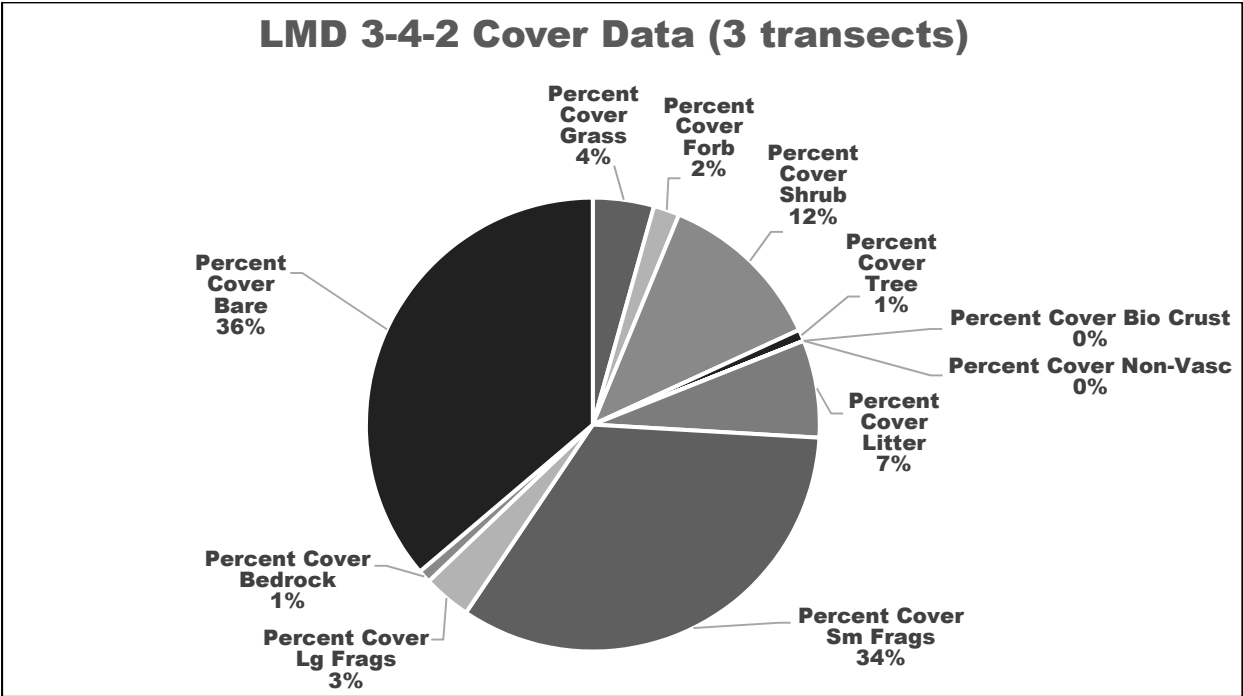
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0-30% All Livestock	31-40% Sheep and Goats	41-60% Goats Only	>60% Non-Grazeable	Total Acres
4,010.2	229.2	286.6	315.5	<b>4,841.6</b>



LMD 3-4-2 Production Table

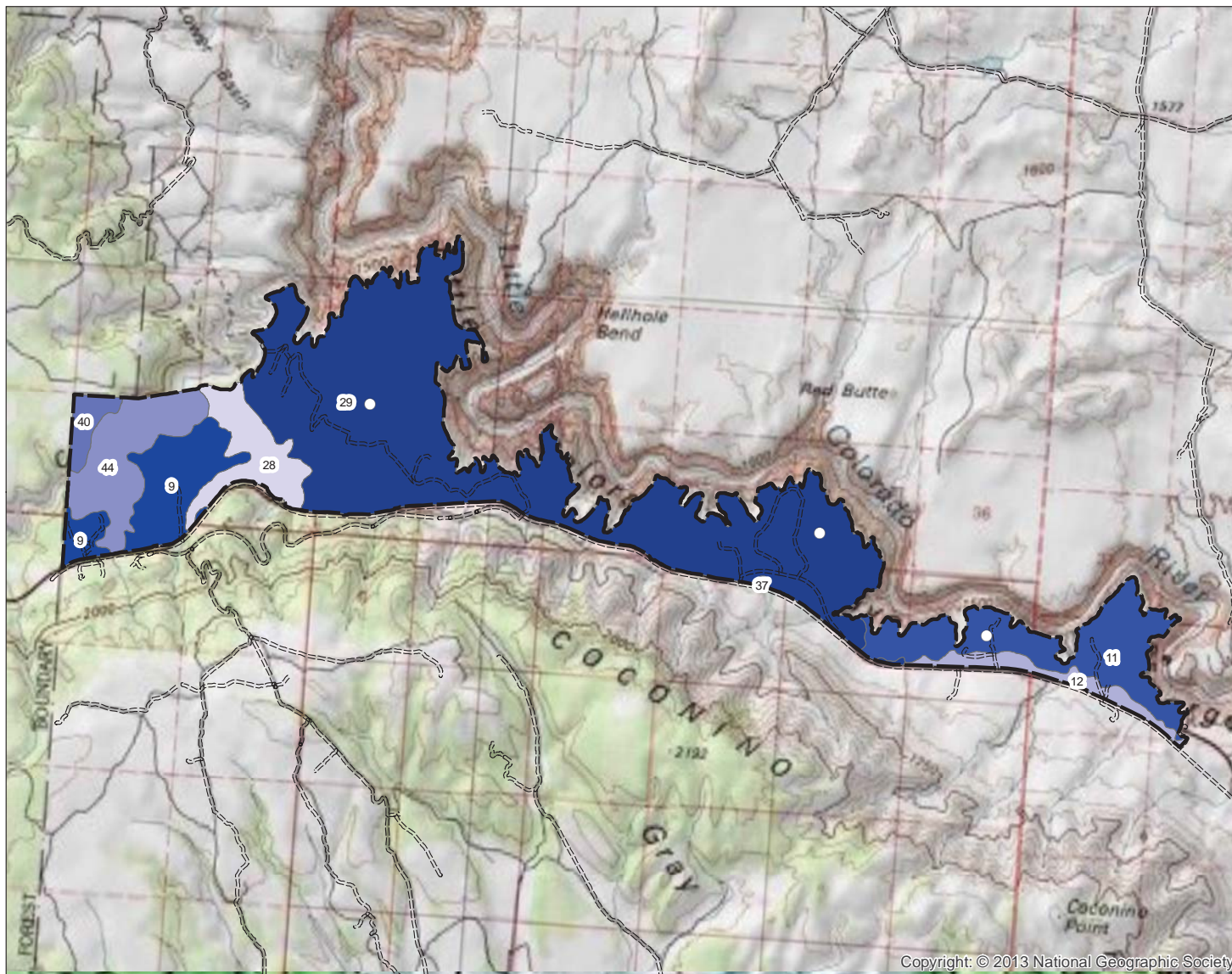
Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	AMATOR	<i>Amaranthus torreyi</i>	Torrey's amaranthus	1%	0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	1%	0.1
	HOFDRE	<i>Hoffmannseggia drepanocarpa</i>	sicklepod holdback	4%	0.9
	NAMDIC	<i>Nama dichotomum</i>	wishbone fiddleleaf	1%	0.6
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	2%	0.5
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	3%	0.5
Grass/Grasslike	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	3%	0.6
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	3%	0.7
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	1%	0.2
	ENNDDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	2%	0.6
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	1%	0.4
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	1%	1.0
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	2%	0.2
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	7%	4.5
Shrub/Vine	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	<1%	0.2
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	<1%	0.1
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	<1%	0.1
	LYCPAL	<i>Lycium pallidum</i>	pale desert-thorn	1%	0.1
	OPUENG	<i>Opuntia engelmannii</i>	cactus apple	3%	0.6
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	4%	2.3

# Soil Map Unit

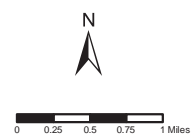
Land Management District 3  
Unit 4, Compartment 2

## West Navajo Livestock Capacity Study

Total Acres: 4,841.6  
Grazeable Sheep Acres: 4,239.4



- Compartment Boundary
- Transect Location
- Road
- Soil Map Unit**
- 11 - Hajisho-Cataract family-Shinume complex
- 12 - Hajisho-Seeg complex
- 28 - Mellenthin-Rock outcrop complex
- 29 - Meriwilica-Wayneco-Tassi family, complex
- 37 - Nepalto family-Tsaya-Rock outcrop complex
- 40 - Puertecio very cobbly loam
- 44 - Rock outcrop-Lithic Torriorthents complex
- 9 - Gladel family-Arabrab complex



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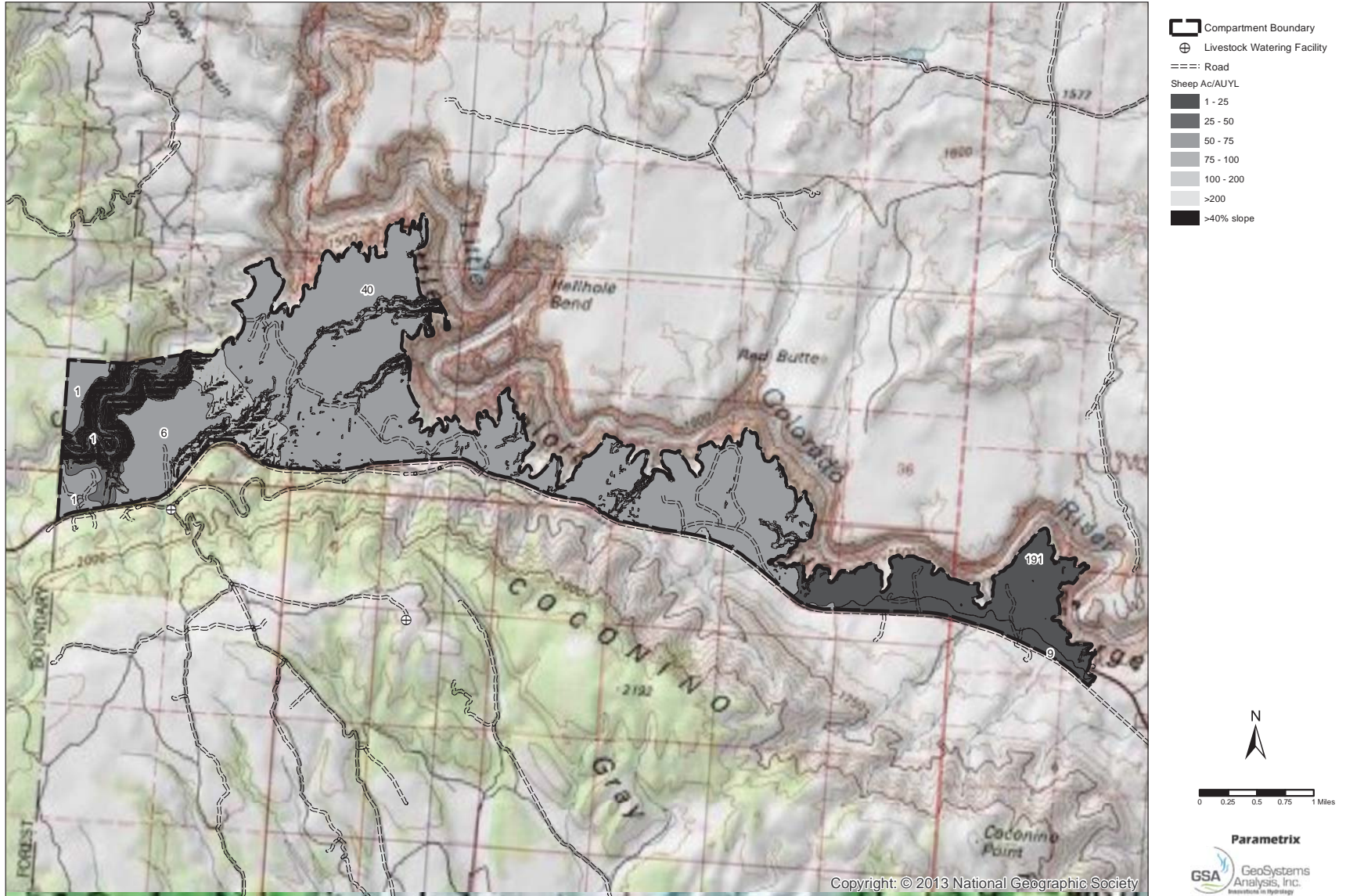
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# Stocking Rate

Land Management District 3  
Unit 4, Compartment 2

# West Navajo Livestock Capacity Study

Total Acres: 4,841.6  
Grazeable Sheep Acres: 4,239.4  
Sheep Units Year Long: 259.8







## LMD 3, Unit 4, Compartment 3 (LMD 3-4-3)

Compartment 3-4-3 consists of approximately 11,959 acres, approximately 84% of which is available to all livestock.

Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and small rock fragments. Dominant grasses include sand dropseed (2.6 ppa) and sixweeks muhly (1.6 ppa); dominant forbs include silverleaf nightshade (1.9 ppa) and four-o'clock (0.6 ppa); and dominant shrubs include jointfir (3.8 ppa) and button brittlebush (2.5 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
11	11.6	10.6	13.8	0.8	9.2	10.9	3.0	3.6	43.0	11.1	2.0	5.5	66.2
12	4,078.3	3,874.2	59.9	64.7	776.6	3,975.9	14.7	270.6	3,247.5	4,047.4	8.9	455.0	5,459.6
15	2,077.3	2,061.9	470.7	4.4	52.6	2,071.0	136.9	15.1	181.5	2,076.4	67.2	30.9	370.8
21	0.4	0.0	842.1	0.0	0.0	0.1	219.9	0.0	0.0	0.2	125.1	0.0	0.0
44	0.7	0.1	206.3	0.0	0.0	0.2	41.8	0.0	0.0	0.4	30.7	0.0	0.1
54	5,740.3	4,057.9	1,050.1	3.9	46.4	4,639.8	236.5	19.6	235.5	5,365.5	136.3	39.4	472.2
8	50.8	50.4	590.4	0.1	1.0	50.6	201.5	0.3	3.0	50.8	96.7	0.5	6.3
<b>Total:</b>	<b>11,959.3</b>	<b>10,055.1</b>		<b>73.8</b>	<b>885.8</b>	<b>10,748.5</b>		<b>309.2</b>	<b>3,710.5</b>	<b>11,551.8</b>		<b>531.3</b>	<b>6,375.3</b>

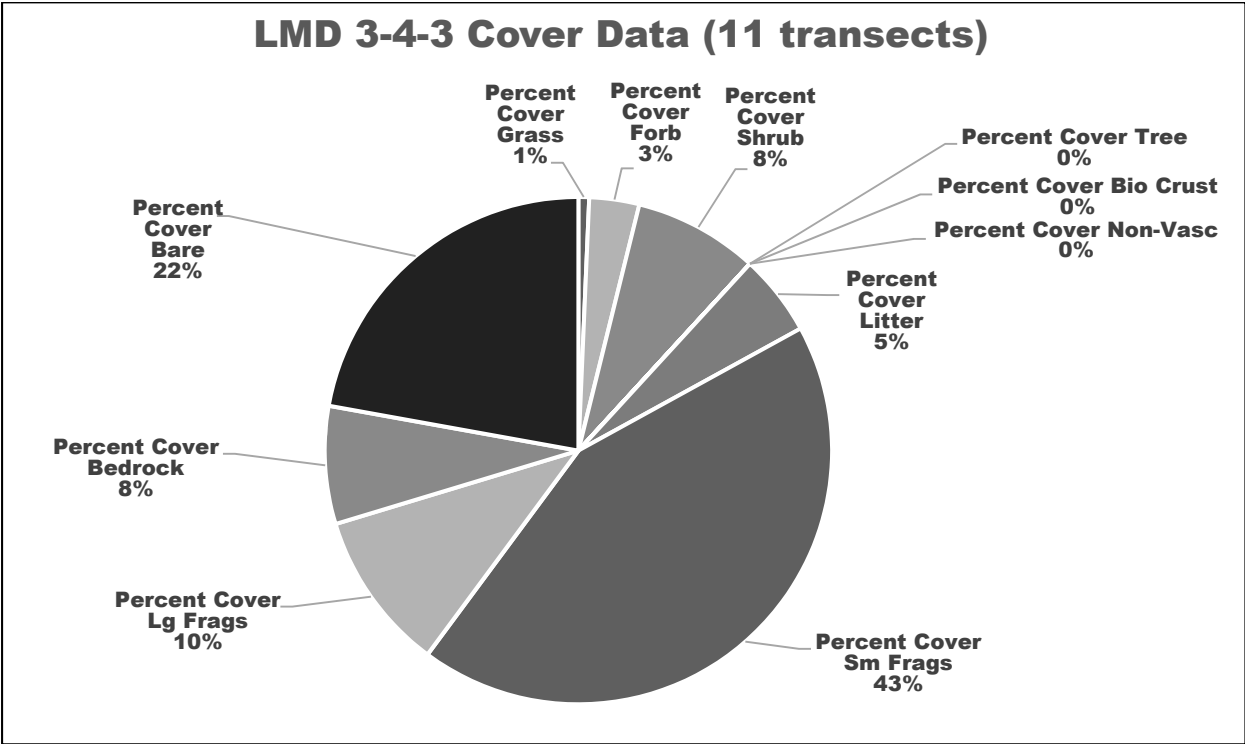
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0–30% All Livestock	31–40% Sheep and Goats	41–60% Goats Only	>60% Non-Grazeable	Total Acres
10,055.1	693.4	803.3	407.4	<b>11,959.3</b>



LMD 3-4-3 Production Table

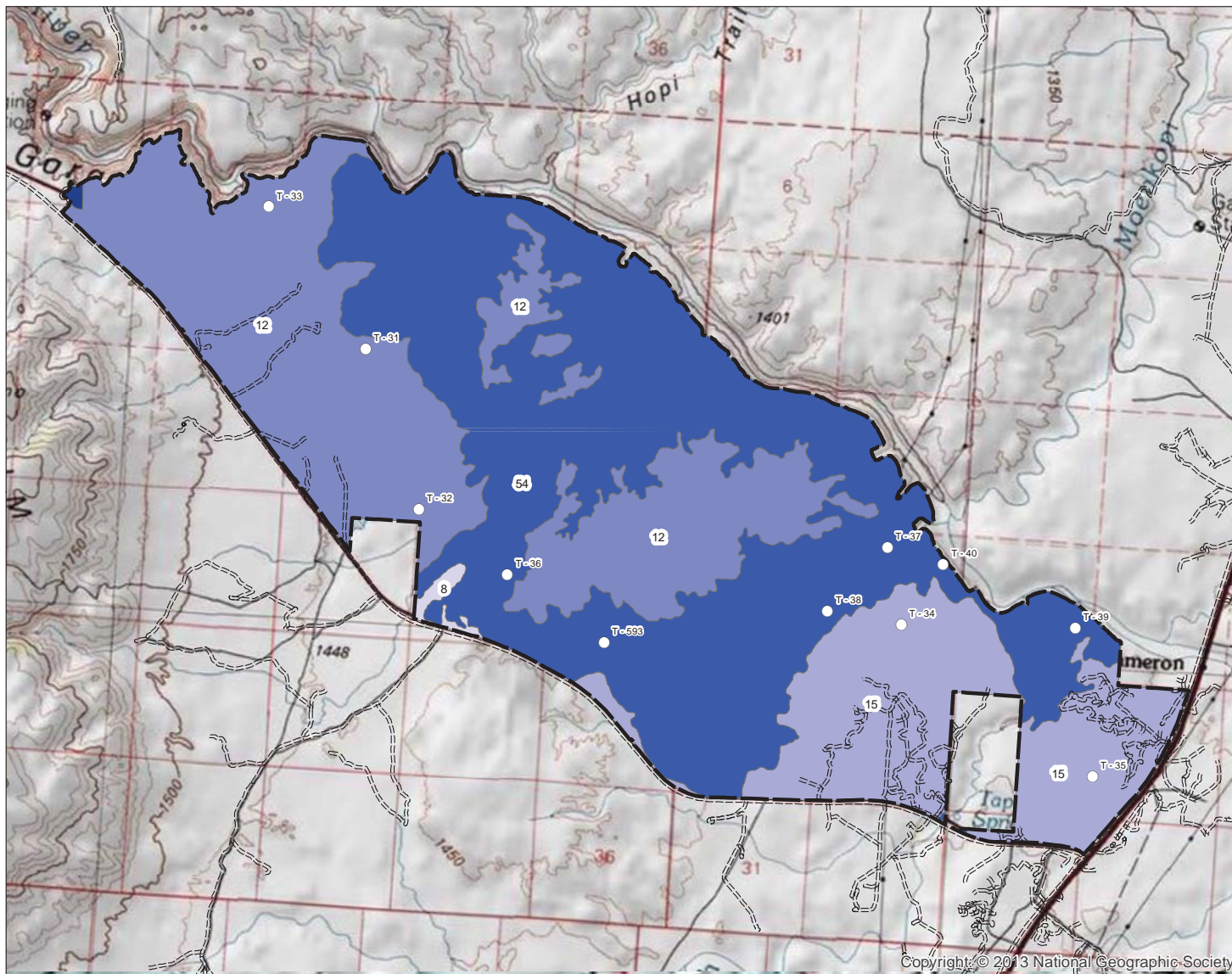
Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	BOERHAVIA	<i>Boerhavia</i>	spiderling	5%	0.2
	CHACHA	<i>Chamaesyce chaetocalyx</i>	bristlecup sandmat	<1%	0.1
	CHAMAESYCE	<i>Chamaesyce</i>	sandmat	2%	0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	2%	0.3
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	1%	<0.1
	ERIINF	<i>Eriogonum inflatum</i>	desert trumpet	<1%	<0.1
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	2%	0.2
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	1%	0.1
	EUPHORBIA	<i>Euphorbia</i>	spurge	1%	0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	<1%	<0.1
	MIRABILIS	<i>Mirabilis</i>	four o'clock	2%	0.6
	NAMDIC	<i>Nama dichotomum</i>	wishbone fiddleleaf	<1%	0.1
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	<1%	0.2
	SOLELA	<i>Solanum elaeagnifolium</i>	silverleaf nightshade	4%	1.9
	SPHAERALCEA	<i>Sphaeralcea</i>	globemallow	5%	0.5
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	<1%	0.1
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	1%	<0.1
	STAPIN	<i>Stanleya pinnata</i>	desert princesplume	2%	0.6
	UNKANF	-	Unknown annual forb	10%	5.3
	<b>Grass/Grasslike</b>	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	<1%
DASPUL		<i>Dasyochloa pulchella</i>	low woollygrass	<1%	<0.1
ERIPIL		<i>Erioneuron pilosum</i>	hairy woollygrass	5%	1.0
MUHDEP		<i>Muhlenbergia depauperata</i>	sixweeks muhly	5%	1.6
PLEJAM		<i>Pleuraphis jamesii</i>	James' galleta	<1%	<0.1
SPOCRY		<i>Sporobolus cryptandrus</i>	sand dropseed	5%	2.6
<b>Shrub/Vine</b>	ALHMAU	<i>Alhagi maurorum</i>	camelthorn	1%	<0.1
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	2%	0.3
	ATRCON	<i>Atriplex confertifolia</i>	shadscale saltbush	8%	0.9
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	<1%	0.3
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	6%	0.9
	ENCFRU	<i>Encelia frutescens</i>	button brittlebush	1%	2.5
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	<1%	3.8
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	1%	<0.1
	ERINAU	<i>Ericameria nauseosa</i>	rubber rabbitbrush	<1%	0.1
	OPUFRA	<i>Opuntia fragilis</i>	brittle pricklypear	4%	0.7
	RHUS	<i>Rhus</i>	sumac	5%	0.3

# Soil Map Unit

Land Management District 3  
Unit 4, Compartment 3

## West Navajo Livestock Capacity Study

Total Acres: 11,959.3  
Grazeable Sheep Acres: 10,748.5

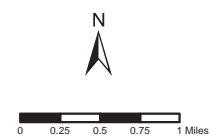


☐ Compartment Boundary  
○ Transect Location  
--- Road

**Soil Map Unit**

**Symbol**

- 8 - Epikom-Leupp complex
- 11 - Hajsho-Cataract family-Shinume complex
- 12 - Hajsho-Seeg complex
- 15 - Hoskinnini-Moenkopie complex
- 21 - Jocity-Joraibi-Navajo-Riverwash complex
- 44 - Rock outcrop-Lithic Torriorthents complex
- 54 - Shinume-Leupp-Rock outcrop complex



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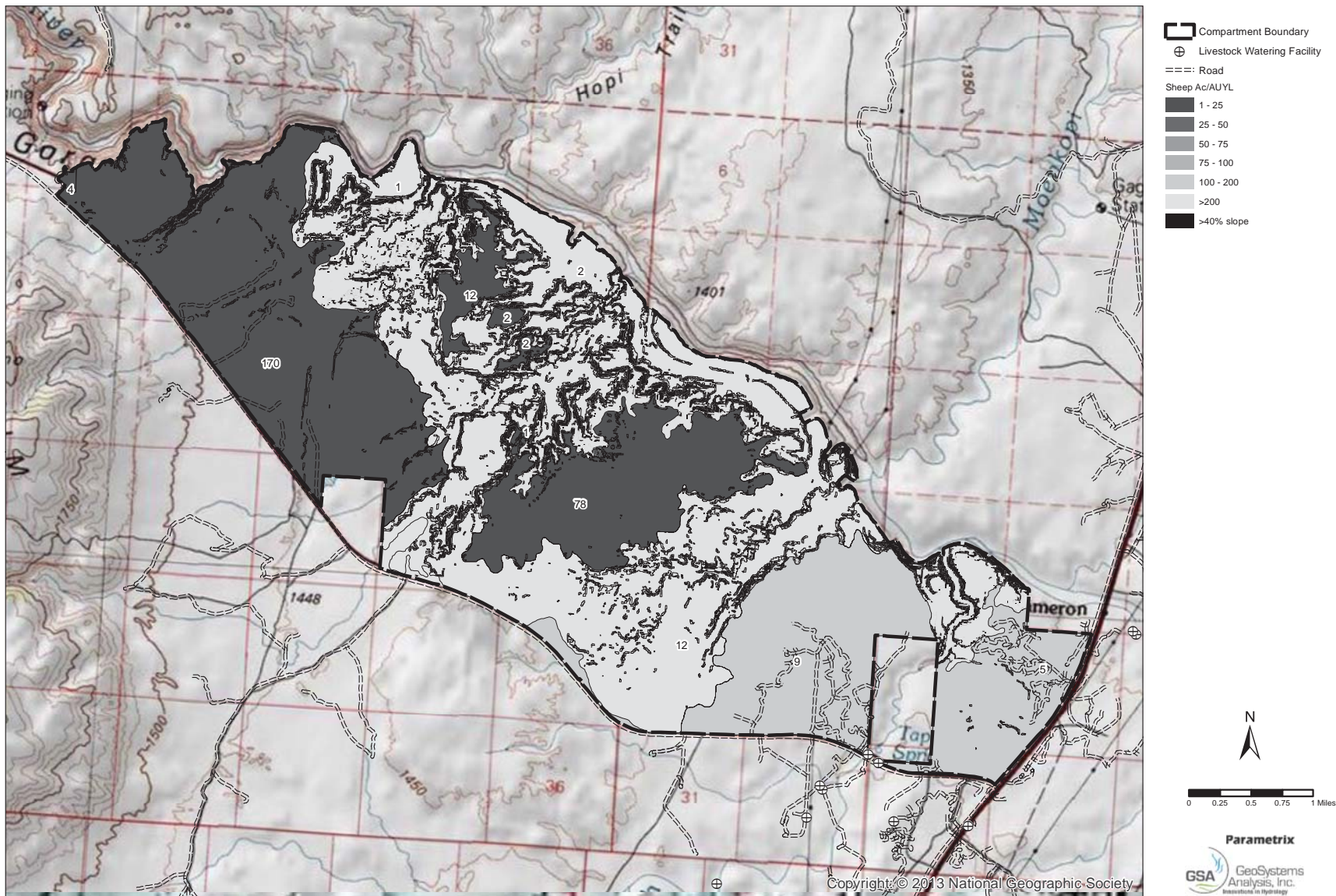
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# Stocking Rate

Land Management District 3  
Unit 4, Compartment 3

## West Navajo Livestock Capacity Study

Total Acres: 11,959.3  
Grazeable Sheep Acres: 10,748.5  
Sheep Units Year Long: 309.2





## LMD 3, Unit 4, Compartment 4 (LMD 3-4-4)

Compartment 3-4-4 consists of approximately 7,057 acres, only approximately 45% of which is available to all livestock. Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit large and small rock fragments. Dominant grasses include spike dropseed (3.5 ppa) and sixweeks grama (2.1 ppa); forbs are very sparse in this area; and dominant shrubs include big sage (5.1 ppa) and blackbrush (3.8 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
11	1.2	1.2	13.8	0.1	1.0	1.2	3.0	0.4	4.6	1.2	2.0	0.6	7.0
12	1,943.1	1,808.0	59.9	30.2	362.4	1,879.3	14.7	127.9	1,535.0	1,932.0	8.9	217.2	2,606.1
27	0.1	0.0	593.7	0.0	0.0	0.0	126.4	0.0	0.0	0.0	93.2	0.0	0.0
28	170.7	57.4	355.2	0.2	1.9	89.6	91.9	1.0	11.7	138.9	60.1	2.3	27.7
29	294.2	243.1	334.0	0.7	8.7	274.4	64.9	4.2	50.8	292.1	45.6	6.4	76.9
37	4,036.5	690.5	414.7	1.7	20.0	1,111.9	96.1	11.6	138.9	2,213.0	59.6	37.1	445.6
59	355.3	175.7	334.0	0.5	6.3	230.0	64.9	3.5	42.5	300.3	45.6	6.6	79.0
9	255.9	230.8	250.2	0.9	11.1	247.8	58.3	4.2	51.0	254.6	44.3	5.7	69.0
<b>Total:</b>	<b>7,056.9</b>	<b>3,206.6</b>		<b>34.3</b>	<b>411.5</b>	<b>3,834.3</b>		<b>152.9</b>	<b>1,834.5</b>	<b>5,132.0</b>		<b>275.9</b>	<b>3,311.3</b>

Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

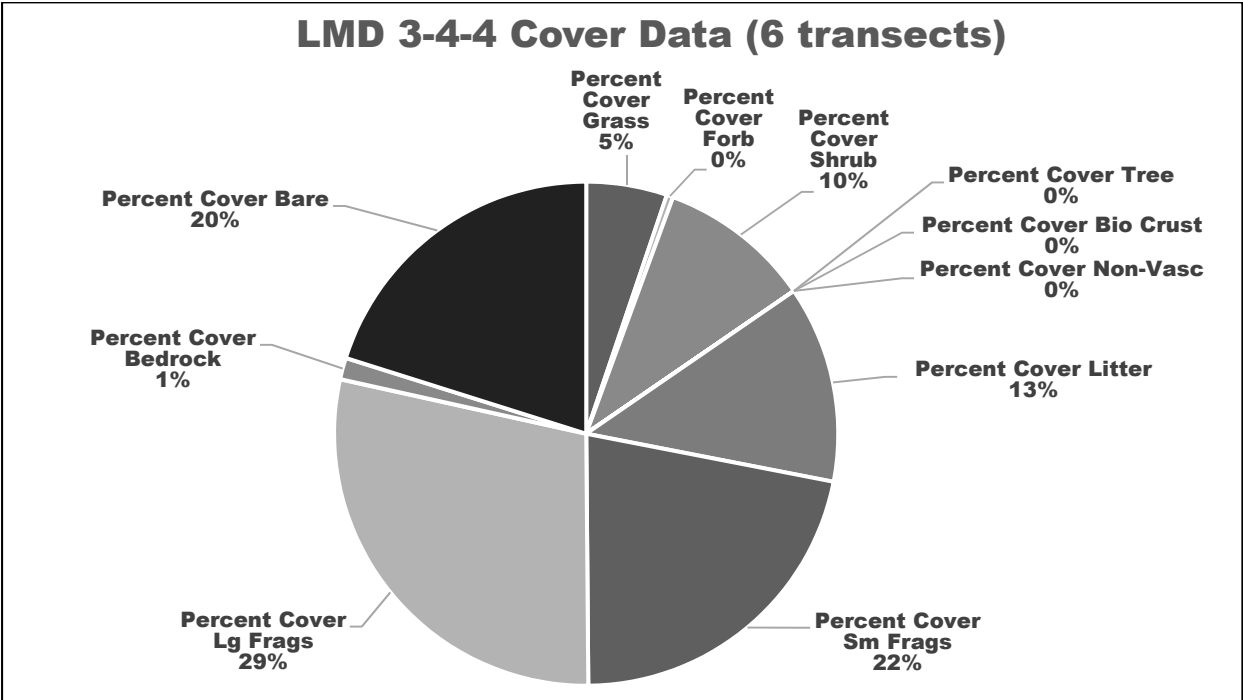
Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0–30% All Livestock	31–40% Sheep and Goats	41–60% Goats Only	>60% Non-Grazeable	Total Acres
3,206.6	627.7	1,297.7	1,924.9	<b>7,056.9</b>





LMD 3-4-4 Production Table

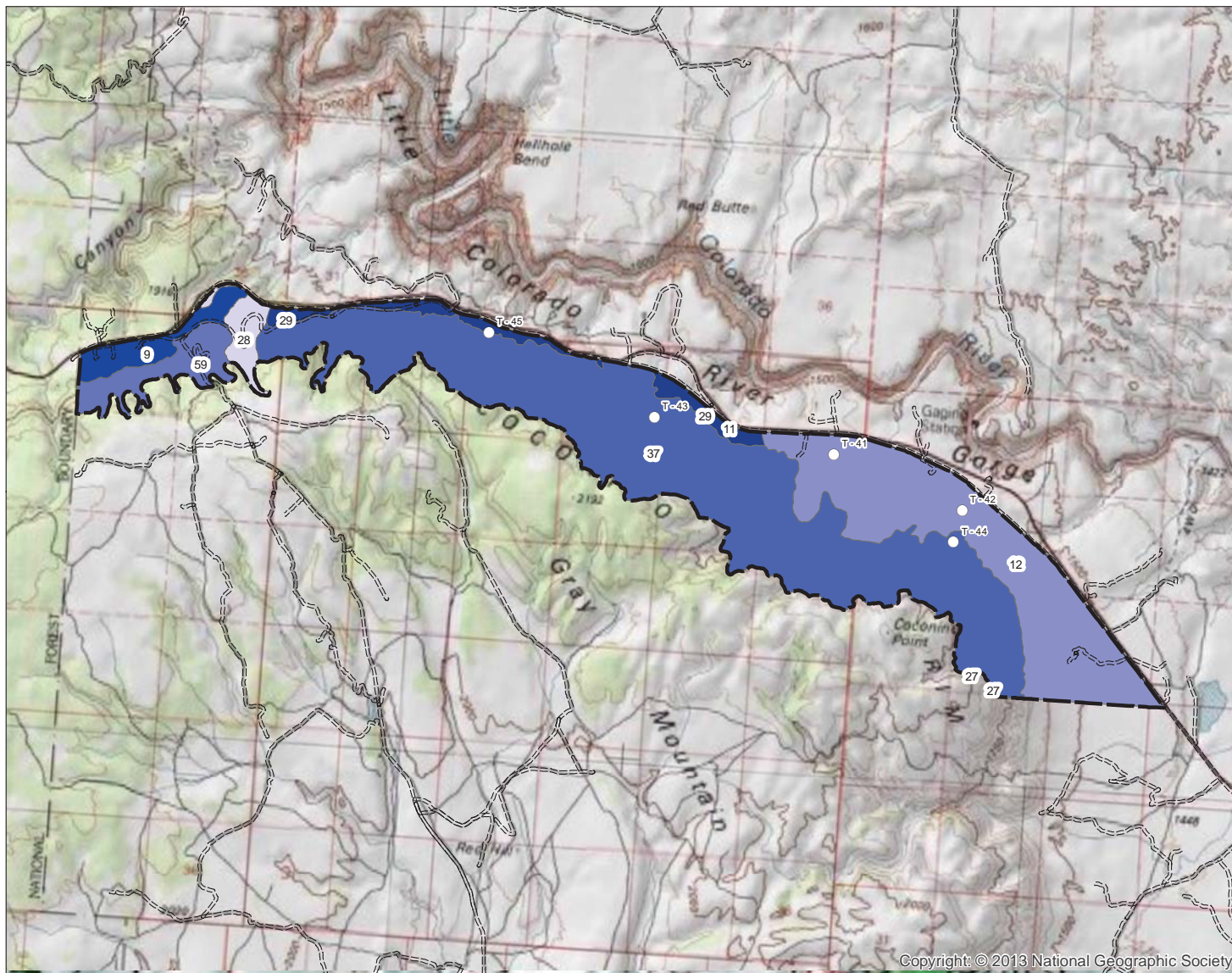
Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	AMATOR	<i>Amaranthus torreyi</i>	Torrey's amaranthus	2%	0.5
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	1%	0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	1%	0.2
	SCHPIN	<i>Schkuhria pinnata</i>	pinnate false threadleaf	5%	0.4
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	<1%	0.1
	UNKANF	–	Unknown annual forb	2%	0.8
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	1%	0.1
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	3%	0.7
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	5%	2.1
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	1%	0.1
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	5%	1.0
	BROTEC	<i>Bromus tectorum</i>	cheatgrass	1%	0.3
	ENNDDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	4%	2.2
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	1%	0.3
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	6%	0.7
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	1%	3.5
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	1%	1.1
<b>Shrub/Vine</b>	ARTTRI	<i>Artemisia tridentata</i>	big sagebrush	15%	5.1
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	<1%	0.4
	COLRAM	<i>Coleogyne ramosissima</i>	blackbrush	1%	3.8
	CYLWHI	<i>Cylindropuntia whipplei</i>	Whipple cholla	1%	0.2
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	<1%	0.1
	ERIMIC	<i>Eriogonum microthecum</i>	slender buckwheat	<1%	0.1
	FEROCACTUS	<i>Ferocactus</i>	barrel cactus	<1%	0.2
	OPUNTIA	<i>Opuntia</i>	pricklypear	8%	0.4
	PURTRI	<i>Purshia tridentata</i>	antelope bitterbrush	3%	0.9

# Soil Map Unit

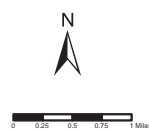
Land Management District 3  
Unit 4, Compartment 4

# West Navajo Livestock Capacity Study

Total Acres: 11,959.3  
Grazeable Sheep Acres: 10,748.5



- Compartment Boundary
- Transect Location
- Road
- Soil Map Unit**
  - 9 - Gladel family-Arabrab complex
  - 11 - Hajsho-Cataract family-Shinume complex
  - 12 - Hajsho-Seeg complex
  - 27 - Mellenthin-Rock outcrop complex
  - 28 - Mellenthin-Rock outcrop complex
  - 29 - Meriwitica-Wayneco-Tassi family, complex
  - 37 - Nepalto family-Tsaya-Rock outcrop complex
  - 59 - Suzmayne very cobbly sandy loam



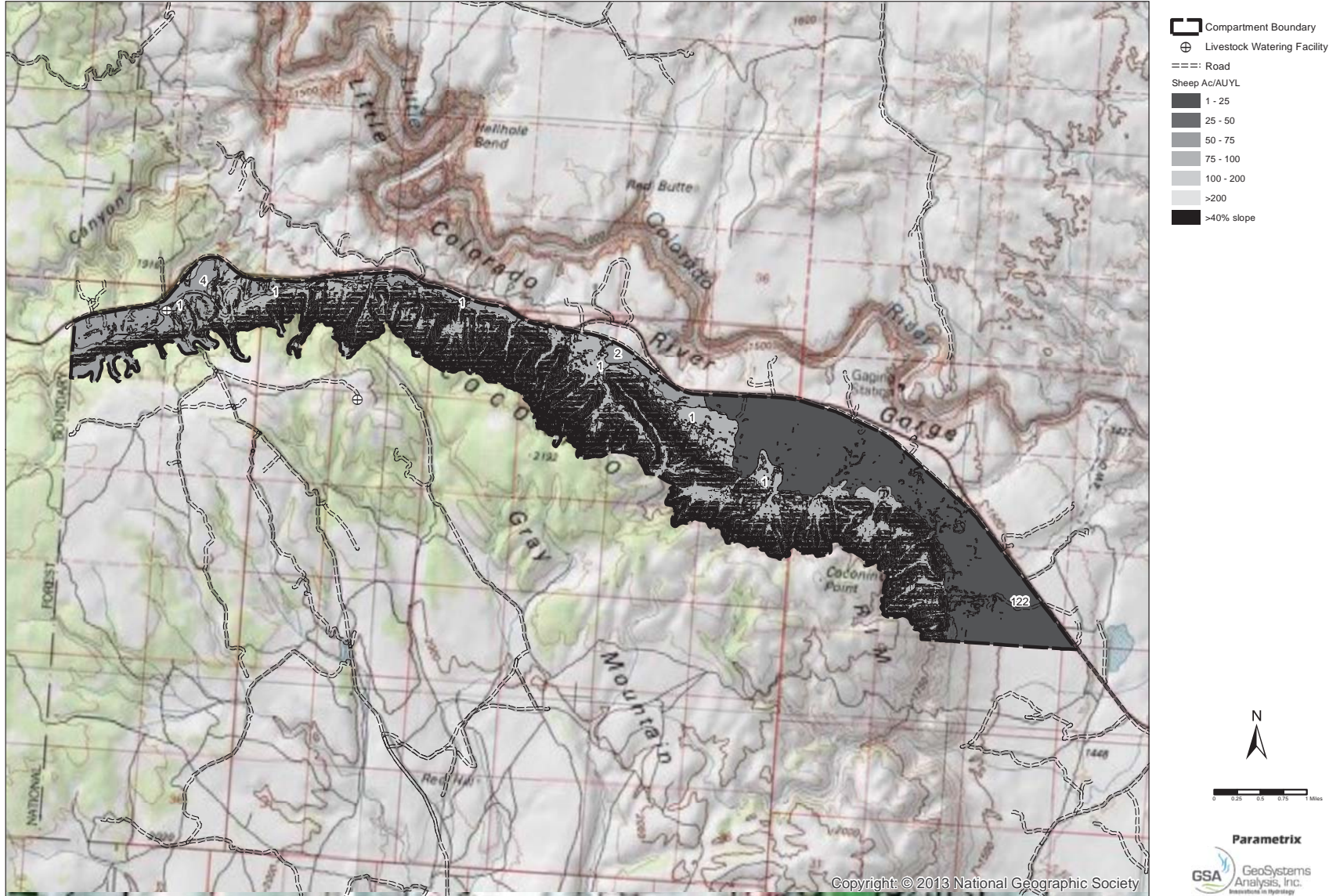
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# Stocking Rate

Land Management District 3  
Unit 4, Compartment 4

# West Navajo Livestock Capacity Study

Total Acres: 11,959.3  
Grazeable Sheep Acres: 10,748.5  
Sheep Units Year Long: 309.2





## LMD 3, Unit 4, Compartment 5 (LMD 3-4-5)

Compartment 3-4-5 consists of approximately 32,979 acres, approximately 92% of which is available to all livestock.

Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil, and small rock fragments. Dominant grasses include sixweeks grama (10.8 ppa) and black grama (11.6 ppa); dominant forbs include purslane (8.6 ppa) and broom snakeweed (3.8 ppa); and dominant shrubs include bigelow sage (7.4 ppa) and Mormon tea (8.9 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
10	309.9	303.0	260.5	1.2	14.0	304.8	75.0	4.1	48.8	307.5	39.8	7.7	92.7
12	11,137.8	10,851.9	59.9	181.3	2,175.3	10,995.2	14.7	748.4	8,980.7	11,103.2	8.9	1,248.1	14,977.3
15	2,651.7	2,589.9	470.7	5.5	66.0	2,618.5	136.9	19.1	229.5	2,643.1	67.2	39.3	472.0
27	256.3	253.8	593.7	0.4	5.1	255.3	126.4	2.0	24.2	255.9	93.2	2.7	32.9
28	1,157.0	460.5	355.2	1.3	15.6	591.6	91.9	6.4	77.2	816.1	60.1	13.6	163.0
29	0.2	0.1	334.0	0.0	0.0	0.2	64.9	0.0	0.0	0.2	45.6	0.0	0.0
37	1,201.2	178.5	414.7	0.4	5.2	330.7	96.1	3.4	41.3	715.6	59.6	12.0	144.1
44	145.7	94.4	206.3	0.5	5.5	112.2	41.8	2.7	32.2	133.3	30.7	4.3	52.1
54	3,666.3	3,288.2	1,050.1	3.1	37.6	3,439.6	236.5	14.5	174.5	3,591.3	136.3	26.3	316.1
8	12,452.7	12,200.8	590.4	20.7	248.0	12,342.3	201.5	61.3	735.1	12,430.7	96.7	128.5	1,542.5
<b>Total:</b>	<b>32,978.8</b>	<b>30,221.2</b>		<b>214.4</b>	<b>2,572.2</b>	<b>30,990.3</b>		<b>862.0</b>	<b>10,343.6</b>	<b>31,996.9</b>		<b>1,482.7</b>	<b>17,792.7</b>

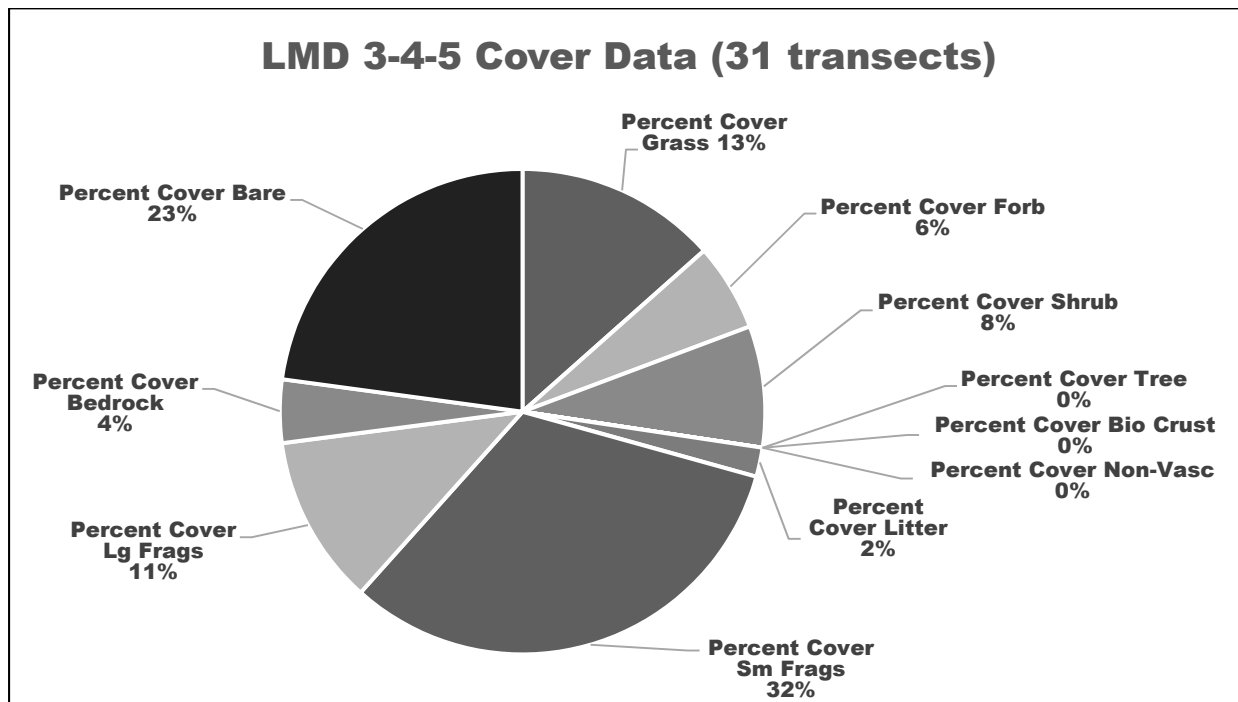
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0–30% All Livestock	31–40% Sheep and Goats	41–60% Goats Only	>60% Non-Grazeable	Total Acres
30,221.2	769.1	1,006.6	981.9	<b>32,978.8</b>



**LMD 3-4-5 Production Table**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	AGEHER	<i>Ageratina herbacea</i>	fragrant snakeroot	<1%	<0.1
	AMARANTHUS	<i>Amaranthus</i>	pigweed	1%	0.2
	AMATOR	<i>Amaranthus torreyi</i>	Torrey's amaranthus	<1%	0.1
	ARTDRA	<i>Artemisia dracunculus</i>	tarragon	5%	0.6
	ASTNUT	<i>Astragalus nuttallianus</i>	smallflowered milkvetch	1%	0.2
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	1%	0.1
	BOERHAVIA	<i>Boerhavia</i>	Spiderling	5%	0.3
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	<1%	0.1
	CHAMAESYCE	<i>Chamaesyce</i>	sandmat	2%	0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	1%	0.2
	CHENOPODIUM	<i>Chenopodium</i>	goosefoot	1%	<0.1
	DATURA	<i>Datura</i>	jimsonweed	<1%	<0.1
	DESPIN	<i>Descurainia pinnata</i>	western tansymustard	1%	0.2
	DIMWIS	<i>Dimorphocarpa wislizeni</i>	touristplant	9%	0.7
	ERIINF	<i>Eriogonum inflatum</i>	desert trumpet	<1%	<0.1
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	1%	<0.1

(Table Continues)

## LMD 3-4-5 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	ERIOVA	<i>Eriogonum ovalifolium</i>	cushion buckwheat	2%	0.2
<b>(Continued)</b>	ERIUMB	<i>Eriogonum umbellatum</i>	sulphur-flower buckwheat	5%	0.1
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	29%	5.6
	EUPHORBIA	<i>Euphorbia</i>	spurge	<1%	0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	18%	3.8
	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	1%	0.4
	MIRABILIS	<i>Mirabilis</i>	four o'clock	<1%	<0.1
	MIROXY	<i>Mirabilis oxybaphoides</i>	smooth spreading four o'clock	<1%	<0.1
	PARSES	<i>Paronychia sessiliflora</i>	creeping nailwort	1%	0.1
	PHACELIA	<i>Phacelia</i>	phacelia	<1%	<0.1
	PLPAT	<i>Plantago patagonica</i>	woolly plantain	3%	0.2
	POROLE	<i>Portulaca oleracea</i>	little hogweed	<1%	0.2
	PORTULACA	<i>Portulaca</i>	purslane	20%	8.6
	PSISPA	<i>Psilostrophe sparsiflora</i>	greenstem paperflower	3%	0.3
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	9%	0.9
	SANABE	<i>Sanvitalia abertii</i>	Abert's creeping zinnia	4%	0.4
	SCHPIN	<i>Schkuhria pinnata</i>	pinnate false threadleaf	5%	0.5
	SPHAMB	<i>Sphaeralcea ambigua</i>	desert globemallow	9%	1.3
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	1%	0.1
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	<1%	0.1
	STREPTANTHUS	<i>Streptanthus</i>	twistflower	4%	1.3
	THELESPERMA	<i>Thelesperma</i>	greenthread	15%	0.9
	THYPEN	<i>Thymophylla pentachaeta</i>	fiveneedle pricklyleaf	1%	0.1
	UNKANF	–	Unknown annual forb	<1%	<0.1
	UNKPEF	–	Unknown perennial forb	4%	0.3
	ZINGRA	<i>Zinnia grandiflora</i>	Rocky Mountain zinnia	3%	0.5
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	23%	6.2
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	12%	4.7
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	22%	10.8
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	33%	11.6
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	12%	8.1
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	10%	2.5
	ENNDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	4%	2.7
	ERIPIL	<i>Erioneuron pilosum</i>	hairy woollygrass	2%	0.3

(Table Continues)



**LMD 3-4-5 Production Table (Continued)**

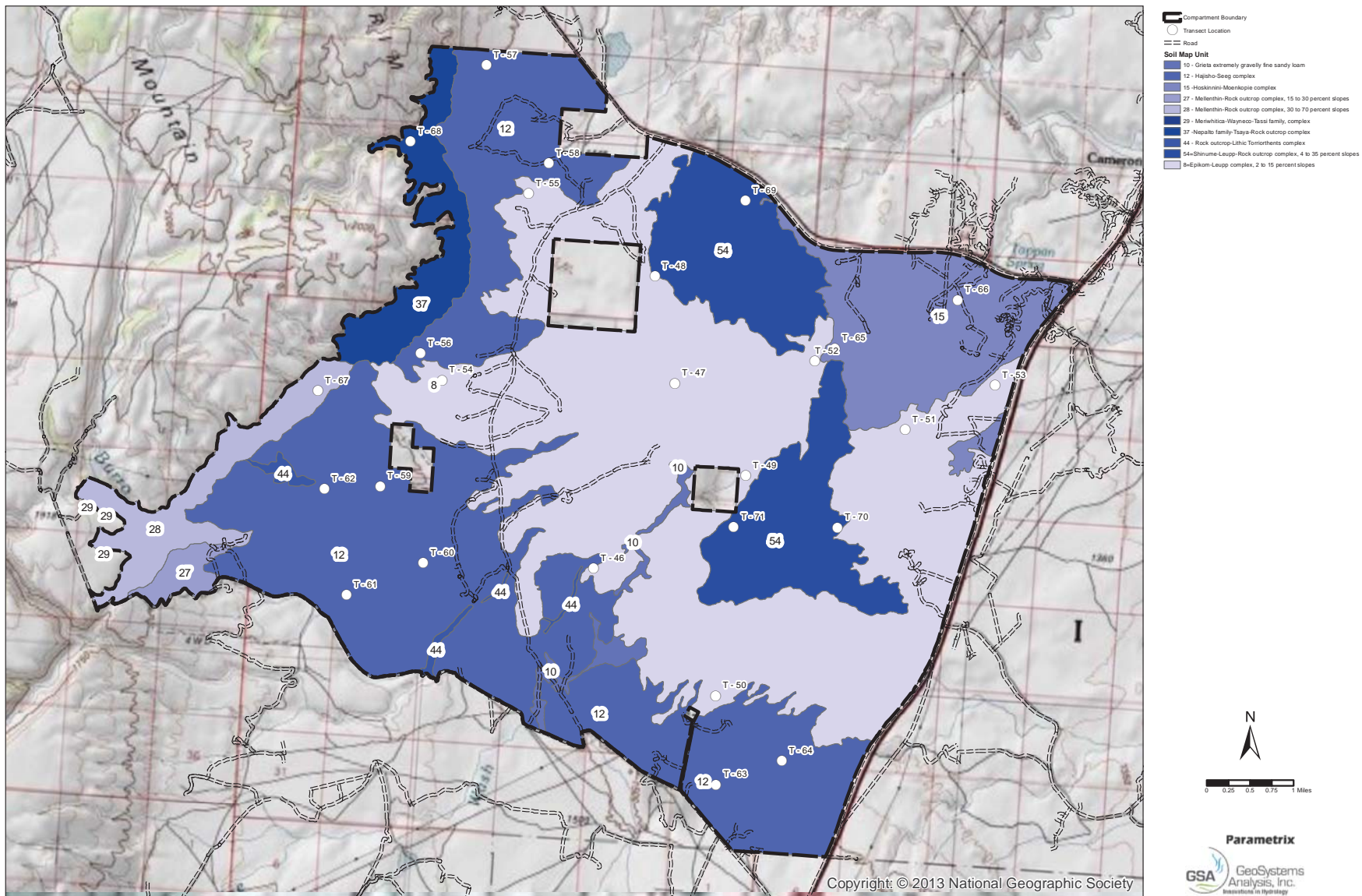
Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)	
<b>Grass/Grasslike (Continued)</b>	HESCOM	<i>Hesperostipa comata</i>	needle and thread	3%	0.5	
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	<1%	0.4	
	MUHDEP	<i>Muhlenbergia depauperata</i>	sixweeks muhly	20%	8.1	
	MUHPOR	<i>Muhlenbergia porteri</i>	bush muhly	<1%	0.1	
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	<1%	0.1	
	POA	<i>Poa</i>	bluegrass	<1%	0.1	
	POAFEN	<i>Poa fendleriana</i>	muttongrass	4%	2.3	
	SCHPAN	<i>Schedonnardus paniculatus</i>	tumblegrass	11%	3.9	
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	8%	1.3	
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	1%	0.6	
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	<1%	<0.1	
	SPOGIG	<i>Sporobolus giganteus</i>	giant dropseed	<1%	<0.1	
	UNKANG	–	Unknown annual grass	3%	2.1	
	VULOCT	<i>Vulpia octoflora</i>	sixweeks fescue	2%	0.3	
	<b>Shrub/Vine</b>	ARTBIG	<i>Artemisia bigelovii</i>	Bigelow sage	21%	7.4
		ARTNOV	<i>Artemisia nova</i>	black sagebrush	10%	1.2
ATRCAN		<i>Atriplex canescens</i>	fourwing saltbush	<1%	<0.1	
ATRCAN		<i>Atriplex confertifolia</i>	shadscale saltbush	2%	2.0	
BRICAL		<i>Brickellia californica</i>	California brickellbush	7%	1.7	
CHRGRE		<i>Chrysothamnus Greenei</i>	Greene's rabbitbrush	<1%	<0.1	
COLRAM		<i>Coleogyne ramosissima</i>	blackbrush	<1%	<0.1	
CYLWHI		<i>Cylindropuntia whipplei</i>	Whipple cholla	2%	1.4	
ECHINOACTUS		<i>Echinocactus</i>	echinocactus	2%	0.2	
ENCFRU		<i>Encelia frutescens</i>	button brittlebush	4%	2.0	
EPHTOR		<i>Ephedra torreyana</i>	Torrey's jointfir	9%	1.6	
EPHVIR		<i>Ephedra viridis</i>	mormon tea	2%	8.9	
ERICON		<i>Eriophyllum confertiflorum</i>	golden-yarrow	5%	2.1	
ERINAU		<i>Ericameria nauseosa</i>	rubber rabbitbrush	10%	3.6	
FALPAR		<i>Fallugia paradoxa</i>	Apache plume	<1%	<0.1	
KRALAN		<i>Krascheninnikovia lanata</i>	winterfat	1%	0.1	
OPUNTIA		<i>Opuntia</i>	pricklypear	1%	0.4	
OPUPHA		<i>Opuntia phaeacantha</i>	tulip pricklypear	3%	0.1	
PARINC	<i>Parthenium incanum</i>	mariola	1%	<0.1		

# Soil Map Unit

Land Management District 3  
Unit 4, Compartment 5

## West Navajo Livestock Capacity Study

Total Acres: 32,978.8  
Grazeable Sheep Acres: 30,990.3

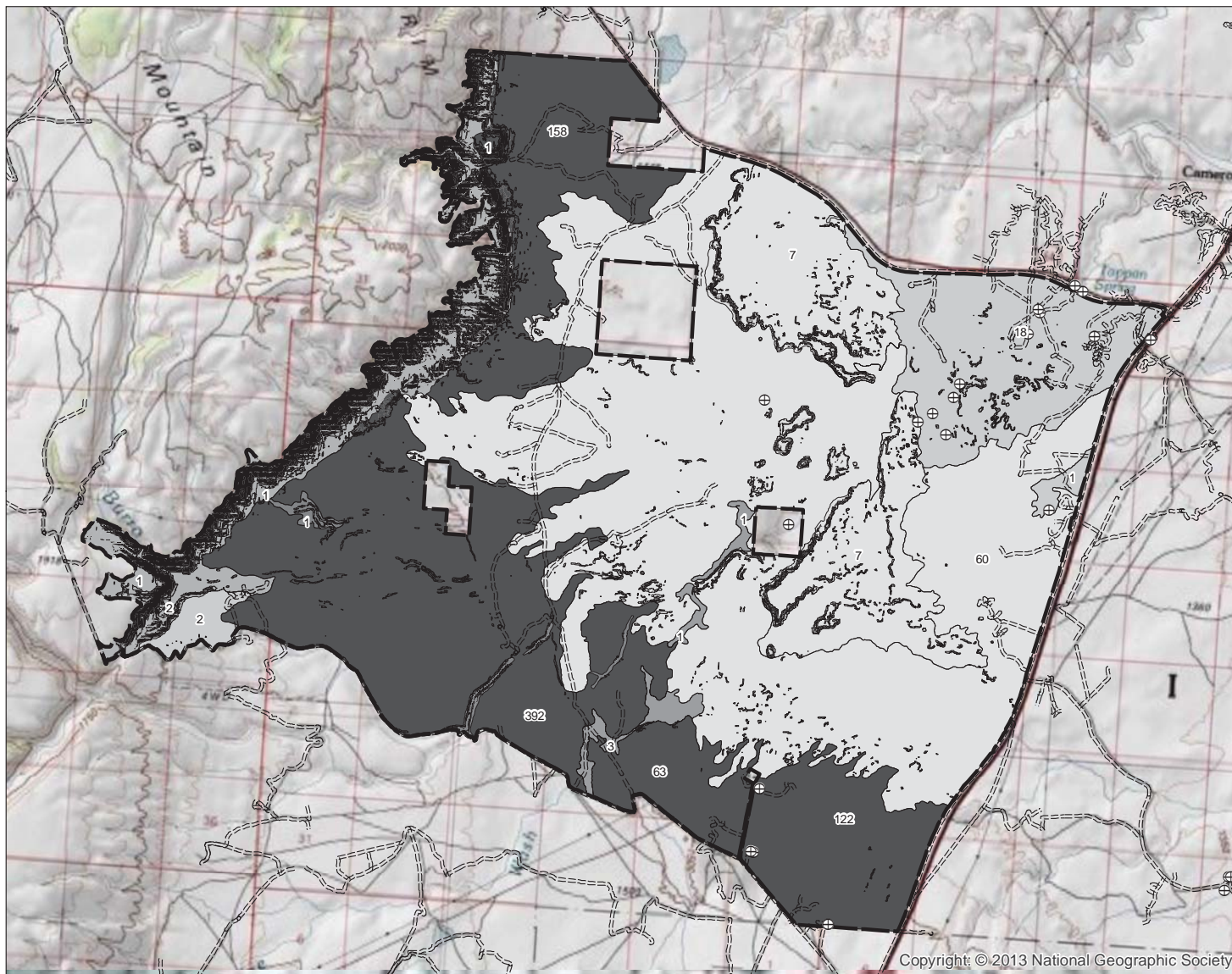


# Stocking Rate

Land Management District 3  
Unit 4, Compartment 5

## West Navajo Livestock Capacity Study

Total Acres: 32,978.8  
Grazeable Sheep Acres: 30,990.3  
Sheep Units Year Long: 862.0



- ⬜ Compartment Boundary
- ⊕ Livestock Watering Facility
- - - Road
- Sheep Ac/AUYL
  - 1 - 25
  - 25 - 50
  - 50 - 75
  - 75 - 100
  - 100 - 200
  - >200
  - >40% slope



## LMD 3, Unit 4, Compartment 6 (LMD 3-4-6)

Compartment 3-4-6 consists of approximately 53,869 acres, approximately 88% of which is available to all livestock.

Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is grass and small rock fragments. Grasses were more abundant here than on any other compartment, though not all species are palatable. Dominant grasses include sixweeks three-awn (151.3 ppa) and blue grama (11.3 ppa); dominant forbs include buckwheat (29.2 ppa) and greenstem paperflower (19.0 ppa); and dominant shrubs include black sage (32.0 ppa) and cliffrose (16.9 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
27	6,816.5	4,661.4	593.7	7.9	94.2	5,501.0	126.4	43.5	522.3	6,360.5	93.2	68.2	818.5
28	6,306.9	3,801.7	355.2	10.7	128.4	4,508.6	91.9	49.0	588.6	5,468.2	60.1	91.0	1,092.3
29	31,625.7	31,231.4	334.0	93.5	1,122.2	31,496.4	64.9	485.5	5,825.6	31,609.1	45.6	693.1	8,316.7
37	3.5	0.4	414.7	0.0	0.0	0.7	96.1	0.0	0.1	1.5	59.6	0.0	0.3
59	0.2	0.2	334.0	0.0	0.0	0.2	64.9	0.0	0.0	0.2	45.6	0.0	0.1
9	9,115.7	7,706.2	250.2	30.8	369.5	8,372.5	58.3	143.6	1,723.4	8,893.6	44.3	200.8	2,410.1
<b>Total:</b>	<b>53,868.5</b>	<b>47,401.3</b>		<b>142.9</b>	<b>1,714.4</b>	<b>49,879.5</b>		<b>721.7</b>	<b>8,660.0</b>	<b>52,333.1</b>		<b>1,053.2</b>	<b>12,638.0</b>

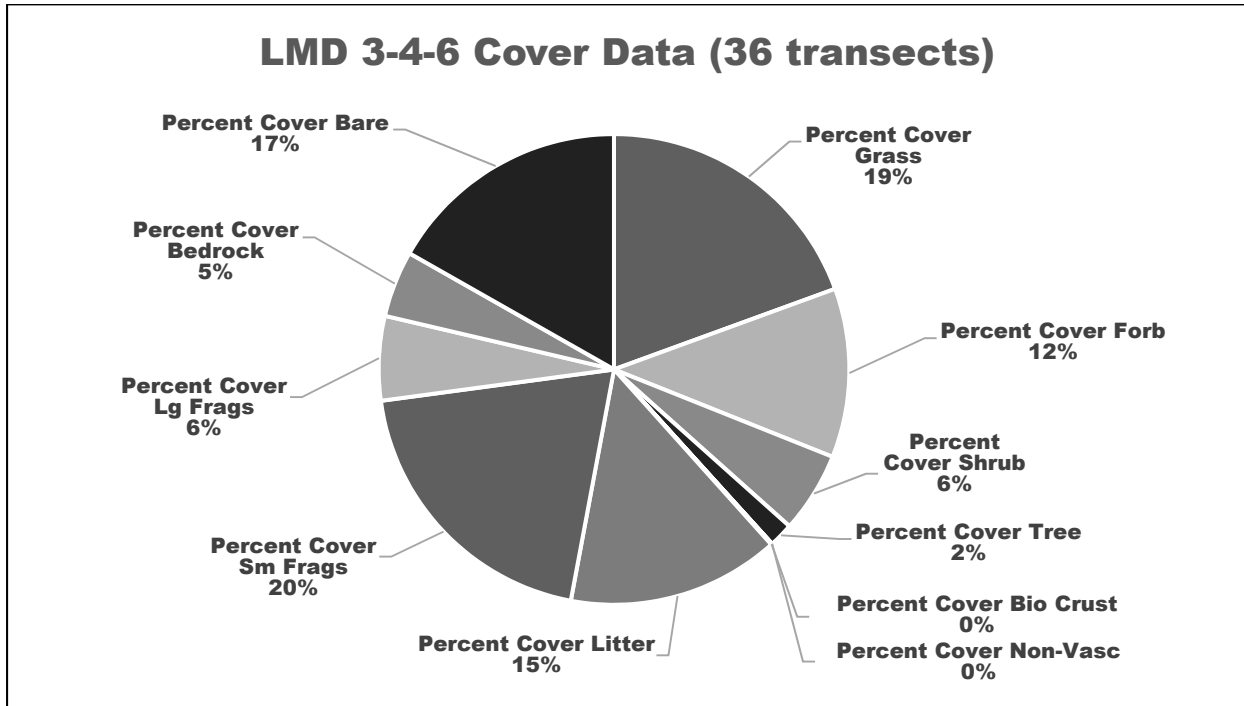
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0–30% All Livestock	31–40% Sheep and Goats	41–60% Goats Only	>60% Non-Grazeable	Total Acres
47,401.3	2,478.1	2,453.6	1,535.4	<b>53,868.5</b>



**LMD 3-4-6 Production Table**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	AGEHER	<i>Ageratina herbacea</i>	fragrant snakeroot	1%	0.2
	AMAPAL	<i>Amaranthus palmeri</i>	carelessweed	2%	0.7
	AMARET	<i>Amaranthus retroflexus</i>	redroot amaranth	<1%	<0.1
	AMATOR	<i>Amaranthus torreyi</i>	Torrey's amaranthus	12%	0.8
	ASTCAL	<i>Astragalus calycosus</i>	Torrey's milkvetch	<1%	0.1
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	<1%	<0.1
	BAHDIS	<i>Bahia dissecta</i>	ragleaf bahia	1%	<0.1
	BOERHAVIA	<i>Boerhavia</i>	spiderling	20%	5.0
	CASTILLEJA	<i>Castilleja</i>	Indian paintbrush	6%	0.2
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	<1%	0.1
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	3%	0.1
	CHEGRA	<i>Chenopodium graveolens</i>	fetid goosefoot	1%	0.4
	CHENOPODIUM	<i>Chenopodium</i>	goosefoot	1%	<0.1
	CRYCIN	<i>Cryptantha cinerea</i>	James' cryptantha	1%	<0.1
	CRYCON	<i>Cryptantha confertiflora</i>	basin yellow cryptantha	<1%	<0.1
	CRYPTANTHA	<i>Cryptantha</i>	cryptantha	1%	<0.1

(Table Continues)

## LMD 3-4-6 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	DESCURAINIA	<i>Descurainia</i>	tansymustard	21%	1.6
(Continued)	DESPIN	<i>Descurainia pinnata</i>	western tansymustard	7%	1.0
	DYSCHORISTE	<i>Dyschoriste</i>	snakeherb	3%	0.9
	DYSPAP	<i>Dyssodia papposa</i>	fetid marigold	3%	0.1
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	91%	29.2
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	2%	0.2
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	1%	0.1
	HYMFIL	<i>Hymenopappus filifolius</i>	fineleaf hymenopappus	<1%	<0.1
	IPOMUL	<i>Ipomopsis multiflora</i>	manyflowered ipomopsis	<1%	0.1
	LAPOCC	<i>Lappula occidentalis</i>	flatspine stickseed	<1%	0.1
	MACAST	<i>Machaeranthera asteroides</i>	fall tansyaster	<1%	0.1
	MIRABILIS	<i>Mirabilis</i>	four o'clock	34%	3.6
	MIROXY	<i>Mirabilis oxybaphoides</i>	smooth spreading four o'clock	<1%	<0.1
	NAMDIC	<i>Nama dichotomum</i>	wishbone fiddleleaf	1%	0.2
	PENCAE	<i>Penstemon caespitosus</i>	mat penstemon	1%	0.1
	PENSTEMON	<i>Penstemon</i>	beardtongue	4%	0.4
	PHACELIA	<i>Phacelia</i>	phacelia	1%	0.2
	PHAINT	<i>Phacelia integrifolia</i>	gypsum phacelia	2%	0.1
	PHLAUS	<i>Phlox austromontana</i>	mountain phlox	5%	0.4
	PLPAT	<i>Plantago patagonica</i>	woolly plantain	1%	0.1
	POROLE	<i>Portulaca oleracea</i>	little hogweed	6%	1.1
	PORTULACA	<i>Portulaca</i>	purslane	<1%	<0.1
	PSISPA	<i>Psilostrophe sparsiflora</i>	greenstem paperflower	66%	19.0
	SALREF	<i>Salvia reflexa</i>	lanceleaf sage	73%	9.2
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	8%	1.0
	SANABE	<i>Sanvitalia abertii</i>	Abert's creeping zinnia	11%	2.4
	SCHPIN	<i>Schkuhria pinnata</i>	pinnate false threadleaf	2%	0.5
	SPHAMB	<i>Sphaeralcea ambigua</i>	desert globemallow	26%	4.0
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	6%	0.8
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	2%	0.1
	TETACA	<i>Tetaneuris acaulis</i>	stemless four-nerve daisy	8%	0.6
	THELESPERMA	<i>Thelesperma</i>	greenthread	1%	<0.1
	UNKANF	–	Unknown annual forb	1%	0.1
	UNKPEF	–	Unknown perennial forb	6%	1.5
	VERENC	<i>Verbesina encelioides</i>	golden crownbeard	<1%	<0.1

(Table Continues)

**LMD 3-4-6 Production Table (Continued)**

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Grass/Grasslike	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	2%	0.6
	ARIADS	<i>Aristida adscensionis</i>	sixweeks threeawn	125%	151.3
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	1%	0.1
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	29%	11.3
	BROTEC	<i>Bromus tectorum</i>	cheatgrass	1%	0.1
	ELYELY	<i>Elymus elymoides</i>	squirreltail	1%	<0.1
	ENNDDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	14%	5.7
	ERAMEX	<i>Eragrostis mexicana</i>	Mexican lovegrass	20%	2.5
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	6%	0.5
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	1%	0.1
	MUHDEP	<i>Muhlenbergia depauperata</i>	sixweeks muhly	3%	2.8
	MUHFRA	<i>Muhlenbergia fragilis</i>	delicate muhly	1%	0.5
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	<1%	0.3
	PLEMUT	<i>Pleuraphis mutica</i>	tobosagrass	13%	1.9
	POAFEN	<i>Poa fendleriana</i>	muttongrass	7%	0.7
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	<1%	0.1
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	8%	5.2
	Shrub/Vine	AGAUTA	<i>Agave utahensis</i>	Utah agave	2%
ARTBIG		<i>Artemisia bigelovii</i>	Bigelow sage	1%	0.8
ARTNOV		<i>Artemisia nova</i>	black sagebrush	32%	32.0
ARTTRI		<i>Artemisia tridentata</i>	big sagebrush	<1%	0.1
ATRCAN		<i>Atriplex canescens</i>	fourwing saltbush	<1%	0.1
BRIFEN		<i>Brickelliastrum fendleri</i>	Fendler's brickellbush	3%	1.1
CHAMIL		<i>Chamaebatiaria millefolium</i>	desert sweet	1%	0.6
CHRGRE		<i>Chrysothamnus greenei</i>	Greene's rabbitbrush	<1%	<0.1
COLRAM		<i>Coleogyne ramosissima</i>	blackbrush	8%	6.8
CYLWHI		<i>Cylindropuntia whipplei</i>	Whipple cholla	13%	1.9
EPHVIR		<i>Ephedra viridis</i>	mormon tea	4%	2.5
ERICON		<i>Eriophyllum confertiflorum</i>	golden-yarrow	1%	<0.1
ERINAU		<i>Ericameria nauseosa</i>	rubber rabbitbrush	1%	0.8
ESCVIV		<i>Escobaria vivipara</i>	spiny star	53%	15.9
FALPAR		<i>Fallugia paradoxa</i>	Apache plume	4%	1.2
KRALAN		<i>Krascheninnikovia lanata</i>	winterfat	<1%	0.1
LYCPAL		<i>Lycium pallidum</i>	pale desert-thorn	<1%	0.1

(Table Continues)

## LMD 3-4-6 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Shrub/Vine</b>	MAHFRE	<i>Mahonia fremontii</i>	Fremont's mahonia	<1%	<0.1
<b>(Continued)</b>	MAHAE	<i>Mahonia haematocarpa</i>	red barberry	5%	1.8
	OPUNTIA	<i>Opuntia</i>	pricklypear	2%	3.7
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	5%	4.9
	PURSTA	<i>Purshia stansburiana</i>	Stansbury cliffrose	<1%	16.9
	YUCBAC	<i>Yucca baccata</i>	banana yucca	2%	2.5
<b>Tree</b>	JUNMON	<i>Juniperus monosperma</i>	oneseed juniper	2%	2.5
	JUNOST	<i>Juniperus osteosperma</i>	Utah juniper	3%	0.1
	PINEDU	<i>Pinus edulis</i>	twoneedle pinyon	5%	1.8

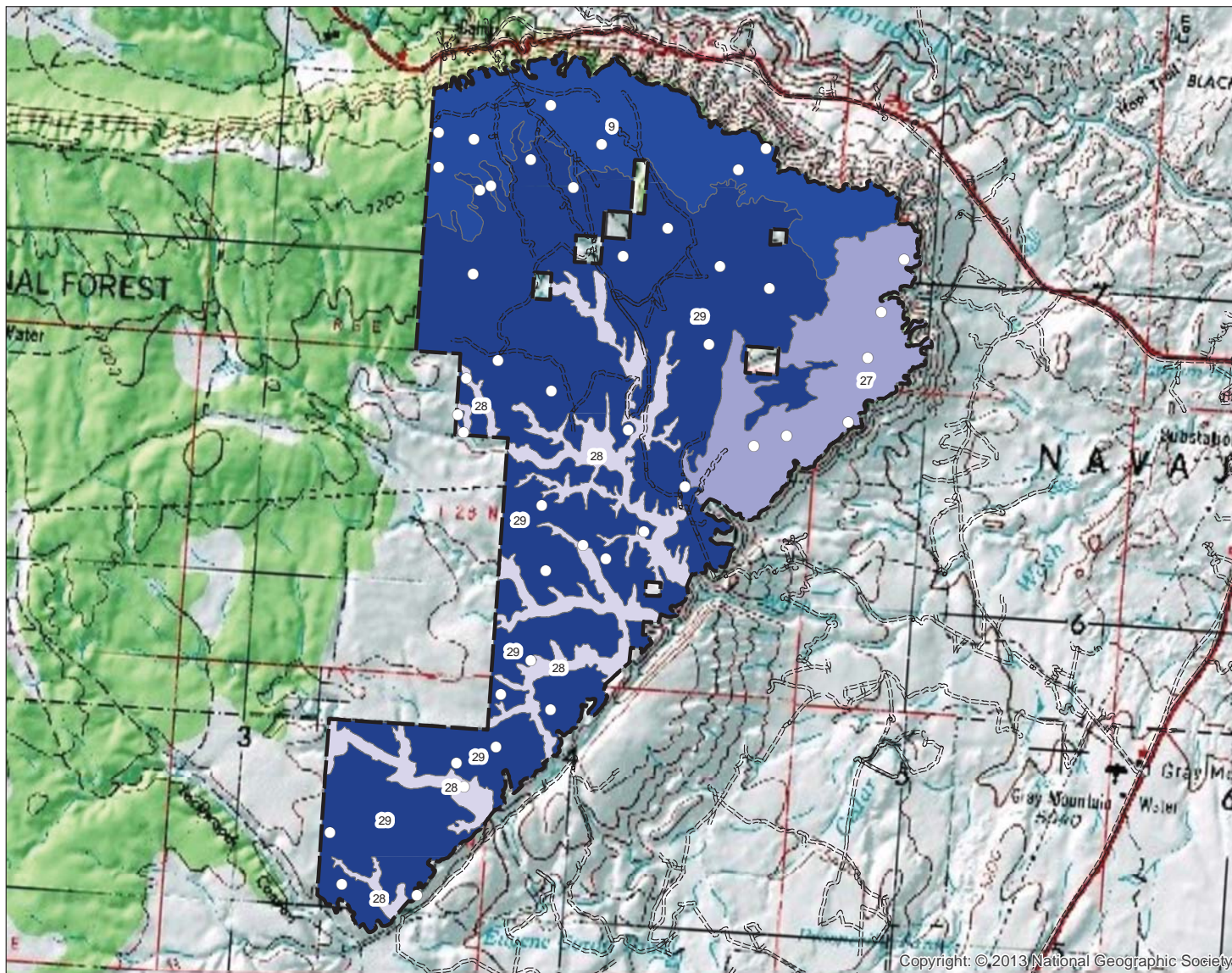


# Soil Map Unit

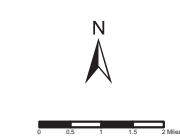
Land Management District 3  
Unit 4, Compartment 6

## West Navajo Livestock Capacity Study

Total Acres: 53,868.5  
Grazeable Sheep Acres: 49,879.5



- Compartment Boundary
- Transect Locations
- Road
- Soil Map Unit**
- 9 - Gladel family-Arabrab complex
- 27 - Mellenthin-Rock outcrop complex
- 28 - Mellenthin-Rock outcrop complex
- 29 - Meriwhitica-Wayneco-Tassi family, complex
- 37 - Nepaño family-Tsaya-Rock outcrop complex
- 59 - Suzmayne very cobbly sandy loam



Parametrix  
GSA GeoSystems Analysis, Inc.  
Innovations in Hydrology

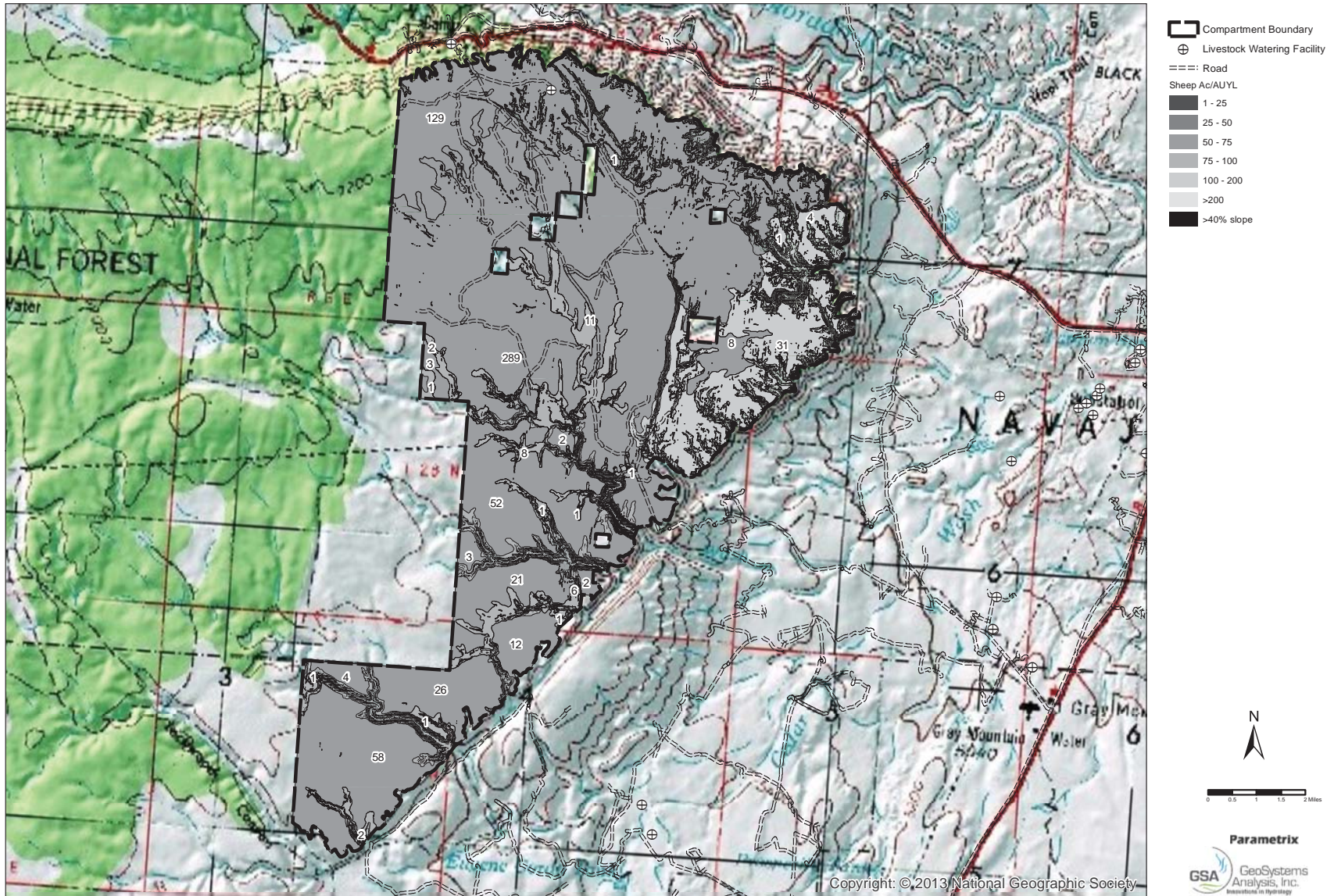
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# Stocking Rate

Land Management District 3  
Unit 4, Compartment 6

## West Navajo Livestock Capacity Study

Total Acres: 53,868.5  
Grazeable Sheep Acres: 49,879.5  
Sheep Units Year Long: 721.7





## LMD 3, Unit 4, Compartment 7 (LMD 3-4-7)

Compartment 3-4-7 consists of approximately 49,382 acres, approximately 92% of which is available to all livestock. Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil small rock fragments. Dominant grasses include sideoats grama (36.5 ppa) and sixweeks muhly (58.9 ppa); dominant forbs include squareseed spurge (18.5 ppa) and greenstem paperflower (35.9 ppa); and dominant shrubs include rabbitbrush (13.7 ppa) and kingcup cactus (0.9 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
10	16,183.1	16,067.8	260.5	61.7	740.1	16,154.3	75.0	215.4	2,585.2	16,182.0	39.8	406.7	4,879.8
12	11,716.9	11,591.4	59.9	193.6	2,323.5	11,657.5	14.7	793.5	9,521.7	11,708.7	8.9	1,316.2	15,794.0
23	110.4	76.7	206.3	0.4	4.5	92.3	41.8	2.2	26.5	108.8	30.7	3.5	42.5
25	1,346.3	1,307.1	428.8	3.0	36.6	1,328.9	115.7	11.5	137.8	1,343.9	78.0	17.2	206.7
27	2,721.1	1,991.8	593.7	3.4	40.3	2,321.7	126.4	18.4	220.4	2,638.9	93.2	28.3	339.6
28	5,859.4	3,628.9	355.2	10.2	122.6	4,294.2	91.9	46.7	560.6	5,211.0	60.1	86.7	1,040.9
29	5,087.6	4,995.9	334.0	15.0	179.5	5,051.8	64.9	77.9	934.4	5,079.6	45.6	111.4	1,336.5
4	66.3	48.5	1,032.0	0.0	0.6	59.7	136.9	0.4	5.2	66.2	96.6	0.7	8.2
44	48.6	35.1	206.3	0.2	2.0	41.2	41.8	1.0	11.8	47.5	30.7	1.5	18.6
61	508.3	508.3	414.7	1.2	14.7	508.3	96.1	5.3	63.5	508.3	59.6	8.5	102.4
63	3,751.1	3,689.9	225.7	16.3	196.2	3,727.5	63.3	58.9	706.4	3,747.6	34.4	109.1	1,308.7
8	1,987.5	1,968.0	590.4	3.3	40.0	1,975.2	201.5	9.8	117.6	1,984.3	96.7	20.5	246.2
<b>Total:</b>	<b>49,386.8</b>	<b>45,909.2</b>		<b>308.4</b>	<b>3,700.5</b>	<b>47,212.5</b>		<b>1,240.9</b>	<b>14,891.2</b>	<b>48,626.8</b>		<b>2,110.3</b>	<b>25,324.1</b>

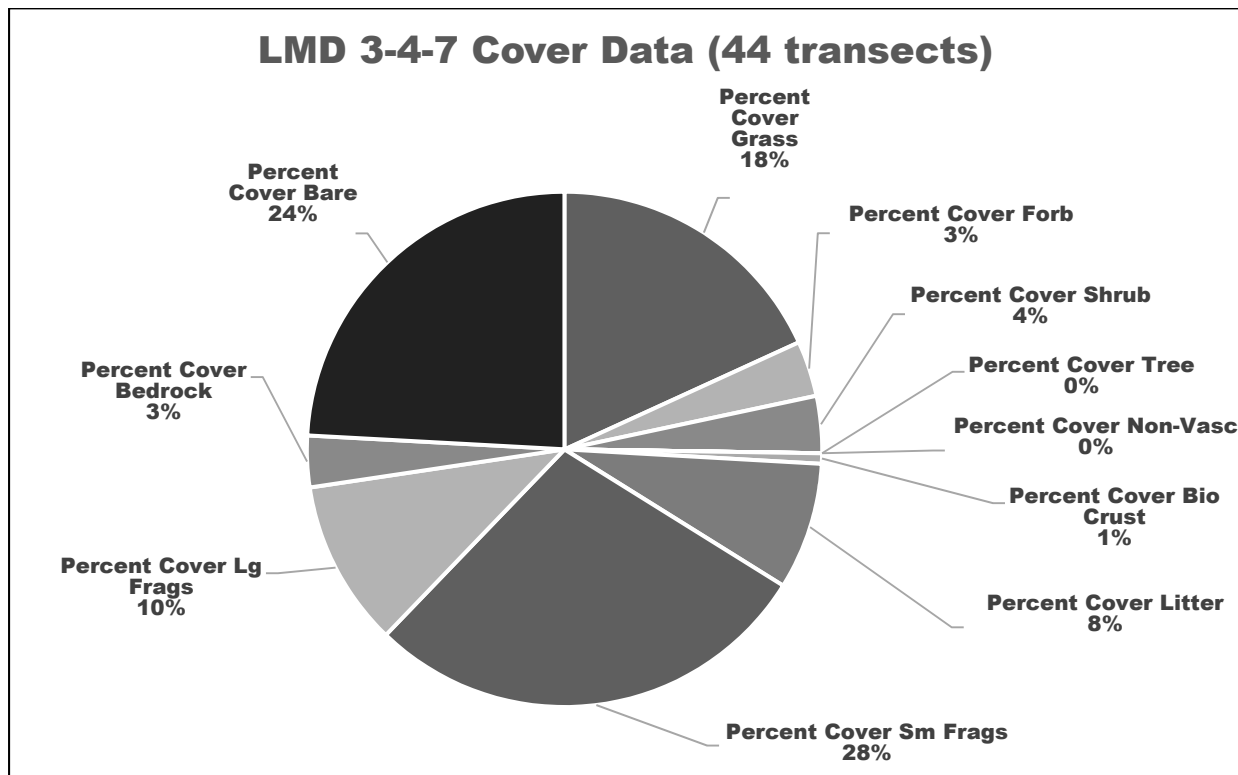
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0-30% All Livestock	31-40% Sheep and Goats	41-60% Goats Only	>60% Non-Grazeable	Total Acres
45,909.2	1,303.3	1,414.3	759.9	<b>49,386.8</b>



LMD 3-4-7 Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	AGEHER	<i>Ageratina herbacea</i>	fragrant snakeroot	1%	0.4
	AMATOR	<i>Amaranthus torreyi</i>	Torrey's amaranthus	<1%	<0.1
	ARTDRA	<i>Artemisia dracunculus</i>	tarragon	5%	1.9
	ASTRAGALUS	<i>Astragalus</i>	milkvetch	10%	0.8
	CHAERI	<i>Chaetopappa ericoides</i>	rose heath	27%	1.8
	CHAMAESYCE	<i>Chamaesyce</i>	sandmat	1%	0.2
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	1%	<0.1
	CRYCIN	<i>Cryptantha cinerea</i>	James' cryptantha	4%	0.3
	DESPIN	<i>Descurainia pinnata</i>	western tansymustard	2%	0.1
	ERIINF	<i>Eriogonum inflatum</i>	desert trumpet	<1%	<0.1
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	1%	0.1
	ERIUMB	<i>Eriogonum umbellatum</i>	sulphur-flower buckwheat	4%	0.2
	EROCIC	<i>Erodium cicutarium</i>	redstem stork's bill	1%	<0.1
	EUPEXS	<i>Euphorbia exstipulata</i>	squareseed spurge	62%	18.5

(Table Continues)

## LMD 3-4-7 Production Table (Continued)

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	EUPHORBIA	<i>Euphorbia</i>	spurge	1%	0.1
(Continued)	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	<1%	<0.1
	HOFDRE	<i>Hoffmannseggia drepanocarpa</i>	sicklepod holdback	<1%	0.1
	HYMFIL	<i>Hymenopappus filifolius</i>	fineleaf hymenopappus	1%	0.2
	MACPAR	<i>Machaeranthera parviflora</i>	smallflower tansyaster	9%	1.1
	MIRABILIS	<i>Mirabilis</i>	four o'clock	6%	0.4
	MIROXY	<i>Mirabilis oxybaphoides</i>	smooth spreading four o'clock	<1%	<0.1
	NAMDIC	<i>Nama dichotomum</i>	wishbone fiddleleaf	<1%	<0.1
	PHLAUS	<i>Phlox austromontana</i>	mountain phlox	1%	0.1
	PLAPAT	<i>Plantago patagonica</i>	woolly plantain	<1%	<0.1
	POROLE	<i>Portulaca oleracea</i>	little hogweed	4%	0.7
	PORTULACA	<i>Portulaca</i>	purslane	1%	0.2
	PSISPA	<i>Psilostrophe sparsiflora</i>	greenstem paperflower	76%	35.9
	SALREF	<i>Salvia reflexa</i>	lanceleaf sage	33%	4.6
	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	<1%	<0.1
	SANABE	<i>Sanvitalia abertii</i>	Abert's creeping zinnia	4%	0.4
	SCHMUL	<i>Schkuhria multiflora</i>	manyflower false threadleaf	1%	0.3
	SCHPIN	<i>Schkuhria pinnata</i>	pinnate false threadleaf	15%	4.1
	SENFLA	<i>Senecio flaccidus</i>	threadleaf ragwort	4%	1.1
	SPHAMB	<i>Sphaeralcea ambigua</i>	desert globemallow	60%	12.0
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	8%	1.4
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	<1%	<0.1
	TETACA	<i>Tetaneuris acaulis</i>	stemless four-nerve daisy	1%	0.1
	THYPEN	<i>Thymophylla pentachaeta</i>	fiveneedle pricklyleaf	4%	0.3
	UNKANF	–	Unknown annual forb	1%	0.2
	ZINGRA	<i>Zinnia grandiflora</i>	Rocky Mountain zinnia	2%	0.1
<b>Grass/Grasslike</b>	ACHHYM	<i>Achnatherum hymenoides</i>	Indian ricegrass	16%	6.1
	ARIADS	<i>Aristida adscensionis</i>	sixweeks threeawn	5%	1.1
	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	25%	7.9
	ARISTIDA	<i>Aristida</i>	threeawn	1%	0.5
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	30%	23.2
	BOUCUR	<i>Bouteloua curtipendula</i>	sideoats grama	56%	36.5
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	1%	0.3
	BOUGRA	<i>Bouteloua gracilis</i>	blue grama	39%	17.1

(Table Continues)

**LMD 3-4-7 Production Table (Continued)**

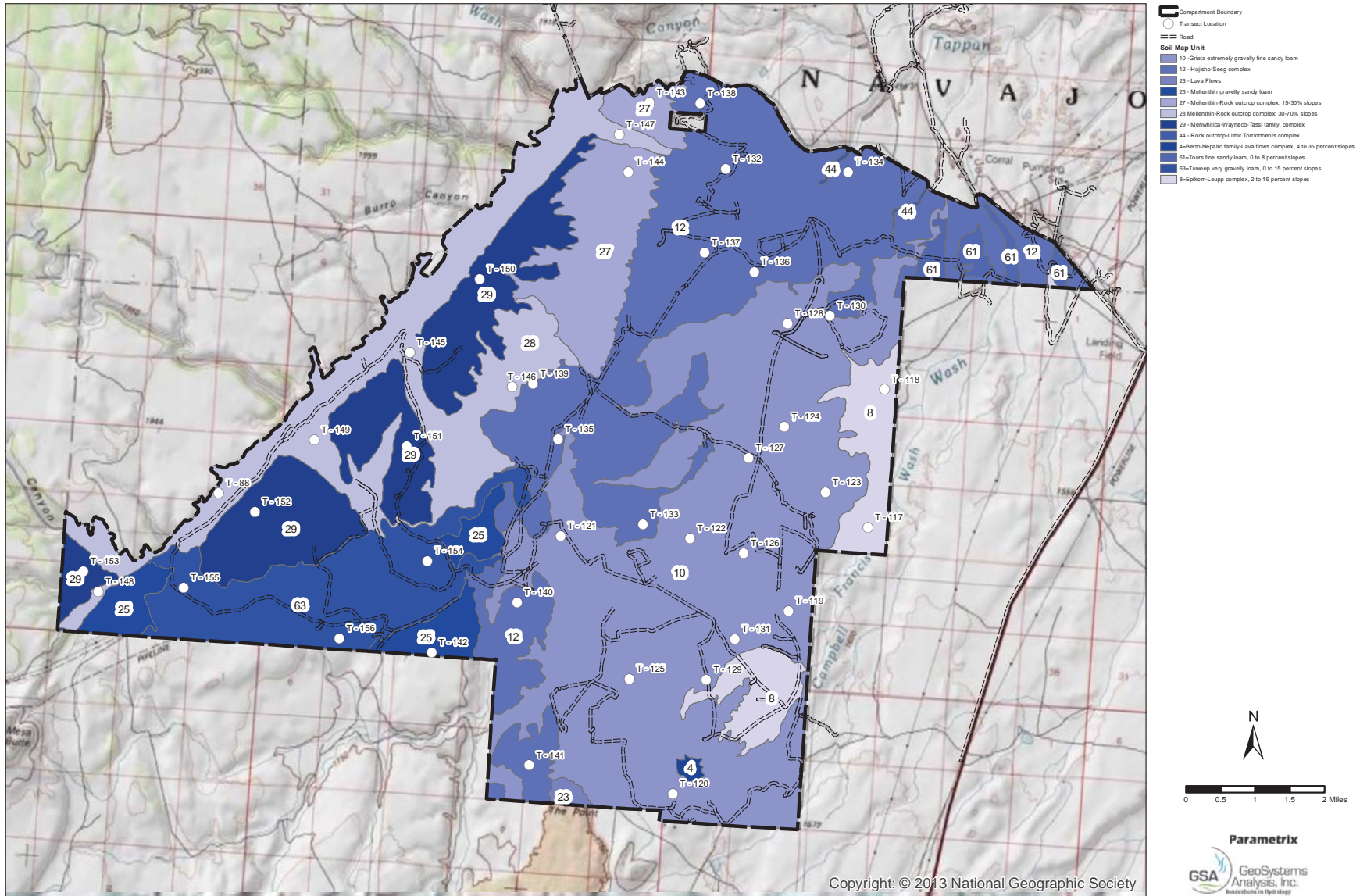
Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)	
<b>Grass/Grasslike (Continued)</b>	BROTEC	<i>Bromus tectorum</i>	cheatgrass	2%	0.6	
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	15%	3.4	
	ELYELY	<i>Elymus elymoides</i>	squirreltail	5%	0.8	
	ENNDES	<i>Enneapogon desvauxii</i>	nineawn pappusgrass	3%	1.6	
	ERIPIL	<i>Erioneuron pilosum</i>	hairy woollygrass	20%	2.4	
	HESCOM	<i>Hesperostipa comata</i>	needle and thread	<1%	<0.1	
	MONSQU	<i>Monroa squarrosa</i>	false buffalograss	1%	1.9	
	MUHDEP	<i>Muhlenbergia depauperata</i>	sixweeks muhly	57%	58.9	
	MUHPOR	<i>Muhlenbergia porteri</i>	bush muhly	8%	4.4	
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	2%	1.4	
	SCHPAN	<i>Schedonnardus paniculatus</i>	tumblegrass	17%	20.1	
	SCLBRE	<i>Scleropogon brevifolius</i>	burrograss	23%	7.7	
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	33%	16.2	
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	1%	0.2	
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	<1%	<0.1	
	TRIMUT	<i>Tridens muticus</i>	slim tridens	9%	3.0	
	VULOCT	<i>Vulpia octoflora</i>	sixweeks fescue	1%	0.4	
	<b>Shrub/Vine</b>	ARTBIG	<i>Artemisia bigelovii</i>	Bigelow sage	35%	17.2
		ARTNOV	<i>Artemisia nova</i>	black sagebrush	1%	0.5
ATRCAN		<i>Atriplex canescens</i>	fourwing saltbush	<1%	0.4	
ATRCON		<i>Atriplex confertifolia</i>	shadscale saltbush	1%	0.2	
BRICKELLIA		<i>Brickellia</i>	brickellbush	1%	0.3	
COLRAM		<i>Coleogyne ramosissima</i>	blackbrush	<1%	<0.1	
CYLWHI		<i>Cylindropuntia whipplei</i>	Whipple cholla	<1%	0.1	
ECHTRI		<i>Echinocereus triglochidiatus</i>	kingcup cactus	1%	0.9	
EPHTOR		<i>Ephedra torreyana</i>	Torrey's jointfir	<1%	<0.1	
ERINAU		<i>Ericameria nauseosa</i>	rubber rabbitbrush	28%	13.7	
FALPAR		<i>Fallugia paradoxa</i>	Apache plume	<1%	0.1	
KRALAN		<i>Krascheninnikovia lanata</i>	winterfat	<1%	<0.1	
LYCPAL		<i>Lycium pallidum</i>	pale desert-thorn	1%	0.1	
OPUFRA		<i>Opuntia fragilis</i>	brittle pricklypear	2%	0.4	
OPUPHA		<i>Opuntia phaeacantha</i>	tulip pricklypear	<1%	<0.1	
YUCANG		<i>Yucca angustissima</i>	narrowleaf yucca	6%	0.3	

# Soil Map Unit

Land Management District 3  
Unit 4, Compartment 7

## West Navajo Livestock Capacity Study

Total Acres: 49,386.8  
Grazeable Sheep Acres: 47,212.5



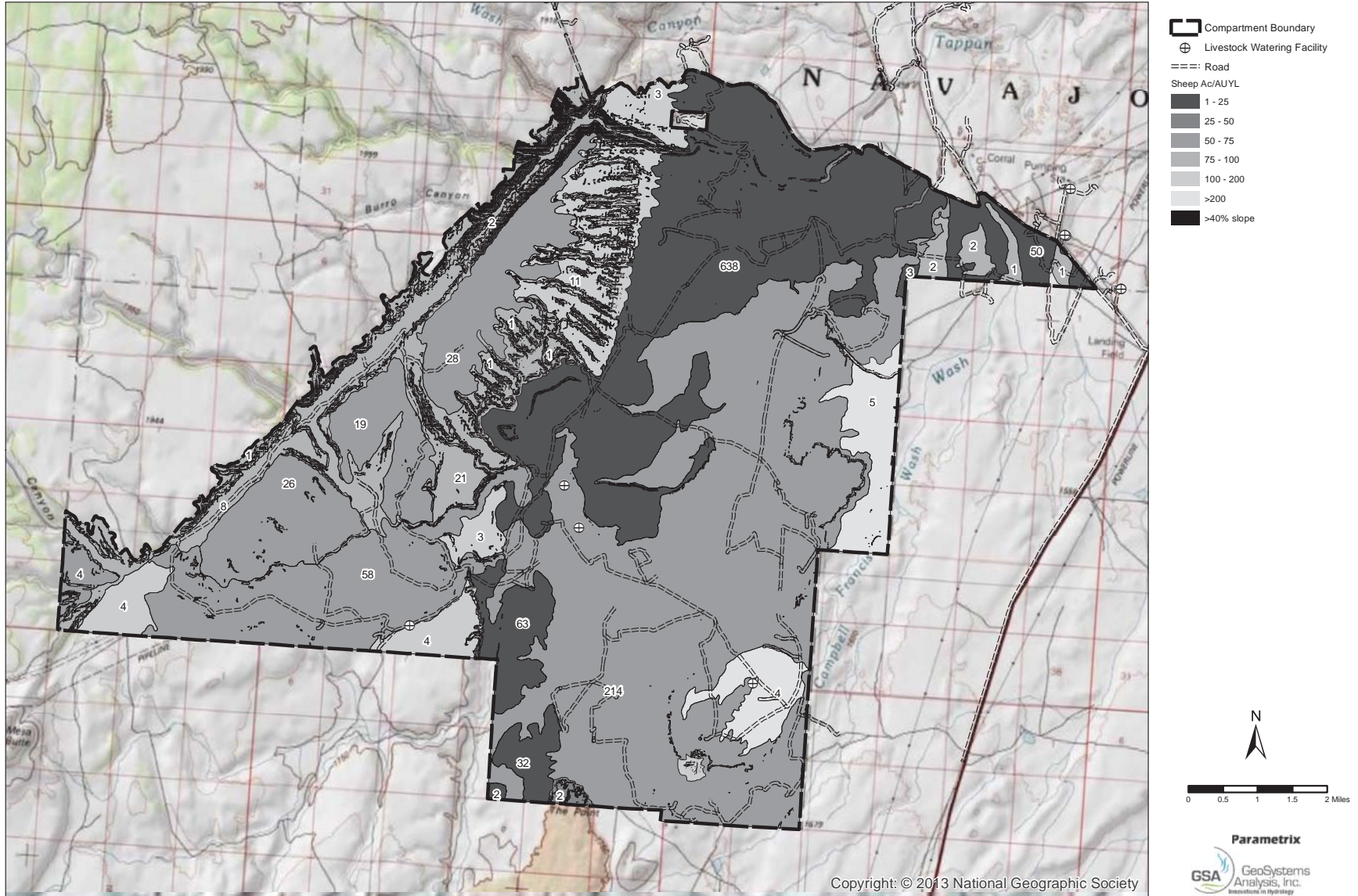


# Stocking Rate

Land Management District 3  
Unit 4, Compartment 7

## West Navajo Livestock Capacity Study

Total Acres: 49,386.8  
Grazeable Sheep Acres: 47,212.5  
Sheep Units Year Long: 1,240.9



## LMD 3, Unit 4, Compartment 8 (LMD 3-4-8)

Compartment 3-4-8 consists of approximately 25,253 acres, approximately 99% of which is available to all livestock.

Carrying capacity numbers for sheep, goats, and cattle are presented in the table immediately below. Dominant cover in unit is bare soil and small rock fragments. Dominant grasses include hairy woolygrass (25.7 ppa) and low woolygrass (11.4 ppa); dominant forbs include globemallow (0.7 ppa) and buckwheat (0.7 ppa); and dominant shrubs include the potentially invasive noxious weed camelthorn (3.9 ppa) and fourwing saltbush (2.5 ppa).

**Range Unit Stocking Rate and Carrying Capacity**

Soil Map Unit Symbol	Sum of Acres	Forage Value Cattle				Forage Value Sheep				Forage Value Goats			
		Grazeable Acres	Stocking Rate (Ac/AUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/SUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)	Grazeable Acres	Stocking Rate (Ac/GUYL)	Carrying Capacity (YL)	Carrying Capacity (UM)
12	735.5	728.2	59.9	12.2	146.0	732.2	14.7	49.8	598.0	734.9	8.9	82.6	991.2
15	2,311.0	2,308.0	470.7	4.9	58.8	2,309.6	136.9	16.9	202.4	2,310.8	67.2	34.4	412.6
21	52.0	51.9	842.1	0.1	0.7	52.0	219.9	0.2	2.8	52.0	125.1	0.4	5.0
38	6,508.2	6,361.9	281.5	22.6	271.2	6,441.1	83.7	77.0	923.9	6,496.8	44.6	145.6	1,746.8
44	55.5	27.6	206.3	0.1	1.6	33.5	41.8	0.8	9.6	45.4	30.7	1.5	17.8
54	1,005.7	959.1	1,050.1	0.9	11.0	982.2	236.5	4.2	49.8	1,001.3	136.3	7.3	88.1
6	6,185.8	6,170.7	663.8	9.3	111.5	6,181.6	185.8	33.3	399.1	6,185.5	106.7	58.0	695.7
8	8,398.9	8,369.0	590.4	14.2	170.1	8,387.4	201.5	41.6	499.5	8,397.4	96.7	86.8	1,042.0
<b>Total:</b>	<b>25,252.7</b>	<b>24,976.5</b>		<b>64.2</b>	<b>770.9</b>	<b>25,119.7</b>		<b>223.8</b>	<b>2,685.3</b>	<b>25,224.1</b>		<b>416.6</b>	<b>4,999.2</b>

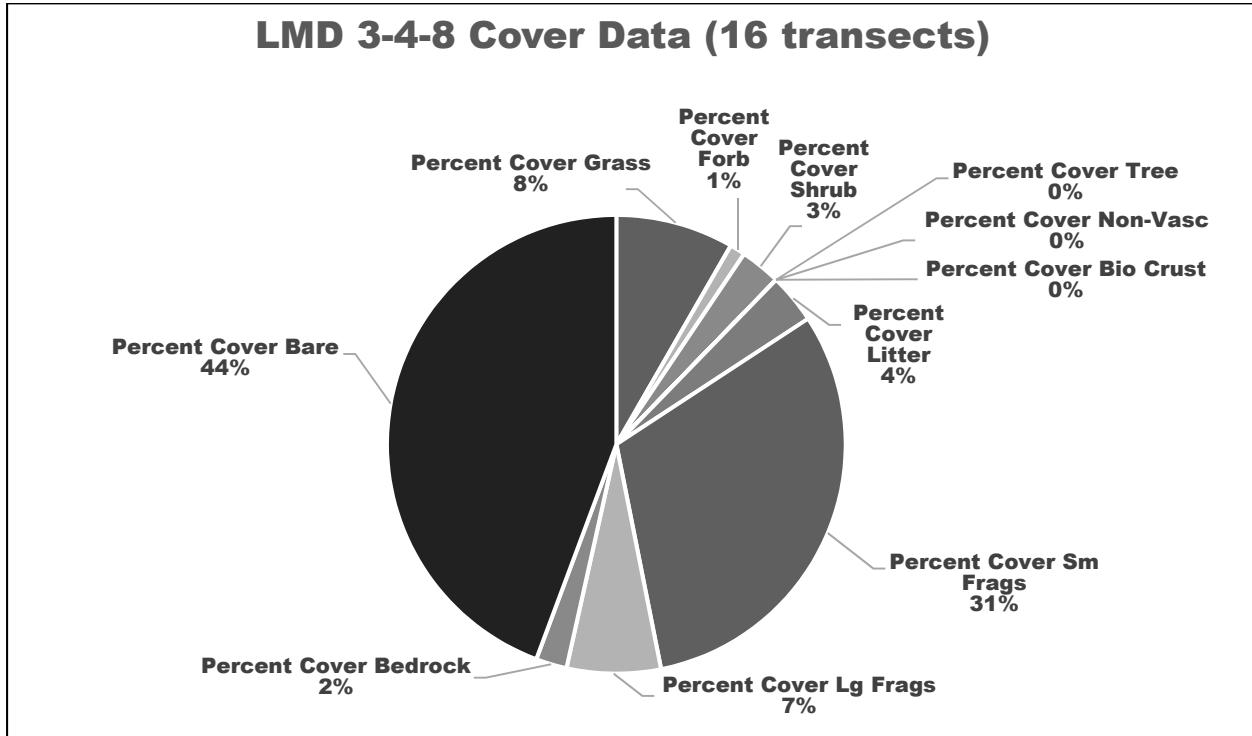
Ac/AUYL = Acres/Animal Unit Year Long  
YL = Year Long

Ac/SUYL = Acres/Sheep Unit Year Long  
UM = Unit Month

Ac/GUYL = Acres/Goat Unit Year Long

**Slope Table**

0-30% All Livestock	31-40% Sheep and Goats	41-60% Goats Only	>60% Non-Grazeable	Total Acres
24,976.5	143.3	104.4	28.6	25,252.7



LMD 3-4-8 Production Table

Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
Forb	CHACOR	<i>Chamaesaracha coronopus</i>	greenleaf five eyes	1%	0.1
	CHAMAESYCE	<i>Chamaesyce</i>	sandmat	2%	0.2
	CHASER	<i>Chamaesyce serrula</i>	sawtooth sandmat	1%	<0.1
	CHRYSOTHAMNUS	<i>Chrysothamnus</i>	rabbitbrush	<1%	0.1
	DESPIN	<i>Descurainia pinnata</i>	western tansymustard	1%	<0.1
	ERIINF	<i>Eriogonum inflatum</i>	desert trumpet	1%	<0.1
	ERIOGONUM	<i>Eriogonum</i>	buckwheat	3%	0.7
	EUPHORBIA	<i>Euphorbia</i>	spurge	<1%	<0.1
	GUTSAR	<i>Gutierrezia sarothrae</i>	broom snakeweed	1%	<0.1
	HOFDRE	<i>Hoffmannseggia drepanocarpa</i>	sicklepod holdback	1%	0.1
	KALPAR	<i>Kallstroemia parviflora</i>	warty caltrop	<1%	<0.1
	MENALB	<i>Mentzelia albicaulis</i>	whitestem blazingstar	3%	0.4
	MENTZELIA	<i>Mentzelia</i>	blazingstar	<1%	<0.1
	MIRABILIS	<i>Mirabilis</i>	four o'clock	2%	0.2
	PHACRE	<i>Phacelia crenulata</i>	cleftleaf wildheliotrope	<1%	<0.1

(Table Continues)

## LMD 3-4-8 Production Table (Continued)

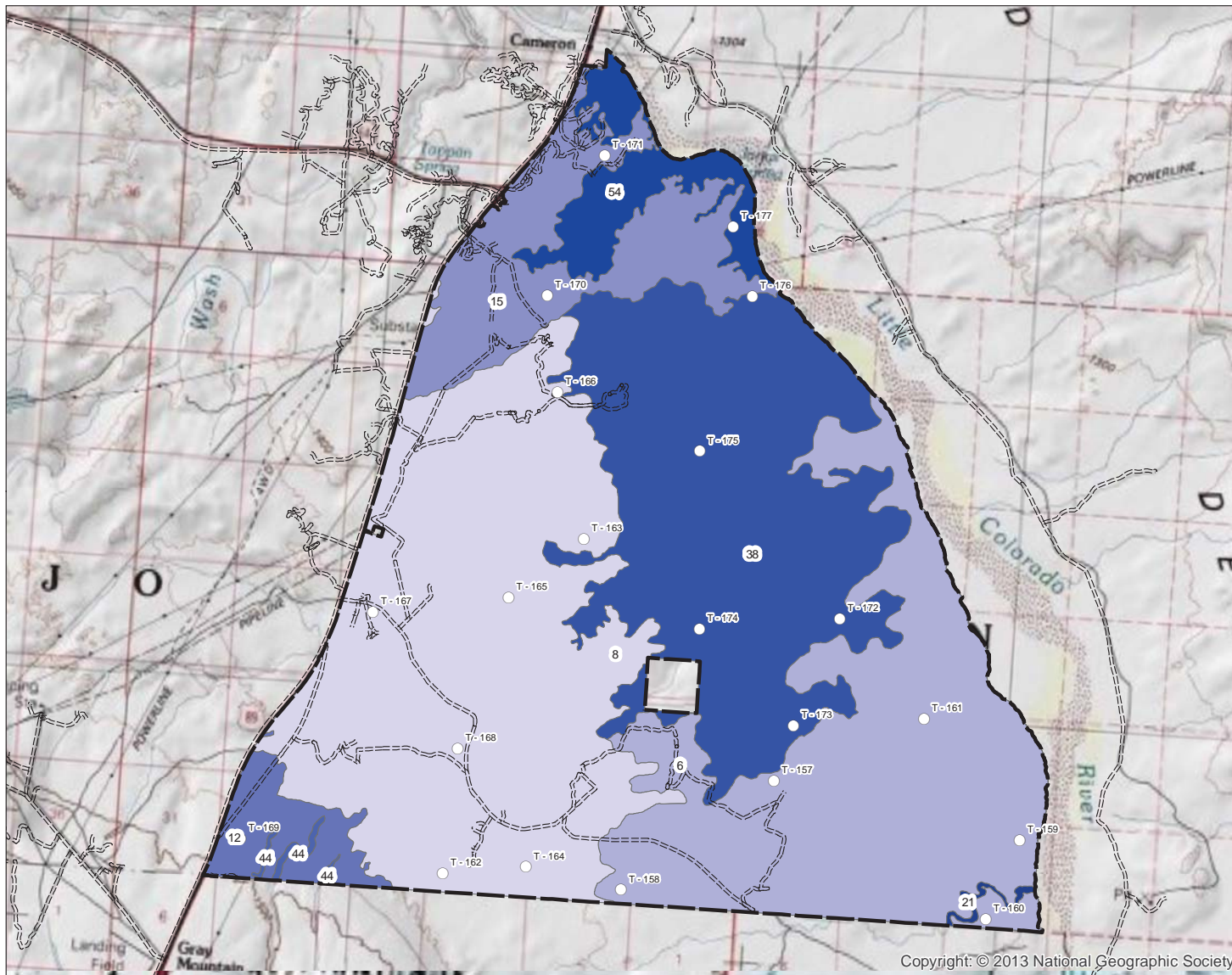
Life Form	Species Code	Scientific Name	Common Name	Average Percent Frequency	Average Total Production (lbs/acre)
<b>Forb</b>	SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	<1%	<0.1
<b>(Continued)</b>	SANABE	<i>Sarvitalia abertii</i>	Abert's creeping zinnia	1%	0.1
	SOPNUT	<i>Sophora nuttalliana</i>	silky sophora	1%	0.1
	SPHCOC	<i>Sphaeralcea coccinea</i>	scarlet globemallow	2%	0.1
	SPHGRO	<i>Sphaeralcea grossulariifolia</i>	gooseberryleaf globemallow	1%	0.1
	SPHPAR	<i>Sphaeralcea parvifolia</i>	smallflower globemallow	4%	0.7
	TIQLAT	<i>Tiquilia latior</i>	matted crinklemat	3%	0.1
	UNKANF	0	Unknown annual forb	1%	0.2
	UNKPEF	0	Unknown perennial forb	10%	0.7
<b>Grass/Grasslike</b>	ARIPUR	<i>Aristida purpurea</i>	purple threeawn	3%	0.6
	BOUBAR	<i>Bouteloua barbata</i>	sixweeks grama	3%	0.7
	BOUERI	<i>Bouteloua eriopoda</i>	black grama	3%	0.6
	DASPUL	<i>Dasyochloa pulchella</i>	low woollygrass	17%	11.4
	ERIPIL	<i>Erioneuron pilosum</i>	hairy woollygrass	16%	25.7
	PLEJAM	<i>Pleuraphis jamesii</i>	James' galleta	4%	1.1
	SPOAIR	<i>Sporobolus airoides</i>	alkali sacaton	2%	0.3
	SPOCON	<i>Sporobolus contractus</i>	spike dropseed	1%	1.2
	SPOCRY	<i>Sporobolus cryptandrus</i>	sand dropseed	2%	3.0
	SPOGIG	<i>Sporobolus giganteus</i>	giant dropseed	<1%	0.1
<b>Shrub/Vine</b>	ALHMAU	<i>Alhagi maurorum</i>	camelthorn	2%	3.9
	ARTBIG	<i>Artemisia bigelovii</i>	Bigelow sage	10%	1.8
	ATRCAN	<i>Atriplex canescens</i>	fourwing saltbush	6%	2.5
	ATRCON	<i>Atriplex confertifolia</i>	shadscale saltbush	1%	0.1
	ATROBO	<i>Atriplex obovata</i>	mound saltbush	<1%	0.3
	EPHTOR	<i>Ephedra torreyana</i>	Torrey's jointfir	<1%	<0.1
	EPHVIR	<i>Ephedra viridis</i>	mormon tea	1%	0.2
	OPUFRA	<i>Opuntia fragilis</i>	brittle pricklypear	<1%	<0.1
	OPUPHA	<i>Opuntia phaeacantha</i>	tulip pricklypear	1%	0.2
	YUCANG	<i>Yucca angustissima</i>	narrowleaf yucca	<1%	<0.1

# Soil Map Unit

Land Management District 3  
Unit 4, Compartment 8

## West Navajo Livestock Capacity Study

Total Acres: 25,252.7  
Grazeable Sheep Acres: 25,119.7



N

0 0.25 0.5 0.75 1 Miles

Parametrix

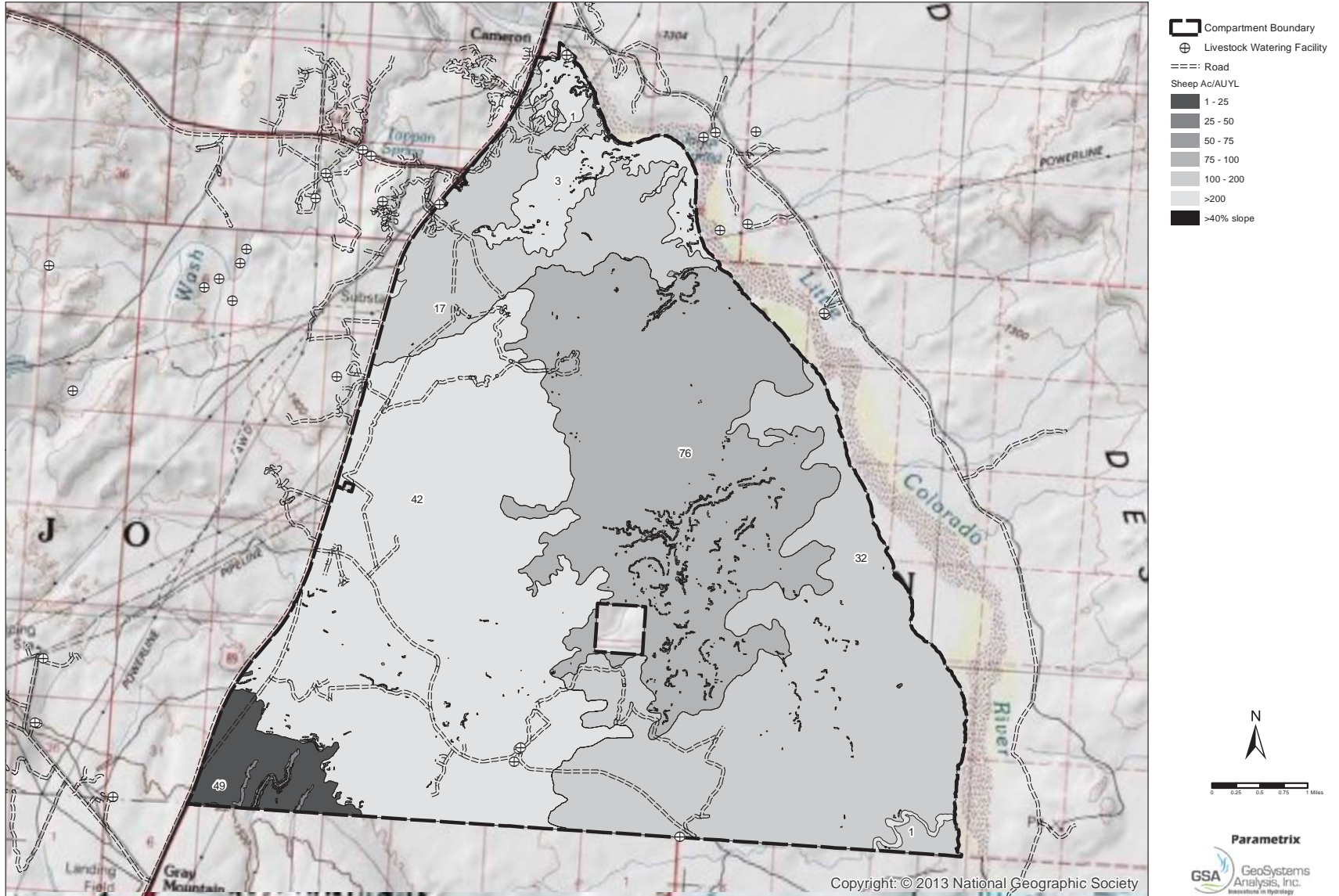
GSA GeoSystems Analysis, Inc. innovations in hydrology

# Stocking Rate

Land Management District 3  
Unit 4, Compartment 8

## West Navajo Livestock Capacity Study

Total Acres: 25,252.7  
Grazeable Sheep Acres: 25,119.7  
Sheep Units Year Long: 223.8



# Appendix A

## Field Forms











